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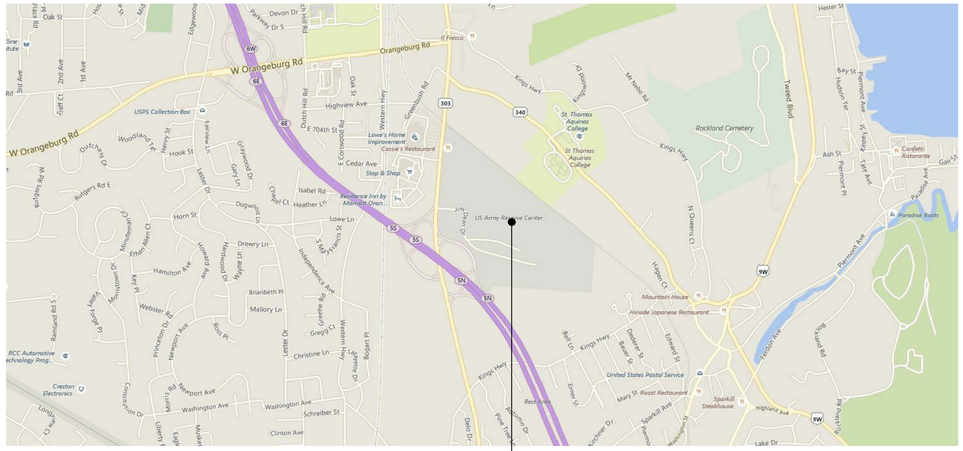
# ARC FFR Training Center Full Facility Revitalization
# Orangeburg, NY - Phase 02
# CORRECTED FINAL SUBMISSION
# JULY 29, 2021




PROJECT SITE

**LOCATION MAP**

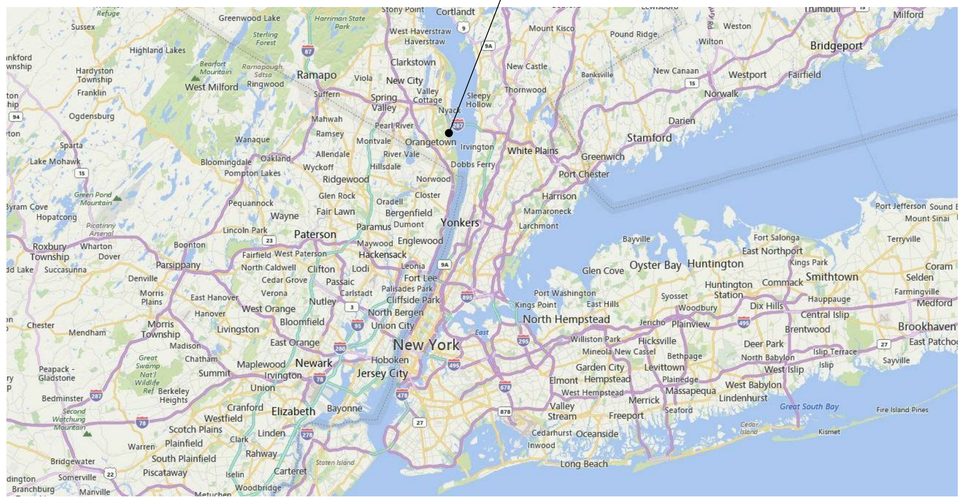
PLAN NORTH




PROJECT SITE

**VICINITY MAP**

PLAN NORTH




**VICINITY MAP**

PLAN NORTH

CONTRACT NO.: W912QR20C0038

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SEAL AND SIGNATURE
ANTHONY F. PEDRO DATE:
N.Y. LIC. NO. 093068

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ISSUE DATE:
SOLICITATION NO.: W912QR20R0038
CONTRACT NO.: W912QR20C0038

DESIGNED BY: USACE RFP
DRAWN BY: CN
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SIZE: ANSI D

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ORANGEBURG, NEW YORK

COVER SHEET

SHEET ID
G001A

JULY 29, 2021
CORRECTED FINAL SUBMISSION

## GENERAL

| SHEET | SHEET NAME | SUBMISSION |
|---|---|---|
| G001A | COVER SHEET | FINAL |
| G001B | COVER SHEET | FAST TRACK |
| G-002 | SHEET INDEX | FAST TRACK / FINAL |
| G-003 | CODE ANALYSIS & GENERAL NOTES | FINAL |
| G-004 | LIFE SAFETY PLAN | FINAL |
| G-005 | LIFE SAFETY SITE PLAN | FINAL |

## CIVIL

| SHEET | SHEET NAME | SUBMISSION |
|---|---|---|
| CS-101 | CIVIL SITE KEY PLAN | FAST TRACK |
| CD-101 | CIVIL DEMOLITION PLAN SHEET 1 | FAST TRACK |
| CD-102 | CIVIL DEMOLITION PLAN SHEET 2 | FINAL |
| C-101 | CIVIL SITE PLAN SHEET 1 | FAST TRACK |
| C-102 | CIVIL SITE PLAN SHEET 2 | FINAL |
| C-501 | MONUMENT SIGN DETAILS | FAST TRACK |
| C-502 | FENCING AND GATE DETAILS SHEET 1 | FAST TRACK |
| C-503 | FENCING AND GATE DETAILS SHEET 2 | FAST TRACK |
| C-504 | FENCING AND GATE DETAILS SHEET 3 | FAST TRACK |
| C-505 | PAVEMENT AND CURBING DETAILS | FAST TRACK |
| C-506 | SITE FEATURE DETAILS | FAST TRACK |
| CU-101 | CIVIL UTILITY PLAN | FAST TRACK |
| CU-102 | CIVIL UTILITY PLAN | FAST TRACK |
| CU-501 | CIVIL UTILITY DETAILS | FAST TRACK |
| CU-502 | WATER MAIN DETAILS | FAST TRACK |
| CU-503 | SANITARY AND STORM DETAILS SHEET 1 | FAST TRACK |
| CU-504 | SANITARY AND STORM DETAILS SHEET 2 | FAST TRACK |
| CG-101 | CIVIL GRADING AND SOIL EROSION CONTROL PLAN SHEET 1 | FAST TRACK |
| CG-102 | CIVIL GRADING AND SOIL EROSION CONTROL PLAN SHEET 2 | FINAL |
| CG-501 | SOIL EROSION DETAILS | FAST TRACK |
| BSP-001 | BI-LEVEL LOADING RAMP PLAN AND PROFILE | FAST TRACK |
| BSP-002 | BI-LEVEL LOADING RAMP SECTIONS AND DETAILS | FAST TRACK |

## GEOTECHNICAL

| SHEET | SHEET NAME | SUBMISSION |
|---|---|---|
| BB-101 | BORING LOCATION PLAN | FAST TRACK |
| BB-601 | BORING LOGS SHEET 1 | FAST TRACK |
| BB-602 | BORING LOGS SHEET 2 | FAST TRACK |

## STRUCTURAL

| SHEET | SHEET NAME | SUBMISSION |
|---|---|---|
| S-000 | MAIN BUILDING STRUCTURAL NOTES | FINAL |
| S-001 | WASH RACK, MKT PAD, & DUMPSTER PAD STRUCTURAL NOTES | FAST TRACK |
| S-002 | OVERALL SITE PLAN | FAST TRACK |
| S-003 | MAIN BUILDING PLAN | FINAL |
| S-004 | ROOF FRAMING PLAN | FINAL |
| S-005 | ROOF DUNNAGE PLAN | FINAL |
| S-010 | ROOF WIND PRESSURES | FINAL |
| S-011 | WALL WIND PRESSURES | FINAL |
| S-101 | ADDITION A STRUCTURAL PLANS | FINAL |
| S-102 | ADDITION B STRUCTURAL PLANS | FINAL |
| S-103 | ARMS VAULT STRUCTURAL PLANS | FINAL |
| S-104 | WASH RACK, MKT PAD, & DUMPSTER PAD STRUCTURAL PLANS | FAST TRACK |
| S-400 | ADDITION A & B FOUNDATION DETAILS | FINAL |
| S-401 | ARMS VAULT FOUNDATION DETAILS | FINAL |
| S-402 | ARMS VAULT WALL SECTION | FINAL |
| S-410 | WASH RACK, MKT PAD, & DUMPSTER PAD FOUNDATION DETAILS | FAST TRACK |
| S-600 | ROOF & STEEL FRAMING DETAILS | FINAL |
| S-601 | ROOF & STEEL FRAMING DETAILS | FINAL |
| S-602 | ROOF & STEEL FRAMING DETAILS | FINAL |

## ARCHITECTURE

| SHEET | SHEET NAME | SUBMISSION |
|---|---|---|
| AD101 | OVERALL DEMOLITION FLOOR PLAN | FINAL |
| AD121 | OVERALL DEMOLITION ROOF PLAN | FINAL |
| A-101 | OVERALL FLOOR PLAN | FINAL |
| A-102 | SECTOR 1 FLOOR PLAN | FINAL |
| A-103 | SECTOR 2 FLOOR PLAN | FINAL |
| A-104 | OVERALL REFLECTED CEILING PLANS | FINAL |
| A-105 | SECTOR 1 REFLECTED CEILING PLAN | FINAL |
| A-106 | SECTOR 2 REFLECTED CEILING PLAN | FINAL |
| A-107 | OVERALL ROOF PLAN | FINAL |
| A-108 | SECTOR 1 ROOF PLAN | FINAL |
| A-109 | SECTOR 2 ROOF PLAN | FINAL |
| A-110 | WASH RACK - FLOOR PLAN & ELEVATIONS | FAST TRACK |
| A-200 | EXTERIOR ELEVATIONS | FINAL |
| A-201 | BUILDING SECTIONS | FINAL |
| A-301 | WALL SECTIONS | FINAL |
| A-501 | TOILET ACCESSORIES, PLUMBING FIXTURE MOUNTING LOCATIONS AND DETAILS | FINAL |
| A-502 | ENLARGED TOILET PLAN AND ELEVATIONS | FINAL |
| A-503 | ENLARGED LOCKER ROOM PLAN AND ELEVATIONS | FINAL |
| A-504 | ENLARGED VAULT DETAILS | FINAL |
| A-505 | CAGING PLAN AND DETAILS | FINAL |
| A-506 | KITCHEN ENLARGED PLAN & SCHEDULE OF EQUIPMENT | FINAL |
| A-511 | ROOF DETAILS | FINAL |
| A-512 | ROOF DETAILS | FINAL |
| A-513 | ROOFING SYSTEM BASIS OF DESIGN | FINAL |
| A-540 | PARTITION TYPES | FINAL |
| A-601 | DOOR SCHEDULE, NOTES AND DOOR TYPES | FINAL |
| A-602 | WINDOWS ELEVATIONS AND DETAILS | FINAL |
| A-603 | DOOR DETAILS | FINAL |
| A-604 | SCHEDULES | FINAL |

## INTERIOR

| SHEET | SHEET NAME | SUBMISSION |
|---|---|---|
| IF001 | FURNITURE LEGEND | FINAL |
| IF101 | ENLARGED FURNITURE PLANS | FINAL |
| IF102 | ENLARGED FURNITURE PLANS | FINAL |
| IF103 | ENLARGED FURNITURE PLANS | FINAL |
| IF104 | ENLARGED FURNITURE PLANS | FINAL |
| IF105 | ENLARGED FURNITURE PLANS | FINAL |
| IF106 | ENLARGED FURNITURE PLANS | FINAL |
| IF107 | ENLARGED FURNITURE PLANS | FINAL |
| IF108 | ENLARGED FURNITURE PLANS | FINAL |
| IF109 | ENLARGED FURNITURE PLANS | FINAL |
| IF110 | ENLARGED FURNITURE PLANS | FINAL |
| IF111 | ENLARGED FURNITURE PLANS | FINAL |
| IF112 | ENLARGED FURNITURE PLANS | FINAL |
| IF113 | TYPICAL FURNITURE DETAILS | FINAL |
| IF114 | FURNITURE KEY PLAN AND SCHEDULE | FINAL |
| IF115 | FURNITURE KEY PLAN AND SCHEDULE | FINAL |
| IG001 | SIGNAGE KEY | FINAL |
| IG101 | OVERALL SIGNAGE PLAN | FINAL |
| IN001 | FINISH SCHEDULE | FINAL |
| IN002 | MATERIAL & FINISH LEGEND | FINAL |
| IN101 | OVERALL FINISH PLAN | FINAL |

## FIRE PROTECTION

| SHEET | SHEET NAME | SUBMISSION |
|---|---|---|
| FP001 | FIRE PROTECTION - NOTES, SYMBOLS, ABBREVIATIONS | FINAL |
| FP101 | FIRE PROTECTION - FLOOR PLAN | FINAL |
| FP102 | FIRE PROTECTION - DETAILS AND RISER DIAGRAM | FINAL |

## PLUMBING

| SHEET | SHEET NAME | SUBMISSION |
|---|---|---|
| PL000 | PLUMBING - NOTES, SYMBOLS, ABBREVIATIONS, SCHEDULES, AND DETAILS | FAST TRACK |
| PL001 | PLUMBING - NOTES, SYMBOLS, ABBREVIATIONS | FINAL |
| PL002 | PLUMBING - SCHEDULES | FINAL |
| PL100 | PLUMBING - WASH RACK FLOOR PLAN | FAST TRACK |
| PL101 | PLUMBING - OVERALL DEMOLITION PLAN | FINAL |
| PL102 | PLUMBING - OVERALL DEMOLITION ROOF PLAN | FINAL |
| PL103 | PLUMBING - ENLARGE PLAN - DEMOLITION | FINAL |
| PL104 | PLUMBING - OVERALL PLAN | FINAL |
| PL105 | PLUMBING ROOF PLAN | FINAL |
| PL106 | PLUMBING - ENLARGE PLAN - 01 | FINAL |
| PL107 | PLUMBING - ENLARGE PLAN - 02 | FINAL |
| PL108 | PLUMBING - ENLARGE PLAN - 03 | FINAL |
| PL201 | PLUMBING - TYPICAL DETAILS | FINAL |
| PL301 | PLUMBING - RISER DIAGRAM DEMOLITION | FINAL |
| PL302 | PLUMBING - RISER DIAGRAM NEW | FINAL |
| PL303 | PLUMBING - RISER DIAGRAM NEW | FINAL |

## MECHANICAL

| SHEET | SHEET NAME | SUBMISSION |
|---|---|---|
| M-001 | MECHANICAL LEGEND, ABBREVIATIONS & GENERAL NOTES | FINAL |
| MD101 | MECHANICAL LEVEL 1 DEMOLITION FLOOR PLAN | FINAL |
| MD102 | MECHANICAL DEMOLITION ROOF PLAN | FINAL |
| MH101 | MECHANICAL DUCTWORK FLOOR PART PLAN 1-1 | FINAL |
| MH102 | MECHANICAL DUCTWORK FLOOR PART PLAN 1-2 | FINAL |
| MH103 | MECHANICAL DUCTWORK FLOOR PART PLAN 1-3 | FINAL |
| MH104 | MECHANICAL DUCTWORK FLOOR PART PLAN 1-4 | FINAL |
| MH105 | MECHANICAL DUCTWORK FLOOR PART PLAN 1-5 | FINAL |
| MH106 | MECHANICAL DUCTWORK FLOOR PART PLAN 1-6 | FINAL |
| MH107 | MECHANICAL DUCTWORK FLOOR PART PLAN 1-7 | FINAL |
| MH108 | MECHANICAL ROOF PLAN | FINAL |
| MP101 | MECHANICAL PIPING FLOOR PART PLAN 1-1 | FINAL |
| MP102 | MECHANICAL PIPING FLOOR PART PLAN 1-2 | FINAL |
| MP103 | MECHANICAL PIPING FLOOR PART PLAN 1-3 | FINAL |
| MP104 | MECHANICAL PIPING FLOOR PART PLAN 1-4 | FINAL |
| MP105 | MECHANICAL PIPING FLOOR PART PLAN 1-5 | FINAL |
| MP106 | MECHANICAL PIPING FLOOR PART PLAN 1-6 | FINAL |
| MP107 | MECHANICAL PIPING FLOOR PART PLAN 1-7 | FINAL |
| MP108 | MECHANICAL PIPING-MECHANICAL ROOM G1010 PLAN | FINAL |
| MI101 | MECHANICAL CONTROL SCHEMATICS - SHEET 1 | FINAL |
| MI102 | MECHANICAL CONTROL SCHEMATICS - SHEET 2 | FINAL |
| MI103 | MECHANICAL CONTROL SEQUENCE OF OPERATION - SHEET 1 | FINAL |
| MI104 | MECHANICAL CONTROL SEQUENCE OF OPERATION - SHEET 2 | FINAL |
| M-501 | MECHANICAL DETAILS - SHEET 1 | FINAL |
| M-502 | MECHANICAL DETAILS - SHEET 2 | FINAL |
| M-503 | MECHANICAL DETAILS - SHEET 3 | FINAL |
| M-601 | EQUIPMENT SCHEDULES - SHEET 1 | FINAL |
| M-602 | EQUIPMENT SCHEDULES - SHEET 2 | FINAL |
| M-603 | EQUIPMENT SCHEDULES - SHEET 3 | FINAL |
| M-701 | WATER PIPING DIAGRAM | FINAL |
| M-702 | AIR BALANCING DIAGRAMS - SHEET 1 | FINAL |
| M-703 | AIR BALANCING DIAGRAMS - SHEET 2 | FINAL |
| M-704 | AIR BALANCING DIAGRAMS - SHEET 3 | FINAL |

## ELECTRICAL

| SHEET | SHEET NAME | SUBMISSION |
|---|---|---|
| E-001 | NOTES, SYMBOLS AND ABBREVIATIONS | FINAL |
| ED101 | POWER DEMOLITION PLAN - AREA "A" | FINAL |
| ED102 | POWER DEMOLITION PLAN - AREA "B" | FINAL |
| ED103 | POWER DEMOLITION ROOF PLAN | FINAL |
| ED104 | LIGHTING DEMOLITION PLAN - AREA "A" | FINAL |
| ED105 | LIGHTING DEMOLITION PLAN - AREA "B" | FINAL |
| EP101 | RECEPTACLE POWER PLAN - AREA "A" | FINAL |
| EP102 | RECEPTACLE POWER PLAN - AREA "B" | FINAL |
| EP103 | POWER PLAN - AREA "A" | FINAL |
| EP104 | POWER PLAN - AREA "B" | FINAL |
| EP105 | POWER ROOF PLAN | FINAL |
| EP106 | LIGHTNING PROTECTION ROOF PLAN | FINAL |
| EP401 | PART PLAN | FINAL |
| EP402 | PART PLAN | FINAL |
| EP403 | ENLARGED KITCHEN POWER PLAN | FINAL |
| EP501 | DETAILS | FINAL |
| EP601 | EXISTING PANELBOARD SCHEDULES - SHEET 1 | FINAL |
| EP602 | EXISTING PANELBOARD SCHEDULES - SHEET 2 | FINAL |
| EP603 | NEW WORK PANEL SCHEDULES - SHEET 1 | FINAL |
| EP604 | NEW WORK PANEL SCHEDULES - SHEET 2 | FINAL |
| EP605 | NEW WORK PANEL SCHEDULES - SHEET 3 | FINAL |
| EP606 | SINGLE LINE DIAGRAM | FINAL |
| EL101 | LIGHTING PLAN AREA "A" | FINAL |
| EL102 | LIGHTING PLAN AREA "B" | FINAL |
| EL103 | FIXTURE SCHEDULE | FINAL |
| ES-001 | SITE - NOTES, SYMBOLS AND ABBREVIATIONS | FAST TRACK |
| ES-100 | SITE PLAN DEMOLITION | FAST TRACK |
| ES-101a | SITE PLAN - AREA "A" | FAST TRACK |
| ES-101b | SITE PLAN - AREA "B" | FAST TRACK |
| ES-501 | SITE - DETAILS | FAST TRACK |
| ES-502 | SITE - DUCTBANK SECTIONS | FAST TRACK |

## TELECOMMUNICATIONS

| SHEET | SHEET NAME | SUBMISSION |
|---|---|---|
| T-001 | GENERAL NOTES AND ABBREVIATIONS | FAST TRACK / FINAL |
| T-100 | TELECOMMUNICATIONS CABLE TRAY AND CONDUIT PLAN | FINAL |
| T-101 | TELECOMMUNICATIONS PLAN | FINAL |
| T-102 | SPECIAL SYSTEMS PLAN | FINAL |
| T-103 | ARMS VAULT IDS SYSTEM AND DETAILS | FINAL |
| T-104 | ENLARGED SLIDING GATE PLAN | FINAL |
| T-401 | ENLARGED TELECOMMUNICATION PLANS | FINAL |
| T-501 | EF ROOM TELECOMMUNICATIONS DETAILS | FINAL |
| T-502 | TR ROOM TELECOMMUNICATIONS DETAILS | FINAL |
| T-503 | TER ROOM TELECOMMUNICATIONS DETAILS | FINAL |
| T-504 | SPIR-IN-BOX TELECOMMUNICATIONS DETAILS | FINAL |
| T-505 | FLOOR BOX TELECOMMUNICATIONS DETAILS | FINAL |
| T-506 | TELECOMMUNICATIONS GROUNDING DETAILS | FINAL |
| T-507 | TELECOMMUNICATIONS DETAILS | FINAL |
| T-508 | LABELING DIAGRAMS | FINAL |
| T-509 | LABELING DIAGRAMS | FINAL |
| T-510 | DOOR SECURITY DETAILS | FINAL |
| T-511 | SLIDING GATE DETAILS | FINAL |
| T-512 | SLIDING GATE DETAILS | FINAL |
| T-513 | EXISTING ACCESS CONTROLS EQUIPMENT | FINAL |
| TS001 | TELECOMMUNICATION SITE PLAN | FAST TRACK |
| TS501 | SITE PLAN DETAILS | FAST TRACK |
| TS502 | SITE PLAN DETAILS | FAST TRACK |
| TS503 | SITE PLAN DETAILS | FAST TRACK |
| TS504 | SITE PLAN DETAILS | FAST TRACK |

## FIRE ALARM

| SHEET | SHEET NAME | SUBMISSION |
|---|---|---|
| FA001 | NOTES, SYMBOLS AND ABBREVIATIONS | FINAL |
| FA101 | FLOOR PLAN DEMOLITION | FINAL |
| FA102 | NEW WORK PLAN | FINAL |
| FA501 | RISER DIAGRAM | FINAL |

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ANTHONY F. PERO DATE:
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UNITED STATES ARMY RESERVE CENTER
ORANGEBURG, NEW YORK

SHEET INDEX

SHEET ID
G-002

CORRECTED FINAL SUBMISSION - JULY 29, 2021

## GENERAL NOTES

1. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND EXISTING CONDITIONS AT THE JOB SITE AND SHALL REPORT, ANY DISCREPANCIES TO THE ARCHITECT PRIOR TO STARTING CONSTRUCTION. COMMENCEMENT OF THE WORK BY THE CONTRACTOR SHALL IMPLY HIS ACCEPTANCE OF ALL EXISTING CONDITIONS.
2. ALL WORK SHALL BE EXECUTED IN A CAREFUL AND ORDERLY MANNER WITH THE LEAST POSSIBLE NOISE, DUST, OR DISTURBANCE TO OCCUPANTS, ADJACENT SITES OR BUILDINGS.
3. THE CONTRACTOR SHALL PROVIDE PROTECTION FOR THE GENERAL PUBLIC AND CONSTRUCTION WORKERS IN AND AROUND THE CONSTRUCTION SITE. ADEQUATE BARRIERS SHALL BE PROVIDED TO EXERCISE CONTROL OF SAFE INGRESS AND EGRESS OF PREMISES. FIRE EXITS SHALL AT NO TIME BE BLOCKED.
4. DETAILS ON THE DRAWINGS ARE SHOWN AT SPECIFIC LOCATIONS AND ARE INTENDED TO SHOW GENERAL REQUIREMENTS THROUGHOUT. DETAILS NOTED "TYP." IMPLY ALL CONDITIONS TREATED SIMILARLY.
5. MINOR DETAILS NOT USUALLY SHOWN OR SPECIFIED BUT NECESSARY FOR PROPER CONSTRUCTION, AS INDUSTRY STANDARDS, OF ANY PART OF THE WORK SHALL BE INCLUDED AS IF THEY WERE INDICATED ON THE DRAWINGS.
6. THE CONTRACTOR MUST FULLY FAMILIARIZE HIMSELF OF THE CONDITIONS RELATING TO THE CONSTRUCTION AND LABOR UNDER WHICH THE WORK WILL BE PERFORMED AND COMPARE THE DRAWINGS AND SPECIFICATIONS WITH THE WORK IN PLACE. FAILURE TO DO SO WILL NOT RELIEVE CONTRACTOR OF HIS
7. OBLIGATION TO FURNISH ALL LABOR AND MATERIAL NECESSARY TO CARRY OUT THE PROVISIONS OF THE CONTRACT DOCUMENTS AND TO COMPLETE THE CONTEMPLATED WORK FOR THE CONSIDERATION SET FORTH IN HIS BID. EACH CONTRACTOR, IN THE CARRYING OUT OF HIS WORK, SHALL EMPLOY SUCH CONSTRUCTION METHODS OR MEANS THAT WILL NOT CAUSE ANY INTERRUPTIONS OR INTERFERENCE WITHIN THE WORK OF
8. ANY OTHER TRADES.
9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING WATERTIGHT INTEGRITY OF THE BUILDING AT ALL TIMES. ALL WATER DAMAGE SHALL BE REPAIRED AT NO ADDITIONAL COST TO THE GOVERNMENT.
10. THE CONSTRUCTION AREA SHALL BE THROUGHLY CLEANED AFTER THE CONSTRUCTION.
11. FIELD VERIFY CONSTRUCTION AND INSTALLATION REQUIREMENTS.
12. REPRODUCED CONTRACT DRAWINGS WILL NOT BE ACCEPTED AS SHOP DRAWINGS.
13. ALL CONSTRUCTION AND OTHER MATERIALS SHALL BE STORED AT THE DESIGNATED STORAGE AREA AND AS DESIGNATED BY THE CONTRACTING OFFICER AND ON COMPLETION OF WORK OR AS DEEMED NECESSARY ALL SURPLUS/ REFUSE/ DEBRIS MATERIAL SHALL BE REMOVED AND LEGALLY DISPOSED OF OFF SITE AT NO ADDITIONAL COST TO THE GOVERNMENT.
14. UNLESS OTHERWISE DIRECTED OR APPROVED BY THE CONTRACTING OFFICER, ALL EXCAVATIONS OF 1.524 METERS (FIVE (5) FEET) OR OVER IN DEPTH SHALL BE PROTECTED FROM CAVE-INS BY AN ADEQUATE PROTECTIVE SYSTEM DESIGNED IN ACCORDANCE WITH 29CFR 1926, 652 (b) OR (c).
15. WHERE PROTECTIVE SYSTEMS ARE REQUIRED, THE CONTRACTOR SHALL SUBMIT AT NO ADDITIONAL COST TO THE GOVERNMENT, THE FOLLOWING INFORMATION TO THE CONTRACTING OFFICER FOR APPROVAL:
    A. STRUCTURAL CALCULATIONS PREPARED, SIGNED AND SEALED BY REGISTERED STATE OF NEW YORK PROFESSIONAL ENGINEER FOR TEMPORARY SHORING AND SHEETING.
    B. PLANS TO PROTECT EXISTING UTILITIES AND STRUCTURES IN AREAS ADJACENT TO THE WORK.
16. SHOULD DISCREPANCIES OCCUR BETWEEN CONTRACT DRAWINGS AND SPECIFICATION THE CONTRACT DRAWINGS IN CONJUNCTION WITH ALL APPLICABLE CODES, STANDARDS, RULES, REGULATIONS, LAWS, ETC. SHALL TAKE PRECEDENCE OVER THE SPECIFICATIONS.
17. WHENEVER ANY WATER IS ENCOUNTERED IN STRUCTURES OR TRENCHES, THE SAME SHALL BE REMOVED BY AN APPROVED DE-WATERING METHOD BY THE CONTRACTOR AT HIS OWN COST ALONG WITH DISPOSAL OF WATER AS ACCEPTABLE TO CONTRACTING OFFICER.
18. UNLESS STATED OTHERWISE ALL WORK INCLUDED IN CONTRACT DRAWINGS / SPECIFICATIONS ARE " NEW WORK" AND TO BE PERFORMED BY THE CONTRACTOR AS PER TERMS OF CONTRACT UNLESS NOTED AS EXISTING.
19. THE CONTRACTOR SHALL CUT AND REMOVE EXISTING WALL AND FLOOR ASSEMBLIES AS REQUIRED TO INSTALL STRUCTURAL, MECHANICAL, PLUMBING, SPRINKLER, FIRE ALARM AND ELECTRICAL WORK AND PATCH ALL DISTURBED AREAS.
20. THE CONTRACTOR SHALL MAINTAIN FIRE DEPARTMENT ACCESS TO THE BUILDING AND SURROUNDING BUILDINGS WHILE COMPLETING THE EXTERIOR WORK.
21. THE CONTRACTOR SHALL OBTAIN A WATER PERMIT FROM THE BASE TO PERFORM THE WATER WET TAP.
22. ALL CONSTRUCTION, ALTERATION AND DEMOLITION OPERATIONS SHALL COMPLY WITH THE REQUIREMENTS OF NFPA 241.
23. THE ENTIRE BUILDING MUST BE CLEANED PRIOR TO ANY FIRE ALARM TESTING PER ALL FIRE ALARM EQUIPMENT AND ENCLOSURES SHALL BE CLEAN AND FREE OF DIRT, DUST, PAINT OVERSPRAY AND UNUSED PARTS AND WIRING.
24. "PROVIDE" MEANS TO FURNISH AND INSTALL ALL ITEMS, EQUIPMENT, DEVICES, ETC FOR A COMPLETE FUNCTIONING SYSTEM.

## GENERAL DEMOLITION NOTES

1. THE SCOPE OF DEMOLITION WORK, SPECIFICALLY CUTTING AND PATCHING, SHALL NOT BE LIMITED TO AREAS BEING RENOVATED, BUT SHALL INCLUDE ALL WORK NECESSARY TO COMPLETE THE FINISHED PROJECT.
2. PRIOR TO START OF DEMOLITION, INSPECT AREAS IN WHICH WORK WILL BE PERFORMED. NOTE EXISTING CONDITIONS OF STRUCTURE SURFACES, EQUIPMENT, OR SURROUNDING PROPERTY THAT COULD BE MISCONSTRUED AS DAMAGE RESULTING FROM SELECTIVE DEMOLITION WORK; FILE WITH CONTRACTING OFFICER PRIOR TO STARTING WORK.
3. THE CONTRACTOR SHALL MAKE CONTINUOUS OBSERVATIONS OF THE EXISTING STRUCTURE DURING THE PERFORMANCE OF THE WORK AND SHALL NOTIFY THE CONTRACTING OFFICER OF ANY CRACKS, DEFLECTIONS, ETC. THAT MAY REQUIRE FURTHER INVESTIGATION.
4. ALL DEMOLITION ACTIVITIES, CUTTING AND PATCHING REQUIRED IN CONNECTION WITH THE WORK SHALL BE PERFORMED BY MECHANICS OF THE SPECIFIC TRADE INVOLVED AND AS REQUIRED TO EXECUTE EACH LINE OF WORK. ALL PATCHING SHALL BE FINISHED TO MATCH ADJACENT SURFACES EITHER NEW OR EXISTING TO REMAIN.
5. CONDUCT DEMOLITION OPERATIONS AND REMOVAL OF DEBRIS IN A MANNER TO ENSURE MINIMUM INTERFERENCE WITH WALKS AND OTHER ADJACENT OCCUPIED AND USED FACILITIES.
6. PROVIDE BARRICADES, WARNING SIGNS AND LIGHTS AT OPENINGS AND OTHER AREAS HAZARDOUS TO PEDESTRIANS AND TRAFFIC. KEEP CONSTRUCTION DEBRIS CLEAR OF TRAFFIC AREAS.
7. ALL WORK PERFORMED SHALL BE IN ACCORDANCE WITH THE REGULATIONS AND GUIDELINES SET FORTH BY ALL AGENCIES HAVING JURISDICTION OVER THE WORK.
8. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) RULES AND REGULATIONS AND EM385-1-1(2014) HEALTH AND SAFETY REQUIREMENTS.
9. ALL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) CODES, LATEST EDITIONS.
10. CONTRACTOR SHALL REMOVE AND RELOCATE ALL EXISTING CONSTRUCTION, CONDUITS, PIPING, WIRING, UTILITIES, ETC. THAT MAY INTERFERE WITH NEW CONSTRUCTION AT NO ADDITIONAL COST TO THE GOVERNMENT.
11. THE CONTRACTOR SHALL PROTECT AND PRESERVE ALL EXISTING ITEMS TO REMAIN AND SHALL REPAIR AND/OR REPLACE ANY ITEM DAMAGED DURING THE COURSE OF WORK TO THE SATISFACTION OF THE CONTRACTING OFFICER AT NO ADDITIONAL COST.
12. ALL DEMOLITION MATERIALS AND DEBRIS SHALL BE LEGALLY DISPOSED OF OFF GOVERNMENT PROPERTY.
13. ANY EXISTING CONSTRUCTION THAT IS TO REMAIN IN PLACE IF DAMAGED DURING PERFORMANCE OF WORK UNDER THIS CONTRACT SHALL BE RESTORED TO ITS ORIGINAL CONDITION TO THE SATISFACTION OF THE CONTRACTING OFFICER AND AT THE CONTRACTOR'S SOLE EXPENSE.
14. EXISTING PENETRATIONS SHOWN ARE NOT ALL-INCLUSIVE. CONTRACTOR SHALL VERIFY FIELD CONDITIONS PRIOR TO SUBMISSION OF BID.

## ABBREVIATIONS

| | |
|---|---|
| A/E | ARCHITECT/ENGINEER |
| ACT | ACOUSTICAL CEILING TILE |
| AD | ACCESS DOOR |
| A.F.F | ABOVE FINISHED FLOOR |
| ALUM | ALUMINUM |
| CJ | CONTROL JOINT |
| ℄ | CENTERLINE |
| CMU | CONCRETE MASONRY UNIT |
| CONC | CONCRETE |
| CONT | CONTINUOUS |
| CT | CERAMIC TILE |
| D | DEEP |
| DIA | DIAMETER |
| DWG | DRAWING |
| EF | EXHAUST FAN |
| EQ | EQUAL |
| EMB | EMBEDMENT |
| ETC | ETCETERA |
| EXIST | EXISTING |
| FC | FAN COIL |
| FD | FLOOR DRAIN |
| FE | FIRE EXTINGUISHER |
| G | GUTTER |
| GA | GAUGE |
| GALV | GALVANIZED |
| GFCI | GOVERNMENT FURNISHED CONTRACTOR INSTALLED |
| GWB | GYPSUM WALL BOARD |
| H | HIGH |
| HM | HOLLOW METAL |
| HW | HARDWARE |
| L | LEADER |
| L | LONG |
| MAX | MAXIMUM |
| MECH | MECHANICAL |
| MID | MIDPOINT |
| MIN | MINIMUM |
| M.O. | MASONRY OPENING |
| MTL | METAL |
| NO | NUMBER |
| O.C | ON CENTER |
| OCS | OVERHEAD CONTACT SYSTEM |
| OPP | OPPOSITE |
| OSHA | OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION |
| P/PT | PAINT |
| R | RADIUS |
| RM | ROOM |
| SF | SQUARE FOOT |
| SIM | SIMILAR |
| SS | STAINLESS STEEL |
| STL | STEEL |
| TCA | TILE CUNCIL OF AMERICA |
| THK | THICK |
| TYP | TYPICAL |
| V | VENT |
| VCT | VINYL COMPOSITION TILE |
| VTS | VINYL TRANSITION STRIP |
| W | WIDE |
| WD | WOOD |
| W/ | WITH |
| @ | AT |
| Ø | DIAMETER |
| ± | PLUS MINUS |

## CONSTRUCTION CODES

UNIFIED FACILITIES CRITERIA (UFC): 1-200-01, GENERAL BUILDING REQUIREMENTS, 20...

UNIFIED FACILITIES CRITERIA (UFC): 1-600-01, DESIGN: FIRE PROTECTION ENGINEERING FOR FACILITIES , 1 MARCH 2013

INTERNATIONAL BUILDING CODE (IBC): 2015

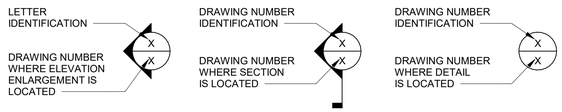
NATIONAL FIRE PROTECTION ASSOCIATION (NFPA): 13 SPRINKLER SYSTEMS

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA): 101 LIFE SAFETY CODE

## CODE ANALYSIS

| CATEGORY | CODE | ACTUAL |
|---|---|---|
| OCCUPANCY CLASSIFICATION: | MIXED USE: S-2 (STORAGE) | COMPLIES |
| | B, BUSINESS. SEPARATED (1HR) | |
| CONSTRUCTION TYPES: | II-B | II-B |
| BUILDING HEIGHT | 2 STORIES (S-2) | 1 STORY |
| | 3 STORIES (B) | |
| AREA: | (S-2) 312,000 S.F. W/ SPRINKLER MODIFICATION | (S-2) 8,684 S.F. |
| | (B) 276,000 S.F. W/ SPRINKLER MODIFICATION | (B) 19,072 S.F. |
| FIRE RESITANCE RATINGS (PER TABLES 601 AND 602) | STRUCTURAL FRAME: 0 HR | 0 HR |
| | EXTERIOR NON BEARING WALLS: 0HR (>30' SEPARATION) | 0 HR |
| | INTERIOR NON-BEARING WALLS: 0 HR | 0 HR |
| | ROOF CONSTRUCTION: 0 HR | 0 HR |
| **ENCLOSURE PROTECTION** | | |
| STORAGE ORDINARY HAZARD | 1 HR | 1 HOUR |
| MECHANICAL ROOM | 1 HR OR SPRINKLER... | EXISTING 1 HOUR |
| ELECTRICAL ROOM | 1 HR OR SPRINKLER... | EXISTING 1 HOUR |
| ASSEMBLY | 1 HR OR SPRINLER SYSTEM | EXISTING 1 HOUR |
| **OCCUPANT LOAD** | | |
| BUSINESS (OFFICE) | DEPEDENT ON OCCUPANCY USE | REFER TO LIFE SAFETY PLAN DWGS SHEET G-004 |
| STORAGE: | BASE ON MP | REFER TO LIFE SAFETY DWGS SHEET G-004 |
| EGRESS CAPACITY: | DOORS .20" PER PERSON | 33" |
| | MIN. DOOR WIDTH 32" CLEAR | 33" CLEAR |
| MINIMUM CORRIDOR WIDTH: | 44" MINIMUM CLEAR | 60" CLEAR IN MAIN CORRIDOR |
| **EGRESS** | | |
| NUMBER OF MEANS OF EGRESS | 2 EXITS PER STORY | 8 EXITS PROVIDE - 1 STORY STRUCTURE |
| | 3 EXITS 501-1000 | |
| | 4 EXITS > 1000 OCCUPANTS | |
| **TRAVEL DISTANCE** | | |
| DEAD END LIMITS | (B) 50'-0" MAX | NONE |
| | S-2 100'-0" MAX W/ SPRINKLERS | NONE |
| COMMON PATH OF TRAVEL: (BUSINESS) | 100'-" MAX W/ SPRINKLERS | 88'-0" MAX |
| COMON PATH OF TRAVEL (STORAGE) | 100'-0" MAX W/ SPRINKLERS | N/A SEE LIFE SAFETY PLANS SHEET G-004 |
| TOTAL TRAVEL DISTANCE TO EXIT: (BUSINESS) | 300'-0" MAX W/ SPRINKLERS | 125'-0" MAX - SEE LIFE SAFETY PLANS SHEET G-004 |
| TOTAL TRAVEL DISTANCE TO EXIT (STORAGE) | 400'-0" MAX W/ SPRINKLERS | 158'-0" - SEE LIFE SAFETY PLANS SHEET G-004 |

## SYMBOLS




ELEVATION SECTION DETAIL

PROJECT SCOPE NOTE:

ALL WORK SHALL COMPLY WITH THE DESIGN BUILD PROJECT REQUEST FOR PROPOSAL SOLICITATION NO:
INCLUDING ALL ADDENDUMS, THE DRAWING AND SPECIFICATIONS.

US Army Corps of Engineers ®

SEAL AND SIGNATURE
ANTHONY F. PEDRO DATE:
N.Y. LIC. NO. 093068

| MARK | DESCRIPTION | DATE |
|---|---|---|

ISSUE DATE:
SOLICITATION NO.: W912QR20R0038
CONTRACT NO.: W912QR20C0038
DESIGNED BY: USACE RFP
DRAWN BY: CN
CHECKED BY: EK
SUBMITTED BY:
SIZE: ANSI D

US ARMY CORPS OF ENGINEERS
LOUISVILLE DISTRICT
LOUISVILLE, KY

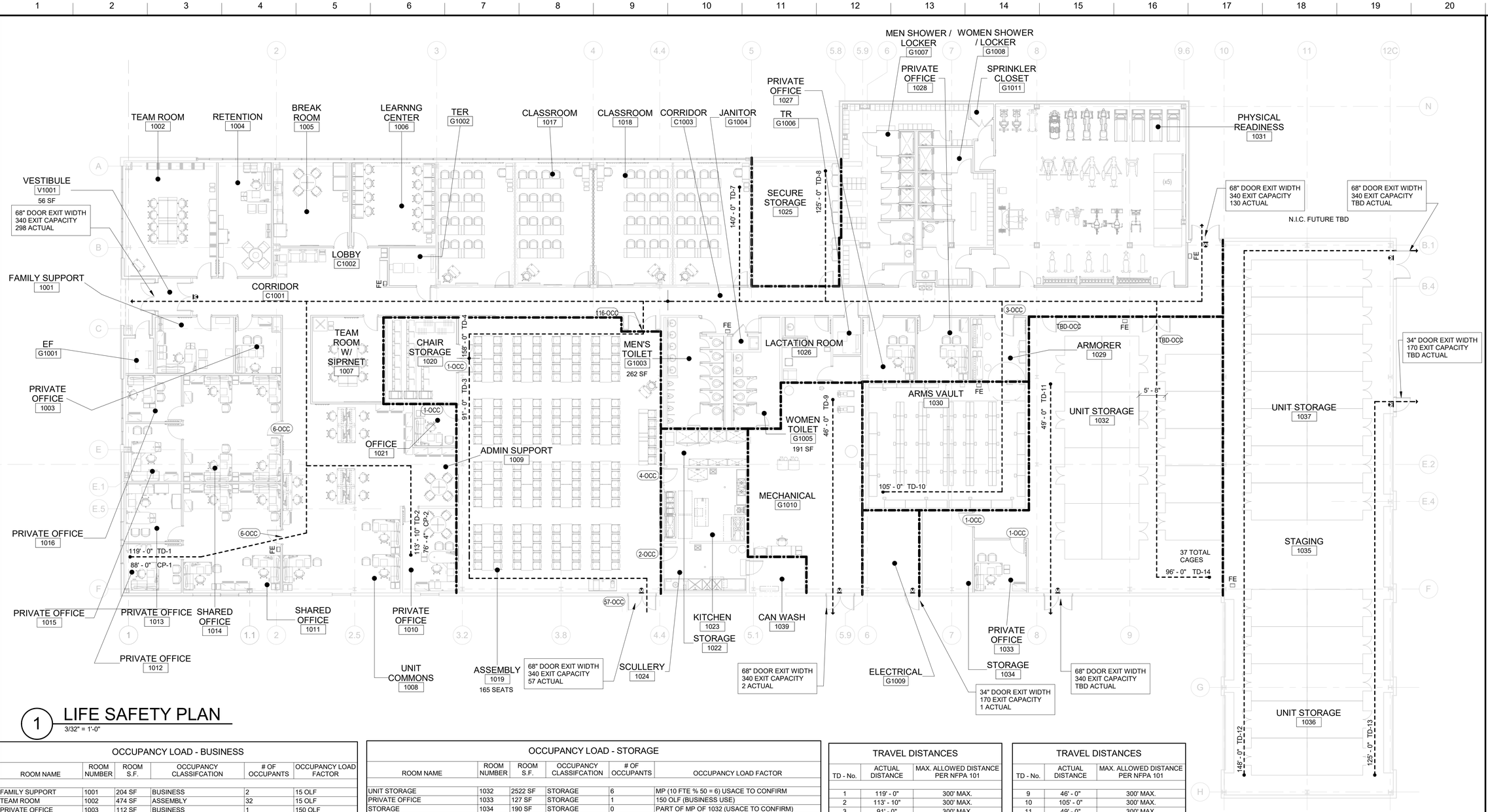

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MOTT MACDONALD


UNITED STATES ARMY RESERVE CENTER
ORANGEBURG, NEW YORK

CODE ANALYSIS & GENERAL NOTES

SHEET ID
G-003

CORRECTED FINAL SUBMISSION - JULY 29, 2021




# 1 LIFE SAFETY PLAN

3/32" = 1'-0"

## OCCUPANCY LOAD - BUSINESS

| ROOM NAME | ROOM NUMBER | ROOM S.F. | OCCUPANCY CLASSIFCATION | # OF OCCUPANTS | OCCUPANCY LOAD FACTOR |
|---|---|---|---|---|---|
| FAMILY SUPPORT | 1001 | 204 SF | BUSINESS | 2 | 15 OLF |
| TEAM ROOM | 1002 | 474 SF | ASSEMBLY | 32 | 15 OLF |
| PRIVATE OFFICE | 1003 | 112 SF | BUSINESS | 1 | 150 OLF |
| RETENTION | 1004 | 278 SF | BUSINESS | 2 | 150 OLF |
| BREAK ROOM | 1005 | 292 SF | ASSEMBLY | 20 | 15 OLF |
| LEARNNG CENTER | 1006 | 319 SF | EDUCATIONAL | 16 | 20 OLF |
| TEAM ROOM W/ SIPRNET | 1007 | 279 SF | COLLAB <450 | 9 | 15 OLF |
| UNIT COMMONS | 1008 | 1029 SF | BUSINESS | 67 | 150 OLF |
| ADMIN SUPPORT | 1009 | 177 SF | BUSINESS | 2 | 150 OLF |
| PRIVATE OFFICE | 1010 | 210 SF | BUSINESS | 2 | 150 OLF |
| SHARED OFFICE | 1011 | 492 SF | BUSINESS | 4 | 150 OLF |
| PRIVATE OFFICE | 1012 | 129 SF | BUSINESS | 1 | 150 OLF |
| PRIVATE OFFICE | 1013 | 154 SF | BUSINESS | 1 | 150 OLF |
| SHARED OFFICE | 1014 | 482 SF | BUSINESS | 4 | 150 OLF |
| PRIVATE OFFICE | 1015 | 146 SF | BUSINESS | 1 | 150 OLF |
| PRIVATE OFFICE | 1016 | 119 SF | BUSINESS | 1 | 150 OLF |
| CLASSROOM | 1017 | 877 SF | ED. CLASSROOMS | 44 | 20 OLF |
| CLASSROOM | 1018 | 876 SF | ED. CLASSROOMS | 44 | 20 OLF |
| ASSEMBLY | 1019 | 2552 SF | ASSEMBLY (FIXED SEATING) | 165 | # OF FIXED SEATS |
| CHAIR STORAGE | 1020 | 278 SF | STORAGE (IN BUSINESS) | 1 | 500 OLF |
| OFFICE | 1021 | 81 SF | BUSINESS | 1 | 15 OLF |
| STORAGE | 1022 | 135 SF | STORAGE (IN BUSINESS) | 1 | 500 OLF |
| KITCHEN | 1023 | 286 SF | KITCHEN | 3 | 100 OLF |
| SCULLERY | 1024 | 189 SF | KITCHEN | 2 | 100 OLF |
| SECURE STORAGE | 1025 | 478 SF | STORAGE (IN BUSINESS) | 1 | 500 OLF |
| LACTATION ROOM | 1026 | 140 SF | BUSINESS | 1 | 15 OLF |
| STORAGE | 1026A | 33 SF | | 0 | |
| PRIVATE OFFICE | 1027 | 154 SF | BUSINESS | 1 | 15 OLF |
| PRIVATE OFFICE | 1028 | 151 SF | BUSINESS | 1 | 15 OLF |

## OCCUPANCY LOAD - STORAGE

| ROOM NAME | ROOM NUMBER | ROOM S.F. | OCCUPANCY CLASSIFCATION | # OF OCCUPANTS | OCCUPANCY LOAD FACTOR |
|---|---|---|---|---|---|
| UNIT STORAGE | 1032 | 2522 SF | STORAGE | 6 | MP (10 FTE % 50 = 6) USACE TO CONFIRM |
| PRIVATE OFFICE | 1033 | 127 SF | STORAGE | 1 | 150 OLF (BUSINESS USE) |
| STORAGE | 1034 | 190 SF | STORAGE | 0 | PART OF MP OF 1032 (USACE TO CONFIRM) |
| STAGING | 1035 | 540 SF | STORAGE | 0 | PART OF MP OF 1037 & 1036 (USACE TO CONFIRM) |
| UNIT STORAGE | 1036 | 1613 SF | STORAGE | 6 | MP (10 FTE % 50 = 6) USACE TO CONFIRM |
| UNIT STORAGE | 1037 | 2183 SF | STORAGE | 6 | MP (10 FTE % 50 = 6) USACE TO CONFIRM |
| TOTAL OCCUPANCY - STORAGE CLASSIFICATION: 6 | | | | 19 | |

## OCCUPANCY LOAD - BUSINESS

| ROOM NAME | ROOM NUMBER | ROOM S.F. | OCCUPANCY CLASSIFCATION | # OF OCCUPANTS | OCCUPANCY LOAD FACTOR |
|---|---|---|---|---|---|
| ARMORER | 1029 | 161 SF | BUSINESS | 1 | 15 OLF |
| ARMS VAULT | 1030 | 901 SF | STORAGE (IN BUSINESS) | 2 | 500 OLF |
| PHYSICAL READINESS | 1031 | 1592 SF | EXERCISE ROOMS | 32 | 50 OLF |
| CAN WASH | 1039 | 88 SF | KITCHEN | 1 | 100 OLF |
| LOBBY | C1002 | 153 SF | WAITING | 10 | 15 OLF |
| EF | G1001 | 45 SF | IT | 1 | 300 OLF |
| TER | G1002 | 81 SF | IT | 1 | 300 OLF |
| JANITOR | G1004 | 17 SF | BUILDING EQUIPMENT | 1 | 500 OLF |
| TR | G1006 | 48 SF | IT | 1 | 300 OLF |
| MEN SHOWER / LOCKER | G1007 | 673 SF | LOCKER ROOMS | 14 | 50 OLF |
| WOMEN SHOWER / LOCKER | G1008 | 394 SF | LOCKER ROOMS | 8 | 50 OLF |
| ELECTRICAL | G1009 | 203 SF | BUILDING EQUIPMENT | 1 | 500 OLF |
| MECHANICAL | G1010 | 912 SF | BUILDING EQUIPMENT | 2 | 500 OLF |
| SPRINKLER CLOSET | G1011 | 15 SF | BUILDING EQUIPMENT | 1 | 500 OLF |
| TOTAL OCCUPANCY LOAD - BUSINESS CLASSIFICATION | | | | 506 | |

## TRAVEL DISTANCES

| TD - No. | ACTUAL DISTANCE | MAX. ALLOWED DISTANCE PER NFPA 101 |
|---|---|---|
| 1 | 119' - 0" | 300' MAX. |
| 2 | 113' - 10" | 300' MAX. |
| 3 | 91' - 0" | 300' MAX. |
| 4 | 158' - 0" | 300' MAX. |
| 7 | 140' - 0" | 300' MAX. |
| 8 | 125' - 0" | 300' MAX. |

## TRAVEL DISTANCES

| TD - No. | ACTUAL DISTANCE | MAX. ALLOWED DISTANCE PER NFPA 101 |
|---|---|---|
| 9 | 46' - 0" | 300' MAX. |
| 10 | 105' - 0" | 300' MAX. |
| 11 | 49' - 0" | 300' MAX. |
| 12 | 148' - 0" | 300' MAX. |
| 13 | 125' - 0" | 300' MAX. |
| 14 | 96' - 0" | 300' MAX. |

## LIFE SAFETY PLAN LEGEND

- ONE HOUR FIRE RESISTANT RATED BARRIER
- X'-XX" TD — TRAVEL DISTANCE
- EGRESS PATH
- PATH START POINT
- EXIT — EXIT DIRECTIONAL SIGN
- 33-OCC — OCCUPANCY OF ROOM
- FE — FIRE EXTINGUISHER / CABINET
- EMERGENCY LIGHT AND EXIT SIGN
- EMERGENCY LIGHT FIXTURE (LOCATION TBD)
- ROOM NAME / 101 — ROOM NUMBER
- 150 SF — ROOM AREA
- 300 OLF OCCUPANCY — OCCUPANT NUMBER (SF/PERSON)
- USE GROUP

## COMMON PATH DISTANCES

| CP- No. | ACTUAL DISTANCE | MAX. ALLOWED DISTANCE PER NFPA 101 |
|---|---|---|
| 1 | 88' - 0" | 100' MAX. |
| 2 | 76' - 4" | 100' MAX. |

0' 4' 8' 16' 32'

SCALE: 3/32"=1'

US Army Corps of Engineers ®

SEAL AND SIGNATURE
ANTHONY F. PEDRO DATE:
N.Y. LIC. NO. 093068

| MARK | DESCRIPTION | DATE |
|---|---|---|

DESIGNED BY: USACE RFP
DRAWN BY: CN
CHECKED BY: PE
SUBMITTED BY:
SIZE: ANSI D

ISSUE DATE:
SOLICITATION NO.: W912QR20R0038
CONTRACT NO.: W912QR20C0038

US ARMY CORPS OF ENGINEERS
LOUISVILLE DISTRICT
LOUISVILLE, KY

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www.mottmacamericas.com

UNITED STATES ARMY RESERVE CENTER
ORANGEBURG, NEW YORK

LIFE SAFETY PLAN

SHEET ID
G-004

CORRECTED FINAL SUBMISSION - JULY 29, 2021

PRESSURE AND FLOW HYDRANTS ON NY ROUTE 303

FIRE TRUCK ACCESS

NEW PARKING

EXISTING PARKING

EXISTING PARKING

MACADAM DRIVEWAY

WOODED AREA

TAX LOT 19
BLOCK 1
N/F UNITED STATES OF AMERICA
808,159 S.F.
18.5528 AC.

BENCHMARK
MAG NAIL
N: 803535.0344'
E: 645884.0991'
ELEV: 76.00'

6' BARB WIRE FENCE

12" SAW CUT

NEW 6" WET TAP INTO EXISTING LINE

EXISTING 8" FIRE MAIN

PIV

NEW POST INDICATOR VALVE

NEW FIRE HYDRANT W/ THRUST BLOCK

NEW 6" FIRE PROTECTION (FP) WATER LINE

NEW SPRINKLER RISER

FDC

1 STORY ADDITION

TRAINING CENTER
EXISTING 1 STORY BUILDING
(RENOVATED)

EXISTING 1 STORY BUILDING

EXISTING STORAGE BUILDING

30' x 30' NEW CONCRETE PAD

NEW WASH RACK

EXISTING OMS BUILDING

EXISTING FIRE HYDRANT

EXISTING FIRE HYDRANT

6" WATER LINE CONNECTED TO EXIST.

EXISTING FIRE HYDRANT

CONCRETE CURB

CONCRETE SIDEWALK

CONCRETE

MILLED AREA

EDGE OF PAVEMENT

ELECTRIC MARKOUT

TELEPHONE MARKOUT

BENCHMARK
MAG NAIL
N: 803256.00'
E: 646287.37'
ELEV: 76.62'

## GENERAL NOTES

- SHEET IS PROVIDED FOR REFERENCE AND IS NOT INTENDED FOR CONSTRUCTION DETAILS
- SHEET PROVIDES OVERALL SITE PLAN OF THE ADDITIONS TO THE EXISTING BUILDING WITH RESPECT TO:
  1. FIRE DEPARTMENT ACCESS
  2. PARKING LOT
  3. PROPOSED HYDRANT LOCATION
  4. EXISTING HYDRANT LOCATION
  5. NEW WATER MAINS
- NEW FIRE HYDRANT IS LOCATED TO PROVIDED 350' ACCESS TO ALL PARTS OF THE BUILDING
- NEW FIRE HYDRANT IS LOCATED TO PROVIDE 150' ACCESS TO FIRE DEPARTMENT CONNECTIONS
- SEE CIVIL AND FIRE PROTECTION DRAWINGS FOR CONSTRUCTION DETAILS

1 LIFE SAFETY SITE PLAN
1" = 30'-0"

US Army Corps of Engineers ®

SEAL AND SIGNATURE
ANTHONY F. PEDRO DATE:
N.Y. LIC. NO. 093068

| MARK | DESCRIPTION | DATE |
|---|---|---|
| | | |

ISSUE DATE:
SOLICITATION NO.: W912QR20R0038
CONTRACT NO.: W912QR20C0038

DESIGNED BY: USACE RFP
DRAWN BY: CN
CHECKED BY: PE
SUBMITTED BY:
SIZE: ANSI D

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LOUISVILLE, KY

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UNITED STATES ARMY RESERVE CENTER
ORANGEBURG, NEW YORK

LIFE SAFETY SITE PLAN

SHEET ID

G-005

CORECTED FINAL SUBMISSION - JULY 29, 2021

MATCH LINE - CD-101

TAX LOT 19
BLOCK 1
N/F UNITED STATES OF AMERICA
808,159 S.F.
18.5528 AC.

REMOVE GRASS AND TOPSOIL FOR DUMPSTER PAD

INSTALL SILT FENCING DOWN SLOPE OF DISTURBANCE, TYP. (D-1 / C-501)

SAW CUT AND REMOVE ASPHALT FOR FIRE PROTECTION WATER MAIN TRENCH

REMOVE 60 LF OF 8' CHAIN LINK FENCING

REMOVE BOLLARD

CUT AND REMOVE WATER MAIN

REMOVE 58 LF OF CHAIN-LINK FENCE

SAW CUT AND REMOVE ASPHALT FOR SANITARY SEWER TRENCH

REMOVE SOIL BERM AT PROPOSED ENTRANCE AND BUILDING ADDITION.

SAW CUT AND REMOVE ASPHALT

BENCHMARK
MAG NAIL
N: 803535.0344'
E: 645884.0991'
ELEV: 76.00'

CONCRETE TO BE REMOVED, TYP.

REMOVE HYDRANT.

REMOVE 6 LF OF CONCRETE CURBING

REMOVE 86 LF OF CURB TO NEAREST JOINT

PLUG STORM INLET/PIPE AT EXTENT OF REMOVAL

REMOVE WATER AND GAS. UTILITIES AS REQUIRED TO BE RE-ROUTED. SEE CIVIL UTILITY DRAWINGS.

REMOVE INLET

REMOVE 46 LF OF STORM SEWER PIPE AND PLUG WITH CONCRETE

REMOVE ALL EXISTING PARKING STRIPING, TYP

REMOVE ALL EXISTING PARKING STRIPING, TYP.

REMOVE FLAG POLE

CONCRETE TO BE REMOVED, TYP.

REMOVE 6 LF OF CONCRETE CURBING

REMOVE CONCRETE SIDEWALK

REMOVE TELECOM AND ELECTRIC AND CAP. CONTRACTOR TO TRACE TELECOM PRIOR TO REMOVAL.

ASPHALT TO BE REMOVED, TYP.

REMOVE STORM SEWER PIPE AND INLET

SAWCUT AT EXTENT OF ASPHALT TO BE REMOVED, TYP.

SAWCUT AND REMOVE ASPHALT FOR MECH. EQUIP. PAD

REMOVE LIGHTPOST

REMOVE TWO BOLLARDS

SAW CUT AND REMOVE ASPHALT FOR MKT PAD AND UTILITIES

SAW CUT AND REMOVE ASPHALT FOR WASH RACK

D-6 / CG-501 INLET PROTECTION, TYP.

D-1 / CG-501 INSTALL SILT FENCE DOWN SLOPE OF WORK AREA, TYP.

SAW CUT AND REMOVE ASPHALT AND CONCRETE FOR STORM SEWER TRENCH AND INLET

SAW CUT ASPHALT AND REMOVE LOADING RAMP

LAYDOWN / STOCKPILE AREA (D-4 / CG-501)

CONTRACTOR'S TRAILER/ STAGING AREA (AVOID AREAS UNDER SOLAR ARRAY

SOLAR ARRAY CANOPY, TYP.

REMOVE 155 LF OF EXISTING 8' CHAIN LINK FENCE AND DOUBLE SWING GATE

BENCHMARK
MAG NAIL
N: 803256.00'
E: 646287.37'
ELEV: 76.62'

NOTE: GAS LINE TO BE RELOCATED IS 1.5 INCH HIGH PRESSURE LINE. CONTRACTOR TO COORDINATE WITH UTILITY COMPANY.

30 0 30 60
SCALE IN FEET

N
TRUE

## CIVIL DEMOLITION PLAN SHEET 2

SCALE: 1" = 30'

1 / CD-102

US Army Corps of Engineers ®

STATE OF NEW JERSEY · DAVID HEBER · No. 56504 · LICENSED PROFESSIONAL ENGINEER

DAVID HEBER N.J. LIC. NO. 056504 — DATE: 5/24/2021

| MARK | DESCRIPTION | DATE |
|---|---|---|
| 1 | REVISED GRADING | 5/24/2021 |

ISSUE DATE: 02 APRIL 2021
SOLICITATION NO.: W912QR20R0038
CONTRACT NO.: W912QR20C0038
DESIGNED BY: USACE RFP
DRAWN BY: DWH
CHECKED BY: JJK
SUBMITTED BY:
SIZE: ANSI D

US ARMY CORPS OF ENGINEERS
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UNITED STATES ARMY RESERVE CENTER
ORANGEBURG, NEW YORK

CIVIL DEMOLITION PLAN SHEET 2

SHEET ID
CD-102

CORRECTED FINAL SUBMISSION - JULY 29, 2021

MATCH LINE - C-101

D-3 / C-504 RESTRICTED AREA SIGN

D-2 / C-505 INSTALL ASPHALT PAVEMENT, TYP.

D-10 / C-505 INSTALL 20' X 10' CONCRETE DUMPSTER PAD WITH FENCED ENCLOSURE AND BOLLARDS

D-8 / C-505 INSTALL BOLLARD, TYP.

D-5 / C-505 PATCH ASPHALT PAVEMENT FROM UTILITY TRENCHING, TYP.

D-2 / C-502 REPLACE 60 LF OF CHAIN LINK FENCING TO MATCH EXISTING

INSTALL CONCRETE CURB (HEIGHT VARIES TO MATCH EXISTING ASPHALT) D-1 / C-505

INSTALL 4' WIDE SIDEWALK D-4 / C-505

D-3 / C-505 INSTALL 10' OF CURB TRANSITION

INSTALL 6' WIDE SIDEWALK D-4 / C-505

INSTALL DETECTABLE WARNING SURFACE D-1 / C-506

D-4 / C-505 INSTALL 4' WIDE SIDEWALK

RESTRICTED AREA SIGN D-3 / C-504

D-6 / C-506 INSTALL FLAGPOLE

D-4 / C-505 INSTALL 8' WIDE SIDEWALK. (5' @ 1.5% FOLLOWED BY 1' @ 4.2% TO MEET EXISTING SIDEWALK)

PARKING SPACE STRIPING, TYP.

INSTALL DEPRESSED CURB D-7 / C-505

PAINT TRAFFIC DIRECTIONAL ARROWS "WHITE", TYP.

STRIPE PARKING SPACES "WHITE" (4"), TYP.

PROVIDE 5 ADA PARKING SPACES, TYP. D-4 / C-506

INSTALL 9' X 18.5' CONCRETE PAD FOR TWO MOTORCYCLE PARKING SPACES D-4 / C-505

INSTALL TWO (2) MOTORCYCLE PARKING SPACE SIGNS D-3 / C-506

INSTALL TWO (2) CARSHARE PARKING SPACE SIGNS D-3 / C-506

PATCH ASPHALT WHERE LOADING RAMP WAS REMOVED. GRADE TO MATCH EXISTING PAVEMENT. D-2 / C-505

D-1 / C-506 DETECTABLE WARNING SURFACE

D-4 / C-505 INSTALL 4' WIDE SIDEWALK

D-4 / C-505 INSTALL SIDEWALK

4' WIDE

4' WIDE

6' WIDE

INSTALL 10' X 20' CONCRETE PAD FOR HVAC EQUIPMENT. SEE STRUCTURAL DRAWINGS.

GRASS AREA, TYP.

D-2 / C-502 INSTALL 7' HIGH CHAIN LINK SECURITY FENCE WITH 1' TOP GUARD

INSTALL 30' X 30' CONCRETE PAD FOR MOBILE KITCHEN. SEE STRUCTURAL DRAWINGS.

D-8 / C-505 INSTALL BOLLARD, TYP.

CONTRACTOR TO RESET BENCHMARK

SEE STRUCTURAL DRAWINGS FOR 40' X 20' WASH RACK FOUNDATION.

D-4 / C-505 INSTALL 4' WIDE SIDEWALK

1 MILL AND PAVE LOT

INSTALL 24' WIDE DOUBLE SWING GATE WITH RESTRICTED AREA SIGN D-1 / C-502 D-3 / C-504

PATCH ASPHALT PAVEMENT, TYP. D-2 / C-505

20' STANDOFF CLEAR ZONE, TYP.

INSTALLATION PERIMETER

TAX LOT 19
BLOCK 1
UNITED STATES OF AMERICA
808,159 S.F.
18.5528 AC.

| PARKING STALL COUNT | |
|---|---|
| POV | 130 |
| ADA | 4 |
| ADA VAN | 1 |
| CHARESHARE | 2 |
| TOTAL | 137 |
| MOTORCYCLE | 2 |

30 0 30 60
SCALE IN FEET

TRUE

CIVIL SITE PLAN
SHEET 2
SCALE: 1" = 30'
1 / C-102

US Army Corps of Engineers ®

STATE OF NEW JERSEY · DAVID HEBER · No. 56504 · LICENSED PROFESSIONAL ENGINEER

DAVID HEBER N.J. LIC. NO. 056504 DATE: 5/24/2021

| MARK | DESCRIPTION | DATE |
|---|---|---|
| 1 | REVISED GRADING | 5/24/2021 |

ISSUE DATE: 02 APRIL 2021
SOLICITATION NO.: W912QR20R0038
CONTRACT NO.: W912QR20C0038

DESIGNED BY: USACE RFP
DRAWN BY: DWH
CHECKED BY: JJK
SUBMITTED BY:
SIZE: ANSI D

US ARMY CORPS OF ENGINEERS
LOUISVILLE DISTRICT
LOUISVILLE, KY

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UNITED STATES ARMY RESERVE CENTER
ORANGEBURG, NEW YORK

CIVIL SITE PLAN SHEET 2

SHEET ID
C-102

CERTIFIED FINAL SUBMISSION - APRIL 26, 2021

MATCH LINE - CG-101

TAX LOT 19
BLOCK 1
N/F UNITED STATES OF AMERICA
808,159 S.F.
18.5528 AC.

INSTALL SILT FENCE DOWN SLOPE OF DISTURBANCE, TYP. (D-1 / CG-501)

1 FILL IN LOW AREA WITH ASPHALT TO SLOPE TOWARDS INLET, TYP.

D-4 / C-505 — INSTALL 8' WIDE SIDEWALK. (5' @ 1.5% FOLLOWED BY 11' @ 4.2% TO MEET EXISTING SIDEWALK)

PATCH ASPHALT WHERE LOADING RAMP WAS REMOVED. GRADE TO MATCH EXISTING PAVEMENT. (D-2 / C-505)

LAYDOWN / STOCKPILE AREA (D-4 / CG-501)

GRASS AREA, TYP. (D-5 / CG-501)

1 MILL AND PAVE LOT

INSTALL SILT FENCE DOWN SLOPE OF DISTURBANCE, TYP. (D-1 / CG-501)

CONTRACTOR TO RESET BENCHMARK

D-6 / CG-501 — INLET PROTECTION, TYP.

20' STANDOFF CLEAR ZONE, TYP.

INSTALLATION PERIMETER

BENCHMARK
MAG NAIL
N: 803256.00'
E: 646287.37'
ELEV: 76.62'

BENCHMARK
MAG NAIL
N: 803535.0344'
E: 645964.0991'
ELEV: 76.00'

KEYED NOTE:

1 MILL AREA SO THAT A 2" COURSE OF ASPHALT CAN BE APPLIED TO MAINTAIN EXISTING DRAINAGE AND MATCH ADJACENT EXISTING PAVEMENT. ANY EXISTING LOW SPOTS SHALL BE FILLED WITH ASPHALT SO THAT WATER DOES NOT PUDDLE.

30 0 30 60
SCALE IN FEET

N
TRUE

## CIVIL GRADING AND EROSION CONTROL PLAN SHEET 2

SCALE: 1" = 30'

1 / CG-102

US Army Corps of Engineers ®

STATE OF NEW JERSEY · DAVID HEBER · No. 56504 · LICENSED PROFESSIONAL ENGINEER

DAVID HEBER, N.J.L.E. NO. 056504 — DATE: 5/24/2021

| MARK | DESCRIPTION | DATE |
|---|---|---|
| 1 | REVISED GRADING | 5/24/2021 |

DESIGNED BY: USACE RFP
DRAWN BY: DWH
CHECKED BY: JJK
SUBMITTED BY:
SIZE: ANSI D

ISSUE DATE: 02 APRIL 2021
SOLICITATION NO.: W912QR20R0038
CONTRACT NO.: W912QR20C0038

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UNITED STATES ARMY RESERVE CENTER
ORANGEBURG, NEW YORK

CIVIL GRADING AND EROSION CONTROL PLAN
SHEET 2

SHEET ID
CG-102

CERTIFIED FINAL SUBMISSION - APRIL 26, 2021

## GENERAL NOTES

1. The governing Code for this Project is the New York State Building Code (2020) and the united facilities criteria (UFC) . This Code prescribes which edition of each referenced standard applies to this Project.

2. To the best of our knowledge, the Structural Drawings and Specifications comply with the applicable requirements of the governing Building Code.

3. Construction is to comply with the requirements of the governing Building Code and all other applicable Federal, State, and Local Codes, Standards, Regulations and Laws.

4. The Structural Documents are to be used in conjunction with the Architectural Documents. If a conflict exists, the more stringent governs.

5. Details labeled "typical" apply to all situations that are the same or similar to those specifically referenced, whether or not they are keyed in at each location. Questions regarding the applicability of typical details shall be resolved by the Architect.

6. Openings shown on Structural Drawings are only pictorial. See the Architectural and M.E.P. drawings for the size and location of openings in the structure.

7. Contractors who discover discrepancies, omissions or variations in the Contract Documents during bidding shall immediately notify the Architect. The Architect will resolve the condition and issue a written clarification.

8. The General Contractor shall coordinate all Contract Documents with field conditions and dimensions and Project Shop Drawings prior to construction. Do not scale drawings; use only printed dimensions. Report any discrepancies in writing to the Architect prior to proceeding with work. Do not change size or location of structural members without written instructions from the Structural Engineer of Record.

9. The Contractor shall protect adjacent property, his own work and the public from harm. The Contractor is solely responsible for construction means and methods, and jobsite safety including all OSHA requirements.

10. The Structure is designed to be structurally sound when completed. Prior to completion, the Contractor is responsible for stability and temporary bracing, including, but not limited to, masonry walls. Wherever the Contractor is unsure of these requirements, the Contractor shall retain a New York State Licensed Engineer to design and inspect the temporary bracing and stability of the structure.

11. Design Superimposed Loads:

| OCCUPANCY | LIVE LOAD | DEAD LOAD |
|---|---|---|
| Roof | 35 psf | 25 psf * |

Ground Snow Load: 30 psf

Design superimposed dead loads listed above do not include masonry walls or other concentrated loads. See architectural drawings for these loads.

12. Design Wind Loads

| | | |
|---|---|---|
| Governing Code | | 2018 IBC |
| Basic Wind Speed | V = | 115 mph |
| Risk Category | II | |
| Importance Factor | I = | 1.0 |
| Directionality Factor | Kd = | 0.85 |
| Exposure- MWFRS | | C |
| - Components and Cladding | | C |
| Internal Pressure Coefficient | GCpi = | ±0.18 |
| Mean Roof Height | | 14 feet |

13. Design Seismic Loads

| | | |
|---|---|---|
| Governing Code | | 2018 IBC |
| Method of Analysis | | Equivalent Lateral Force Analysis |
| Risk Category | | II |
| Seismic Importance Factor | I= | 1.0 |
| Spectral Response Acceleration, 0.2S | Ss= | 0.27 g |
| Spectral Response Acceleration, 1.0S | S1= | 0.11 g |
| Short Period Site Coefficient | Fa= | 1.57 |
| Long Period Site Coefficient | Fv= | 2.40 |
| Site Class | | D |
| Seismic Design Category | | B |
| Building Framing System | | Light-Frame walls sheathed with wood structural panels |
| Response Modification Coefficient | R = | 6.5 |
| Overstrength Factor | Ω= | 3 |
| Deflection Amplification Factor | Cd = | 4 |
| Seismic Response Coefficient | Cs = | 0.043 |
| Fundamental Period of Building | T = | 0.227 |
| Building Period Coefficient | Ct = | 0.02 |

## SHOP DRAWINGS AND OTHER SUBMITTALS

1. Incomplete submittals will be returned without review.

2. Submit specific components, such as columns, footings, etc., in a single package. Submit similar floors together.

3. On first submittal, clearly flag and cloud all differences from the Contract Documents. On resubmittals, flag and cloud all changes and additions to previous submittal; only clouded items will be reviewed.

4. Submittals for special structural, load-carrying items that are required by Codes or Standards to resist forces must be prepared by, or under the direct supervision of, a Delegated Engineer. Examples include Structural Steel Connections, Structural Light Gage Steel Framing and Reinforcing steel placement for concrete and CMU.

5. A Delegated Engineer is defined as a New York State Licensed Engineer who specializes in and undertakes the design of Structural Components or Structural Systems included in a specific submittal prepared for this Project and is an employee or officer of, or consultant to, the Contractor or Fabricator responsible for the submittal. The Delegated Engineer shall sign, seal and date the submittal, including calculations and drawings. See Specifications for more specific criteria.

6. The Trade Contractor is responsible for confirming and correlating dimensions at the job sites, for tolerances, clearances, quantities, fabrication processes and techniques of construction, coordination of the work with other trades and full compliance with the Contract Documents.

7. The General Contractor/Construction Manager shall review and approve submittals and shall sign and date each drawing prior to submitting to the Architect. This approval is to confirm that the Submittal is complete, complies with the Submittal Requirements and is coordinated with field dimensions, other trades, erection sequencing and constructability.

8. The Structural Engineer reviews submittals to confirm that the submittal is in general conformance with the design concept presented in the Contract Documents. Quantities and dimensions are not checked. Notations on submittals do not authorize changes to the contract sum. Checking of the submittal by the Structural Engineer shall not relieve the Contractor of responsibility for deviations from the Contract Documents and from errors or omissions in the submittal.

9. In addition to the above, the Structural Engineer's review of Delegated Engineer submittals is limited to verifying that the specified structural submittal has been furnished, signed and sealed by the Delegated Engineer and that the Delegated Engineer has understood the design intent and used the specified Structural Criteria. No detailed check of calculations will be made. The Delegated Engineer is solely responsible for his/her design, including but not limited to the accuracy of his/her calculations and compliance with the applicable codes and standards.

10. CAD files of Structural Drawings may be used as an aid in preparing Shop Drawings only upon the Contractor signing an Agreement. When CAD files or copies of the Structural Drawings are made available, it is under the following conditions:

a. All information contained in the CAD files or copies of the Structural Drawings are instruments of service of the Architect/Engineer and shall not be used for other projects, additions to the Project or the completion of the Project by others. CAD files and copies of the Structural Drawings remain the property of Martos Engineering PLLC, and in no case shall their transfer be considered a sale;

b. CAD files or copies of the Structural Drawings are not Contract Documents. In the event of a conflict, the Structural Drawings shall govern;

c. The use of CAD files or copies of the Structural Drawings shall not in any way relieve the Contractor's responsibility for proper checking and coordination of dimensions, details, sizes and quantities of materials as required for the preparation of complete and accurate Shop Drawings; and

d. The Contractor shall revise all references to Contract Document sheet numbers and section marks and shall remove information that is not required for their work from the CAD files or copies of the Structural Drawings, including the Title Block.

## DEMOLITION NOTES

1. The contractor is required to provide all temporary scaffolding, platforms, barricades, railings, screening, etc. Necessary to protect existing facilities, structures and the public during demolition and erection of the new construction, as well as, for job safety. Job safety, construction and demolition procedures are the sole responsibility of the contractor. The contractor is required to take all precautions to minimize vibration, noise, dust and debris in all areas adjacent to areas of demolition.

2. The contractor is required to coordinate with USACE the temporary suspension of use of any facility or portion thereof and the associates barricading requirements a minimum of 7 days prior to commencing work.

3. The contractor is required to perform his work in a manner which will not conflict with any operation which is to remain functional during the course of the project, until such operation is scheduled to be shut down.

4. The contractor is required to coordinate with USACE the temporary suspension of use of any utility system, a minimum of 3 days prior to commencing work.

5. At all locations where new construction will interface with existing elements, cut through existing structure in straight and true lines to insure a neat interface.

6. Before demolishing any structural element, install all required temporary and/or permanent bracing and supports.

7. Provide temporary closure of all roof fascia, wall and other openings to protect building from exposure to undesirable elements until new construction is weatherproofed, at which time such temporary construction shall be removed. All temporary exterior walls that are subject to wind loads are to be designed by a delegated (specialty) engineer.

8. Upon completion of new construction under each phase, all demolished areas shall be restored to acceptable usage according to the contract documents as determined by the a/e.

9. Remove completely from the site and legally dispose of all debris generated by the demolition work as the work progresses.

## SHALLOW FOUNDATIONS

1. Foundation design, is based on an assumed allowable soil bearing capacity of 2,000 psf, noted on geotechnical report recieved by our office on 01/12/2021.

2. All bottom of footing elevations are subject to change upon inspection of soil conditions and requirements of geotechnical specifications. Elevation of adjacent footings shall match the existing footing depth.

3. The contractor shall notify the engineer where bottom of footing elevation is changed and obtain revised design of the foundation and retaining walls as required.

4. Soil supported footings shall be founded upon undisturbed natural subgrade (or controlled compacted fill) with a minimum bearing capacity as noted and as field verified and approved by the contractor's professional geotechnical engineer. The bottom of the footing elevations and bearing capacities as shown on the drawings are estimated and will require verification. Final, exact elevations and bearing capacities shall be field determined.

5. All fill required below any portion of the structure shall be compacted as directed by the geotechnical specifications.

6. Subgrade preparation shall be field controlled and tested by a Licensed Soils Engineer in accordance with the Geotechnical Specifications. At completion, that Engineer shall prepare and submit to USACE, Architect, Contractor and Structural Engineer a signed and sealed letter indicating that the recommendations of the Geotechnical Specifications have been followed.

7. Center all footings under their respective columns or walls, u.o.n.

## EXCAVATION, BACKFILL AND DEWATERING

1. The Contractor is solely responsible for all excavation procedures including lagging, shoring, and protection of adjacent property, structures, streets and utilities in accordance with the requirements of the local building department and OSHA regulations. Do not excavate within one foot of the angle of repose of any soil bearing foundation unless the foundation is properly protected against settlement.

2. Do not backfill against walls until 7 days after the walls are braced by the structure or are temporarily braced. Do not backfill cantilevered retaining walls until concrete is 28 days old. Do not backfill until after completion and inspection of any waterproofing.

3. The Contractor is responsible for the disposal of all accumulated water in a manner that does not inconvenience or damage the work.

4. The contractor shall provide all measures and precautions necessary to prevent damage and settlement (horizontal and vertical) of existing or new construction, inside or outside the project limits).

5. The contractor shall provide all measures necessary to control ice, frost, surface and subsurface water so that the foundation work is performed on dry subgrade.

6. New excavation shall not undermine nor disturb any existing adjacent footings. New footings shall be supported in a manner to maintain an excavation slope between the bottom of footing and excavation of one (1) vertical to two (2) horizontal.

## SLABS ON GRADE

1. Above subgrade, use fill containing not more than 10% passing #200 sieve and maximum 1 inch diameter. Compact to 95% of maximum dry density as determined by modified proctor ASTM D-1557. Each layer of fill shall not exceed 6" loose thickness. Compact prior to placement of the next layer.

2. Fill placement and compaction shall be monitored and accepted by the testing agency. Take a min. of one field density test (ASTM D-1556 or D-2922) for each 2,500 square feet of each layer. The testing agency shall randomly select test locations.

3. For interior slabs place 10 mil polyethylene sheeting between soil and bottom of slab. Do not use any sheeting below exterior concrete slabs.

4. Use 4" thick slabs on grade reinforced with 6 x 6 - W2.0 x W2.0 welded wire reinforcement supplied in flat sheets only. Use chairs to support wire fabric in the center of slab.

5. In sidewalks and walkways, locate isolation joints at 20 ft. o.c. maximum score and tool between isolation joints in equal bays of 5 ft. or less.

6. See the Architectural Drawings for slab on grade depressions and other requirements.

## REINFORCED CONCRETE

1. Comply with ACI 301 and 318.

2. Provide structural concrete with a minimum ultimate compressive design strength in 28 days as follows:

| Element | Strength |
|---|---|
| Footings | 4,000 psi |
| Grade Beams | 4,000 psi |
| Poured Walls | 4,000 psi |
| Slabs on Grade | 4,000 psi |

3. Use normal weight concrete for all structural members. u.o.n.

4. Provide ASTM A-615 Grade 60 reinforcing steel. Reinforcing shall be accurately placed, rigidly supported and firmly tied in place, with appropriate bar supports and spacers. Lap continuous reinforcing 48 bar dia. Lap bottom steel over supports and top steel at midspan (u.o.n.). Hook discontinuous ends of all top bars and all bars in walls, u.o.n. provide cover over reinforcing as follows:

| Element | Bottom | Top | Sides |
|---|---|---|---|
| Footings and Pile Caps | 3" | 2" | 3" |
| Grade Beams with Sides Formed* | 3" | 2" | 2"* |
| Slabs on Grade | 2" | 1" | 2" |
| Slabs Exposed to Weather | 1 1/2" | 1 1/2" | 1 1/2" |
| Walls Retaining Fill | - | - | 2" |
| Walls Above Grade | - | - | 1" |

* If grade beam sides are unformed, excavate 2" wider (1" each side) than specified and increase cover to 3".

5. Where specified, provide plain, cold-drawn electrically-welded wire reinforcement conforming to ASTM A-185. Supply in flat sheets only. Lap splice one cross wire spacing plus two inches.

6. In addition to specified reinforcing, provide allowance for additional reinforcing bars to be detailed, fabricated, delivered to site and placed as directed by the Architect/Engineer to account for unforeseeable conditions.

7. Utilities shall not penetrate beams or columns but may pass through slabs and walls individually, u.o.n.. For openings 24" long or less, cut reinforcing and replace alongside opening with splice bars of equivalent area with 48 bar dia. lap. Prepare and submit shop drawings for openings longer than 24". For rectangular openings 12" long or longer, add 1#5 x 6' mid depth diagonal at all 4 corners.

8. Where reinforcing steel congestion permits, conduit and pipes up to 1" diameter may be embedded in concrete per ACI 318, Section 6.3. Space at 3 diameters o.c. Place between outer layers of reinforcing. If conduits are significantly congested, additional reinforcing perpendicular to piping may be required. Requests to embed larger pipes should be accompanied by a detailed description and be submitted to the architect for evaluation.

9. Provide construction joints in accordance with ACI 318, Section 6.4. Provide keyways and adequate dowels. Submit drawings showing location of construction joints and direction of pour for review.

10. Provide 3/4" chamfer for all exposed corners.

11. Provide reinforcing steel placer with a set of Structural Drawings for field reference. Inspect reinforcing steel placing from structural drawings.

## STRUCTURAL STEEL

1. Fabricate and erect structural steel in conformance with AISC "Specification For The Design, Fabrication and Erection of Structural Steel for Buildings", with Commentary, and all OSHA requirements.

2. Structural steel shapes shall be fabricated from the following materials:

a. Rolled W and WT Shapes: ASTM A992, Grade 50.

b. Rolled M, S, C and MC Shapes and Angles: ASTM A36, fy=36 ksi.

c. Plates and Bars: ASTM A36, fy=36 ksi.

d. Cold-formed Hollow Structural Sections (HSS):

a) Round Sections: ASTM A500, Grade C, fy=46 ksi.

b) Square and Rectangular Sections: ASTM A500, Grade B, fy=46 ksi.

e) Steel Pipe: ASTM A53, type E or S, Grade B, fy=35 ksi.

3. All shop and field welding shall conform to the AWS D1.1 Structural Welding Code by the American Welding Society. Use E70 series welding electrodes, u.o.n. where necessary, remove galvanizing or primer prior to welding.

4. A325 and A490 bolts shall comply with "Specification For Structural Joints Using ASTM A325 or A490 bolts", including Commentary.

5. Typical bolts used in structural connections for this Project are 3/4" diameter A325N.

6. Tighten bearing-type bolts (A-325N, A-325X, A-490N, and A-490X) to the snug tight condition as follows:

a. Bolts shall be placed in all holes, with washers positioned as required and nuts threaded to complete the assembly.

b. Compacting the joint to the snug-tight condition shall progress systematically from the most rigid part of the joint.

c. The snug-tightened condition is the tightness that is attained with a few impacts of an impact wrench or the full effort of an ironworker using an ordinary spud wrench.

d. More than one cycle through the bolt pattern may be required to achieve the snug-tightened joint.

7. Provide hardened washers conforming to ASTM F436 and place under the part being turned.

8. Do not reuse or retighten bolts which have been fully tightened. Use only non-galvanized nuts and bolts that are clean, rust-free, and well lubricated. Bolts and nuts shall be wax dipped by the bolt supplier or lubricated with Johnson's Stick Wax 140. Cleaning and lubrication of ASTM F1852 twist-off-type tension-control bolts is not permitted.

9. Store fastener components in sealed containers until ready for use. Reseal open containers to prevent contamination by moisture or other deleterious substances. Store closed containers from dirt and moisture in a protective shelter. Take from protective storage only as many fastener components as are anticipated to be installed during the work shift. Fastener components that are not incorporated into the work shall be returned to protective storage at the end of the work shift. Fasteners from open containers and fasteners that accumulate rust or dirt shall not be used and shall be immediately and permanently removed from the project site.

10. Use A-307 bolts for all erection bolts and bolts less than 3/4" diameter, u.o.n. Anchor rods shall be ASTM F1554 Grade 55 with supplementary requirement S1, hooked. Or anchor rods shall be A449, Type 1, threaded with nuts and washers each end. Engineer: S1 is weldable; use A449 where higher strength is required.

11. Setting base and bearing plates: clean concrete and masonry bearing surface of bond-reducing materials and clean bottom of base and bearing plate.

a. Set base or bearing plate on wedges or other adjusting devices.

b. Tighten anchor rods after structural steel frame has been plumbed. Do not remove wedges or shims but, if protruding, cut off flush with edge of base or bearing plate prior to packing with grout.

c. Pack or pour non-shrink grout solidly between bearing surface and base or bearing plate. Ensure that no voids remain. Finish exposed surfaces, protect grout and allow to cure.

d. For proprietary grout materials, comply with manufacturer's instructions.

e. Base plates must be grouted a minimum of 72 hours prior to placing concrete slabs on supporting steel structure.

12. Cut, drill, or punch holes perpendicular to metal surfaces. Ream holes that must be enlarged to admit bolts as permitted by Architect. Do not enlarge unfair holes by burning or using drift pins.

13. Do not splice structural steel members except where indicated on the drawings.

14. See Architectural and Mechanical Drawings for miscellaneous steel not shown on the Structural Drawings.

15. Refer to Architectural Drawings and Project Specifications for painting and fireproofing of structural steel. Do not paint steel surfaces in contact with concrete or fireproofing.

## LIGHT GAGE STEEL FRAMING (LTGFRM) EXTERIOR WALLS

1. Light gage steel framing details shown on contract documents represent a minimum design intent to be followed. Connections not detailed in contract documents shall be designed and detailed by fabricator according to specifications and requirements herein. Minimum gage of members is 18 gage, but not less than that shown on the plans and details.

2. Submit complete shop drawings and calculations showing method of fabrication, erection procedures, attachment of the system to the building, joints, connections and framing. Calculations and shop drawings shall be prepared, signed and sealed by a Delegated Engineer. See Notes "Shop Drawings And Other Submittals". Calculations are submitted for record only.

3. Use galvanized steel joists, "c" studs, tracks, angles and straps as shown on drawings and details providing the following minimum section properties:

| Studs: Size | Gage | I (in^4) | S (in^3) | Ma (k-in) | Fy (ksi) |
|---|---|---|---|---|---|
| **600S200-54** | **16** | **3.32** | **1.11** | **27.4** | **50** |

All tracks to be same gage as studs with minimum of 1-1/4" leg.

4. Max. spacing of lateral bridging for LTGFRM studs shall be 5'-0" for spans greater than ten (10) feet and mid-span for shorter spans. Lateral bridging shall also be provided at free ends of cantilevered parapets and near the supports of continuous spans.

5. LTGFRM connections to structural framing shall be capable of withstanding a min. Connect LTGFRM to structural frame so as to minimize introduction of flexural and torsional forces in structural members. Provide struts, knee bracing, etc., to stabilize LTGFRM framing as required.

6. As a minimum, at openings provide double sills, headers and jambs.

7. Screws, where required, shall meet the minimum requirements of SAE J-429 Grade 5 and IFI-105. Screws shall have a protective coating equivalent to cadmium or zinc plating, ASTM B766.

8. Field cutting of LTGFRM framing members shall be by saw or shear. Torch cutting is not permitted.

9. Splicing of framing components, other than the continuous track at the top and bottom of walls, is not permitted, u.o.n. Splicing of track used in the construction of the jamb, head or sill assemblies of framed wall openings is not permitted. Where splicing of track is necessary between stud spacings, a section of stud shall be placed in the adjoining tracks across the joint and fastened to the flanges at both sides of the wall.

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## CONCRETE / MASONRY POST-INSTALLED ANCHORS

1. All post-installed anchors shall comply with ACI 318, and be tested and qualified under the provisions of ACI 355.2 and ICC ES AC 193. Anchors are to be manufactured from carbon steel and shall have an electroplated or mechanically galvanized finish, UON.

2. Contractor shall obtain approval from Engineer of Record (EOR) prior to using post-installed anchors for missing or misplaced cast-in-place anchors and reinforcing.

3. Confirm the absence of reinforcing steel by drilling a 1/4" diameter pilot hole for each anchor. Do not cut reinforcing steel without approval of the EOR.

4. Anchors shall be installed per the manufacturer's specifications and installation instructions at not less than minimum edge distances and/or spacing indicated in the manufacturer's literature. Maintain manufactures installation procedures on site at all times during anchor placement.

5. Refer to manufacturer's installation instructions for appropriate drilled hole size.

6. Thoroughly clean hole including removal of dust prior to filling with epoxy, use a compressor to blow holes clean, vacuuming of holes as sole means of cleaning will not be approved.

7. Use minimum of A-36 galvanized steel threaded rods for epoxy anchor rods, u.o.n.

8. Unless specified otherwise on drawings or manufacture requirements, anchors shall be embedded in the appropriate substrate with a minimum embedment of 8 times the nominal anchor diameter.

9. Requirements for types post installed anchors:

a. Expansion Anchors: Use wedge-type expansion anchors such as the Hilti Kwik Bolt III or approved equivalent.

b. Epoxy Anchorage For: Reinforcing Bars, Threaded Rods, and Anchor Bolts: Use an epoxy, acrylic or polyester resin adhesive system such as the Hilti Hit HY200 for concrete or HY70 for masonry, or approved equivalent.

10. Substitution requests, for products other than those listed above, shall be submitted to the EOR with calculations that are prepared & sealed by a licensed Professional Engineer showing that the substituted product will achieve an equivalent capacity using the appropriate design procedure required by the Building Code.

## POWDER ACTUATED FASTENERS

1. Use powder actuated fastening systems such as those manufactured by Hilti, ITW Ramset/Red Head, or Powers. Install in accordance with Manufacturer's Specifications. Provide a minimum of two fasteners per connection.

2. Provide a minimum penetration in accordance with manufacturer's specifications but not less than 1-1/8" in concrete, u.o.n.

3. Provide a minimum anchor spacing and edge distance of 3" in concrete and a minimum anchor spacing of 1" and edge distance of 1/2" in steel.

US Army Corps of Engineers ®

NOT FOR CONSTRUCTION

| MARK | DESCRIPTION | DATE |
|---|---|---|
| 1 | | |

ISSUE DATE: 02 APRIL 2021
SOLICITATION NO.: W912QR20R0038
CONTRACT NO.: W91328-XX-X-XXXX

DESIGNED BY: Designer
DRAWN BY: Author
CHECKED BY: Checker
SUBMITTED BY:
SIZE: ANSI D

US ARMY CORPS OF ENGINEERS
LOUISVILLE DISTRICT
LOUSVILLE, KY

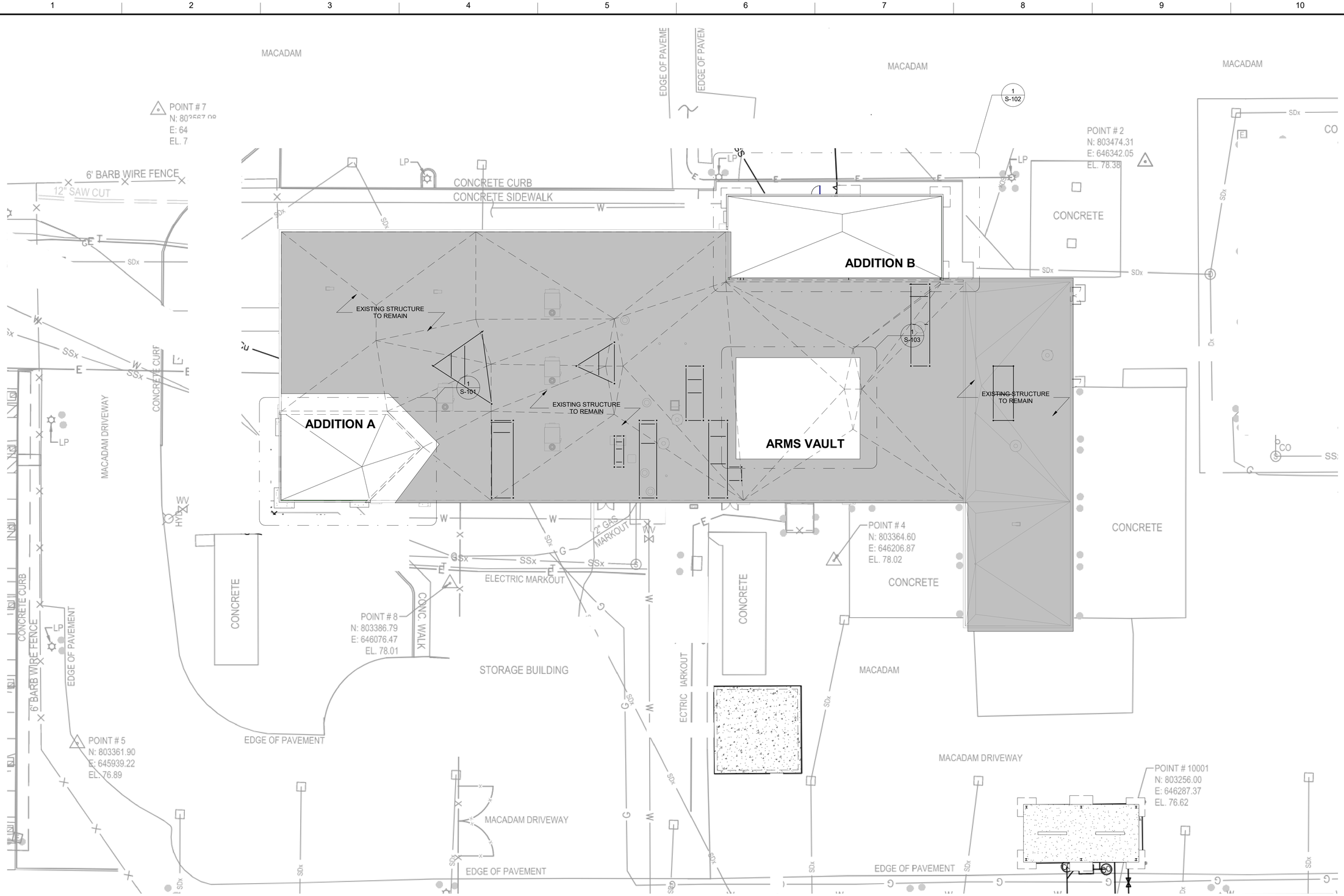
MARTOS ENGINEERING
15 NORTH MILL STREET, SUITE 207
ID #

UNITED STATES ARMY RESERVE CENTER
ORANGEBURG, NEW YORK

MAIN BUILDING STRUCTURAL NOTES

SHEET ID
S-000

CORRECTED FINAL SUBMISSION - JULY 29, 2021




1 MAIN BUILDING PLAN
1/16" = 1'-0"

PLAN NORTH

US Army Corps of Engineers ®

NOT FOR CONSTRUCTION

| MARK | DESCRIPTION | DATE |
|---|---|---|

DESIGNED BY: Designer
DRAWN BY: Author
CHECKED BY: Checker
SUBMITTED BY:
SIZE: ANSI D

ISSUE DATE: 02 APRIL 2021
SOLICITATION NO.: W912QR20R0038
CONTRACT NO.: W91328-XX-X-XXXX

US ARMY CORPS OF ENGINEERS
LOUISVILLE DISTRICT
LOUSVILLE, KY

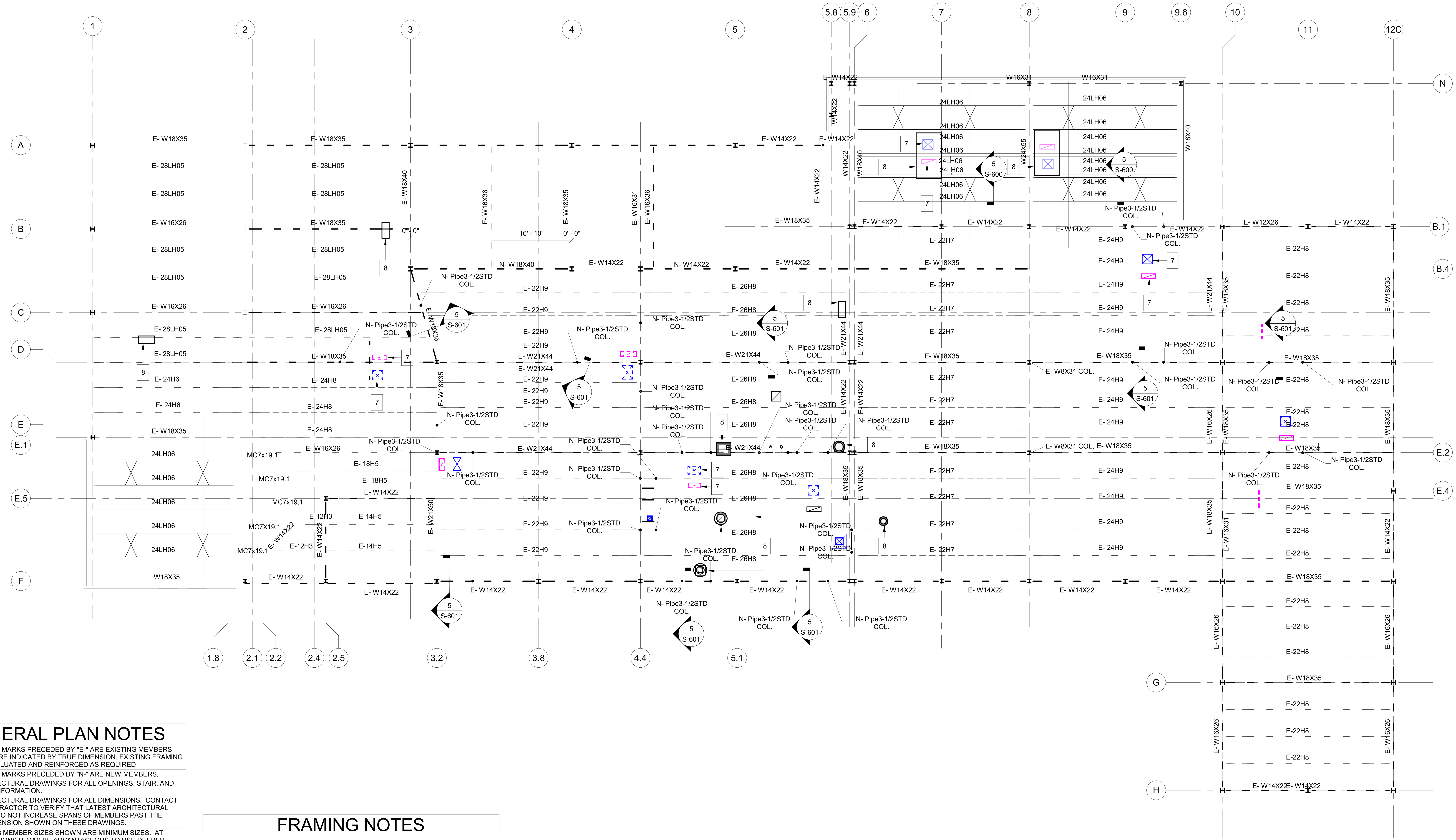
MARTOS ENGINEERING
15 NORTH MILL STREET. SUITE 207
ID #

UNITED STATES ARMY RESERVE CENTER
ORANGEBURG, NEW YORK

MAIN BUILDING PLAN

SHEET ID
S-003

CORRECTED FINAL SUBMISSION - JULY 29, 2021




# 1 ROOF FRAMING PLAN

3/32" = 1'-0"

# GENERAL PLAN NOTES

| | |
|---|---|
| A | ALL MEMBER MARKS PRECEDED BY "E-" ARE EXISTING MEMBERS AND SIZES ARE INDICATED BY TRUE DIMENSION. EXISTING FRAMING IS TO BE EVALUATED AND REINFORCED AS REQUIRED |
| B | ALL MEMBER MARKS PRECEDED BY "N-" ARE NEW MEMBERS. |
| C | SEE ARCHITECTURAL DRAWINGS FOR ALL OPENINGS, STAIR, AND PARTITION INFORMATION. |
| D | SEE ARCHITECTURAL DRAWINGS FOR ALL DIMENSIONS. CONTACT E.O.R. CONTRACTOR TO VERIFY THAT LATEST ARCHITECTURAL DRAWINGS DO NOT INCREASE SPANS OF MEMBERS PAST THE SCALED DIMENSION SHOWN ON THESE DRAWINGS. |
| E | ALL FRAMING MEMBER SIZES SHOWN ARE MINIMUM SIZES. AT SOME LOCATIONS IT MAY BE ADVANTAGEOUS TO USE DEEPER MEMBERS TO SIMPLIFY PLACEMENT OR FINISHES OR MECHANICAL SYSTEMS. |
| F | CONSTRUCTION INSPECTION BY USACE |
| G | CONCRETE PLACEMENT FOR ARMS VAULT WALLS, ROOF, AND FLOOR MAY NOT PROCEED UNTIL WRITTEN SECURITY CERTIFICATION AND CONTRACTING OFFICER APPROVAL IS RECEIVED. CERTIFICATION CAN ONLY PROCEED AFTER REINFORCING STEEL IS IN PLACE. THE CONTRACTOR SHALL PROVIDE THE CONTRACTING OFFICER A TWO WEEK NOTICE MINIMUM, PRIOR TO CONCRETE PLACEMENT, FOR THE SECURITY INSPECTION TO TAKE PLACE. BE AWARE THAT SEPARATE CONCRETE PLACEMENTS FOR VARIOUS PORTIONS OF THE VAULT REQUIRE SEPARATE INSPECTIONS. IT IS THE CONTRACTING OFFICER'S RESPONSIBILITY TO OBTAIN SECURITY CERTIFICATION FOR THE ARMS VAULT. |

# FRAMING NOTES

| | |
|---|---|
| 1 | NEW 6" CONCRETE SLAB ON GRADE PER DETAIL 1/S-400 |
| 2 | TYPICAL BAR JOIST BRIDGING: L11/2x11/2x1/8x CONT. TOP AND BOTTOM CHORD (WELD TO EACH JOIST TOP AND BOTTOM CHORD), PROVIDE ADDITIONAL 'X' BRIDGING L11/2xL11/2x1/8 AS SHOWN. |
| 3 | ROOFING (SEE ARCHITECTURALS) ON 1.5VLI GALVANIZED DECK OR SIMILAR, SUPPORTED BY STEEL BAR JOISTS. |
| 4 | NEW 8" CONCRETE SLAB ON GRADE PER 9/S-104 |
| 5 | NEW 7" CONCRETE TWO-WAY SLAB WITH #4 @9"O.C. EACH WAY TOP AND BOTTOM |
| 6 | CONTROL JOINTS PER 2/S-400 |
| 7 | DUCT PENETRATION IN ROOF DECKING, SEE 4/S-600 FOR OPENINGS LESS THAN 12"; 5/S-600 FOR OPENINGS IN NEW ROOF FRAMING AND 6/S-601 FOR OPENINGS IN EXISTING ROOF FRAMING |
| 8 | PROVIDE PREFABRICATED ROOF CURB FOR RTUS PER 7/S-601. SEE 5/S-600 FOR OPENINGS IN NEW FRAMING AND 6/S-601 FOR OPENINGS IN EXISTING FRAMING |

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LOUISVILLE DISTRICT
LOUSVILLE, KY

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15 NORTH MILL STREET, SUITE 207
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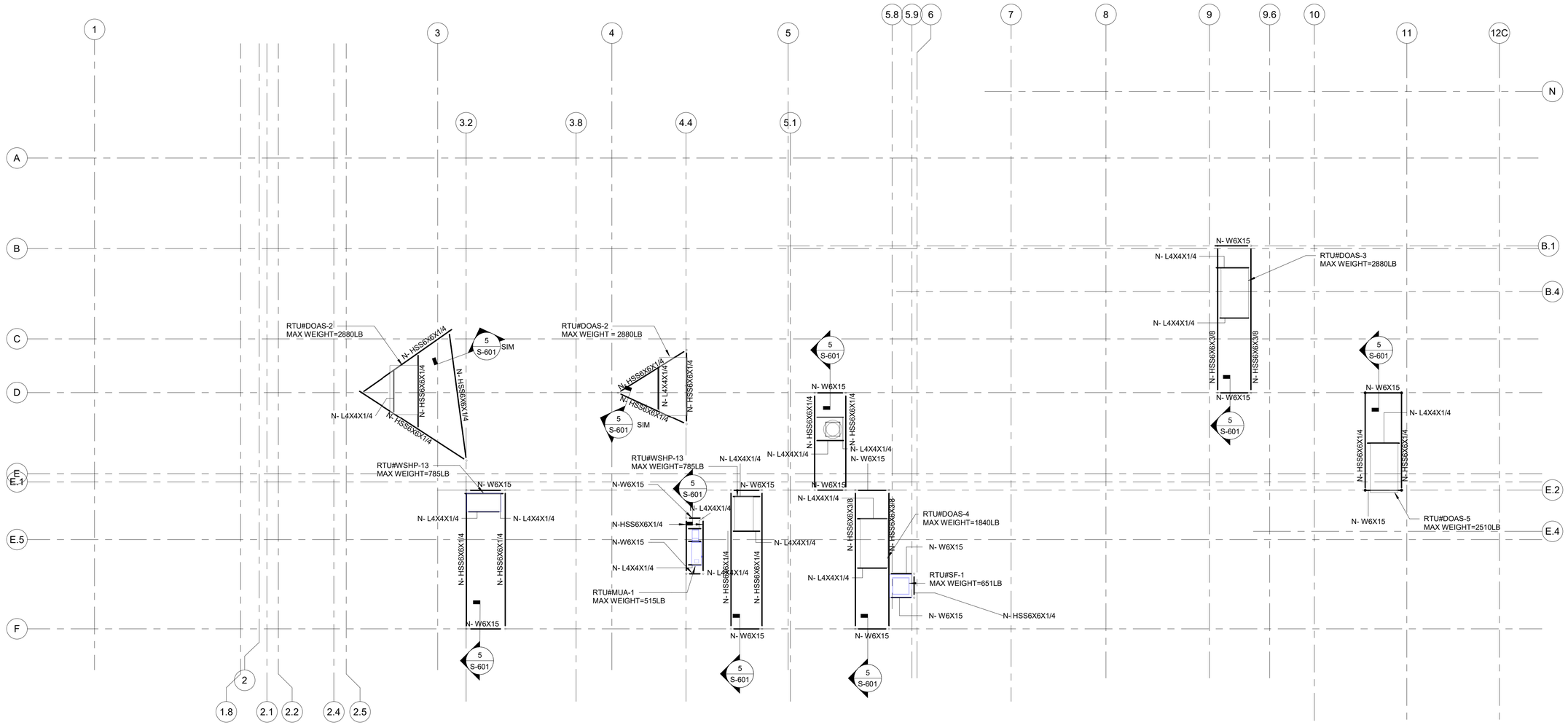
UNITED STATES ARMY RESERVE CENTER
ORANGEBURG, NEW YORK

ROOF FRAMING PLAN

SHEET ID

S-004

CORRECTED FINAL SUBMISSION - JULY 29, 2021




## GENERAL PLAN NOTES

| | |
|---|---|
| A | ALL MEMBER MARKS PRECEDED BY "E-" ARE EXISTING MEMBERS AND SIZES ARE INDICATED BY TRUE DIMENSION. EXISTING FRAMING IS TO BE EVALUATED AND REINFORCED AS REQUIRED |
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## FRAMING NOTES

| | |
|---|---|
| 1 | NEW 6" CONCRETE SLAB ON GRADE PER DETAIL 1/S-400 |
| 2 | TYPICAL BAR JOIST BRIDGING: L11/2x11/2x1/8x CONT. TOP AND BOTTOM CHORD (WELD TO EACH JOIST TOP AND BOTTOM CHORD), PROVIDE ADDITIONAL 'X' BRIDGING L11/2xL11/2x1/8 AS SHOWN. |
| 3 | ROOFING (SEE ARCHITECTURALS) ON 1.5VLI GALVANIZED DECK OR SIMILAR, SUPPORTED BY STEEL BAR JOISTS. |
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| 6 | CONTROL JOINTS PER 2/S-400 |
| 7 | DUCT PENETRATION IN ROOF DECKING, SEE 4/S-600 FOR OPENINGS LESS THAN 12"; 5/S-600 FOR OPENINGS IN NEW ROOF FRAMING AND 6/S-601 FOR OPENINGS IN EXISTING ROOF FRAMING |
| 8 | PROVIDE PREFABRICATED ROOF CURB FOR RTUS PER 7/S-601. SEE 5/S-600 FOR OPENINGS IN NEW FRAMING AND 6/S-601 FOR OPENINGS IN EXISTING FRAMING |

1 ROOF DUNNAGE PLAN
3/32" = 1'-0"

US Army Corps of Engineers ®

NOT FOR CONSTRUCTION

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US ARMY CORPS OF ENGINEERS
LOUISVILLE DISTRICT
LOUSVILLE, KY

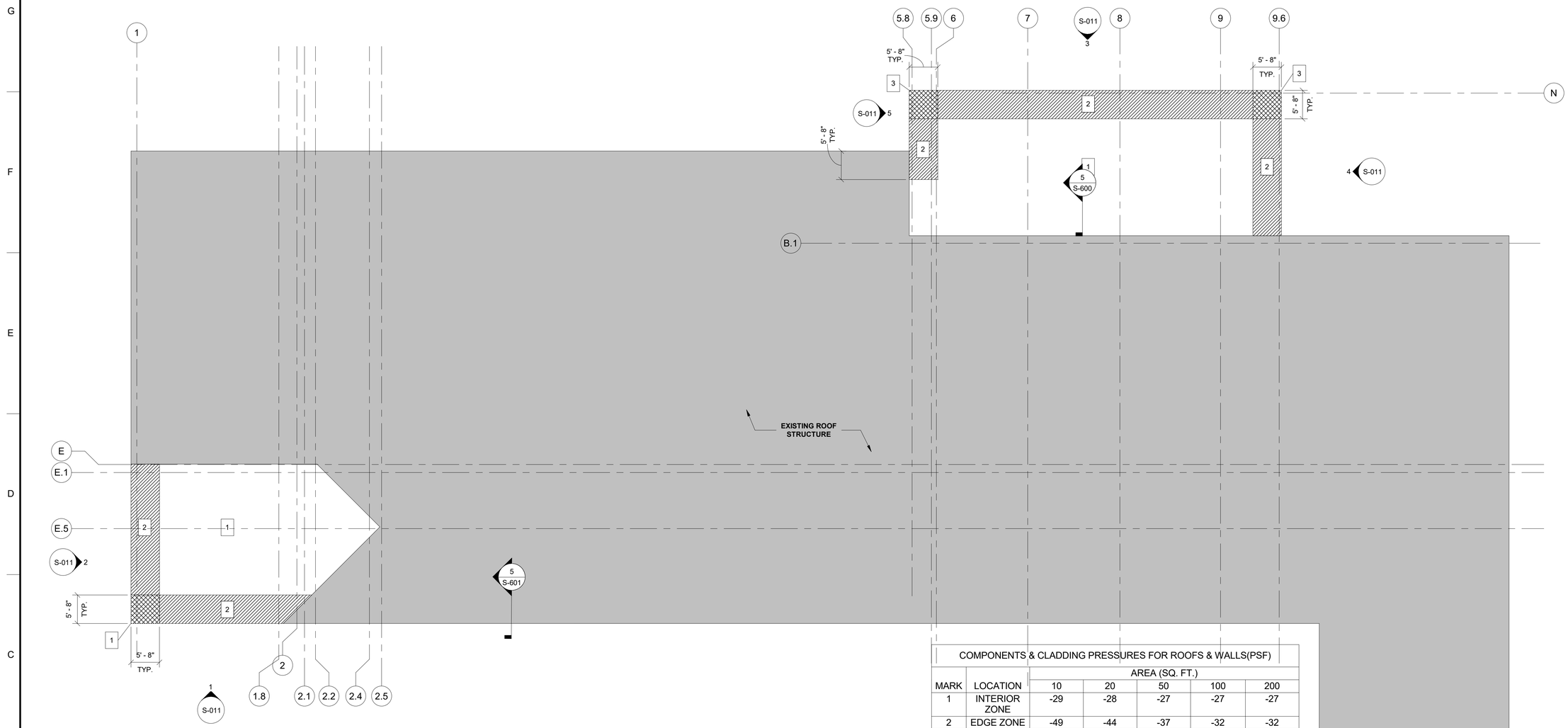
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15 NORTH MILL STREET, SUITE 207
ID #

UNITED STATES ARMY RESERVE CENTER
ORANGEBURG, NEW YORK

ROOF DUNNAGE PLAN

SHEET ID
S-005

CORRECTED FINAL SUBMISSION - JULY 29, 2021




| COMPONENTS & CLADDING PRESSURES FOR ROOFS & WALLS(PSF) | | | | | | |
|---|---|---|---|---|---|---|
| | | AREA (SQ. FT.) | | | | |
| MARK | LOCATION | 10 | 20 | 50 | 100 | 200 |
| 1 | INTERIOR ZONE | -29 | -28 | -27 | -27 | -27 |
| 2 | EDGE ZONE | -49 | -44 | -37 | -32 | -32 |
| 3 | CORNER ZONE | -73 | -61 | -43 | -32 | -32 |
| 4 | INTERIOR WALL ZONE | -32/+29 | -31/+28 | -29/+27 | -27/+25 | -26/+23 |
| 5 | CORNER WALL ZONE | -39/+29 | -37/+28 | -33/+27 | -31/+25 | -28/+23 |

NOTES:

1. UPLIFT LOADS ARE NORMAL TO THE SURFACE OF THE ROOF. POSITIVE AND NEGATIVE VALUES INDICATE PRESSURES APPLIED TOWARD THE SURFACE OR AWAY FROM THE SURFACE, RESPECTIVELY.

## 1 ROOF UPLIFT PRESSURES

3/32" = 1'-0"

US Army Corps of Engineers ®

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|---|---|---|
| | | |

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US ARMY CORPS OF ENGINEERS
LOUISVILLE DISTRICT
LOUISVILLE, KY

MARTOS ENGINEERING
15 NORTH MILL STREET, SUITE 207
ID #

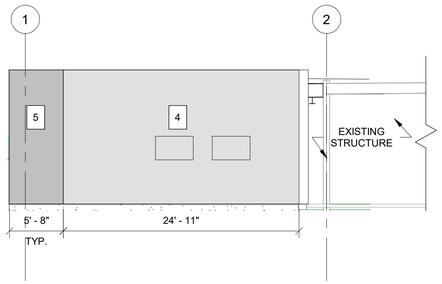
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ORANGEBURG, NEW YORK

ROOF WIND PRESSURES

SHEET ID

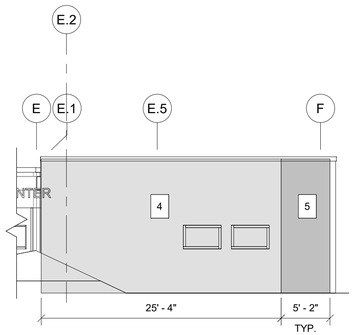
S-010

CORRECTED FINAL SUBMISSION - JULY 29, 2021




## 1 ADDITION A SOUTH ELEVATION

1/8" = 1'-0"



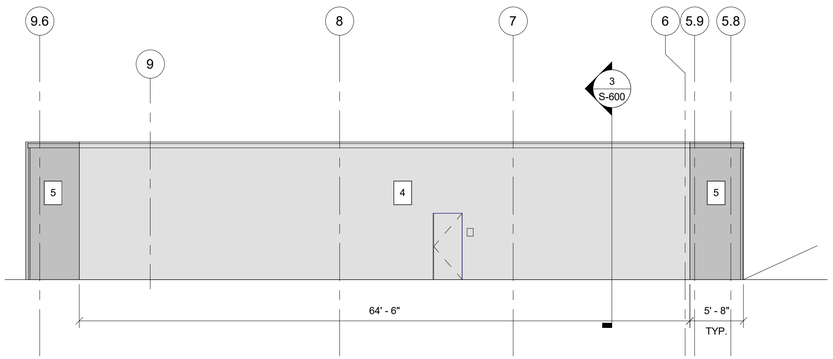

## 2 ADDITION A WEST ELEVATION

1/8" = 1'-0"

| COMPONENTS & CLADDING PRESSURES FOR ROOFS & WALLS(PSF) | | | | | | |
|---|---|---|---|---|---|---|
| | | AREA (SQ. FT.) | | | | |
| MARK | LOCATION | 10 | 20 | 50 | 100 | 200 |
| 1 | INTERIOR ZONE | -29 | -28 | -27 | -27 | -27 |
| 2 | EDGE ZONE | -49 | -44 | -37 | -32 | -32 |
| 3 | CORNER ZONE | -73 | -61 | -43 | -32 | -32 |
| 4 | INTERIOR WALL ZONE | -32/+29 | -31/+28 | -29/+27 | -27/+25 | -26/+23 |
| 5 | CORNER WALL ZONE | -39/+29 | -37/+28 | -33/+27 | -31/+25 | -28/+23 |

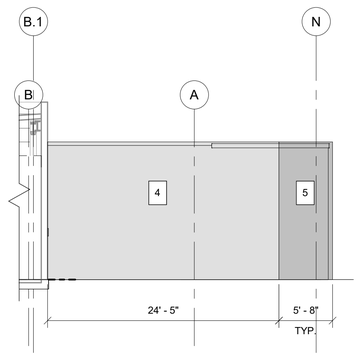
NOTES:

1. UPLIFT LOADS ARE NORMAL TO THE SURFACE OF THE ROOF. POSITIVE AND NEGATIVE VALUES INDICATE PRESSURES APPLIED TOWARD THE SURFACE OR AWAY FROM THE SURFACE, RESPECTIVELY.



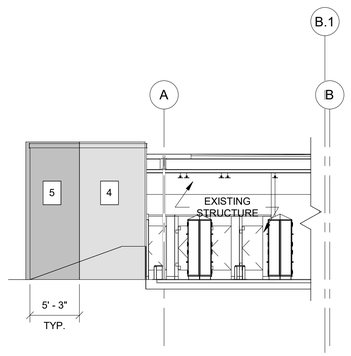

## 3 ADDITION B NORTH ELEVATION

1/8" = 1'-0"




## 4 ADDITION B EAST ELEVATION

1/8" = 1'-0"




## 5 ADDITION B WEST ELEVATION

1/8" = 1'-0"

US Army Corps of Engineers ®

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| MARK | DESCRIPTION | DATE |
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US ARMY CORPS OF ENGINEERS
LOUISVILLE DISTRICT
LOUISVILLE, KY

MARTOS ENGINEERING
15 NORTH MILL STREET, SUITE 207
ID #

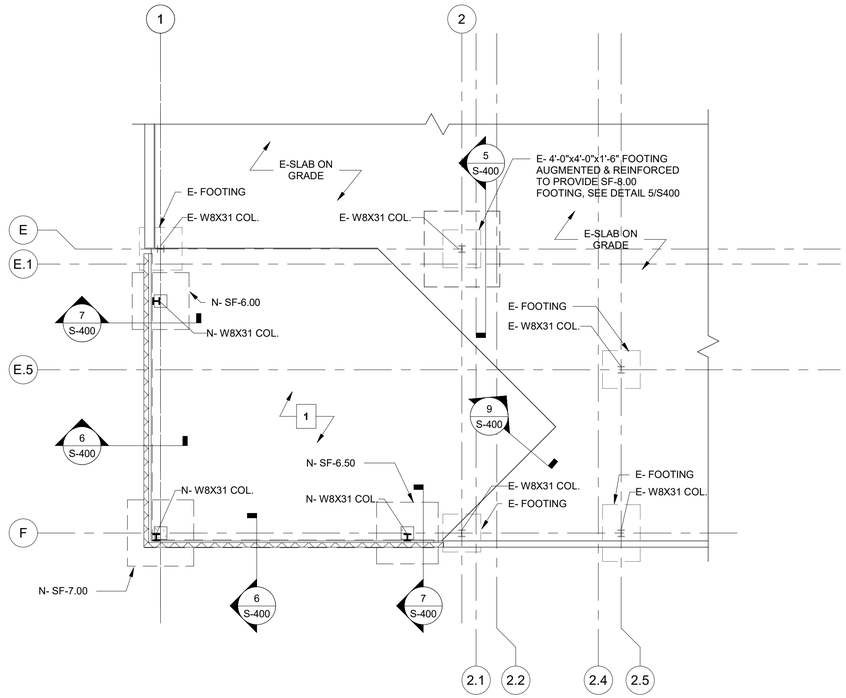
UNITED STATES ARMY RESERVE CENTER
ORANGEBURG, NEW YORK

WALL WIND PRESSURES

SHEET ID

S-011

CORRECTED FINAL SUBMISSION - JULY 29, 2021



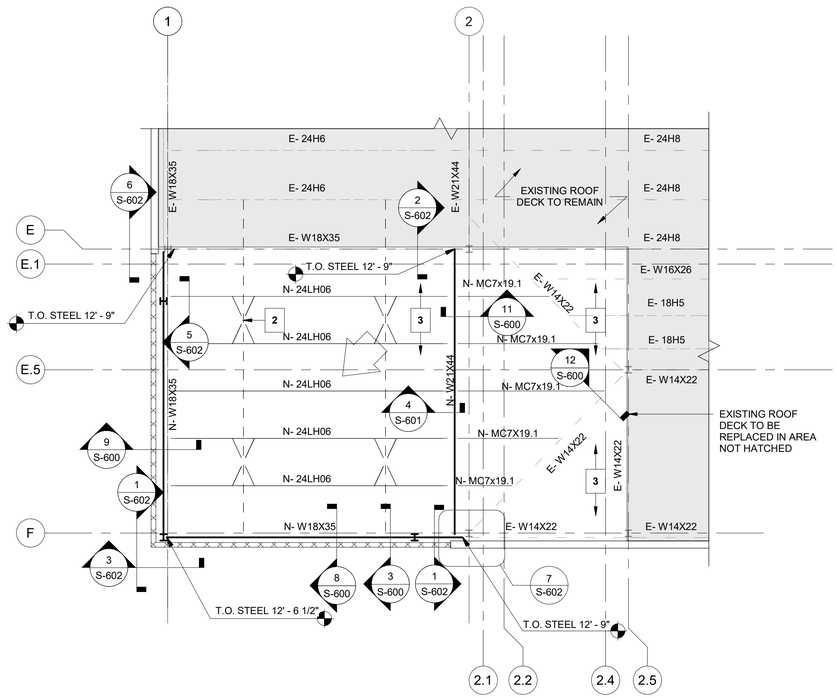

## 1 FOUNDATION PLAN AT PROPOSED ADDITION A

1/8" = 1'-0"

0 4' 8' 16'

PLAN NORTH

| SPREAD FOOTING SCHEDULE | | | | | | |
|---|---|---|---|---|---|---|
| | | TOP REINFORCING | | BOTTOM REINFORCING | | |
| MARK | SIZE | L.W. | S.W. | L.W. | S.W. | REMARKS |
| SF-4.50 | 4'-6" x 4'-6" x 16" | (6)#5 | (6)#5 | -- | -- | |
| SF-6.00 | 6'-0" x 6'-0" x 18" | (8)#5 | (8)#5 | -- | -- | |
| SF-6.50 | 6'-6" x 6'-6" x 18" | (9) #5 | (9) #5 | -- | -- | |
| SF-7.00 | 7'-0" x 7'-0" x 18" | (9) #5 | (9) #5 | -- | -- | |
| SF-8.00 | 8'-0" x 8'-0" x 18" | (11)#5 | (11)#5 | -- | -- | |




## 2 ROOF FRAMING PLAN AT PROPOSED ADDITION A

1/8" = 1'-0"

0 4' 8' 16'

PLAN NORTH

## FRAMING NOTES

| | |
|---|---|
| 1 | NEW 6" CONCRETE SLAB ON GRADE PER DETAIL 1/S-400 |
| 2 | TYPICAL BAR JOIST BRIDGING: L11/2x11/2x1/8x CONT. TOP AND BOTTOM CHORD (WELD TO EACH JOIST TOP AND BOTTOM CHORD), PROVIDE ADDITIONAL 'X' BRIDGING L11/2xL11/2x1/8 AS SHOWN. |
| 3 | ROOFING (SEE ARCHITECTURALS) ON 1.5VLI GALVANIZED DECK OR SIMILAR, SUPPORTED BY STEEL BAR JOISTS. |
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| 6 | CONTROL JOINTS PER 2/S-400 |
| 7 | DUCT PENETRATION IN ROOF DECKING, SEE 4/S-600 FOR OPENINGS LESS THAN 12"; 5/S-600 FOR OPENINGS IN NEW ROOF FRAMING AND 6/S-601 FOR OPENINGS IN EXISTING ROOF FRAMING |
| 8 | PROVIDE PREFABRICATED ROOF CURB FOR RTUS PER 7/S-601. SEE 5/S-600 FOR OPENINGS IN NEW FRAMING AND 6/S-601 FOR OPENINGS IN EXISTING FRAMING |

## LEGEND

- INDICATES NEW REINFORCED CONCRETE WALLS. SEE PLAN FOR REINFORCING
- INDICATES NEW LTGA EXTERIOR WALLS DESIGNED BY DELEGATED ENGINEER, PROVIDE 600S200-54(50) MIN STUDS
- S.F. INDICATES STEP IN FOUNDATION, SEE DETAIL 8/S400
- WALL BELOW
- NEW FOOTING
- NEW NON-BEARING PARTITION WALL, SEE ARCH
- DIRECTION OF ROOF PITCH

## GENERAL PLAN NOTES

| | |
|---|---|
| A | ALL MEMBER MARKS PRECEDED BY "E-" ARE EXISTING MEMBERS AND SIZES ARE INDICATED BY TRUE DIMENSION. EXISTING FRAMING IS TO BE EVALUATED AND REINFORCED AS REQUIRED |
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US Army Corps of Engineers ®

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| 10 | Revision 10 | Date 10 |

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US ARMY CORPS OF ENGINEERS
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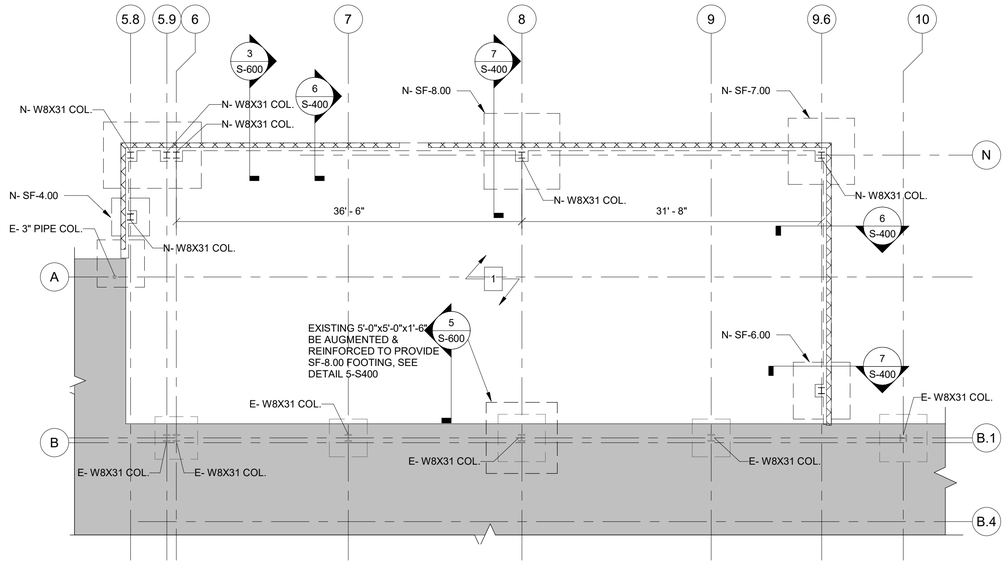
UNITED STATES ARMY RESERVE CENTER
ORANGEBURG, NEW YORK

ADDITION A STRUCTURAL PLANS

SHEET ID

S-101

CORRECTED FINAL SUBMISSION - JULY 29, 2021

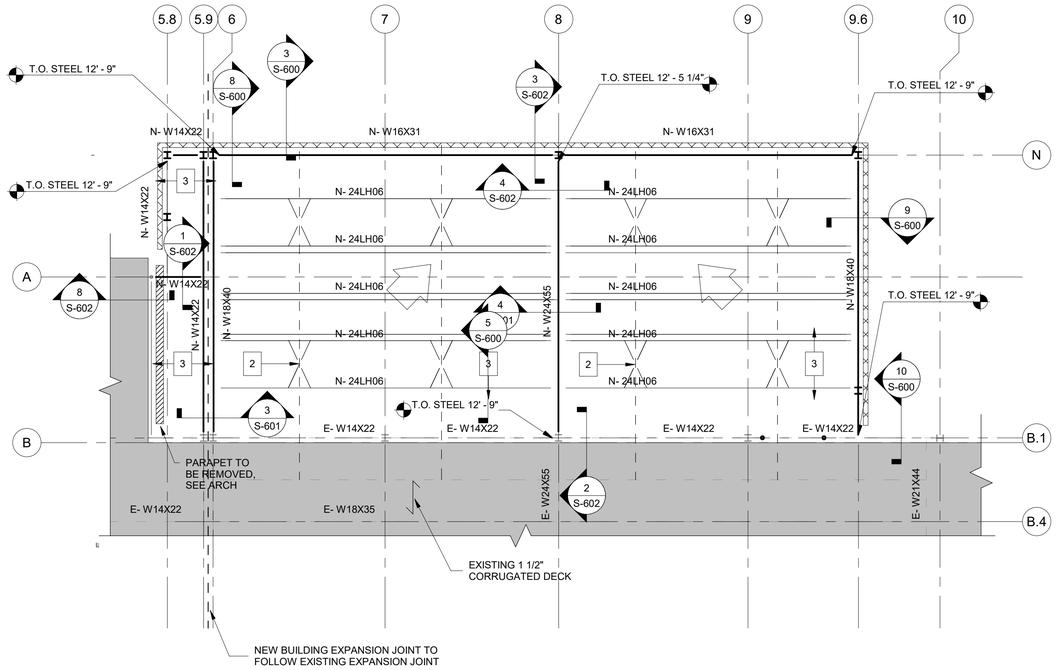



# 1 FOUNDATION PLAN AT PROPOSED ADDITION B

1/8" = 1'-0"

0 4' 8' 16'

PLAN NORTH




# 2 ROOF FRAMING PLAN AT PROPOSED ADDITION B

1/8" = 1'-0"

0 4' 8' 16'

PLAN NORTH

| SPREAD FOOTING SCHEDULE | | | | | | |
|---|---|---|---|---|---|---|
| | | TOP REINFORCING | | BOTTOM REINFORCING | | |
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- WALL BELOW
- NEW FOOTING
- NEW NON-BEARING PARTITION WALL, SEE ARCH
- DIRECTION OF ROOF PITCH

## FRAMING NOTES

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| E | ALL FRAMING MEMBER SIZES SHOWN ARE MINIMUM SIZES. AT SOME LOCATIONS IT MAY BE ADVANTAGEOUS TO USE DEEPER MEMBERS TO SIMPLIFY PLACEMENT OR FINISHES OR MECHANICAL SYSTEMS. |
| F | CONSTRUCTION INSPECTION BY USACE |
| G | CONCRETE PLACEMENT FOR ARMS VAULT WALLS, ROOF, AND FLOOR MAY NOT PROCEED UNTIL WRITTEN SECURITY CERTIFICATION AND CONTRACTING OFFICER APPROVAL IS RECEIVED. CERTIFICATION CAN ONLY PROCEED AFTER REINFORCING STEEL IS IN PLACE. THE CONTRACTOR SHALL PROVIDE THE CONTRACTING OFFICER A TWO WEEK NOTICE MINIMUM, PRIOR TO CONCRETE PLACEMENT, FOR THE SECURITY INSPECTION TO TAKE PLACE. BE AWARE THAT SEPARATE CONCRETE PLACEMENTS FOR VARIOUS PORTIONS OF THE VAULT REQUIRE SEPARATE INSPECTIONS. IT IS THE CONTRACTING OFFICER'S RESPONSIBILITY TO OBTAIN SECURITY CERTIFICATION FOR THE ARMS VAULT. |

US Army Corps of Engineers ®

NOT FOR CONSTRUCTION

| MARK | DESCRIPTION | DATE |
|---|---|---|
| 10 | Revision 10 | Date 10 |

DESIGNED BY: Designer
DRAWN BY: Author
CHECKED BY: Checker
SUBMITTED BY:
SIZE: ANSI D
ISSUE DATE: 02 APRIL 2021
SOLICITATION NO.: W912QR20R0038
CONTRACT NO.: W91238-XX-X-XXXX

US ARMY CORPS OF ENGINEERS
LOUISVILLE DISTRICT
LOUISVILLE, KY

MARTOS ENGINEERING
15 NORTH MILL STREET, SUITE 207
ID #

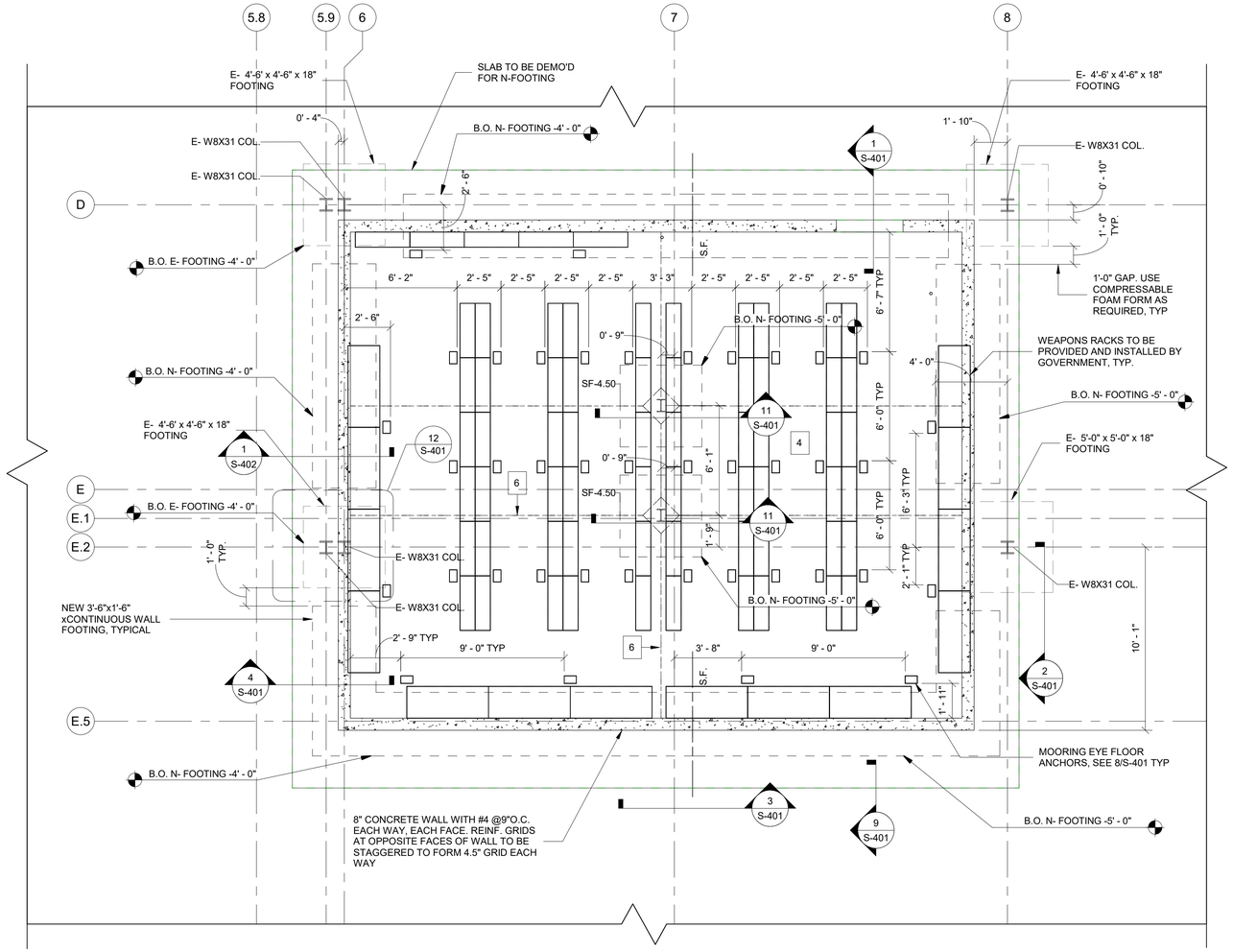
UNITED STATES ARMY RESERVE CENTER
ORANGEBURG, NEW YORK

ADDITION B STRUCTURAL PLANS

SHEET ID

S-102

CORRECTED FINAL SUBMISSION - JULY 29, 2021

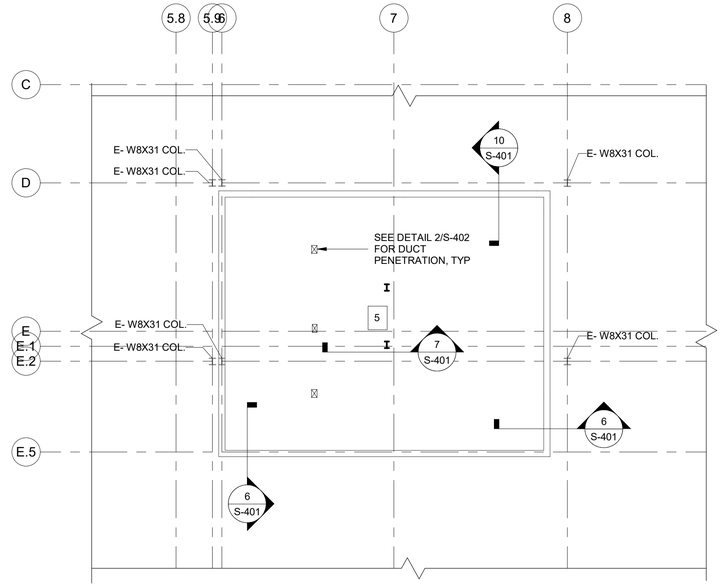



# 1 ARMS VAULT FOUNDATION PLAN

1/4" = 1'-0"

0 4' 8' 16'

PLAN NORTH

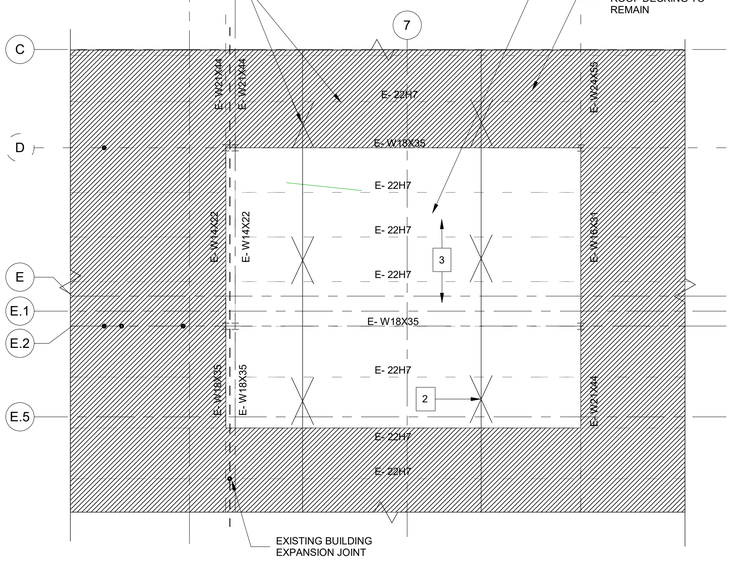



# 2 ARMS VAULT CAST ROOF PLAN

1/8" = 1'-0"

0 4' 8' 16'

PLAN NORTH




# 3 BUILDING ROOF OVER ARMS VAULT PLAN

1/8" = 1'-0"

0 4' 8' 16'

PLAN NORTH

## LEGEND

- INDICATES NEW REINFORCED CONCRETE WALLS. SEE PLAN FOR REINFORCING
- INDICATES NEW LTGA EXTERIOR WALLS DESIGNED BY DELEGATED ENGINEER, PROVIDE 600S200-54(50) MIN STUDS
- S.F. INDICATES STEP IN FOUNDATION, SEE DETAIL 8/S400
- WALL BELOW
- NEW FOOTING
- NEW NON-BEARING PARTITION WALL, SEE ARCH
- DIRECTION OF ROOF PITCH

## GENERAL PLAN NOTES

| | |
|---|---|
| A | ALL MEMBER MARKS PRECEDED BY "E-" ARE EXISTING MEMBERS AND SIZES ARE INDICATED BY TRUE DIMENSION. EXISTING FRAMING IS TO BE EVALUATED AND REINFORCED AS REQUIRED |
| B | ALL MEMBER MARKS PRECEDED BY "N-" ARE NEW MEMBERS. |
| C | SEE ARCHITECTURAL DRAWINGS FOR ALL OPENINGS, STAIR, AND PARTITION INFORMATION. |
| D | SEE ARCHITECTURAL DRAWINGS FOR ALL DIMENSIONS. CONTACT E.O.R. CONTRACTOR TO VERIFY THAT LATEST ARCHITECTURAL DRAWINGS DO NOT INCREASE SPANS OF MEMBERS PAST THE SCALED DIMENSION SHOWN ON THESE DRAWINGS. |
| E | ALL FRAMING MEMBER SIZES SHOWN ARE MINIMUM SIZES. AT SOME LOCATIONS IT MAY BE ADVANTAGEOUS TO USE DEEPER MEMBERS TO SIMPLIFY PLACEMENT OR FINISHES OR MECHANICAL SYSTEMS. |
| F | CONSTRUCTION INSPECTION BY USACE |
| G | CONCRETE PLACEMENT FOR ARMS VAULT WALLS, ROOF, AND FLOOR MAY NOT PROCEED UNTIL WRITTEN SECURITY CERTIFICATION AND CONTRACTING OFFICER APPROVAL IS RECEIVED. CERTIFICATION CAN ONLY PROCEED AFTER REINFORCING STEEL IS IN PLACE. THE CONTRACTOR SHALL PROVIDE THE CONTRACTING OFFICER A TWO WEEK NOTICE MINIMUM, PRIOR TO CONCRETE PLACEMENT, FOR THE SECURITY INSPECTION TO TAKE PLACE. BE AWARE THAT SEPARATE CONCRETE PLACEMENTS FOR VARIOUS PORTIONS OF THE VAULT REQUIRE SEPARATE INSPECTIONS. IT IS THE CONTRACTING OFFICER'S RESPONSIBILITY TO OBTAIN SECURITY CERTIFICATION FOR THE ARMS VAULT. |

## FRAMING NOTES

| | |
|---|---|
| 1 | NEW 6" CONCRETE SLAB ON GRADE PER DETAIL 1/S-400 |
| 2 | TYPICAL BAR JOIST BRIDGING: L11/2x11/2x1/8x CONT. TOP AND BOTTOM CHORD (WELD TO EACH JOIST TOP AND BOTTOM CHORD), PROVIDE ADDITIONAL 'X' BRIDGING L11/2xL11/2x1/8 AS SHOWN. |
| 3 | ROOFING (SEE ARCHITECTURALS) ON 1.5VLI GALVANIZED DECK OR SIMILAR, SUPPORTED BY STEEL BAR JOISTS. |
| 4 | NEW 8" CONCRETE SLAB ON GRADE PER 9/S-104 |
| 5 | NEW 7" CONCRETE TWO-WAY SLAB WITH #4 @9"O.C. EACH WAY TOP AND BOTTOM |
| 6 | CONTROL JOINTS PER 2/S-400 |
| 7 | DUCT PENETRATION IN ROOF DECKING, SEE 4/S-600 FOR OPENINGS LESS THAN 12"; 5/S-600 FOR OPENINGS IN NEW ROOF FRAMING AND 6/S-601 FOR OPENINGS IN EXISTING ROOF FRAMING |
| 8 | PROVIDE PREFABRICATED ROOF CURB FOR RTUS PER 7/S-601. SEE 5/S-600 FOR OPENINGS IN NEW FRAMING AND 6/S-601 FOR OPENINGS IN EXISTING FRAMING |

## SPREAD FOOTING SCHEDULE

| MARK | SIZE | TOP REINFORCING L.W. | TOP REINFORCING S.W. | BOTTOM REINFORCING L.W. | BOTTOM REINFORCING S.W. | REMARKS |
|---|---|---|---|---|---|---|
| SF-4.50 | 4'-6" x 4'-6" x 16" | (6)#5 | (6)#5 | -- | -- | |
| SF-6.00 | 6'-0" x 6'-0" x 18" | (8)#5 | (8)#5 | -- | -- | |
| SF-6.50 | 6'-6" x 6'-6" x 18" | (9) #5 | (9) #5 | -- | -- | |
| SF-7.00 | 7'-0" x 7'-0" x 18" | (9) #5 | (9) #5 | -- | -- | |
| SF-8.00 | 8'-0" x 8'-0" x 18" | (11)#5 | (11)#5 | -- | -- | |

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| MARK | DESCRIPTION | DATE |
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| 2 | | |

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US ARMY CORPS OF ENGINEERS LOUISVILLE DISTRICT LOUISVILLE, KY

MARTOS ENGINEERING 15 NORTH MILL STREET, SUITE 207 ID #

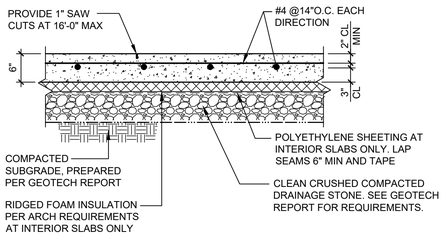
UNITED STATES ARMY RESERVE CENTER ORANGEBURG, NEW YORK

ARMS VAULT STRUCTURAL PLANS

SHEET ID

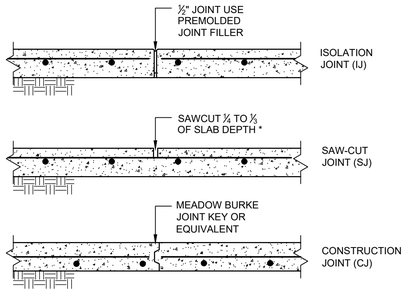
S-103

CORRECTED FINAL SUBMISSION - JULY 29, 2021




NOTE: COORDINATE CONTROL JOINT LOCATIONS WITH ENGINEER AND ARCHITECT. SAWCUT AS SOON AS POSSIBLE AFTER CONCRETE HARDENS. SAW CUTTING MUST BE COMPLETE WITHIN 8 HRS AFTER CASTING. COORDINATE BELOW SLAB INSULATION AND RADIANT HEAT TUBING IF REQUIRED WITH ARCHITECT.

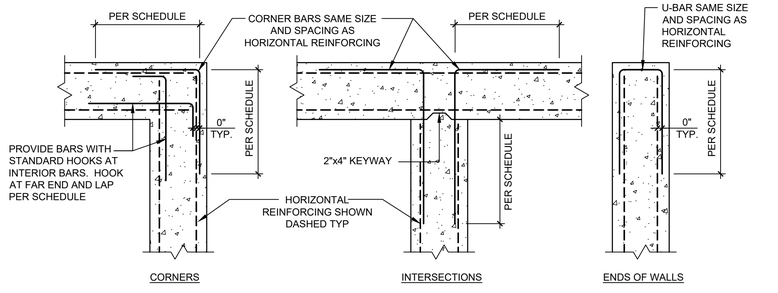
## 1 TYP SLAB ON GRADE




* PROVIDE SEALANT WHERE REQUIRED BY ARCHITECT. SAWCUT AS SOON AS POSSIBLE AFTER CONCRETE HARDENS. SAW CUTTING MUST BE COMPLETE WITHIN 8 HRS. AFTER POURING. COORDINATE SAW CUTS WITH TILED FINISHES TO PREVENT TILE CRACKING.

## 2 TYP CONTROL JOINTS

SLAB ON GRADE



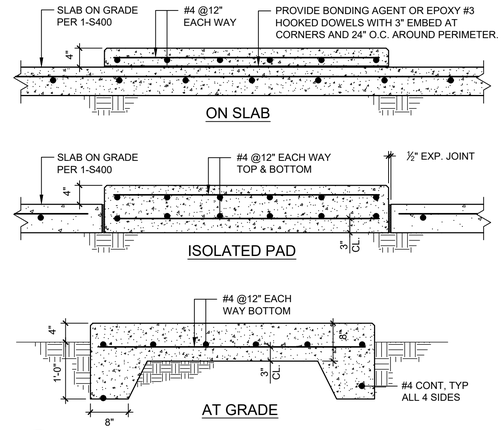

NOTE: THE ADDITIONAL HOOKED BARS MAY BE ELIMINATED IF HORIZONTAL REINFORCING IS PROVIDED WITH HOOKS.

PROVIDE SIMILAR CORNER AND INTERSECTION DETAILS AT WALLS AND FOOTINGS. END OF WALL DETAIL NOT TO BE USED IN FOUNDATIONS U.O.N.

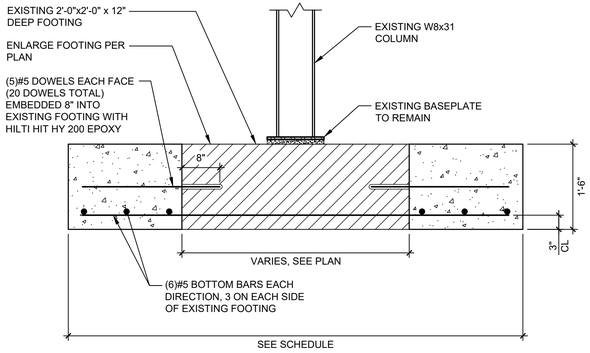
## 3 TYPICAL HORIZONTAL REINFORCING

CONCRETE WALLS, AND FOOTINGS

SEE MEP AND ARCHITECTURAL DWG'S. FOR SIZE AND LOCATION OF HOUSEKEEPING PADS

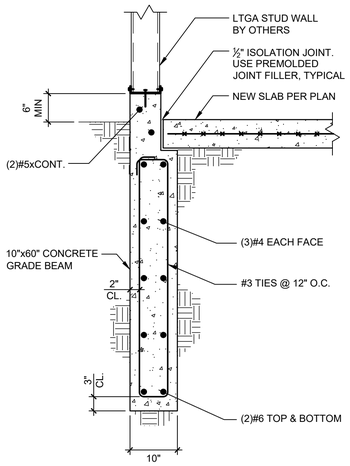



## 4 HOUSEKEEPING PADS ON GRADE

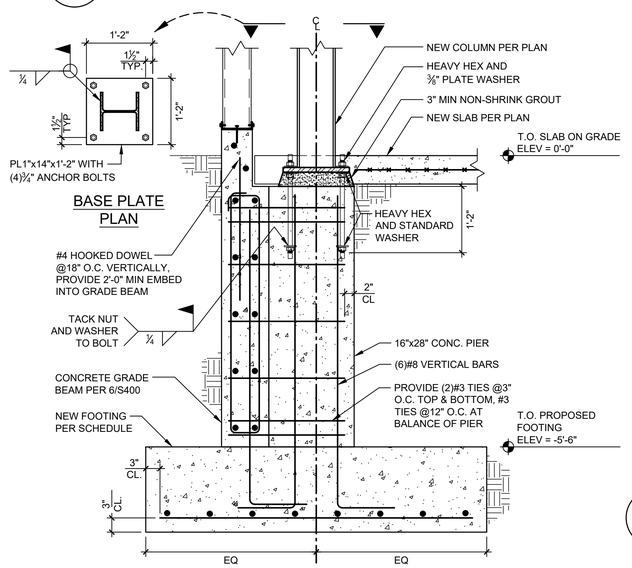



## 5 EXISING FOOTING ENLARGEMENT

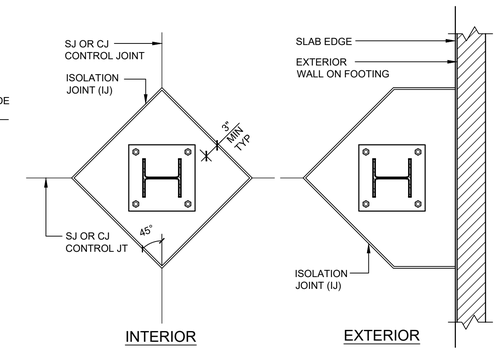
SCALE: 3/4" = 1'-0"



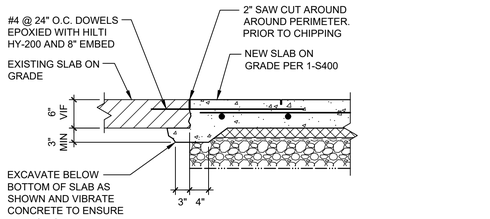

## 6 MASONRY WALL TO GRADE BEAM DETAIL




## 7 MASONRY WALL TO GRADE BEAM DETAIL




## 8 CONTROL JOINTS AT COLUMNS

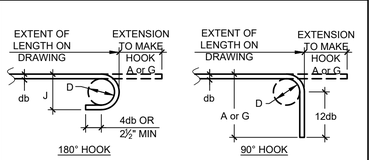



## 9 NEW SLAB TO EXISTING SLAB DETAIL

### MIN. LAP SPLICE LENGTH SCHEDULE

| BAR TYPE | BAR SIZE | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | #3 | #4 | #5 | #6 | #7 | #8 | #9 | #10 | #11 |
| 48 BAR DIAMETER | 18" | 24" | 30" | 36" | 42" | 48" | 54" | 61" | 68" |
| FOOTINGS | 16" | 18" | 22" | 26" | 38" | 43" | 49" | 55" | 61" |
| COLUMNS | - | - | 22" | 26" | 38" | 45" | 56" | 69" | 83" |
| WALLS | 16" | 18" | 22" | 26" | 38" | 45" | 56" | 69" | - |
| SLABS | 16" | 22" | 32" | 43" | 69" | 86" | - | - | - |
| BEAMS (TOP) | - | - | 28" | 34" | 49" | 59" | 73" | 90" | 107" |
| BEAMS (MID. & BOTT.) | - | - | 22" | 26" | 38" | 45" | 56" | 69" | 83" |
| STIRRUPS | 16" | 18" | 22" | 26" | - | - | - | - | - |
| MASONRY FILLED CELLS | - | - | 30" | 56" | 76" | - | - | - | - |

### STANDARD HOOK DETAILS




END HOOK DIMENSIONS, ALL GRADES

| BAR SIZE | D | 180° HOOKS | | 90° HOOKS |
|---|---|---|---|---|
| | | A or G | J | A or G |
| #3 | 2½" | 0'-5" | 0'-3" | 0'-6" |
| #4 | 3" | 0'-6" | 0'-4" | 0'-8" |
| #5 | 3¾" | 0'-7" | 0'-5" | 0'-10" |
| #6 | 4½" | 0'-8" | 0'-6" | 1'-0" |
| #7 | 5¼" | 0'-10" | 0'-7" | 1'-2" |
| #8 | 6" | 0'-11" | 0'-8" | 1'-4" |
| #9 | 9½" | 1'-3" | 0'-11¾" | 1'-7" |
| #10 | 10¾" | 1'-5" | 1'-1¼" | 1'-10" |
| #11 | 12" | 1'-7" | 1'-2¾" | 2'-0" |

US Army Corps of Engineers ®

| MARK | DESCRIPTION | DATE |
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DRAWN BY:
CHECKED BY:
SUBMITTED BY:
SIZE: ANSI D
ISSUE DATE: 23 JULY 2021
SOLICITATION NO.: W912QR20R0038
CONTRACT NO.: W91328-XX-XXXX

US ARMY CORPS OF ENGINEERS
LOUISVILLE DISTRICT
LOUISVILLE, KY

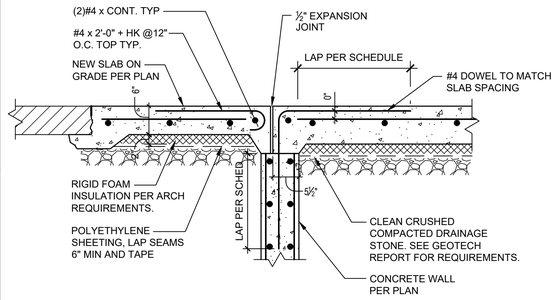
MARTOS Engineering
15 North Mill Street, SUITE 207
Nyack, NY10960
ID #

UNITED STATES ARMY RESERVE CENTER
ORANGEBURG, NEW YORK

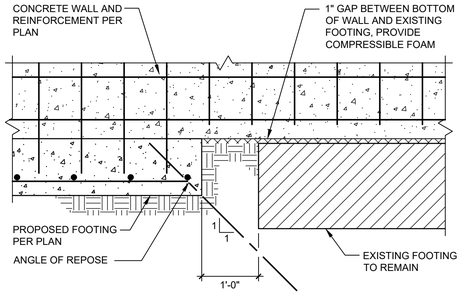
ADDITION A & B FOUNDATION DETAILS

SHEET ID
S-400

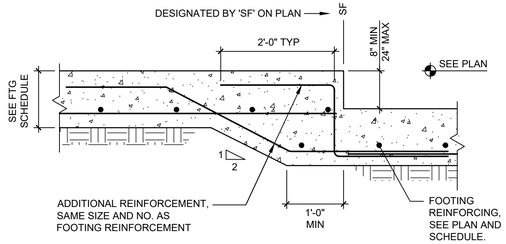
CORRECTED FINAL SUBMISSION - JULY 29, 2021



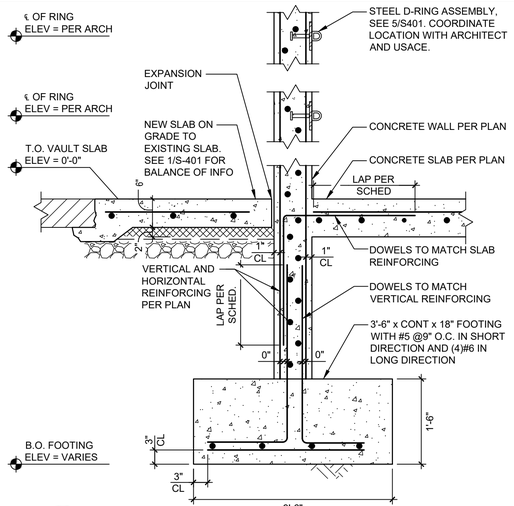

## 1 VAULT SLAB AT DOORWAYS



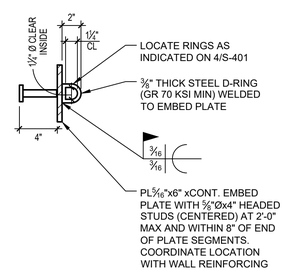

## 2 PROPOSED FOOTING TO EXISTING FOOTING
AT ARMS VAULT



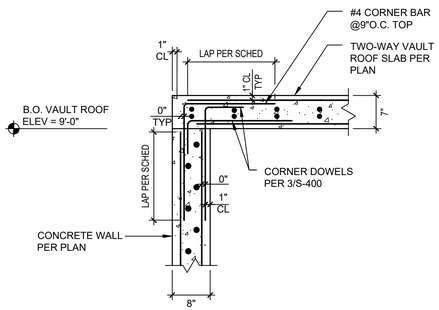

## 3 STEP FOOTING DETAIL
AT ARMS VAULT



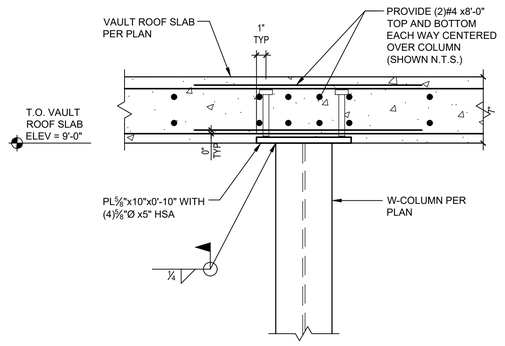

## 4 ARMS VAULT CONCRETE FOUNDATION
WALL CENTERED ON FOOTING



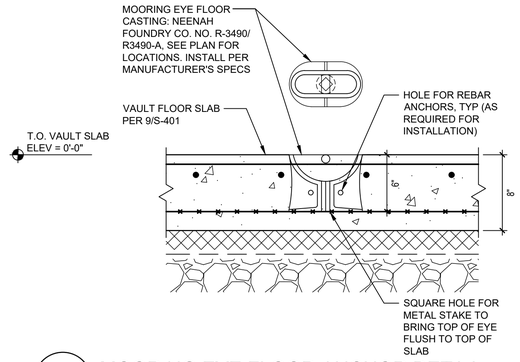

## 5 STEEL RING ASSEMBLY
DESIGN BY OTHERS
SCALE: 1-1/2" = 1'-0"



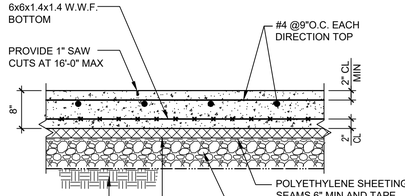

## 6 ARMS VAULT CONCRETE ROOF




## 7 ARMS VAULT COLUMN TO ROOF SLAB
SCALE: 1-1/2" = 1'-0"

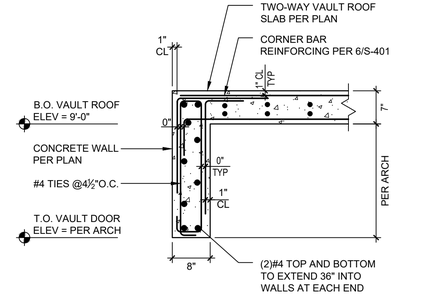



## 8 MOORING EYE FLOOR ANCHOR DETAIL
DESIGN BY OTHERS
SCALE: 1-1/2" = 1'-0"

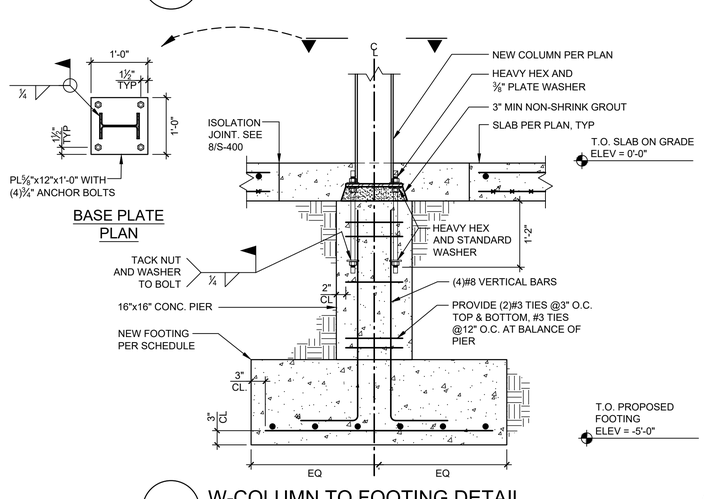



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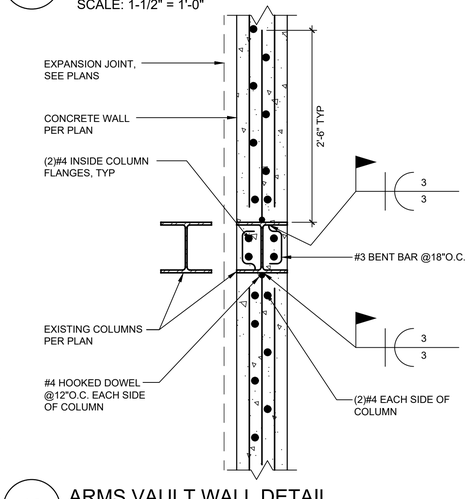
## 9 TYP SLAB ON GRADE
AT ARMS VAULT




## 10 ARMS VAULT CONCRETE ROOF
AT DOORWAY




## 11 W-COLUMN TO FOOTING DETAIL
AT ARMS VAULT




## 12 ARMS VAULT WALL DETAIL
AT EXISTING COLUMN
SCALE: 1" = 1'-0"

US Army Corps of Engineers ®

| MARK | DESCRIPTION | DATE |
|---|---|---|

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DRAWN BY:
CHECKED BY:
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US ARMY CORPS OF ENGINEERS
LOUISVILLE DISTRICT
LOUISVILLE, KY

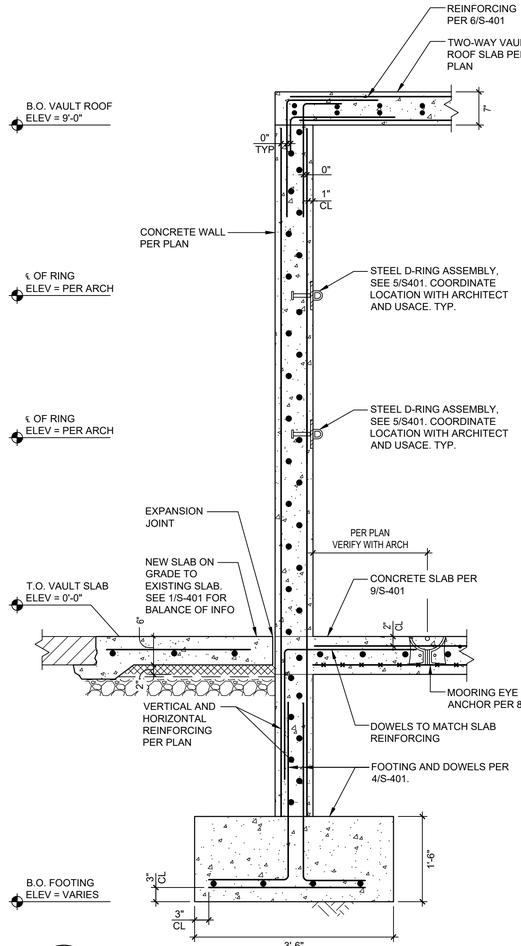
MARTOS Engineering
15 North Mill Street, SUITE 207
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ID #

UNITED STATES ARMY RESERVE CENTER
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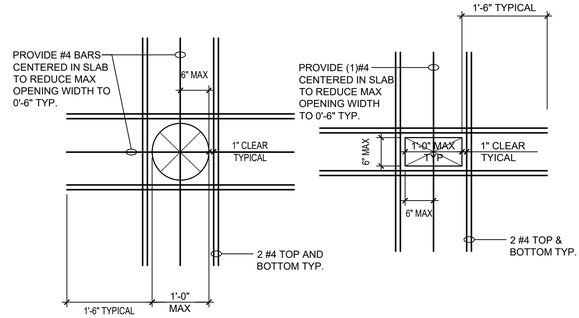
ARMS VAULT FOUNDATION DETAILS

SHEET ID
S-401

CORRECTED FINAL SUBMISSION - JULY 29, 2021




1 ARMS VAULT WALL SECTION
WALL CENTERED ON FOOTING




2 TRIM BARS AT SLAB OPENINGS
OPENING 12"x12" AND SMALLER

US Army Corps of Engineers ®

| MARK | DESCRIPTION | DATE |
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US ARMY CORPS OF ENGINEERS
LOUISVILLE DISTRICT
LOUISVILLE, KY

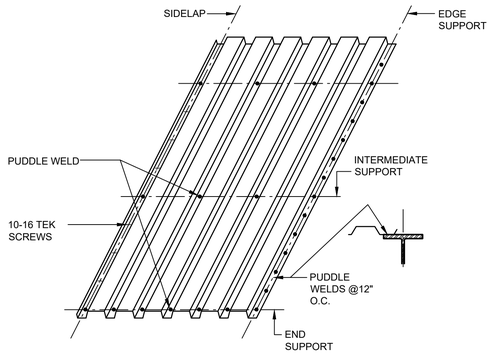
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Nyack, NY10960
ID #

UNITED STATES ARMY RESERVE CENTER
ORANGEBURG, NEW YORK

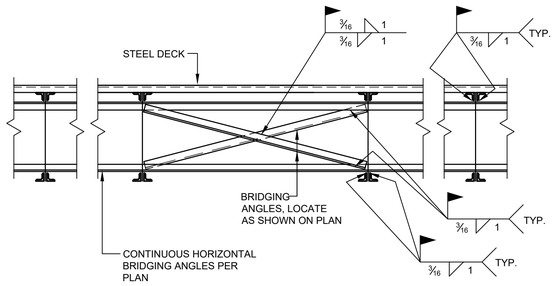
ARMS VAULT WALL SECTION

SHEET ID
S-402

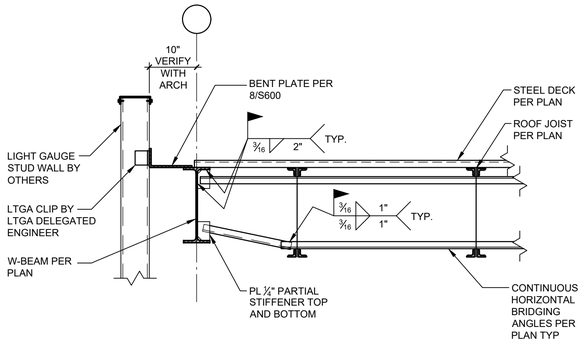
CORRECTED FINAL SUBMISSION - JULY 29, 2021



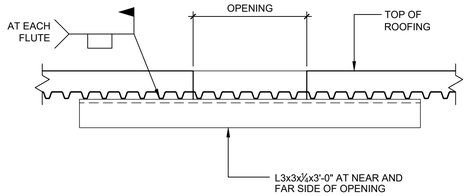

## 1 ROOF DECK ATTACHMENT




## 2 CONT. HORIZONTAL BRIDGING DETAIL

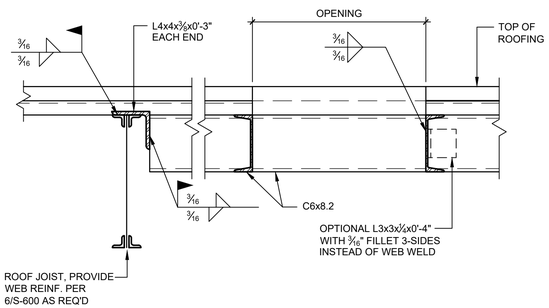



## 3 CONT. HORIZONTAL BRIDGING-END DETAIL



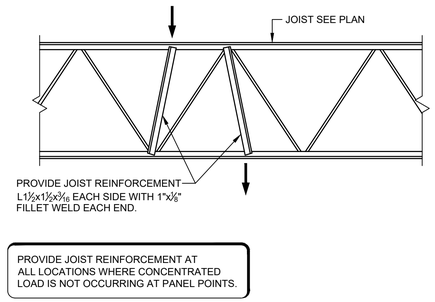

## 4 ROOF OPENING DETAIL

ROOF OPENING NOT TO EXCEED 12" MEASURED PERPENDICULAR TO DECK RIBS

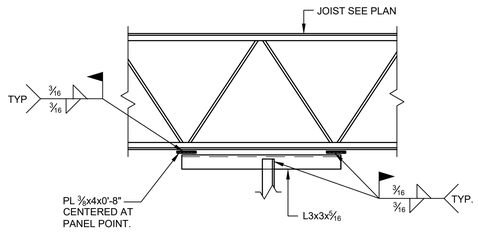



## 5 ROOF OPENING DETAIL

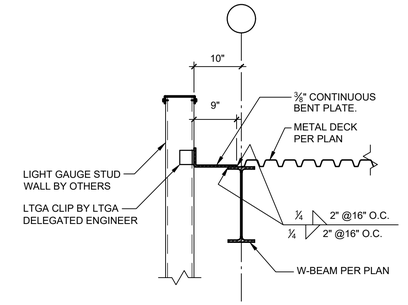
OPENINGS EXCEEDING 1'-0" MEASURED PERPENDICULAR TO DECK RIBS AT NEW ROOF FRAMING




## 6 JOIST REINFORCEMENT DETAIL

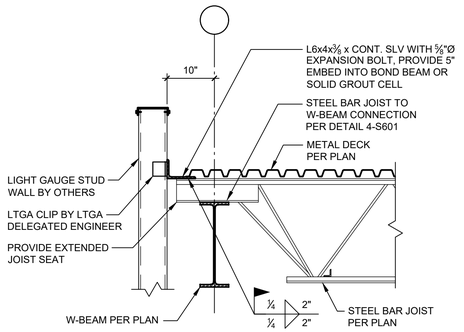



## 7 ROOF JOIST REINFORCEMENT DETAIL



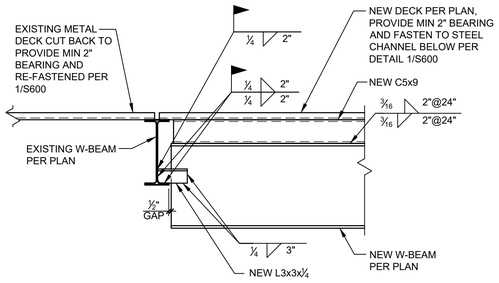

## 8 W-BEAM TO LTGA EXTERIOR WALL DETAIL

ROOF JOISTS PARALLEL TO EXTERIOR WALLS



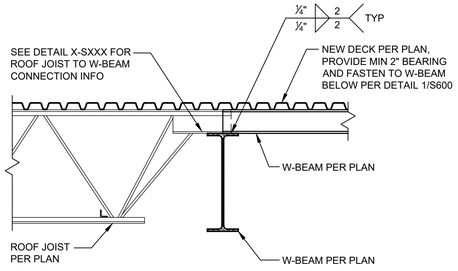

## 9 W-BEAM TO LTGA EXTERIOR WALL DETAIL

ROOF JOISTS PERPENDICULAR TO EXTERIOR WALLS



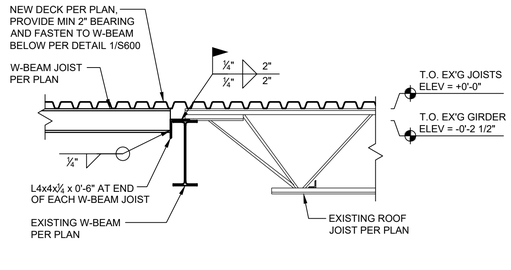

## 10 NEW W-BEAM TO EXISTING W-BEAM DETAIL

AT ADDITION B




## 11 W-BEAM JOISTS TO NEW GIRDER CONN.

AT ADDITION A
SCALE: 1" = 1'-0"




## 12 W-BEAM JOISTS TO EXISTING GIRDER CONN.

AT ADDITION A
SCALE: 1" = 1'-0"

US Army Corps of Engineers ®

| MARK | DESCRIPTION | DATE |
|---|---|---|

DESIGNED BY:
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SUBMITTED BY:
SIZE: ANSI D
ISSUE DATE: 23, JULY 2021
SOLICITATION NO.: W912QR20R0038
CONTRACT NO.: W91328-XX-XXXX

US ARMY CORPS OF ENGINEERS
LOUISVILLE DISTRICT
LOUISVILLE, KY

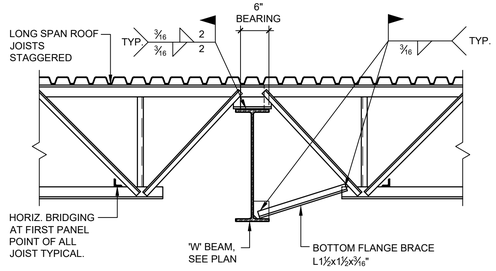
MARTOS Engineering
15 North Mill Street, SUITE 207
Nyack, NY10960
ID #

UNITED STATES ARMY RESERVE CENTER
ORANGEBURG, NEW YORK

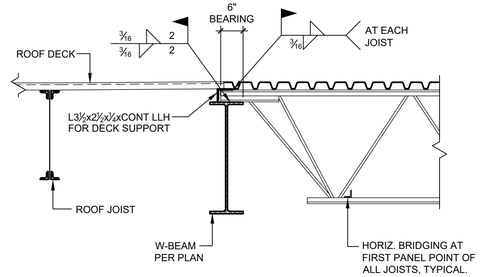
ROOF & STEEL FRAMING DETAILS

SHEET ID
S-600

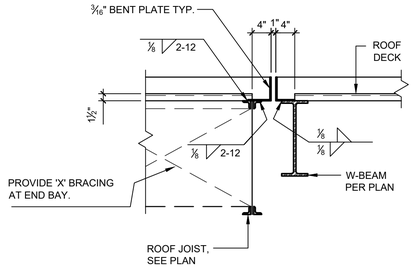
CORRECTED FINAL SUBMISSION - JULY 29, 2021



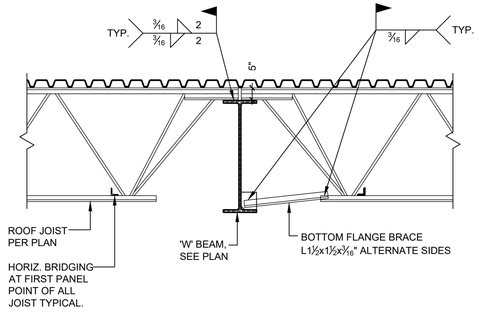

## 1 LONG SPAN JOIST TO STEEL BEAM



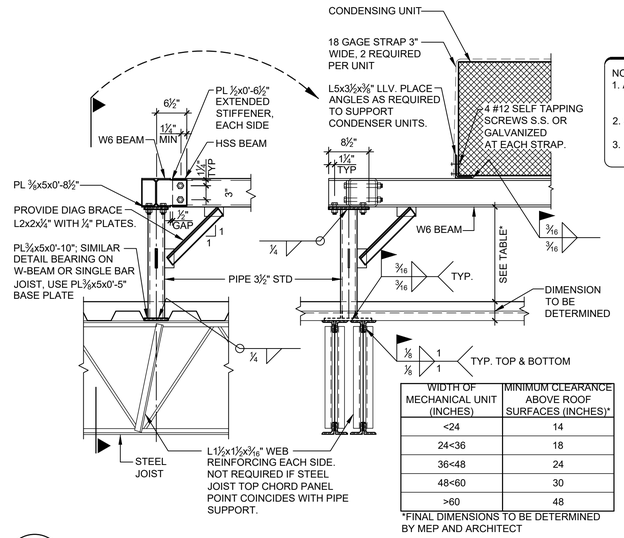

## 2 DECK SUPPORT AT STEEL BEAM




## 3 EXPANSION JOINT BEAM & JOIST




## 4 ROOF JOIST TO STEEL BEAM

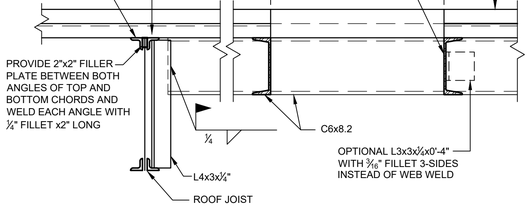



| WIDTH OF MECHANICAL UNIT (INCHES) | MINIMUM CLEARANCE ABOVE ROOF SURFACES (INCHES)* |
|---|---|
| <24 | 14 |
| 24<36 | 18 |
| 36<48 | 24 |
| 48<60 | 30 |
| >60 | 48 |

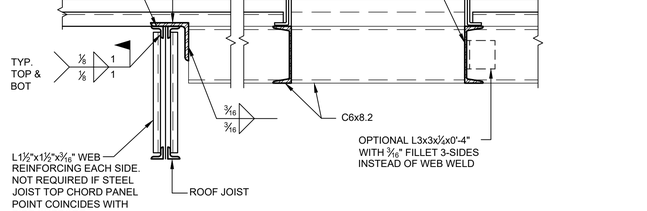
*FINAL DIMENSIONS TO BE DETERMINED BY MEP AND ARCHITECT

NOTE:
1. ALL PERMANENTLY EXPOSED STEEL TO BE HOT DIPPED GALVANIZED.
2. SHOP FABRICATE COMPLETE FRAME.
3. PROVIDE WATERPROOFING AT GALVANIZED PLATE HOLES AS REQ'D

## 5 ROOFTOP DUNNAGE TO ROOF CONN.
TYPICAL




## 6 TYPICAL ROOF OPENING DETAIL
OPENINGS EXCEEDING 1'-0" MEASURED PERPENDICULAR TO DECK RIBS AT EXISTING ROOF FRAMING




## 7 CURB FOR RTU SUPPORT

US Army Corps of Engineers ®

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SOLICITATION NO.: W912QR20R0038
CONTRACT NO.: W91328-XX-XXXX

US ARMY CORPS OF ENGINEERS
LOUISVILLE DISTRICT
LOUISVILLE, KY

MARTOS Engineering
15 North Mill Street, SUITE 207
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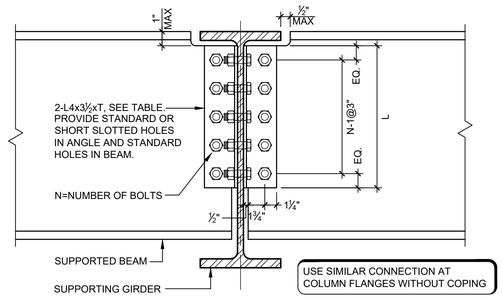
UNITED STATES ARMY RESERVE CENTER
ORANGEBURG, NEW YORK

ROOF & STEEL FRAMING DETAILS

SHEET ID
S-601

CORRECTED FINAL SUBMISSION - JULY 29, 2021

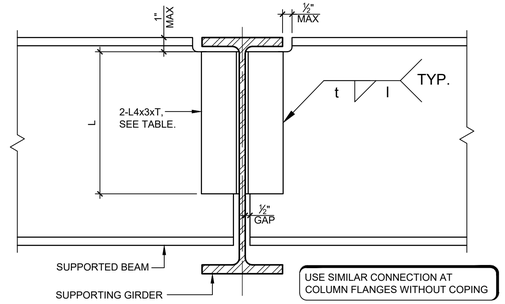
| DOUBLE BOLTED ANGLE CONN. | | | |
|---|---|---|---|
| BEAM RANGE | A325N BOLTS | (2)L4x3½xt | |
| | N - BOLTS | LENGTH (in.) | THICKNESS "T" (in.) |
| W14 - W14 | (2) ¾"Ø | 5½ | ¼ |
| W21 - W18 | (3) ¾"Ø | 8½ | ¼ |
| W14 - W8 COLUMN | (3) ¾"Ø | 8½ | ¼ |
| W16 - W8 COLUMN | (3) ¾"Ø | 8½ | ¼ |
| W18 - W8 COLUMN | (4) ¾"Ø | 11½ | ¼ |




## 1 DOUBLE BOLTED ANGLE W-BEAM CONN.

NEW W-BEAM TO NEW W-BEAM
SCALE: 1-1/2" = 1'-0"

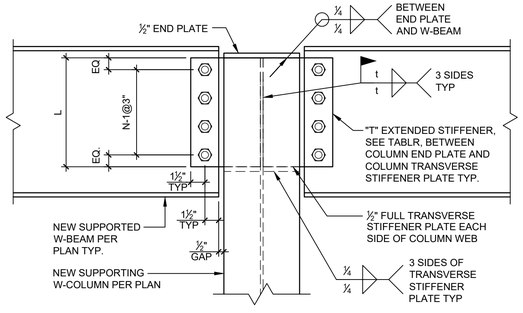
| WELDED-WELDED ANGLE CONN. | | | | |
|---|---|---|---|---|
| BEAM RANGE | WELD | | (2)L4x3xT | |
| | WELD SIZE "t" (in.) | WELD LENGTH "l" (in.) | LENGTH "L" (in.) | THICKNESS "T" (in.) |
| W21 - W18 | ¼ | 10 | 10" | ¼ |
| W14 - W8 COLUMN | ¼ | 8 | 8 | ¼ |
| W18 - W8 COLUMN | ¼ | 8 | 8 | ¼ |
| W24 - W8 COLUMN | ¼ | 12 | 12 | ¼ |




## 2 DOUBLE WELDED ANGLE W-BEAM CONN.

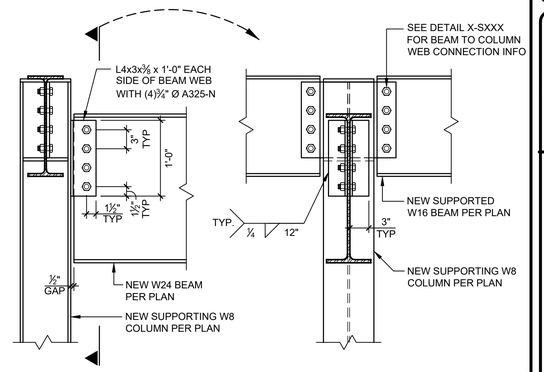
NEW W-BEAM TO EXISTING W-BEAM
SCALE: 1-1/2" = 1'-0"

| BOLTED-WELDED EXTENDED STIFFENER CONN. | | | | |
|---|---|---|---|---|
| BEAM RANGE | A325N BOLTS | EXTENDED STIFFENER PLATE | | WELD |
| | N - BOLTS | LENGTH "L" (in.) | THICKNESS "T" (in.) | WELD SIZE "t" (in.) |
| W14 - W8 COLUMN | (3) ¾"Ø | 8½ | ⅜ | ¼ |
| W16 - W8 COLUMN | (4) ¾"Ø | 11½ | ⅜ | ¼ |
| W18 - W8 COLUMN | (4) ¾"Ø | 11½ | ½ | ¼ |




## 3 BOLTED-WELDED EXTENDED STIFFENER CONN.

NEW W-BEAM TO WEB OF NEW W-COLUMN
SCALE: 1-1/2" = 1'-0"

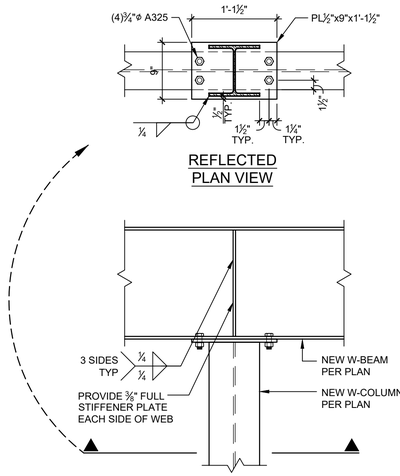



## 4 W-BEAM TO COLUMN CONNECTION

AT ADDITION B
SCALE: 1" = 1'-0"

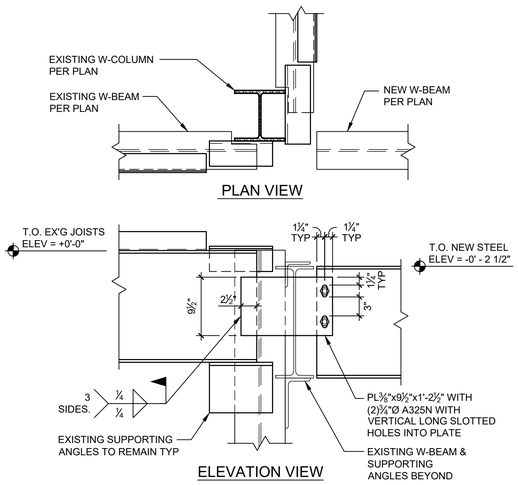
NEW STEEL INSTALLATION SEQUENCE & PROCEDURE

1. At the existing welded-bolted double angle connection, provide a ¼" all around weld at bolted legs of each angle to existing supporting w-beam.
2. Once existing angle has been securely welded, existing bolts are to be removed.
3. Provide new double angle connection as shown for new beam.




## 5 CANTILEVERED W-BEAM TO NEW COLUMN CONN.

SCALE: 1" = 1'-0"




## 6 CANTILEVERED W-BEAM TO EX'G W-BEAM CONN.

AT WEST FACE OF ADDITION A
SCALE: 1" = 1'-0"




## 7 CANTILEVERED W-BEAM TO EX'G W-BEAM CONN.

AT SOUTH FACE OF ADDITION A
SCALE: 1" = 1'-0"




## 8 NEW W-BEAM TO EX'G PIPE COLUMN CONN.

AT ADDITION A
SCALE: 1" = 1'-0"

US Army Corps of Engineers ®

| MARK | DESCRIPTION | DATE |
|---|---|---|

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ISSUE DATE: 23 JULY 2021
SOLICITATION NO.: W912QR20R0038
CONTRACT NO.: W91328-XX-XXXX

US ARMY CORPS OF ENGINEERS
LOUISVILLE DISTRICT
LOUISVILLE, KY

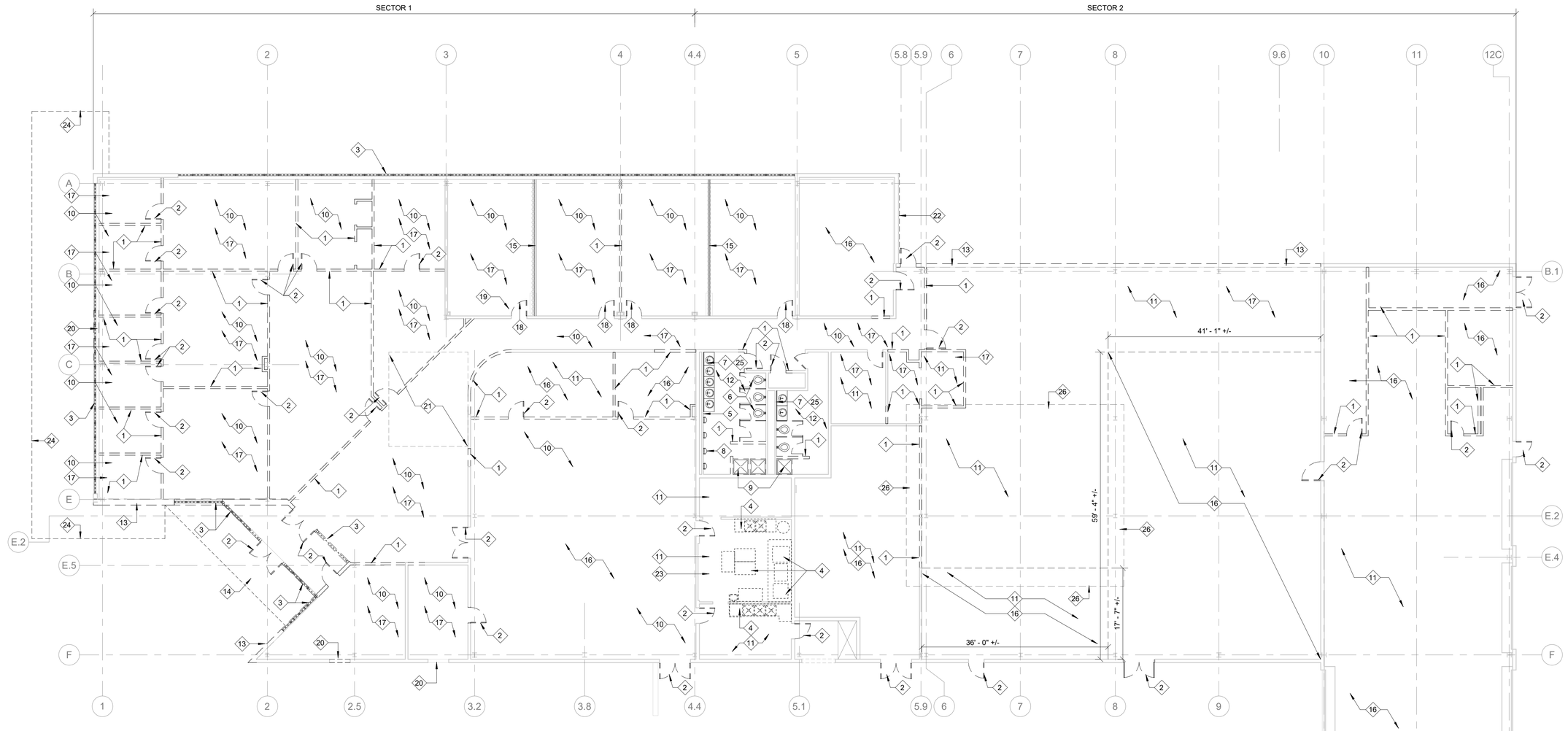
MARTOS Engineering
15 North Mill Street, SUITE 207
Nyack, NY10960
ID #

UNITED STATES ARMY RESERVE CENTER
ORANGEBURG, NEW YORK

ROOF & STEEL FRAMING DETAILS

SHEET ID
S-602

CORRECTED FINAL SUBMISSION - JULY 29, 2021




# 1 DEMOLITION PLAN

3/32" = 1'-0"

## DEMOLITION KEY NOTES

| KEYNOTE | DESCRIPTION |
|---|---|
| 1 | REMOVE EXISTING WALL PARITION IN ITS ENTIRETY |
| 2 | REMOVE EXISTING DOOR, FRAME, HARDWARE, AND THRESHOLD INCLUDING ALL CONCEALED ANCHORS AND BRACING |
| 3 | REMOVE EXISTING WINDOWS/CURTAIN WALL, FRAME, AND ALL CONCEALED ANCHORS AND BRACING |
| 4 | REMOVE EXISTING KITCHEN EQUIPMENT IN ITS ENTIRETY INCLUDING BUT NOT LIMITED TO HOODS, DUCTS, FIRE SUPPRESSION SYSTEM AND ASSOCIATED ELECTRICAL EQUIPMENT |
| 5 | REMOVE EXISTING SUBSTRATE, CERAMIC TILE IN THEIR ENTIRETY. METAL FURRING/STUD & INSULATION TO REMAIN |
| 6 | REMOVE EXISTING PLUMBING FIXTURE (WATER CLOSET) & PIPING & ASSOCIATED BATHROOM PARTITIONS IN THEIR ENTIRETY. CAP SUPPLY AND WASTE LINES AS REQUIRED (REFER TO PLUMBING DRAWINGS) |
| 7 | REMOVE EXISTING PLUMBING FIXTURE (LAVATORY) & ASSOCIATED PIPING IN THEIR ENTIRETY. CAP SUPPLY AND WASTE LINES AS REQUIRED (REFER TO PLUMBING DRAWINGS) |
| 8 | REMOVE EXISTING PLUMBING FIXTURE (URINAL) & ASSOCIATED PIPING IN THEIR ENTIRETY. CAP SUPPLY AND WASTE LINES AS REQUIRED (REFER TO PLUMBING DRAWINGS) |
| 9 | REMOVE SHOWER HEAD, PIPING & CONTROLS IN THEIR ENTIRETY. REMOVE TILE FLOOR & CURB. REMOVE SHOWER DRAIN (REFER TO PLUMBING DRAWINGS) |
| 10 | REMOVE EXISTING SUSPENDED ACT CEILING IN ITS ENTIRETY INCLUDING BUT NOT LIMITED BRACING, RUNNERS, & HANGER WIRE. REMOVE ANY ASSOCIATED EQUIPMENT INCLUDING BUT NOT LIMITED TO LIGHTING FIXTURES, RETURN & EXHAUST GRILLES, & FIRE ALARM EQUIPMENT, REFER TO MEP DRAWINGS FOR DEMOLITION INFORMATION) |
| 11 | REMOVE LIGHTING FIXTURES, RETURN & EXHAUST GRILLES, & FIRE ALARM EQUIPMENT, REFER TO MEP DRAWINGS FOR DEMOLITION INFORMATION) |
| 12 | REMOVE BATHROOM ACCESSORIES INCLUDING BUT NOT LIMITED TO MIRRORS, GRAB BARS, HAND DRIER EQUIPMENT, & DISPENSERS |
| 13 | REMOVE EXTERIOR WALL ASSEMBLY IN ITS ENTIRETY |
| 14 | REMOVE EXISTING METAL ROOF/AWNING ABOVE |
| 15 | EXISTING OPERABLE PARTITION TO REMAIN |
| 16 | EXISTING FLOOR FINISH TO REMAIN |
| 17 | REMOVE ALL EXISTING FLOOR FINISHES DOWN TO CONCRETE SLAB - PREPARE CONCRETE SLAB TO RECEIVE NEW FINISH AS REQUIRED |
| 18 | REMOVE EXISTING DOOR & HARDWARE. EXISTING FRAME TO REMAIN |
| 19 | RELOCATION AND REMOVAL OF DOORS TO BE PROVIDED DURING NEXT SUBMISSION - PENDING APPROVAL OF OPERABLE PARTITIONS FROM USACE |
| 20 | REMOVE EXTERIOR WALL ASSEMBLY TO ACCOMODATE NEW OPENING |
| 21 | COORDINATE WITH FINISHES FOR EXTENT OF DEMOLITION - CHAIR STORAGE RM 1020 FLOOR TO BE EXISTING EPOXY WITH TOP COAT TO MATCH EXISTING ASSEMBLY RM 1019 |
| 22 | REMOVE EXISTING EIFS DOWN TO CMU/STUD - PREPARE CMU/STUD TO RECEIVE NEW INTERIOR FINISH |
| 23 | CONTRACTOR SHALL DISCONNECT EXISTING FOOD SERVICE EQUIPMENT FROM UTILITIES, REMOVE FROM SITE AND PROPERLY DISPOSE OF |
| 24 | REMOVE EXISTING BERM AS PER CIVIL DRAWINGS C-102 |
| 25 | REMOVE EXISTING LAVATORY MIRRORS WITH EXISTING HAZARDOUS MASTIC AS DIRECTED BY |
| 26 | REMOVE ALL EXISTING FLOOR FINISHES DOWN TO CONCRETE SLAB - REMOVE CONCRETE SLAB FOR NEW ARMS VAULT SLAB AND ASSOCIATED FOOTINGS - SEE STRUCTURAL DRAWINGS |

## DEMOLITION PLAN LEGEND

- EXISTING CONSTRUCTION TO REMAIN
- EXISTING CONSTRUCTION TO BE REMOVED
- (X) DEMOLITION NOTE

## DEMOLITION GENERAL NOTES:

- REMOVE ALL EXISTING DRINKING FOUNTAINS, REFER TO ARCH & PLUMBING DRAWINGS FOR REPLACEMENT AND OR NEW LOCATIONS
- REMOVE ALL EXISTING OFFICE FURNISHINGS, OFFICE ACCESSORIES, OFFICE STORAGE EQUIPMENT & ANY OTHER OFFICE RELATED EQUIPMENT
- REFER TO FMEP DRAWINGS FOR DEMOLITION OF FMEP EQUIPMENT
- PATCH AREAS OF EXISTING SLAB DAMAGED AND LEFT VOID BY REMOVAL OF EXISTING PARTITIONS WITH NEW CONCRETE TO MATCH ADJACENT SLAB

0' 4' 8' 16' 32'

SCALE: 3/32"=1'

US Army Corps of Engineers ®

SEAL AND SIGNATURE
ANTHONY F. PEDRO DATE:
N.Y. LIC. NO. 093068

| MARK | DESCRIPTION | DATE |
|---|---|---|
| | | |

DESIGNED BY: USACE RFP
DRAWN BY: CN
CHECKED BY: PE
ISSUE DATE:
SOLICITATION NO.: W912QR20R0038
CONTRACT NO.: W912QR20C0038
SUBMITTED BY:
SIZE: ANSI D

US ARMY CORPS OF ENGINEERS
LOUISVILLE DISTRICT
LOUISVILLE, KY

MOTT MACDONALD
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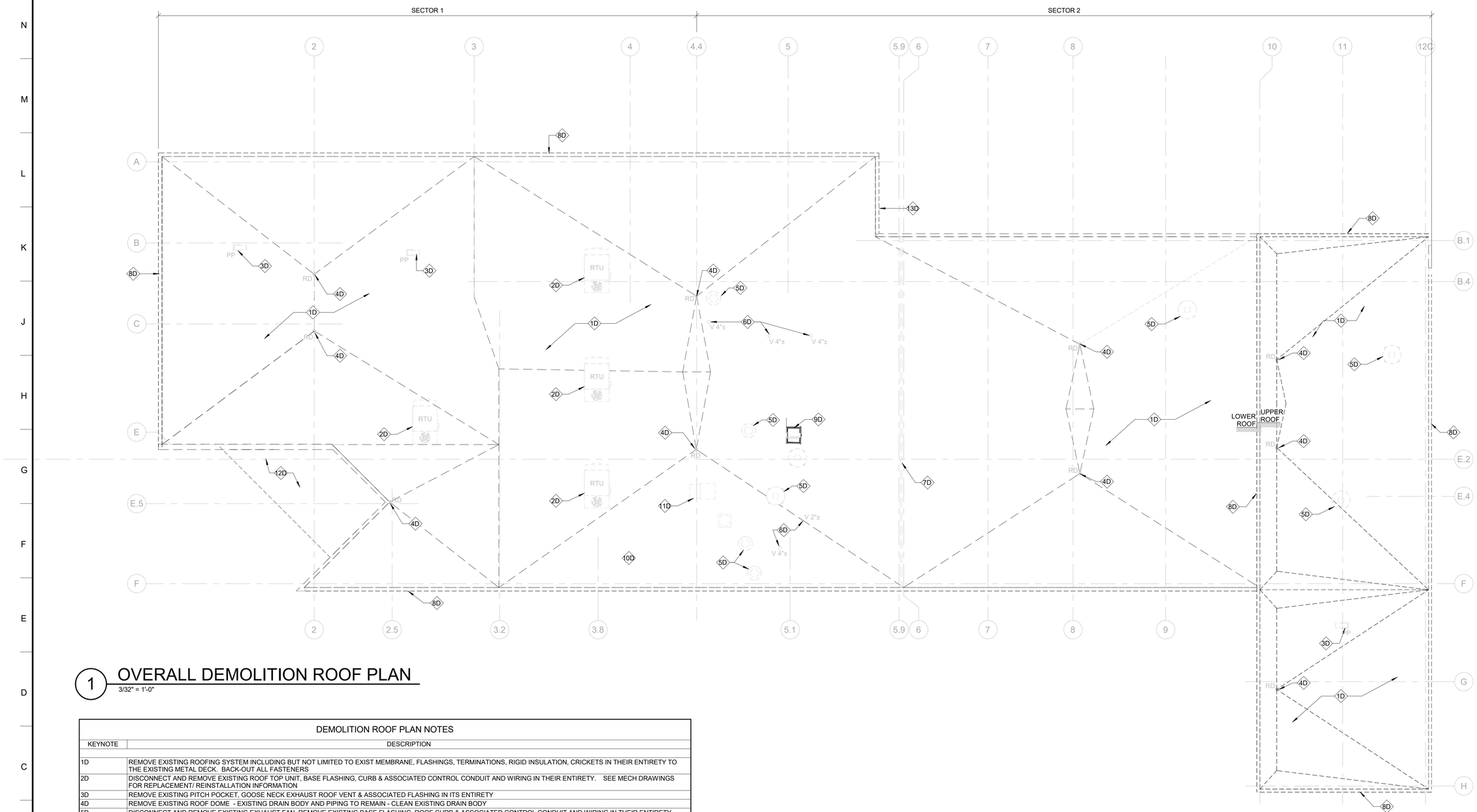
UNITED STATES ARMY RESERVE CENTER
ORANGEBURG, NEW YORK

OVERALL DEMOLITION FLOOR PLAN

SHEET ID

AD101

CORRECTED FINAL SUBMISSION - JULY 29, 2021




# 1 OVERALL DEMOLITION ROOF PLAN

3/32" = 1'-0"

| DEMOLITION ROOF PLAN NOTES | |
|---|---|
| KEYNOTE | DESCRIPTION |
| 1D | REMOVE EXISTING ROOFING SYSTEM INCLUDING BUT NOT LIMITED TO EXIST MEMBRANE, FLASHINGS, TERMINATIONS, RIGID INSULATION, CRICKETS IN THEIR ENTIRETY TO THE EXISTING METAL DECK. BACK-OUT ALL FASTENERS |
| 2D | DISCONNECT AND REMOVE EXISTING ROOF TOP UNIT, BASE FLASHING, CURB & ASSOCIATED CONTROL CONDUIT AND WIRING IN THEIR ENTIRETY. SEE MECH DRAWINGS FOR REPLACEMENT/ REINSTALLATION INFORMATION |
| 3D | REMOVE EXISTING PITCH POCKET, GOOSE NECK EXHAUST ROOF VENT & ASSOCIATED FLASHING IN ITS ENTIRETY |
| 4D | REMOVE EXISTING ROOF DOME - EXISTING DRAIN BODY AND PIPING TO REMAIN - CLEAN EXISTING DRAIN BODY |
| 5D | DISCONNECT AND REMOVE EXISTING EXHAUST FAN. REMOVE EXISTING BASE FLASHING, ROOF CURB & ASSOCIATED CONTROL CONDUIT AND WIRING IN THEIR ENTIRETY. (SEE MECH DWGS FOR EXHAUST FAN REMOVAL/REPLACEMENT) |
| 6D | REMOVE EXISTING VENT PIPE FLASHING IN ITS ENTIRETY. (REFER TO PLUMBING DRAWINGS FOR INFORMATION) |
| 7D | REMOVE EXISTING ROOF EXPANSION JOINT BUILD UP BASE FLASHING, WOOD CANT AND ELASTOMETRIC BELLOWS |
| 8D | REMOVE EXISTING COPING IN ITS ENTIRETY INCLUDING BUT NOT LIMITED TO CLEAT. INSPECT AND REMOVE DETEORITATED WOOD BLOCKING AS REQUIRED |
| 9D | REMOVE EXISTING ROOF HATCH IN ITS ENTIRETY |
| 10D | CUT AND REMOVE PORTION OF EXISTING METAL DECK TO ACCOMMODATE NEW PENETRATION AND ROOF TOP EQUIPMENT (SEE STRUCTURAL DWGS FOR OPENING FRAMING) |
| 11D | DISCONNECT AND REMOVE EXISTING CONDENSING UNIT, BASE FLASHING, ROOF CURB & REFRIGERANT PIPING IN THEIR ENTIRETY. SEE MECH DRAWINGS FOR REPLACEMENT/ REINSTALLATION INFORMATION |
| 12D | REMOVE EXISTING METAL AWNING/ROOF IN ITS ENTIRETY |
| 13D | REMOVE EXISTING PARAPET INCLUDING COPING, CLEAT AND WOOD BLOCKING DOWN TO METAL DECK |

DEMOLITION GENERAL NOTES:

- MECHANICAL UNITS TO BE SALVAGED AND TURNED OVER TO THE USACE

0' 4' 8' 16' 32'

SCALE: 3/32"=1'

US Army Corps of Engineers ®

SEAL AND SIGNATURE
ANTHONY F. PEDRO DATE:
N.Y. LIC. NO. 093068

| MARK | DESCRIPTION | DATE |
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OVERALL DEMOLITION ROOF PLAN

SHEET ID

AD121

CORRECTED FINAL SUBMISSION - JULY 29, 2021

SECTOR 1

SECTOR 2

274' - 8" ±

274' - 8" ±

MATCH LINE – 1/A–102

MATCH LINE – 1/A–103

4 A-200

2 A-200

3 A-200

1 A-200

1' - 0"

18' - 2"

11' - 8"

8' - 7 1/2"

120' - 6" ±

43' - 6" ±

5' - 6"

7' - 3"

TEAM ROOM 1002 474 SF

RETENTION 1004

BREAK ROOM 1005

LEARNNG CENTER 1006

CLASSROOM 1017

EXISTING ACCORDION PARTITION TO REMAIN

CORRIDOR C1003

NEW ACCORDION PARTITION

CLASSROOM 1018

EXISTING ACCORDION PARTITION TO REMAIN

MEN SHOWER / LOCKER G1007

SPRINKLER CLOSET G1011

SECURE STORAGE 1025

TR G1006

WOMEN SHOWER / LOCKER G1008

PHYSICAL READINESS 1031

PRIVATE OFFICE 1027

PRIVATE OFFICE 1028

LOBBY C1002

SB SB

TER G1002

VESTIBULE V1001

CORRIDOR C1001

EF G1001

PRIVATE OFFICE 1003

JANITOR G1004

LACTATION ROOM 1026

SB

STORAGE 1026A

ARMORER 1029

UNIT STORAGE 1037

FAMILY SUPPORT 1001

CHAIR STORAGE 1020

PRIVATE OFFICE 1016

PRIVATE OFFICE 1015

SHARED OFFICE 1014

TEAM ROOM W/ SIPRNET 1007

OFFICE 1021

MEN'S TOILET G1003

ASSEMBLY 1019

STORAGE 1022

KITCHEN 1023

WOMEN TOILET G1005

MECHANICAL G1010

ARMS VAULT 1030

37 TOTAL CAGES

STORAGE 1034

STAGING 1035

UNIT COMMONS 1008

ADMIN SUPPORT 1009

PRIVATE OFFICE 1013

PRIVATE OFFICE 1012

SHARED OFFICE 1011

PRIVATE OFFICE 1010

SCULLERY 1024

CAN WASH 1039

ELECTRICAL G1009

PRIVATE OFFICE 1033

UNIT STORAGE 1032

UNIT STORAGE 1036

PLAN NORTH

0' 4' 8' 16' 32'

SCALE: 3/32"=1'

## 1 OVERALL FLOOR PLAN

3/32" = 1'-0"

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SEAL AND SIGNATURE
ANTHONY F. PEDRO DATE:
N.Y. LIC. NO. 093068

| MARK | DESCRIPTION | DATE |
|---|---|---|
| 1 | Revision 10 | Date 10 |

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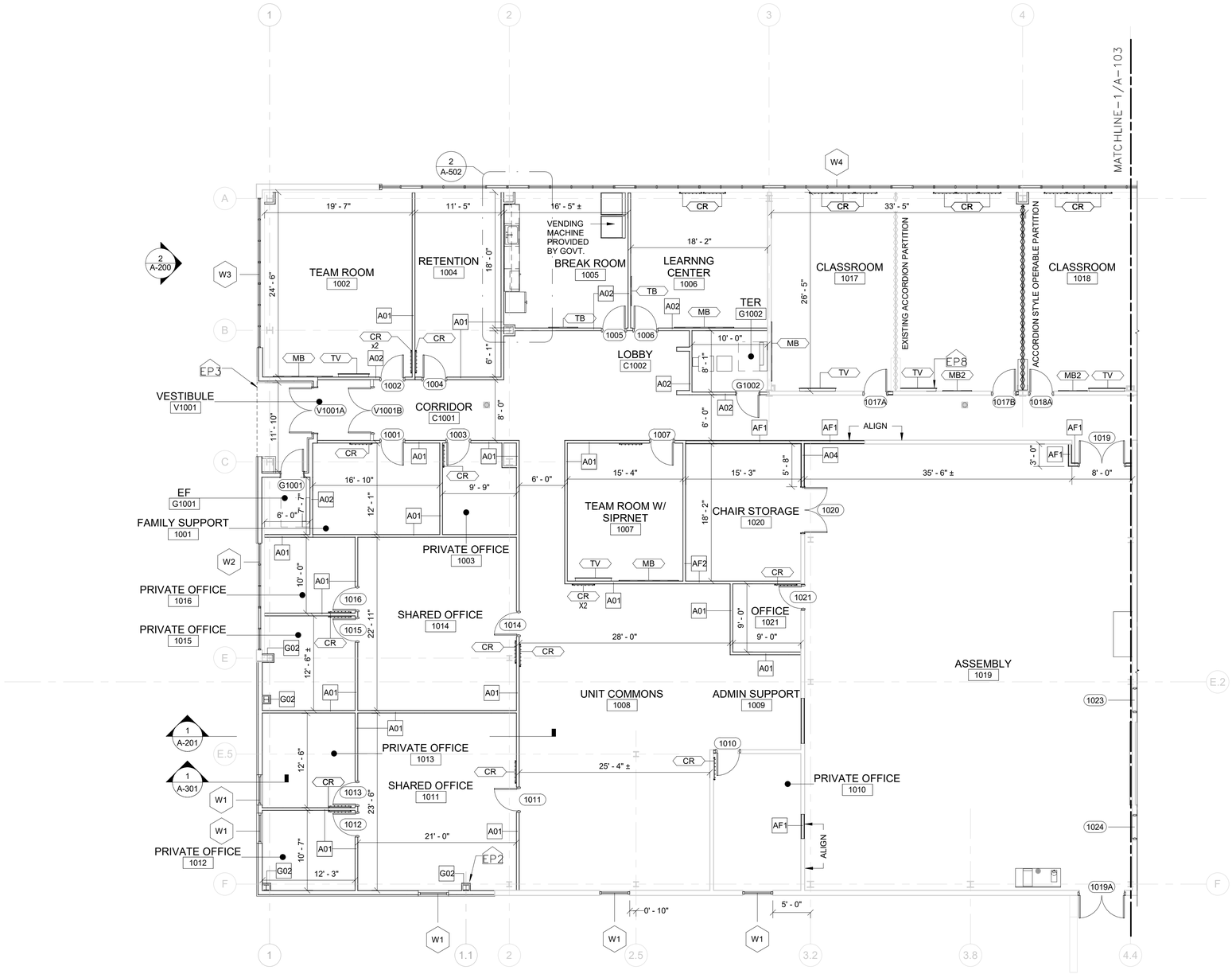
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OVERALL FLOOR PLAN

SHEET ID

A-101

CORRECTED FINAL SUBMISSION - JULY 29, 2021




## 1 SECTOR 1 FLOOR PLAN

1/8" = 1'-0"

### PLAN LEGEND

- EXISTING CONSTRUCTION TO REMAIN
- EP# — PLAN NOTE
- W# — WINDOW TAG- SEE WINDOW TYPE ON A602
- 1001 — DOOR TAGS- SEE DOOR SCHEDULE ON A601
- 1i — WALL TAGS- SEE PARTITION SCHEDULE ON A540
- XXXXX — ACCESSORY TAGS - SEE ACCESSORY SCHEDULE ON A604
- FLOOR DRAIN
- FLOOR CLEAN OUT

### ENLARGED PLAN NOTES

| NUMBER | DESCRIPTION |
|---|---|
| EP2 | STRUCTURAL FRAMING, SEE STRUCTURAL DRAWINGS |
| EP3 | HOUSEKEEPING PAD ON SLAB |
| EP4 | NOT USED |
| EP5 | STORAGE CAGING |
| EP6 | CONCRETE PAD |
| EP8 | TV MONITOR - GOVERNMENT INSTALLED AND PROVIDED |
| EP9 | COUNTER WITH BASE / UPPER CABINETS AND UNDER COUNTER REFRIGERATOR |
| EP10 | EXACT LOCATION AND NUMBER OF FLOOR ANCHORS TO BE CONFIRMED OR COORDINATED DURING THE SHOP DRAWING REVIEW PHASE |

SCALE: 1/8"=1'-0

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| MARK | DESCRIPTION | DATE |
|---|---|---|
| 1 | Revision 10 | Date 10 |

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SECTOR 1 FLOOR PLAN

SHEET ID
A-102

CORRECTED FINAL SUBMISSION - JULY 29, 2021

MATCHLINE - 1/A-102

CLASSROOM 1018
SECURE STORAGE 1025
EXISTING ACCORDION PARTITION
MEN SHOWER / LOCKER G1007
MEN'S TOILET G1003
JANITOR G1004
LACTATION ROOM 1026
WOMEN TOILET G1005
EXISTING ROOF ACCESS LADDER TO REMAIN
STORAGE 1022
KITCHEN 1023
MECHANICAL G1010
SCULLERY 1024
CAN WASH 1039
TR G1006
PRIVATE OFFICE 1027
PRIVATE OFFICE 1028
STORAGE 1026A
ARMORER 1029
ARMS VAULT 1030
ELECTRICAL G1009
STORAGE 1034
PRIVATE OFFICE 1033
SPRINKLER CLOSET G1011
WOMEN SHOWER / LOCKER G1008
PHYSICAL READINESS 1031
CORRIDOR C1003
PROVIDE 1/2" PLYWOOD WAINSCOT 4'-0" A.F.F.
UNIT STORAGE 1032
37 TOTAL CAGES
STAGING 1035
UNIT STORAGE 1037
UNIT STORAGE 1036

## PLAN LEGEND

- EXISTING CONSTRUCTION TO REMAIN
- EP# — PLAN NOTE
- W# — WINDOW TAG- SEE WINDOW TYPE ON A602
- 1001 — DOOR TAGS- SEE DOOR SCHEDULE ON A601
- 1i — WALL TAGS- SEE PARTITION SCHEDULE ON A540
- XXXXX — ACCESSORY TAGS - SEE ACCESSORY SCHEDULE ON A604
- FLOOR DRAIN
- FLOOR CLEAN OUT

## ENLARGED PLAN NOTES

| NUMBER | DESCRIPTION |
|---|---|
| EP2 | STRUCTURAL FRAMING, SEE STRUCTURAL DRAWINGS |
| EP3 | HOUSEKEEPING PAD ON SLAB |
| EP4 | NOT USED |
| EP5 | STORAGE CAGING |
| EP6 | CONCRETE PAD |
| EP8 | TV MONITOR - GOVERNMENT INSTALLED AND PROVIDED |
| EP9 | COUNTER WITH BASE / UPPER CABINETS AND UNDER COUNTER REFRIGERATOR |
| EP10 | EXACT LOCATION AND NUMBER OF FLOOR ANCHORS TO BE CONFIRMED OR COORDINATED DURING THE SHOP DRAWING REVIEW PHASE |

1 SECTOR 2 FLOOR PLAN
1/8" = 1'-0"

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N.Y. LIC. NO. 093068

DATE | DESCRIPTION | MARK

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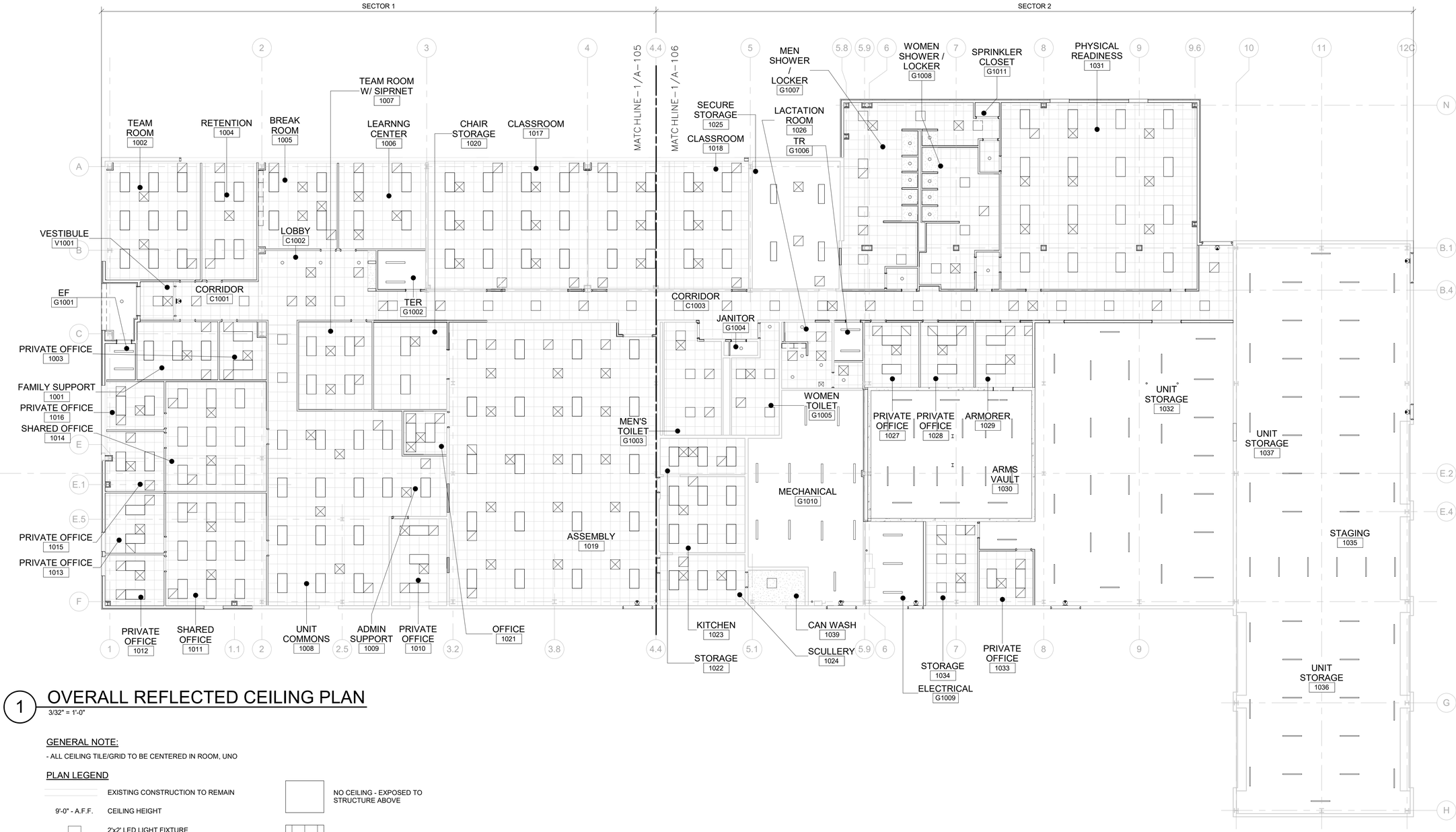
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SECTOR 2 FLOOR PLAN

SHEET ID
A-103

CORRECTED FINAL SUBMISSION - JULY 29, 2021




# 1 OVERALL REFLECTED CEILING PLAN

3/32" = 1'-0"

GENERAL NOTE:

- ALL CEILING TILE/GRID TO BE CENTERED IN ROOM, UNO

PLAN LEGEND

- EXISTING CONSTRUCTION TO REMAIN
- 9'-0" - A.F.F. — CEILING HEIGHT
- 2'x2' LED LIGHT FIXTURE
- 2'x4' LED LIGHT FIXTURE
- 2" x 48" LINEAR LIGHT FIXTURE
- 4" x 48" LINEAR LIGHT FIXTURE
- 6" RECESSED LIGHT FIXTURE
- HVAC RETURN OR EXHAUST
- HVAC SUPPLY
- NO CEILING - EXPOSED TO STRUCTURE ABOVE
- 2'x2' SUSPENDED ACOUSTICAL TILE CEILING ASSEMBLY
- CEMENT BOARD
- EXIT SIGN

GENERAL CEILING PLAN NOTES

1. SEE ELECTRICAL DRAWINGS FOR LIGHT FIXTURES SCHEDULE AND MOUNTING HEIGHTS OF FIXTURES.
2. SEE MATERIALS AND FINISHES LEGEND FOR CEILING FINISH ABBREVIATIONS.
3. SEE ELECTRICAL LIGHTING PLANS FOR EXIT SIGNS.
4. SEE REFLECTED CEILING PLAN A-102A AND A-102B FOR CEILING TYPES LEGEND AND CEILING TAG
5. LIGHT FIXTURES IN ROOMS WITHOUT CEILINGS SHALL HAVE FINAL LOCATIONS DETERMINED IN THE FIELD.

PLAN NORTH

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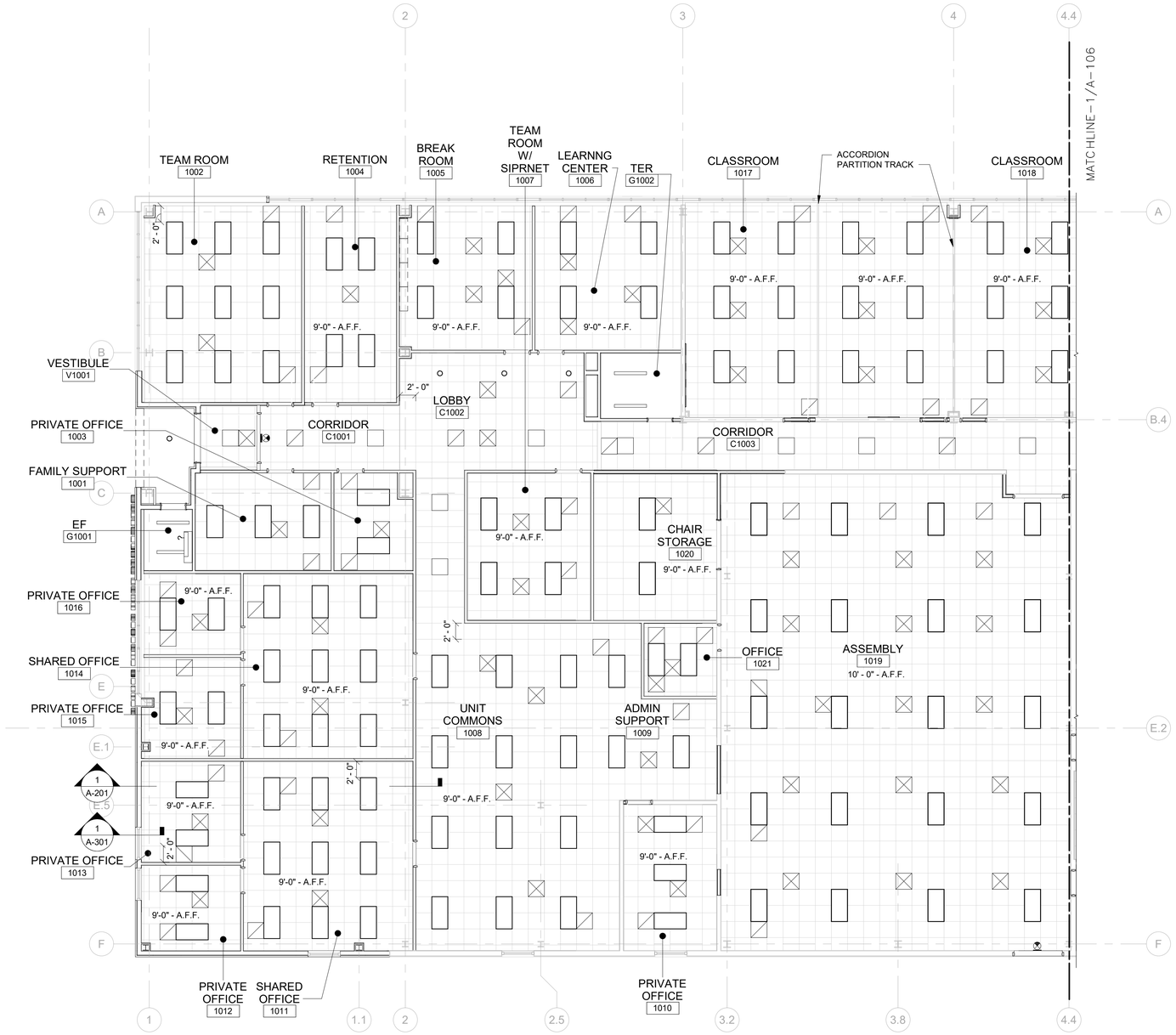
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OVERALL REFLECTED CEILING PLANS

SHEET ID

A-104

CORRECTED FINAL SUBMISSION - JULY 29, 2021




1 SECTOR 1 REFLECTED CEILING PLAN
1/8" = 1'-0"

GENERAL NOTE:

- ALL CEILING TILE/GRID TO BE CENTERED IN ROOM, UNO

PLAN LEGEND

- EXISTING CONSTRUCTION TO REMAIN
- 9'-0" - A.F.F. — CEILING HEIGHT
- 2'x2' LED LIGHT FIXTURE
- 2'x4' LED LIGHT FIXTURE
- 2" x 48" LINEAR LIGHT FIXTURE
- 4" x 48" LINEAR LIGHT FIXTURE
- 6" RECESSED LIGHT FIXTURE
- HVAC RETURN OR EXHAUST
- HVAC SUPPLY
- HPU-X — HEAT PUMP - SEE MECHANICAL DWGS
- NO CEILING - EXPOSED TO STRUCTURE ABOVE
- 2'x2' SUSPENDED ACOUSTICAL TILE CEILING ASSEMBLY
- CEMENT BOARD
- EXIT SIGN

PLAN NORTH

0 4' 8' 16'
SCALE: 1/8"=1'-0

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ANTHONY F. PEDRO DATE:
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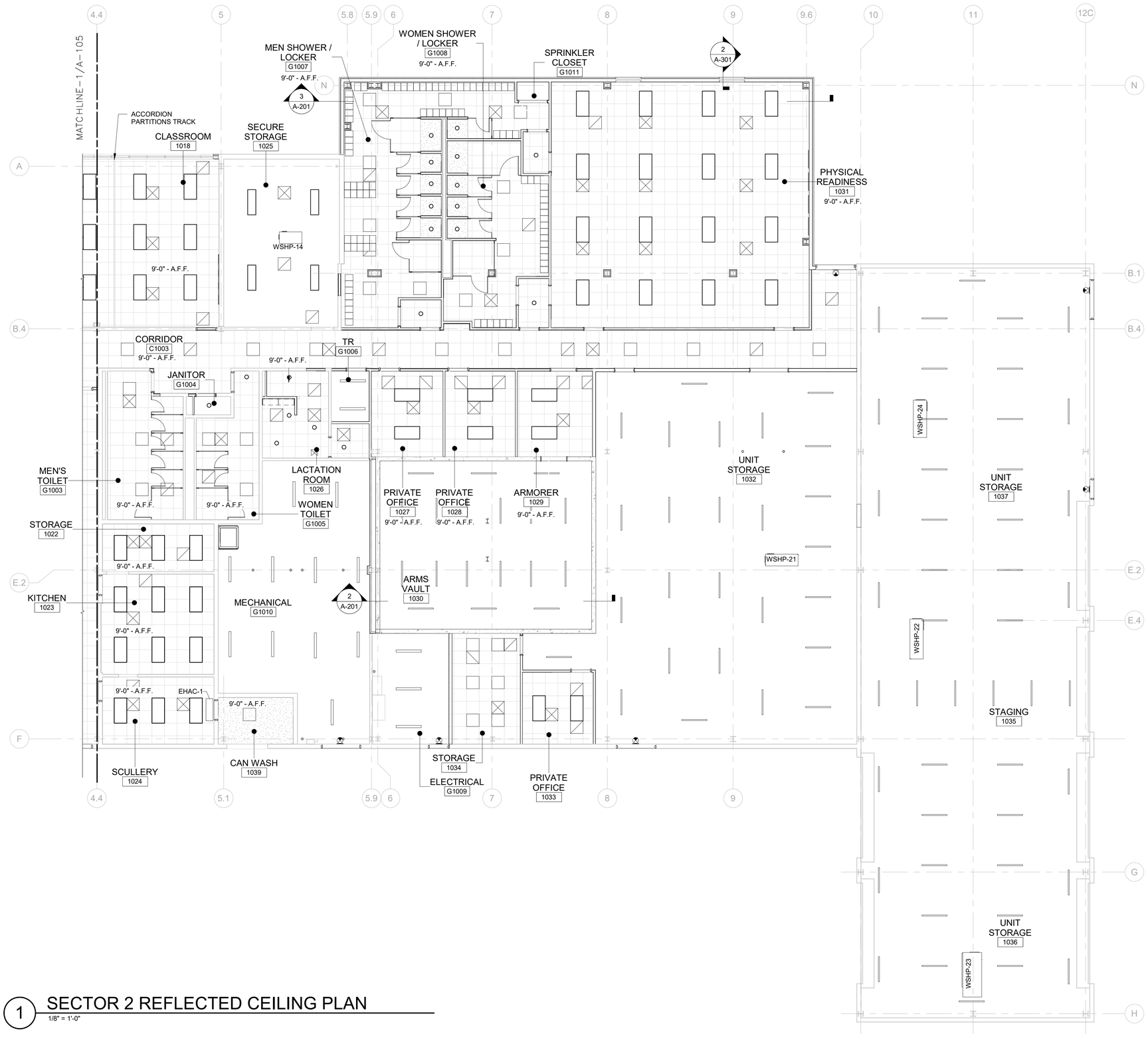
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SECTOR 1 REFLECTED CEILING PLAN

SHEET ID
A-105

CORRECTED FINAL SUBMISSION - JULY 29, 2021




## GENERAL NOTE:

- ALL CEILING TILE/GRID TO BE CENTERED IN ROOM, UNO

## PLAN LEGEND

- EXISTING CONSTRUCTION TO REMAIN
- 9'-0" - A.F.F. — CEILING HEIGHT
- 2'x2' LED LIGHT FIXTURE
- 2'x4' LED LIGHT FIXTURE
- 2" x 48" LINEAR LIGHT FIXTURE
- 4" x 48" LINEAR LIGHT FIXTURE
- 6" RECESSED LIGHT FIXTURE
- HVAC RETURN OR EXHAUST
- HVAC SUPPLY
- HPU-X — HEAT PUMP - SEE MECHANICAL DWGS
- NO CEILING - EXPOSED TO STRUCTURE ABOVE
- 2'x2' SUSPENDED ACOUSTICAL TILE CEILING ASSEMBLY
- CEMENT BOARD
- EXIT SIGN

1 SECTOR 2 REFLECTED CEILING PLAN
1/8" = 1'-0"

PLAN NORTH

0 4' 8' 16'
SCALE: 1/8"=1'-0

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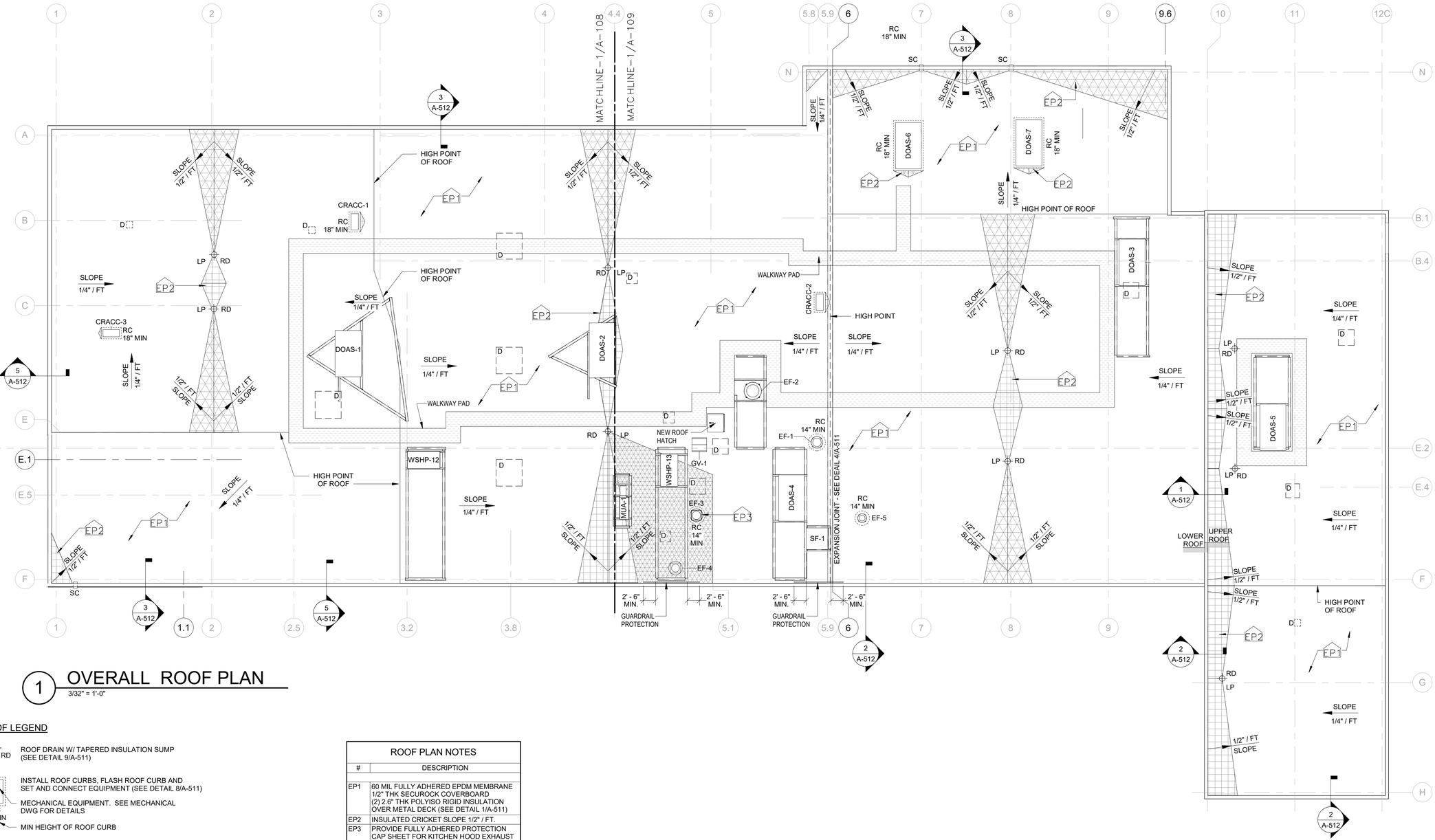
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SECTOR 2 REFLECTED CEILING PLAN

SHEET ID
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CORRECTED FINAL SUBMISSION - JULY 29, 2021




# 1 OVERALL ROOF PLAN

3/32" = 1'-0"

## ROOF LEGEND

- RD — ROOF DRAIN W/ TAPERED INSULATION SUMP (SEE DETAIL 9/A-511)
- RC X" MIN — INSTALL ROOF CURBS, FLASH ROOF CURB AND SET AND CONNECT EQUIPMENT (SEE DETAIL 8/A-511); MECHANICAL EQUIPMENT. SEE MECHANICAL DWG FOR DETAILS; MIN HEIGHT OF ROOF CURB
- TAPERED INSULATION CRICKET PITCH: 1/2" / FT.
- TAPERED INSULATION CRICKET PITCH: 1/4" / FT.
- FULLY ADHERED PROTECTION CAP SHEET FOR GREASE FAN. SLOPE MEMBRANE TO DRAIN
- 30" x 30" EPDM WALKWAY PAD FULLY ADHERED TO MEMBRANE (PROVIDE 6" CLEARANCE AT PATHS FOR DRAINAGE)
- D — PATCH EXIST DECK OPENING (SEE DETAIL 3/A-511 )
- FLASH VENT / CONDUIT PIPE (SEE DETAIL 4, 5/A-511)
- SC — 3"± Ø GALV. STL PIPE SCUPPER (SEE DETAIL 4/A-512)
- LP — LOW POINT
- EP# — PLAN NOTE

## ROOF PLAN NOTES

| # | DESCRIPTION |
|---|---|
| EP1 | 60 MIL FULLY ADHERED EPDM MEMBRANE<br>1/2" THK SECUROCK COVERBOARD<br>(2) 2.6" THK POLYISO RIGID INSULATION<br>OVER METAL DECK (SEE DETAIL 1/A-511) |
| EP2 | INSULATED CRICKET SLOPE 1/2" / FT. |
| EP3 | PROVIDE FULLY ADHERED PROTECTION CAP SHEET FOR KITCHEN HOOD EXHAUST FAN |

0' 4' 8' 16' 32'

SCALE: 3/32"=1'

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SEAL AND SIGNATURE
ANTHONY F. PEDRO DATE:
N.Y. LIC. NO. 093068

| MARK | DESCRIPTION | DATE |
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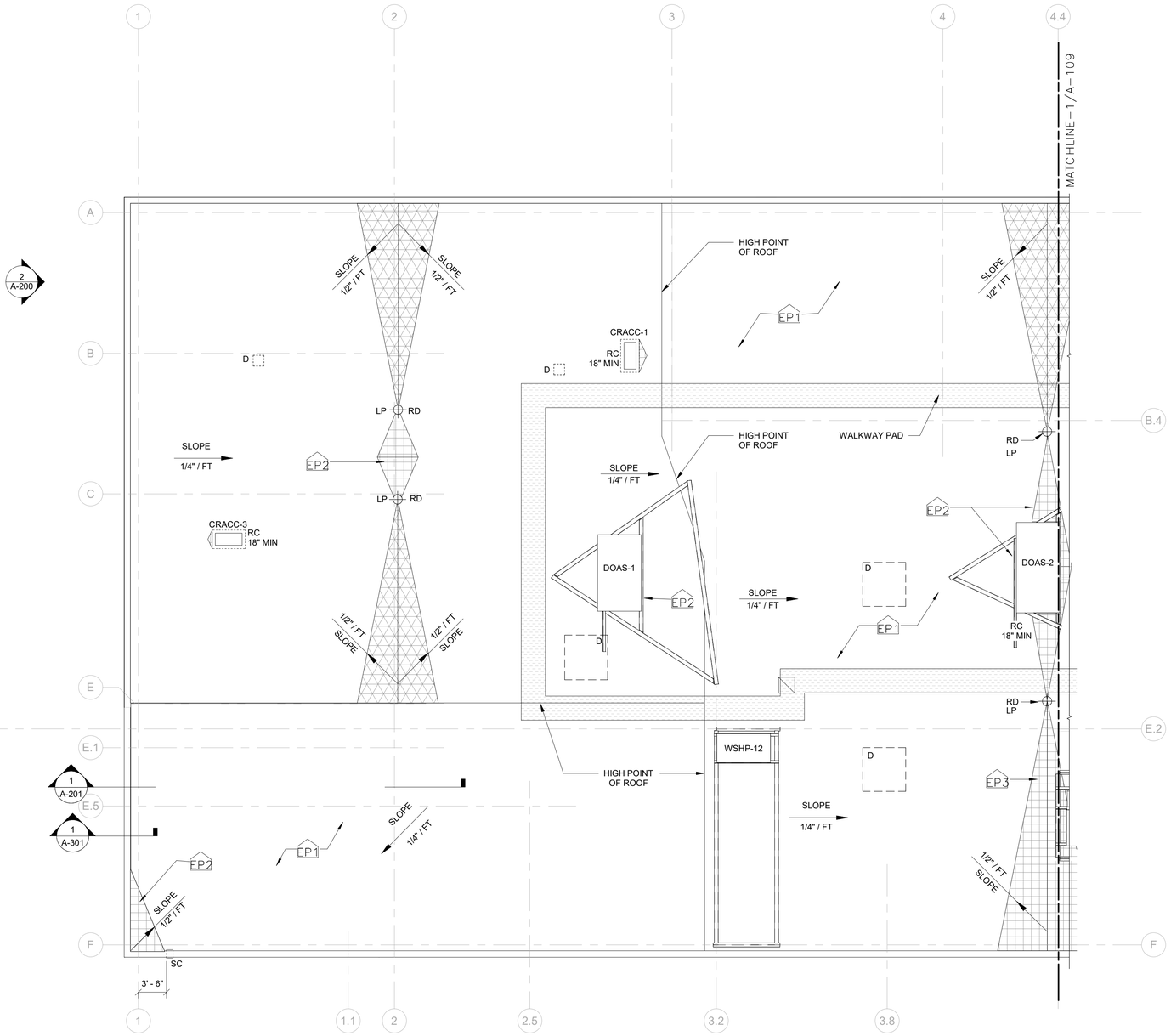
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UNITED STATES ARMY RESERVE CENTER
ORANGEBURG, NEW YORK

OVERALL ROOF PLAN

SHEET ID
A-107

CORRECTED FINAL SUBMISSION - JULY 29, 2021




## ROOF LEGEND

- RD — ROOF DRAIN W/ TAPERED INSULATION SUMP (SEE DETAIL 9/A-511)
- RC, X" MIN — INSTALL ROOF CURBS, FLASH ROOF CURB AND SET AND CONNECT EQUIPMENT (SEE DETAIL 8/A-511); MECHANICAL EQUIPMENT. SEE MECHANICAL DWG FOR DETAILS; MIN HEIGHT OF ROOF CURB
- TAPERED INSULATION CRICKET PITCH: 1/2" / FT.
- TAPERED INSULATION CRICKET PITCH: 1/4" / FT.
- FULLY ADHERED PROTECTION CAP SHEET FOR GREASE FAN. SLOPE MEMBRANE TO DRAIN
- 30" x 30" EPDM WALKWAY PAD FULLY ADHERED TO MEMBRANE (PROVIDE 6" CLEARANCE AT PATHS FOR DRAINAGE)
- D — PATCH EXIST DECK OPENING (SEE DETAIL 3/A-511 )
- V — FLASH VENT / CONDUIT PIPE (SEE DETAIL 4, 5/A-511)
- SC — 3"± Ø GALV. STL PIPE SCUPPER (SEE DETAIL 4/A-512)
- LP — LOW POINT
- EP# — PLAN NOTE

## ROOF PLAN NOTES

| # | DESCRIPTION |
|---|---|
| EP1 | 60 MIL FULLY ADHERED EPDM MEMBRANE 1/2" THK SECUROCK COVERBOARD (2) 2.6" THK POLYISO RIGID INSULATION OVER METAL DECK (SEE DETAIL 1/A-511) |
| EP2 | INSULATED CRICKET SLOPE 1/2" / FT. |
| EP3 | PROVIDE FULLY ADHERED PROTECTION CAP SHEET FOR KITCHEN HOOD EXHAUST FAN |

1 SECTOR 1 ROOF PLAN
1/8" = 1'-0"

0 4' 8' 16'
SCALE: 1/8"=1'-0

US Army Corps of Engineers ®

SEAL AND SIGNATURE
ANTHONY F. RIDRO DATE:
N.Y. LIC. NO. 093068

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LOUISVILLE, KY

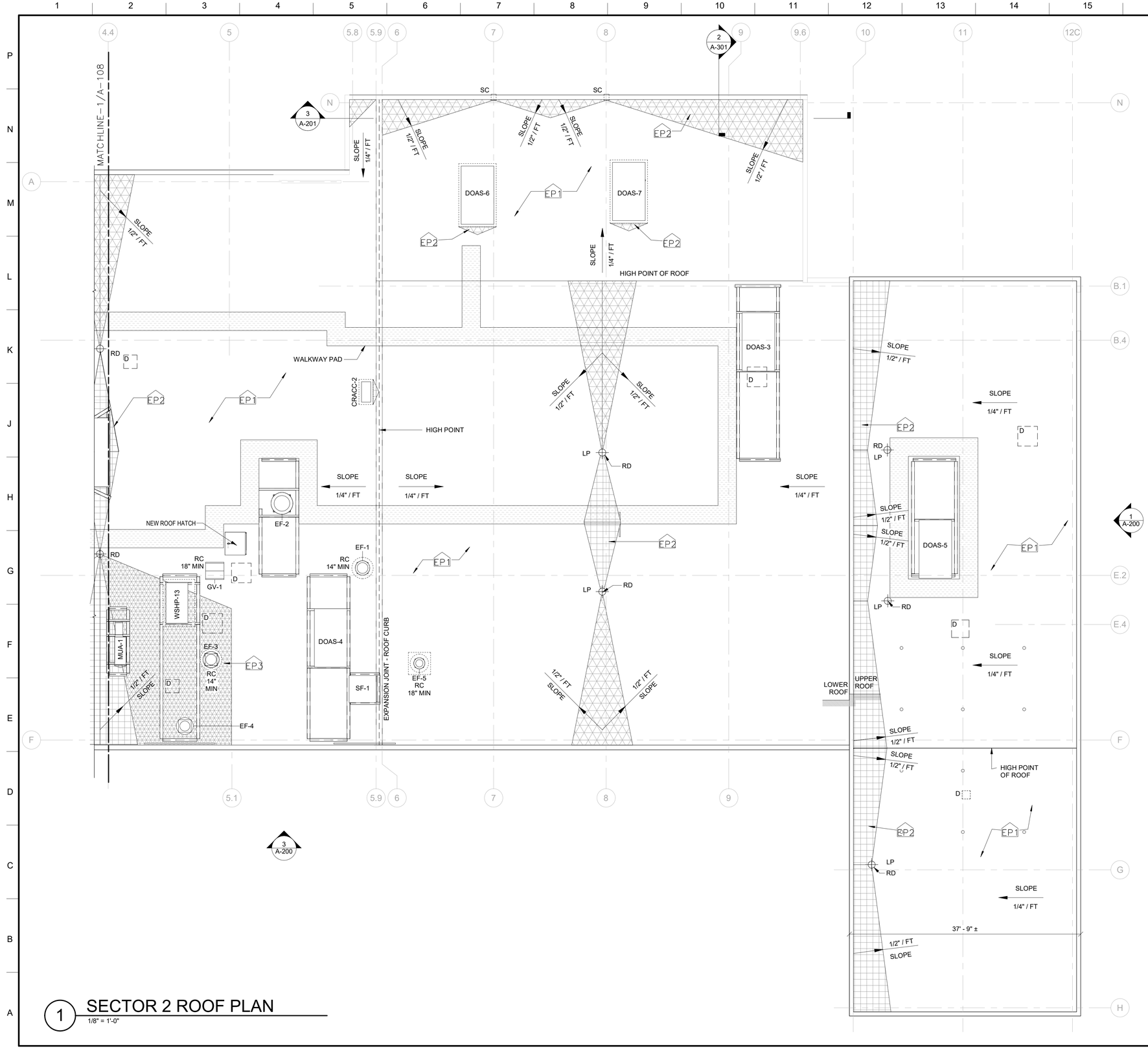
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ORANGEBURG, NEW YORK

SECTOR 1 ROOF PLAN

SHEET ID
A-108

CORRECTED FINAL SUBMISSION - JULY 29, 2021




## ROOF LEGEND

- RD — ROOF DRAIN W/ TAPERED INSULATION SUMP (SEE DETAIL 9/A-511)
- RC X" MIN — INSTALL ROOF CURBS, FLASH ROOF CURB AND SET AND CONNECT EQUIPMENT (SEE DETAIL 8/A-511)
  - MECHANICAL EQUIPMENT. SEE MECHANICAL DWG FOR DETAILS
  - MIN HEIGHT OF ROOF CURB
- TAPERED INSULATION CRICKET PITCH: 1/2" / FT.
- TAPERED INSULATION CRICKET PITCH: 1/4" / FT.
- FULLY ADHERED PROTECTION CAP SHEET FOR GREASE FAN. SLOPE MEMBRANE TO DRAIN
- 30" x 30" EPDM WALKWAY PAD FULLY ADHERED TO MEMBRANE (PROVIDE 6" CLEARANCE AT PATHS FOR DRAINAGE)
- D — PATCH EXIST DECK OPENING (SEE DETAIL 3/A-511 )
- V — FLASH VENT / CONDUIT PIPE (SEE DETAIL 4, 5/A-511)
- SC — 3"± Ø GALV. STL PIPE SCUPPER (SEE DETAIL 4/A-512)
- LP — LOW POINT
- EP# — PLAN NOTE

### ROOF PLAN NOTES

| # | DESCRIPTION |
|---|---|
| EP1 | 60 MIL FULLY ADHERED EPDM MEMBRANE<br>1/2" THK SECUROCK COVERBOARD<br>(2) 2.6" THK POLYISO RIGID INSULATION OVER METAL DECK (SEE DETAIL 1/A-511) |
| EP2 | INSULATED CRICKET SLOPE 1/2" / FT. |
| EP3 | PROVIDE FULLY ADHERED PROTECTION CAP SHEET FOR KITCHEN HOOD EXHAUST FAN |

1 SECTOR 2 ROOF PLAN
1/8" = 1'-0"

0 4' 8' 16'
SCALE: 1/8"=1'-0

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SEAL AND SIGNATURE
ANTHONY F. PEDRO DATE:
N.Y. LIC. NO. 093068

| MARK | DESCRIPTION | DATE |
|---|---|---|

ISSUE DATE:
SOLICITATION NO.: W912QR20R0038
CONTRACT NO.: W912QR20C0038
DESIGNED BY: USACE RFP
DRAWN BY: CN
CHECKED BY: PF
SUBMITTED BY:
SIZE: ANSI D

US ARMY CORPS OF ENGINEERS
LOUISVILLE DISTRICT
LOUISVILLE, KY

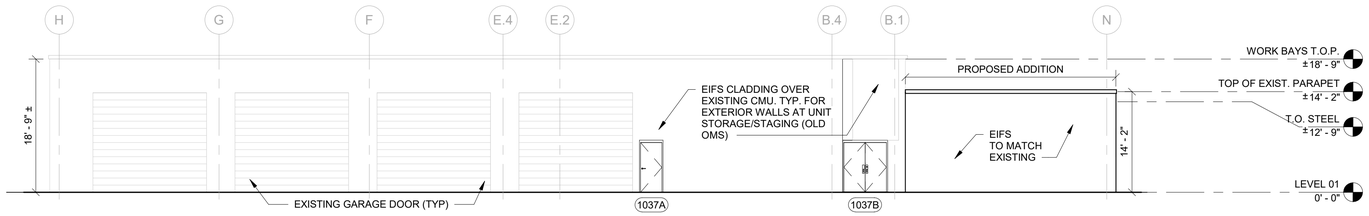
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SECTOR 2 ROOF PLAN

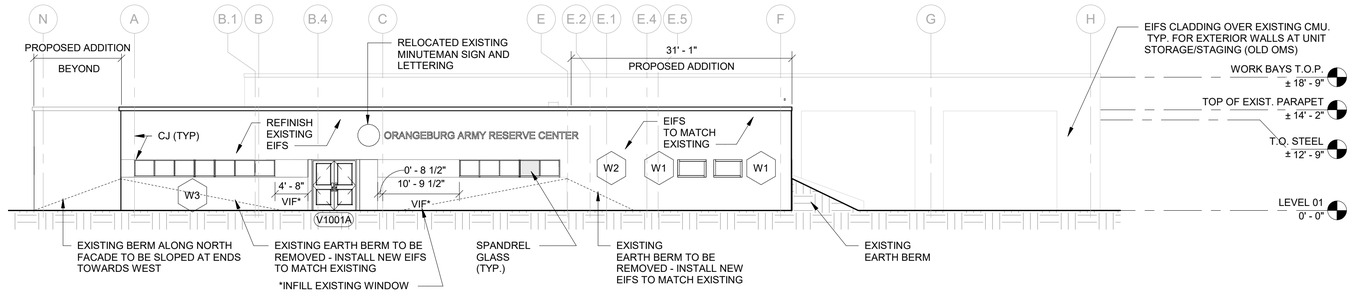
SHEET ID
A-109

CORRECTED FINAL SUBMISSION - JULY 29, 2021



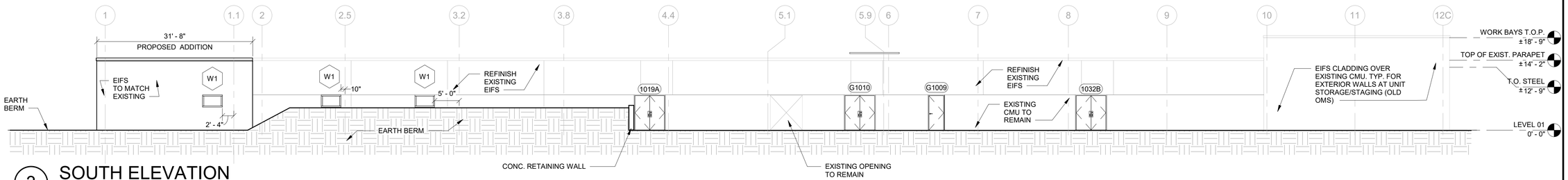

## 1 EAST ELEVATION

3/32" = 1'-0"



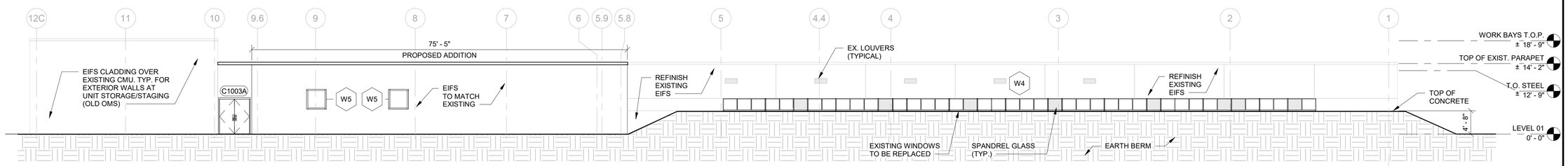

## 2 WEST ELEVATION

3/32" = 1'-0"




## 3 SOUTH ELEVATION

3/32" = 1'-0"




## 4 NORTH ELEVATION

3/32" = 1'-0"

0' 4' 8' 16' 32'

SCALE: 3/32"=1'

## LEGEND:

| | |
|---|---|
| CJ | CONTROL JOINT |
| EIFS | EXTERIOR INSULATION AND FINISH |
| EXST. | EXISTING |
| CMU | CONCRETE MASONRY UNIT |

### ELEVATION GENERAL NOTES:

- APPLY SKIM COAT OVER EXISTING EIFS FOR UNIFORM APPEARANCE - RENOVATIONS ONLY

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ANTHONY F. PEDRO DATE:
N.Y. LIC. NO. 093068

| MARK | DESCRIPTION | DATE |
|---|---|---|
| 1 | Revision 10 | Date 10 |

ISSUE DATE:
SOLICITATION NO.: W912QR20R0038
CONTRACT NO.: W912QR20C0038

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DRAWN BY: CN
CHECKED BY: RF
SUBMITTED BY:
SIZE: ANSI D

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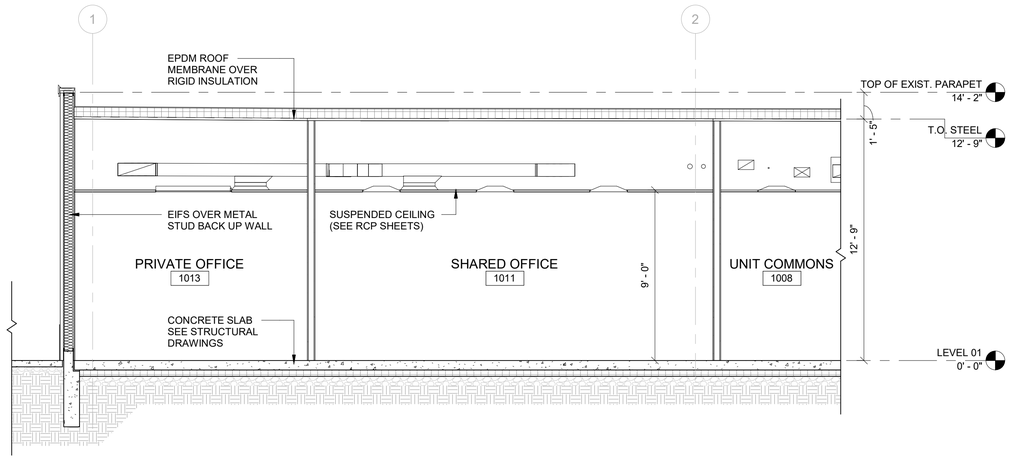
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EXTERIOR ELEVATIONS

SHEET ID

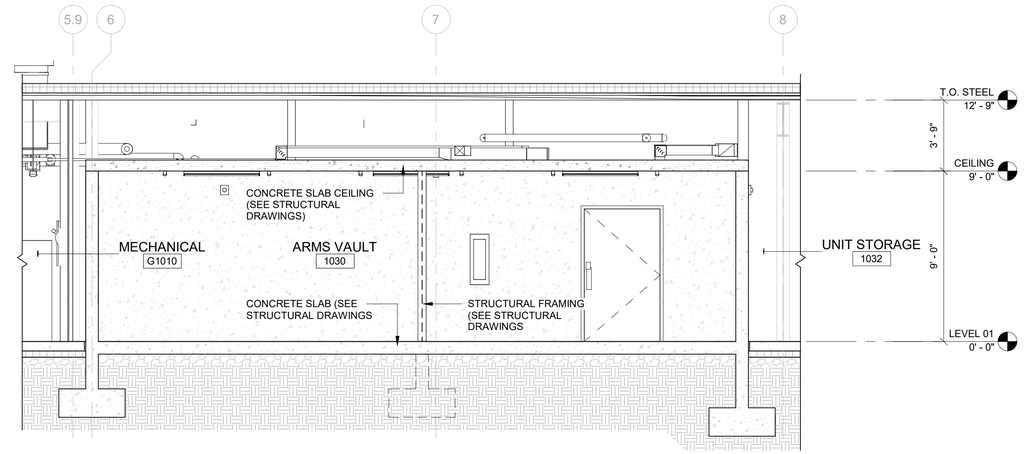
A-200

CORRECTED FINAL SUBMISSION - JULY 29, 2021



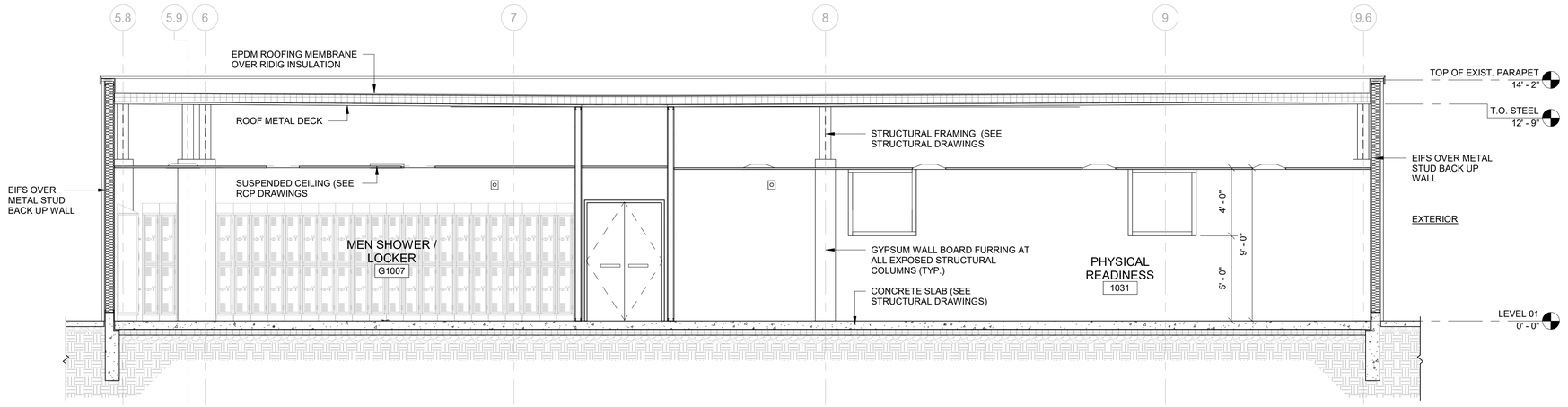

## 1 SOUTH-WEST ADDITION BLDG SECTION

1/4" = 1'-0"




## 2 SOUTH-WEST VAULT SECTION

1/4" = 1'-0"




## 3 NORTH-EAST ADDITION BLDG SECTION

1/4" = 1'-0"

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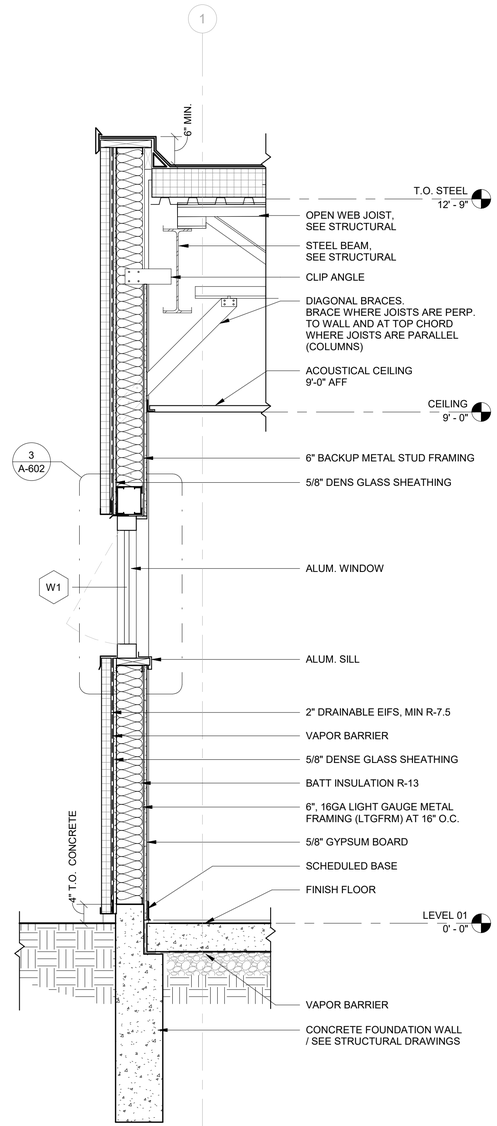
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BUILDING SECTIONS

SHEET ID

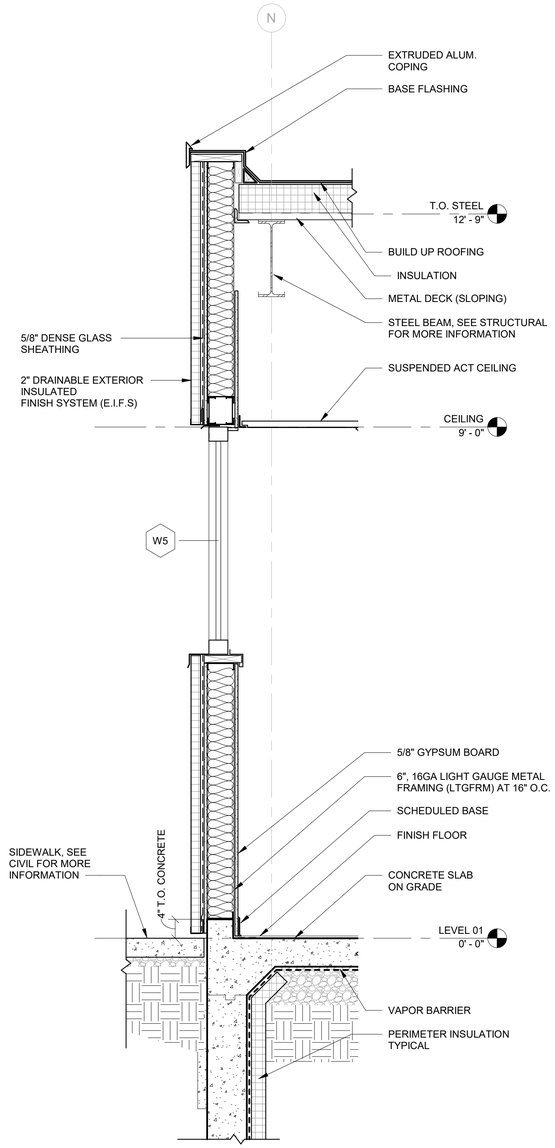
A-201

CORRECTED FINAL SUBMISSION - JULY 29, 2021




1 EXTERIOR WALL SECTION E1

3/4" = 1'-0"




2 EXTERIOR WALL SECTION E2

3/4" = 1'-0"

0" 6" 12" 24" 48"

SCALE: 3/4"=1'

US Army Corps of Engineers ®

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ANTHONY F. PEDRO DATE:
N.Y. LIC. NO. 093068

| MARK | DESCRIPTION | DATE |
|---|---|---|

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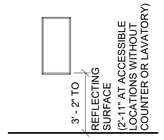
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WALL SECTIONS

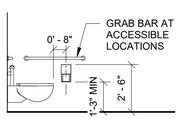
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A-301

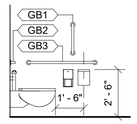
CORRECTED FINAL SUBMISSION - JULY 29, 2021



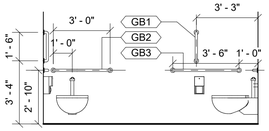

**MG**
18" X 36" STAINLESS STEEL FRAMED MIRROR



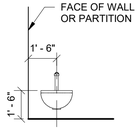

**TTD**
TOILET TISSUE DISPENSER




**SN**
SANITARY NAPKIN DISPOSAL



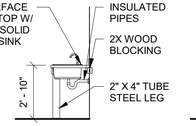

**GB1 / GB2 / GB3**
TOILET GRAB BAR



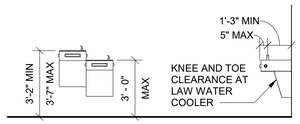

**TOILET**



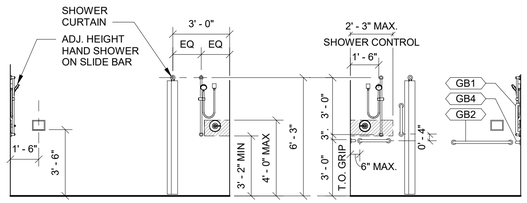

**URINAL**



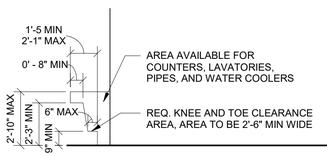

**LAVATORY**



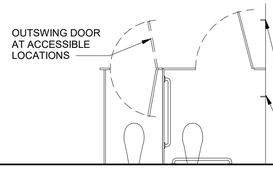

**WATER COOLER**




**SHOWER**

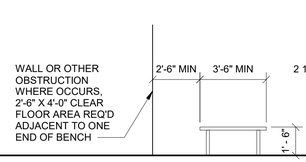



KNEE AND TOE CLEARANCE

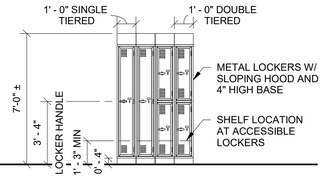



STANDARD LOCATIONS AND ACCESSIBLE LOCATIONS - AMBULATORY

ACCESSIBLE LOCATIONS - WHEELCHAIR



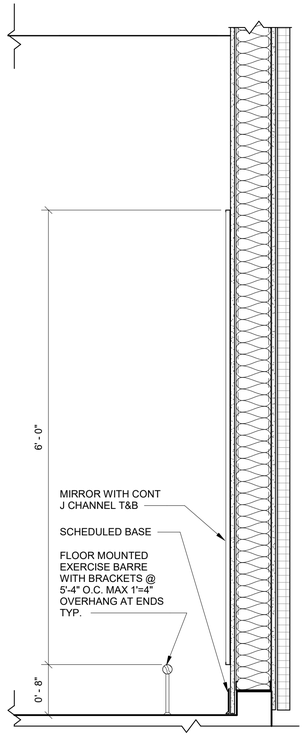

LOCKER ROOM ACCESSIBLE BENCH




LOCKER ROOM LOCKERS

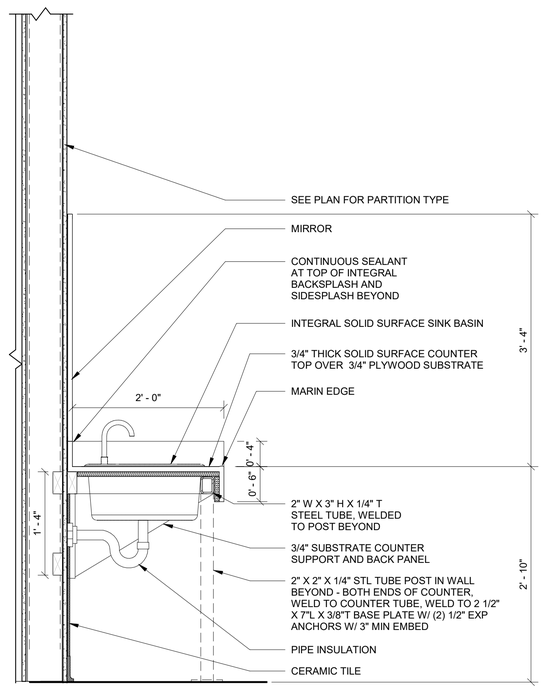
## 1 TOILET ACCESSORIES AND PLUMBING FIXTURE MOUNTING LOCATIONS

1/4" = 1'-0"



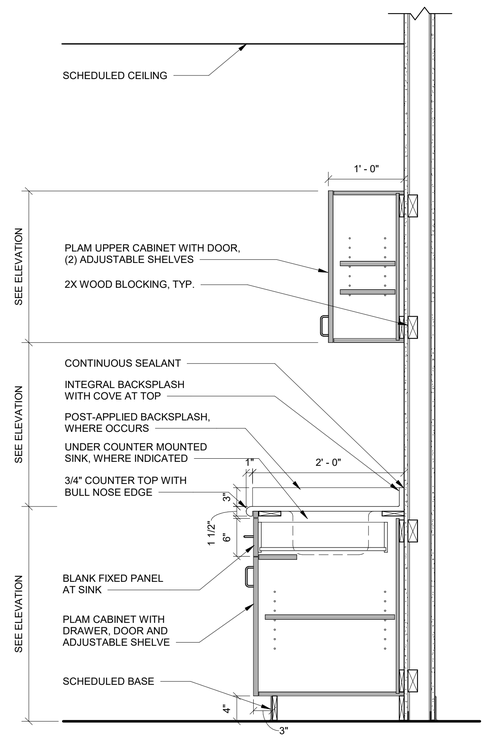

## 2 BARRE / MIRROR DETAIL

1" = 1'-0"




## 3 SECTION AT RESTROOM COUNTER

1" = 1'-0"




## 4 SECTION AT BASE AND WALL CABINETS

1" = 1'-0"

US Army Corps of Engineers ®

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ANTHONY F. PEDRO DATE:
N.Y. LIC. NO. 093068

| MARK | DESCRIPTION | DATE |
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ISSUE DATE:
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CONTRACT NO.: W912QR20C0038

DESIGNED BY: Designer
DRAWN BY: Author
CHECKED BY: Checker
SUBMITTED BY:
SIZE: ANSI D

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LOUISVILLE DISTRICT
LOUISVILLE, KY


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UNITED STATES ARMY RESERVE CENTER
ORANGEBURG, NEW YORK

TOILET ACCESSORIES, PLUMBING FIXTURE MOUNTING LOCATIONS AND DETAILS

SHEET ID
A-501

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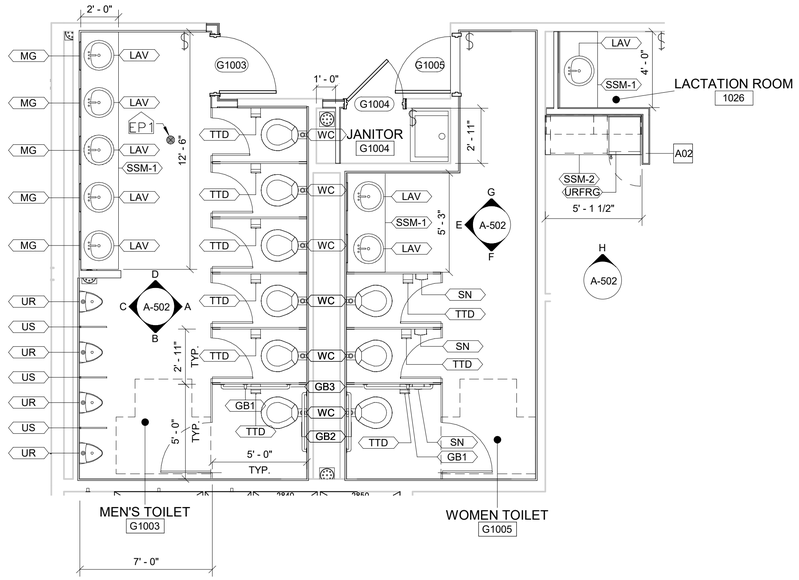
| INTERIOR ELEVATION NOTES | |
|---|---|
| E# | DESCRIPTION |
| E21 | 12" x 24" FIELD TILE, STACKED PATTERN WITH SCHLUTER JOLLY TRIM AT TERMINATION POINT (5'-0" A.F.F.) OUTSIDE CORNERS AND SCHLUTER DILEX-AHK COVE TRIM AT BASE |
| E23 | PAINT |

| ENLARGED TOILET/SHOWER PLAN NOTES | |
|---|---|
| NUMBER | DESCRIPTION |
| EP1 | FLOOR DRAIN, SEE PLUMBING DRAWINGS |

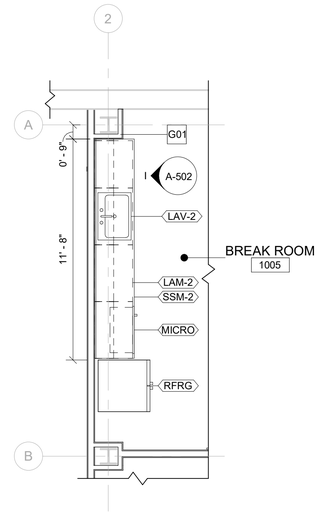
LEGEND

- EP# — PLAN NOTE
- E# — ELEVATION NOTE
- 101 — DOOR TAGS- SEE DOOR SCHEDULE ON A-601
- 1i — WALL TAGS- SEE PARTITION TYPES ON A-540
- XXXXX — SEE SCHEDULE ON SHEET A-604
- WHEELCHAIR ACCESSIBLE
- FLOOR DRAIN
- FLOOR CLEAN OUT

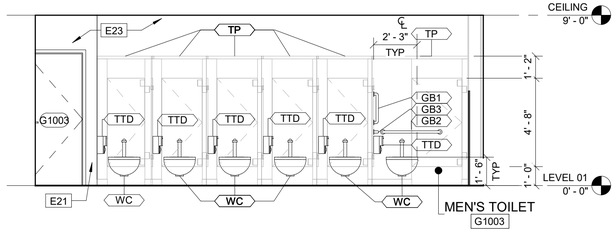
**NOTE:**
1. CONTRACTOR TO PROVIDE BLOCKING AS REQUIRED FOR WALL MOUNTED FIXTURES.
2. SEE SHEET A-604 FOR ACCESSORIES AND PLUMBING FIXTURES SCHEDULES



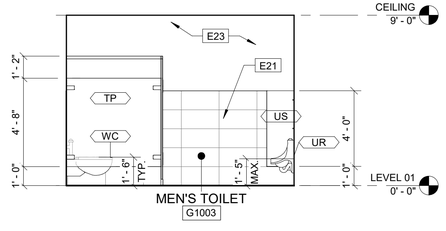

## 1 ENLARGED TOILET FLOOR PLAN
1/4" = 1'-0"



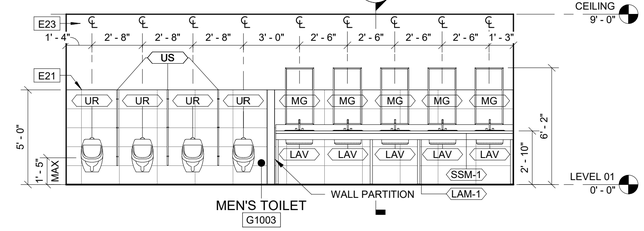

## 2 ENLARGED BREAK ROOM PLAN
1/4" = 1'-0"



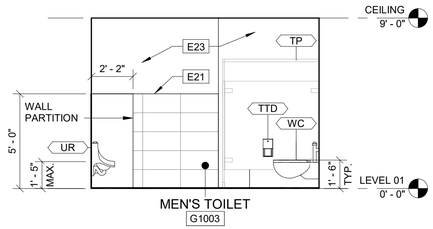

## A INTERIOR ELEVATION
1/4" = 1'-0"



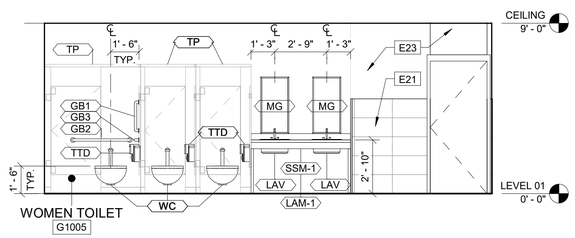

## B INTERIOR ELEVATION
1/4" = 1'-0"



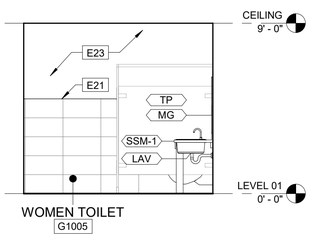

## C INTERIOR ELEVATION
1/4" = 1'-0"



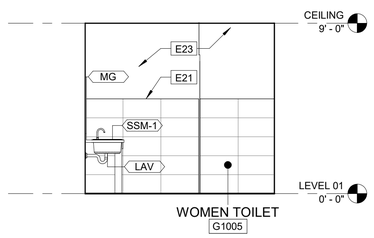

## D INTERIOR ELEVATION
1/4" = 1'-0"



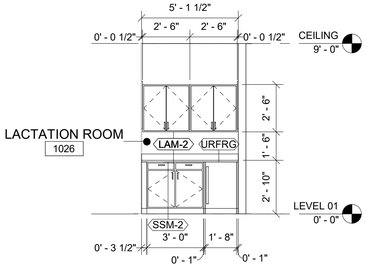

## E INTERIOR ELEVATION
1/4" = 1'-0"



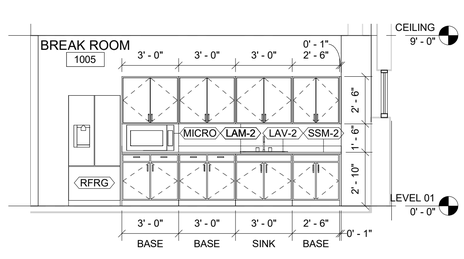

## F INTERIOR ELEVATION
1/4" = 1'-0"




## G INTERIOR ELEVATION
1/4" = 1'-0"




## H INTERIOR ELEVATION
1/4" = 1'-0"




## I INTERIOR ELEVATION
1/4" = 1'-0"

0 2' 4' 8'

SCALE: 1/4"=1'-0

US Army Corps of Engineers ®

SEAL AND SIGNATURE
ANTHONY F. PEDRO DATE:
N.Y. LIC. NO. 093068

| MARK | DESCRIPTION | DATE |
|---|---|---|

ISSUE DATE:
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CONTRACT NO.: W912QR20C0038

DESIGNED BY: USACE RFP
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US ARMY CORPS OF ENGINEERS
LOUISVILLE DISTRICT
LOUISVILLE, KY

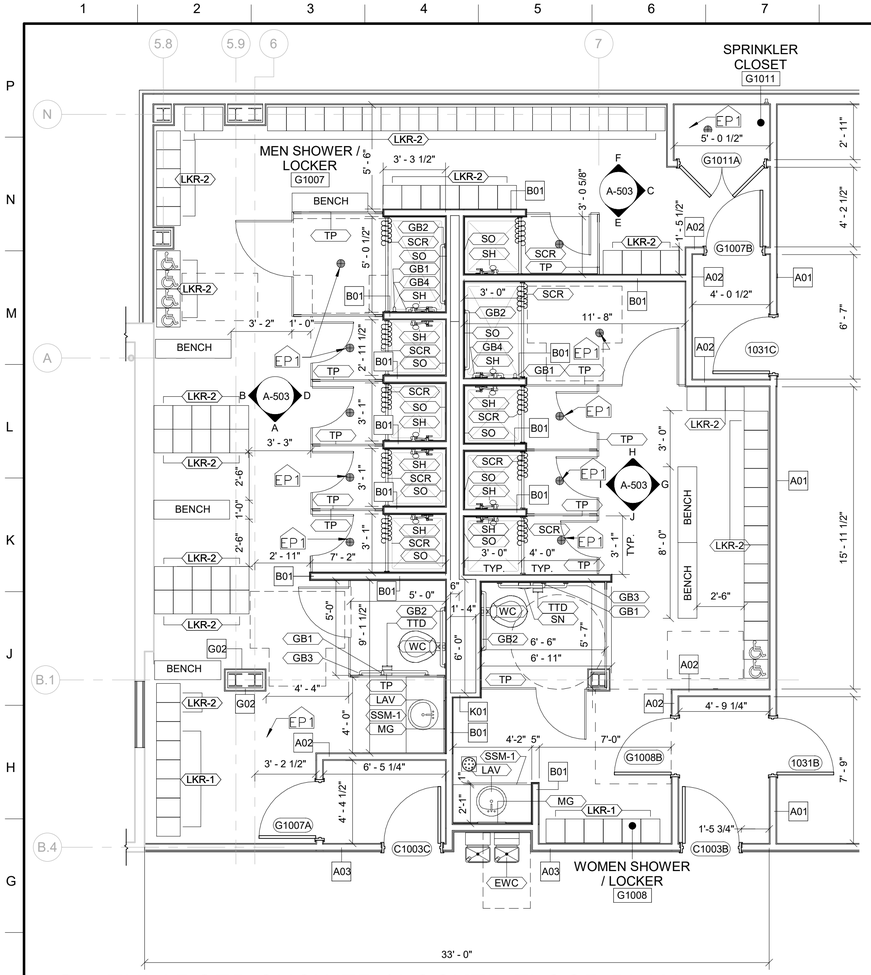
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UNITED STATES ARMY RESERVE CENTER
ORANGEBURG, NEW YORK

ENLARGED TOILET PLAN AND ELEVATIONS

SHEET ID
A-502

CORRECTED FINAL SUBMISSION - JULY 29, 2021




## 1 ENLARGED SHOWER / LOCKER FLOOR PLAN
1/4" = 1'-0"

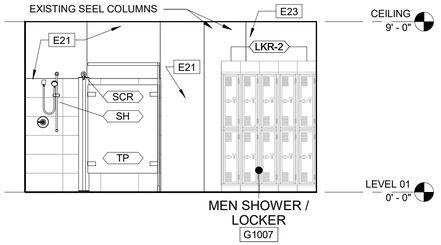
| INTERIOR ELEVATION NOTES | |
|---|---|
| E# | DESCRIPTION |
| E21 | 12" x 24" FIELD TILE, STACKED PATTERN WITH SCHLUTER JOLLY TRIM AT TERMINATION POINT (5'-0" A.F.F.) OUTSIDE CORNERS AND SCHLUTER DILEX-AHK COVE TRIM AT BASE |
| E23 | PAINT |

| ENLARGED TOILET/SHOWER PLAN NOTES | |
|---|---|
| NUMBER | DESCRIPTION |
| EP1 | FLOOR DRAIN, SEE PLUMBING DRAWINGS |

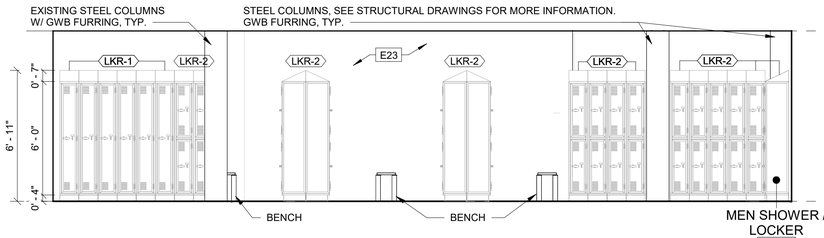
LEGEND

- EP# — PLAN NOTE
- E# — ELEVATION NOTE
- 101 — DOOR TAGS- SEE DOOR SCHEDULE ON A-601
- 1i — WALL TAGS- SEE PARTITION TYPES ON A-540
- XXXXX — SEE SCHEDULE ON SHEET A-604
- WHEELCHAIR ACCESSIBLE
- FLOOR DRAIN
- FLOOR CLEAN OUT

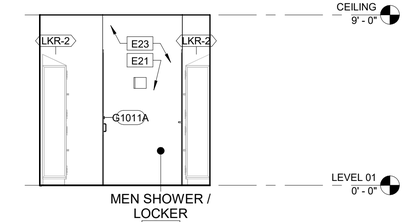
**NOTE:**
1. CONTRACTOR TO PROVIDE BLOCKING AS REQUIRED FOR WALL MOUNTED FIXTURES.
2. SEE SHEET A-604 FOR ACCESSORIES AND PLUMBING FIXTURES SCHEDULES



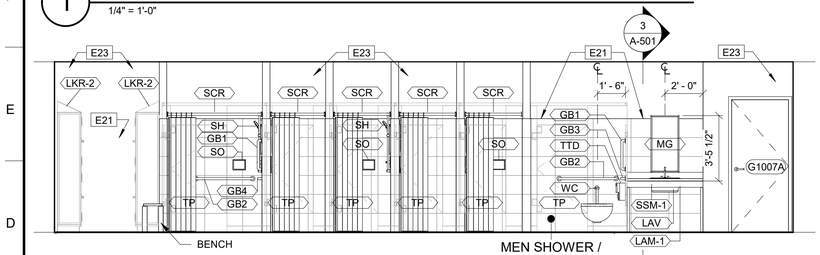

## A INTERIOR ELEVATION
1/4" = 1'-0"



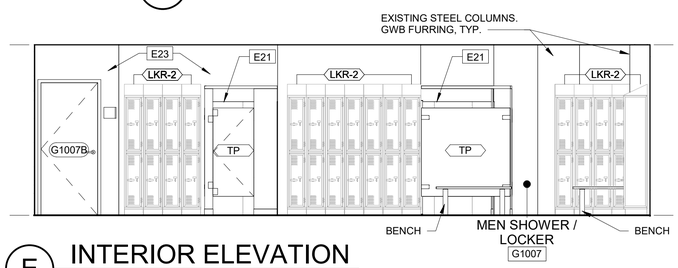

## B INTERIOR ELEVATION
1/4" = 1'-0"



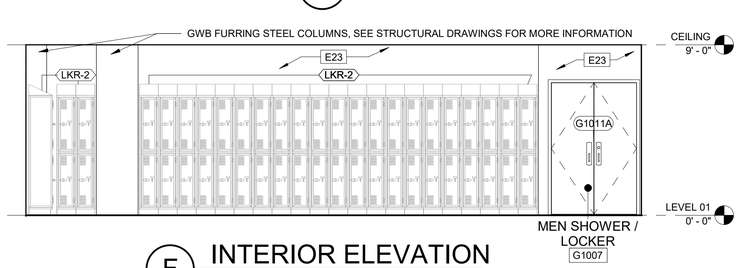

## C INTERIOR ELEVATION
1/4" = 1'-0"



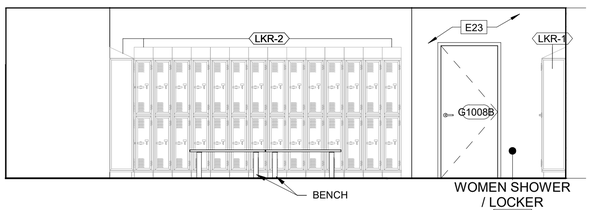

## D INTERIOR ELEVATION
1/4" = 1'-0"



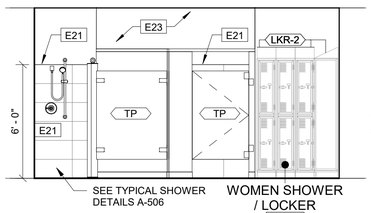

## E INTERIOR ELEVATION
1/4" = 1'-0"



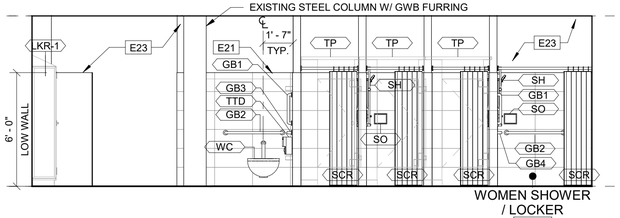

## F INTERIOR ELEVATION
1/4" = 1'-0"



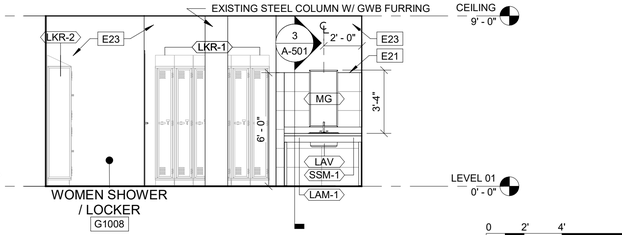

## G INTERIOR ELEVATION
1/4" = 1'-0"




## H INTERIOR ELEVATION
1/4" = 1'-0"




## I INTERIOR ELEVATION
1/4" = 1'-0"




## J INTERIOR ELEVATION
1/4" = 1'-0"

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SEAL AND SIGNATURE
ANTHONY F. PEDRO
N.Y. LIC. NO. 093068
DATE:

| MARK | DESCRIPTION | DATE |
|---|---|---|
| | | |

DESIGNED BY: USACE RFP
DRAWN BY: CN
CHECKED BY: PE
SUBMITTED BY:
ISSUE DATE:
SOLICITATION NO.: W912QR20R0038
CONTRACT NO.: W912QR20C0038
SIZE: ANSI D

US ARMY CORPS OF ENGINEERS
LOUISVILLE DISTRICT
LOUISVILLE, KY

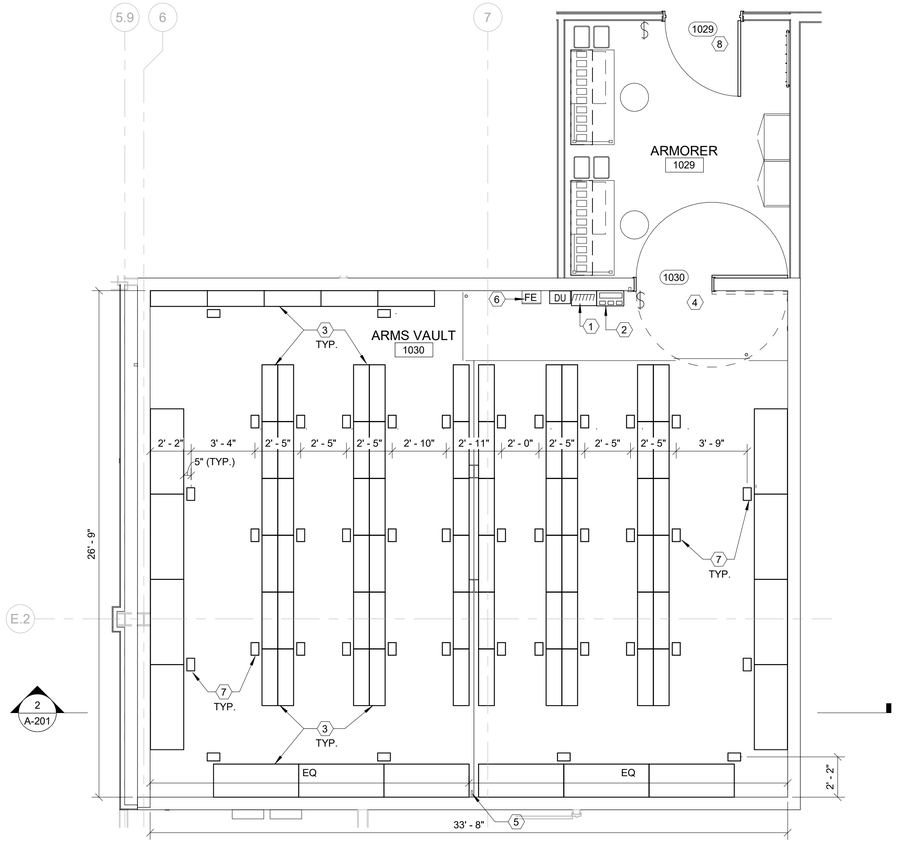
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UNITED STATES ARMY RESERVE CENTER
ORANGEBURG, NEW YORK

ENLARGED LOCKER ROOM PLAN AND ELEVATIONS

SHEET ID
A-503

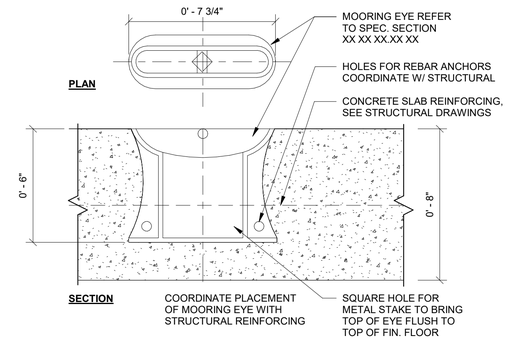
CORRECTED FINAL SUBMISSION - JULY 29, 2021




## 1 ENLARGED ARMORER AND VAULT PLANS

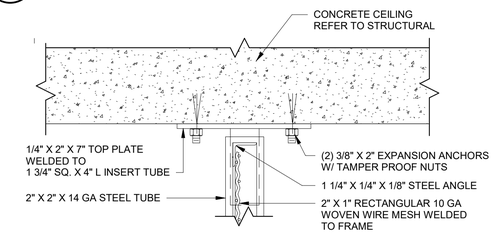
1/4" = 1'-0"

FILL EYE WITH SAND TO EXCLUDE CONCRETE DURING SLAB CONSTRUCTION




## 4 MOORING EYE DETAIL

3" = 1'-0"




## 5 CAGING DETAIL AT VAULT CEILING

3" = 1'-0"

| IDS SYMBOLS | | |
|---|---|---|
| **SYMBOL** | **DESCRIPTION** | **ABBREVIATION** |
| | IDS CONTROL PANEL | IDS |
| | KEYPAD | KP |
| | BALANCED MAGNETIC SWITCH | BMS |
| | PASSIVE INFRARED MOTION SENSOR | PIR |
| DU | DURESS PUSH BUTTON | DU |
| | AUDIO SENSOR | AS |
| | AUDIBLE ALARM | AA |
| | CEILING MOUNTED SMOKE DETECTOR | SD |
| | CEILING MOUNTED HEAT DETECTOR | HD |

| FLOOR PLAN KEYNOTES - TRAINING CENTER | |
|---|---|
| 1. | IDS PANEL |
| 2. | DEHUMIDIFIER WITH FLOOR DRAIN REFER TO PLUMBING |
| 3. | ARMS RACKS - 3'-0"W X 1'-0"D X 80"H METAL STORAGE SHELVING PROVIDED AND INSTALLED BY THE GOVERNMENT |
| 4. | VAULT DOOR AND DAY GATE |
| 5. | WALL ANCHOR |
| 6. | WALL MOUNTED FIRE EXTINGUISHER |
| 7. | MOORING EYE - EXACT LOCATION AND NUMBER OF FLOOR ANCHORS TO BE CONFIRMED OR COORDINATED DURING THE SHOP DRAWING REVIEW PHASE |
| 8. | SMALL HAT AND COAT RACK |

**GENERAL NOTE:**

- REFER TO TELECOMMUNICATIONS SHEET T-103 FOR IDS INFORMATION

0 2' 4' 8'

SCALE: 1/4"=1'-0

0 0.125' 0.25' 0.5'

SCALE: 3"=1'-0"

US Army Corps of Engineers ®

SEAL AND SIGNATURE
ANTHONY F. PEDRO DATE:
N.Y. LIC. NO. 093068

| MARK | DESCRIPTION | DATE |
|---|---|---|

ISSUE DATE:
SOLICITATION NO.: W912QR20R0038
CONTRACT NO.: W912QR20C0038

DESIGNED BY: USACE RFP
DRAWN BY: CN
CHECKED BY: PE
SUBMITTED BY:
SIZE: ANSI D

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LOUISVILLE, KY

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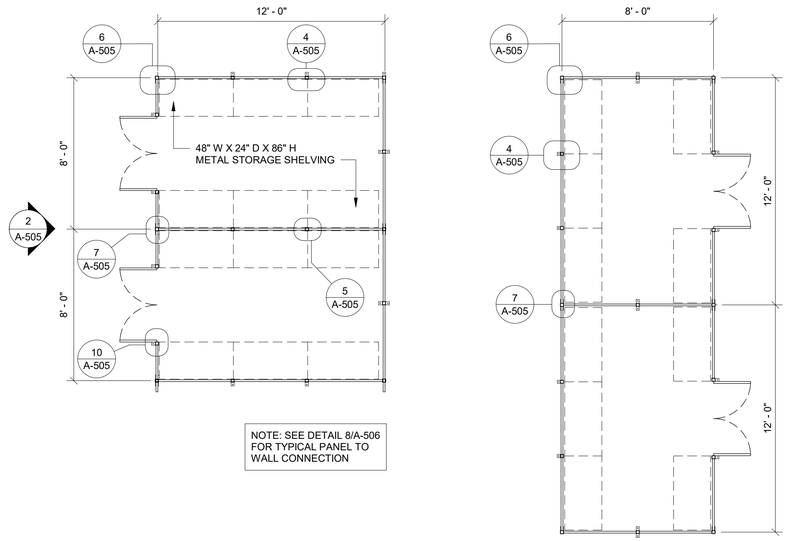
UNITED STATES ARMY RESERVE CENTER
ORANGEBURG, NEW YORK

ENLARGED VAULT DETAILS

SHEET ID

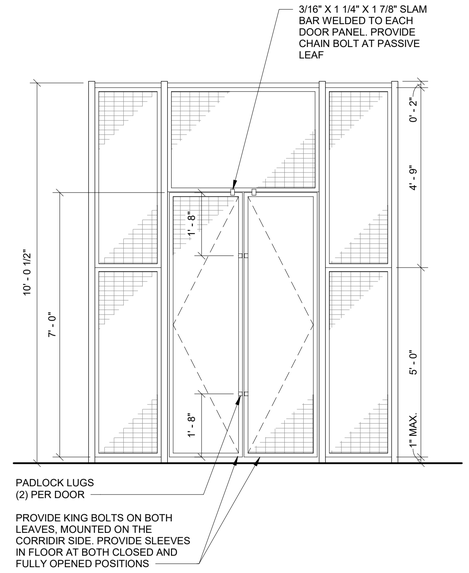
A-504

CORRECTED FINAL SUBMISSION - JULY 29, 2021



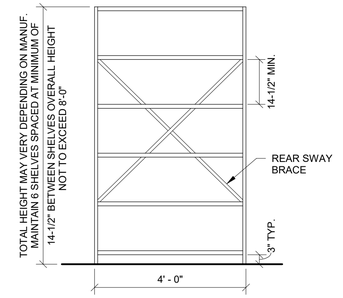

## 1 TYP. UNIT STORAGE CAGING PLANS

1/4" = 1'-0"




## 2 TYP. GATE ELEVATION

1/2" = 1'-0"

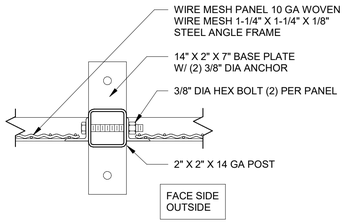



## 3 METAL STORAGE SHELVING

1/2" = 1'-0"

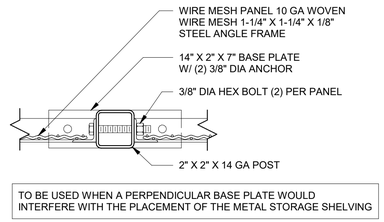
### GENERAL CAGING NOTES

1. NO OPENING IN THE CAGE SHALL EXCEED 96 SQUARE INCHES WITH THE LEAST DIMENSION NO GREATER THAN 6 INCHES. THIS INCLUDES THE SPACE BETWEEN THE WEB OF THE BAR JOIST IF THE CAGE TERMINATES AT THE BOTTOM CHORD OF THE JOIST.
2. ALL BOLTED CONNECTIONS SHALL BE TACK WELDED AND PAINT TOUCHED UP, TYP OR SUPPLIED WITH APPROVED TAMPER PROOF CONNECTIONS. (CAGING ONLY)
3. PROVIDE (2) PADLOCKS FOR EACH DOOR. HASP TO BE COMPATIBLE WITH PADLOCK.
4. DIMENSIONS ARE TO CENTER OF POSTS, UNO.
5. COORDINATE CAGING BASE PLATES WITH SHELVING LAYOUT.
6. SHELVING FOR THE UNIT STORAGE CAGED AREAS SHALL BE HEAVY-DUTY OPEN STEEL SHELVING UNITS WITH FIVE ADJUSTABLE SHELVES



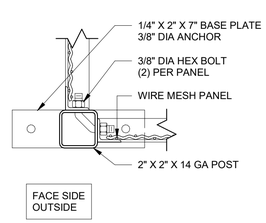

## 4 TWO PANEL CONNECTION DETAIL

3" = 1'-0"



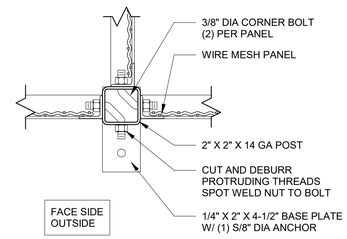

## 5 TWO PANEL CONNECTION DETAIL

3" = 1'-0"



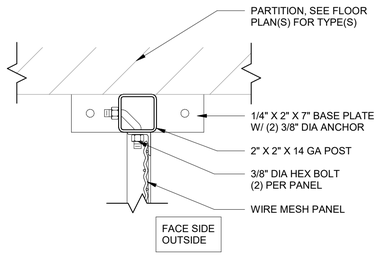

## 6 CORNER CONNECTION DETAIL

3" = 1'-0"



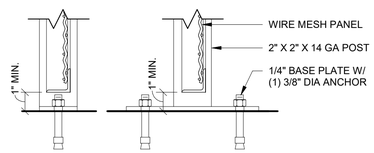

## 7 THREE PANEL CONNECTION DETAIL

3" = 1'-0"



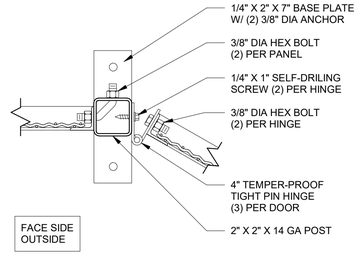

## 8 WALL CONNECTION DETAIL

3" = 1'-0"



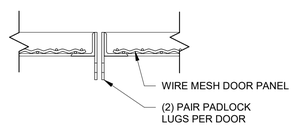

## 9 POST TO FLOOR DETAIL

3" = 1'-0"



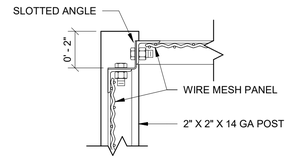

## 10 DOOR HINGE DETAIL

3" = 1'-0"




## 11 DOOR LATCH DETAIL

3" = 1'-0"




## 12 CAGE CEILING DETAIL

3" = 1'-0"

0" 1' 2' 4' 8"
SCALE: 1/4"=1'

0" 6" 12" 24" 48"
SCALE: 1/2"=1'

0" 1 1/2" 3" 6" 12"
SCALE: 3"=1'

US Army Corps of Engineers ®

SEAL AND SIGNATURE
ANTHONY F. PEDRO DATE:
N.Y. LIC. NO. 093068

| MARK | DESCRIPTION | DATE |
|---|---|---|

DESIGNED BY: USACE RFP
DRAWN BY: CN
CHECKED BY: FP
SUBMITTED BY:
SIZE: ANSI D
ISSUE DATE:
SOLICITATION NO.: W912QR20R0038
CONTRACT NO.: W912QR20C0038

US ARMY CORPS OF ENGINEERS
LOUISVILLE DISTRICT
LOUISVILLE, KY

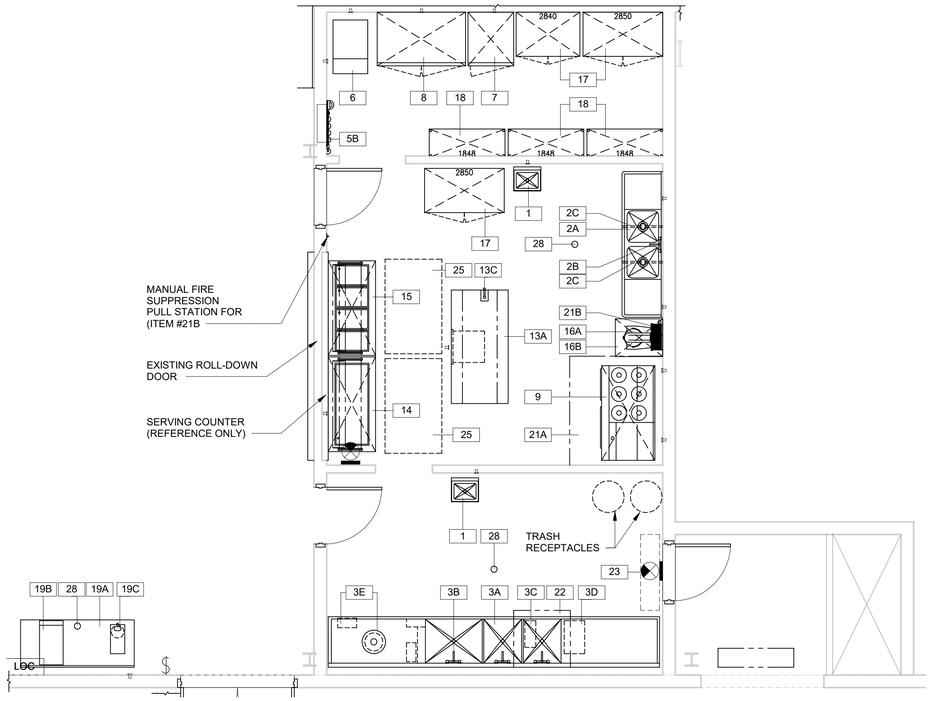
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UNITED STATES ARMY RESERVE CENTER
ORANGEBURG, NEW YORK

CAGING PLAN AND DETAILS

SHEET ID
A-505

CORRECTED FINAL SUBMISSION - JULY 29, 2021




## 1 ENLARGED KITCHEN AREA FLOOR PLAN

1/4" = 1'-0"

| EQUIPMENT LEGEND | | |
|---|---|---|
| ITEM NUMBER | QUANTITY | DESCRIPTION |
| 1 | 2 | HAND SINK, SOAP & TOWEL DISP. |
| 2A | 1 | VEGETABLE SINK |
| 2B | 1 | HEAVY DUTY 12" SWING SPOUT |
| 2C | 2 | TWIST HANDLE OPERATED DRAIN WITH OVERFLOW |
| 3A | 1 | THREE COMPARTMENT SINK, POWERED |
| 3B | 1 | PRE-RINSE SPRAY ASSEMBLY |
| 3C | 1 | SANITIZING SINKHEATER |
| 3D | 1 | HOT WATER BOOSTER HEATER |
| 3E | 1 | DISPOSER & CONTROL PANEL |
| 4 | 1 | MOP BASIN & TOOL BAR (N.I.C.) |
| 5 | 1 | WATER FILTER |
| 6 | 1 | ICE MAKER AND BIN |
| 7 | 1 | FREEZER, 1-SECTION MOBILE |
| 8 | 1 | REFRIGERATOR, 2-SECTION MOBILE |
| 9 | 1 | 6-BURNER RANGE W/ GRIDDLE & OVEN |
| 10 | - | NOT USED |
| 11 | - | NOT USED |
| 12 | - | NOT USED |
| 13A | 1 | FOOD PREPARATION TABLE |
| 13B | - | NOT USED |
| 13C | 1 | CAN OPENER, MANUAL |
| 14 | 1 | COLD FOOD COUNTER, MOBILE |
| 15 | 1 | HOT FOOD COUNTER, MOBILE |
| 16A | 1 | 12 QUART MIXER |
| 16B | 1 | MIXER STAND |
| 17 | 3 | SECURITY RACK |
| 18 | 3 | MOBIL SHELVING UNIT |
| 19A | 2 | WORK TABLE WITH BACKSPLASH |
| 19B | 1 | ICE DISPENSER |
| 19C | 1 | COFFEE MAKER |
| 20 | - | NOT USED |
| 21A | 1 | HOOD, TYPE 1 |
| 21B | 1 | FIRE SUPPRESSION SYSTEM TO SERVE HOOD, TYPE 1 |
| 22 | 1 | HOOD, TYPE 2 |
| 23 | 1 | AIR CURTAIN |
| 24 | - | NOT USED |
| 25 | 2 | FLOOR RUBBER MAT (36" X 60") |
| 26 | - | NOT USED |
| 27 | - | NOT USED |
| 28 | 3 | FLOOR DRAIN (4" DIA.) (N.I.C.) |

| ABBREVIATIONS | |
|---|---|
| F.S.E.C. | - FOOD SERVICE EQUIPMENT CONTRACTOR |
| G.C. | - GENERAL CONTRACTOR |
| E.C. | - ELECTRICAL CONTRACTOR |
| P.C. | - PLUMBING CONTRACTOR |
| H.V.A.C. | - HEATING, VENTILATIN, & AIR CONDITIONING CONTRACTOR |
| N.I.C. | - NOT IN FOOD SERVICE CONTRACT |
| CONT. | - CONTINUED |
| OMAR | - OPERATION & MAINTANENCE, ARMY RESERVE |
| MCAR | - MILITARY CONSTRUCTION, ARMY RESERVE |

NOTES:

- KITCHEN EQUIPMENT LAYOUT IS FOR REFERENCE ONLY , AS SHOWN IN THE RFP. KITCHEN EQUIPMENT OPTION NOT AWARDED YET
- REFER TO MEP DRAWINGS FOR UTILITIES SCOPE

US Army Corps of Engineers ®

SEAL AND SIGNATURE
ANTHONY F. PEDRO DATE:
N.Y. LIC. NO. 093068

| MARK | DESCRIPTION | DATE |
|---|---|---|

DESIGNED BY: USACE RFP
DRAWN BY: CN
CHECKED BY: FP
QUALITY: FP
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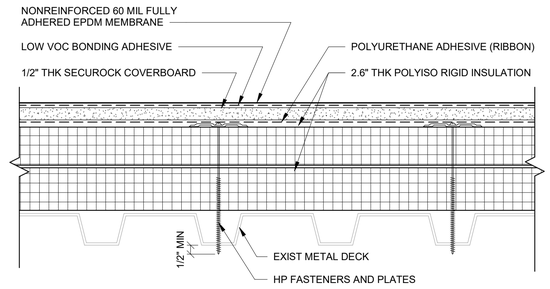
UNITED STATES ARMY RESERVE CENTER
ORANGEBURG, NEW YORK

KITCHEN ENLARGED PLAN & SCHEDULE OF EQUIPMENT

SHEET ID

A-506

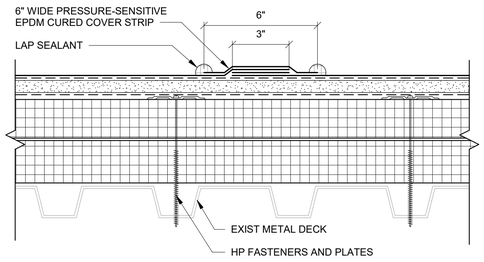
CORRECTED FINAL SUBMISSION - JULY 29, 2021



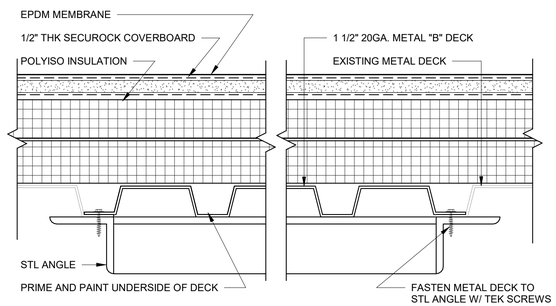

FACTORY MUTUAL ASSEMBLY NO. : 428854-0-0
NOTES:

1. SEE DETAIL 2/A-513 FOR INSULATION ADHESIVE PATTERNS.
2. SEE DETAIL 2/A-513 FOR FASTENING PATTERNS.

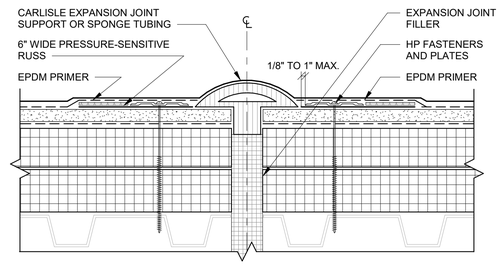
## 1 EPDM ROOFING SYSTEM
3" = 1'-0"



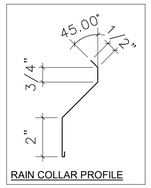

## 2 FIELD SPLICE DETAIL
3" = 1'-0"




## 3 DECK PATCHING DETAIL
3" = 1'-0"



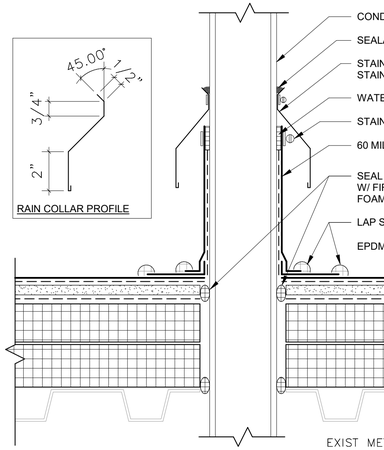

## 4 DECK TO DECK EXPANSION JOINT
3" = 1'-0"



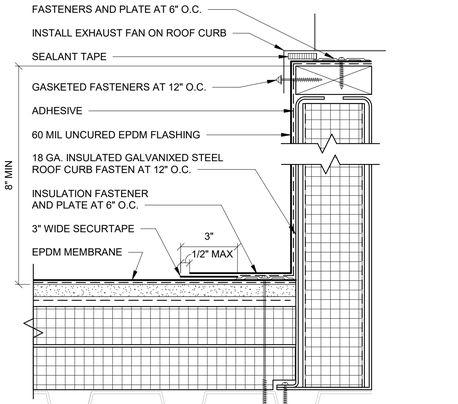




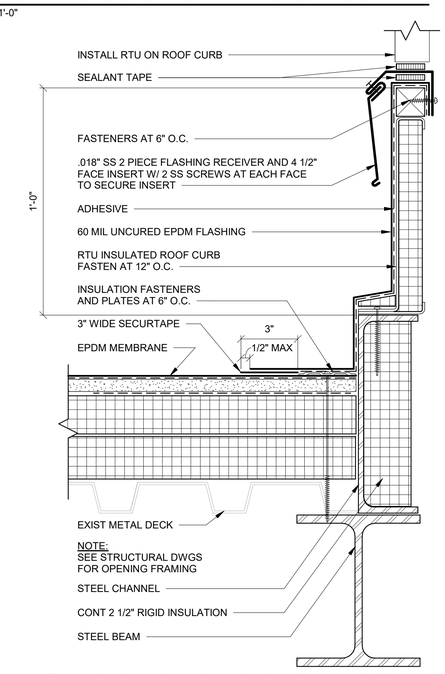
## 5 VENT DETAIL
3" = 1'-0"



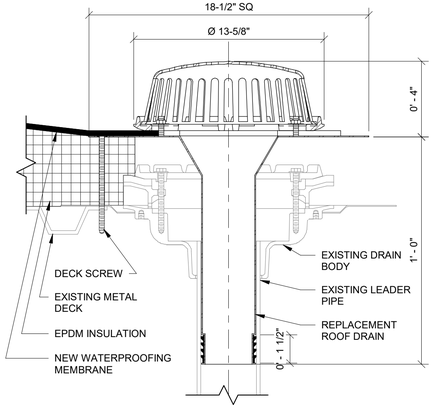

## 6 CONDUIT FLASHING DETAIL
3" = 1'-0"



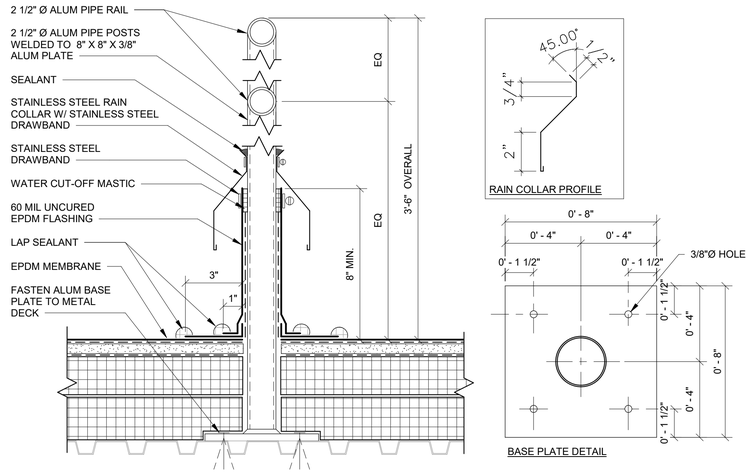

## 7 EXAUST FAN DETAIL
3" = 1'-0"



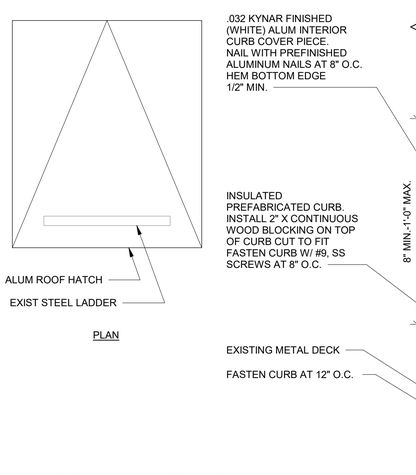

## 8 EQUIPMENT CURB DETAIL
3" = 1'-0"




## 9 ROOF DRAIN
3" = 1'-0"




## 10 ROOF RAIL DETAIL
3" = 1'-0"




## 11 ROOF HATCH DETAIL
3" = 1'-0"

0" 1 1/2" 3" 6" 12"
SCALE: 3"=1'

US Army Corps of Engineers ®

SEAL AND SIGNATURE
ANTHONY F. PEDRO DATE:
N.Y. LIC. NO. 093068

| MARK | DESCRIPTION | DATE |
|---|---|---|

ISSUE DATE:
SOLICITATION NO.: W912QR20R0038
CONTRACT NO.: W912QR20C0038
DESIGNED BY: USACE RFP
DRAWN BY: CN
CHECKED BY: PE
SUBMITTED BY:
SIZE: ANSI D

US ARMY CORPS OF ENGINEERS
LOUISVILLE DISTRICT
LOUISVILLE, KY

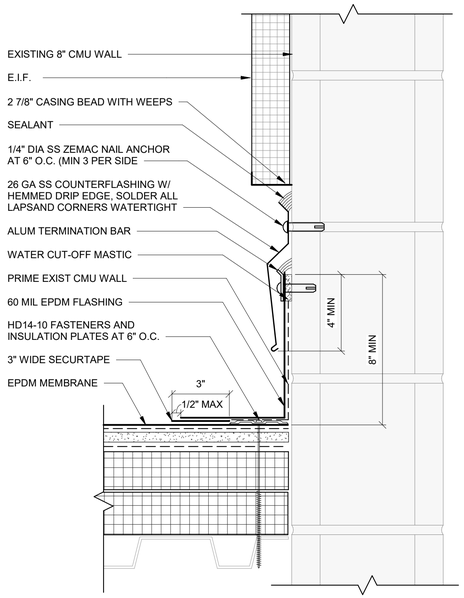
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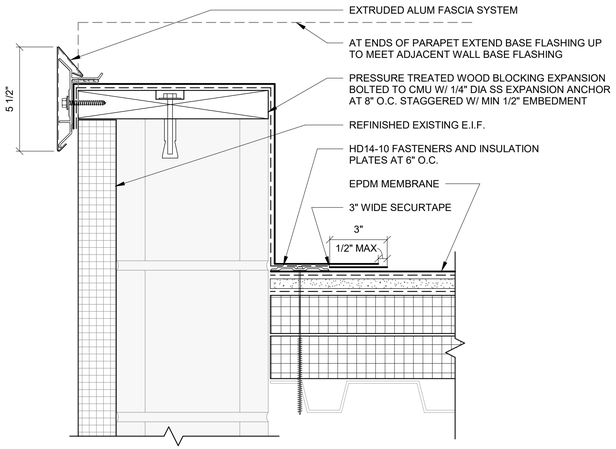
ROOF DETAILS

SHEET ID
A-511

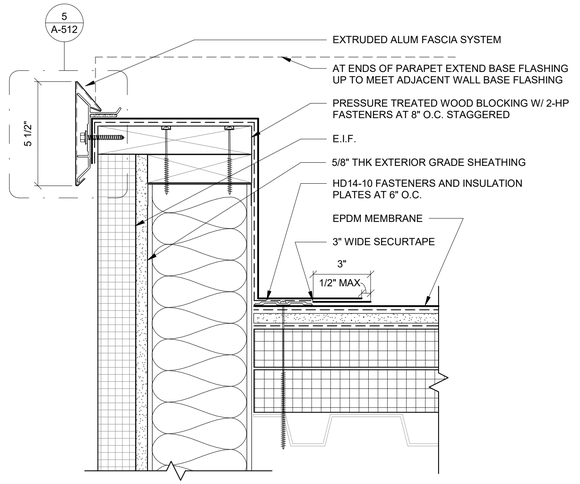
CORRECTED FINAL SUBMISSION - JULY 29, 2021



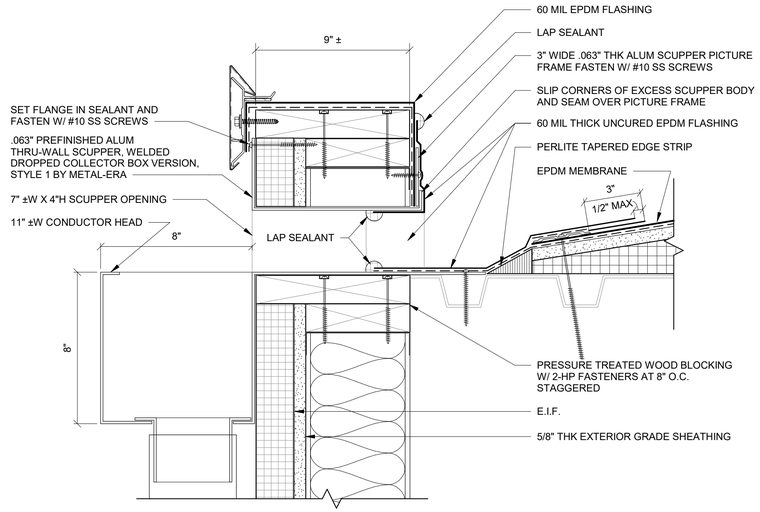

1 BASE FLASHING DETAIL
3" = 1'-0"



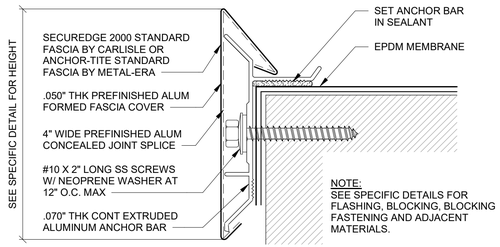

2 EXIST. CMU PARAPET/FASCIA DETAIL
3" = 1'-0"



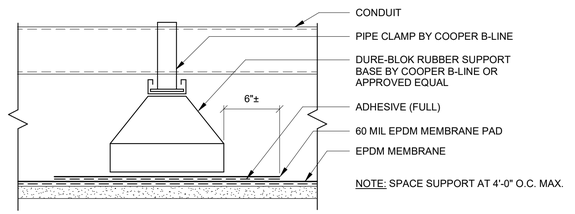

3 MTL STUD PARAPET/FASCIA DETAIL
3" = 1'-0"




4 SCUPPER DETAIL
3" = 1'-0"




5 FASCIA DETAIL
3" = 1'-0"




6 PIPE / CONDUIT SUPPORT DETAIL
N.T.S.

0" 1 1/2" 3" 6" 12"
SCALE: 3"=1'

US Army Corps of Engineers ®

SEAL AND SIGNATURE
ANTHONY F. PEDRO DATE:
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|---|---|---|
| | | |

DESIGNED BY: USACE RFP
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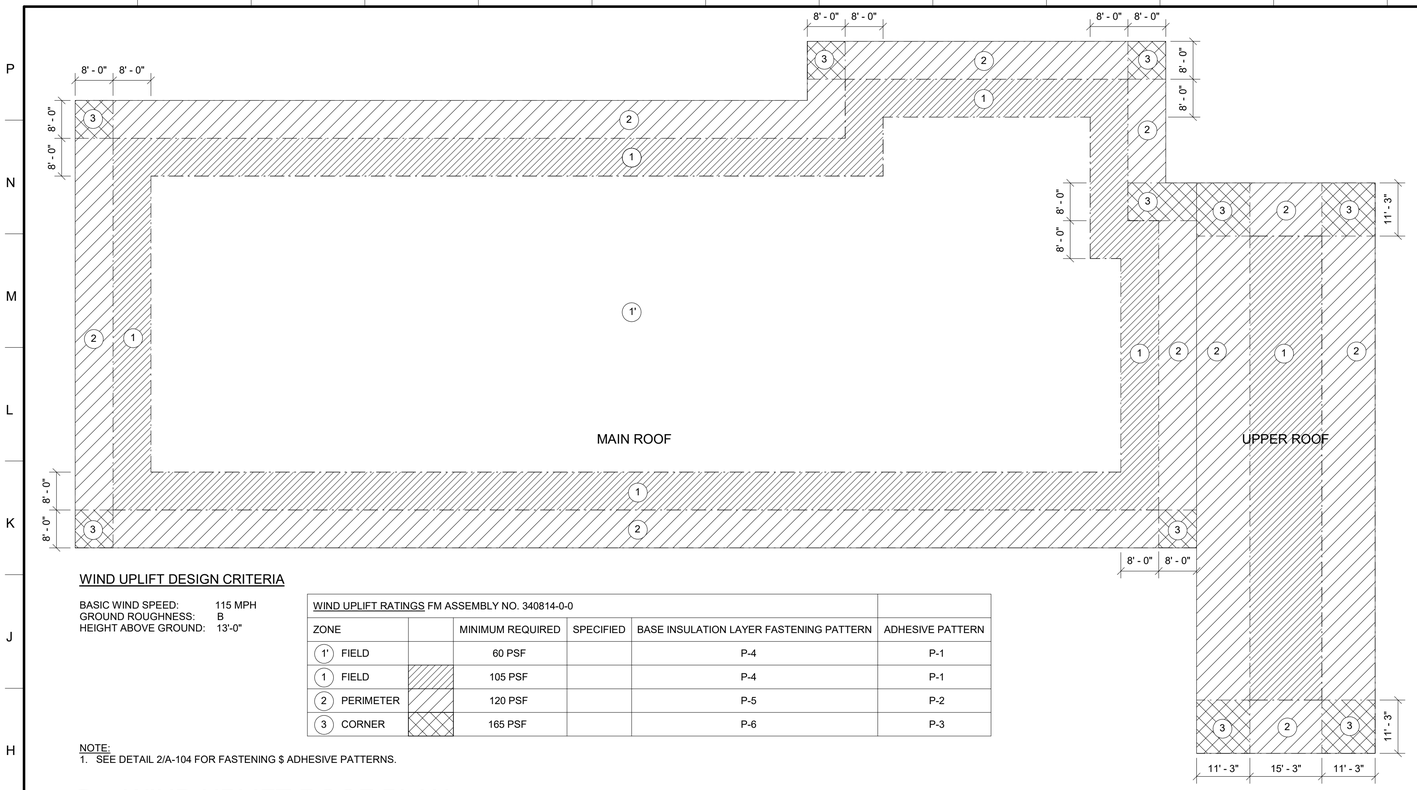
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ORANGEBURG, NEW YORK

ROOF DETAILS

SHEET ID
A-512

CORRECTED FINAL SUBMISSION - JULY 29, 2021




## WIND UPLIFT DESIGN CRITERIA

BASIC WIND SPEED: 115 MPH
GROUND ROUGHNESS: B
HEIGHT ABOVE GROUND: 13'-0"

| WIND UPLIFT RATINGS FM ASSEMBLY NO. 340814-0-0 | | | | | |
|---|---|---|---|---|---|
| ZONE | | MINIMUM REQUIRED | SPECIFIED | BASE INSULATION LAYER FASTENING PATTERN | ADHESIVE PATTERN |
| 1' FIELD | | 60 PSF | | P-4 | P-1 |
| 1 FIELD | | 105 PSF | | P-4 | P-1 |
| 2 PERIMETER | | 120 PSF | | P-5 | P-2 |
| 3 CORNER | | 165 PSF | | P-6 | P-3 |

NOTE:
1. SEE DETAIL 2/A-104 FOR FASTENING $ ADHESIVE PATTERNS.

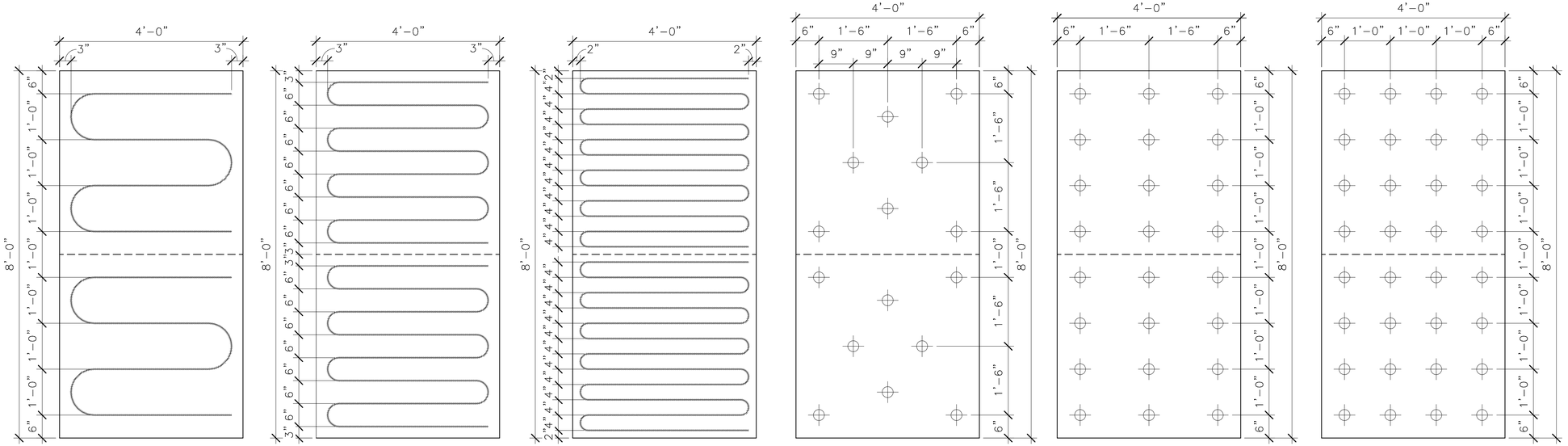
## 1 WIND UPLIFT ROOF PLAN

1/16" = 1'-0"

## ROOFING SYSTEM BASIS OF DESIGN

| MAIN ROOF AND UPPER ROOF | | |
|---|---|---|
| FACTORY MUTUAL (FM) GLOBAL ROOF NAV ASSEMBLY NO. 428854-0-0. (MAIN ROOF) | | |
| COMPONENT | MANUFACTURER | PRODUCT |
| EPDM MEMBRANE | CARLISLE | SURE-SEAL EPDM MEMBRANE (BLACK) |
| SEAM TAPE | CARLISLE | SURE-SEAL SECURTAPE |
| ADHESIVE | CARLISLE | LOW VOC BONDING ADHESIVE |
| LAP SEALANT | CARLISLE | SURE-SEAL LAP SEALANT |
| COVER STRIP | CARLISLE | SURE-SEAL PRESSURE SENSITIVE CURE COVER STRIP |
| RUSS STRIP | CARLISLE | SURE-SEAL PRESSURE SENSITIVE RUSS |
| PIPE SEALS | CARLISLE | SURE-SEAL PRESSURE SENSITIVE PIPE SEALS |
| FLASHING | CARLISLE | SURE-SEAL ELASTOFORM FLASHING |
| WATER CUT OFF | CARLISLE | SURE-SEAL WATER CUT OFF MASTIC |
| WALKWAY PADS | CARLISLE | SURE-SEAL PRESSURE SENSITIVE MOLDED WALKWAY PADS |
| COVER BOARD | US GYPSUM CO | SECUROCK GYPSUM-FIBER ROOF BOARD |
| FLAT POLYISO | CARLISLE | POLYISO HP-H |
| INSULATION ADHESIVE | CARLISLE | FAST 100 LV |
| FASTENER | CARLISLE | HP FASTENER AND INSULATION FASTENING PLATE |

NOTE: ONLY MAJOR COMPONENTS LISTED ABOVE. PROVIDE MANUFACTURER'S ACCESSORY PRODUCTS.




P–1 FIELD ADHESIVE PATTERN

P–2 PERIMETER ADHESIVE PATTERN

P–3 CORNER ADHESIVE PATTERN

P–4 FIELD FASTENING PATTERN 12 FASTENERS

P–5 PERIMETER FASTENING PATTERN 16 FASTENERS

P–6 CORNER FASTENING PATTERN 32 FASTENERS

## 2 TYPICAL ADHESIVE / FASTENING DETAILS

N.T.S.

0' 4' 8' 16' 32'
SCALE: 1/16"=1'

US Army Corps of Engineers ®

SEAL AND SIGNATURE
ANTHONY F. PEDRO DATE:
N.Y. LIC. NO. 093068

| MARK | DESCRIPTION | DATE |
|---|---|---|

DESIGNED BY:
USACE RFP
DRAWN BY:
CN
CHECKED BY:
EK
SUBMITTED BY:

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SOLICITATION NO.:
W912QR20R0038
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US ARMY CORPS OF ENGINEERS
LOUISVILLE DISTRICT
LOUISVILLE, KY

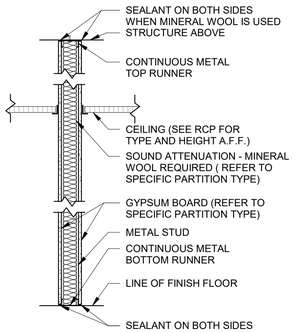
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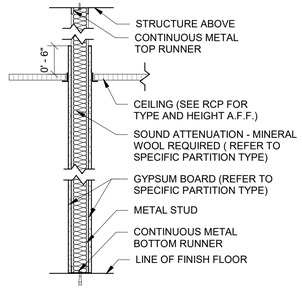
ROOFING SYSTEM BASIS OF DESIGN

SHEET ID
A-513

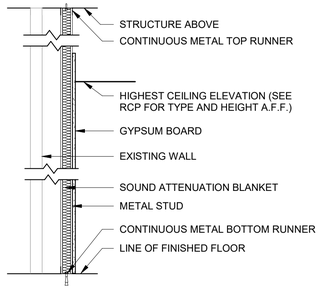
CORRECTED FINAL SUBMISSION - JULY 29, 2021



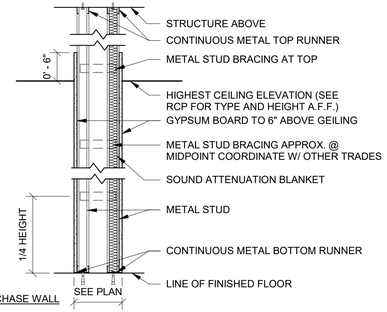

(A) LIGHT GAUGE GYPSUM BOARD TO STRUCTURE




(B) LIGHT GAUGE STUD ONLY TO STRUCTURE




(G) SINGLE SIDE WALL




(K) CHASE WALL

## 1 A - PARTITION

3/4" = 1'-0"

| A-PARTITION TYPE | |
|---|---|
| A01 | 3 5/8" METAL STUD 1 LAYER OF 5/8" GYPSUM BOARD - BOTH SIDES SOUND ATTENUATION BLANKET STC=45 |
| A02 | |
| A03 | 3 5/8" METAL STUD 1 LAYER OF 5/8" GYPSUM BOARD - ONE SIDE 2 LAYERS OF 5/8" GYPSUM BOARD - CORRIDOR SIDE |
| A04 | 3 5/8" METAL STUD 2 LAYER OF 5/8" GYPSUM BOARD - BOTH SIDES SOUND ATTENUATION BLANKET STC 45 |
| A05 | 3 5/8" METAL STUD 1 LAYER OF 5/8" GYPSUM BOARD - ONE SIDE 2 LAYERS OF 5/8" GYPSUM BOARD - CORRIDOR SIDE SOUND ATTENUATION BLANKET STC 45 |
| AF1 | 3 5/8" METAL STUD 2 LAYER OF 5/8" GYPSUM BOARD - TYPE X BOTH SIDES SOUND ATTENUATION BLANK1 HOUR FIRE RATE |
| AF2 | 3 5/8" METAL STUD 1 LAYER OF 5/8" GYPSUM BOARD - TYPE X BOTH SIDES SOUND ATTENUATION BLANKET1 HOUR FIRE RATED |
| AF3 | 5 1/2" METAL STUD 1 LAYER OF 5/8" GYPSUM BOARD - TYPE X BOTH SIDES SOUND ATTENUATION BLANK1 HOUR FIRE RATED |

## 2 B - PARTITION

3/4" = 1'-0"

| B-PARTITION TYPE | |
|---|---|
| B01 | 3 5/8" METAL STUD 1 LAYER OF 5/8" GYPSUM BOARD |

## 4 G - PARTITION

3/4" = 1'-0"

| G-PARTITION TYPE | |
|---|---|
| G01 | 2 1/2" METAL STUD - 1 LAYER OF 5/8" GYPSUM BOARD ONE SIDE |
| G02 | 1 1/2" METAL STUD - 1 LAYER OF 5/8" GYPSUM BOARD ONE SIDE |

## 3 K - PARTITION

3/4" = 1'-0"

| K-PARTITION TYPE | |
|---|---|
| K01 | 2 ROWS METAL STUD SPACED @ 16" O.C.1 LAYER OF 5/8" GYPSUM BOARD BOTH SIDES1 LAYER OF 5/8" GYPSUM BOARD - BOTH SIDES SOUND ATTENUATION BLANKET |

**GENERAL NOTES:**

WHEN CLEAN OUT IS CONCEALED BEHIND A WALL, PROVIDE ACCESS DOORS AND PANELS AS SPECIFIED IN SECTION 08 31 00

0" 6" 12" 24" 48"

SCALE: 3/4"=1'

US Army Corps of Engineers ®

SEAL AND SIGNATURE
ANTHONY F. PEDRO DATE:
N.Y. LIC. NO. 093068

| MARK | DESCRIPTION | DATE |
|---|---|---|

DESIGNED BY: Designer
DRAWN BY: Author
CHECKED BY: Checker
SUBMITTED BY:
SIZE: ANSI D

US ARMY CORPS OF ENGINEERS
LOUISVILLE DISTRICT
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PARTITION TYPES

SHEET ID

A-540

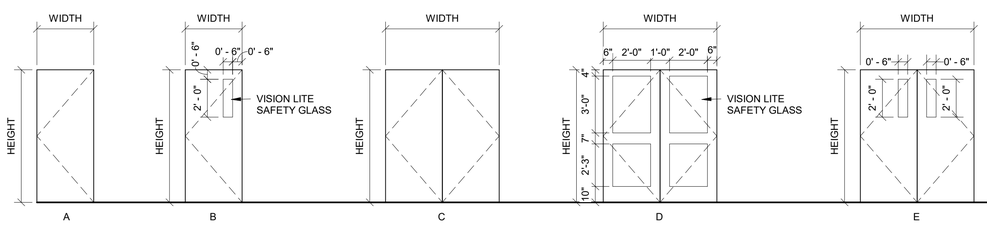
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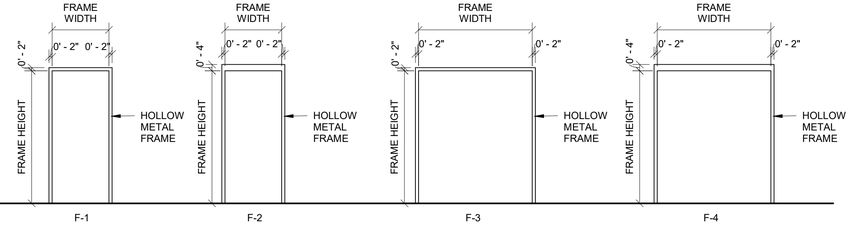
## DOOR SCHEDULE

| DOOR NUMBER | ROOM NUMBER | ROOM NAME | DOOR SIZE WIDTH | DOOR SIZE HEIGHT | DOOR SIZE THICKNESS | DOOR TYPE | DOOR MATERIAL | DOOR FINISH | FRAME TYPE | FRAME MATERIAL | FRAME FINISH | DETAIL HEAD | DETAIL JAMB | DETAIL SILL | FIRE RATING | HARDWARE SET # | CARD READER | COMMENTS | URL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1001 | 1001 | FAMILY SUPPORT | 3' - 0" | 7' - 0" | 1 3/4" | B | SCW | ST | F-1 | HM | PT | H3 | J3 | S2 | - | | NO | | |
| 1002 | 1002 | TEAM ROOM | 3' - 0" | 7' - 0" | 1 3/4" | B | SCW | ST | F-1 | HM | PT | H3 | J3 | S2 | - | | NO | | |
| 1003 | 1003 | PRIVATE OFFICE | 3' - 0" | 7' - 0" | 1 3/4" | B | SCW | ST | F-1 | HM | PT | H3 | J3 | S2 | - | | NO | | |
| 1004 | 1004 | RETENTION | 3' - 0" | 7' - 0" | 1 3/4" | B | SCW | ST | F-1 | HM | PT | H3 | J3 | S2 | - | | NO | | |
| 1005 | 1005 | BREAK ROOM | 3' - 0" | 7' - 0" | 1 3/4" | B | SCW | ST | F-1 | HM | PT | H3 | J3 | S2 | - | | NO | | |
| 1006 | 1006 | LEARNNG CENTER | 3' - 0" | 7' - 0" | 1 3/4" | B | SCW | ST | F-1 | HM | PT | H3 | J3 | S2 | - | | NO | | |
| 1007 | 1007 | TEAM ROOM W/ SIPRNET | 3' - 0" | 7' - 0" | 1 3/4" | B | SCW | ST | F-1 | HM | PT | H3 | J3 | S2 | - | | NO | | |
| 1010 | 1010 | PRIVATE OFFICE | 3' - 0" | 7' - 0" | 1 3/4" | B | SCW | ST | F-1 | HM | PT | H3 | J3 | S2 | - | | NO | | |
| 1011 | 1011 | SHARED OFFICE | 3' - 0" | 7' - 0" | 1 3/4" | B | SCW | ST | F-1 | HM | PT | H3 | J3 | S2 | - | | NO | | |
| 1012 | 1012 | PRIVATE OFFICE | 3' - 0" | 7' - 0" | 1 3/4" | B | SCW | ST | F-1 | HM | PT | H3 | J3 | S2 | - | | NO | | |
| 1013 | 1013 | PRIVATE OFFICE | 3' - 0" | 7' - 0" | 1 3/4" | B | SCW | ST | F-1 | HM | PT | H3 | J3 | S2 | - | | NO | | |
| 1014 | 1014 | SHARED OFFICE | 3' - 0" | 7' - 0" | 1 3/4" | B | SCW | ST | F-1 | HM | PT | H3 | J3 | S2 | - | | NO | | |
| 1015 | 1015 | PRIVATE OFFICE | 3' - 0" | 7' - 0" | 1 3/4" | B | SCW | ST | F-1 | HM | PT | H3 | J3 | S2 | - | | NO | | |
| 1016 | 1016 | PRIVATE OFFICE | 3' - 0" | 7' - 0" | 1 3/4" | B | SCW | ST | F-1 | HM | PT | H3 | J3 | S2 | - | | NO | | |
| 1017A | 1017 | CLASSROOM | 3' - 0" | 7' - 0" | 1 3/4" | B | SCW | ST | EXIST. | EXIST. | PT | H3 | J2 | S2 | - | | NO | KEEP EXISTING FRAME | |
| 1017B | 1017 | CLASSROOM | 3' - 0" | 7' - 0" | 1 3/4" | B | SCW | ST | EXIST. | EXIST. | PT | H3 | J2 | S2 | - | | NO | KEEP EXISTING FRAME | |
| 1018A | 1018 | CLASSROOM | 3' - 0" | 7' - 0" | 1 3/4" | B | SCW | ST | EXIST. | EXIST. | PT | H3 | J2 | S2 | - | | NO | KEEP EXISTING FRAME | |
| 1018B | 1018 | CLASSROOM | 3' - 0" | 7' - 0" | 1 3/4" | B | SCW | ST | EXIST. | EXIST. | PT | H3 | J2 | S2 | - | | NO | KEEP EXISTING FRAME | |
| 1018C | | | 3' - 6" | 7' - 0" | 1 3/4" | E | | | | | | | | | | | | | |
| 1018E | | | 6' - 0" | 7' - 0" | 2" | 3 | | | | | | | | | | | | | |
| 1019 | 1019 | ASSEMBLY | 6' - 0" | 7' - 0" | 1 3/4" | E | SCW | ST | F-3 | HM | PT | H3 | J3 | S2 | 45 MIN | | NO | | |
| 1019A | 1019 | ASSEMBLY | 6' - 0" | 7' - 0" | 1 3/4" | C | HM | ST | F-4 | HM | PT | H2 | J2 | S1 | - | | YES | EXISTING CAC TO REMAIN | |
| 1020 | 1020 | CHAIR STORAGE | 6' - 0" | 7' - 0" | 1 3/4" | C | SCW | ST | F-3 | HM | PT | H3 | J3 | S2 | - | | NO | PROVIDE 1/2" UNDERCUT | |
| 1021 | 1021 | OFFICE | 3' - 0" | 7' - 0" | 1 3/4" | B | SCW | ST | F-1 | HM | PT | H3 | J3 | S2 | 45 MIN | | NO | | |
| 1023 | 1023 | KITCHEN | 3' - 0" | 7' - 0" | 1 3/4" | A | SCW | ST | F-1 | HM | PT | H3 | J3 | S2 | 45 MIN | | NO | | |
| 1024 | 1024 | SCULLERY | 3' - 0" | 7' - 0" | 1 3/4" | A | SCW | ST | F-1 | HM | PT | H3 | J3 | S2 | 45 MIN | | NO | | |
| 1024A | 1024 | SCULLERY | 3' - 0" | 7' - 0" | 1 3/4" | A | SCW | ST | F-2 | HM | PT | H1 | J2 | S1 | - | | NO | | |
| 1025 | 1025 | SECURE STORAGE | 3' - 0" | 7' - 0" | 1 3/4" | A | SCW | ST | F-1 | HM | PT | H3 | J3 | S2 | 45 MIN | | NO | | |
| 1026 | 1026 | LACTATION ROOM | 3' - 0" | 7' - 0" | 1 3/4" | A | SCW | ST | F-1 | HM | PT | H3 | J3 | S2 | | | NO | | |
| 1026A | 1026 | LACTATION ROOM | 3' - 0" | 7' - 0" | 1 3/4" | A | SCW | ST | F-1 | HM | PT | H3 | J3 | S2 | - | | NO | | |
| 1027 | 1027 | PRIVATE OFFICE | 3' - 0" | 7' - 0" | 1 3/4" | B | SCW | ST | F-1 | HM | PT | H3 | J3 | S2 | - | | NO | PROVIDE 3/4" UNDERCUT | |
| 1028 | 1028 | PRIVATE OFFICE | 3' - 0" | 7' - 0" | 1 3/4" | B | SCW | ST | F-1 | HM | PT | H3 | J3 | S2 | - | | NO | | |
| 1029 | 1029 | ARMORER | 4' - 0" | 7' - 0" | 1 3/4" | H | HM | PT | F-1 | HM | PT | H3 | J3 | S2 | - | | NO | | |
| 1030 | 1030 | ARMS VAULT | 4' - 0" | 7' - 0" | 1 3/4" | BY MFG. | STEEL | RVT | BY MFG. | STEEL | PT | H4 | J4 | S4 | | | NO | | |
| 1031 | 1031 | PHYSICAL READINESS | 3' - 0" | 7' - 0" | 1 3/4" | B | SCW | ST | F-1 | HM | PT | H3 | J3 | S2 | - | | NO | | |
| 1031A | 1031 | PHYSICAL READINESS | 3' - 0" | 7' - 0" | 1 3/4" | B | SCW | ST | F-1 | HM | PT | H3 | J3 | S2 | - | | NO | | |
| 1031B | 1031 | PHYSICAL READINESS | 3' - 0" | 7' - 0" | 1 3/4" | A | SCW | ST | F-1 | HM | PT | H3 | J3 | S2 | - | | NO | | |
| 1031C | 1031 | PHYSICAL READINESS | 3' - 0" | 7' - 0" | 1 3/4" | A | SCW | ST | F-1 | HM | PT | H3 | J3 | S2 | - | | NO | | |
| 1032 | 1032 | UNIT STORAGE | 3' - 0" | 7' - 0" | 1 3/4" | A | HM | PT | F-1 | HM | PT | H3 | J3 | S2 | 45 MIN | | NO | | |
| 1032A | 1032 | UNIT STORAGE | 6' - 0" | 7' - 0" | 1 3/4" | C | HM | PT | F-3 | HM | PT | H3 | J3 | S2 | 45 MIN | | NO | | |
| 1032B | 1032 | UNIT STORAGE | 6' - 0" | 7' - 0" | 1 3/4" | C | HM | PT | F-4 | HM | PT | H2 | J2 | S1 | - | | YES | | |
| 1033 | 1033 | PRIVATE OFFICE | 3' - 0" | 7' - 0" | 1 3/4" | B | SCW | ST | F-1 | HM | PT | H3 | J3 | S2 | - | | NO | | |
| 1034 | 1034 | STORAGE | 3' - 0" | 7' - 0" | 1 3/4" | A | HM | PT | F-1 | HM | PT | H3 | J1 | S1 | - | | NO | | |
| 1037A | 1037 | UNIT STORAGE | 3' - 0" | 7' - 0" | 1 3/4" | A | HM | PT | F-2 | HM | PT | H2 | J2 | S1 | - | | YES | EXISTING CAC TO REMAIN | |
| 1037B | 1037 | UNIT STORAGE | 6' - 0" | 7' - 0" | 1 3/4" | C | HM | PT | F-4 | HM | PT | H2 | J2 | S1 | | | NO | | |
| C1003A | C1003 | CORRIDOR | 6' - 0" | 7' - 0" | 1 3/4" | C | HM | PT | F-3 | HM | PT | H1 | J1 | S1 | - | | YES | RELOCATE EXIST. CAC LOCATED IN EXIST. VAULT CORRIDOR EXIT | |
| C1003B | C1003 | CORRIDOR | 3' - 0" | 7' - 0" | 1 3/4" | A | SCW | ST | F-1 | HM | PT | H3 | J3 | S2 | - | | NO | | |
| C1003C | C1003 | CORRIDOR | 3' - 0" | 7' - 0" | 1 3/4" | A | SCW | ST | F-1 | HM | PT | H3 | J3 | S2 | - | | NO | | |
| G1001 | G1001 | EF | 3' - 0" | 7' - 0" | 1 3/4" | A | HM | PT | F-1 | HM | PT | H1 | J1 | S1 | - | | NO | | |
| G1002 | G1002 | TER | 3' - 0" | 7' - 0" | 1 3/4" | A | HM | PT | F-1 | HM | PT | H3 | J3 | S2 | - | | NO | | |
| G1003 | G1003 | MEN'S TOILET | 3' - 0" | 7' - 0" | 1 3/4" | A | SCW | ST | F-1 | HM | PT | H3 | J3 | S3 | - | | NO | PROVIDE 3/4" UNDERCUT | |
| G1004 | G1004 | JANITOR | 3' - 0" | 7' - 0" | 1 3/4" | A | HM | PT | F-1 | HM | PT | H3 | J3 | S3 | - | | NO | PROVIDE 3/4" UNDERCUT | |
| G1005 | G1005 | WOMEN TOILET | 3' - 0" | 7' - 0" | 1 3/4" | A | SCW | ST | F-1 | HM | PT | H3 | J3 | S3 | - | | NO | PROVIDE 3/4" UNDERCUT | |
| G1006 | G1006 | TR | 3' - 0" | 7' - 0" | 1 3/4" | A | HM | PT | F-1 | HM | PT | H3 | J3 | S2 | - | | NO | | |
| G1007A | G1007 | MEN SHOWER / LOCKER | 3' - 0" | 7' - 0" | 1 3/4" | A | SCW | ST | F-1 | HM | PT | H3 | J3 | S3 | - | | NO | PROVIDE 3/4" UNDERCUT | |
| G1007B | G1007 | MEN SHOWER / LOCKER | 3' - 0" | 7' - 0" | 1 3/4" | A | SCW | ST | F-1 | HM | PT | H3 | J3 | S3 | - | | NO | PROVIDE 3/4" UNDERCUT | |
| G1008B | G1008 | WOMEN SHOWER / LOCKER | 3' - 0" | 7' - 0" | 1 3/4" | A | SCW | ST | F-1 | HM | PT | H3 | J3 | S3 | - | | NO | PROVIDE 3/4" UNDERCUT | |
| G1009 | G1009 | ELECTRICAL | 3' - 0" | 7' - 0" | 1 3/4" | A | HM | PT | F-2 | HM | PT | H2 | J2 | S1 | - | | NO | | |
| G1010 | G1010 | MECHANICAL | 6' - 0" | 7' - 0" | 1 3/4" | C | HM | PT | F-4 | HM | PT | H2 | J2 | S1 | - | | NO | | |
| G1011A | G1011 | SPRINKLER CLOSET | 4' - 6" | 7' - 0" | 1 3/4" | C | HM | PT | F-3 | HM | PT | H3 | J3 | S3 | - | | NO | | |
| V1001A | V1001 | VESTIBULE | 6' - 0" | 7' - 0" | 1 3/4" | D | AL/GL | F | F-3 | AL | PT | H1 | J1 | S1 | - | | YES | REUSE EXISTING CAC LOCATED @ EXISTING ENTRY | |
| NOTE: EXISTING FRAMES TO BE MAINTAINED IN LIGHT TO MEDIUM RENOVATIONS | | | 6' - 0" | 7' - 0" | 1 3/4" | D | AL/GL | F | F-3 | AL | PT | H3 | J3 | S1 | - | | NO | | |

## DOOR PANEL TYPES:




## FRAME TYPES:




## 1 DOOR TYPES AND FRAMES

1/4" = 1'-0"

### GENERAL DOOR NOTES

1. FOR DOORS AND HARDWARE SEE SPECIFICATION SECTION 087100
2. ALL FIRE-RATED DOORS SHALL HAVE FIRE-RATED FRAMES, HARDWARE, CLOSURES AND OTHER RATED ACCESSORIES.
3. ALL DOORS AND CASED OPENINGS SHALL PROVIDE A MINIMUM CLEAR OPENING OF 32".
4. DOOR VENDOR/MFR TO VERIFY ALL DOOR SIZES, ROUGH OPENING, ETC. PRIOR TO ORDERING. THE ARCHITECT IS TO BE NOTIFIED OF ANY DESIGN CONFLICTS.
5. SEE MATERIALS AND FINISHES LEGEND FOR ADDITIONAL FINISH ABBREVIATIONS AND SPECIFICATIONS.

### DOOR ABBREVIATIONS

| | |
|---|---|
| AL | ALUMINUM |
| GL | GLASS / GLAZING |
| HM | HOLLOW METAL |
| MTL | METAL |
| PT | PAINT |
| ST | WOOD STAIN |
| SCW | SOLID CORE WOOD DOOR |
| F | FACTORY FINISH |
| EXIST. | EXISTING |

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SEAL AND SIGNATURE
ANTHONY F. PEDRO DATE:
N.Y. LIC. NO. 093068

| MARK | DESCRIPTION | DATE |
|---|---|---|

DESIGNED BY: USACE RFP
DRAWN BY: CN
CHECKED BY: RFP
ISSUE DATE: 07/29/21
SOLICITATION NO.: W912QR20R0038
CONTRACT NO.: W912QR20C0038
SUBMITTED BY:
SIZE: ANSI D

US ARMY CORPS OF ENGINEERS
LOUISVILLE DISTRICT
LOUISVILLE, KY

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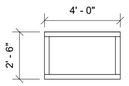
DOOR SCHEDULE, NOTES AND DOOR TYPES

SHEET ID
A-601

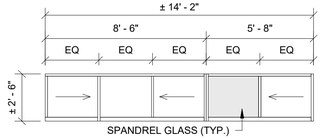
CORRECTED FINAL SUBMISSION - JULY 29, 2021

| WINDOW SCHEDULE | | | | |
|---|---|---|---|---|
| WINDOW TYPE | HEIGHT | WIDTH | COMMENTS | WINDOW TREATMENT |
| W1 | 2' - 6" | 4' - 0" | | WB |
| W2 | 2' - 6" | 14' - 2" | TO MATCH EXISTING OPENING | WB |
| W3 | 2' - 6" | 19' - 10" | TO MATCH EXISTING OPENING | WB |
| W4 | 2' - 6" | 119' - 1" | TO MATCH EXISTING OPENING | WB |
| W5 | 4' - 0" | 4' - 0" | | WB |

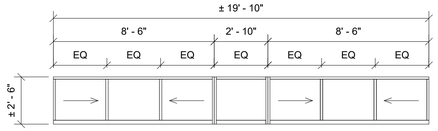
NOTE: REFER TO MATERIALS AND FINISHES LEGEND ON DWG IN102 FOR WINDOW BLINDS (WB)



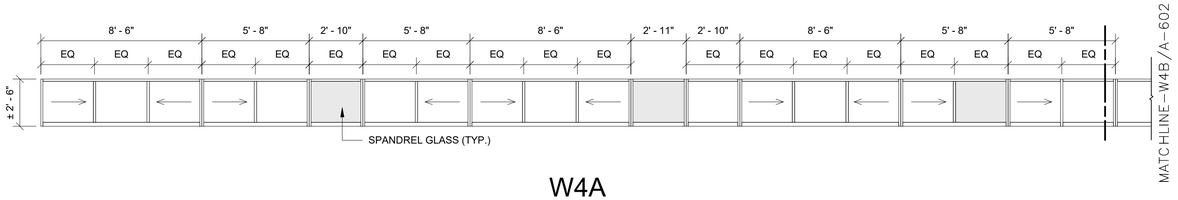

W1



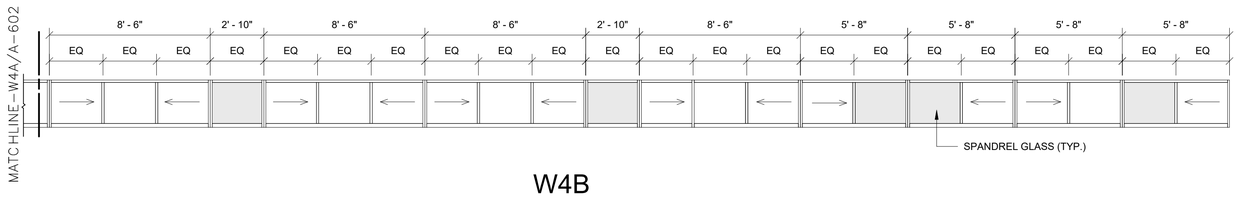

W2



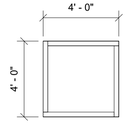

W3



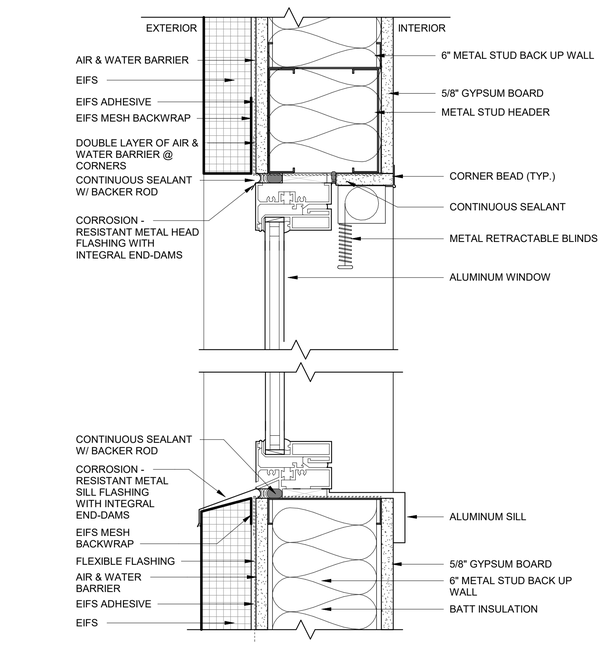

W4A



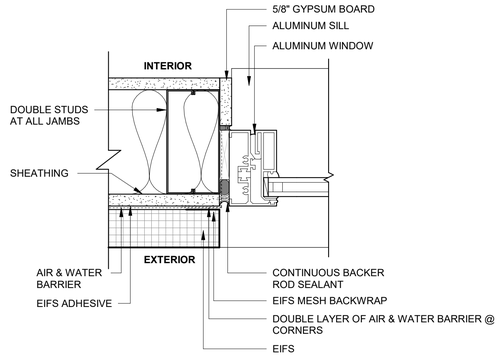

W4B



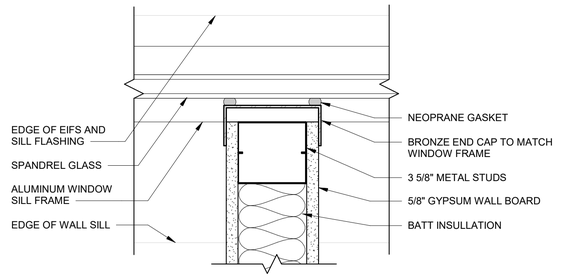

W5




3 SECTION AT WINDOW
3" = 1'-0"




6 DOOR JAMB DETAILS
3" = 1'-0"




7 WINDOW - WALL PLAN DETAIL
3" = 1'-0"

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SEAL AND SIGNATURE
ANTHONY F. PEDRO DATE:
N.Y. LIC. NO. 093068

| MARK | DESCRIPTION | DATE |
|---|---|---|
| | | |

DESIGNED BY: USACE RFP
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CHECKED BY: FP
ISSUE DATE:
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SIZE: ANSI D

US ARMY CORPS OF ENGINEERS
LOUISVILLE DISTRICT
LOUISVILLE, KY

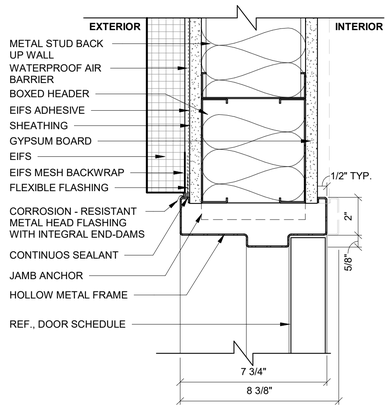
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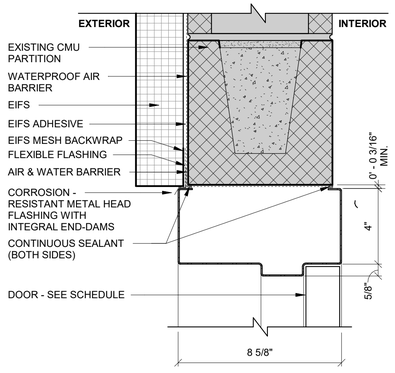
WINDOWS ELEVATIONS AND DETAILS

SHEET ID
A-602

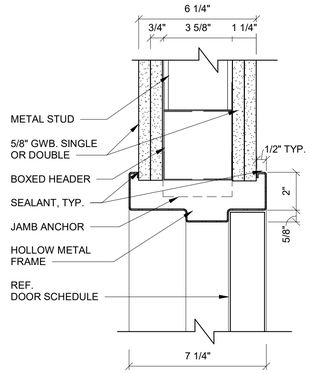
CORRECTED FINAL SUBMISSION - JULY 29, 2021



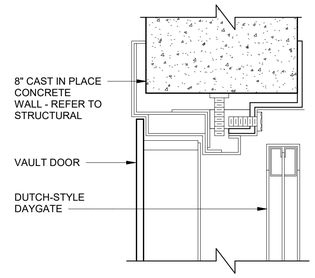

H1




H2



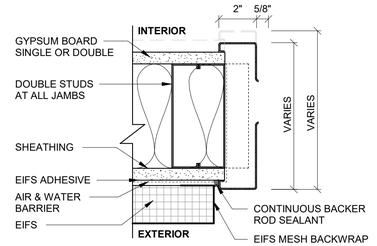

H3



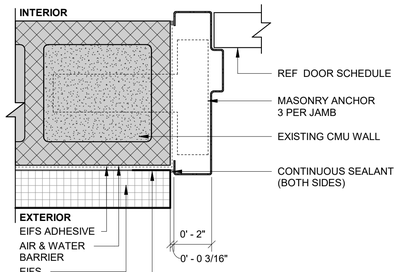

H4

## 1 DOOR HEAD DETAILS

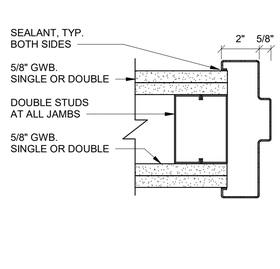
3" = 1'-0"



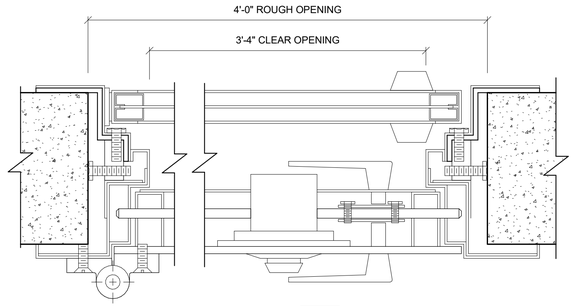

J1




J2



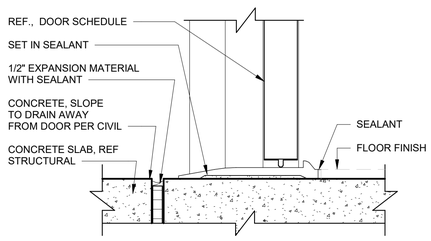

J3



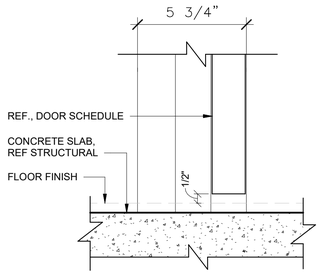

J4

## 2 DOOR JAMB DETAILS

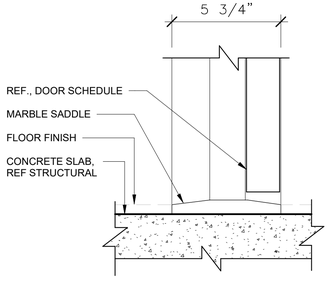
3" = 1'-0"



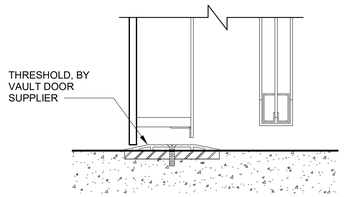

S1




S2



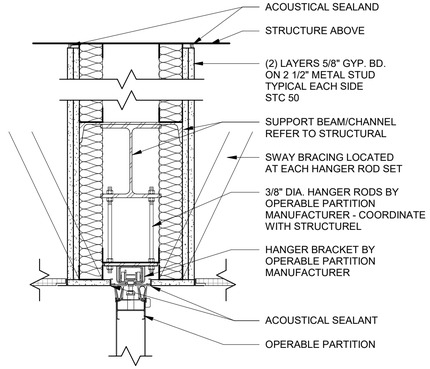

S3




S4

## 3 DOOR THRESHOLD DETAILS

3" = 1'-0"




## 4 OPERABLE PARTITION DETAIL

1 1/2" = 1'-0"

0" 3" 6" 12" 24"
SCALE: 1 1/2"=1'

0" 1 1/2" 3" 6" 12"
SCALE: 3"=1'

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SEAL AND SIGNATURE
ANTHONY F. PEDRO DATE:
N.Y. LIC. NO. 093068

| MARK | DESCRIPTION | DATE |
|---|---|---|

DESIGNED BY: USACE RFP
DRAWN BY: CN
CHECKED BY: PE
SUBMITTED BY:
ISSUE DATE:
SOLICITATION NO.: W912QR20R0038
CONTRACT NO.: W912QR20C0038
SIZE: ANSI D

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LOUISVILLE, KY


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UNITED STATES ARMY RESERVE CENTER
ORANGEBURG, NEW YORK

DOOR DETAILS

SHEET ID

A-603

CORRECTED FINAL SUBMISSION - JULY 29, 2021

## PLUMBING FIXTURE AND ACCESSORY SCHEDULE

| MARK | DESCRIPTION | MANUFACTURER | MODEL | MATERIAL | FINISH / COLOR |
|---|---|---|---|---|---|
| EWC | WATER COOLER | ELKAY | LZSG8WSSK | STAINLESS STEEL | |
| GB1 | 18" VERTICAL GRAB BAR | BOBRICK | B-6806 | STAINLESS STEEL | |
| GB2 | 36" HORIZONTAL GRAB BAR | BOBRICK | B-6806 | STAINLESS STEEL | |
| GB3 | 42" HORIZONTAL GRAB BAR | BOBRICK | B-6806 | STAINLESS STEEL | |
| GB4 | 18" HORIZONTAL GRAB BAR | BOBRICK | B-6806 | STAINLESS STEEL | |
| LAM-1 | PLASTIC LAMINATE VANITY | | | REFER TO MATERIALS & FINISH SCHEDULE ON IN002 | |
| LAM-2 | PLASTIC LAMINATE CASEWORK | | | REFER TO MATERIALS & FINISH SCHEDULE ON IN002 | |
| LAV | SINK AND FAUCET | AMERICAN STANDARD | 0883.000 | | |
| LAV-2 | SINK AND FAUCET | ELKAY | ELUHAD121225PD | | |
| LKR-1 | SINGLE TIER LOCKER- 72IN HT. | ART METAL PRODUCTS | Sentry Team Locker | | |
| LKR-2 | DOUBLE TIER LOCKER- 72IN HT. | ART METAL PRODUCTS | Sentry Team Locker | | |
| MG | 18" X 36" MIRROR GLASS | BRADLEY | 781-1836 | | |
| SH | SHOWER | AMERICAN STANDARD | TU662.211 | | |
| SN | SANITARY NAPKIN DISPOSAL | BOBRICK | B-270 | STAINLESS STEEL | |
| SO | RECESSED SOAP DISH | | | | |
| SSM-1 | SOLID SURFACE VANITY COUNTERTOP W/ INTEGRAL SOLID SURFACE SINK BASIN | CORIAN | | REFER TO MATERIALS & FINISH SCHEDULE ON IN002 | |
| SSM-2 | SOLID SURFACE VANITY COUNTERTOP W/ INTEGRAL SOLID SURFACE SINK BASIN | | | REFER TO MATERIALS & FINISH SCHEDULE ON IN002 | |
| TP | TOILET PARTITION | SCRANTON HINY HIDERS | | HDPL | NICKEL |
| TTD | TOILET TISSUE DISPENSER | BOBRICK | B-2888 | STAINLESS STEEL | |
| UR | WALL MOUNTED URINAL | AMERICAN STANDARD | 6590.501 | | WHITE |
| US | URINAL SCREEN | SCRANTON HINY HIDERS | | HDPL | NICKEL |
| WC | WATER CLOSET | AMERICAN STANDARD | | | |

## ACCESSORY SCHEDULE_

| MARK | DESCRIPTION | MANUFACTURER | MODEL | MATERIAL | FINISH / COLOR |
|---|---|---|---|---|---|
| CR | 4.25" L x 36" W WALL MOUNTED (6) HOOK PANEL COAT RACK | MAGNUSON GROUP | 6K-41ST | STAINLESS STEEL | |
| FBB | 14 FT. FLOOR MOUNTED WOOD BALLET BARRE. MOUNTED 8" AFF | | | | |
| MB | 96" X 48" WALL MOUNTED WHITE MARKERBOARD | Egan Visual | MDMW2436 | | |
| MB2 | 96" X 48" WALL MOUNTED WHITE MARKERBOARD | Egan Visual | MDMW2436 | | |
| TB | 48" x 37" WALL MOUNTED TACKBOARD | Egan Visual | MDTW2436BOCS | | |
| TGM | 36" X 72" TEMPERED GLASS WALL MIRROR | BOBRICK | B-165-1836 | | |
| TV | GOVERNMENT FURNISHED GOVERNMENT INSTALLED | | | | |

## APPLIANCE SCHEDULE

| MARK | DESCRIPTION | MANUFACTURER | MODEL | MATERIAL | FINISH/COLOR | COUNT |
|---|---|---|---|---|---|---|
| MICRO | MICROWAVE OVEN | GENERAL ELECTRIC | PEB9159DJWW | | WHITE | 1 |
| RFRG | SIDE BY SIDE REFRIGERATOR WITH ICE AND WATER DISPENSER | GENERAL ELECTRIC | GSE23GSKSS | | WHITE | 1 |
| URFRG | UNDERCOUNTER REFRIGERATOR | GENERAL ELECTRIC | GME04GGKWW | | WHITE | 1 |

US Army Corps of Engineers ®

SEAL AND SIGNATURE
ANTHONY F. PEDRO DATE:
N.Y. LIC. NO. 093068

| MARK | DESCRIPTION | DATE |
|---|---|---|

DESIGNED BY: USACE RFP
DRAWN BY: CN
CHECKED BY: FP
SUBMITTED BY:
SIZE: ANSI D

ISSUE DATE:
SOLICITATION NO.: W912QR20R0038
CONTRACT NO.: W912QR20C0038

US ARMY CORPS OF ENGINEERS
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UNITED STATES ARMY RESERVE CENTER
ORANGEBURG, NEW YORK

SCHEDULES

SHEET ID

A-604

CORRECTED FINAL SUBMISSION - JULY 29, 2021

SEATING

CH1 — ENJOY ONE- SEAT LOUNGE CHAIR

CH2 — WORLD TASK CHAIR W/ ADJUSTABLE ARMS

CH3 — HARMONY DURABLE 650 SERIES RECLINER

CH4 — WORLD OCCASIONAL GUEST CHAIR

CH5 — COLLAGE GUEST CHAIR W/ UPHOLSTERED TOP

CH6A / CH6B — RIO STACKING PLASTIC CHAIR (GREEN)/ RIO STACKING PLASTIC CHAIR (TAN)

CH7 — WORLD TASK CHAIR (STOOL) - HIGH 8" W/18" FOOT RING

CH8 — WOOD STOOL

TABLES

TF42 — FOOTPRINT TEAR DROP SHAPED TABLE 37-3/8"D x 37-3/8"W x 29-1/8"H

TR42 — BARRON FIXED LEG ROUND TABLE 42" DIA.

TS36 — BARRON FIXED LEG SQUARE TABLE 36"W x 36"D x 29"H

OT — ARPEGGIO WOOD END TABLE 20"W x 20"D x 20"H

T26A — TREK FIXED LEG 1 1/4" TOP TABLE 24"D x 60"W

T26B — TREK FIXED LEG 1 1/4" TOP TABLE 18"D x 48"W

TF26 — BARRON FOLDING LEG RECTANGULAR TABLE 30"W x 72"D x 29"H

TA10 — UNIFRAME FOLD UP MOBILE CAFETERIA TABLE WITHOUT ATTACHED SEATING 120" W x 30" D x 29" H

LC — (5) IN TANDEM RECTANGULAR TABLE W/ 23"H PRIVACY SCREEN AND 7 OUTLET ADVANCED POWERSTRIP

LC — (4) IN TANDEM RECTANGULAR TABLE W/ 23"H PRIVACY SCREEN AND 7 OUTLET ADVANCED POWERSTRIP

NOTE: DO NOT INSTALL ELECTRICAL OR TELECOM RECEPTACLES AT ENDS OR DIVIDERS OF LC TABLES. CENTER RECEPTACLES AT CENTER OF LC TABLES.

STORAGE

NOTE: DO NOT INSTALL ELECTRICAL OR TELECOM RECEPTACLES BEHIND STORAGE UNITS.

LF23 — OPUS 2-HIGH METAL LATERAL FILE 36"W x 18"D x 27"H

SC5 — OPUS 5-HIGH STORAGE CABINET W/ DOUBLE DOORS 36"W x 18"D x 65"H

SC23 — OPUS 2-HIGH METAL LATERAL FILE 36"W x 18"D x 27"H

FF4 — FUNDAMENTAL 4-HIGH LATERAL FILE 36"W x 18"D x 51"H

BF4 — FOOTPRINT WOOD BOOKCASE 36"W x 13"D x 54"H

WC5 — INTEGRATE WARDROBE CABINET 18"W x 24"D x 65 1/2"H

DC — FREESTANDING TROPHY DISPLAY CASE W/ LED TOP LIGHTS 8'W x 4'H x 12"D

MISCELLANEOUS

W1 — WASTEBASKET - MEDIUM (7GAL) 14-3/8" W x 10-1/4" D x 15" H

W3 — WASTE RECEPTACLE (23GAL) 20" W x 11" D x 30" H

R1 — DESKSIDE RECYCLING - MEDIUM (7GAL) 14-3/8" W x 10-1/4" D x 15" H

R3 — RECYCLING WASTE RECEPTACLE (23GAL) 20" W x 11" D x 30" H

LR1 — INTEGRATE FREESTANDING LITERATURE RACK 17"W x 17"D x 52-1/2"H

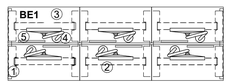
CD1 — CHAIR TRUCK FOR RIO SERIES - RIO-CART (STACKING CART OPTION)

LE2 — INTEGRATE MOBILE FULL HEIGHT LECTERN - POWERED W/ DOORS AND CASTERS 24"W x 16"D x 48"H

CT1 — MEGA RAK MOBILE COAT RACK

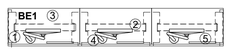
# 1 FURNITURE TYPICALS

1/4" = 1'-0"



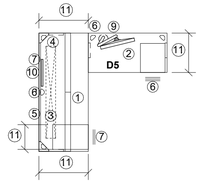

**CONNECTION ZONE DOUBLE-SIDED WORKSTATIONS**

1. 48" - 72" DUAL-SIDED ADDER TELESCOPING BEAM FRAME
2. 48" - 72" DUAL-SIDED STANDALONE / STARTER TELESCOPING BEAM FRAME
3. 24" x 48" RECT. SURFACE DUAL NON-POWERED
4. SINGLE MONITOR ARM/ BOLT THRU MOUNT
5. 7 OUTLET ADVANCED POWERSTRIP



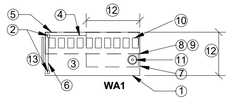

**CONNECTION ZONE SINGLE-SIDED WORKSTATIONS**

1. 24" SINGLE-SIDED ADDER TELESCOPING BEAM FRAME
2. 48" - 72" SINGLE-SIDED STANDALONE / STARTER TELESCOPING BEAM FRAME
3. 24" x 48" RECT. SURFACE DUAL NON-POWERED
4. SINGLE MONITOR ARM/ BOLT THRU MOUNT
5. 7 OUTLET ADVANCED POWERSTRIP



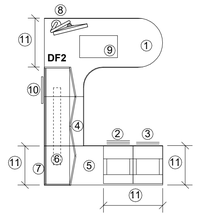

**BRAVO SYSTEMS FURNITURE**

1. 30" x 72" RECTANGULAR DESK
2. 24" x 48" RECTANGULAR RETURN WITH LEFT OR RIGHT END PANELS PER FURNITURE PLAN
3. 72"L OVERHEAD
4. 44"L TASKLIGHT
5. 72"L UPHOLSTERED PRIVACY SCREEN TACKBOARD
6. 20"D BOX/BOX/FILE WORKSURFACE SUPPORTING PEDESTAL
7. 24"D FILE/FILE WORKSURFACE SUPPORTING PEDESTAL
8. 72"L MODESTY PANEL REQUIRED ROOMSIDE
9. SINGLE MONITOR ARM/ BOLT THRU MOUNT
10. 7 OUTLET ADVANCED POWERSTRIP
11. DO NOT INSTALL ELECTRICAL OR TELECOM RECEPTACLES HERE.



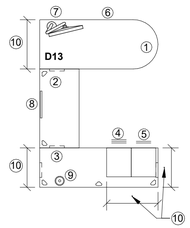

**STANDARD INDUSTRIAL WORKBENCH WITH DRAWERS AND RISER CONCEPT 2**

1. 22"W x 33-1/4" H SLENDER WIDE BENCH HEIGHT CABINET WITH STANDARD LOCK AND MULTIPLE DRAWER ACCESS (4 DRAWERS)
2. BENCH HEIGHT OPEN PANEL LEG
3. 60"W x 30"D HARDWOOD WORK SURFACE
4. ADJUSTABLE FOOTREST
5. 60"W BACKSTOP KIT
6. LEFT SIDE STOP
7. RIGHT SIDE STOP
8. 60"W x 14"D x 18"H METAL SHELF RISER
9. 60"W PICK RACK
10. 4-1/8"W x 7-3/8"D x 3"H PLASTIC BINS SET (QTY. 10)
11. LED DESK LAMP (TL1)
12. DO NOT INSTALL ELECTRICAL OR TELECOM RECEPTACLES HERE.
13. 7 OUTLET ADVANCED POWERSTRIP




**FOOTPRINT SYSTEMS FURNITURE**

1. 48" x 72" EXTENDED U-TOP RADIUS VENEERED DESK W/ MODESTY PANEL
2. 18" x 23"D SQUARE PROFILE VENEERED PEDESTAL BOX/BOX/FILE WITH ARC PULLS
3. 18" x 23"D SQUARE PROFILE VENEERED PEDESTAL FILE/FILE WITH ARC PULLS
4. 24" x 30" VENEERED RETURN
5. 24" x 72" VENEERED CREDENZA
6. 16" x 72" VENEERED HIGH BACK FLAT PROFILE ORGANIZER WITH LAMINATE HINGED DOORS AND TASK LIGHT
7. 72" L UPHOLSTERED HIGHBACK TACKBOARD
8. SINGLE MONITOR ARM/ BOLT THRU MOUNT (MA1)
9. 14" x 24" MCDONALD DESK PAD (DP1)
10. 7 OUTLET ADVANCED POWERSTRIP
11. DO NOT INSTALL ELECTRICAL OR TELECOM RECEPTACLES HERE.




**BRAVO SYSTEMS FURNITURE**

1. 30" x 72" RECTANGULAR DESK
2. 24" x 48" RECTANGULAR BRIDGE
3. 24" x 72" RECTANGULAR CREDENZA (LEFT OR RIGHT PER FURNITURE PLAN)
4. 20" D BOX/BOX/FILE WORKSURFACE SUPPORTING PEDESTAL
5. 20" D FILE/FILE WORKSURFACE SUPPORTING PEDESTAL
6. 72" L UPHOLSTERED MODESTY PANEL SCREEN (ROOMSIDE)
7. SINGLE MONITOR ARM/ BOLT THRU MOUNT (MA1)
8. 7 OUTLET ADVANCED POWERSTRIP (SP1)
9. LED DESK LAMP (TL1)
10. DO NOT INSTALL ELECTRICAL OR TELECOM RECEPTACLES HERE.

# 2 WORKSTATION AND BENCHING TYPICALS

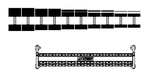
1/4" = 1'-0"



AT1 - ADAPTIVE MOTION TRAINER



DB1 - 5-50 LBS DUMBBELL SET



DB2 - 55-100 LBS DUMBBELL SET

DR1 - TWIN TIER DUMBBELL RACK



DS1 - SECA DIGITAL COLUMN SCALE AND POWER CORD



EC1 - ELLIPTICAL CROSS TRAINER



FB1 - FLAT BENCH



FM1 - FITNESS MAT



IB1 - ADJUSTABLE INCLINE BENCH



MS1 - 45 DEGREE BACK EXTENSION



MS2 - VR1 LEG PRESS



MS3 - VR1 DUAL MULTI - PRESS



MS4 - VR1 LAT PULL



MS5 - BENT LEG AB BOARD



MS6 - LEG RAISE/DIP



MS7 - VR1 ROW



PC1 - POWER CAGE WITH WEIGHT SET



RC1 - RECUMBENT BIKE



TR1 - TREADMILL

# 3 FURNITURE LEGEND

1/4" = 1'-0"

US Army Corps of Engineers ®

SEAL AND SIGNATURE
ANTHONY F. PEDRO — DATE:
N.Y. LIC. NO. 093068

| MARK | DESCRIPTION | DATE |
|---|---|---|

ISSUE DATE:
SOLICITATION NO.: W912QR20R0038
CONTRACT NO.: W912QR20C0038

DESIGNED BY: Designer
DRAWN BY: Author
CHECKED BY: Checker
SUBMITTED BY:
SIZE: ANSI D

US ARMY CORPS OF ENGINEERS
LOUISVILLE DISTRICT
LOUISVILLE, KY


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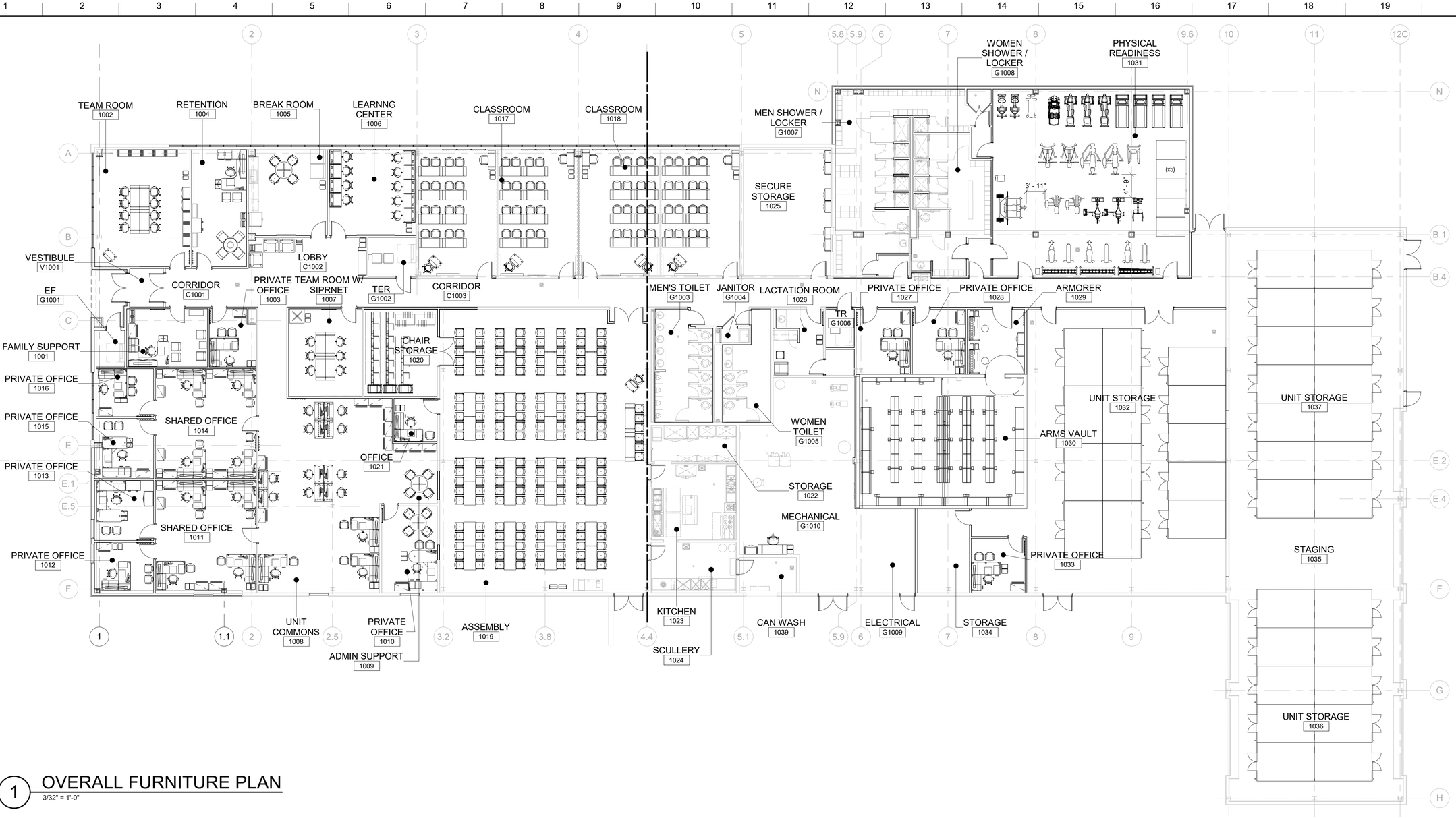

UNITED STATES ARMY RESERVE CENTER
ORANGEBURG, NEW YORK

FURNITURE LEGEND

SHEET ID

IF001

CORRECTED FINAL SUBMISSION - JULY 29, 2021




## 1 OVERALL FURNITURE PLAN

3/32" = 1'-0"

FURNITURE GENERAL NOTES:

1. REFER TO FURNITURE SPECIFICATIONS FOR MORE INFORMATION.
2. REFER TO ACCESSORIES SCHEDULE ON A-604 FOR MARKER BOARDS, TACK BOARDS, AND TVS.

US Army Corps of Engineers ®

SEAL AND SIGNATURE
ANTHONY F. PEDRO DATE:
N.Y. LIC. NO. 093068

| MARK | DESCRIPTION | DATE |
|---|---|---|

ISSUE DATE:
SOLICITATION NO.: W912QR20R0038
CONTRACT NO.: W912QR20C0038
DESIGNED BY: USACE RFP
DRAWN BY: JG
CHECKED BY:
SUBMITTED BY:
SIZE: ANSI D

US ARMY CORPS OF ENGINEERS
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LOUISVILLE, KY

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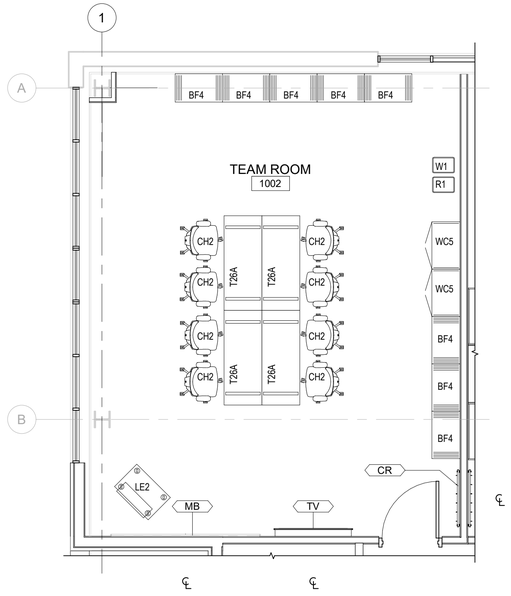
UNITED STATES ARMY RESERVE CENTER
ORANGEBURG, NEW YORK

ENLARGED FURNITURE PLANS

SHEET ID

IF101

CORRECTED FINAL SUBMISSION - JULY 29, 2021



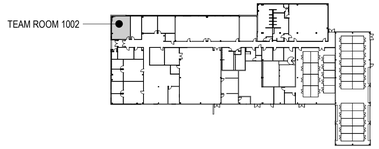

| FURNITURE SCHEDULE- TEAM ROOM 1002 | |
|---|---|
| TAG | DESCRIPTION |
| CH2 | WORLD TASK CHAIR W/ ADJUSTABLE ARMS |
| BF4 | FOOTPRINT WOOD BOOKCASE 36"W x 13"D x 54"H |
| WC5 | INTEGRATE WARDROBE CABINET<br>18"W x 24"D x 65 1/2"H |
| T26A | TREK FIXED LEG 1 1/4" TOP TABLE 24"D x 60"W |
| W1 | WASTEBASKET - MEDIUM (7GAL)<br>14-3/8" W x 10-1/4" D x 15" H |
| R1 | DESKSIDE RECYCLING - MEDIUM (7GAL)<br>14-3/8" W x 10-1/4" D x 15" H |
| LE2 | INTEGRATE MOBILE FULL HEIGHT LECTERN - POWERED W/ DOORS AND CASTERS<br>24"W x 16"D x 48"H |

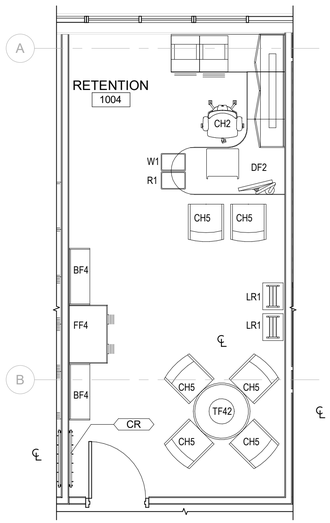
| ACCESSORY SCHEDULE | |
|---|---|
| TAG | DESCRIPTION |
| MB | 96" X 48" WALL MOUNTED WHITE MARKERBOARD, CFCI |
| TV | GFGI |
| CR | 4.25" L X 36" W WALL MOUNTED (6) HOOK PANEL COAT RACK, CFCI |

## 1 TEAM ROOM 1002

1/4" = 1'-0"

## KEY PLAN



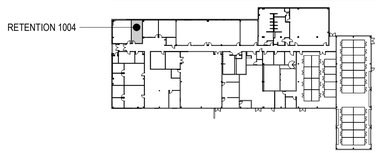

| FURNITURE SCHEDULE- RETENTION 1004 | |
|---|---|
| TAG | DESCRIPTION |
| CH2 | WORLD TASK CHAIR W/ ADJUSTABLE ARMS |
| BF4 | FOOTPRINT WOOD BOOKCASE 36"W x 13"D x 54"H |
| DF2 | FOOTPRINT SYSTEMS FURNITURE |
| CH5 | COLLAGE GUEST CHAIR W/ UPHOLSTERED TOP |
| W1 | WASTEBASKET - MEDIUM (7GAL)<br>14-3/8" W x 10-1/4" D x 15" H |
| R1 | DESKSIDE RECYCLING - MEDIUM (7GAL)<br>14-3/8" W x 10-1/4" D x 15" H |
| FF4 | FUNDAMENTAL 4-HIGH LATERAL FILE<br>36"W x 18"D x 51"H |
| LR1 | INTEGRATE FREESTANDING LITERATURE RACK<br>17"W x 17"D x 52-1/2"H |
| TF42 | FOOTPRINT TEAR DROP SHAPED TABLE<br>37-3/8"D x 37-3/8"W x 29-1/8"H |

| ACCESSORY SCHEDULE | |
|---|---|
| TAG | DESCRIPTION |
| CR | 4.25" L X 36" W WALL MOUNTED (6) HOOK PANEL COAT RACK, CFCI |

## 2 RETENTION 1004

1/4" = 1'-0"

## KEY PLAN




US Army Corps of Engineers ®

SEAL AND SIGNATURE
ANTHONY F. PEDRO DATE:
N.Y. LIC. NO. 093068

| MARK | DESCRIPTION | DATE |
|---|---|---|

DESIGNED BY: Designer
DRAWN BY: Author
CHECKED BY: Checker
SUBMITTED BY:
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US ARMY CORPS OF ENGINEERS
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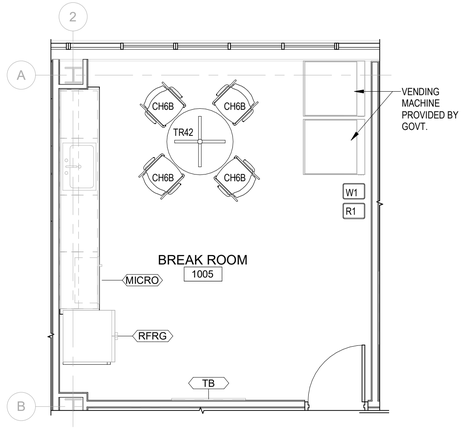
UNITED STATES ARMY RESERVE CENTER
ORANGEBURG, NEW YORK

ENLARGED FURNITURE PLANS

SHEET ID

IF102

CORRECTED FINAL SUBMISSION - JULY 29, 2021

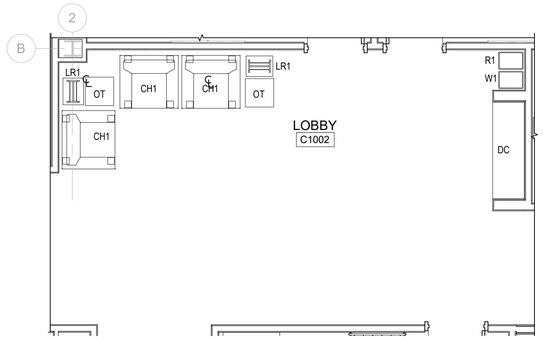



1 BREAK ROOM 1005
1/4" = 1'-0"

| FURNITURE SCHEDULE- BREAK ROOM 1005 | |
|---|---|
| TAG | DESCRIPTION |
| CH6B | RIO STACKING PLASTIC CHAIR (TAN) |
| TR42 | BARRON FIXED LEG ROUND TABLE 42" DIA. |
| W1 | WASTEBASKET - MEDIUM (7GAL)<br>14-3/8" W x 10-1/4" D x 15" H |
| R1 | DESKSIDE RECYCLING - MEDIUM (7GAL)<br>14-3/8" W x 10-1/4" D x 15" H |

| ACCESSORY SCHEDULE | |
|---|---|
| TAG | DESCRIPTION |
| TB | 48" x 37" WALL MOUNTED TACKBOARD, CFCI |

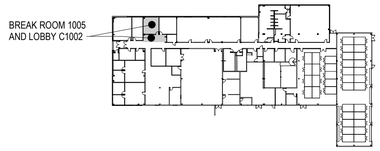
| APPLIANCE SCHEDULE | |
|---|---|
| TAG | DESCRIPTION |
| MICRO | MICROWAVE, CFCI |
| RFRG | SIDE BY SIDE REFRIGERATOR WITH ICE AND WATER DISPENSER, CFCI |

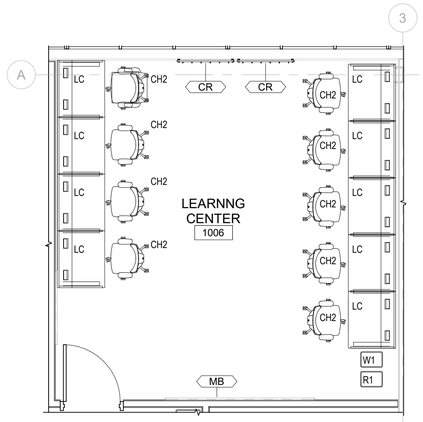



3 LOBBY C1002
1/4" = 1'-0"

| FURNITURE SCHEDULE- LOBBY C1002 | |
|---|---|
| TAG | DESCRIPTION |
| CH1 | ENJOY ONE- SEAT LOUNGE CHAIR |
| OT | ARPEGGIO WOOD END TABLE 20"W x 20"D x 20"H |
| W1 | WASTEBASKET - MEDIUM (7GAL)<br>14-3/8" W x 10-1/4" D x 15" H |
| R1 | DESKSIDE RECYCLING - MEDIUM (7GAL)<br>14-3/8" W x 10-1/4" D x 15" H |
| LR1 | INTEGRATE FREESTANDING LITERATURE RACK<br>17"W x 17"D x 52-1/2"H |
| DC | FREESTANDING TROPHY DISPLAY CASE W/ LED TOP LIGHTS 8'W x 4'H x 12"D |

## KEY PLAN



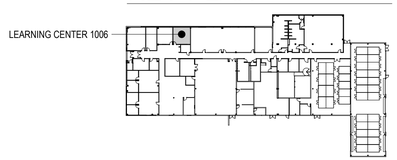




2 LEARNING CENTER 1006
1/4" = 1'-0"

| FURNITURE SCHEDULE- LEARNING CENTER 1006 | |
|---|---|
| TAG | DESCRIPTION |
| CH2 | WORLD TASK CHAIR W/ ADJUSTABLE ARMS |
| W1 | DESKSIDE RECYCLING - MEDIUM (7GAL)<br>14-3/8" W x 10-1/4" D x 15" H |
| R1 | DESKSIDE RECYCLING - MEDIUM (7GAL)<br>14-3/8" W x 10-1/4" D x 15" H |
| LC | IN TANDEM RECTANGULAR TABLE W/ 23"H PRIVACY SCREEN |

| ACCESSORY SCHEDULE | |
|---|---|
| TAG | DESCRIPTION |
| MB | 96" X 48" WALL MOUNTED WHITE MARKERBOARD, CFCI |
| CR | 4.25" L X 36" W WALL MOUNTED (6) HOOK PANEL COAT RACK, CFCI |

## KEY PLAN




US Army Corps of Engineers ®

SEAL AND SIGNATURE
ANTHONY F. PEDRO DATE:
N.Y. LIC. NO. 093068

| MARK | DESCRIPTION | DATE |
|---|---|---|
| | | |

DESIGNED BY: Designer
DRAWN BY: Author
CHECKED BY: Checker
SUBMITTED BY:
SIZE: ANSI D
ISSUE DATE:
SOLICITATION NO.: W912QR20R0038
CONTRACT NO.: W912QRCQ0038

US ARMY CORPS OF ENGINEERS
LOUISVILLE DISTRICT
LOUISVILLE, KY

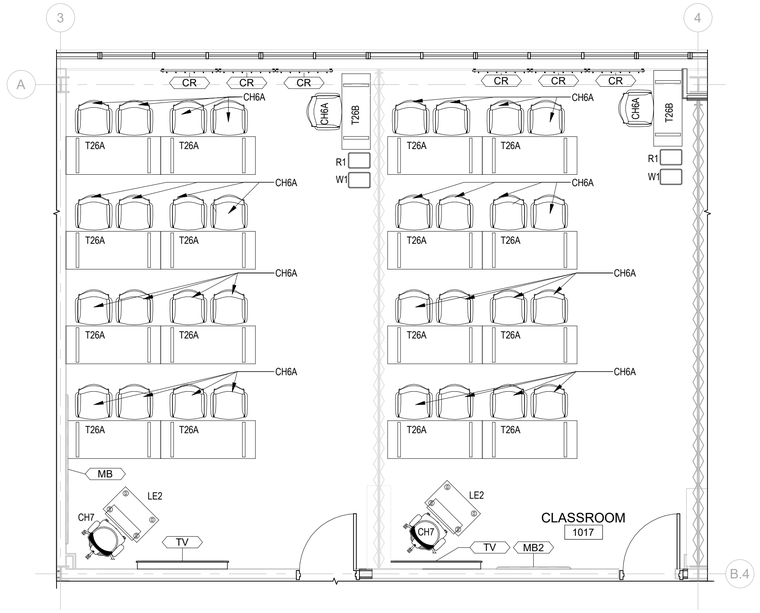
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F: + 732-577-0551
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UNITED STATES ARMY RESERVE CENTER
ORANGEBURG, NEW YORK

ENLARGED FURNITURE PLANS

SHEET ID
IF103

CORRECTED FINAL SUBMISSION - JULY 29, 2021



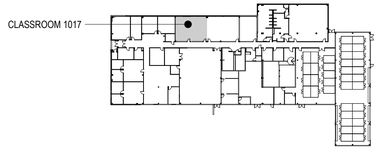

# 1 CLASSROOM 1017

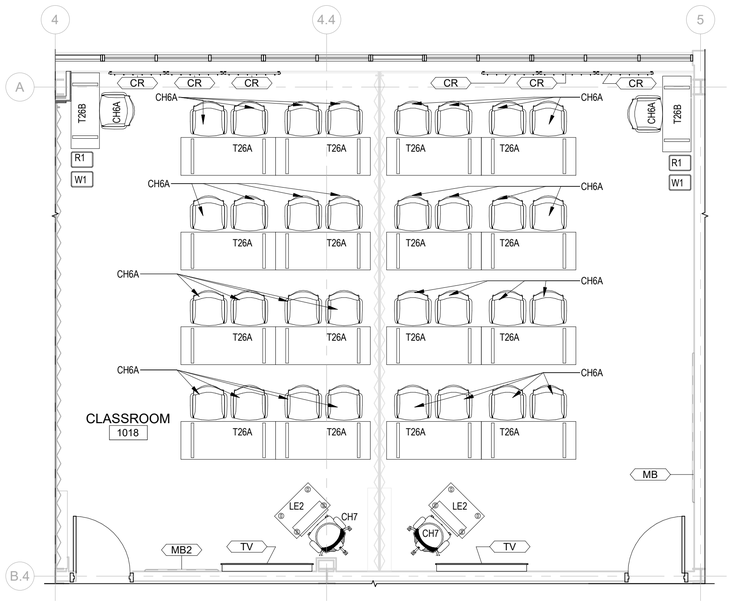
1/4" = 1'-0"

| FURNITURE SCHEDULE- CLASSROOM 1017 | |
|---|---|
| TAG | DESCRIPTION |
| CH6A | RIO STACKING PLASTIC CHAIR (GREEN) |
| CH7 | WORLD TASK CHAIR (STOOL) - HIGH 8" W/18" FOOT RING |
| T26A | TREK FIXED LEG 1 1/4" TOP TABLE 24"D x 60"W |
| T26B | TREK FIXED LEG 1 1/4" TOP TABLE 18"D x 48"W |
| W1 | DESKSIDE RECYCLING - MEDIUM (7GAL) 14-3/8" W x 10-1/4" D x 15" H |
| R1 | DESKSIDE RECYCLING - MEDIUM (7GAL) 14-3/8" W x 10-1/4" D x 15" H |
| LE2 | INTEGRATE MOBILE FULL HEIGHT LECTERN - POWERED W/ DOORS AND CASTERS |

| ACCESSORY SCHEDULE | |
|---|---|
| TAG | DESCRIPTION |
| MB | 96" X 48" WALL MOUNTED WHITE MARKERBOARD, CFCI |
| MB2 | 48" X 48" WALL MOUNTED WHITE MARKERBOARD, CFCI |
| TV | GCFI |

## KEY PLAN



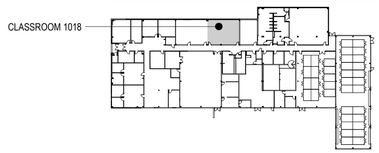

# 2 CLASSROOM 1018

1/4" = 1'-0"

| FURNITURE SCHEDULE- CLASSROOM 1018 | |
|---|---|
| TAG | DESCRIPTION |
| CH6A | RIO STACKING PLASTIC CHAIR (GREEN) |
| CH7 | WORLD TASK CHAIR (STOOL) - HIGH 8" W/18" FOOT RING |
| T26A | TREK FIXED LEG 1 1/4" TOP TABLE 24"D x 60"W |
| T26B | TREK FIXED LEG 1 1/4" TOP TABLE 18"D x 48"W |
| W1 | DESKSIDE RECYCLING - MEDIUM (7GAL) 14-3/8" W x 10-1/4" D x 15" H |
| R1 | DESKSIDE RECYCLING - MEDIUM (7GAL) 14-3/8" W x 10-1/4" D x 15" H |
| LE2 | INTEGRATE MOBILE FULL HEIGHT LECTERN - POWERED W/ DOORS AND CASTERS |

| ACCESSORY SCHEDULE | |
|---|---|
| TAG | DESCRIPTION |
| MB | 96" X 48" WALL MOUNTED WHITE MARKERBOARD, CFCI |
| MB2 | 48" X 48" WALL MOUNTED WHITE MARKERBOARD, CFCI |
| TV | GCFI |

## KEY PLAN




US Army Corps of Engineers ®

SEAL AND SIGNATURE
ANTHONY F. PEDRO DATE:
N.Y. LIC. NO. 093068

| MARK | DESCRIPTION | DATE |
|---|---|---|
| | | |

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DRAWN BY: Author
CHECKED BY: Checker
SUBMITTED BY:
SIZE: ANSI D

ISSUE DATE:
SOLICITATION NO.: W912QR20R0038
CONTRACT NO.: W912QR20C0038

US ARMY CORPS OF ENGINEERS
LOUISVILLE DISTRICT
LOUISVILLE, KY

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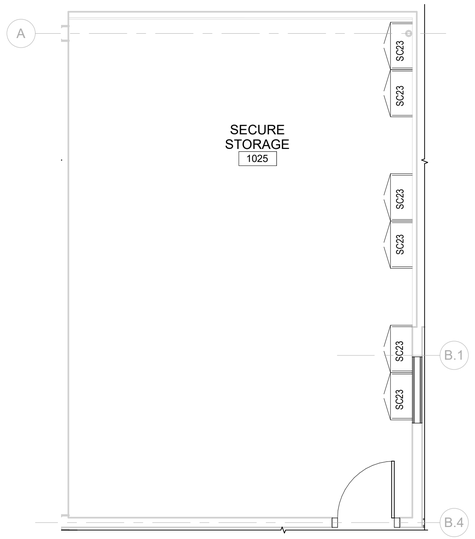
UNITED STATES ARMY RESERVE CENTER
ORANGEBURG, NEW YORK

ENLARGED FURNITURE PLANS

SHEET ID

IF104

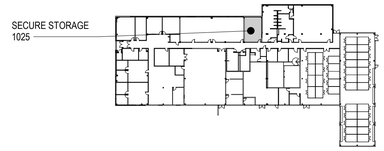
CORRECTED FINAL SUBMISSION - JULY 29, 2021

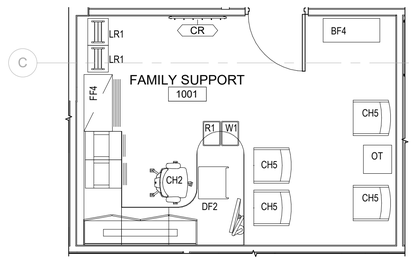



1 PRIVATE OFFICE 1003
1/4" = 1'-0"

| FURNITURE SCHEDULE- SECURE STORAGE 1025 | |
|---|---|
| TAG | DESCRIPTION |
| SC23 | OPUS 2-HIGH METAL LATERAL FILE<br>36"W x 18"D x 27"H |

## KEY PLAN

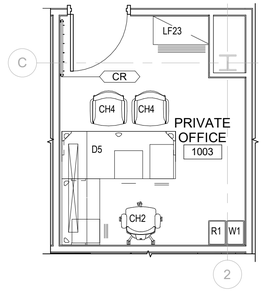



2 FAMILY SUPPORT 1001
1/4" = 1'-0"

| FURNITURE SCHEDULE- FAMILY SUPPORT 1001 | |
|---|---|
| TAG | DESCRIPTION |
| CH2 | WORLD TASK CHAIR W/ ADJUSTABLE ARMS |
| BF4 | FOOTPRINT WOOD BOOKCASE 36"W x 13"D x 54"H |
| DF2 | FOOTPRINT SYSTEMS FURNITURE |
| CH5 | COLLAGE GUEST CHAIR W/ UPHOLSTERED TOP |
| W1 | WASTEBASKET - MEDIUM (7GAL)<br>14-3/8" W x 10-1/4" D x 15" H |
| R1 | DESKSIDE RECYCLING - MEDIUM (7GAL)<br>14-3/8" W x 10-1/4" D x 15" H |
| FF4 | FUNDAMENTAL 4-HIGH LATERAL FILE<br>36"W x 18"D x 51"H |
| LR1 | INTEGRATE FREESTANDING LITERATURE RACK<br>17"W x 17"D x 52-1/2"H |
| OT | ARPEGGIO WOOD END TABLE<br>20"W x 20"D x 20"H |

| ACCESSORY SCHEDULE | |
|---|---|
| TAG | DESCRIPTION |
| CR | 4.25" L X 36" W WALL MOUNTED (6) HOOK PANEL COAT RACK, CFCI |

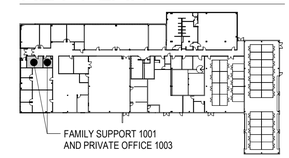



3 PRIVATE OFFICE 1003
1/4" = 1'-0"

| FURNITURE SCHEDULE- PRIVATE OFFICE 1003 | |
|---|---|
| TAG | DESCRIPTION |
| CH2 | WORLD TASK CHAIR W/ ADJUSTABLE ARMS |
| D5 | BRAVO SYSTEMS FURNITURE |
| CH4 | WORLD OCCASIONAL GUEST CHAIR |
| W1 | WASTEBASKET - MEDIUM (7GAL)<br>14-3/8" W x 10-1/4" D x 15" H |
| R1 | DESKSIDE RECYCLING - MEDIUM (7GAL)<br>14-3/8" W x 10-1/4" D x 15" H |
| LF23 | OPUS 2-HIGH METAL LATERAL FILE<br>36"W x 18"D x 27"H |

| ACCESSORY SCHEDULE | |
|---|---|
| TAG | DESCRIPTION |
| CR | 4.25" L X 36" W WALL MOUNTED (6) HOOK PANEL COAT RACK, CFCI |

## KEY PLAN




US Army Corps of Engineers ®

SEAL AND SIGNATURE
ANTHONY F. PEDRO DATE:
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US ARMY CORPS OF ENGINEERS
LOUISVILLE DISTRICT
LOUISVILLE, KY

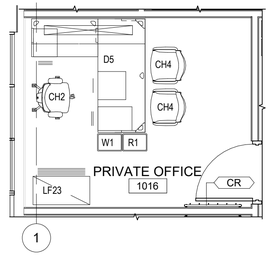
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UNITED STATES ARMY RESERVE CENTER
ORANGEBURG, NEW YORK

ENLARGED FURNITURE PLANS

SHEET ID
IF105

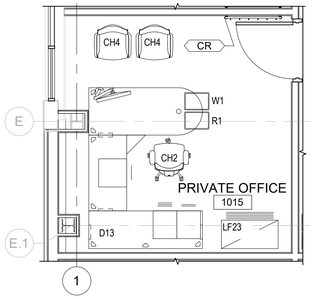
CORRECTED FINAL SUBMISSION - JULY 29, 2021




# 1 PRIVATE OFFICE 1016
1/4" = 1'-0"

| FURNITURE SCHEDULE- PRIVATE OFFICE 1016 | |
|---|---|
| TAG | DESCRIPTION |
| CH2 | WORLD TASK CHAIR W/ ADJUSTABLE ARMS |
| D5 | BRAVO SYSTEMS FURNITURE |
| CH4 | WORLD OCCASIONAL GUEST CHAIR |
| W1 | WASTEBASKET - MEDIUM (7GAL)<br>14-3/8" W x 10-1/4" D x 15" H |
| R1 | DESKSIDE RECYCLING - MEDIUM (7GAL)<br>14-3/8" W x 10-1/4" D x 15" H |
| LF23 | OPUS 2-HIGH METAL LATERAL FILE<br>36"W x 18"D x 27"H |

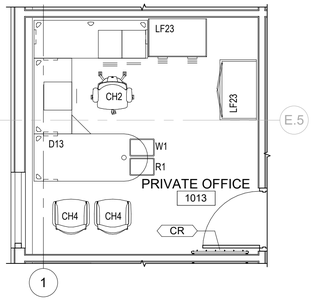
| ACCESSORY SCHEDULE | |
|---|---|
| TAG | DESCRIPTION |
| CR | 4.25" L X 36" W WALL MOUNTED (6) HOOK<br>PANEL COAT RACK, CFCI |




# 2 PRIVATE OFFICE 1015
1/4" = 1'-0"

| FURNITURE SCHEDULE- PRIVATE OFFICE 1015 | |
|---|---|
| TAG | DESCRIPTION |
| CH2 | WORLD TASK CHAIR W/ ADJUSTABLE ARMS |
| D13 | BRAVO SYSTEMS FURNITURE |
| CH4 | WORLD OCCASIONAL GUEST CHAIR |
| W1 | WASTEBASKET - MEDIUM (7GAL)<br>14-3/8" W x 10-1/4" D x 15" H |
| R1 | DESKSIDE RECYCLING - MEDIUM (7GAL)<br>14-3/8" W x 10-1/4" D x 15" H |
| LF23 | OPUS 2-HIGH METAL LATERAL FILE<br>36"W x 18"D x 27"H |

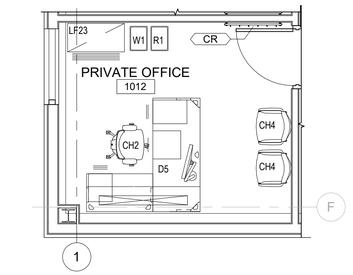
| ACCESSORY SCHEDULE | |
|---|---|
| TAG | DESCRIPTION |
| CR | 4.25" L X 36" W WALL MOUNTED (6) HOOK<br>PANEL COAT RACK, CFCI |




# 3 PRIVATE OFFICE 1013
1/4" = 1'-0"

| FURNITURE SCHEDULE- PRIVATE OFFICE 1013 | |
|---|---|
| TAG | DESCRIPTION |
| CH2 | WORLD TASK CHAIR W/ ADJUSTABLE ARMS |
| D13 | BRAVO SYSTEMS FURNITURE |
| CH4 | WORLD OCCASIONAL GUEST CHAIR |
| W1 | WASTEBASKET - MEDIUM (7GAL)<br>14-3/8" W x 10-1/4" D x 15" H |
| R1 | DESKSIDE RECYCLING - MEDIUM (7GAL)<br>14-3/8" W x 10-1/4" D x 15" H |
| LF23 | OPUS 2-HIGH METAL LATERAL FILE<br>36"W x 18"D x 27"H |

| ACCESSORY SCHEDULE | |
|---|---|
| TAG | DESCRIPTION |
| CR | 4.25" L X 36" W WALL MOUNTED (6) HOOK<br>PANEL COAT RACK, CFCI |

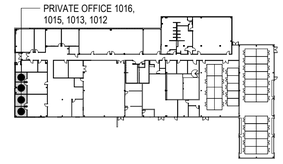


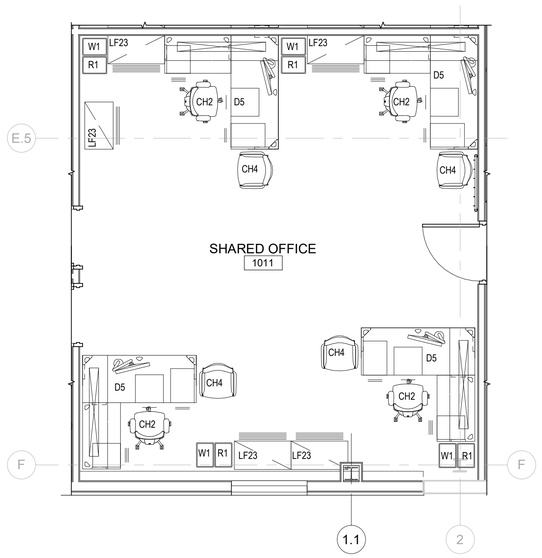

# 4 PRIVATE OFFICE 1012
1/4" = 1'-0"

| FURNITURE SCHEDULE- PRIVATE OFFICE 1012 | |
|---|---|
| TAG | DESCRIPTION |
| CH2 | WORLD TASK CHAIR W/ ADJUSTABLE ARMS |
| D5 | BRAVO SYSTEMS FURNITURE |
| CH4 | WORLD OCCASIONAL GUEST CHAIR |
| W1 | WASTEBASKET - MEDIUM (7GAL)<br>14-3/8" W x 10-1/4" D x 15" H |
| R1 | DESKSIDE RECYCLING - MEDIUM (7GAL)<br>14-3/8" W x 10-1/4" D x 15" H |
| LF23 | OPUS 2-HIGH METAL LATERAL FILE<br>36"W x 18"D x 27"H |

| ACCESSORY SCHEDULE | |
|---|---|
| TAG | DESCRIPTION |
| CR | 4.25" L X 36" W WALL MOUNTED (6) HOOK<br>PANEL COAT RACK, CFCI |

## KEY PLAN

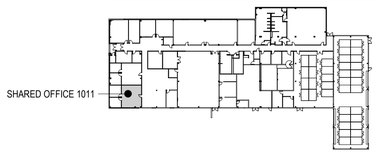


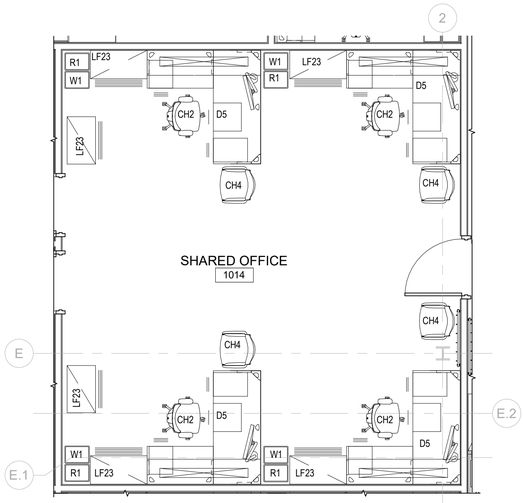




# 5 SHARED OFFICE 1011
1/4" = 1'-0"

| FURNITURE SCHEDULE- SHARED OFFICE 1011 | |
|---|---|
| TAG | DESCRIPTION |
| CH2 | WORLD TASK CHAIR W/ ADJUSTABLE ARMS |
| D5 | BRAVO SYSTEMS FURNITURE |
| CH4 | WORLD OCCASIONAL GUEST CHAIR |
| W1 | WASTEBASKET - MEDIUM (7GAL)<br>14-3/8" W x 10-1/4" D x 15" H |
| R1 | DESKSIDE RECYCLING - MEDIUM (7GAL)<br>14-3/8" W x 10-1/4" D x 15" H |
| LF23 | OPUS 2-HIGH METAL LATERAL FILE<br>36"W x 18"D x 27"H |

## KEY PLAN

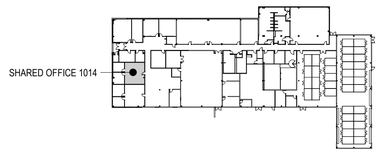



# 6 SHARED OFFICE 1014
1/4" = 1'-0"

| FURNITURE SCHEDULE- SHARED OFFICE 1014 | |
|---|---|
| TAG | DESCRIPTION |
| CH2 | WORLD TASK CHAIR W/ ADJUSTABLE ARMS |
| D5 | BRAVO SYSTEMS FURNITURE |
| CH4 | WORLD OCCASIONAL GUEST CHAIR |
| W1 | WASTEBASKET - MEDIUM (7GAL)<br>14-3/8" W x 10-1/4" D x 15" H |
| R1 | DESKSIDE RECYCLING - MEDIUM (7GAL)<br>14-3/8" W x 10-1/4" D x 15" H |
| LF23 | OPUS 2-HIGH METAL LATERAL FILE<br>36"W x 18"D x 27"H |

## KEY PLAN




US Army Corps of Engineers ®

SEAL AND SIGNATURE
ANTHONY F. PEDRO DATE:
N.Y. LIC. NO. 093068

| MARK | DESCRIPTION | DATE |
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CONTRACT NO.: W912QRC00038

US ARMY CORPS OF ENGINEERS
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LOUISVILLE, KY


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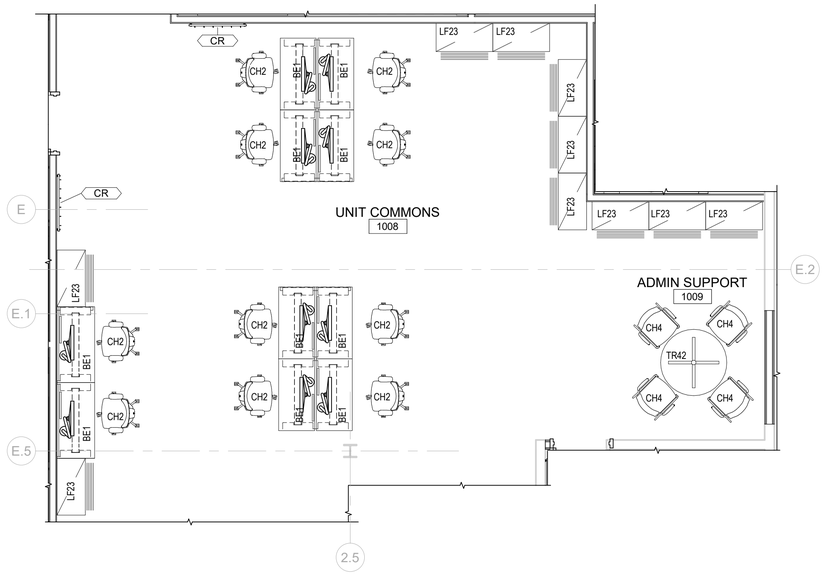

MOTT MACDONALD

UNITED STATES ARMY RESERVE CENTER
ORANGEBURG, NEW YORK

ENLARGED FURNITURE PLANS

SHEET ID
IF106

CORRECTED FINAL SUBMISSION - JULY 29, 2021




1 UNIT COMMONS 1008 - PART 1

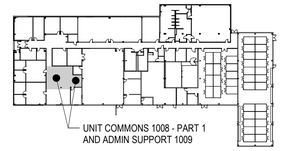
1/4" = 1'-0"

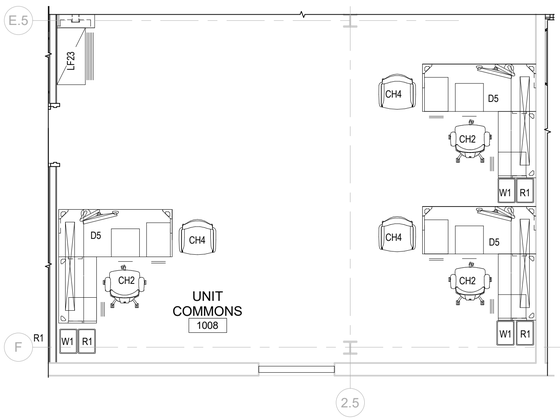
| FURNITURE SCHEDULE - UNIT COMMONS 1008 | |
|---|---|
| TAG | DESCRIPTION |
| CH2 | WORLD TASK CHAIR W/ ADJUSTABLE ARMS |
| W1 | WASTEBASKET - MEDIUM (7GAL)<br>14-3/8" W x 10-1/4" D x 15" H |
| R1 | DESKSIDE RECYCLING - MEDIUM (7GAL)<br>14-3/8" W x 10-1/4" D x 15" H |
| LF23 | OPUS 2-HIGH METAL LATERAL FILE<br>36"W x 18"D x 27"H |
| BE1 | CONNECTION ZONE DOUBLE-SIDED WORKSTATIONS AND SINGLE-SIDED WORKSTATIONS |

| ACCESSORY SCHEDULE | |
|---|---|
| TAG | DESCRIPTION |
| CR | 4.25" L X 36" W WALL MOUNTED (6) HOOK PANEL COAT RACK, CFCI |

| FURNITURE SCHEDULE - ADMIN SUPPORT 1009 | |
|---|---|
| TAG | DESCRIPTION |
| CH4 | WORLD OCCASIONAL GUEST CHAIR |
| TR42 | BARRON FIXED LEG ROUND TABLE 42" DIA. |
| LF23 | OPUS 2-HIGH METAL LATERAL FILE<br>36"W x 18"D x 27"H |

KEY PLAN



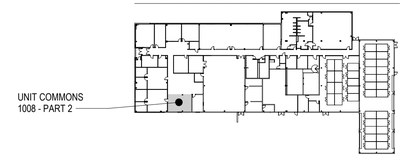




2 UNIT COMMONS 1008 - PART 2

1/4" = 1'-0"

| FURNITURE SCHEDULE - UNIT COMMONS 1008 | |
|---|---|
| TAG | DESCRIPTION |
| CH2 | WORLD TASK CHAIR W/ ADJUSTABLE ARMS |
| CH4 | WORLD OCCASIONAL GUEST CHAIR |
| W1 | WASTEBASKET - MEDIUM (7GAL)<br>14-3/8" W x 10-1/4" D x 15" H |
| R1 | DESKSIDE RECYCLING - MEDIUM (7GAL)<br>14-3/8" W x 10-1/4" D x 15" H |
| LF23 | OPUS 2-HIGH METAL LATERAL FILE<br>36"W x 18"D x 27"H |
| D5 | BRAVO SYSTEMS FURNITURE |

KEY PLAN




US Army Corps of Engineers ®

SEAL AND SIGNATURE
ANTHONY F. PEDRO DATE:
N.Y. LIC. NO. 093068

| MARK | DESCRIPTION | DATE |
|---|---|---|
| | | |

US ARMY CORPS OF ENGINEERS
LOUISVILLE DISTRICT
LOUISVILLE, KY

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DRAWN BY: Author
CHECKED BY: Checker
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SOLICITATION NO.: W912QR20R0038
CONTRACT NO.: W912QR20C0038
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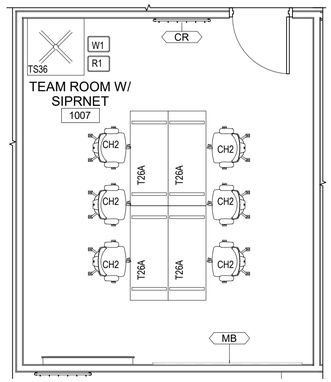
UNITED STATES ARMY RESERVE CENTER
ORANGEBURG, NEW YORK

ENLARGED FURNITURE PLANS

SHEET ID

IF107

CORRECTED FINAL SUBMISSION - JULY 29, 2021

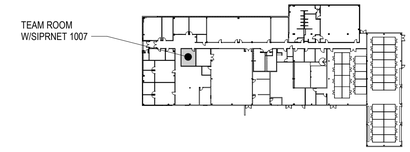


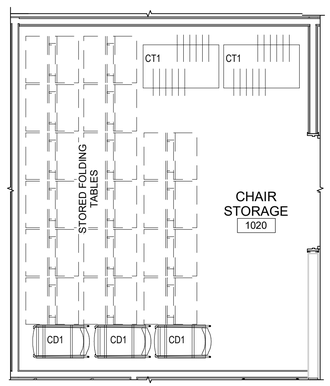

1 TEAM ROOM W/ SIPRNET
1/4" = 1'-0"

| FURNITURE SCHEDULE- TEAM ROOM W/SIPRNET 1007 | |
|---|---|
| TAG | DESCRIPTION |
| CH2 | WORLD TASK CHAIR W/ ADJUSTABLE ARMS |
| TS36 | BARRON FIXED LEG SQUARE TABLE<br>36"W x 36"D x 29"H |
| T26A | TREK FIXED LEG 1 1/4" TOP TABLE 24"D x 60"W |
| W1 | DESKSIDE RECYCLING - MEDIUM (7GAL)<br>14-3/8" W x 10-1/4" D x 15" H |
| R1 | DESKSIDE RECYCLING - MEDIUM (7GAL)<br>14-3/8" W x 10-1/4" D x 15" H |

| ACCESSORY SCHEDULE | |
|---|---|
| TAG | DESCRIPTION |
| MB | 96" X 48" WALL MOUNTED WHITE MARKERBOARD, CFCI |
| TV | GFCI |
| CR | 4.25" L X 36" W WALL MOUNTED (6) HOOK PANEL COAT RACK, CFCI |

KEY PLAN

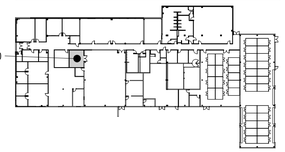



2 CHAIR STORAGE 1020
1/4" = 1'-0"

| FURNITURE SCHEDULE- CHAIR STORAGE 1020 | |
|---|---|
| TAG | DESCRIPTION |
| CD1 | CHAIR TRUCK FOR RIO SERIES - RIO-CART<br>(STACKING CART OPTION) |
| CT1 | MEGA RAK MOBILE COAT RACK |

KEY PLAN




US Army Corps of Engineers ®

SEAL AND SIGNATURE
ANTHONY F. PEDRO DATE:
N.Y. LIC. NO. 093068

| MARK | DESCRIPTION | DATE |
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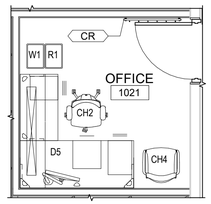
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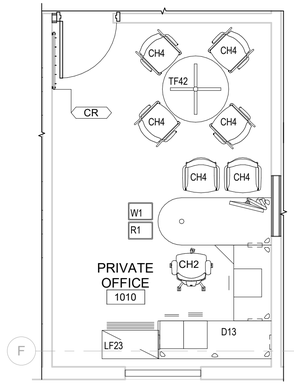
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| FURNITURE SCHEDULE- OFFICE 1021 | |
|---|---|
| TAG | DESCRIPTION |
| CH2 | WORLD TASK CHAIR W/ ADJUSTABLE ARMS |
| D5 | BRAVO SYSTEMS FURNITURE |
| CH4 | WORLD OCCASIONAL GUEST CHAIR |
| W1 | WASTEBASKET - MEDIUM (7GAL)<br>14-3/8" W x 10-1/4" D x 15" H |
| R1 | DESKSIDE RECYCLING - MEDIUM (7GAL)<br>14-3/8" W x 10-1/4" D x 15" H |

| ACCESSORY SCHEDULE | |
|---|---|
| TAG | DESCRIPTION |
| CR | 4.25" L X 36" W WALL MOUNTED (6) HOOK<br>PANEL COAT RACK, CFCI |

## 1 OFFICE 1021
1/4" = 1'-0"

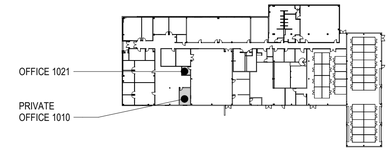


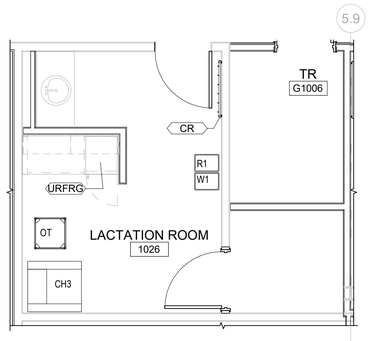

| FURNITURE SCHEDULE- PRIVATE OFFICE 1010 | |
|---|---|
| TAG | DESCRIPTION |
| CH2 | WORLD TASK CHAIR W/ ADJUSTABLE ARMS |
| D13 | BRAVO SYSTEMS FURNITURE |
| CH4 | WORLD OCCASIONAL GUEST CHAIR |
| W1 | WASTEBASKET - MEDIUM (7GAL)<br>14-3/8" W x 10-1/4" D x 15" H |
| R1 | DESKSIDE RECYCLING - MEDIUM (7GAL)<br>14-3/8" W x 10-1/4" D x 15" H |
| LF23 | OPUS 2-HIGH METAL LATERAL FILE<br>36"W x 18"D x 27"H |
| TF42 | FOOTPRINT TEAR DROP SHAPED TABLE<br>37-3/8"D x 37-3/8"W x 29-1/8"H |

| ACCESSORY SCHEDULE | |
|---|---|
| TAG | DESCRIPTION |
| CR | 4.25" L X 36" W WALL MOUNTED (6) HOOK<br>PANEL COAT RACK, CFCI |

## 2 PRIVATE OFFICE 1010
1/4" = 1'-0"

## KEY PLAN



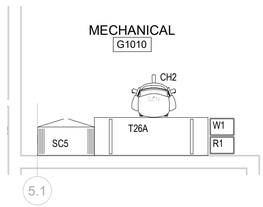




| FURNITURE SCHEDULE- LACTATION ROOM 1026 | |
|---|---|
| TAG | DESCRIPTION |
| CH3 | HARMONY DURABLE 650 SERIES RECLINER |
| OT | ARPEGGIO WOOD END TABLE<br>20"W x 20"D x 20"H |
| W1 | WASTEBASKET - MEDIUM (7GAL)<br>14-3/8" W x 10-1/4" D x 15" H |
| R1 | DESKSIDE RECYCLING - MEDIUM (7GAL)<br>14-3/8" W x 10-1/4" D x 15" H |

| ACCESSORY SCHEDULE | |
|---|---|
| TAG | DESCRIPTION |
| CR | 4.25" L X 36" W WALL MOUNTED (6) HOOK<br>PANEL COAT RACK, CFCI |

| APPLIANCE SCHEDULE | |
|---|---|
| TAG | DESCRIPTION |
| URFRG | UNDERCOUNTER REFRIGERATOR |

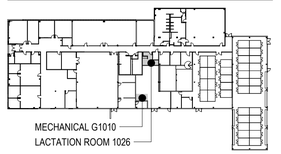
## 3 LACTATION ROOM 1026
1/4" = 1'-0"




| FURNITURE SCHEDULE- MECHANICAL G1010 | |
|---|---|
| TAG | DESCRIPTION |
| CH2 | WORLD TASK CHAIR W/ ADJUSTABLE ARMS |
| T26A | TREK FIXED LEG 1 1/4" TOP TABLE<br>24"D x 60"W |
| W1 | WASTEBASKET - MEDIUM (7GAL)<br>14-3/8" W x 10-1/4" D x 15" H |
| R1 | DESKSIDE RECYCLING - MEDIUM (7GAL)<br>14-3/8" W x 10-1/4" D x 15" H |
| SC5 | OPUS 5-HIGH STORAGE CABINET W/<br>DOUBLE DOORS 36"W x 18"D x 65"H |

## 4 MECHANICAL G1010
1/4" = 1'-0"

## KEY PLAN




US Army Corps of Engineers ®

SEAL AND SIGNATURE
ANTHONY F. PEDRO DATE:
N.Y. LIC. NO. 093068

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US ARMY CORPS OF ENGINEERS
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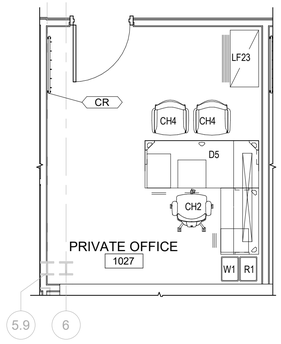
UNITED STATES ARMY RESERVE CENTER
ORANGEBURG, NEW YORK

ENLARGED FURNITURE PLANS

SHEET ID

IF109

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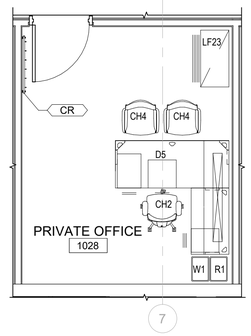



| FURNITURE SCHEDULE- PRIVATE ROOM 1027 | |
|---|---|
| TAG | DESCRIPTION |
| CH2 | WORLD TASK CHAIR W/ ADJUSTABLE ARMS |
| D5 | BRAVO SYSTEMS FURNITURE |
| CH4 | WORLD OCCASIONAL GUEST CHAIR |
| W1 | WASTEBASKET - MEDIUM (7GAL)<br>14-3/8" W x 10-1/4" D x 15" H |
| R1 | DESKSIDE RECYCLING - MEDIUM (7GAL)<br>14-3/8" W x 10-1/4" D x 15" H |
| LF23 | OPUS 2-HIGH METAL LATERAL FILE<br>36"W x 18"D x 27"H |

| ACCESSORY SCHEDULE | |
|---|---|
| TAG | DESCRIPTION |
| CR | 4.25" L X 36" W WALL MOUNTED (6) HOOK<br>PANEL COAT RACK, CFCI |

## 1 PRIVATE OFFICE 1027

1/4" = 1'-0"



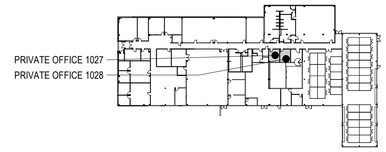

| FURNITURE SCHEDULE- PRIVATE ROOM 1028 | |
|---|---|
| TAG | DESCRIPTION |
| CH2 | WORLD TASK CHAIR W/ ADJUSTABLE ARMS |
| D5 | BRAVO SYSTEMS FURNITURE |
| CH4 | WORLD OCCASIONAL GUEST CHAIR |
| W1 | WASTEBASKET - MEDIUM (7GAL)<br>14-3/8" W x 10-1/4" D x 15" H |
| R1 | DESKSIDE RECYCLING - MEDIUM (7GAL)<br>14-3/8" W x 10-1/4" D x 15" H |
| LF23 | OPUS 2-HIGH METAL LATERAL FILE<br>36"W x 18"D x 27"H |

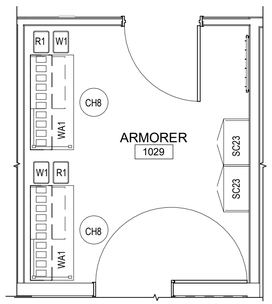
| ACCESSORY SCHEDULE | |
|---|---|
| TAG | DESCRIPTION |
| CR | 4.25" L X 36" W WALL MOUNTED (6) HOOK<br>PANEL COAT RACK, CFCI |

## 2 PRIVATE OFFICE 1028

1/4" = 1'-0"

## KEY PLAN

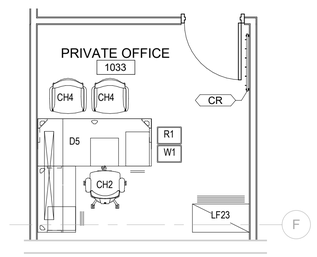



| FURNITURE SCHEDULE- ARMORER 1029 | |
|---|---|
| TAG | DESCRIPTION |
| WA1 | STANDARD INDUSTRIAL WORKBENCH WITH<br>DRAWERS AND RISER CONCEPT 2 |
| CH8 | WOOD STOOL |
| W1 | WASTEBASKET - MEDIUM (7GAL)<br>14-3/8" W x 10-1/4" D x 15" H |
| R1 | DESKSIDE RECYCLING - MEDIUM (7GAL)<br>14-3/8" W x 10-1/4" D x 15" H |
| SC23 | OPUS 2-HIGH METAL LATERAL FILE<br>36"W x 18"D x 27"H |

## 3 ARMORER 1029

1/4" = 1'-0"



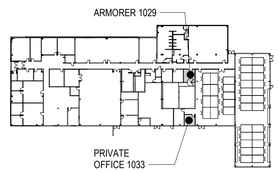

| FURNITURE SCHEDULE- PRIVATE OFFICE 1033 | |
|---|---|
| TAG | DESCRIPTION |
| CH2 | WORLD TASK CHAIR W/ ADJUSTABLE ARMS |
| D5 | BRAVO SYSTEMS FURNITURE |
| CH4 | WORLD OCCASIONAL GUEST CHAIR |
| W1 | WASTEBASKET - MEDIUM (7GAL)<br>14-3/8" W x 10-1/4" D x 15" H |
| R1 | DESKSIDE RECYCLING - MEDIUM (7GAL)<br>14-3/8" W x 10-1/4" D x 15" H |
| LF23 | OPUS 2-HIGH METAL LATERAL FILE<br>36"W x 18"D x 27"H |

| ACCESSORY SCHEDULE | |
|---|---|
| TAG | DESCRIPTION |
| CR | 4.25" L X 36" W WALL MOUNTED (6) HOOK<br>PANEL COAT RACK, CFCI |

## 4 PRIVATE OFFICE 1033

1/4" = 1'-0"

## KEY PLAN




US Army Corps of Engineers ®

SEAL AND SIGNATURE
ANTHONY F. PEDRO DATE:
N.Y. LIC. NO. 093068

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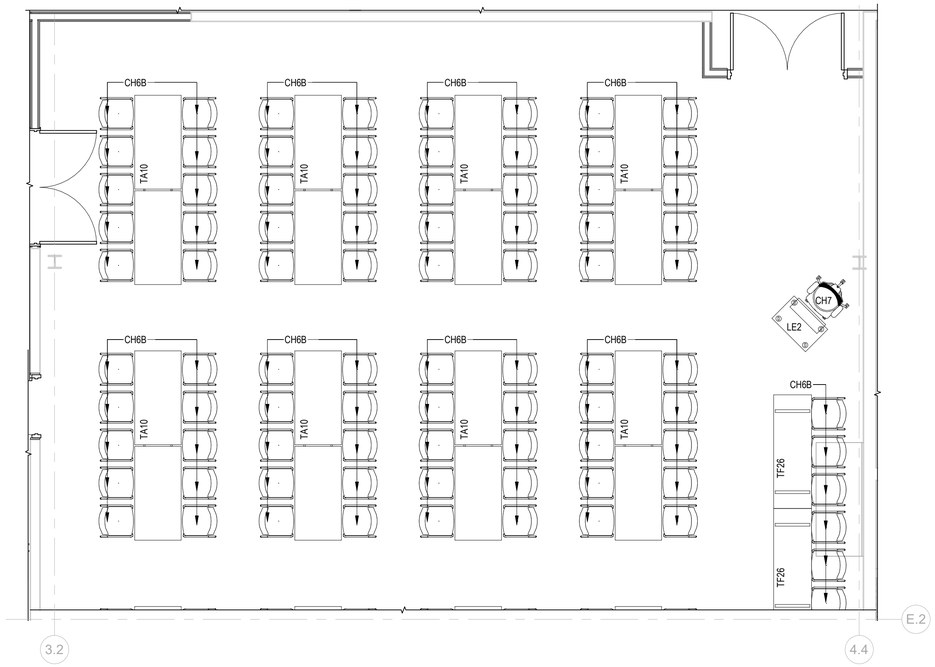
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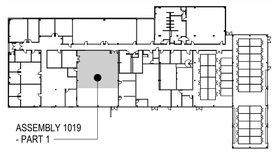
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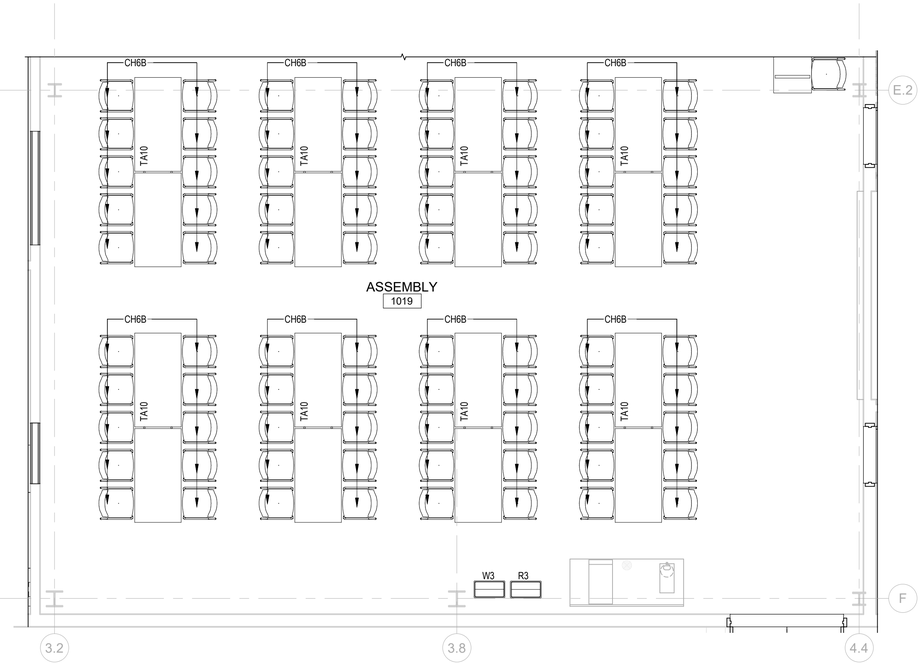



1 ASSEMBLY 1019 - PART 1
1/4" = 1'-0"

| FURNITURE SCHEDULE- ASSEMBLY 1019 | |
|---|---|
| TAG | DESCRIPTION |
| CH6B | RIO STACKING PLASTIC CHAIR (TAN) |
| CH7 | WORLD TASK CHAIR (STOOL) - HIGH 8" W/18" FOOT RING |
| TF26 | BARRON FOLDING LEG RECTANGULAR TABLE 30"W x 72"D x 29"H |
| LE2 | INTEGRATE MOBILE FULL HEIGHT LECTERN - POWERED W/ DOORS AND CASTERS |
| TA10 | UNIFRAME FOLD UP MOBILE CAFETERIA TABLE WITHOUT ATTACHED SEATING 120" W x 30" D x 29" H |

KEY PLAN

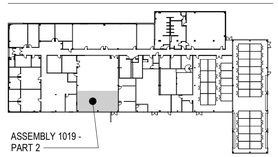



2 ASSEMBLY 1019 - PART 2
1/4" = 1'-0"

| FURNITURE SCHEDULE- ASSEMBLY 1019 | |
|---|---|
| CH6B | RIO STACKING PLASTIC CHAIR (TAN) |
| TA10 | UNIFRAME FOLD UP MOBILE CAFETERIA TABLE WITHOUT ATTACHED SEATING 120" W x 30" D x 29" H |
| W3 | WASTE RECEPTACLE (23GAL) 20" W x 11" D x 30" H |
| R3 | RECYCLING WASTE RECEPTACLE (23GAL) 20" W x 11" D x 30" H |

KEY PLAN




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SEAL AND SIGNATURE
ANTHONY F. PEDRO DATE:
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LOUISVILLE DISTRICT
LOUISVILLE, KY

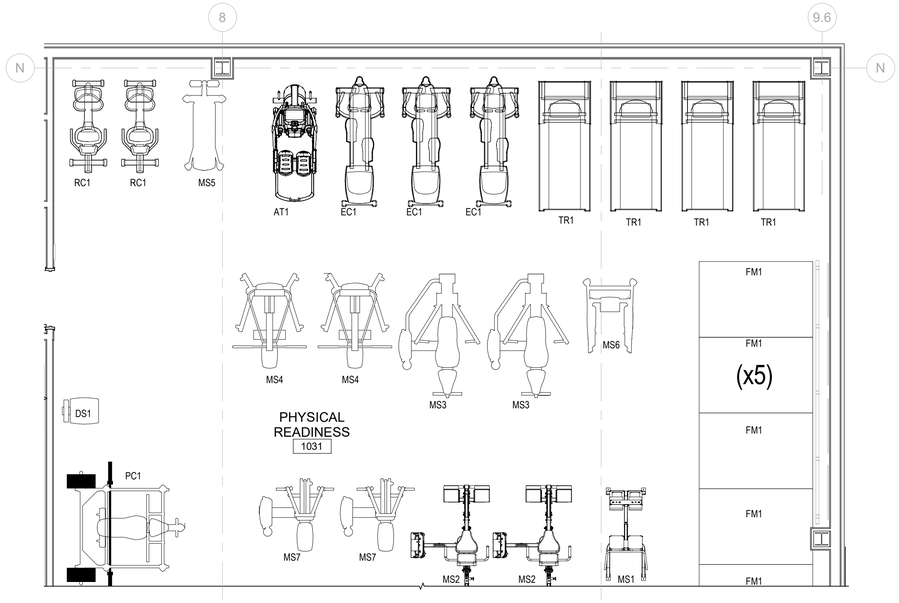
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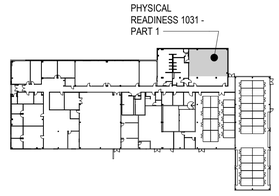


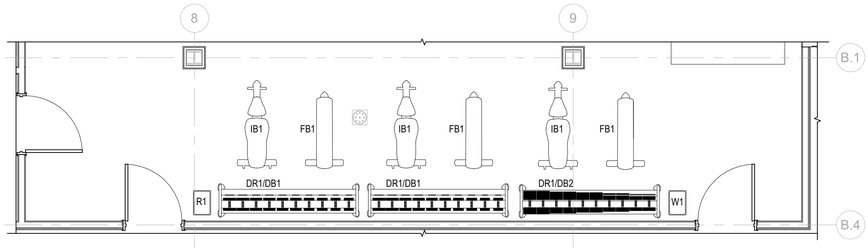

1 PHYSICAL READINESS 1031- PART 1

1/4" = 1'-0"

| FURNITURE SCHEDULE- PHYSICAL READINESS 1031 | |
|---|---|
| TAG | DESCRIPTION |
| RC1 | RC1 - RECUMBENT BIKE |
| MS5 | BENT LEG AB BOARD |
| AT1 | ADAPTIVE MOTION TRAINER |
| EC1 | ELLIPTICALCR OSS TRAINER |
| TR1 | TREADMILL |
| MS4 | VR1 LAT PULL |
| MS3 | VR1 DUAL MULTI - PRESS |
| MS6 | LEG RAISE/DIP |
| FM1 | FITNESS MAT |
| DS1 | SECA DIGITAL COLUMN SCALE AND POWER CORD |
| PC1 | POWER CAGE WITH WEIGHT SET |
| MS7 | VR1 ROW |
| MS2 | VR1 LEG PRESS |
| MS1 | 45 DEGREE BACK EXTENSION |

KEY PLAN



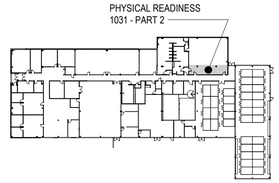




2 PHYSICAL READINESS 1031- PART 2

1/4" = 1'-0"

| FURNITURE SCHEDULE- PHYSICAL READINESS 1031 | |
|---|---|
| TAG | DESCRIPTION |
| R1 | DESKSIDE RECYCLING - MEDIUM (7GAL)<br>14-3/8" W x 10-1/4" D x 15" H |
| W1 | WASTEBASKET - MEDIUM (7GAL)<br>14-3/8" W x 10-1/4" D x 15" H |
| DB1 | 5-50 LBS DUMBBELL SET |
| DR1 | TWIN TIER DUMBBELL RACK |
| DB2 | 55-100 LBS DUMBBELL SET |
| IB1 | ADJUSTABLE INCLINE BENCH |
| FB1 | FLAT BENCH |

KEY PLAN




US Army Corps of Engineers ®

SEAL AND SIGNATURE
ANTHONY F. PEDRO DATE:
N.Y. LIC. NO. 093068

| MARK | DESCRIPTION | DATE |
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US ARMY CORPS OF ENGINEERS
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LOUISVILLE, KY

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SUBMITTED BY:
SIZE: ANSI D

ISSUE DATE:
SOLICITATION NO.: W912QR20R0038
CONTRACT NO.: W912QR20C0038

UNITED STATES ARMY RESERVE CENTER
ORANGEBURG, NEW YORK

ENLARGED FURNITURE PLANS

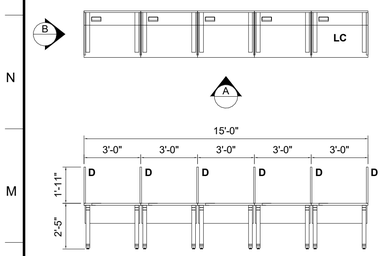
SHEET ID

IF112

CORRECTED FINAL SUBMISSION - JULY 29, 2021

(5) IN TANDEM RECTANGULAR TABLE W/ 23"H DIVIDER SCREENS & PRIVACY PANELS
30" W x 36" L x 29" H

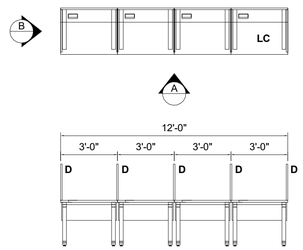
## PLAN




A ELEVATIONS B

(4) IN TANDEM RECTANGULAR TABLE W/ 23"H DIVIDER SCREENS & PRIVACY PANELS
30" W X 36" L X 29" H

## PLAN

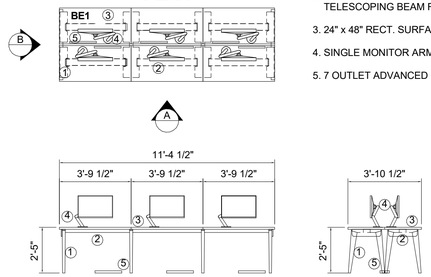



A ELEVATIONS

**CONNECTION ZONE DOUBLE-SIDED WORKSTATIONS**

1. 48" - 72" DUAL-SIDED ADDER TELESCOPING BEAM FRAME
2. 48" - 72" DUAL-SIDED STANDALONE / STARTER TELESCOPING BEAM FRAME
3. 24" x 48" RECT. SURFACE DUAL NON-POWERED
4. SINGLE MONITOR ARM/ BOLT THRU MOUNT
5. 7 OUTLET ADVANCED POWERSTRIP

## PLAN

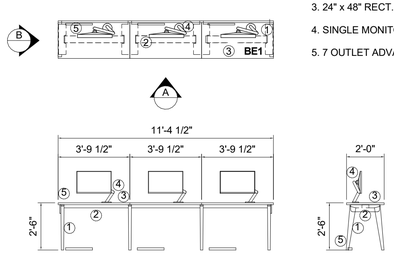



A ELEVATIONS B

**CONNECTION ZONE SINGLE-SIDED WORKSTATIONS**

1. 24" SINGLE-SIDED ADDER TELESCOPING
2. 48" - 72" SINGLE-SIDED STANDALONE / STARTER TELESCOPING BEAM FRAME
3. 24" x 48" RECT. SURFACE DUAL NON-POWERED
4. SINGLE MONITOR ARM/ BOLT THRU MOUNT
5. 7 OUTLET ADVANCED POWERSTRIP

## PLAN

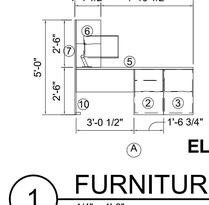



A ELEVATIONS B

**BRAVO SYSTEMS FURNITURE**

1. 30" x 72" RECTANGULAR DESK
2. 24" x 48" RECTANGULAR RETURN WITH LEFT OR RIGHT END PANELS PER FURNITURE PLAN
3. 72"L OVERHEAD
4. 44"L TASKLIGHT
5. 72"L UPHOLSTERED PRIVACY SCREEN TACKBOARD
6. 20"D BOX/BOX/FILE WORKSURFACE SUPPORTING PEDESTAL
7. 24"D FILE/FILE WORKSURFACE SUPPORTING PEDESTAL
8. 72"L MODESTY PANEL REQUIRED ROOMSIDE
9. SINGLE MONITOR ARM/ BOLT THRU MOUNT
10. 7 OUTLET ADVANCED POWERSTRIP

## PLAN

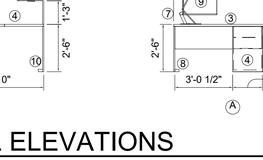



A ELEVATIONS B

**STANDARD INDUSTRIAL WORKBENCH WITH DRAWERS AND RISER CONCEPT 2**

1. 22"W x 33-1/4" H SLENDER WIDE BENCH HEIGHT CABINET WITH STANDARD LOCK AND MULTIPLE DRAWER ACCESS (4 DRAWERS)
2. BENCH HEIGHT OPEN PANEL LEG
3. 60"W x 30"D HARDWOOD WORK SURFACE
4. ADJUSTABLE FOOTREST
5. 60"W BACKSTOP KIT
6. LEFT SIDE STOP
7. RIGHT SIDE STOP
8. 60"W x 14"D x 18"H METAL SHELF RISER
9. 60"W PICK RACK
10. 4-1/8"W x 7-3/8"D x 3"H PLASTIC BINS SET (QTY. 10)
11. LED DESK LAMP (TL1)

## PLAN

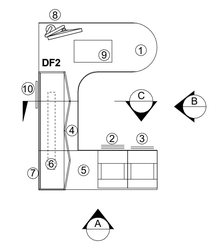



A ELEVATIONS B

**FOOTPRINT SYSTEMS FURNITURE**

1. 48" x 72" EXTENDED U-TOP RADIUS VENEERED DESK W/ MODESTY PANEL
2. 18" x 23"D SQUARE PROFILE VENEERED PEDESTAL BOX/BOX/FILE WITH ARC PULLS
3. 18" x 23"D SQUARE PROFILE VENEERED PEDESTAL FILE/FILE WITH ARC PULLS
4. 24" x 30" VENEERED RETURN
5. 24" x 72" VENEERED CREDENZA
6. 16" x 72" VENEERED HIGH BACK FLAT PROFILE ORGANIZER WITH LAMINATE HINGED DOORS AND TASK LIGHT
7. 72" L UPHOLSTERED HIGHBACK TACKBOARD
8. SINGLE MONITOR ARM/ BOLT THRU MOUNT (MA1)
9. 14" x 24" MCDONALD DESK PAD (DP1)
10. 7 OUTLET ADVANCED POWERSTRIP

## PLAN

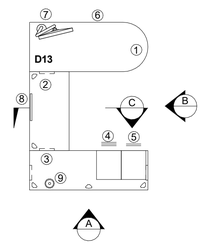



A ELEVATIONS B C

**BRAVO SYSTEMS FURNITURE**

1. 30" x 72" RECTANGULAR DESK
2. 24" x 48" RECTANGULAR BRIDGE
3. 24" x 72" RECTANGULAR CREDENZA (LEFT OR RIGHT PER FURNITURE PLAN)
4. 20" D BOX/BOX/FILE WORKSURFACE SUPPORTING PEDESTAL
5. 20" D FILE/FILE WORKSURFACE SUPPORTING PEDESTAL
6. 72" L UPHOLSTERED MODESTY PANEL SCREEN (ROOMSIDE)
7. SINGLE MONITOR ARM/ BOLT THRU MOUNT (MA1)
8. 7 OUTLET ADVANCED POWERSTRIP (SP1)
9. LED DESK LAMP (TL1)

## PLAN




A ELEVATIONS B C

# 1 FURNITURE / WORKSTATION TYPICAL ELEVATIONS

1/4" = 1'-0"

US Army Corps of Engineers ®

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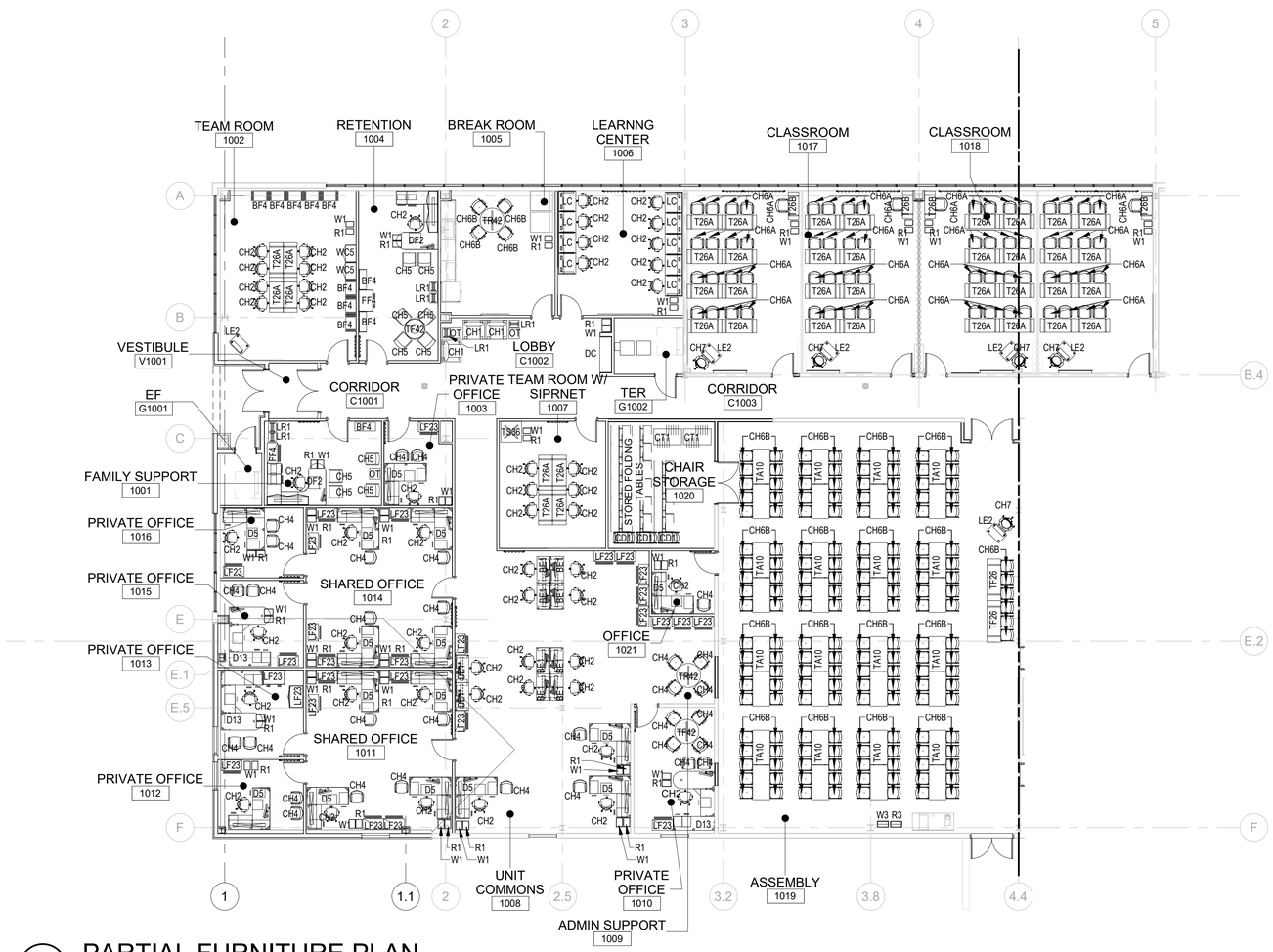
UNITED STATES ARMY RESERVE CENTER
ORANGEBURG, NEW YORK

TYPICAL FURNITURE DETAILS

SHEET ID

IF113

CORRECTED FINAL SUBMISSION - JULY 29, 2021




1 PARTIAL FURNITURE PLAN

3/32" = 1'-0"

## FURNITURE KEY SCHEDULE

| LOCATION | MANUFACTURER. | TAG / CODE | QUANTITY | DESCRIPTION | MANUFACTURER MODEL NUMBER | KEY CODE | NUMBER OF STANDARD KEY COPIES | NOTES |
|---|---|---|---|---|---|---|---|---|
| LOBBY C1002 | SUBASTRAL, INC | DC | 1 | FREESTANDING TROPHY DISPLAY CASE W/ LED TOP LIGHTS | H884 | MANUFACTURER'S STANDARD | 2 | ALL UNITS IN C1002 TO BE KEYED ALIKE. PROVIDE (2) MASTER KEYS FOR ALL LOCKS. PROVIDE (1) CORE REMOVAL MASTER KEY FOR ALL LOCKS |
| FAMILY SUPPORT 1001 | KIMBALL | DF2 | 1 | SQUARE PROFILE VENEERED PEDESTAL BOX/BOX/FILE WITH ARC PULLS | FSB2318-L-ARC-KRB-MW | KSCD001 | 2 | ALL UNITS IN 1001 TO BE KEYED ALIKE. PROVIDE (2) MASTER KEYS FOR ALL LOCKS. PROVIDE (1) CORE REMOVAL MASTER KEY FOR ALL LOCKS |
| FAMILY SUPPORT 1001 | KIMBALL | DF2 | 1 | SQUARE PROFILE VENEERED PEDESTAL BOX/BOX/FILE WITH ARC PULLS | FSF2318-L-ARC-KRB-MW | KSCD001 | 2 | |
| FAMILY SUPPORT 1001 | KIMBALL | DF2 | 1 | VENEERED HIGH BACK FLAT PROFILE ORGANIZER W/ LAMINATE HINGED DOORS AND TASK LIGHT | H7239-H-L-S-N-X-MW | KSCD001 | 2 | |
| FAMILY SUPPORT 1001 | KIMBALL | FF4 | 1 | FUNDAMENTAL 4-HIGH LATERAL FILE | FND18364-E-KRB-STD-462 | KSCD001 | 2 | |
| TEAM ROOM 1002 | UNICOR | WC5 | 2 | INTEGRATE WARDEOBE CABINET | I1867WR | TA002 | 4 | ALL UNITS IN 1002 TO BE KEYED ALIKE. PROVIDE (2) MASTER KEYS FOR ALL LOCKS. PROVIDE (1) CORE REMOVAL MASTER KEY FOR ALL LOCKS |
| PRIVATE OFFICE 1003 | UNICOR | D5 | 1 | BOX/BOX/FILE WORKSURFACE SUPPORTING PEDESTAL | PEDF-PBBF24-28 | LOX003 | 2 | ALL UNITS IN 1001 TO BE KEYED ALIKE. PROVIDE (2) MASTER KEYS FOR ALL LOCKS. PROVIDE (1) CORE REMOVAL MASTER KEY FOR ALL LOCKS |
| PRIVATE OFFICE 1003 | UNICOR | D5 | 1 | FILE/FILE WORKSURFACE SUPPORTING PEDESTAL | PED-FPFF24-28 | LOX003 | 2 | |
| PRIVATE OFFICE 1003 | UNICOR | D5 | 1 | OVERHEAD | BVUS72-S-28 | LOX003 | 2 | |
| PRIVATE OFFICE 1003 | UNICOR | LF23 | 1 | OPUS 2-HIGH METAL LATERAL FILE | LATFF23628 | LOX003 | 2 | |
| RETENTION 1004 | KIMBALL | DF2 | 1 | SQUARE PROFILE VENEERED PEDESTAL BOX/BOX/FILE WITH ARC PULLS | FSB2318-L-ARC-KRB-MW | KSCD004 | 2 | ALL UNITS IN 1004 TO BE KEYED ALIKE. PROVIDE (2) MASTER KEYS FOR ALL LOCKS. PROVIDE (1) CORE REMOVAL MASTER KEY FOR ALL LOCKS |
| RETENTION 1004 | KIMBALL | DF2 | 1 | SQUARE PROFILE VENEERED PEDESTAL FILE/FILE WITH ARC PULLS | FSF2318-L-ARC-KRB-MW | KSCD004 | 2 | |
| RETENTION 1004 | KIMBALL | DF2 | 1 | VENEERED HIGH BACK FLAT PROFILE ORGANIZER W/ LAMINATE HINGED DOORS AND TASK LIGHT | H7239-H-L-S-N-X-MW | KSCD004 | 2 | |
| RETENTION 1004 | KIMBALL | FF4 | 1 | FUNDAMENTAL 4-HIGH LATERAL FILE | FND18364-E-KRB-STD-462 | KSCD004 | 2 | |
| UNIT COMMONS 1008 | UNICOR | D5 | 3 | BOX/BOX/FILE WORKSURFACE SUPPORTING PEDESTAL | PEDF-PBBF24-28 | LOX008 | 6 | ALL UNITS IN 1008/1009 TO BE KEYED ALIKE. PROVIDE (2) MASTER KEYS FOR ALL LOCKS. PROVIDE (1) CORE REMOVAL MASTER KEY FOR ALL LOCKS |
| UNIT COMMONS 1008 | UNICOR | D5 | 3 | FILE/FILE WORKSURFACE SUPPORTING PEDESTAL | PED-FPFF24-28 | LOX008 | 6 | |
| UNIT COMMONS 1008 | UNICOR | D5 | 7 | OVERHEAD | BVUS72-S-28 | LOX008 | 6 | |
| UNIT COMMONS 1008 | UNICOR | LF23 | 7 | OPUS 2-HIGH METAL LATERAL FILE | LATFF23628 | LOX008 | 14 | |
| ADMIN SUPPORT 1009 | UNICOR | LF23 | 3 | OPUS 2-HIGH METAL LATERAL FILE | LATFF23628 | LOX008 | 6 | |
| PRIVATE OFFICE 1010 | UNICOR | D13 | 1 | BOX/BOX/FILE WORKSURFACE SUPPORTING PEDESTAL | PED-FPBBF-20 | LOX010 | 2 | ALL UNITS IN 1010 TO BE KEYED ALIKE. PROVIDE (2) MASTER KEYS FOR ALL LOCKS. PROVIDE (1) CORE REMOVAL MASTER KEY FOR ALL LOCKS |
| PRIVATE OFFICE 1010 | UNICOR | D13 | 1 | FILE/FILE WORKSURFACE SUPPORTING PEDESTAL | PEDF-PBBF20 | LOX010 | 2 | |
| PRIVATE OFFICE 1010 | UNICOR | LF23 | 1 | OPUS 2-HIGH METAL LATERAL FILE | LATFF23628 | LOX010 | 2 | |
| SHARED OFFICE 1011 | UNICOR | D5 | 4 | BOX/BOX/FILE WORKSURFACE SUPPORTING PEDESTAL | PEDF-PBBF24-28 | LOX011 | 8 | ALL UNITS IN 1011 TO BE KEYED ALIKE. PROVIDE (2) MASTER KEYS FOR ALL LOCKS. PROVIDE (1) CORE REMOVAL MASTER KEY FOR ALL LOCKS |
| SHARED OFFICE 1011 | UNICOR | D5 | 4 | FILE/FILE WORKSURFACE SUPPORTING PEDESTAL | PED-FPFF24-28 | LOX011 | 8 | |
| SHARED OFFICE 1011 | UNICOR | D5 | 4 | OVERHEAD | BVUS72-S-28 | LOX011 | 8 | |
| SHARED OFFICE 1011 | UNICOR | LF23 | 5 | OPUS 2-HIGH METAL LATERAL FILE | LATFF23628 | LOX011 | 10 | |
| PRIVATE OFFICE 1012 | UNICOR | D5 | 1 | BOX/BOX/FILE WORKSURFACE SUPPORTING PEDESTAL | PEDF-PBBF24-28 | LOX012 | 2 | ALL UNITS IN 1011 TO BE KEYED ALIKE. PROVIDE (2) MASTER KEYS FOR ALL LOCKS. PROVIDE (1) CORE REMOVAL MASTER KEY FOR ALL LOCKS |
| PRIVATE OFFICE 1012 | UNICOR | D5 | 1 | FILE/FILE WORKSURFACE SUPPORTING PEDESTAL | PED-FPFF24-28 | LOX012 | 2 | |
| PRIVATE OFFICE 1012 | UNICOR | D5 | 1 | OVERHEAD | BVUS72-S-28 | LOX012 | 2 | |
| PRIVATE OFFICE 1012 | UNICOR | LF23 | 1 | OPUS 2-HIGH METAL LATERAL FILE | LATFF23628 | LOX012 | 2 | |
| PRIVATE OFFICE 1013 | UNICOR | D13 | 1 | BOX/BOX/FILE WORKSURFACE SUPPORTING PEDESTAL | PED-FPBBF-20 | LOX013 | 2 | ALL UNITS IN 1013 TO BE KEYED ALIKE. PROVIDE (2) MASTER KEYS FOR ALL LOCKS. PROVIDE (1) CORE REMOVAL MASTER KEY FOR ALL LOCKS |
| PRIVATE OFFICE 1013 | UNICOR | D13 | 1 | FILE/FILE WORKSURFACE SUPPORTING PEDESTAL | PEDF-PBBF20 | LOX013 | 2 | |
| PRIVATE OFFICE 1013 | UNICOR | LF23 | 2 | OPUS 2-HIGH METAL LATERAL FILE | LATFF23628 | LOX013 | 4 | |
| SHARED OFFICE 1014 | UNICOR | D5 | 4 | BOX/BOX/FILE WORKSURFACE SUPPORTING PEDESTAL | PEDF-PBBF24-28 | LOX014 | 8 | ALL UNITS IN 1014 TO BE KEYED ALIKE. PROVIDE (2) MASTER KEYS FOR ALL LOCKS. PROVIDE (1) CORE REMOVAL MASTER KEY FOR ALL LOCKS |
| SHARED OFFICE 1014 | UNICOR | D5 | 4 | FILE/FILE WORKSURFACE SUPPORTING PEDESTAL | PED-FPFF24-28 | LOX014 | 8 | |
| SHARED OFFICE 1014 | UNICOR | D5 | 4 | OVERHEAD | BVUS72-S-28 | LOX014 | 8 | |
| SHARED OFFICE 1014 | UNICOR | LF23 | 6 | OPUS 2-HIGH METAL LATERAL FILE | LATFF23628 | LOX014 | 12 | |
| PRIVATE OFFICE 1015 | UNICOR | D13 | 1 | BOX/BOX/FILE WORKSURFACE SUPPORTING PEDESTAL | PED-FPBBF-20 | LOX015 | 2 | ALL UNITS IN 1015 TO BE KEYED ALIKE. PROVIDE (2) MASTER KEYS FOR ALL LOCKS. PROVIDE (1) CORE REMOVAL MASTER KEY FOR ALL LOCKS |
| PRIVATE OFFICE 1015 | UNICOR | D13 | 1 | FILE/FILE WORKSURFACE SUPPORTING PEDESTAL | PEDF-PBBF20 | LOX015 | 2 | |
| PRIVATE OFFICE 1015 | UNICOR | LF23 | 1 | OPUS 2-HIGH METAL LATERAL FILE | LATFF23628 | LOX015 | 2 | |
| PRIVATE OFFICE 1016 | UNICOR | D5 | 1 | BOX/BOX/FILE WORKSURFACE SUPPORTING PEDESTAL | PEDF-PBBF24-28 | LOX016 | 2 | ALL UNITS IN 1016 TO BE KEYED ALIKE. PROVIDE (2) MASTER KEYS FOR ALL LOCKS. PROVIDE (1) CORE REMOVAL MASTER KEY FOR ALL LOCKS |
| PRIVATE OFFICE 1016 | UNICOR | D5 | 1 | FILE/FILE WORKSURFACE SUPPORTING PEDESTAL | PED-FPFF24-28 | LOX016 | 2 | |
| PRIVATE OFFICE 1016 | UNICOR | D5 | 1 | OVERHEAD | BVUS72-S-28 | LOX016 | 2 | |
| PRIVATE OFFICE 1016 | UNICOR | LF23 | 1 | OPUS 2-HIGH METAL LATERAL FILE | LATFF23628 | LOX016 | 2 | |
| PRIVATE OFFICE 1021 | UNICOR | D5 | 1 | BOX/BOX/FILE WORKSURFACE SUPPORTING PEDESTAL | PEDF-PBBF24-28 | LOX021 | 2 | ALL UNITS IN 1021 TO BE KEYED ALIKE. PROVIDE (2) MASTER KEYS FOR ALL LOCKS. PROVIDE (1) CORE REMOVAL MASTER KEY FOR ALL LOCKS |
| PRIVATE OFFICE 1021 | UNICOR | D5 | 1 | FILE/FILE WORKSURFACE SUPPORTING PEDESTAL | PED-FPFF24-28 | LOX021 | 2 | |
| PRIVATE OFFICE 1021 | UNICOR | D5 | 1 | OVERHEAD | BVUS72-S-28 | LOX021 | 2 | |

US Army Corps of Engineers ®

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US ARMY CORPS OF ENGINEERS
LOUISVILLE DISTRICT
LOUISVILLE, KY

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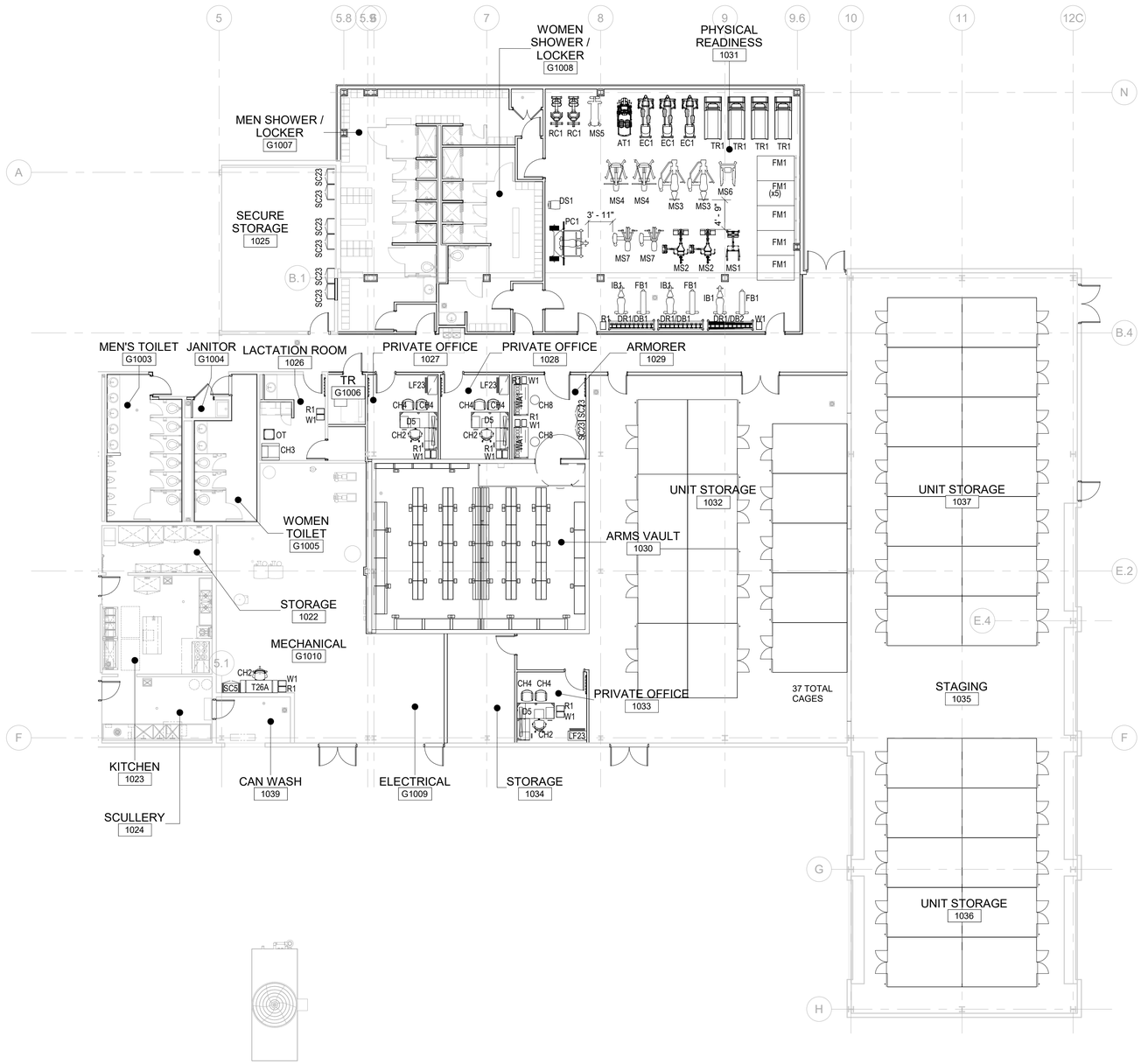
UNITED STATES ARMY RESERVE CENTER
ORANGEBURG, NEW YORK

FURNITURE KEY PLAN AND SCHEDULE

SHEET ID

IF114

CORRECTED FINAL SUBMISSION - JULY 29, 2021




1 PARTIAL FURNITURE PLAN.

3/32" = 1'-0"

FURNITURE KEY SCHEDULE.

| LOCATION | MANUFACTURER. | TAG / CODE | QUANTITY | DESCRIPTION | MANUFACTURER MODEL NUMBER | KEY CODE | NUMBER OF STANDARD KEY COPIES | NOTES |
|---|---|---|---|---|---|---|---|---|
| MECHANICAL G1010 | UNICOR | SC5 | 1 | OPUS 5-HIGH STORAGE CABINET W/ DOUBLE DOORS | LATFFMP53628 | LOX101 | 2 | ALL UNITS IN G1010 TO BE KEYED ALIKE. PROVIDE (2) MASTER KEYS FOR ALL LOCKS. PROVIDE (1) CORE REMOVAL MASTER KEY FOR ALL LOCKS |
| SECURE STORAGE 1025 | UNICOR | SC23 | 6 | OPUS 2-HIGH METAL LATERAL FILE | LATFF23628 | LOX025 | 12 | ALL UNITS IN 1025 TO BE KEYED ALIKE. PROVIDE (2) MASTER KEYS FOR ALL LOCKS. PROVIDE (1) CORE REMOVAL MASTER KEY FOR ALL LOCKS |
| PRIVATE OFFICE 1027 | UNICOR | D5 | 1 | BOX/BOX/FILE WORKSURFACE SUPPORTING PEDESTAL | PEDF-PBBF24-28 | LOX027 | 2 | ALL UNITS IN 1027 TO BE KEYED ALIKE. PROVIDE (2) MASTER KEYS FOR ALL LOCKS. PROVIDE (1) CORE REMOVAL MASTER KEY FOR ALL LOCKS |
| PRIVATE OFFICE 1027 | UNICOR | D5 | 1 | FILE/FILE WORKSURFACE SUPPORTING PEDESTAL | PED-FPFF24-28 | LOX027 | 2 | |
| PRIVATE OFFICE 1027 | UNICOR | D5 | 1 | OVERHEAD | BVUS72-S-28 | LOX027 | 2 | |
| PRIVATE OFFICE 1027 | UNICOR | LF23 | 1 | OPUS 2-HIGH METAL LATERAL FILE | LATFF23628 | LOX027 | 2 | |
| PRIVATE OFFICE 1028 | UNICOR | D5 | 1 | BOX/BOX/FILE WORKSURFACE SUPPORTING PEDESTAL | PEDF-PBBF24-28 | LOX028 | 2 | ALL UNITS IN 1028 TO BE KEYED ALIKE. PROVIDE (2) MASTER KEYS FOR ALL LOCKS. PROVIDE (1) CORE REMOVAL MASTER KEY FOR ALL LOCKS |
| PRIVATE OFFICE 1028 | UNICOR | D5 | 1 | FILE/FILE WORKSURFACE SUPPORTING PEDESTAL | PED-FPFF24-28 | LOX028 | 2 | |
| PRIVATE OFFICE 1028 | SUBASTRAL, INC | D5 | 1 | OVERHEAD | BVUS72-S-28 | LOX028 | 2 | |
| PRIVATE OFFICE 1028 | UNICOR | LF23 | 1 | OPUS 2-HIGH METAL LATERAL FILE | LATFF23628 | LOX028 | 2 | |
| ARMORER 1029 | LYON | WA1 | 2 | SLENDER WIDE BENCH HEIGHT CABINET W/ STANDARD LOCK AND MULTIPLE DRAWER ACCESS (4 DRAWERS) | M352230000A0L | 240MK1 | 4 | ALL LYON UNITS IN 1028 TO BE KEYED ALIKE. PROVIDE (2) MASTER KEYS FOR ALL LOCKS. PROVIDE (1) CORE REMOVAL MASTER KEY FOR ALL LOCKS |
| ARMORER 1029 | UNICOR | SC23 | 2 | OPUS 2-HIGH METAL LATERAL FILE | LATFF23628 | LOX029 | 4 | ALL UNICOR UNITS IN 1028 TO BE KEYED ALIKE. PROVIDE (2) MASTER KEYS FOR ALL LOCKS. PROVIDE (1) CORE REMOVAL MASTER KEY FOR ALL LOCKS |
| PRIVATE OFFICE 1033 | UNICOR | D5 | 1 | BOX/BOX/FILE WORKSURFACE SUPPORTING PEDESTAL | PEDF-PBBF24-28 | LOX033 | 2 | ALL UNITS IN 1033 TO BE KEYED ALIKE. PROVIDE (2) MASTER KEYS FOR ALL LOCKS. PROVIDE (1) CORE REMOVAL MASTER KEY FOR ALL LOCKS |
| PRIVATE OFFICE 1033 | UNICOR | D5 | 1 | FILE/FILE WORKSURFACE SUPPORTING PEDESTAL | PED-FPFF24-28 | LOX033 | 2 | |
| PRIVATE OFFICE 1033 | UNICOR | D5 | 1 | OVERHEAD | BVUS72-S-28 | LOX033 | 2 | |
| PRIVATE OFFICE 1033 | UNICOR | LF23 | 1 | OPUS 2-HIGH METAL LATERAL FILE | LATFF23628 | LOX033 | 2 | |

US Army Corps of Engineers ®

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LOUISVILLE, KY


BENAKA INC.
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UNITED STATES ARMY RESERVE CENTER
ORANGEBURG, NEW YORK

FURNITURE KEY PLAN AND SCHEDULE

SHEET ID

IF115

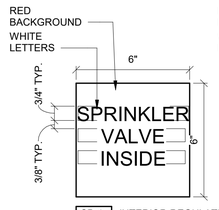
CORRECTED FINAL SUBMISSION - JULY 29, 2021

## GENERAL NOTES- SIGNAGE KEY

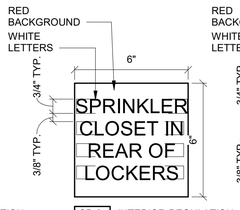
SIGNAGE FINISHES:

UNLESS NOTED OTHERWISE ON THIS SHEET, THE SIGNAGE SCHEDULE, OR SIGNAGE PLANS ALL SIGNAGE TO BE THE FOLLOWING AS PER ASI MODULEX SIGNAGE SYSTEM:

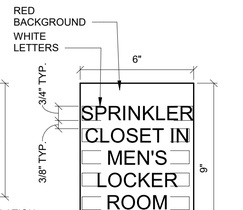
BACKGROUND COLOR: LETTERING COLOR:
SC-908 COOL GREY SC-914 LEAD



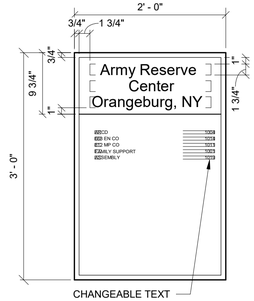

SP-1 INTERIOR REGULATION SIGN




SP-2 INTERIOR REGULATION SIGN

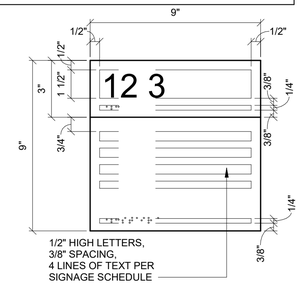



SP-3 INTERIOR REGULATION SIGN




AA-2 INTERIOR BUILDING DIRECTORY SIGN

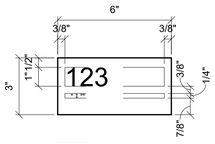
NOTE: PROVIDE ENOUGH MAGNETIC LETTERING TO FILL EACH LINE.



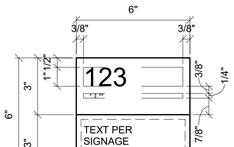

1/2" HIGH LETTERS,
3/8" SPACING,
4 LINES OF TEXT PER SIGNAGE SCHEDULE

BB-2 INTERIOR IDENTIFICATION SIGN PERMANENT LABEL

BB-2E EXTERIOR IDENTIFICATION SIGN PERMANENT LABEL
PROVIDE 2" HIGH EXTERIOR DECAL, HELVETICA MEDIUM WHITE

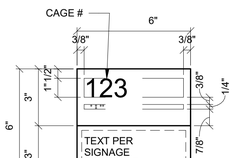



BB-3 INTERIOR OFFICE IDENTIFICATION SIGN: DESK PLAQUE



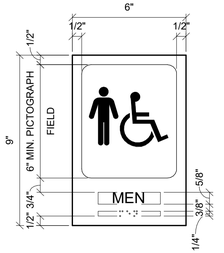

WINDOW INSERT FOR TYPEWRITTEN 3"x6" CARD

BB-2a INTERIOR OFFICE IDENTIFICATION SIGN: DESK PLAQUE




WINDOW INSERT FOR TYPEWRITTEN 3"x6" CARD

BB-5 INTERIOR IDENTIFICATION SIGN: AT CAGES

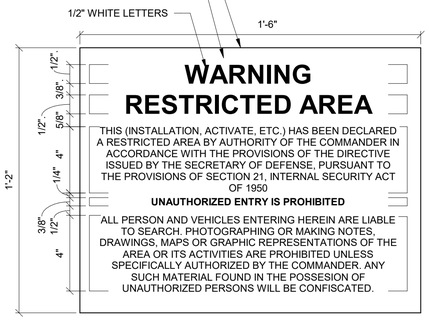



BB-7a INTERIOR IDENTIFICATION SIGN: REST ROOM

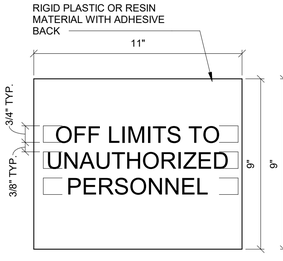



SEE BB7a FOR DIMS

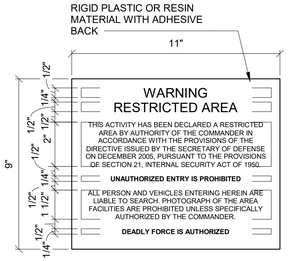
BB-7b INTERIOR IDENTIFICATION SIGN: REST ROOM




DES-2 INTERIOR REGULATION SIGN: WARNING SIGN



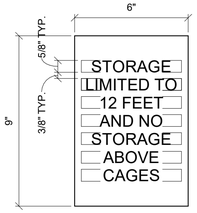

DES-3 INTERIOR REGULATION SIGN: WARNING SIGN



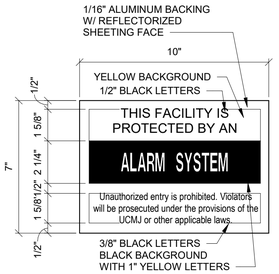

DES-4 INTERIOR REGULATION SIGN: WARNING SIGN



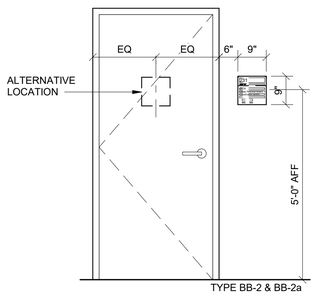

E-7 EXTERIOR REGULATION SIGN: NO SMOKING



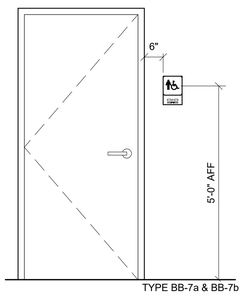

DD-5 INTERIOR REGULATION SIGN: NO STORAGE ALLOWED



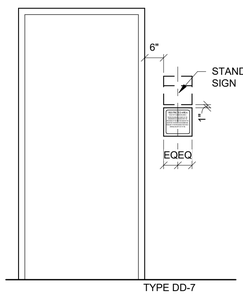

DD-7 EXTERIOR REGULATION SIGN: IDS WARNING SIGN



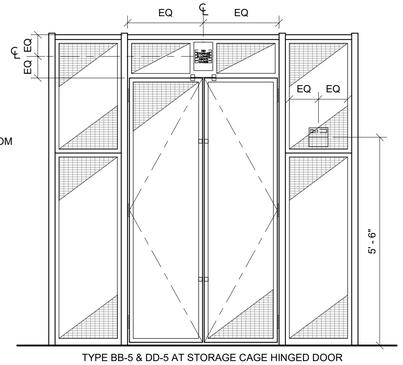

TYPE BB-2 & BB-2a




TYPE BB-7a & BB-7b




TYPE DD-7




TYPE BB-5 & DD-5 AT STORAGE CAGE HINGED DOOR

US Army Corps of Engineers ®

SEAL AND SIGNATURE
ANTHONY F. PEDRO DATE:
N.Y. LIC. NO. 093068

| MARK | DESCRIPTION | DATE |
|---|---|---|

ISSUE DATE:
SOLICITATION NO.: W912QR20R0038
CONTRACT NO.: W912QR20C0038

DESIGNED BY: USACE RFP
DRAWN BY: JS
CHECKED BY: AM
SUBMITTED BY:
SIZE: ANSI D

US ARMY CORPS OF ENGINEERS
LOUISVILLE DISTRICT
LOUISVILLE, KY

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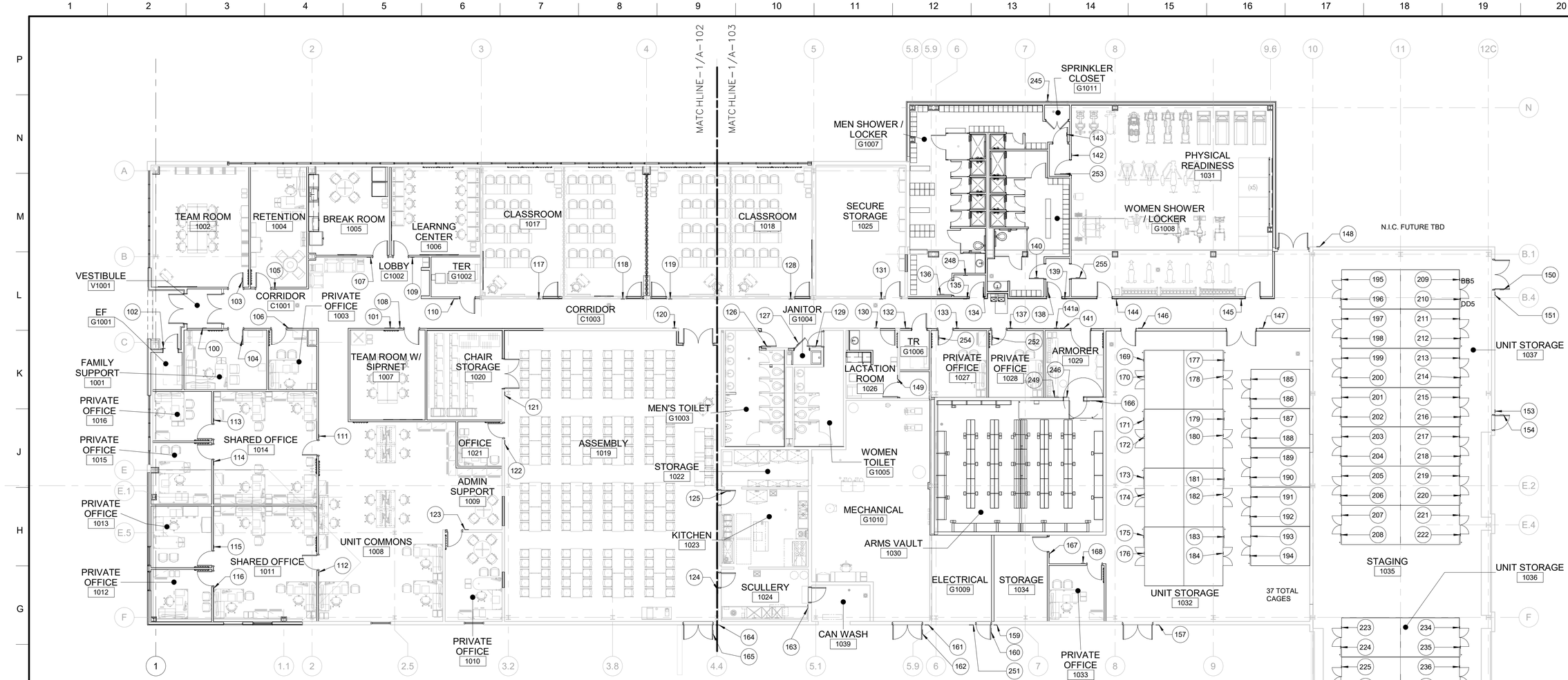
UNITED STATES ARMY RESERVE CENTER
ORANGEBURG, NEW YORK

SIGNAGE KEY

SHEET ID

IG001

CORRECTED FINAL SUBMISSION - JULY 29, 2021




1 OVERALL SIGNAGE PLAN
3/32" = 1'-0"

## SIGNAGE

| TAG | TYPE | ROOM # | TEXT |
|---|---|---|---|
| 100 | SP-3 | | |
| 101 | AA-2 | | |
| 102 | BB-2E | G1001 | ENTRANCE FACILITY |
| 103 | BB-2 | 1002 | TEAM ROOM |
| 104 | BB-2 | 1001 | FAMILY SUPPORT |
| 105 | BB-2a | 1004 | ARCD |
| 106 | BB-2a | 1003 | 99RD |
| 107 | BB-2 | 1005 | BREAK ROOM |
| 108 | BB-2 | 1007 | TEAM ROOM |
| 109 | BB-2 | 1006 | LEARNING CENTER |
| 110 | BB-2 | G1002 | TER |
| 111 | BB-2a | 1014 | UNIT ADMIN |
| 112 | BB-2a | 1011 | UNIT ADMIN |
| 113 | BB-2 | 1016 | 1SG |
| 114 | BB-2 | 1015 | COMMANDER |
| 115 | BB-2 | 1013 | COMMANDER |
| 116 | BB-2 | 1012 | 1SG |
| 117 | BB-2 | 1017 | CLASSROOM |
| 118 | BB-2 | 1017 | CLASSROOM |
| 119 | BB-2 | 1018 | CLASSROOM |
| 120 | BB-2 | 1019 | ASSEMBLY |
| 121 | BB-2 | 1020 | CHAIR STORAGE |
| 122 | BB-2a | 1021 | MESS SERGEANT |
| 123 | BB-2a | 1010 | PRIVATE OFFICE |
| 124 | BB-2 | 1024 | SCULLERY |
| 125 | BB-2 | 1023 | KITCHEN |
| 126 | BB-7a | G1003 | MEN |
| 127 | BB-2 | G1004 | JANITOR |
| 128 | BB-2 | 1018 | CLASSROOM |

| TAG | TYPE | ROOM # | TEXT |
|---|---|---|---|
| 129 | BB-7b | G1005 | WOMEN |
| 130 | BB-2 | 1026 | LACTATION |
| 131 | BB-2 | 1025 | SECURE STORAGE |
| 132 | BB-2 | G1006 | TR |
| 133 | BB-2a | 1027 | SUPPLY ROOM |
| 134 | BB-7a | G1007 | MEN |
| 135 | BB-2 | G1007 | LOCKERS |
| 136 | BB-7a | G1007 | MEN'S SHOWER / LOCKER ROOM |
| 137 | BB-2 | 1028 | SUPPLY ROOM |
| 138 | BB-7b | G1008 | WOMEN |
| 139 | BB-2 | G1008 | LOCKERS |
| 140 | BB-7a | G1008 | WOMEN'S SHOWER / LOCKER ROOM |
| 141 | BB-2 | 1029 | ARMORER |
| 141a | DD-7 | 1029 | ARMORER |
| 142 | BB-2 | G1007 | LOCKERS |
| 143 | BB-2 | G1007 | MEN'S SHOWER / LOCKER ROOM |
| 144 | BB-2 | 1031 | FITNESS TRAINING |
| 145 | BB-2 | 1031 | FITNESS TRAINING |
| 146 | BB-2 | 1032 | UNIT STORAGE |
| 147 | BB-2 | 1032 | UNIT STORAGE |
| 148 | E-7 | | |
| 149 | BB-2 | | LACTATION ROOM |
| 150 | BB-2E | | |
| 151 | E-7 | | |
| 153 | E-7 | | |
| 154 | BB-2E | | |
| 157 | E-7 | | |
| 159 | E-7 | | |

| TAG | TYPE | ROOM # | TEXT |
|---|---|---|---|
| 160 | BB-2E | G1009 | ELECTRICAL |
| 161 | BB-2E | G1010 | MECHANICAL ROOM |
| 162 | DES-2 | | |
| 163 | BB-2 | 1039 | CAN WASH |
| 164 | E-7 | | |
| 165 | BB-2E | 1019 | ASSEMBLY |
| 166 | BB-2 | 1030 | ARMORER |
| 167 | BB-2 | 1034 | STORAGE |
| 168 | BB-2a | 1033 | |
| 169 | DD-5 | 1032 | |
| 170 | BB-5 | 1032 | A4 |
| 171 | DD-5 | 1032 | |
| 172 | BB-5 | 1032 | A3 |
| 173 | DD-5 | 1032 | |
| 174 | BB-5 | 1032 | A2 |
| 175 | DD-5 | 1032 | |
| 176 | BB-5 | 1032 | A1 |
| 177 | DD-5 | 1032 | |
| 178 | BB-5 | 1032 | A8 |
| 179 | DD-5 | 1032 | |
| 180 | BB-5 | 1032 | A7 |
| 181 | DD-5 | 1032 | |
| 182 | BB-5 | 1032 | A6 |
| 183 | DD-5 | 1032 | |
| 184 | BB-5 | 1032 | A5 |
| 185 | BB-5 | 1032 | A13 |
| 186 | DD-5 | 1032 | |
| 187 | BB-5 | 1032 | A12 |
| 188 | DD-5 | 1032 | |

| TAG | TYPE | ROOM # | TEXT |
|---|---|---|---|
| 189 | BB-5 | 1032 | A11 |
| 190 | DD-5 | 1032 | |
| 191 | BB-5 | 1032 | A10 |
| 192 | DD-5 | 1032 | |
| 193 | BB-5 | 1032 | A9 |
| 194 | DD-5 | 1032 | |
| 195 | BB-5 | 1037 | B12 |
| 196 | DD-5 | 1037 | |
| 197 | BB-5 | 1037 | B11 |
| 198 | DD-5 | 1037 | |
| 199 | BB-5 | 1037 | B10 |
| 200 | DD-5 | 1037 | |
| 201 | BB-5 | 1037 | B9 |
| 202 | DD-5 | 1037 | |
| 203 | BB-5 | 1037 | B8 |
| 204 | DD-5 | 1037 | |
| 205 | BB-5 | 1037 | B7 |
| 206 | DD-5 | 1037 | |
| 207 | BB-5 | 1037 | B6 |
| 208 | DD-5 | 1037 | |
| 209 | BB-5 | 1037 | B24 |
| 210 | DD-5 | 1037 | |
| 211 | BB-5 | 1037 | B23 |
| 212 | DD-5 | 1037 | |
| 213 | BB-5 | 1037 | B22 |
| 214 | DD-5 | 1037 | |
| 215 | BB-5 | 1037 | B21 |
| 216 | DD-5 | 1037 | |
| 217 | BB-5 | 1037 | B20 |

## SIGNAGE

| TAG | TYPE | ROOM # | TEXT |
|---|---|---|---|
| 218 | DD-5 | 1037 | |
| 219 | BB-5 | 1037 | B19 |
| 220 | DD-5 | 1037 | |
| 221 | BB-5 | 1037 | B18 |
| 222 | DD-5 | 1037 | |
| 223 | BB-5 | 1036 | B5 |
| 224 | DD-5 | 1036 | |
| 225 | BB-5 | 1036 | B4 |
| 226 | DD-5 | 1036 | |
| 227 | BB-5 | 1036 | B3 |
| 228 | DD-5 | 1036 | |
| 229 | BB-5 | 1036 | B2 |
| 230 | DD-5 | 1036 | |
| 231 | BB-5 | 1036 | B1 |
| 233 | DD-5 | 1036 | |
| 234 | BB-5 | 1036 | B17 |
| 235 | DD-5 | 1036 | |
| 236 | BB-5 | 1036 | B16 |
| 237 | DD-5 | 1036 | |
| 238 | BB-5 | 1036 | B15 |

| TAG | TYPE | ROOM # | TEXT |
|---|---|---|---|
| 239 | DD-5 | 1036 | |
| 240 | BB-5 | 1036 | B14 |
| 241 | DD-5 | 1036 | |
| 242 | BB-5 | 1036 | B13 |
| 243 | DD-5 | 1036 | |
| 245 | E-7 | | |
| 246 | DD-7 | | |
| 247 | SP-1 | | |
| 248 | SP-2 | | |
| 249 | DES-4 | | |
| 251 | DD-7 | | |
| 252 | DES-3 | | |
| 253 | BB-7a | G1007 | MEN |
| 254 | DES-3 | | |
| 255 | BB-7a | G1008 | WOMEN'S SHOWER / LOCKER ROOM |

PLAN NORTH

US Army Corps of Engineers ®

SEAL AND SIGNATURE
ANTHONY F. PEDRO DATE:
N.Y. LIC. NO. 093068

| MARK | DESCRIPTION | DATE |
|---|---|---|

DESIGNED BY: USACE RFP
DRAWN BY: JG
CHECKED BY: PE
SUBMITTED BY:
ISSUE DATE:
SOLICITATION NO.: W912QR20R0038
CONTRACT NO.: W912QR20C0038
SIZE: ANSI D

US ARMY CORPS OF ENGINEERS
LOUISVILLE DISTRICT
LOUISVILLE, KY

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United States of America
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UNITED STATES ARMY RESERVE CENTER
ORANGEBURG, NEW YORK

OVERALL SIGNAGE PLAN

SHEET ID
IG101

CORRECTED FINAL SUBMISSION - JULY 29, 2021

## ROOM FINISH SCHEDULE

| ROOMS | | FLOOR | BASE | WALL | CEILING | |
|---|---|---|---|---|---|---|
| NUMBER | NAME | FINISH | FINISH | FINISH | FINISH | NOTES |
| 1001 | FAMILY SUPPORT | CPT | RB | P-1 / AP2 | ACT | 1 |
| 1002 | TEAM ROOM | CPT | RB | P-1 / AP2 | ACT | 1 |
| 1003 | PRIVATE OFFICE | CPT | RB | P-1 / AP2 | ACT | 1 |
| 1004 | RETENTION | CPT | RB | P-1 / AP2 | ACT | 1 |
| 1005 | BREAK ROOM | RT-1 | RB | P-1 / AP1 | ACT | 1 |
| 1006 | LEARNNG CENTER | CPT | RB | P-1 / AP2 | ACT | 1 |
| 1007 | TEAM ROOM W/ SIPRNET | CPT | RB | P-1 / AP2 | ACT | 1 |
| 1008 | UNIT COMMONS | CPT | RB | P-1 / AP1 | ACT | 1 |
| 1009 | ADMIN SUPPORT | CPT | RB | P-1 | ACT | 1 |
| 1010 | PRIVATE OFFICE | CPT | RB | P-1 / AP2 | ACT | 1 |
| 1011 | SHARED OFFICE | CPT | RB | P-1 / AP1 | ACT | 1 |
| 1012 | PRIVATE OFFICE | CPT | RB | P-1 / AP2 | ACT | 1 |
| 1013 | PRIVATE OFFICE | CPT | RB | P-1 / AP2 | ACT | 1 |
| 1014 | SHARED OFFICE | CPT | RB | P-1 / AP1 | ACT | 1 |
| 1015 | PRIVATE OFFICE | CPT | RB | P-1 / AP2 | ACT | 1 |
| 1016 | PRIVATE OFFICE | CPT | RB | P-1 / AP2 | ACT | 1 |
| 1017 | CLASSROOM | CPT | RB | P-1 / AP1 | ACT | 1 |
| 1018 | CLASSROOM | CPT | RB | P-1 / AP1 | ACT | 1 |
| 1019 | ASSEMBLY | EPOXY | COVE | P-1 / AP1 | ACT | |
| 1020 | CHAIR STORAGE | EPOXY | COVE | P-1 | ACT | |
| 1021 | OFFICE | CPT | RB | P-1 / AP2 | ACT | 1 |
| 1022 | STORAGE | QT | N/A | CT2 / P-1 | ACT | 3 |
| 1023 | KITCHEN | QT | N/A | CT2 / P-1 | ACT | 3 |
| 1024 | SCULLERY | QT | N/A | CT2 / P-1 | ACT | 3 |
| 1025 | SECURE STORAGE | EXST | EXST | P-1 | CP | |
| 1026 | LACTATION ROOM | CPT | RB | P-1 / AP2 | ACT | 1 |
| 1026A | STORAGE | SC | RB | P-1 | ACT | 1 |
| 1027 | PRIVATE OFFICE | CPT | RB | P-1 / AP2 | ACT | 1 |
| 1028 | PRIVATE OFFICE | CPT | RB | P-1 / AP2 | ACT | 1 |
| 1029 | ARMORER | RT-1 | RB | P-1 | ACT | 1 |
| 1030 | ARMS VAULT | SC | N/A | P-1 | ACT | |
| 1031 | PHYSICAL READINESS | AF | RB | P-1 / AP1 | ACT | 1 |
| 1032 | UNIT STORAGE | SC | N/A | P-1 | ACT | |
| 1033 | PRIVATE OFFICE | SC | RB | P-1 | ACT | 1 |
| 1034 | STORAGE | SC | RB | P-1 | ACT | 1 |
| 1035 | STAGING | SC | N/A | P-1 | EXP | |
| 1036 | UNIT STORAGE | SC | N/A | P-1 | EXP | |
| 1037 | UNIT STORAGE | SC | N/A | P-1 | EXP | |
| 1039 | CAN WASH | SC | N/A | P-1 | CP | |
| C1001 | CORRIDOR | RT-1 / RT-2 | RB | P-1 | ACT | 1 |
| C1002 | LOBBY | RT-1 / RT-2 | RB | P-1 | ACT | 1 |
| C1003 | CORRIDOR | RT-1 / RT-2 | RB | P-1 | ACT | 1 |
| G1001 | EF | SDT | RB | P-1 | CP | 1, 2 |
| G1002 | TER | SDT | RB | P-1 | CP | 1, 2 |
| G1003 | MEN'S TOILET | RT-1 | N/A | CT2 / AP3 | ACT | 4 |
| G1004 | JANITOR | SC | RB | P-1 | EXP | 1 |
| G1005 | WOMEN TOILET | RT-1 | N/A | CT2 / AP3 | ACT | 4 |
| G1006 | TR | SDT | RB | P-1 | CP | 1, 2 |
| G1007 | MEN SHOWER / LOCKER | CT-1 | N/A | CT2 / AP3 | ACT / CB | 4 |
| G1008 | WOMEN SHOWER / LOCKER | CT-1 | N/A | CT2 / AP3 | ACT / CB | 4 |
| G1009 | ELECTRICAL | SC | RB | P-1 | EXP | 1 |
| G1010 | MECHANICAL | SC | RB | P-1 | EXP | 1 |
| G1011 | SPRINKLER CLOSET | SC | N/A | P-1 | EXP | |
| V1001 | VESTIBULE | MAT | RB | P-1 | ACT | 1 |

NOTES: (REFER TO SHEET IN-002 FOR MATERIAL & FINISH LEGEND)

1. PROVIDE COILED RUBBER BASE WITH COVE PROFILE AND FACTORY FORMED OUTSIDE CORNERS.
2. PROVIDE STATIC DESSIPATIVE ADHESIVE FOR SDT.
3. PROVIDE COVE BASE TO MATCH WALL TILE AND STAINLESS STEEL SCHLUTER JOLLY TRIM AT TERMINATION POINT (6'-0" AFF). PROVIDE PAINT ABOVE TERMINATION POINT.
4. PROVIDE STAINLESS STEEL SCHLUTER DILEX-AHK COVE TRIM AT BASE AND STAINLESS STEEL SCHLUTER JOLLY TRIM AT TERMINATION POINT (5'-0" AFF). PROVIDE PAINT ABOVE TERMINATION POINT.

US Army Corps of Engineers ®

SEAL AND SIGNATURE
ANTHONY F. PEDRO DATE:
N.Y. LIC. NO. 093068

| MARK | DESCRIPTION | DATE |
|---|---|---|
| | | |

DESIGNED BY: ISSUE DATE:
USACE RFP
DRAWN BY: SOLICITATION NO.: W912QR20R0038
CN
CHECKED BY: CONTRACT NO.: W912QR20C0038
RE
SUBMITTED BY:
SIZE: ANSI D

US ARMY CORPS OF ENGINEERS
LOUISVILLE DISTRICT
LOUISVILLE, KY

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UNITED STATES ARMY RESERVE CENTER
ORANGEBURG, NEW YORK

FINISH SCHEDULE

SHEET ID

IN001

CORRECTED FINAL SUBMISSION - JULY 29, 2021

## MATERIALS AND FINISHES LEGEND

| LEGEND | TAG | DESCRIPTION | COLOR | NOTES |
|---|---|---|---|---|
| | | | | |
| CARPET FLOOR TILE | CPT | INTERFACE SILVER LININGS SL920 25CM x 1M | 104518 MICA LINE | REFER TO FINISH PLAN FOR PATTERN |
| TAN RUBBER FLOOR TILE | RT-1 | ROPPE MARBLEIZED SMOOTH 12x12 | ALMOND M184 | REFER TO FINISH PLAN FOR PATTERN |
| GREEN RUBBER FLOOR TILE | RT-2 | ROPPE MARBLEIZED SMOOTH 12x12 | AGED FERN M663 | REFER TO FINISH PLAN FOR PATTERN |
| QUARRY FLOOR TILE | QT | DALTILE QUARRY TEXTURES 8x8 W/MAPEI KERAPOXY CQ GROUT | DIABLO RED 0T01 W/113 BRICK RED GROUT | REFER TO FINISH PLAN FOR PATTERN |
| STATIC DISSIPATIVE VINYL COMM TILE | SDT | ARMSTRONG EXCELON SDT | PEARL WHITE 51953 | REFER TO FINISH PLAN FOR PATTERN |
| ATHLETIC FLOOR TILE | AF | PAWLING INTERLOK HID-N-LOCK HL-100 ATHLETIC FLOOR TILE | TAN #3 | REFER TO FINISH PLAN FOR PATTERN |
| EPOXY TO MATCH EXISTING | EPOXY | | | |
| EXISTING TO REMAIN | EXST | | | |
| SEALED CONCRETE | SC | | | |
| WALK OFF MAT | MAT | CONSTRUCTION SPECIALTIES PEDIMAT AA M2 | 9327 DRY BROWN | |
| CERAMIC FLOOR TILE | CT-1 | DALTILE SEVERINO 12x24 W/MAPEI KERAPOXY CQ GROUT | CENERE FOG SV98 W/02 PEWTER GROUT | REFER TO FINISH PLAN FOR PATTERN |
| | | | | |
| FIELD PAINT | P-1 | SHERWIN WILLIAMS PAINT | SW9109 NATURAL LINEN | |
| ACCENT PAINT TYPE 1 | AP-1 | SHERWIN WILLIAMS PAINT | SW6408 WHEAT GRASS | |
| ACCENT PAINT TYPE 2 | AP-2 | SHERWIN WILLIAMS PAINT | SW9112 SONG THRUSH | |
| | | | | |
| TRIM PAINT | P-2 | SHERWIN WILLIAMS PAINT | SW7046 ANONYMOUS | |
| RUBBER BASE | B | ROPPE 4" BASE | DOLPHIN 129 | |
| EPOXY COVE BASE TO MATCH EXISTING | COVE | | | |
| CERAMIC WALL TILE | CT-2 | DALTILE SEVERINO 12x24 W/MAPEI KERAPOXY CQ GROUT | CENERE FOG SV98 W/00 WHITE GROUT | REFER TO FINISH PLAN FOR PATTERN |
| | | | | |
| CEILING PAINT | CP | SHERWIN WILLIAMS PAINT | SW7757 HIGH REFLECTIVE WHITE | |
| ACOUSTIC CEILING TILE | ACT | ARMSTRONG CORTEGA ACT | WHITE | |
| EXPOSED EXISTING STRUCTURE PAINT | CP | SHERWIN WILLIAMS PAINT | SW7757 HIGH REFLECTIVE WHITE | |
| | | | | |
| NOT APPLICABLE | N/A | | | |
| WOOD DOOR STAIN | ST | MINWAX STAIN | AMARANTH MW 462 | |
| VAULT DOOR | | MANUFACTURER'S STANDARD | | |
| HDPL TOILET PARTITIONS | TP | SCRANTON HINY HIDERS FLOOR MAUNTED TOILET PARTITIONS | NICKEL | |
| METAL LOCKERS | LKR-1 | ART METAL PRODUCTS, SINGLE TIER | POPULAR GRAY 746 | |
| METAL LOCKERS | LKR-2 | ART METAL PRODUCTS, DOUBLE TIER | POPULAR GRAY 746 | |
| WINDOW BLINDS | WB | BALI 1" ALUMINUM BLINDS | GRANITE 04B-044 | |
| CASEWORK LAMINATE TYPE-1 | LAM-1 | WILSONART STANDARD LAMINATE | SHADOW D96-60 MATTE FINISH | IN RESTROOMS AND LOCKER ROOMS. |
| CASEWORK LAMINATE TYPE-2 | LAM-2 | WILSONART STANDARD LAMINATE | HIGH RISE 4996-38 FINE VELVET FINISH | IN BREAKROOM. |
| COUNTERTOP TYPE-1 | SSM-1 | CORIAN SOLID SURFACE | SILT | IN RESTROOMS AND LOCKER ROOMS. |
| COUNTERTOP TYPE-2 | SSM-2 | CORIAN SOLID SURFACE | VENARO WHITE | IN BREAKROOM. |

US Army Corps of Engineers ®

SEAL AND SIGNATURE
ANTHONY F. PEDRO DATE:
N.Y. LIC. NO. 093068

| MARK | DESCRIPTION | DATE |
|---|---|---|

DESIGNED BY: USACE RFP
DRAWN BY: CN
CHECKED BY: RE
SUBMITTED BY:
ISSUE DATE:
SOLICITATION NO.: W912QR20R0038
CONTRACT NO.: W912QR22C0038
SIZE: ANSI D

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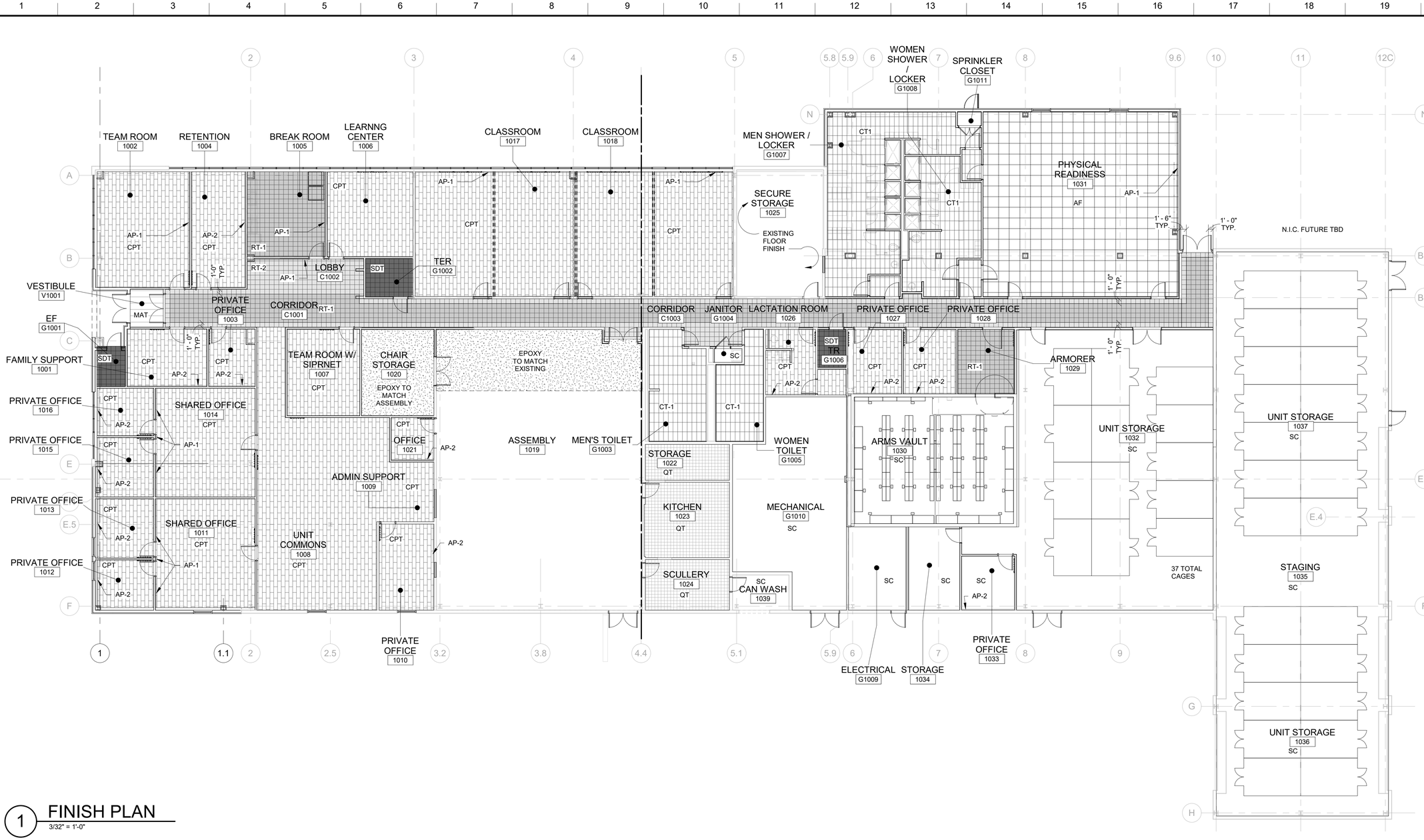
UNITED STATES ARMY RESERVE CENTER
ORANGEBURG, NEW YORK

MATERIAL & FINISH LEGEND

SHEET ID

IN002

CORRECTED FINAL SUBMISSION - JULY 29, 2021




## 1 FINISH PLAN

3/32" = 1'-0"

PLAN LEGEND

- CPT- CARPET FLOOR TILE PATTERN: ASHLAR
- RT-1 TAN RUBBER FLOOR TILE PATTERN: MONOLITHIC
- RT-2 GREEN RUBBER FLOOR TILE PATTERN: MONOLITHIC
- QT- QUARRY FLOOR TILE PATTERN: MONOLITHIC
- SDT- STATIC DISSIPATIVE VINYL COMM TILE PATTERN: MONOLITHIC
- AF- ATHLETIC FLOOR TILE PATTERN: MONOLITHIC
- EPOXY- EPOXY TO MATCH EXISTING
- SC- SEALED CONCRETE
- MAT- WALK OFF MAT
- CT-1 CERAMIC FLOOR TILE PATTERN: STACKED
- AP-1 ACCENT PAINT 1
- AP-2 ACCENT PAINT 2

FINISH GENERAL NOTES:

- LINE UP FLOOR GROUT LINES WITH WALL TILE GROUT LINES FOR BATHROOM TILES.
- REFER TO MATERIAL AND FINISH LEGEND FOR MORE INFORMATION.
- INSTALL 2 ROWS OF 3" H RESILIENT CHAIR RAILS IN THE LOBBY AND CORRIDORS. TOP OF CHAIR RAILS SHALL BE 20" AFF AND 34" AFF. COLOR TO BE SELECTED FROM MANUFACTURER'S STANDARD COLORS THAT CLOSELY RESEMBLES WALL COLOR.
- INSTALL 2 ROWS OF 3" H RESILIENT CHAIR RAILS IN THE CLASSROOMS AND TEAM ROOMS 1002 AND 1007. TOP OF CHAIR RAILS SHALL BE 29" AFF AND 37" AFF. COLOR TO BE SELECTED FROM MANUFACTURER'S STANDARD COLORS THAT CLOSELY RESEMBLES WALL COLOR.
- INSTALL 48" H RESILIENT CORNER GUARDS AT ALL OUTSIDE CORNERS IN THE LOBBY AND CORRIDORS. CORNER GUARDS SHALL BE MOUNTED 4" AFF. COLOR TO BE SELECTED FROM MANUFACTURER'S STANDARD COLORS THAT CLOSELY RESEMBLES WALL COLOR.
- COORDINATE FLOORING INSTALLATION TO RUN AROUND EXISTING CLEAN OUT. CLEANOUT SHALL BE EXTENDED TO OR ABOVE THE FINISHED FLOOR. WHEN CONCEALED BEHIND A WALL, PROVIDE ACCESS DOORS AND PANELS AS SPECIFIED IN SECTION 08 31 00

US Army Corps of Engineers ®

SEAL AND SIGNATURE
ANTHONY F. PEDRO DATE:
N.Y. LIC. NO. 093068

| MARK | DESCRIPTION | DATE |
|---|---|---|

DESIGNED BY: USACE RFP
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UNITED STATES ARMY RESERVE CENTER
ORANGEBURG, NEW YORK

OVERALL FINISH PLAN

SHEET ID
IN101

CORRECTED FINAL SUBMISSION - JULY 29, 2021

## SYMBOLS AND LEGEND

| | |
|---|---|
| ● | UPRIGHT SPRINKLER |
| ◎ | PENDENT SPRINKLER |
| △ | SIDEWALL (EXTENDED COVERAGE) SPRINKLER |
| | OS&Y VALVE W/ TAMPER SWITCH |
| ■ | TAMPER SWITCH (TS) |
| —□ | FLOW SWITCH (FS) |
| ⋈ | VALVE, GENERAL |
| | CHECK VALVE |
| | PIPE DOWN |
| | PIPE UP |
| | PIPE CAP |
| ABD | AUTOMATIC BALL DRIP |
| CONTIN. | CONTINUATION |
| FT | FEET |
| GPM | GALLONS PER MINUTE |
| DN | DOWN |
| DWG. | DRAWINGS |
| EXIST. (E) | EXISTING |
| GPM | GALLONS PER MINUTE |
| MIN | MINIMUM |
| NPT | NATIONAL PIPE THREAD |
| PSI | POUNDS PER SQUARE INCH |
| SL. | SLEEVE |
| SP | SPRINKLER |
| TYP | TYPICAL |
| W/ | WITH |
| ⬡ XX | HYDRAULIC NODE |

## GENERAL NOTES

1. WORK SHALL BE COMPLETE IN ALL RESPECTS, INCLUDING CONNECTION TO EXISTING SPRINKLER SYSTEM, ALL NEW SPRINKLER WORK PER THE PLANS, AND ALL REQUIRED ACCESSORIES, DRAINS AND TEST CONNECTIONS.
2. WORK SHALL INCLUDE ALL LABOR AND MATERIAL FOR A WET TYPE AUTOMATIC SPRINKLER SYSTEM WITHIN THE BUILDING WHERE INDICATED ON PLANS.
3. PROVIDE ALL REQUIRED SPRINKLER HEADS, PIPING, HANGERS, SUPPORTS, AND DRAINS.
4. PROVIDE "AS-BUILT" DRAWINGS.
5. THE CONTRACTOR IS RESPONSIBLE FOR ALL WORK, MATERIALS, AND LABOR REQUIRED TO SATISFY A COMPLETE WORKING SYSTEM WHETHER SPECIFIED OR IMPLIED.
6. THE WORK IS TO BE PERFORMED IN STRICT COMPLIANCE WITH NFPA 13 (LATEST EDITION), ALL CODES AND OTHER NFPA REGULATIONS GOVERNING WORK OF THIS NATURE.
7. ALL EQUIPMENT AND MATERIALS SHALL BE AS SPECIFIED OR"APPROVED EQUAL" BY THE ENGINEER OR ARCHITECT.

WORKING PLANS

1. THE DRAWINGS INCLUDED AS PART OF THIS SET OF CONSTRUCTION A. DOCUMENTS ARE DEFINED AS PRELIMINARY SPRINKLER PLANS AS SPECIFIED IN NFPA 13.
2. FINAL WORKING DRAWINGS SHALL BE PREPARED BY THE SPRINKLER CONTRACTOR AND REVIEWED AND APPROVED BY THE LOCAL AUTHORITY HAVING JURISDICTION.

MISCELLANEOUS

1. DO NOT SCALE THIS DRAWING FOR EXACT DIMENSIONS. VERIFY ALL FIGURES, CONDITIONS, AND DIMENSIONS AT THE JOB SITE.
2. THE SPRINKLER PLANS ARE INTENDED TO BE DIAGRAMMATIC. THEY ARE NOT INTENDED TO SHOW EVERY ITEM IN ITS EXACT LOCATION.

CODES AND PERMITS:

1. WORK SHALL BE PERFORMED IN ACCORDANCE WITH UFC 3-600-01, AND THE LATEST EDITION OF NFPA-13.
2. DESIGN AND INSTALLATION SHALL CONFORM TO THE LATEST EDITION OF NFPA 13 LOCAL FIRE AND BLDG. DEPTS.
3. HANGER INSTALLATION AND SPACING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF NFPA 13
4. FIELD FOREMAN TO VERIFY LOCATION OF HIGH TEMPERATURE SPRINKLERS AND INSTALL HIGH TEMPERATURE SPRINKLERS IN ACCORDANCE WITH NFPA 13 OR STATE / LOCAL ADOPTED EDITION.

INSTALLATION:

1. COORDINATE NEW SPRINKLER HEAD ELEVATIONS WITH FINISHED CEILING HEIGHT.
2. OBTAIN ALL APPROVALS BEFORE STARTING INSTALLATION.
3. ARRANGEMENT OF SPRINKLER HEADS IS DIAGRAMMATIC AND ACTUAL ARRANGEMENTS SHALL BE AS REQUIRED BY FIELD CONDITIONS.
4. ALL SPRINKLER LINES SHALL AVOID INTERFERENCE WITH LIGHTING FIXTURES, DUCTS AND PIPING.

ESCUTCHEONS:

1. PROVIDE EXPOSED PIPES WITH APPROVED TYPE, SINGLE PIECE, CAST BRASS OR CAST IRON ESCUTCHEONS, CHROME PLATED, FIRMLY HELD IN PLACE.
2. PROVIDE PENDANT SPRINKLER HEADS WITH SPECIAL TYPE CHROME PLATED ESCUTCHEONS, FIRMLY HELD IN PLACE.

PIPE:

1. STANDARD WEIGHT SCHEDULE 40 STEEL PIPE, SEAMLESS OR WELDED MILD STEEL, ASTM A-120, A-135 OR A-53.
2. SCHEDULE 10 STEEL PIPE MAY BE USED FOR DIAMETERS 2 1/2" INCH AND LARGER WALL THICKNESS SHALL BE IN ACCORDANCE WITH NFPA-13. SCHEDULE 10 PIPE MAY NOT BE THREADED.

FITTINGS:

1. CAST IRON THREADED: STANDARD WEIGHT ANSI B-16, 4.
2. MALLEABLE IRON: THREADED AND BANDED, STANDARD WEIGHT ANSI B-16.3.
3. GROOVED END MALLEABLE IRON FITTINGS AND COUPLINGS WITH APPROPRIATE PRESSURE RATING, SIMILAR TO VICTAULIC: SUBJECT TO APPROVAL.
4. REDUCERS AND INCREASERS: OF TAPERED TYPE. NO BUSHINGS PERMITTED EXCEPT WHERE SPECIFICALLY APPROVED.
5. CONNECTIONS TO EXISTING PIPING MAY BE MALLEABLE IRON OR DUCTILE IRON MECHANICAL T-OUTLETS, SIMILAR TO VICTAULIC STYLE 920.

WET PIPE SYSTEM:

1. PER NFPA 13 PAR. 8.1.5, AN AIR VENT IS REQUIRED FOR EACH WET PIPE SYSTEM.

TESTS:

1. TEST ENTIRE SYSTEM PIPING HYDROSTATICALLY FOR TWO HOURS AT 200 PSI OR AT 50 PSI ABOVE MAXIMUM WORKING PRESSURE (WHICHEVER IS GREATER) AND IN ACCORDANCE WITH ALL REQUIREMENTS OF THE REFERENCED CODES.

## FIRE SPRINKLER CONTRACTOR CALCULATIONS REQUIREMENTS

1. DESIGN OF THE FIRE PROTECTION SYSTEM SHALL COMPLY WITH REQUIREMENTS IN LATEST VERSION OF UFC 3-600-01: FIRE PROTECTION ENGINEERING FOR FACILITIES, WITH CHANGE 5, 24 SEPTEMBER 2020 IN ACCORDANCE WITH UFGS WEBSITE.
2. HYDRAULIC CALCULATIONS SHALL INCLUDE THE LISTED LOSS FOR THE BACKFLOW PREVENTER AND HOSE STREAM AT THE SOURCE.
3. CONTROL VALVE LOCATIONS WILL BE CLEARLY INDICATED BY SIGNS AND ARROWS. DO NOT LOCATE VALVES MORE THAN 6'-0" ABOVE THE FLOOR. PROVIDE PERMANENT LADDER IF DUE TO EXISTING CONDITIONS VALVES MUST BE INSTALLED MORE THAN 6'-0" ABOVE THE FLOOR.
4. PROVIDE ADDITIONAL SPRINKLERS UNDER OBSTRUCTIONS THAT EXCEED 48" IN WIDTH.
5. THE USE OF EXTENDED COVERAGE SPRINKLERS IS NOT PERMITTED.
6. THESE DRAWINGS REPRESENT THE DESIGN INTENT FOR THE FIRE SPRINKLER SYSTEM. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING A FIRE SPRINKLER SYSTEM FOR THE BUILDING, APPROVED BY NFPA AND THE AUTHORITY HAVING JURISDICTION. PROVIDE FIRE SPRINKLER SHOP DRAWINGS AND HYDRAULIC CALCULATIONS, SUBMITTED THROUGH THE ENGINEER. SIZE PIPING TO PROVIDE AN EXCESS RESIDUAL PRESSURE OF 10 PSI AT THE HYDRAULICALLY MOST DEMANDING POINT AT SYSTEM DESIGN FLOW.
7. CONTRACTOR SHALL PROVIDE TO THE FIRE MARSHALL, ENGINEER, AND OWNER. THE FOLLOWING AS APPLICABLE, BUT NOT LIMITED TO:
    1. SPRINKLER SYSTEM SHOP DRAWINGS, INCLUDING SPRINKLER SYSTEM LAYOUT, NODE IDENTIFICATIONS AND NODE SPOT ELEVATIONS,
    2. WATER SUPPLY INFORMATION,
    3. SPRINKLER SYSTEM DESIGN AND HYDRAULIC CALCULATIONS, INCLUDING DETAILED WORKSHEETS AND GRAPH OF WATER SUPPLY CURVE AND SPRINKLER SYSTEM DEMAND,
    4. SPRINKLER HEAD DATA/CUT SHEETS WITH SPECIFIC SYSTEM COMPONENTS IDENTIFIED
    5. ADDITIONAL SPRINKLER SYSTEM SPECIFICATIONS AS REQUIRED IN COMPLIANCE WITH NFPA 13, STANDARD FOR THE INSTALLATION OF SPRINKLER SYSTEMS CHAPTER 8, PLANS AND CALCULATIONS, PRIOR TO AUTOMATIC SPRINKLER SYSTEMS INSTALLATION.
8. THE SYSTEM SHALL BE HYDRAULICALLY DESIGNED WITH A HOSE STREAM ALLOWANCE OF 100 GPM FOR LIGHT HAZARD AND 250 GPM FOR ORDINARY HAZARD AND DENSITY VALUES AS FOLLOWS:

    LIGHT HAZARD DENSITY = 0.10 GPM/SF OVER THE MOST DEMANDING 1,500 SQ. FT. WITH 225 SQ. FT. MAX SPACING BETWEEN SPRINKLERS. SPRINKLER K FACTOR SHALL BE 5.6.

    ORDINARY HAZARD DENSITY = 0.2 GPM/SF OVER THE MOST DEMANDING 2,500 SQ. FT. WITH 130 SF MAX SPACING BETWEEN SPRINKLERS. SPRINKLER K FACTOR SHALL BE 8.0.

### SPRINKLER SCHEDULE

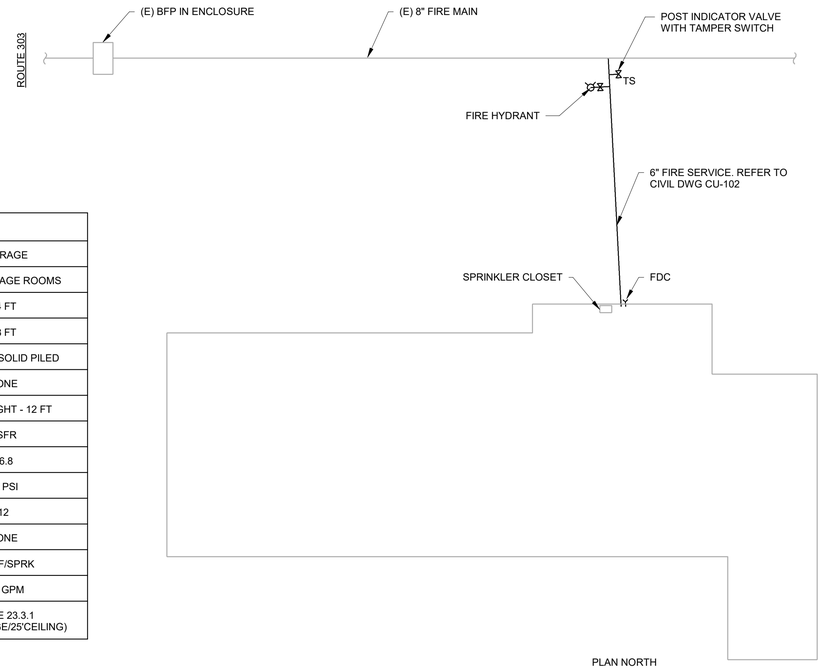
| CEILING | TYPE | RESPONSE | FINISH | SIZE (IN) | TEMPERATURE RATING (DEGREE F) | K-FACTOR | MANUFACTURER (OR EQUAL) | MODEL (OR EQUAL) |
|---|---|---|---|---|---|---|---|---|
| ACOUSTICAL TILE/ GYPSUM | CONCEALED PENDENT | STANDARD | WHITE PAINTED | 1/2" | 165 | 5.62 | RELIABLE | G/F1 |
| NONE | UPRIGHT | STANDARD | CHROME PLATED | 3/4" | 165 | 8.0 | RELIABLE | G |
| ACCOUSTICAL TILE | CONCEALED PENDENT | STANDARD | CHROME PLATED | 3/4" | 165 | 8.0 | RELIABLE | G5-80 |
| UNIT STORAGE | UPRIGHT | ESFR | BRONZE | 3/4" | 165 | 16.8 | RELIABLE | JL17 |

### PIPE & FITTINGS SCHEDULE

| PIPE | TYPE | SIZES | PIPE ENDS | FITTINGS |
|---|---|---|---|---|
| FEED MAIN | SCH-40 STEEL | 2-1/2" THROUGH 8" | GROOVED | VIC FIRELOCK |
| CROSS MAIN | SCH-40 STEEL | 2-1/2" THROUGH 8" | GROOVED | VIC FIRELOCK |
| BRANCH | SCH-40 STEEL | 1" THROUGH 2" | THREADED | THREADED |

| HYDRANT FLOW TEST | |
|---|---|
| DATE | 12/20/2020 |
| BY | SUEZ NEW YORK |
| STATIC PRESSURE | 164 PSI |
| RESIDUAL PRESSURE | 139 PSI |
| FLOW RATE | 1,435 GPM |

| DESIGN CRITERIA | |
|---|---|
| APPLICATION | STORAGE |
| LOCATION | UNIT STORAGE ROOMS |
| MAX STORAGE HEIGHT | 14 FT |
| MAX CEILING HEIGHT | 18 FT |
| COMMODITY | CLASS IV, SOLID PILED |
| PALLET STORAGE | NONE |
| OPEN RACKS/SHELVES | MAX HEIGHT - 12 FT |
| SPRINKLER TYPE | ESFR |
| K FACTOR | 16.8 |
| MIN PRESSURE | 35 PSI |
| OPERATING SPRINKLERS AT CEILING | 12 |
| IN-RACK SPRINKLERS | NONE |
| MAX COVERAGE AREA | 100 SF/SPRK |
| HOSE STREAM ALLOWANCE | 250 GPM |
| NFPA 13 REFERENCE | TABLE 23.3.1 (20' STORAGE/25'CEILING) |




1 SITE PLAN
NTS

US Army Corps of Engineers ®

NOT FOR CONSTRUCTION

| MARK | DESCRIPTION | DATE |
|---|---|---|

DESIGNED BY: CPK
DRAWN BY: DS
CHECKED BY: MM
SUBMITTED BY:
SIZE: ANSI D

ISSUE DATE: 08 FEBRUARY 2021
SOLICITATION NO.: W912QR20R0038
CONTRACT NO.: W912QR20R0038

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UNITED STATES ARMY RESERVE CENTER
ORANGEBURG, NEW YORK

FIRE PROTECTION - NOTES, SYMBOLS, ABBREVIATIONS

SHEET ID
FP001

CORRECTED FINAL SUBMISSION - JULY 29, 2021
JULY 29, 2021

PLAN NORTH

6" FIRE SERVICE.
SEE CIVIL DWG CU-102
FOR CONTINUATION.

WEATHERPROOF
FIRE ALARM BELL

FDC

SPRINKLER CLOSET G1011

TEAM ROOM 1002
RETENTION 1004
BREAK ROOM 1005
LEARNNG CENTER 1006
CLASSROOM 1017
CLASSROOM 1018
SECURE STORAGE 1025
MEN SHOWER / LOCKER G1007
WOMEN SHOWER / LOCKER G1008
PHYSICAL READINESS 1031

LOBBY C1002
TER G1002
CORRIDOR C1001
VESTIBULE V1001
CORRIDOR C1003

EF C1001
FAMILY SUPPORT 1001
PRIVATE OFFICE 1003
TEAM ROOM W/ SIPRNET 1007
CHAIR STORAGE 1020
TR PRIVATE OFFICE G1006
PRIVATE OFFICE 1027
LACTATION ROOM 1026
PRIVATE OFFICE 1028
ARMORER 1029
UNIT STORAGE 1037

MEN'S TOILET G1003
WOMEN TOILET G1005
PRIVATE OFFICE 1016
SHARED OFFICE 1014
OFFICE 1021
ASSEMBLY 1019
STORAGE 1022
MECHANICAL G1010
ARMS VAULT 1030
UNIT STORAGE 1032

PRIVATE OFFICE 1015
UNIT COMMONS 1008
ADMIN SUPPORT 1009
KITCHEN 1023
PRIVATE OFFICE 1013
SHARED OFFICE 1011
PRIVATE OFFICE 1012
PRIVATE OFFICE 1010
SCULLERY 1024
CAN WASH 1039
ELECTRICAL G1009
STORAGE 1034
PRIVATE OFFICE 1033
STAGING 1035
UNIT STORAGE 1036

WET CHEMICAL EXTINGUISHING SYSTEM (SEE NOTE 2)

## SHEET NOTES

1. PROVIDE SPRINKLER PROTECTION THROUGHOUT BUILDING. REFER TO HAZARD CLASSIFICATIONS.

2. PROVIDE WET CHEMICAL EXTINGUISHING SYSTEM IN THE KITCHEN BELOW THE EXHAUST HOOD. REFER TO DETAILS ON FP-102. REFER TO DWG A-507 FOR INFORMATION ON KITCHEN EQUIPMENT.

3. COORDINATE SPRINKLERS WITH THE WEAPONS RACK IN THE ARMS VAULT (1030)

4. IN UNIT STORAGE STORAGE AREAS SPRINKLER DESIGN SHALL BE BASED ON THE MAXIMUM POTENTIAL HEIGHT OF STORAGE. THE MAXIMUM HEIGHT SHALL BE BASED ON ROOF/CEILING HEIGHT. SPRINKLER DESIGN SHALL BE IN ACCORDANCE WITH NFPA 13 CHAP 20.

| LEGEND | | | |
|---|---|---|---|
| | HAZARD CLASSIFICATION | DENSITY (GPM/SQ FT) | AREA (SQ FT) |
| | LIGHT HAZARD | 0.10 | 1500 |
| | ORDINARY HAZARD | 0.20 | 2500 |
| | STORAGE | (REFER TO DESIGN CRITERIA ON FP001) | |

1 FLOOR PLAN
3/32" = 1'-0"

0' 4' 8' 16' 32'
SCALE: 3/32"=1'

US Army Corps of Engineers ®

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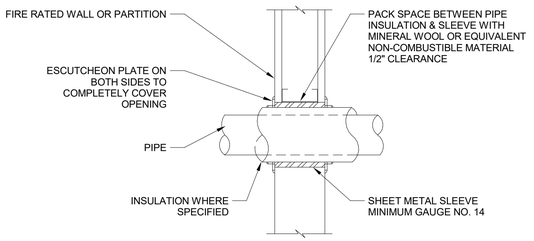
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ORANGEBURG, NEW YORK

FIRE PROTECTION - FLOOR PLAN

SHEET ID
FP101

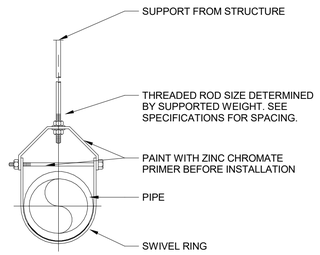
CORRECTED FINAL SUBMISSION - JULY 29, 2021
JULY 29, 2021




## PIPE PENETRATION THRU INTERIOR WALL

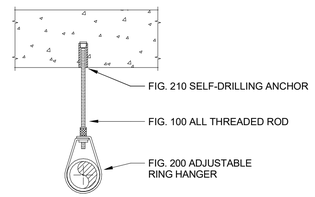
NOT TO SCALE

NOTES:
SEE ARCH DWGS. FOR FIRESTOPPING DETAILS



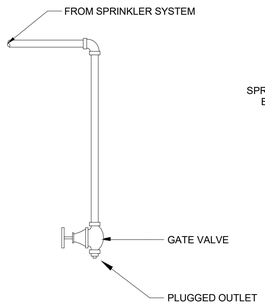

## PIPE SUPPORT DETAIL

NOT TO SCALE



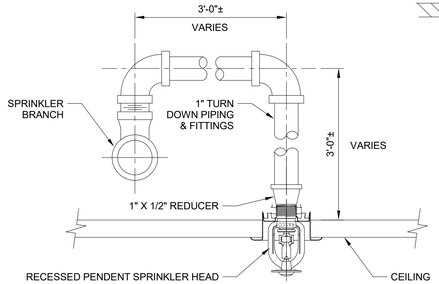

## SELF DRILLING ANCHOR ROD AND RING DETAIL

NOT TO SCALE




## AUXILIARY DRAIN VALVE

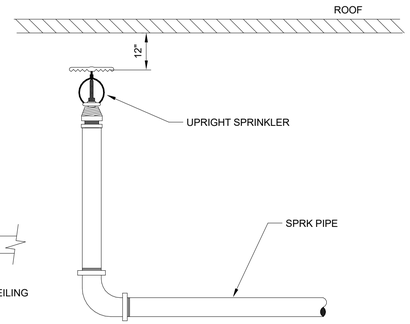
NOT TO SCALE




NOTES:
PROVIDE CHROME ESCUTCHEONS AND CHROME SPRINKLER HEADS AT METAL CEILING LOCATIONS.

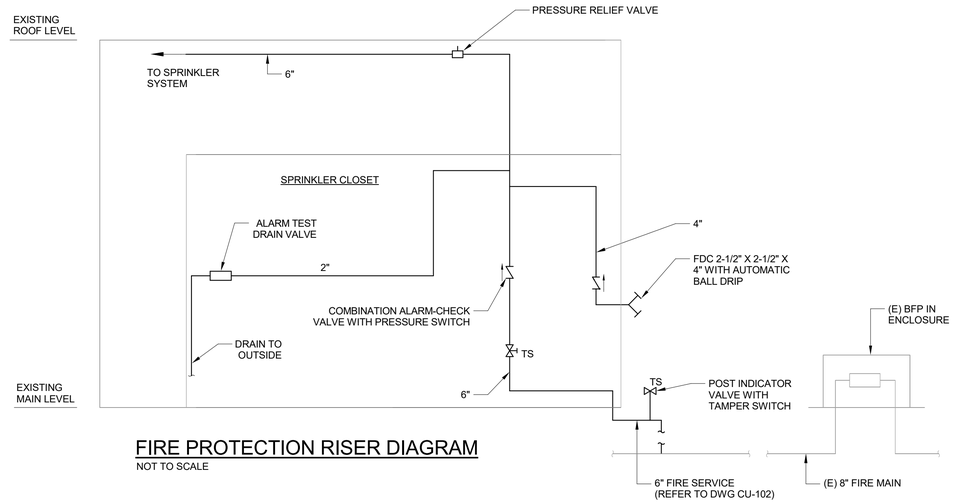
## DETAIL

NOT TO SCALE




## UPRIGHT SPRINKLER

NOT TO SCALE




## FIRE PROTECTION RISER DIAGRAM

NOT TO SCALE

## ABBREVIATIONS

PS PULL STATION

## SYMBOLS

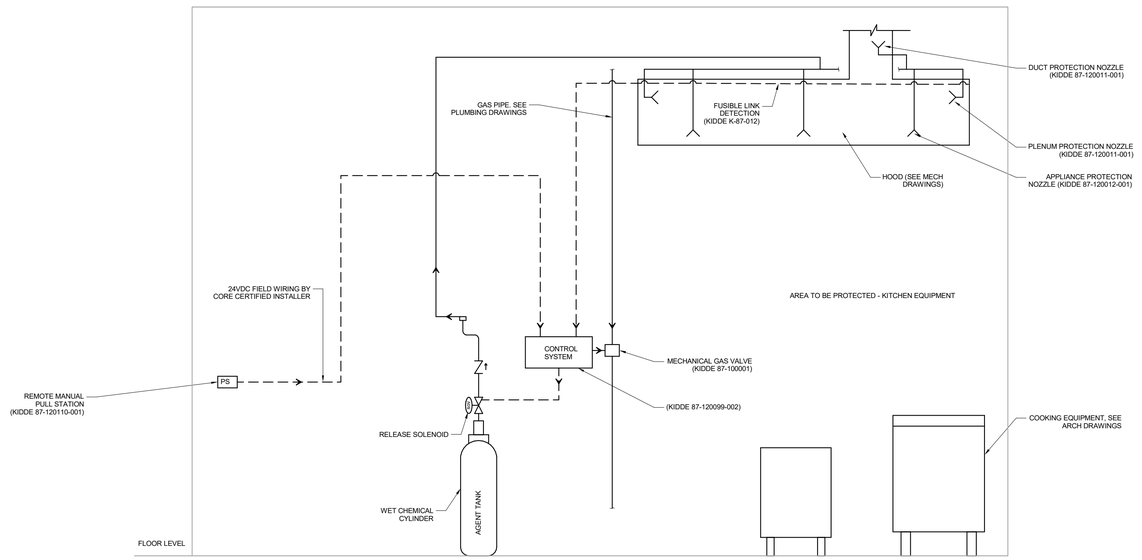
NOZZLE

PULL STATION

PS

## NOTES

1. WET CHEMICAL SYSTEM SHALL COMPLY WITH UL300, NFPA 96, AND NFPA 17A.
2. WET CHEMICAL SYSTEM DISCHARGE SHALL BE BY MANUAL REMOTE RELEASE OR A FUSIBLE LINK DETECTION.
3. CONTROL SYSTEM SHALL SHUT DOWN FUEL SOURCE AND ACTIVATE BUILDING FIRE ALARM PANEL.




## WET CHEMICAL EXTINGUISHING SYSTEM SCHEMATIC

NOT TO SCALE

US Army Corps of Engineers ®

NOT FOR CONSTRUCTION

| MARK | DESCRIPTION | DATE |
|---|---|---|

DESIGNED BY: CPK
DRAWN BY: DS
CHECKED BY: MLP
SUBMITTED BY:
SIZE: ANSI D

ISSUE DATE: 08 FEBRUARY 2021
SOLICITATION NO.: W912QR20R0038
CONTRACT NO.: W912QR20C0038

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UNITED STATES ARMY RESERVE CENTER
ORANGEBURG, NEW YORK

FIRE PROTECTION - DETAILS AND RISER DIAGRAM

SHEET ID

FP102

CORRECTED FINAL SUBMISSION - JULY 29, 2021

JULY 29, 2021

## PLUMBING SYMBOLS

- EXISTING DOMESTIC COLD WATER PIPING
- EXISTING DOMESTIC HOT WATER PIPING
- EXISTING DOMESTIC HOT WATER RETURN PIPING
- EXISTING VENT PIPING
- EXISTING SANITARY PIPING ABOVE GROUND
- EXISTING SANITARY PIPING BELOW GROUND
- REMOVE EXISTING PIPING
- REMOVED PLUMBING FIXTURE
- DOMESTIC COLD WATER
- DOMESTIC HOT WATER PIPING
- HOT WATER RETURN PIPING
- VENT PIPING
- SANITARY PIPING ABOVEGROUND
- SANITARY PIPING BELOW GROUND
- STORM WATER PIPING
- PIPE DOWN
- PIPE UP
- PIPE RISE
- TRAP
- CHECK VALVES
- FD — FLOOR DRAIN
- PIPE REDUCER
- PIPE UNION
- TEMPERATURE & PRESSURE RELIEF VALVE
- DIRECTION OF FLOW
- CLEANOUT
- CLEANOUT DECK PLATE
- PIPE CAP
- WATER HAMMER ARRESTOR
- LIMITS OF VENDOR
- LIMITS OF WORK
- CONNECTION TO EXISTING SYSTEM
- POINT OF DISCONNECTION
- ISOLATION VALVE
- REGULATING VALVE
- TP — TRAP PRIMER

A / X X X — IDENTIFICATION TARGET:
A = DETAIL NUMBER
XXX = SHEET NUMBER ON WHICH DETAIL IS LOCATED

## PLUMBING ABBREVIATIONS

| | |
|---|---|
| AFF | ABOVE FINISHED FLOOR |
| A.D. | ACCESS DOOR |
| AV | ACID VENT |
| AW | ACID WASTE |
| CO | CLEANOUT |
| CODP | CLEANOUT DECK PLATE |
| C.L. | CENTER LINE |
| CFH | CUBIC FEET PER HOUR |
| CW | DOMESTIC COLD WATER |
| DCDA | DOUBLE CHECK DETECTOR ASSEMBLY |
| DN. | DOWN |
| DWG. | DRAWING |
| EL | ELEVATION |
| EM EW | EMERGENCY EYE WASH |
| EES | EMERGENCY EYEWASH + SHOWER |
| EXIST (E) | EXISTING |
| FAI | FRESH AIR INLET |
| FD | FLOOR DRAIN |
| FT | FOOT/FEET |
| FIN. | FINISH |
| FL. | FLOOR |
| F.U. | FIXTURE UNITS |
| G | GAS |
| GAL | GALLONS |
| GPF | GALLONS PER FLUSH |
| GPH | GALLONS PER HOUR |
| GPM | GALLONS PER MINUTE |
| HB | HOSE BIBB |
| HP | HORSEPOWER |
| HW | DOMESTIC HOT WATER |
| HWR | DOMESTIC HOT WATER RETURN |
| ST-P | PRIMARY STORM WATER |
| ST-S | SECONDARY STORM WATER |
| INV EL | INVERT ELEVATION |
| IW | INDIRECT WASTE |
| KS | KITCHEN SINK |
| LAV | LAVATORY |
| L | LEADER |
| MS | MOP SINK |
| NG | NATURAL GAS |
| N.I.C. | NOT IN CONTRACT |
| NFWH | NON-FREEZE WALL HYDRANT |
| P/ | PER |
| RM | ROOM |
| PRV | PRESSURE REDUCING VALVE |
| RPZA | REDUCED PRESSURE ZONE ASSEMBLY |
| RT | RUNNING TRAP |
| S/SAN | SANITARY |
| ST | STORM |
| SS | SERVICE SINK |
| SL | SLEEVE |
| SH | SHOWER |
| SH DR | SHOWER DRAIN |
| TYP | TYPICAL |
| TD | TRENCH DRAIN |
| TW | TEMPERED WATER |
| UR | URINAL |
| V | VENT |
| VTR | VENT THROUGH ROOF |
| W | WASTE |
| WC | WATER CLOSET |
| WCO | WALL CLEANOUT |
| WH | WATER HEATER |
| WHA | WATER HAMMER ARRESTER |
| RD | ROOF DRAIN |
| SRD | SECONDARY ROOF DRAIN |

## GENERAL PLUMBING NOTES

1. THE CONTRACTOR SHALL OBTAIN ANY AND ALL PERMITS REQUIRED FOR THE PERFORMANCE OF HIS/HER WORK AND PAY ALL FEES IN CONNECTION THEREWITH.
2. THE CONTRACTOR SHALL CHECK AND VERIFY IN FIELD THE EXACT LOCATION OF ALL PIPE PENETRATIONS, PIPE ELEVATIONS, AREA DRAINS, ETC.
3. PROVIDE SHUT OFF VALVES AND UNIONS/FLANGES AT BASE OF ALL RISERS, MAINS, ALL BRANCHES AND ALL FIXTURE/EQUIPMENT CONNECTIONS IN ORDER TO ISOLATE FOR MAINTENANCE PURPOSES.
4. PROVIDE VALVES AND ANY OTHER EQUIPMENT AND ACCESSORIES THAT MAY BE REQUIRED FOR ACCESS FOR MAINTENANCE OR OPERATION WHICH ARE LOCATED BEHIND WALLS AND PARTITIONS OR CONCEALED IN HUNG CEILINGS. COORDINATE INSTALLATION WITH GENERAL CONTRACTOR.
5. THE CONTRACTOR SHALL COORDINATE PLUMBING WORK WITH ALL OTHER TRADES AND VERIFY DIMENSIONS AND CONDITIONS AT THE SITE PRIOR TO BEGINNING WORK. NO ADDITIONAL COSTS WILL BE ACCEPTED IF ATTRIBUTED TO FAILURE TO COORDINATE OR VERIFY.
6. ALL PLUMBING LINES SHOWN ARE DIAGRAMMATIC AND NOT INTENDED TO SHOW EXACT LOCATIONS. THE CONTRACTOR SHALL INSTALL PIPING SYSTEM TO MINIMIZE LENGTH OF RUNS AND AVOID INTERFERENCES.
7. ALL PIPING BELOW GRADE SHALL BE INSTALLED TO CLEAR FOOTINGS AND SHALL NOT BE INSTALLED WITHIN OR BELOW THE TRIANGULAR BEARING PLANE OF ALL FOOTINGS.
8. INSTALL PIPING AS STRAIGHT AND DIRECT AS POSSIBLE FORMING RIGHT ANGEL OR PARALLEL LINES WITH BUILDING WALLS, NEATLY SPACED, RISERS PLUMB AND TRUE, AND AVOID INTERFERENCE WITH OTHER CONSTRUCTION.
9. LOCATION AND SIZE OF EXISTING PIPING SHALL BE VERIFIED IN FIELD.
10. EXISTING SANITARY PIPING SHALL BE FLUSHED OUT WITH HIGH PRESSURE WATER, CLEANED OUT WITH AUGER/DRAIN SNAKE.
11. APPLICABLE STANDARDS AND CODES:
    - UFC 3-420-01 PLUMBING SYSTEMS
    - UFC 4-171-05 ARMY RESERVE FACILITIES
    - INTERNATIONAL PLUMBING CODE

US Army Corps of Engineers ®

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N.Y. LIC. NO. 094333

| MARK | DESCRIPTION | DATE |
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ISSUE DATE: 26 APRIL 2021
SOLICITATION NO.: W912QR20R0038
CONTRACT NO.: W912QR20C0038

DESIGNED BY: RJ
DRAWN BY: VS
CHECKED BY: CPK
SUBMITTED BY:
SIZE: ANSI D

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ORANGEBURG, NEW YORK

PLUMBING - NOTES, SYMBOLS, ABBREVIATIONS

SHEET ID

PL001

CORRECTED FINAL SUBMISSION - JULY 29, 2021

JULY 29, 2021

## PIPING SCHEDULE

| SYSTEM | LOCATION | MATERIAL | TYPE | STANDARD | JOINTS | FITTINGS |
|---|---|---|---|---|---|---|
| DOMESTIC WATER | ABOVE GROUND | COPPER | TYPE L | ASTM B88 | SOLDERED | WROUGHT COPPER |
| WASTE | ABOVE GROUND | CAST IRON | NO-HUB | ASTM A 888 CISPI 301 | HUBLESS COUPLINGS | CAST IRON |
| WASTE | BURIED | CAST IRON | HUB+SPIGOT | ASTM A 74 | RUBBER GASKET | CAST IRON |
| GAS PIPING 2 1/2" AND SMALLER | THROUGHOUT UNLESS OTHERWISE NOTED | STEEL ASTM A106 | BLACK | - | - | THREADED MALLEABLE IRON ANS B16.3 & CLASS 150 |
| GAS PIPING 3" AND LARGER | THROUGHOUT UNLESS OTHERWISE NOTED | STEEL ASTM A106 | BLACK | - | - | WELDED ASTM A858 |

NOTES: 1. INSULATE PIPING IN ACCORDANCE WITH SPECIFICATION 22 07 19.

## WATER HEATER SCHEDULE

| TAG NO. | LOCATION | MANUFACTURER | MODEL | TYPE | GAL | RECOVERY AT 70F TO 140F(GPH) | GAS (CFH) | GAS PRESSURE (IN) | VOLTAGE | AMPS |
|---|---|---|---|---|---|---|---|---|---|---|
| WH | MECHANICAL | PVI INDUSTRIES | 40 L 130A-GCML | VERTICAL | 130 | 657 | 400 | 3.5 TO 14.0 | 120 | 11 |

## ELECTRIC WATER HEATER SCHEDULE

| TAG NO. | LOCATION | MANUFACTURER | MODEL | TYPE | HEAT LOAD (KW) | AMPS | VOLTS | PHASE | TEMPERATURE RISE | GPM |
|---|---|---|---|---|---|---|---|---|---|---|
| EWH-1 | BREAK ROOM | EEMAX | SPEX4208T | INSTANTANEOUS | 4.1 | 20 | 208 | 1 | 56 | 0.5 |

## PUMP SCHEDULE

| TAG NO. | LOCATION | MANUFACTURER | MODEL | FLOWRATE (GPM) | HEAD (FT) | V/PH | F. L. AMPS | WATTS | CONTROLS |
|---|---|---|---|---|---|---|---|---|---|
| CP-1 | MECHANICAL | BELL AND GOSSETT | NBF-18S | 2 | 130 | 115/1 | 0.74 | 90 | AQUASTAT B&G MODEL AQS-3/4 |

## EXPANSION TANK SCHEDULE

| TAG NO. | LOCATION | MANUFACTURER | MODEL | TANK VOLUME (GAL) | ACCEPTANCE VOLUME (GAL) |
|---|---|---|---|---|---|
| ET-1 | MECHANICAL | WATTS | DETA 12 | 5 | 3.3 |

## MIXING VALVE SCHEDULE

| TAG NO. | LOCATION | AREA SERVED | SIZE | | | OUTLET TEMP. | MANUFACTURER | SERIES |
|---|---|---|---|---|---|---|---|---|
| | | | CW | HW | TW | | | |
| ET-1 | MECHANICAL | BUILDING FIXTURES | 1" | 1" | 1-1/4" | 120 DEG F | LAWLER | 802 |

## FIXTURE SCHEDULE

| TAG | FIXTURE TYPE | WASTE | VENT | HOT WATER | COLD WATER | MANUFACTURER | CATALOG NO. | DESCRIPTION | REMARKS |
|---|---|---|---|---|---|---|---|---|---|
| WC | WATER CLOSET | 4" | 2" | _ | 1" | AMERICAN STANDARD | 2859.128 | WALL MOUNT | HIGH EFFICIENCY, 1.28 GPF, SENSOR OPERATED FLUSHOMETER |
| UR | URINAL | 2" | 1-1/2" | _ | 3/4" | AMERICAN STANDARD | 6590.501 | WALL MOUNT | WASHOUT TYPE W/ SENSOR OPERATED FLUSHMETER, HIGH EFFICIENCY, 0.125 GPF |
| LAV | LAVATORY | 1-1/2" | 1-1/2" | 1/2" | 1/2" | AMERICAN STANDARD | 0883.000 | UNDERCOUNTER | SINGLE HANDLE DECK MOUNTED FAUCET, SENSOR OPERATED, 0.5 GPM, ASSE 1070 MIXING VALVE |
| PS | PANTRY SINK | 1-1/2" | 1-1/2" | 1/2" | 1/2" | ELKAY | ELUHAD121225PD | UNDERMOUNT | PROVIDE MANUAL FAUCET, 1.5 GPM |
| SH | SHOWER | 2" | 1-1/2" | 1/2" | 1/2" | AMERICAN STANDARD | TU662.211 | ---------- | SHOWER SYSTEM KIT WITH VALVE, METAL HOSE, 1.5 GPM |
| EWC | WATER COOLER | 1-1/2" | 1-1/2" | _ | 3/8" | ELKAY | LZSG8WSSK | WALL MOUNT | w/ BOTTLE FILLING STATION; 115V/60HZ, 7 FLA |
| 1 | HAND SINK | 1-1/2" | 1-1/2" | 1/2" | 1/2" | ADVANCE | – | WALL MOUNT | KITCHEN FIXTURES ARE INCLUDED FOR REFERENCE ONLY. REFER TO DWG A-507 FOR MORE INFORMATION. |
| 2A | VEGETABLE SINK | 1-1/2" | 1-1/2" | 1-1/2" | 1-1/2" | ADVANCE | – | WALL MOUNT | KITCHEN FIXTURES ARE INCLUDED FOR REFERENCE ONLY. REFER TO DWG A-507 FOR MORE INFORMATION. |
| 3A | COMPARTMENT SINK | _ | _ | 1/2" | 1/2" | HOBART | – | WALL MOUNT | KITCHEN FIXTURES ARE INCLUDED FOR REFERENCE ONLY. REFER TO DWG A-507 FOR MORE INFORMATION. |

NOTES: 1. REFER TO ARCH DRAWINGS FOR ADA MOUNTING HEIGHTS. 2. PROVIDE INSULATION ON EXPOSED PIPING AND P-TRAPS.

## TRAP PRIMER

| TAG NO. | LOCATION | EQUIPMENT SERVED | INLET | OUTLET | POWER | | | MANUFACTURER | NOTES |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | WATTS | VA | V/PH/HZ | | |
| TP-1 | MEN SHOWER / LOCKER | PLUMBING FIXTURES | 1/2" | 1/2" | 6.3 | 8.8 HOLDING 12.1 IN RUSH | 120/1/60 | PRECISION PLUMBING PRODUCTS | 1,2 |
| TP-2 | MEN SHOWER / LOCKER | PLUMBING FIXTURES | 1/2" | 1/2" | 6.3 | 8.8 HOLDING 12.1 IN RUSH | 120/1/60 | PRECISION PLUMBING PRODUCTS | 1,2 |
| TP-3 | WOMEN SHOWER / LOCKER | PLUMBING FIXTURES | 1/2" | 1/2" | 6.3 | 8.8 HOLDING 12.1 IN RUSH | 120/1/60 | PRECISION PLUMBING PRODUCTS | 1,2 |
| TP-4 | WOMEN SHOWER / LOCKER | PLUMBING FIXTURES | 1/2" | 1/2" | 6.3 | 8.8 HOLDING 12.1 IN RUSH | 120/1/60 | PRECISION PLUMBING PRODUCTS | 1,2 |
| TP-5 | ARMS VAULT | FLOOR DRAIN | 1/2" | 1/2" | 6.3 | 8.8 HOLDING 12.1 IN RUSH | 120/1/60 | PRECISION PLUMBING PRODUCTS | 1,2 |

NOTES: 1.INCLUDE DISTRIBUTION UNITS, DU SERIES. 2. 16 GAUGE STEEL ACCESS DOOR

## DRAIN PUMP SCHEDULE

| TAG NO. | LOCATION | MANUFACTURER | MODEL | HP | AMPS | VOLTS | PHASE | DISCHARGE HEAD (FT) | GPM |
|---|---|---|---|---|---|---|---|---|---|
| DP-1 | BREAK ROOM | ZOELLER | 131 | 1/2 | 9.4 | 115 | 1 | 20 | 25 |

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COLUM P. KEOUGH DATE:
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SUBMITTED BY:
SIZE: ANSI D

ISSUE DATE: 26 APRIL 2021
SOLICITATION NO.: W912QR20R0038
CONTRACT NO.: W912QR20C0038

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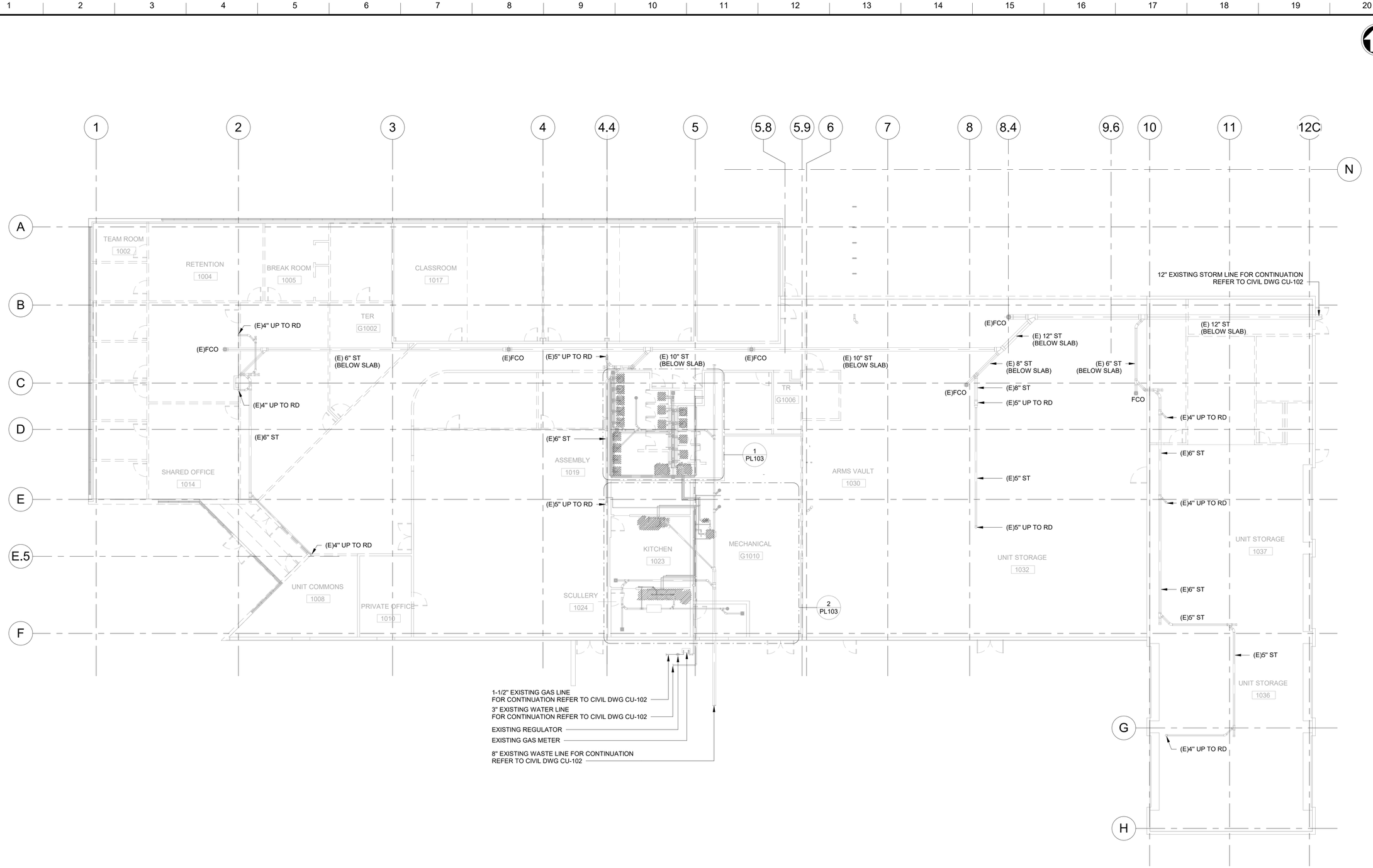
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PLUMBING - SCHEDULES

SHEET ID
PL002

CORRECTED FINAL SUBMISSION - JULY 29, 2021

JULY 29, 2021




1 PLUMBING DEMOLITION PLAN
3/32" = 1'-0"

0 8 16 24
SCALE: 3/32" = 1'-0"

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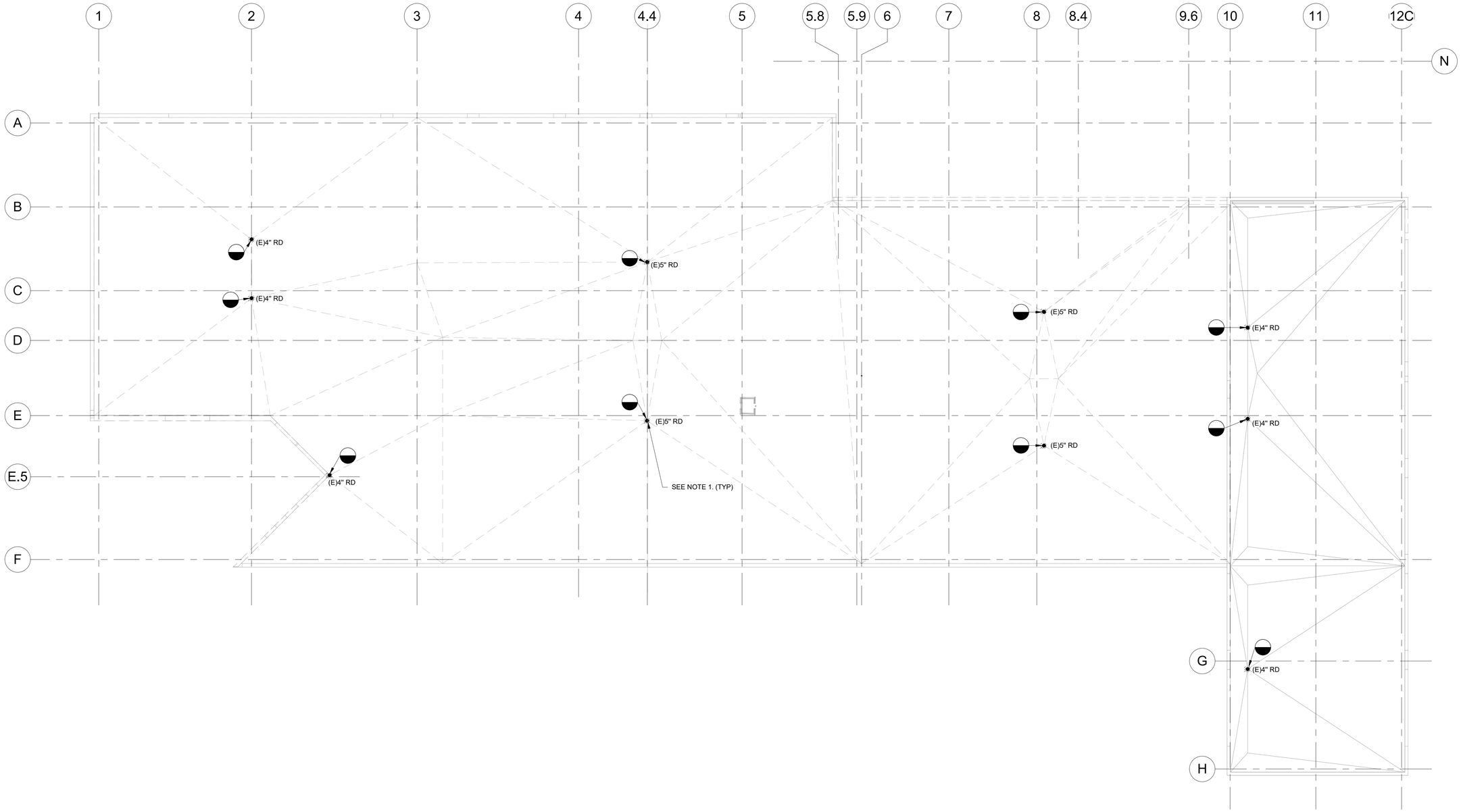
PLUMBING - OVERALL DEMOLITION PLAN

SHEET ID
PL101

CORRECTED FINAL SUBMISSION - JULY 29, 2021
JULY 29, 2021

SHEET NOTES:

1. DEMOLISH ROOF DRAIN DOME. REFER TO DETAIL ON PL-201




1 PLUMBING DEMOLITION ROOF PLAN
3/32" = 1'-0"

SCALE: 3/32" = 1'-0"

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PLUMBING - OVERALL DEMOLITION ROOF PLAN

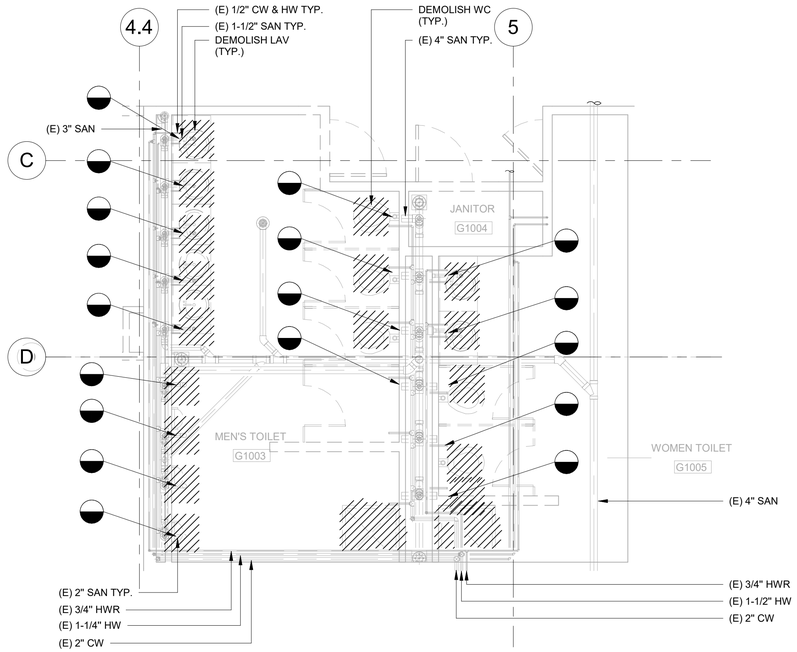
SHEET ID
PL102

CORRECTED FINAL SUBMISSION - JULY 29, 2021
JULY 29, 2021

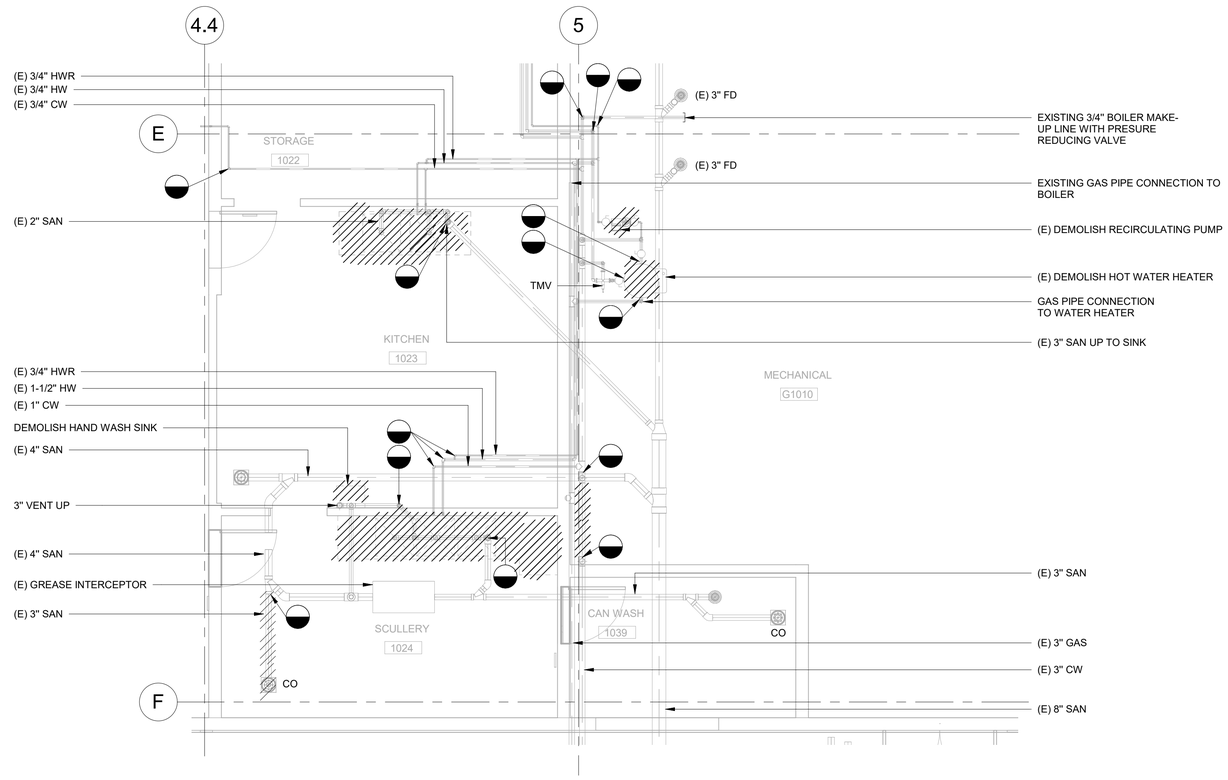
SHEET NOTES:

1. DEMOLISH PLUMBING FIXTURES AND ASSOCIATED EQUIPMENT AS SHOWN. FOR ADDITIONAL INFORMATION REFER TO ARCH DWG AD-101

2. DEMOLISH PIPING BACK TO NEAREST MAIN AND CAP END.




1 TOILET DEMOLITION ENLARGED PLAN
1/4" = 1'-0"




2 KITCHEN AND MECHANICAL ROOM DEMOLITION ENLARGED PLAN
1/4" = 1'-0"

0 2 4 8
SCALE: 1/4" = 1'-0"

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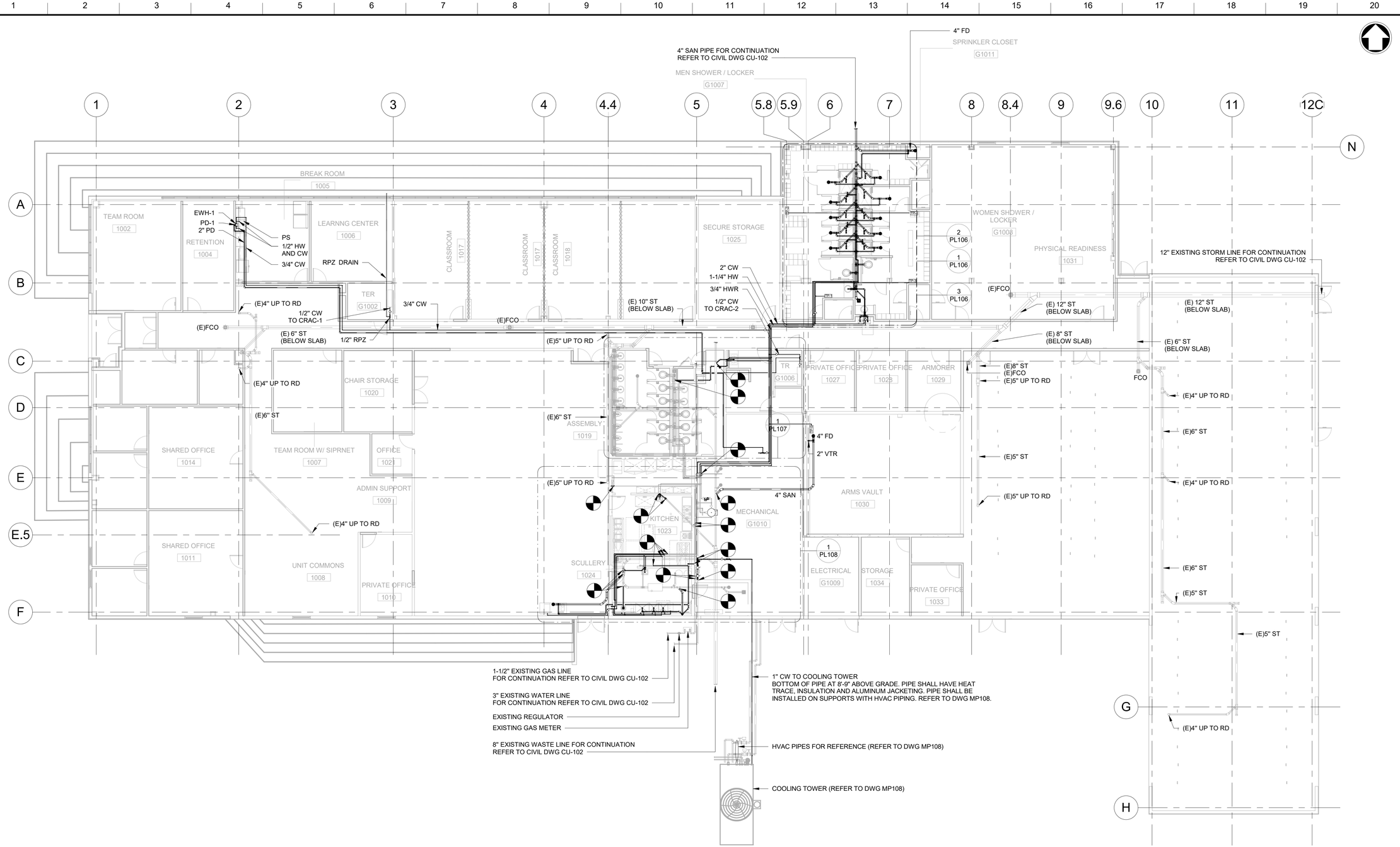

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PLUMBING - ENLARGE PLAN - DEMOLITION

SHEET ID
PL103

CORRECTED FINAL SUBMISSION - JULY 29, 2021
JULY 29, 2021




1 OVERALL PLAN
3/32" = 1'-0"

SCALE: 3/32" = 1'-0"

US Army Corps of Engineers ®

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COLLIN P. KEOUGH DATE:
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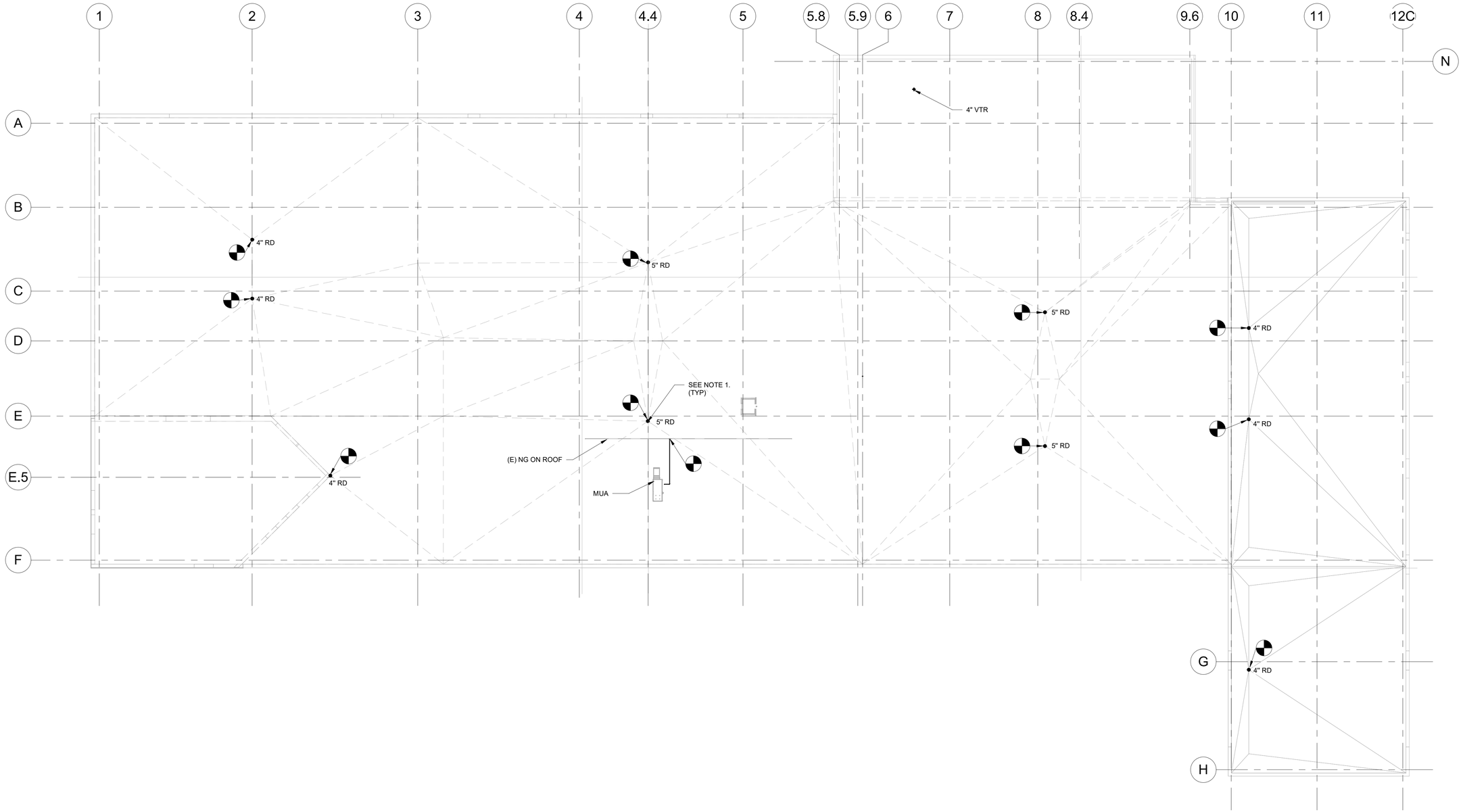
PLUMBING - OVERALL PLAN

SHEET ID
PL104

CORRECTED FINAL SUBMISSION - JULY 29, 2021
JULY 29, 2021

SHEET NOTES:

1. PROVIDE ROOF DRAIN DOME. REFER TO DETAIL ON PL-201.




## 1 PLUMBING PLAN ROOF

3/32" = 1'-0"

0 8 16 24

SCALE: 3/32" = 1'-0"

US Army Corps of Engineers ®

SEAL AND SIGNATURE
COLUM P. KEOUGH DATE:
N.Y. LIC. NO. 094333

| MARK | DESCRIPTION | DATE |
|---|---|---|

DESIGNED BY: RJ
DRAWN BY: VS
CHECKED BY: JPK
SUBMITTED BY:
SIZE: ANSI D

ISSUE DATE: 26 APRIL 2021
SOLICITATION NO.: W912QR20R0038
CONTRACT NO.: W912QR20C0038

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PLUMBING ROOF PLAN

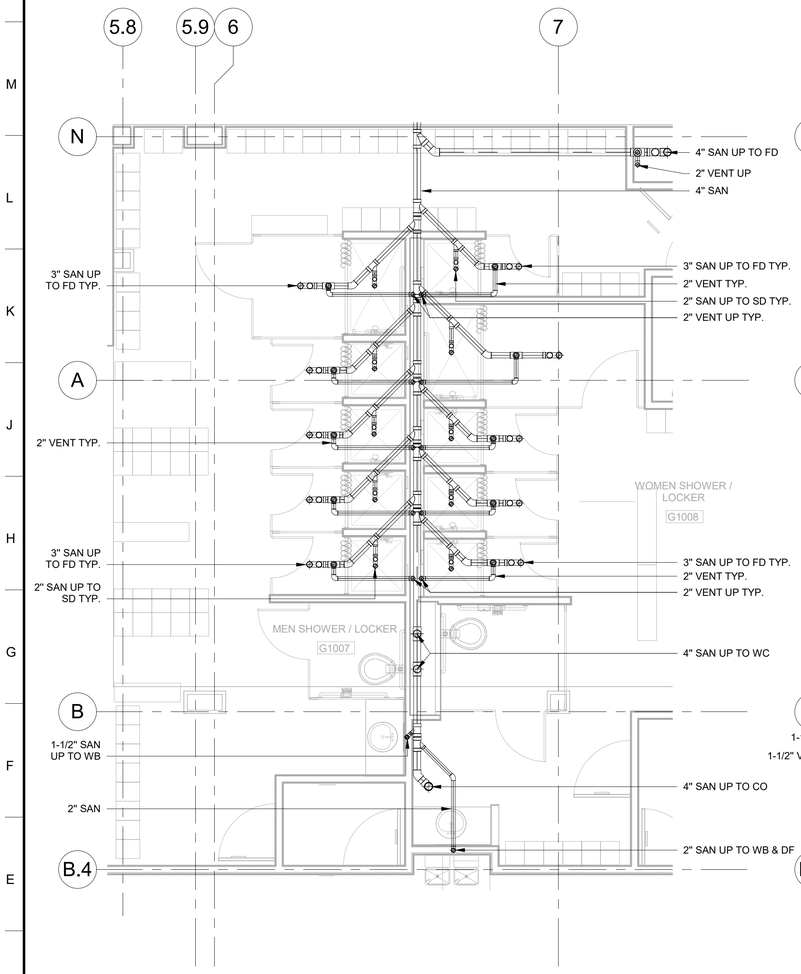
SHEET ID

PL105

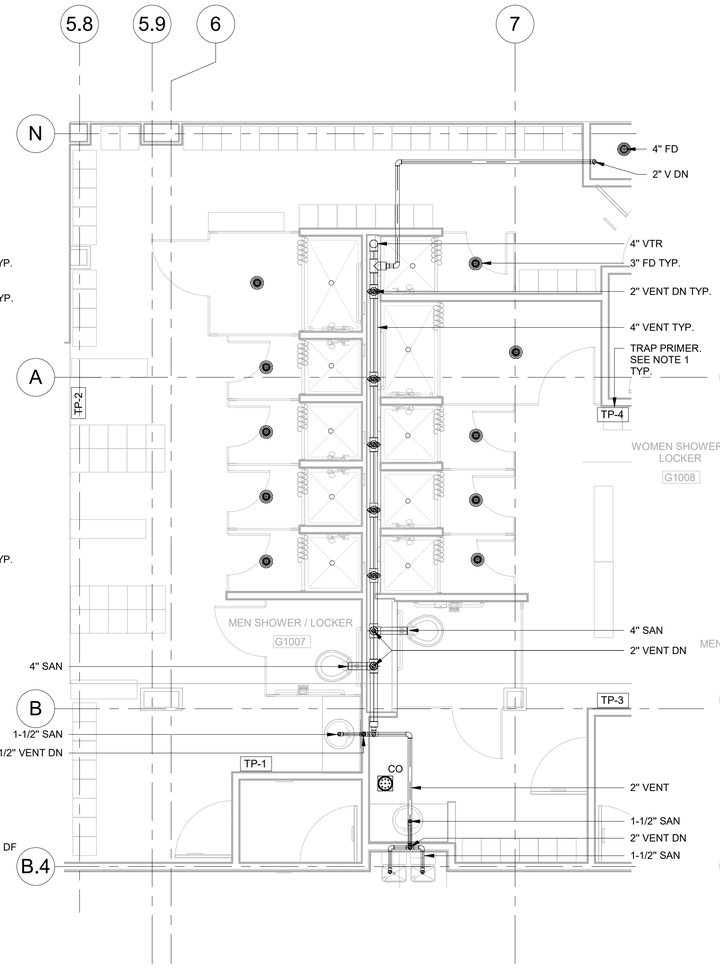
CORRECTED FINAL SUBMISSION - JULY 29, 2021

JULY 29, 2021

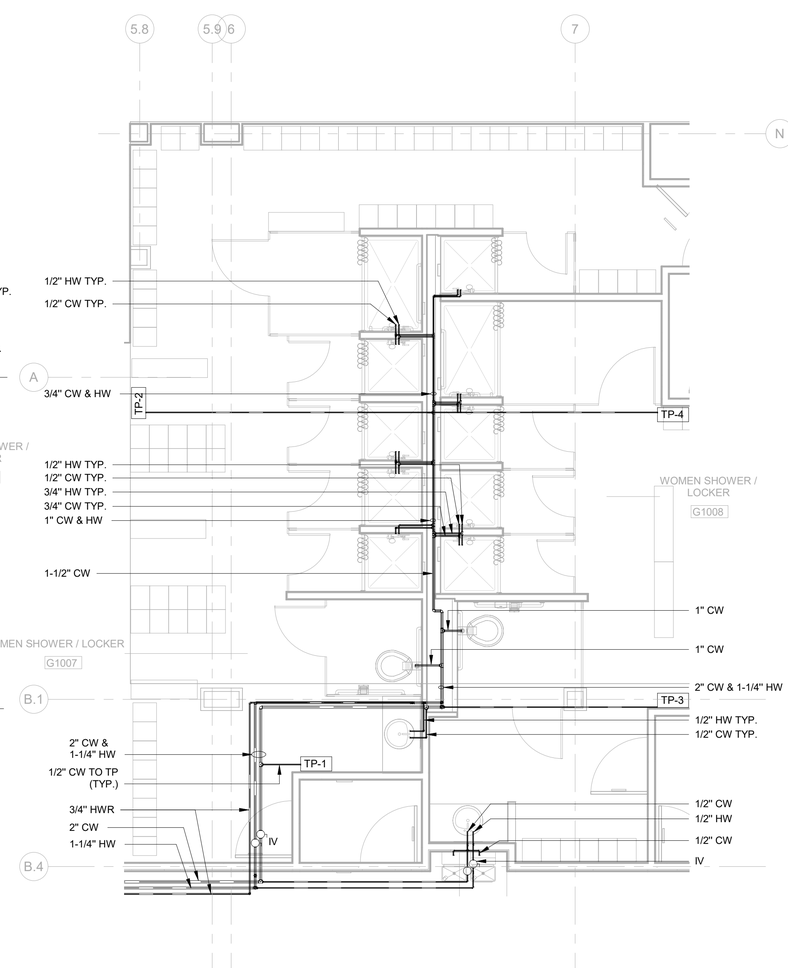
SHEET NOTES:
1. LOCATE TRAP PRIMERS ABOVE CEILING.
COORDINATE LOCATION WITH ARCHITECTURAL DWG A102.




1 TOILET - UNDERSLAB SANITARY ENLARGED PLAN
1/4" = 1'-0"




2 TOILET - SANITARY ENLARGED PLAN
1/4" = 1'-0"




3 TOILET - WATER SUPPLY ENLARGED PLAN
1/4" = 1'-0"

0 2 4 8
SCALE: 1/4" = 1'-0"

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| DRAWN BY: | VS |
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| SIZE: | ANSI D |

ISSUE DATE: 26 APRIL 2021
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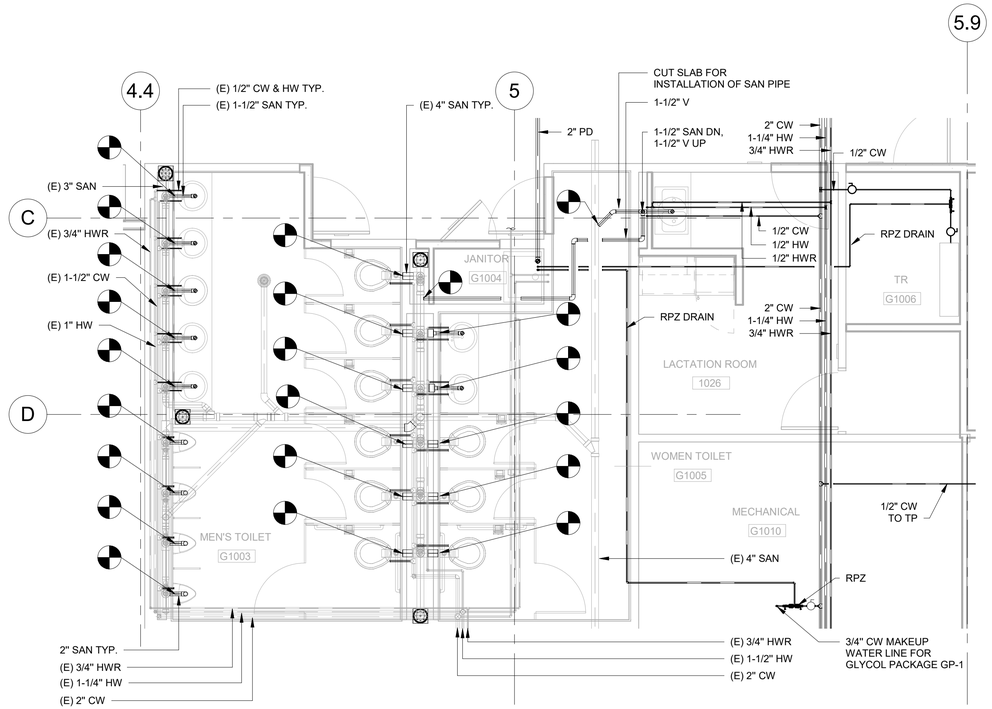

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PLUMBING - ENLARGE PLAN - 01

SHEET ID
PL106

CORRECTED FINAL SUBMISSION - JULY 29, 2021
JULY 29, 2021




## 1 EXISTING TOILET - PLUMBING ENLARGED PLAN

1/4" = 1'-0"

0 2 4 8

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

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DATE:

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PLUMBING - ENLARGE PLAN - 02

SHEET ID

PL107

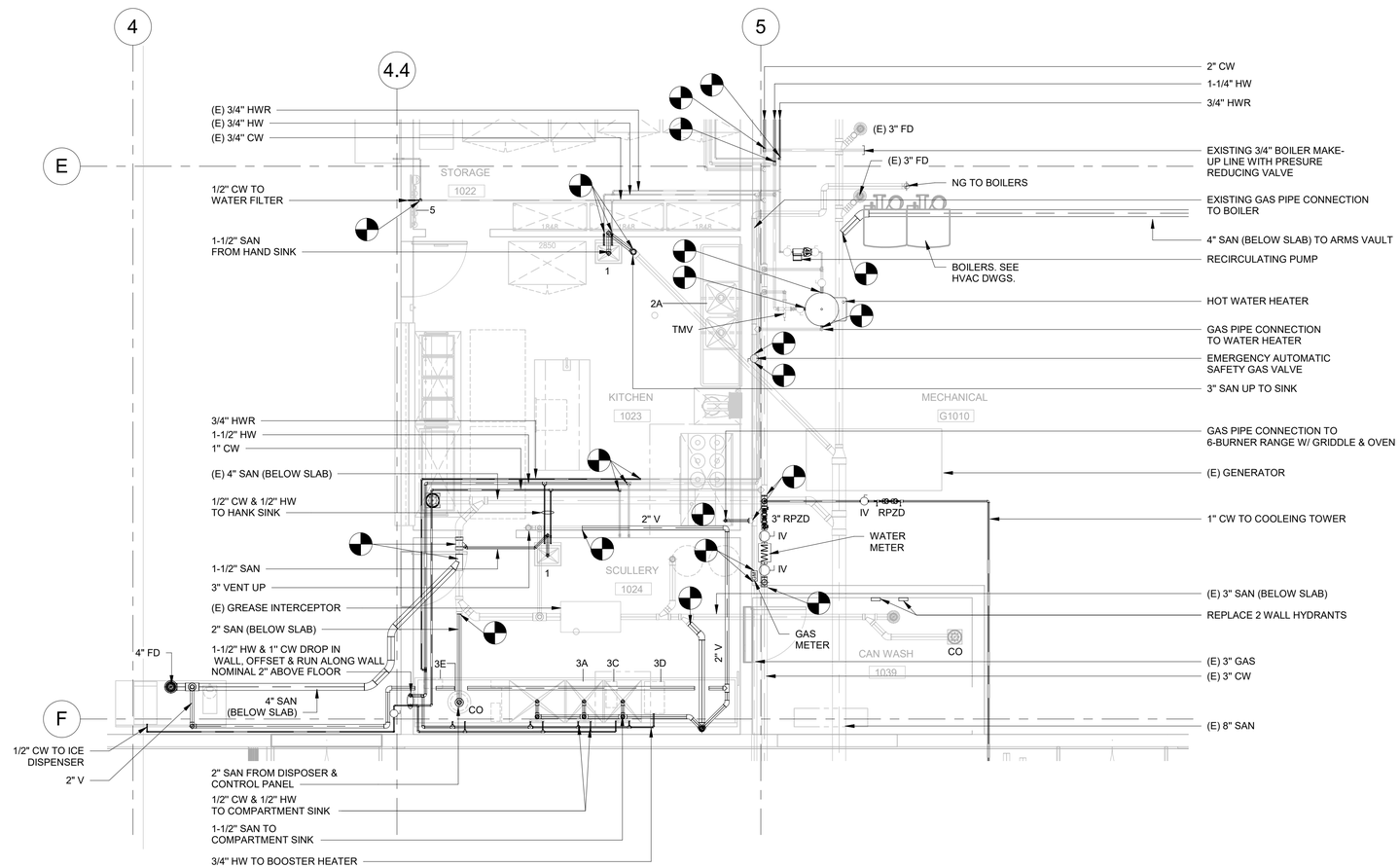
CORRECTED FINAL SUBMISSION - JULY 29, 2021

JULY 29, 2021

SHEET NOTES:

1. FOR INFORMATION ON PLUMBING FIXTURES IN THE KITCHEN REFER TO ARCH DWG A-506

2. CUT FLOOR SLAB TO INSTALL BELOW SLAB PIPE. PATCH FLOOR SLAB TO MATCH EXISTING.




## 1 EXISTING KITCHEN AND MECHANICAL ROOM - PLUMBING ENLARGED PLAN

1/4" = 1'-0"

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

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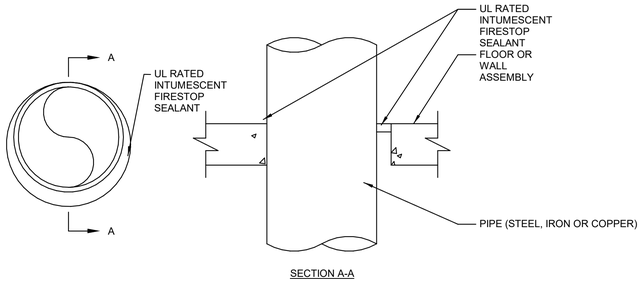
PLUMBING - ENLARGE PLAN - 03

SHEET ID

PL108

CORRECTED FINAL SUBMISSION - JULY 29, 2021

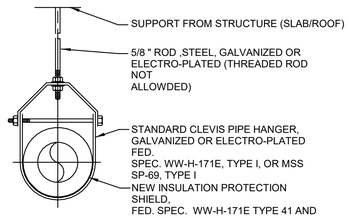
JULY 29, 2021




SECTION A-A

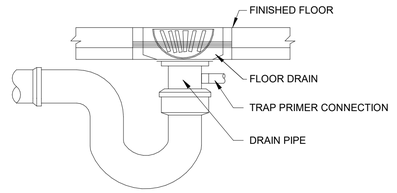
## PIPE PENETRATION (PER UL NO. C-AJ-1291) 1

NTS



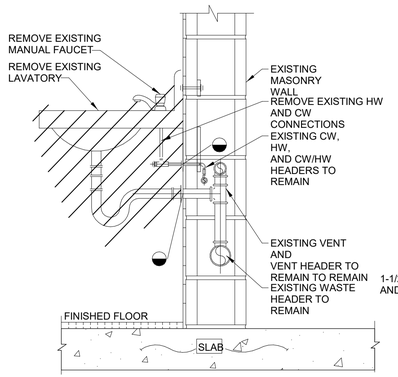

## CEILING HUNG CLEVIS HANGER FOR INSULATED PIPE 2

NTS

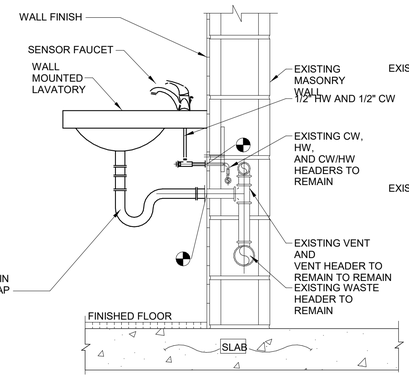



## FLOOR DRAIN DETAIL 3

NTS



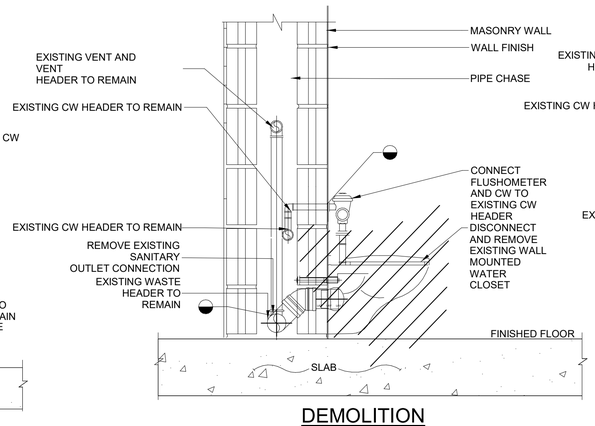

DEMOLITION



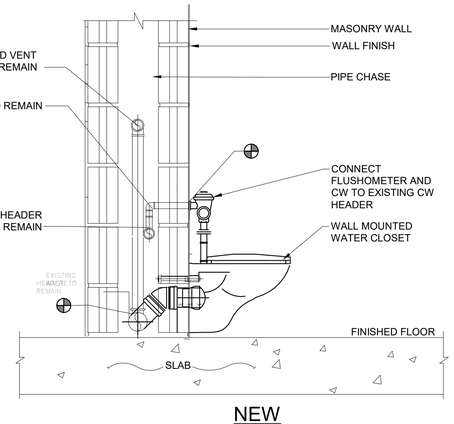

NEW

## TYPICAL LAVATORY/SINK MODIFICATIONS 4

NTS



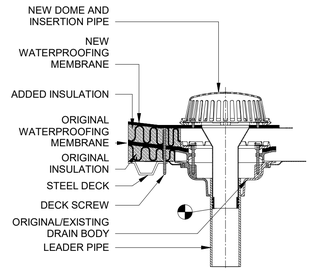

DEMOLITION




NEW

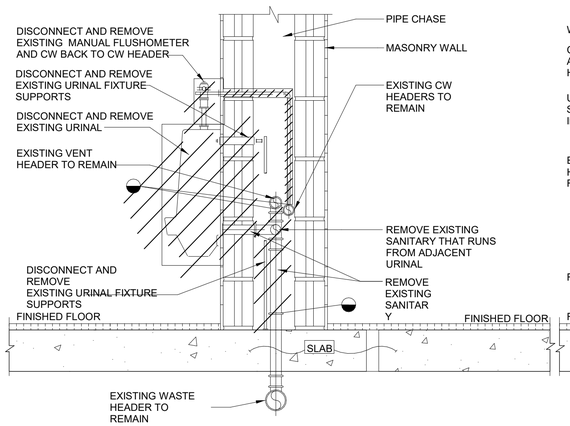
## PROPOSED WATER CLOSET REPLACEMENT CONFIGURATION 5

NTS

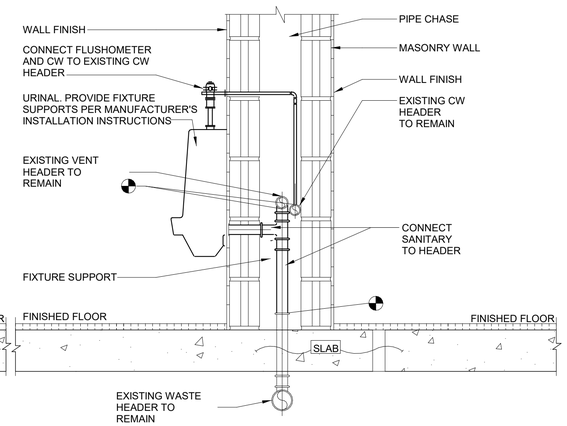



## ROOF DRAIN REPLACEMENT DETAIL 6

NTS



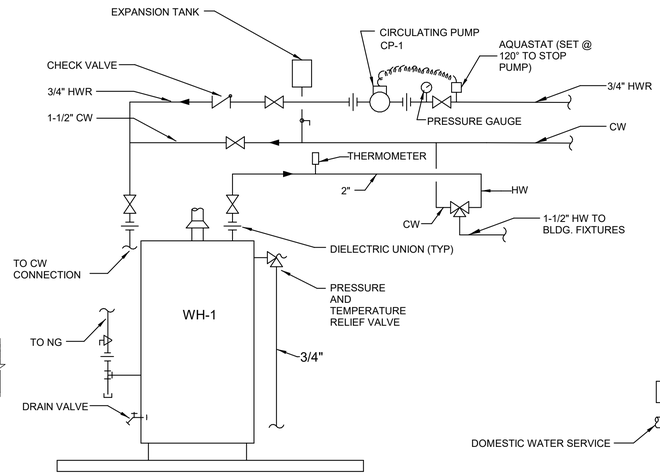

DEMOLITION




NEW

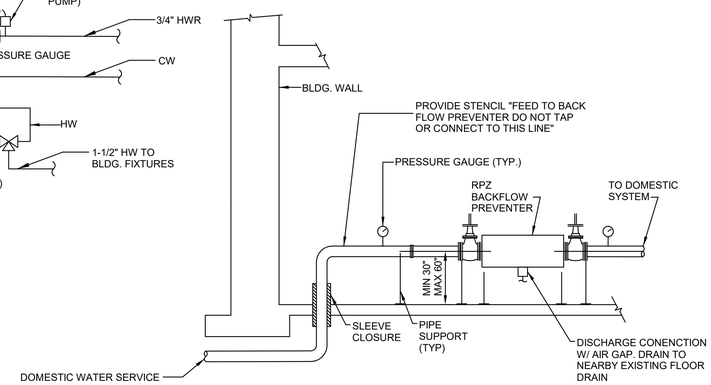
## PROPOSED URINAL REPLACEMENT CONFIGURATION 7

NTS




## WATER HEATER DETAIL 8

NTS




## BACKFLOW PREVENTER (DOMESTIC WATER SERVICE) DETAIL 9

NTS

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COLUM P. KEOUGH DATE:
N.Y. LIC. NO. 094333

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DRAWN BY:
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SOLICITATION NO.: W912QR20R0038
CONTRACT NO.: W912QR20C0038
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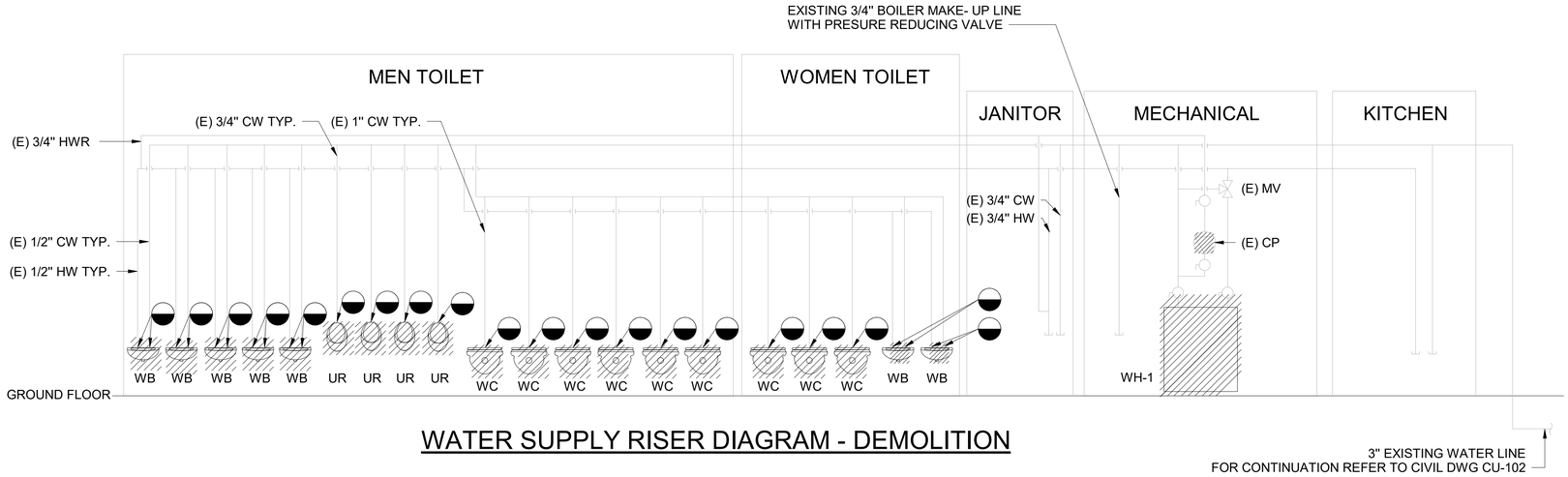
PLUMBING - TYPICAL DETAILS

SHEET ID

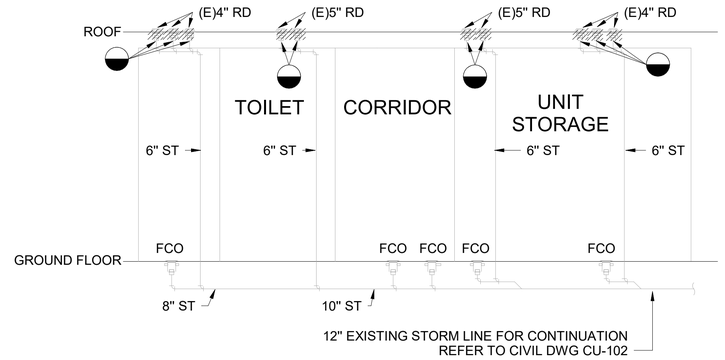
PL201

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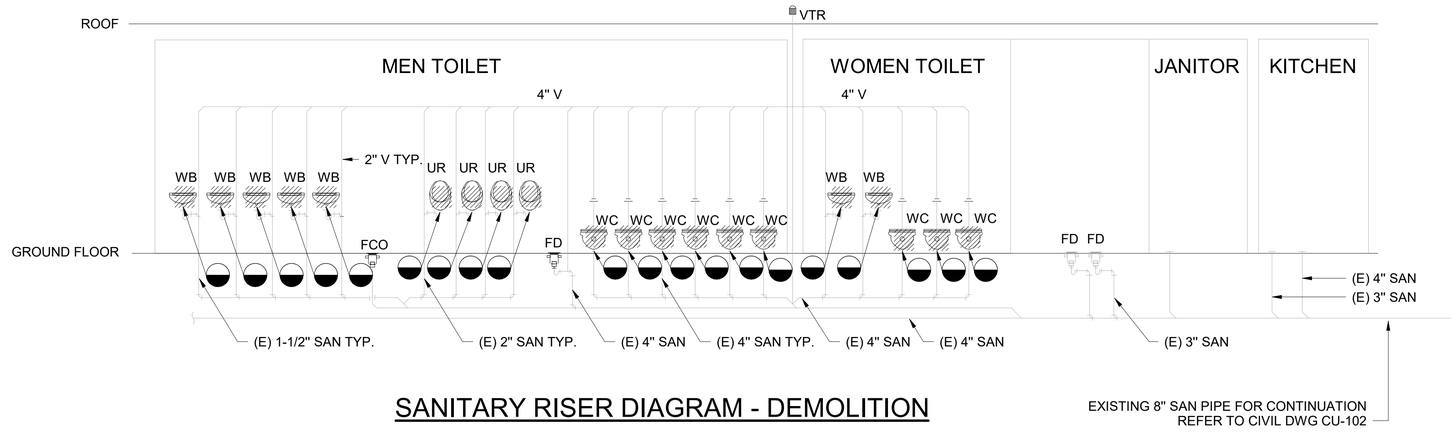
JULY 29, 2021




## WATER SUPPLY RISER DIAGRAM - DEMOLITION




## STORM WATER RISER DIAGRAM - DEMOLITION




## SANITARY RISER DIAGRAM - DEMOLITION

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COLUM P. KEOUGH DATE:
N.Y. LIC. NO. 094333

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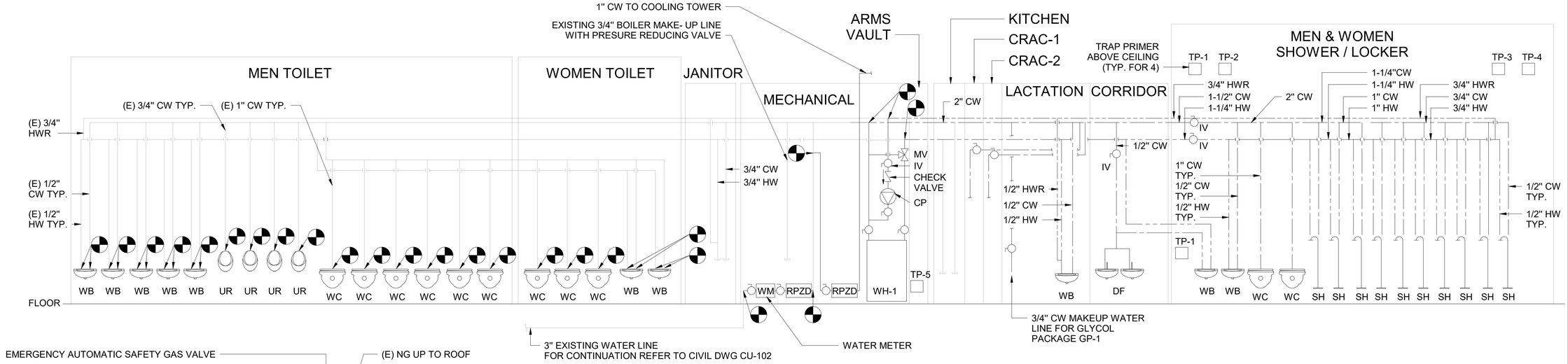
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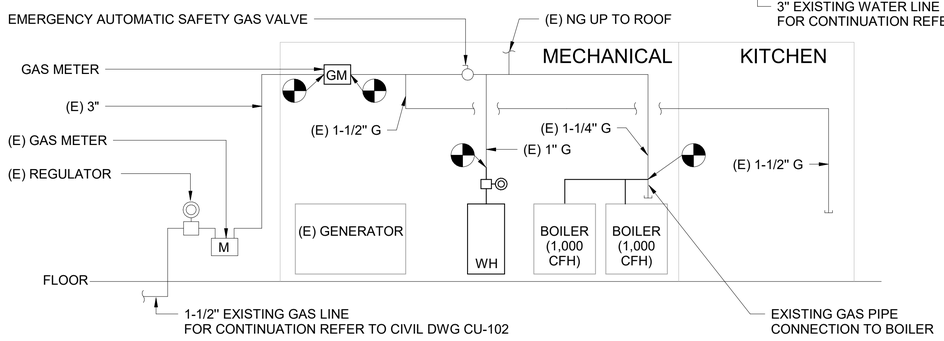
PLUMBING - RISER DIAGRAM DEMOLITION

SHEET ID
PL301

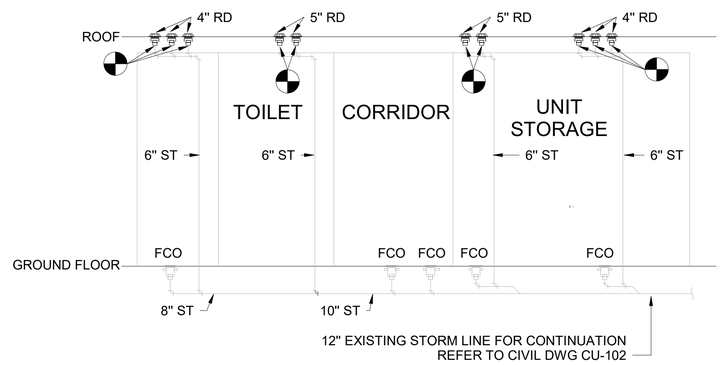
CORRECTED FINAL SUBMISSION - JULY 29, 2021
JULY 29, 2021



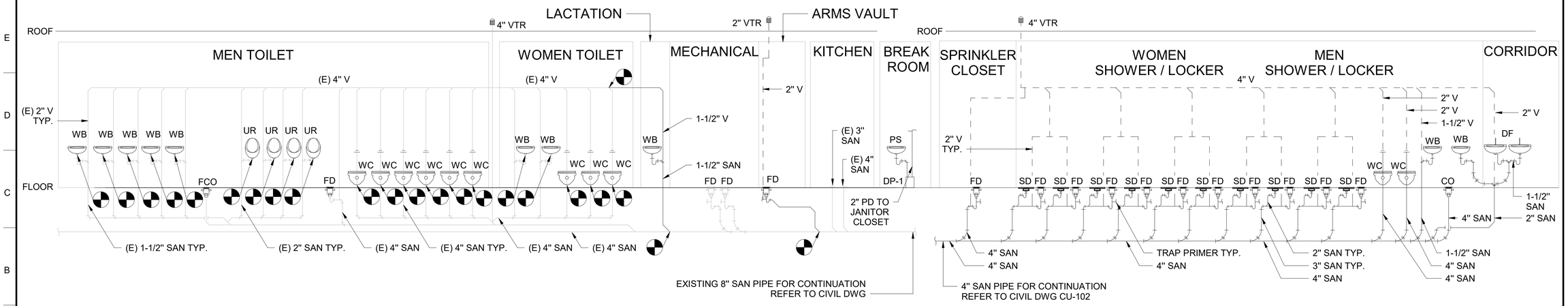

## DOMESTIC WATER RISER DIAGRAM




## NATURAL GAS RISER DIAGRAM




## STORM WATER RISER DIAGRAM




## SANITARY RISER DIAGRAM

US Army Corps of Engineers ®

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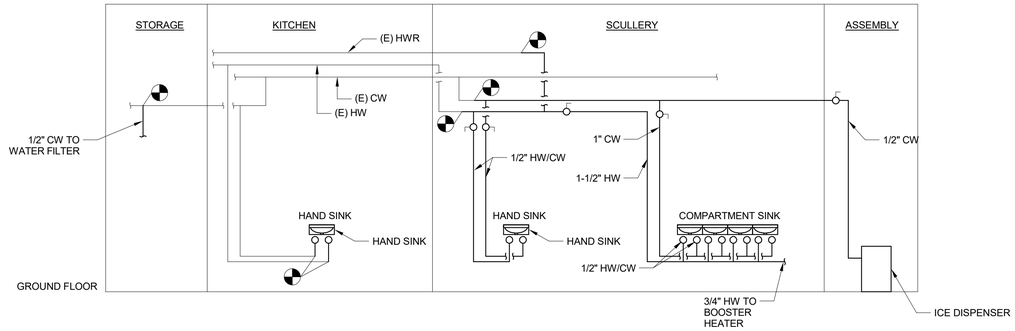
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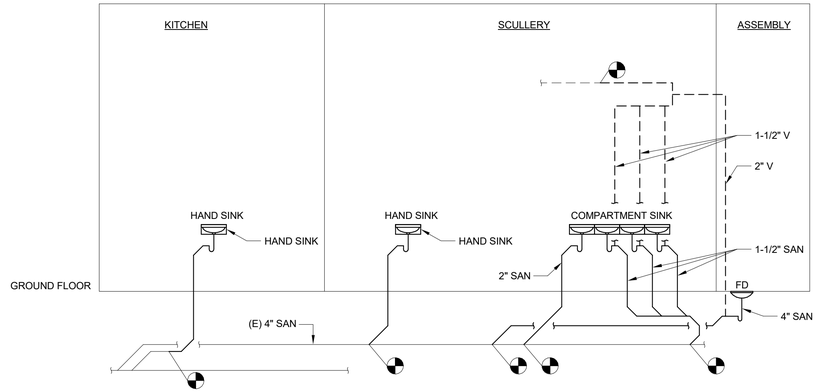
PLUMBING - RISER DIAGRAM NEW

SHEET ID
PL302

CORRECTED FINAL SUBMISSION - JULY 29, 2021
JULY 29, 2021




DOMESTIC WATER RISER DIAGRAM




SANITARY RISER DIAGRAM

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PLUMBING - RISER DIAGRAM NEW

SHEET ID

PL303

CORRECTED FINAL SUBMISSION - JULY 29, 2021

JULY 29, 2021

# HVAC LEGEND

- NEW WORK
- EXISTING SYSTEM TO REMAIN
- INDICATES ITEM TO BE REMOVED
- FD — FIRE DAMPER
- M — MOTORIZED DAMPER
- SD — DUCT MOUNTED SMOKE DETECTOR
- BDD — BACK DRAFT DAMPER
- GD — GRAVITY DAMPER (BAROMETRIC)
- MANUAL VOLUME DAMPER
- FIRE DAMPER WITH ACCESS DOOR
- COMBINATION FIRE / SMOKE DAMPER WITH ACCESS DOOR
- CEILING MOUNTED SUPPLY DIFFUSER, 360° AIR PATTERN, WITH NOTED AIR FLOW (CFM)
- CEILING MOUNTED RETURN GRILLE OR REGISTER (CFM)
- SUPPLY DUCT ELBOW WITH TURNING VANES
- RETURN OR EXHAUST DUCT ELBOW WITH TURNING VANES (PLAN, UP, DOWN)
- 3/4" UNDERCUT DOOR
- ELBOW DOWN
- ELBOW DOWN
- ELBOW UP
- FLOW DIRECTION
- PITCH DIRECTION
- NG — NATURAL GAS
- FS — FLOW SWITCH
- FM — FLOW METER
- H — HUMIDITY SENSOR
- SP — STATIC PRESSURE TRANSMITTER ASSEMBLY
- GATE VALVE
- GLOBE VALVE
- M — THREE WAY MOTORIZED CONTROL VALVE
- M — TWO WAY MOTORIZED CONTROL VALVE
- S — SOLENOID VALVE
- PRESSURE REDUCING VALVE
- SUCTION DIFFUSER WITH STRAINER
- BALL VALVE FOR PIPING 2" AND SMALLER, BUTTERFLY VALVE FOR PIPING 2-1/2" AND LARGER
- DEMOLITION NOTE REFERENCE. NUMBER 1 IS THE NOTE NUMBER
- NEW WORK NOTE REFERENCE. NUMBER 1 IS THE NOTE NUMBER
- INDICATES POINT OF CONNECTION BETWEEN NEW AND EXISTING
- INDICATES LIMIT OF DEMOLITION

- CHECK VALVE
- STRAINER WITH DRAIN VALVE
- COMBINATION BALANCING VALVE/ FLOW MEASURING STATION
- UNION FOR PIPE SIZES 2" AND SMALLER, FLANGE FOR PIPE SIZES 2-1/2" AND LARGER
- T / P — TEMPERATURE / PRESSURE TEST PORT
- THERMOMETER
- PRESSURE GAUGE
- FLEXIBLE PIPE CONNECTION
- PRESSURE (TEMPERATURE) RELIEF VALVE
- AUTOMATIC AIR VENT
- MANUAL AIR VENT
- PIPE ANCHOR
- CO — WALL MOUNTED CARBON MONOXIDE DETECTOR, MOUNT 3'-0" ABOVE FINISHED FLOOR
- CG — CEILING MOUNTED COMBUSTIBLE GAS SENSOR,
- H — WALL MOUNTED HUMIDITY SENSOR MOUNT 4'-0" ABOVE FINISHED FLOOR
- S — WALL MOUNTED ON/OFF SWITCH, MOUNT 4'-0" ABOVE FINISHED FLOOR
- SW — WALL MOUNTED EMERGENCY SHUT OFF SWITCH, MOUNT 4'-0" ABOVE FINISHED FLOOR
- TS — WALL MOUNTED THERMOSTAT/SENSOR, MOUNT 4'-0" ABOVE FINISHED FLOOR

IDENTIFICATION TARGET:
A = PLAN OR SECTION NUMBER
B = SHEET NUMBER ON WHICH DETAIL IS LOCATED

# HVAC ABBREVIATIONS

| | |
|---|---|
| AC | AIR CONDITIONING UNIT |
| ACC | AIR COOLED CONDENSING UNIT |
| AD | ACCESS DOOR |
| AFF | ABOVE FINISHED FLOOR |
| AHU | AIR HANDLING UNIT |
| AMP | AMPERE |
| ANCH | ANCHOR |
| APD | AIR PRESSURE DROP |
| APPROX | APPROXIMATE |
| ARCH | ARCHITECTURAL |
| AS | AIR SEPERATOR |
| ASME | AMERICAN SOCIETY OF MECHANICAL ENGINEERS |
| ATC | AUTOMATIC TEMPERATURE CONTROL |
| AUTO | AUTOMATIC |
| B | BOILER |
| BB | BASEBOARD RADIATOR |
| BCPR | BRANCH CIRCUIT PROTECTION RATING |
| B/D | BELT DRIVE |
| BDD | BACK DRAFT DAMPER |
| BHP | BREAK HORSEPOWER |
| BLDG | BUILDING |
| BMS | BUILDING MANAGEMENT SYSTEM |
| BOD | BOTTOM OF DUCT |
| BOE | BOTTOM OF EQUIPMENT |
| BOP | BOTTOM OF PIPE |
| BOTEL | BOTTOM ELEVATION |
| BSA | BOARD OF STANDARDS AND APPEALS |
| BTU | BRITISH THERMAL UNIT |
| BTUH | BRITISH THERMAL UNITS PER HOUR |
| CC | COOLING COIL |
| CD | CONDENSATE DRAIN |
| CF | CIRCULATING FAN |
| CFM | CUBIC FEET PER MINUTE |
| CG | CIELING GRILLE |
| CL | CENTER LINE |
| CLO | CLEAN OUT |
| CO | CARBON MONOXIDE |
| COND | CONDENSATE DRAIN |
| CONN | CONNECTION |
| CONT | CONTINUATION |
| COP | COEFFICIENT OF PERFORMANCE |
| CP | CONTROL PANEL |
| CR | CEILING REGISTER |
| CRAC | COMPUTER ROOM AIR CONDITIONING UNIT |
| CRACC | COMPUTER ROOM REMOTE CONDENSING UNIT |
| CU | CONDENSING UNIT |
| CU FT | CUBIC FEET |
| CUH | CABINET UNIT HEATER |
| CV | CONTROL VALVE FLOW COEFFICIENT |
| CW | DOMESTIC COLD WATER |
| D | DRAIN |
| DB | DRY BULB |
| DCP | DUPLEX CONDENSATE PUMP PACKAGE |
| dBA | DECIBELS |
| DD | DIRECT DRIVE |
| DDC | DIRECT DIGITAL CONTROLS |
| DF | DEGREE, FAHRENHEIT |
| DHC | DUCT HEATING COIL |
| DIA | DIAMETER |
| DMC | DUCT MOUNTED COIL |
| DN | DOWN |
| DOAS | DEDICATED OUTSIDE AIR SUPPLY UNIT |
| DWG | DRAWING |
| DX | DIRECT EXPANSION |
| E | EXISTING |
| EA | EXHAUST AIR |
| EAT | ENTERING AIR TEMPERATURE |
| EER | ENERGY EFFICIENCY RATIO |
| EF | EXHAUST FAN |
| EFT | ENTERING FLUID TEMPERATURE |
| EG | EXHAUST GRILLE |
| EL | ELEVATION |
| ELEC | ELECTRICAL |
| EQUIP | EQUIPMENT |
| ER | EXHAUST REGISTER |
| ERV | ENERGY RECOVERY UNIT |
| ESP | EXTERNAL STATIC PRESSURE |
| ET | EXPANSION TANK |
| EUH | ELECTRIC UNIT HEATER |
| EWT | ENTERING WATER TEMPERATURE |
| EXH | EXHAUST |
| EXIST | EXISTING |
| DF | DEGREE, FAHRENHEIT |
| FAB | FACED BYPASS DAMPER |
| FBL | FIXED BLADE LOUVER |
| FC | FLEXIBLE CONNECTION |
| FCL | FAIL CLOSED |
| FCU | FAN COIL UNIT |
| FD/AD | FIRE DAMPER WITH ACCESS DOOR |
| FLA | FULL LOAD AMPERES |
| FLEX | FLEXIBLE |
| FLG | FLANGED |
| FLO | FLOOR |
| FO | FAIL OPEN |
| FPM | FEET PER MINUTE |
| FSD | COMBINATION FIRE / SMOKE DAMPER |
| FT | FEET |
| FTR | FINNED TUBE RADIATION |
| FT WG | FEET OF WATER COLUMN GAUGE |
| G | GAS |
| GA | GAUGE |
| GAL | GALLONS |
| GPM | GALLONS PER MINUTE |
| GRV | GRAVITY ROOF VENTILATOR |
| H | HEIGHT |
| HC | HEATING COIL |
| HP | HORSEPOWER |
| HPU | HEAT PUMP UNIT |
| HPCU | HEAT PUMP CONDENSER UNIT |
| HR | HOURS |
| HRU | HEAT RECOVERY UNIT |
| HW | HOT WATER |
| HWP | HOT WATER PUMP |
| HWR | HEATING HOT WATER RETURN |
| HWS | HEATING HOT WATER SUPPLY |
| HX | HEAT EXCHANGER |
| HZ | HERTZ |
| ID | INSIDE DIAMETER |
| IN | INCHES |
| IN WG | INCHES OF WATER COLUMN GAUGE |
| JC | JANITORS CLOSET |
| KW | KILOWATT |
| L | LENGTH |
| LAT | LEAVING AIR TEMPERATURE |
| LBG | LINEAR BAR GRILLE |
| LBS | POUNDS |
| LF | LINEAR FEET |
| LFT | LEAVING FLUID TEMPERATURE |
| LPS | LOW PRESSURE STEAM |
| LRA | LOCKED ROTOR AMPERES |
| LVR | LOUVER |
| LWT | LEAVING WATER TEMPERATURE |
| MAX | MAXIMUM |
| MB | MIXING BOX |
| MBCA | MINIMUM BRANCH CIRCUIT AMPACITY |
| MBH | THOUSAND BTU PER HOUR |
| MCA | MINIMUM CIRCUIT AMPERES |
| MD | MOTORIZED DAMPER |
| MECH | MECHANICAL |
| MED | MEDIUM |
| MER | MECHANICAL EQUIPMENT ROOM |
| MFR | MANUFACTURER |
| MIN | MINIMUM |
| MOCP | MAXIMUM OVERCURRENT PROTECTION |
| MOD | MOTOR OPERATED DAMPER |
| MVD | MOTORIZED VANE DAMPER |
| NC | NORMALLY CLOSED |
| NFA | NET FREE AREA |
| NIC | NOT IN CONTRACT |
| NO | NORMALLY OPEN |
| NTS | NOT TO SCALE |
| NYC | NEW YORK CITY |
| OA | OUTSIDE AIR |
| OAI | OUTSIDE AIR INTAKE |
| OC | ON CENTER |
| OED | OPEN ENDED DUCT |
| OPNG | OPENING |
| OSA | OUTSIDE SUPPLY AIR |
| P | PUMP |
| PD | PRESSURE DROP |
| PE | POLYETHYLENE |
| PH | PHASE |
| PRESS | PRESSURIZATION |
| PRV | PRESSURE REDUCING VALVE |
| PSI | POUNDS PER SQUARE INCH |
| PSIG | POUNDS PER SQUARE INCH, GAUGE |
| QTY | QUANTITY |
| R | RADIATOR |
| RA | RETURN AIR |
| RED | REDUCER |
| REQD | REQUIRED |
| RF | RETURN FAN |
| RG | RETURN GRILLE |
| RH | RELATIVE HUMIDITY |
| RLA | RUNNING LOAD AMPERES |
| RM | ROOM |
| RO | ROOF OPENING |
| RPM | REVOLUTIONS PER MINUTE |
| RR | RETURN REGISTER |
| RRF | RETURN REGISTER WITH FILTER |
| RTU | ROOF TOP UNIT |
| SA | SUPPLY AIR |
| SAD | SELF ACTING DAMPER |
| SD | SMOKE DETECTOR |
| SEER | SEASONAL ENERGY EFFICIENCY RATIO |
| SENS | SENSIBLE |
| SF | SUPPLY FAN |
| SFNFA | SQUARE FEET NET FREE AREA |
| SG | SUPPLY GRILLE |
| SHT | SHEET |
| SMD | SMOKE DETECTOR |
| SQ FT | SQUARE FEET |
| SP | STATIC PRESSURE |
| TEF | TOILET EXHAUST FAN |
| TG | TRANSFER GRILLE |
| TI | TEMPERATURE INDICATOR |
| TSP | TOTAL STATIC PRESSURE |
| TYP | TYPICAL |
| UH | UNIT HEATER |
| UON | UNLESS OTHERWISE NOTED |
| V | VOLT |
| VAV | VARIABLE AIR VOLUME |
| VD | MANUAL VOLUME DAMPER |
| VFD | VARIABLE FREQUENCY DRIVE |
| VRF | VARIABLE REFRIGERANT FLOW |
| W | WIDTH |
| W/ | WITH |
| WB | WET BULB |
| WC | WATER COLUMN |
| WG | WATER GAUGE |
| WPD | WATER PRESSURE DROP |
| WMS | WIRE MESH SCREEN |
| WTR | WATER TEMPERATURE RISE |

# GENERAL DEMOLITION NOTES

1. PRIOR TO STARTING OF DEMOLITION, INSPECT AREAS IN WHICH WORK WILL BE PERFORMED. NOTE EXISTING CONDITIONS OF STRUCTURE SURFACES, EQUIPMENT, OR SURROUNDING PROPERTY THAT COULD BE MISCONSTRUED AS DAMAGE RESULTING FROM SELECTIVE DEMOLITION WORK; FILE WITH CONTRACTING OFFICER PRIOR TO STARTING WORK.
2. THE OWNER ASSUMES NO RESPONSIBILITY FOR ACTUAL CONDITION OF ITEMS OR STRUCTURES TO BE DEMOLISHED OR REMOVED.
3. THE CONTRACTOR SHALL MAKE CONTINUOUS OBSERVATIONS OF THE EXISTING STRUCTURE DURING THE PERFORMANCE OF THE WORK AND SHALL NOTIFY THE OWNER OF ANY CRACKS, DEFLECTIONS, ETC. THAT MAY REQUIRE FURTHER INVESTIGATION.
4. ALL DEMOLITION ACTIVITIES, CUTTING AND PATCHING REQUIRED IN CONNECTION WITH THE WORK SHALL BE PERFORMED BY MECHANICS OF THE SPECIFIC TRADE INVOLVED AND AS REQUIRED TO EXECUTE EACH LINE OF WORK. ALL PATCHING SHALL BE FINISHED TO MATCH ADJACENT SURFACES EITHER NEW OR EXISTING TO REMAIN.
5. CONDUCT DEMOLITION OPERATIONS AND REMOVAL OF DEBRIS TO ENSURE MINIMUM INTERFERENCE WITH WALKS AND OTHER ADJACENT OCCUPIED AND USED FACILITIES.
6. PROVIDE BARRICADES, WARNING SIGNS AND LIGHTS AT OPENINGS AND OTHER AREAS HAZARDOUS TO PEDESTRIANS AND TRAFFIC. KEEP CONSTRUCTION DEBRIS CLEAR OF TRAFFIC AREAS.
7. ALL WORK PERFORMED SHALL BE IN ACCORDANCE WITH THE REGULATIONS AND GUIDELINES SET FORTH BY ALL AGENCIES HAVING JURISDICTION OVER THE WORK.
8. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) RULES AND REGULATIONS.
9. THE CONTRACTOR SHALL PROTECT AND PRESERVE ALL EXISTING ITEMS TO REMAIN AND SHALL REPAIR AND/OR REPLACE ANY ITEM DAMAGED DURING THE COURSE OF WORK TO THE SATISFACTION OF THE CONTRACTING OFFICER AT NO ADDITIONAL COST.
10. ALL DEMOLITION MATERIALS AND DEBRIS SHALL BE LEGALLY DISPOSED OF OFF GOVERNMENT PROPERTY.
11. ANY EXISTING CONSTRUCTION THAT IS TO REMAIN IN PLACE IF DAMAGED DURING PERFORMANCE OF WORK UNDER THIS CONTRACT SHALL BE RESTORED TO ITS ORIGINAL CONDITION TO THE SATISFACTION OF THE CONTRACTING OFFICER AND AT THE CONTRACTOR'S SOLE EXPENSE.
12. THE CONTRACTOR SHALL NOTIFY THE OWNER IMMEDIATELY FOR APPROVAL AND GUIDANCE IN THE EVENT THAT ANY BUILDING STRUCTURAL COMPONENTS (I.E. CONCRETE, TIMBER OR STEEL FRAMING MEMBERS, INCLUDING JOISTS AND ROOF/FLOOR DECKING SYSTEMS) ARE OBSERVED TO BE DAMAGED PRIOR TO OR DURING PROJECT CONTRACT ITEMS DEMOLITION/INSTALLATION AND/OR MUST BE TEMPORARILY OR PERMANENTLY DEMOLISHED, DISASSEMBLED OR ALTERED TO ALLOW INSTALLATION OF THE PROJECT CONTRACT ITEMS.

# GENERAL NOTES

1. ALL WORK, MATERIALS AND WORKMANSHIP SHALL BE PERFORMED IN STRICT ACCORDANCE WITH, AND SHALL CONFORM WITH ALL FEDERAL, STATE AND LOCAL CODES, ORDINANCES, RULES AND REGULATIONS, SPECIFICATIONS AND RECOMMENDED PRACTICES OF THE MANUFACTURERS AND THE APPROPRIATE APPLICABLE STANDARDS. WHERE SUCH CODES, RULES AND REGULATIONS ARE AT VARIANCE WITH THE PLANS AND NOTES, SAID CODES, RULES AND REGULATIONS, ETC. SHALL TAKE PRECEDENCE OVER THE PLANS AND NOTES.
2. THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE BUILDING CODES AND REGULATIONS AND SHALL PAY FOR AND OBTAIN ALL NECESSARY AND REQUIRED INSPECTIONS, APPROVALS AND PERMITS, NECESSARY TO PERFORM ALL WORK AND SERVICES HEREIN NOTED OR INDICATED ON THE DRAWINGS.
3. THE CONTRACTOR SHALL EVALUATE CONDITIONS RELATING TO THE CONSTRUCTION AND LABOR UNDER WHICH THE WORK WILL BE PERFORMED AND COMPARE THE DRAWINGS AND SPECIFICATIONS WITH THE WORK IN PLACE. FAILURE TO DO SO WILL NOT RELIEVE THE CONTRACTOR OF OBLIGATION TO FURNISH ALL LABOR AND MATERIALS NECESSARY TO CARRY OUT THE PROVISIONS OF THE CONTRACT DOCUMENTS AND TO COMPLETE THE CONTEMPLATED WORK FOR THE CONSIDERATION SET FORTH IN THE BID. THE CONTRACTOR, IN THE CARRYING OUT OF THE WORK, SHALL EMPLOY SUCH METHODS OR MEANS THAT WILL NOT CAUSE ANY INTERRUPTIONS OR INTERFERENCE WITHIN THE WORK OF ANY OTHER.
4. MINOR DETAILS NOT USUALLY SHOWN OR SPECIFIED BUT NECESSARY FOR PROPER CONSTRUCTION OF ANY PART OF THE WORK SHALL BE INCLUDED AS IF THEY WERE INDICATED ON THE DRAWINGS.
5. DUE TO THE SMALL SCALE OF THE DRAWINGS THE DUCTWORK AND PIPING SHOWN ARE DIAGRAMMATIC. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY OFFSETS TO AVOID CONFLICTS WITH STRUCTURAL ELEMENTS, LIGHTING FIXTURES, PLUMBING, ETC.
6. THE CONTRACTOR SHALL PROVIDE PROTECTION FOR THE GENERAL PUBLIC AND CONSTRUCTION WORKERS IN AND AROUND THE CONSTRUCTION SITE.
7. THE CONSTRUCTION AREA SHALL BE THOROUGHLY CLEANED PRIOR, DURING AND AFTER THE CONSTRUCTION.
8. SUBMITTALS SHALL BE IN COMPLIANCE WITH CONTRACT REQUIREMENTS AND ACTUAL FIELD CONDITIONS.
9. DETAILS ON THE DRAWINGS ARE SHOWN AT SPECIFIC LOCATIONS AND ARE INTENDED TO SHOW GENERAL REQUIREMENTS THROUGHOUT. DETAILS NOTED "TYP." IMPLY ALL CONDITIONS TREATED SIMILARLY.
10. THE CONTRACTOR SHALL FIRE STOP ALL PENETRATIONS AND ALL FIRE RATED WALL AND FLOOR ASSEMBLIES.
11. THE CONTRACTOR SHALL COORDINATE PLACEMENT OF ALL DUCTWORK AND WATER PIPING (HVAC, DOMESTIC COLD WATER, ETC.) WITH ELECTRICAL COMPONENTS.
    - A. IN NO CIRCUMSTANCE SHALL WATER PIPING BE RUN OVER TOP OF OR WITHIN THREE FEET LATERALLY FROM ELECTRICAL PANELS, TRANSFORMERS, SWITCHES, DISCONNECTS AND SIMILAR DEVICES. USE OF DRIP PANS AS AN ALTERNATIVE IS NOT ACCEPTABLE PRACTICE.
    - B. NO PIPING, DUCTS, LEAK PROTECTION APPARATUS, OR OTHER EQUIPMENT FOREIGN TO THE ELECTRICAL INSTALLATION SHALL BE LOCATED IN THE DEDICATED ELECTRICAL SPACE WHICH IS EQUAL TO THE WIDTH AND DEPTH OF THE ELECTRICAL EQUIPMENT AND EXTENDING FROM THE FLOOR TO A HEIGHT OF 6 FEET ABOVE THE EQUIPMENT OR TO THE STRUCTURAL CEILING, WHICHEVER IS LOWER.
    - C. NO PIPING, CONDUIT OR STRUCTURAL WORK SHALL BE INSTALLED IN OR THROUGH ANY DUCTWORK.
14. EXACT LOCATION OF ALL ROOF MOUNTED MECHANICAL EQUIPMENT SHALL BE IN ACCORDANCE WITH THE STRUCTURAL DRAWINGS.
15. THE HVAC CONTRACTOR SHALL BE RESPONSIBLE TO COORDINATE WITH GENERAL CONTRACTOR ACTUAL SIZE AND LOCATION OF ALL ROOF, WALL AND FLOOR OPENINGS REQUIRED FOR THE HVAC EQUIPMENT INSTALLATION.
16. PROVIDE ALL NECESSARY DUCT TRANSITIONS FROM THE INDICATED DUCT SIZE TO THE ACTUAL EQUIPMENT DUCT COLLAR SIZE.
17. PROVIDE FLEXIBLE CONNECTORS AT ALL DUCT CONNECTIONS TO EQUIPMENT.
18. PROVIDE ADJUSTABLE AIR VOLUME DAMPERS AT ALL DUCT BRANCHES, AND IN THE DUCTS TO DIFFUSERS, SUPPLY, AND RETURN/EXHAUST REGISTERS.
19. PROVIDE SHUTOFF VALVES AT ALL CONDENSER / HOT WATER SUPPLY AND RETURN PIPE BRANCHES. THE SHUTOFF VALVES ARE NOT SHOWN ON PHYSICAL PLANS FOR CLARITY.
17. PROVIDE AUTOMATIC AIR VENTS AT ALL HIGHEST POINTS OF THE HEATING AND CONDENSER WATER SYSTEMS. PROVIDE DRAIN VALVES AT ALL LOWEST POINTS OF THE SYSTEMS.
18. ALL DUCTWORK DIMENSIONS ARE CLEAR INSIDE DIMENSIONS.
19. FOR AIR CONDITIONED SPACES PROVIDE THERMAL INSULATION FOR ALL SUPPLY, RETURN, EXHAUST, AND FRESH AIR DUCTS. INSULATE THE BACKS OF ALL DIFFUSERS UNLESS NOTED OTHERWISE.
20. PROVIDE ACCESS DOORS FOR ALL FIRE DAMPERS OR SMOKE DAMPERS.
21. INSTALLATION OF FLEXIBLE DUCT IN THE AIR CONDITIONED SYSTEMS SHALL BE LIMITED TO RUNOUTS TO DIFFUSERS, GRILLED, REGISTERS AND TERMINAL UNITS. THE FLEXIBLE DUCTS SHALL NOT EXCEED 5'-0" IN LENGTH. IF THE RUNOUT LENGTH IS GREATER THAN 5'-0", PROVIDE HARD DUCT EXTENSION OF THE SAME SIZE AS THE RESPECTIVE FLEXIBLE DUCT.
22. ALL SPACE TEMPERATURE SENSORS (THERMOSTATS) SHALL BE MOUNTED AT 48 INCHES ABOVE FINISHED FLOOR.
23. PROVIDE TAGS FOR ALL EQUIPMENT, CONTROLS, ETC.
24. WHEN PIPES, DUCTS AND OTHER HANGING ITEMS ARE SUPPORTED FROM THE STRUCTURAL ELEMENTS, THE CONTRACTOR SHALL PROVIDE THE MISCELLANEOUS STEEL NECESSARY TO SUPPORT PIPING, DUCTWORK AND MECHANICAL EQUIPMENT.
25. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY SCAFFOLDS AND TEMPORARY PLATFORMS AS REQUIRED TO PERFORM ALL WORK.
26. THE CONDENSER WATER SYSTEM SHALL OPERATE WITH 35 PERCENT PROPYLENE GLYCOL SOLUTION. ALL EQUIPMENT SHALL BE SUITABLE AND CAPABLE OF OPERATION WITH PROPYLENE GLYCOL SOLUTION.
27. THE THERMAL PIPING EXPANSION COMPENSATION (LOOPS, GUIDES, ANCHORS, ETC) SHOWN ON THE DRAWINGS IS AN ESTIMATE OF THE PIPING THERMAL EXPANSION REQUIREMENTS. THE DESIGN OF THE PIPING THERMAL EXPANSION MEASURES SHALL BE IN ACCORDANCE WITH SPECIFICATION SECTION 230516. THE CONTRACTOR SHALL PROVIDE AND INSTALL ALL PIPING THERMAL EXPANSION MEASURES/ COMPONENTS IN ACCORDANCE WITH THE DELEGATED DESIGN REQUIRED BY SPECIFICATION 230516 WHICH MAY BE MORE THAN WHAT IS SHOWN ON THESE CONTRACT DRAWINGS.
28. UNLESS OTHERWISE NOTED OR INDICATED, ALL EXISTING EQUIPMENT, PIPING, DUCTWORK AND ACCESSORIES ARE TO REMAIN.
29. ANY MOTOR, TRANSFORMER OR OTHER ELECTRICAL DEVICE GREATER THAN 5KVA SHALL HAVE A MINIMUM OF A 47" BUFFER FROM ANY WALL OF THE EF, TER, OR TR.
30. EQUIPMENT, (PIPING, DUCTWORK, MACHINERY, ETC) THAT DOES NOT SERVE THE EF G1001, TER G1002, OR TR G1006 ROOMS SHALL NOT BE INSTALLED ABOVE, BELOW (I.E. IN OR UNDER SLAB), OR IN THESE IT SPACES, NOR SHALL THIS EQUIPMENT PASS THROUGH OR ENTER THE EF G1001, TER G1002 OR TR G1006.
31. PROVIDE THERMAL INSULATION FOR ALL SUPPLY, RETURN AND FRESH AIR DUCTS. INSULATE THE BACKS OF ALL DIFFUSERS UNLESS NOTED OTHERWISE.

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UNITED STATES ARMY RESERVE CENTER
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MECHANICAL LEGEND, ABBREVIATIONS & GENERAL NOTES

SHEET ID

M-001

CORRECTED FINAL SUBMISSION - JULY 29, 2021

PLAN NORTH

NOTES:

1. SEE DWG M-001 FOR SYMBOLS, LEGEND, AND ABBREVIATIONS.
2. SEE DWGS MH101 TO MH108 FOR NEW DUCTWORK.
3. SEE DWGS MP201 TO MP207 FOR NEW PIPING WORK.
4. SEE DWGS MI101 TO MI102 FOR CONTROL DIAGRAMS.
5. SEE DWGS M-501 TO M-503 FOR DETAILS.
6. SEE DWGS M-601 TO M-603 FOR EQUIPMENT SCHEDULES.

DEMOLITION NOTES:

1. PRIOR TO DEMOLITION WORK, ALL REFRIGERANT IN THE EXISTING HVAC SYSTEMS SHALL BE RECOVERED AND RECYVLED IN COMPLIANCE WITH EPA REGULATIONS (40 CFR PART 82, SUBPART F) UNDER SECTION 608 OF THE CLEAN AIR ACT.
2. REMOVE ALL REGISTERS, DIFFUSERS AND GRILLES
3. REMOVE ALL DUCT, DUCT SUPPORTS, DUCT ACCESSORIES.
4. REMOVE ALL REFRIGERANT, HOT WATER, CONDENSATE PIPE, VALVES,HANGERS, SUPPORTS AND PIPING ACCESSORIES.
5. REMOVE ALL DUCT AND PIPE INSULATION
6. REMOVE ALL HVAC CONTROL DEVICES, CONDUIT AND WIRING.
7. REMOVE ALL FINNED TUBE RADIATORS, HOT WATER UNIT HEATERS, PIPING, VALVES, CONDUIT, AND WIRING.

REMOVE 20"X12" SUPPLY DUCT, HANGERS, AND SUPPORTS

REMOVE 8" DIA DUCT (TYP. FOR ALL)

REMOVE 8" DIA DUCT TO EACH CEILING DIFFUSER/REGISTER (TYP. FOR ALL)

REMOVE WALL MOUNTED FINNED TUBE RADIATORS

REMOVE 24"X10" RR TYP.

REMOVE WALL MOUNTED FINNED TUBE RADIATORS

REMOVE WALL MOUNTED FINNED TUBE RADIATORS

REMOVE ALL CEILING REGISTERS, DIFFUSERS GRILLES, AND ASSOCIATED 8" DIA FLEX DUCTS (TYP. FOR ALL)

REMOVE CEILING REGISTERS AND DIFFUSERS (TYP. FOR ALL)

REMOVE WALL MOUNTED FINNED TUBE RADIATORS, ASSOCIATED, VALVES, THERMOSTATS, PIPING, CONTROL WIRING AND CONDUIT. (TYP. FOR ALL)

REMOVE 3/4" HWS/R BRANCHES TO FINNED TUBE RADIATORS (TYP. FOR ALL)

REMOVE 8" DIA DUCT (TYP. FOR ALL)

REMOVE 8" DIA DUCT, HANGERS, SUPPORTS, TO EACH CEILING DIFFUSER/REGISTER (TYP. FOR ALL)

REMOVE 8" DIA DUCT TO EACH CEILING DIFFUSER/REGISTER (TYP. FOR ALL)

REMOVE 36"X24" SUPPLY DUCT, HANGERS, AND SUPPORTS

REMOVE 46"X18" DUCT UP TO RTU ON ROOF

REMOVE 8" DIA DUCT TAKEOFFS

REMOVE WALL MOUNTED FINNED TUBE RADIATORS, ASSOCIATED, VALVES, THERMOSTATS, PIPING, CONTROL WIRING AND CONDUIT. (TYP. FOR ALL)

REMOVE 8" DIA DUCT

REMOVE 6"x6" UP TO 12"X8" MAIN

REMOVE 36"X18" REMOVE 36"X18" UP TO RTU ON ROOF

REMOVE 3/4" HWS/R PIPING, HANGERS, SUPPORTS, INSULATION, ANCHORS, AND VALVES.

REMOVE 48"X18"WALL MOUNTED RETURN GRILL

REMOVE 3\48"X18" UP TO RTU ON ROOF

REMOVE 24"X24" DUCT

REMOVE 8" DUCT

REMOVE 12" FLUE, ASSOCIATED HANGERS AND SUPPORTS

REMOVE 3/4" HWS/R PIPING, HANGERS, SUPPORTS, INSULATION, ANCHORS, AND VALVES. (TYP. FOR ALL)

REMOVE 12"X8" DUCT UP TO ROOF

REMOVE 17"X19" DUCT, HANGERS , SUPPORTS, AND INSULATION UP TO ROOF

REMOVE 30"X12" DUCT, HANGERS , SUPPORTS, AND INSULATION

REMOVE WALL MOUNTED FINNED TUBE RADIATORS

REMOVE SPLIT AC, ASSOCIATED THERMOSTATS, CONDUIT AND WIRING

REMOVE 6"X16" DUCT UP TO ROOF

REMOVE 12"X12" DUCT UP TO ROOF

REMOVE 25"X25" DUCT UP TO ROOF

REMOVE HOT WATER BOILERS, ASSOCIATED, FLUE, PIPING, VALVES, CIRCULATING PUMP, CONDUIT AND CONTROL WIRING.

REMOVE WALL MOUNTED FINNED TUBE RADIATORS

REMOVE 3/4" HWS/R PIPING

REMOVE 18"X18" DUCT UP TO ROOF

REMOVE 1-1/2" HWS/R PIPING, HANGERS, SUPPORTS, INSULATION, ANCHORS, AND VALVES. (TYP. FOR ALL)

REMOVE DIAPHRAGM TANK

REMOVE 1-1/2" HWS/R PIPING, HANGERS, SUPPORTS, INSULATION, ANCHORS, AND VALVES.

REMOVE 3" HWS/R PIPING, HANGERS, SUPPORTS, INSULATION, ANCHORS, AND VALVES.

REMOVE 1-1/2" HWS/R PIPING, HANGERS, SUPPORTS, INSULATION, ANCHORS, AND VALVES. (TYP. FOR ALL)

REMOVE 3/4" HWS/R BRANCHES TO FINNED TUBES. (TYP. FOR ALL)

GENERATOR TO REMAIN

REMOVE WALL MOUNTED FINNED TUBE RADIATORS, ASSOCIATED, VALVES, THERMOSTATS, PIPING, AND CONTROL WIRING AND CONDUIT. (TYP. FOR ALL)

REMOVE WALL MOUNTED FAN, ASSOCIATED CONTROLS, CONDUIT AND WIRING .

REMOVE CONDENSER, ASSOCIATED, CONDUIT AND WIRING

REMOVE 1/2" AND 1/4" REFRIGERANT PIPING, HANGERS AND SUPPORTS

REMOVE SPLIT AC,REFRIGERANT PIPING, ASSOCIATED THERMOSTAT, CONDUIT AND WIRING

REMOVE WALL MOUNTED FAN, ASSOCIATED CONTROLS, CONDUIT AND WIRING .

REMOVE 1/2" AND 1/4" REFRIGERANT PIPING, HANGERS AND SUPPORTS

REMOVE 8" VEHICLE FLEX DUCT

REMOVE 1-1/4" HWS/R PIPING, HANGERS, SUPPORTS, INSULATION, ANCHORS, AND VALVES.

REMOVE 18"X18" DUCT UP TO ROOF

REMOVE HOT WATER UNIT HEATER

REMOVE 8" VEHICLE FLEX DUCT

REMOVE HOT WATER UNIT HEATER

REMOVE 8" DIA VEHICLE EXHAUST DUCT , FLEX DUCT, HANGERS AND SUPPORTS (TYP. FOR ALL)

REMOVE VEHICLE EXHAUST FAN , HANGERS, SUPPORTS AND ASSOCIATED CONTROLS.

REMOVE HOT WATER UNIT HEATER

REMOVE 8" VEHICLE FLEX DUCT

REMOVE HOT WATER UNIT HEATERS, ASSOCIATED VALVES, THERMOSTATS, HANGERS, SUPPORTS, CONDUIT AND WIRING. (TYP. FOR ALL)

SCALE: 3/32"=1'-0

# 1 MECHANICAL LEVEL 1 DEMOLITION FLOOR PLAN

3/32" = 1'-0"

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MECHANICAL LEVEL 1 DEMOLITION FLOOR PLAN

SHEET ID

MD101

CORRECTED FINAL SUBMISSION - JULY 29, 2021

PLAN NORTH

NOTES:

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2. SEE DWGS MH101 TO MH108 FOR NEW DUCTWORK.
3. SEE DWGS MP201 TO MP207 FOR NEW PIPING WORK.
4. SEE DWGS MI101 TO MI102 FOR CONTROL DIAGRAMS.
5. SEE DWGS M-501 TO M-503 FOR DETAILS.
6. SEE DWGS M-601 TO M-603 FOR EQUIPMENT SCHEDULES.

DEMOLITION NOTES:

1. PRIOR TO DEMOLITION WORK, ALL REFRIGERANT IN THE EXISTING HVAC SYSTEMS SHALL BE RECOVERED AND RECYVLED IN COMPLIANCE WITH EPA REGULATIONS (40 CFR PART 82, SUBPART F) UNDER SECTION 608 OF THE CLEAN AIR ACT.
2. REMOVE ALL SUPPLY AND EXHAUST FANS, ASSOCAITED, ROOF CUBRS, DAMPERS, CONDUIT AND WIRING.
3. REMOVE ALL ROOFTOP UNITS, ASSOCAITED ROOF CUBRS, PIPING, DAMPERS, CONDUIT AND WIRING.
4. REMOVE ALL FLUES
5. REMOVE ALL OUTSIDE AIR INTAKES, ASSOCIATED ROOF CURBS, DAMPERS, CONDUIT AND WIRING.

REMOVE ROOFTOP UNIT, ROOF CURB, AND ASSOCIATED CONTROL CONDUIT AND WIRING

REMOVE EXHAUST FANS, ROOF CURB, AND ASSOCIATED CONTROL CONDUIT AND WIRING

REMOVE EXHAUST FANS, ROOF CURB, AND ASSOCIATED CONTROL CONDUIT AND WIRING

ROOF HATCH

REMOVE 12" FLUE VENT

REMOVE CONDENSING UNIT, REFRIGERANT PIPING, AND ROOF CURB

REMOVE EXHAUST FANS, ROOF CURB, AND ASSOCIATED CONTROL CONDUIT AND WIRING

REMOVE SUPPLY FANS, ROOF CURB, AND ASSOCIATED CONTROL CONDUIT AND WIRING

REMOVE EXHAUST FANS, ROOF CURB, AND ASSOCIATED CONTROL CONDUIT AND WIRING

REMOVE GRAVITY RELIEF PENTHOUSE, ROOF CURB, DAMPER, CONTROL CONDUIT AND WIRING

## 1 MECHANICAL DEMOLITION ROOF PLAN

3/32" = 1'-0"

0 4' 8' 16' 24'

SCALE: 3/32"=1'-0

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MECHANICAL DEMOLITION ROOF PLAN

SHEET ID

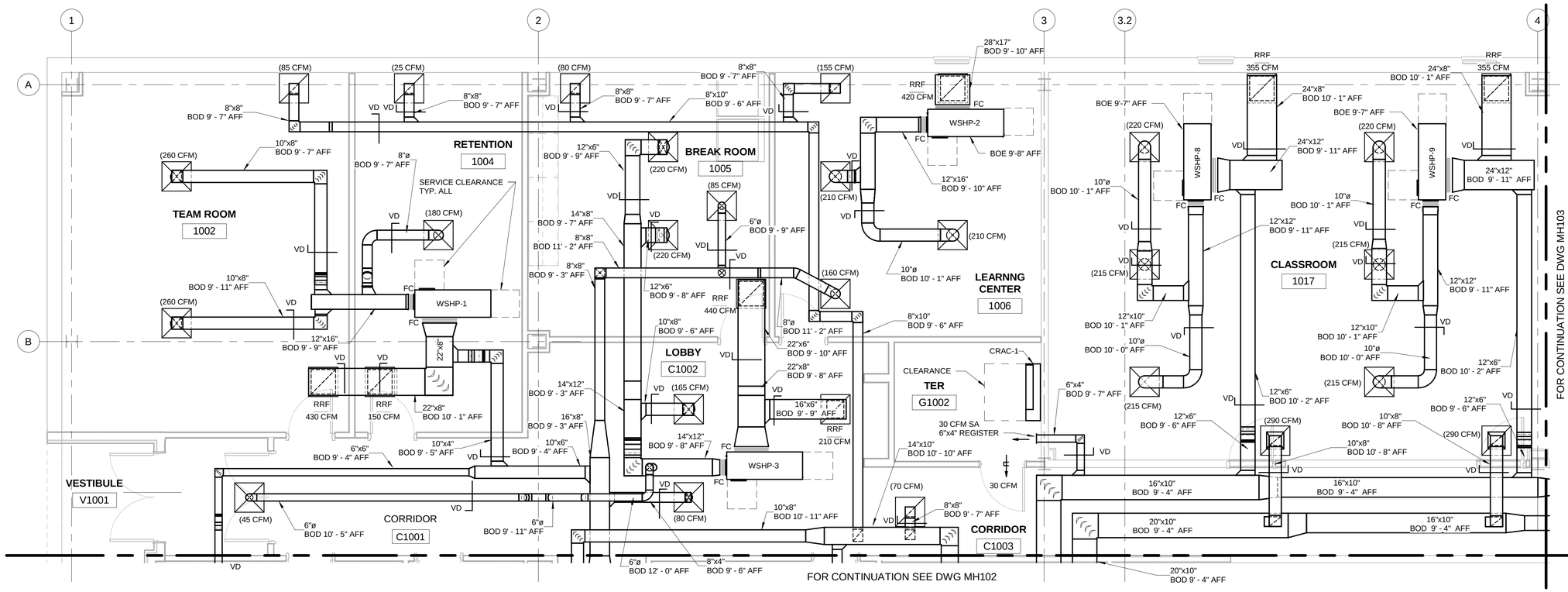
MD102

CORRECTED FINAL SUBMISSION - JULY 29, 2021

PLAN NORTH

NOTES:

1. SEE DWG M-001 FOR SYMBOLS, LEGEND, AND ABBREVIATIONS.
2. SEE DWGS MD101 AND MD102 FOR DEMOLITION WORK.
3. SEE DWGS MH102 TO MH107 FOR CONTINUATION.
4. SEE DWG MH108 FOR ROOF PLAN.
5. SEE DWGS MP201 TO MP207 FOR PIPING WORK.
6. SEE DWGS MI101 TO MI102 FOR CONTROL DIAGRAMS.
7. SEE DWGS M-501 TO M-503 FOR DETAILS.
8. SEE DWGS M-601 TO M-603 FOR EQUIPMENT SCHEDULES.
9. RRF ARE RETURN REGISTER WITH 1" FILTER.

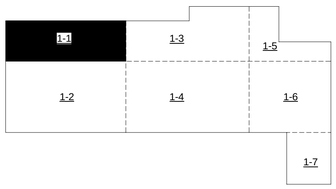



## 1 MECHANICAL DUCTWORK FLOOR PART PLAN 1-1

1/4" = 1'-0"

SCALE: 1/4"=1'-0

KEY PLAN-PART 1-1




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MECHANICAL DUCTWORK FLOOR PART PLAN 1-1

SHEET ID

MH101

CORRECTED FINAL SUBMISSION - JULY 29, 2021

PLAN NORTH

NOTES:

1. SEE DWG M-001 FOR SYMBOLS, LEGEND, AND ABBREVIATIONS.
2. SEE DWGS MD101 AND MD102 FOR DEMOLITION WORK.
3. SEE DWGS MH101, MH103 TO MH107 FOR CONTINUATION.
4. SEE DWG MH108 FOR ROOF PLAN.
5. SEE DWGS MP201 TO MP207 FOR PIPING WORK.
6. SEE DWGS MI101 TO MI102 FOR CONTROL DIAGRAMS.
7. SEE DWGS M-501 TO M-503 FOR DETAILS.
8. SEE DWGS M-601 TO M-603 FOR EQUIPMENT SCHEDULES.
9. RRF ARE RETURN REGISTER WITH 1" FILTER.

FOR CONTINUATION SEE DWG MH101

FOR CONTINUATION SEE DWG MH104

EF G1001

CRAC-3 WALL MOUNTED

CLEARANCE

SERVICE CLEARANCE TYP. ALL

30 CFM SA 6"x4" REGISTER

BOE 9'-7" AFF

WSHP-4

FAMILY SUPPORT 1001

PRIVATE OFFICE 1003

PRIVATE OFFICE 1016

SHARED OFFICE 1014

WSHP-5

PRIVATE OFFICE 1015

WSHP-6

SHARED OFFICE 1011 492 SF

PRIVATE OFFICE 1013

PRIVATE OFFICE 1012

TEAM ROOM W/ SIPRNET 1007

WSHP-16

WSHP-7

ADMIN SUPPORT 1009

UNIT COMMONS 1008

PRIVATE OFFICE 1010

ASSEMBLY 1019

CHAIR STORAGE 1020

OFFICE 1021

20"x10" EA TO 36"x12" UP TO DOAS-1

26"x24" SA UP TO DOAS-1

36"X18" SA UP TO WSHP-12 ON ROOF

20"X38" RA UP TO WSHP-12 ON ROOF

# 1 MECHANICAL DUCTWORK FLOOR PART PLAN 1-2

1/4" = 1'-0"

0 2' 4' 8'

SCALE: 1/4"=1'-0

KEY PLAN-PART 1-2



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MECHANICAL DUCTWORK FLOOR PART PLAN 1-2

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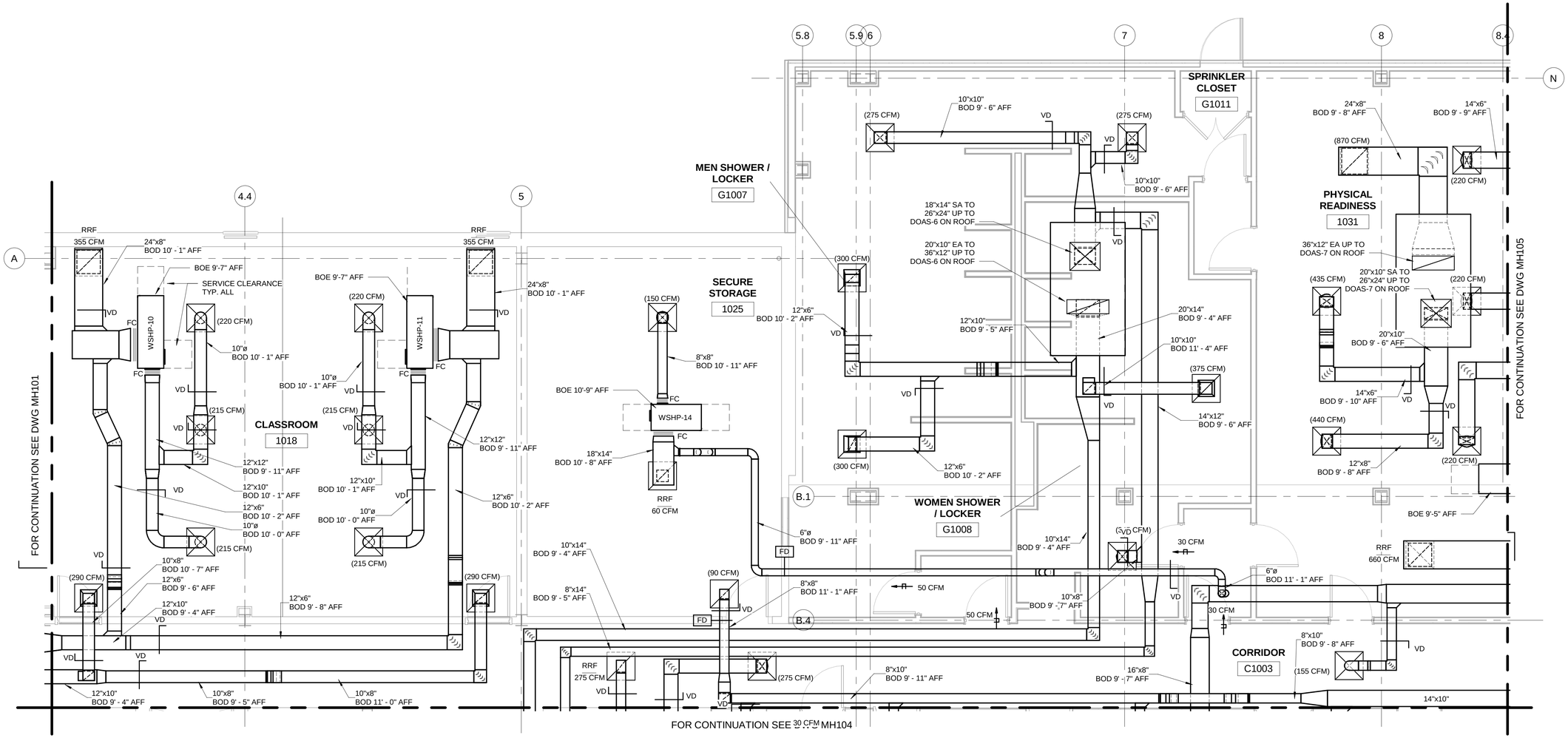
MH102

CORRECTED FINAL SUBMISSION - JULY 29, 2021

PLAN NORTH

NOTES:

1. SEE DWG M-001 FOR SYMBOLS, LEGEND, AND ABBREVIATIONS.
2. SEE DWGS MD101 AND MD102 FOR DEMOLITION WORK.
3. SEE DWGS MH101,MH102, MH104 TO MH107 FOR CONTINUATION.
4. SEE DWG MH108 FOR ROOF PLAN.
5. SEE DWGS MP201 TO MP207 FOR PIPING WORK.
6. SEE DWGS MI101 TO MI102 FOR CONTROL DIAGRAMS.
7. SEE DWGS M-501 TO M-503 FOR DETAILS.
8. SEE DWGS M-601 TO M-603 FOR EQUIPMENT SCHEDULES.
9. RRF ARE RETURN REGISTER WITH 1" FILTER.



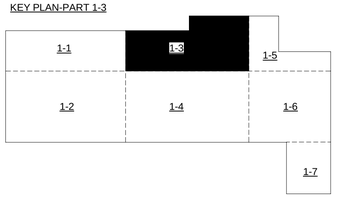

## 1 MECHANICAL DUCTWORK FLOOR PART PLAN 1-3

1/4" = 1'-0"

0 2' 4' 8'

SCALE: 1/4"=1'-0

KEY PLAN-PART 1-3




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MECHANICAL DUCTWORK FLOOR PART PLAN 1-3

SHEET ID

MH103

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PLAN NORTH

NOTES:

1. SEE DWG M-001 FOR SYMBOLS, LEGEND, AND ABBREVIATIONS.
2. SEE DWGS MD101 AND MD102 FOR DEMOLITION WORK.
3. SEE DWGS MH101 TO MH103, MH105 TO MH107 FOR CONTINUATION.
4. SEE DWG MH108 FOR ROOF PLAN.
5. SEE DWGS MP201 TO MP207 FOR PIPING WORK.
6. SEE DWGS MI101 TO MI102 FOR CONTROL DIAGRAMS.
7. SEE DWGS M-501 TO M-503 FOR DETAILS.
8. SEE DWGS M-601 TO M-603 FOR EQUIPMENT SCHEDULES.
9. RRF ARE RETURN REGISTER WITH 1" FILTER.
10. PROVIDE 2 LAYERS OF FIRE BARRIER DUCT WRAP ON THE GREASE EXHAUST DUCT FROM THE HOOD EXHAUST OUTLET UP TO THE EXHAUST FAN EF-3 ON THE ROOF.
11. INSULATION ON MAKEUP AIR DUCT TO THE HOOD. DUCT INSULATION INSTALLED WITHIN 18 INCHES OF THE HOOD SHALL BE NONCOMBUSTIBLE OR SHALL BE LISTED FOR THE APPLICATION.
12. DUCT SHALL BE OF WELDED CONSTRUCTION.
13. EXHAUST DUCTS SHALL BE INSTALLED WITHOUT FORMING DRIPS OR TRAPS THAT MIGHT COLLECT RESIDUES.

FOR CONTINUATION SEE DWG MH103

FOR CONTINUATION SEE DWG MH102

FOR CONTINUATION SEE DWG MH106

MEN'S TOILET G1003

WOMEN TOILET G1005

LACTATION ROOM 1026

STORAGE 1026A

MECHANICAL G1010

STORAGE 1022

KITCHEN 1023

ASSEMBLY 1019

SCULLERY 1024

CAN WASH 1039

ELECTRICAL G1009

PRIVATE OFFICE 1027

PRIVATE OFFICE 1028

ARMS VAULT 1030

ARMORER 1029

UNIT STORAGE 1032

STORAGE 1034

PRIVATE OFFICE 1033

TR G1006

WSHP-20

WSHP-18

WSHP-15

WSHP-17

1 MECHANICAL DUCTWORK FLOOR PART PLAN 1-4

1/4" = 1'-0"

SCALE: 1/4"=1'-0

KEY PLAN-PART 1-4

1-1 1-3 1-5 1-2 1-4 1-6 1-7

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MECHANICAL DUCTWORK FLOOR PART PLAN 1-4

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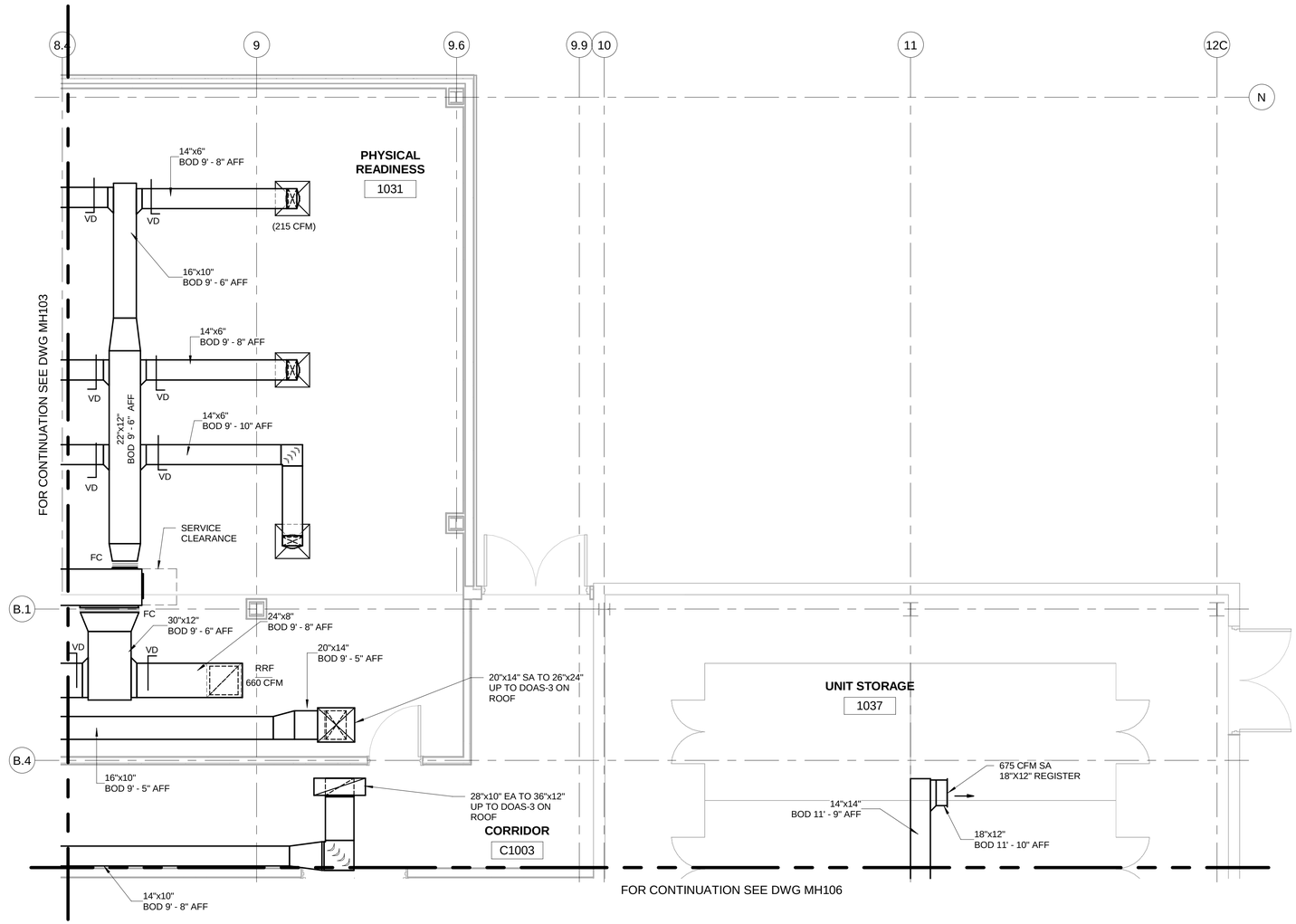
MH104

CORRECTED FINAL SUBMISSION - JULY 29, 2021

PLAN NORTH

NOTES:

1. SEE DWG M-001 FOR SYMBOLS, LEGEND, AND ABBREVIATIONS.
2. SEE DWGS MD101 AND MD102 FOR DEMOLITION WORK.
3. SEE DWGS MH101 TO MH104, MH106 TO MH107 FOR CONTINUATION.
4. SEE DWG MH108 FOR ROOF PLAN.
5. SEE DWGS MP201 TO MP207 FOR PIPING WORK.
6. SEE DWGS MI101 TO MI102 FOR CONTROL DIAGRAMS.
7. SEE DWGS M-501 TO M-503 FOR DETAILS.
8. SEE DWGS M-601 TO M-603 FOR EQUIPMENT SCHEDULES.
9. RRF ARE RETURN REGISTER WITH 1" FILTER.



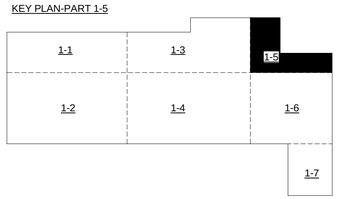

## 1 MECHANICAL DUCTWORK FLOOR PART PLAN 1-5

1/4" = 1'-0"

0 2' 4' 8'

SCALE: 1/4"=1'-0

KEY PLAN-PART 1-5




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MECHANICAL DUCTWORK FLOOR PART PLAN 1-5

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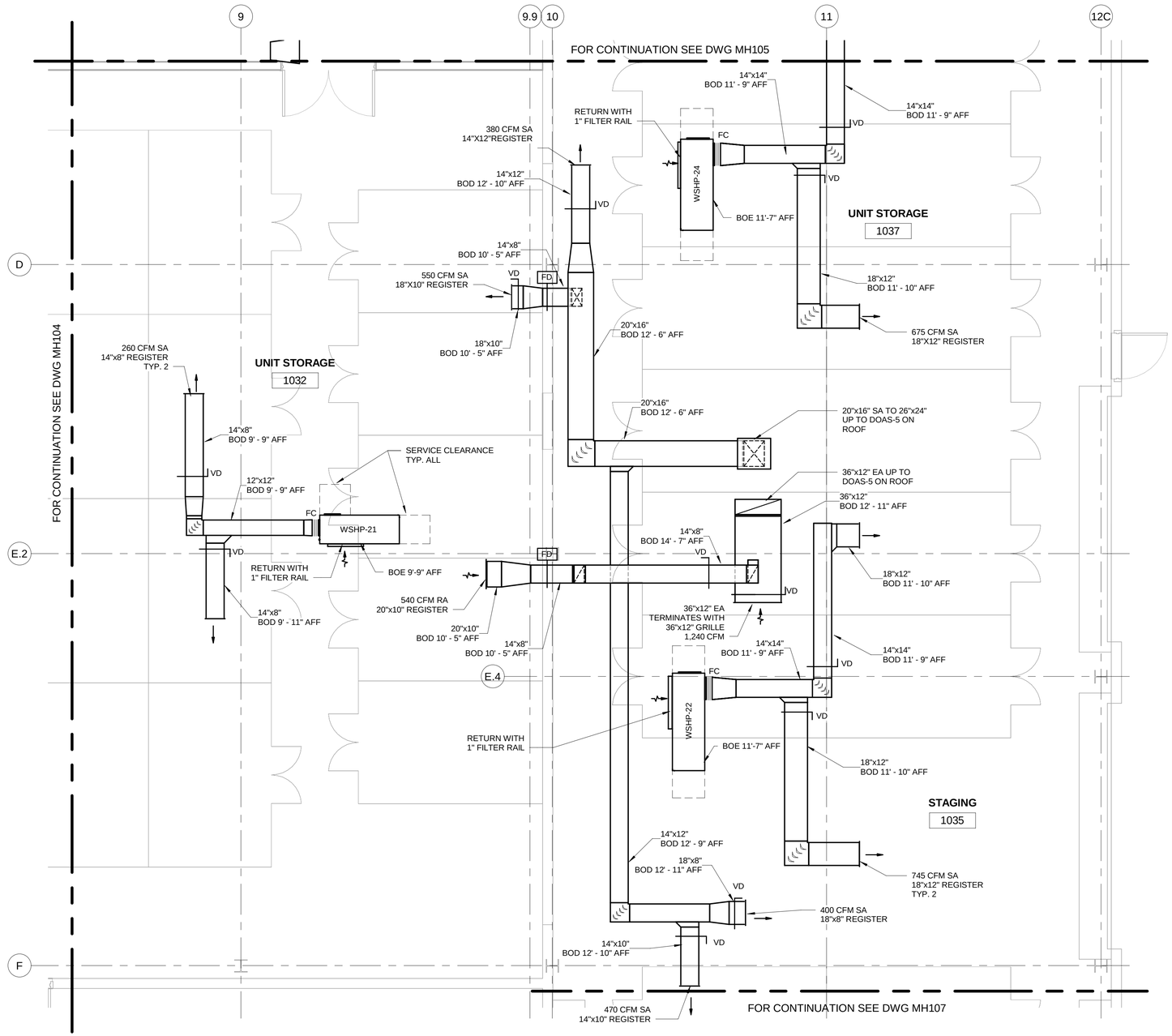
MH105

CORRECTED FINAL SUBMISSION - JULY 29, 2021

PLAN NORTH

NOTES:

1. SEE DWG M-001 FOR SYMBOLS, LEGEND, AND ABBREVIATIONS.
2. SEE DWGS MD101 AND MD102 FOR DEMOLITION WORK.
3. SEE DWGS MH101 TO MH105, MH107 FOR CONTINUATION.
4. SEE DWG MH108 FOR ROOF PLAN.
5. SEE DWGS MP201 TO MP207 FOR PIPING WORK.
6. SEE DWGS MI101 TO MI102 FOR CONTROL DIAGRAMS.
7. SEE DWGS M-501 TO M-503 FOR DETAILS.
8. SEE DWGS M-601 TO M-603 FOR EQUIPMENT SCHEDULES.
9. RRF ARE RETURN REGISTER WITH 1" FILTER.



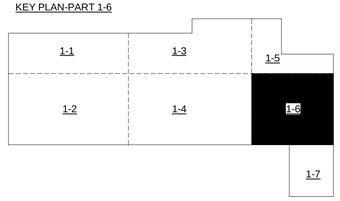

## 1 MECHANICAL DUCTWORK FLOOR PART PLAN 1-6

1/4" = 1'-0"

0 2' 4' 8'

SCALE: 1/4"=1'-0

KEY PLAN-PART 1-6




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MECHANICAL DUCTWORK FLOOR PART PLAN 1-6

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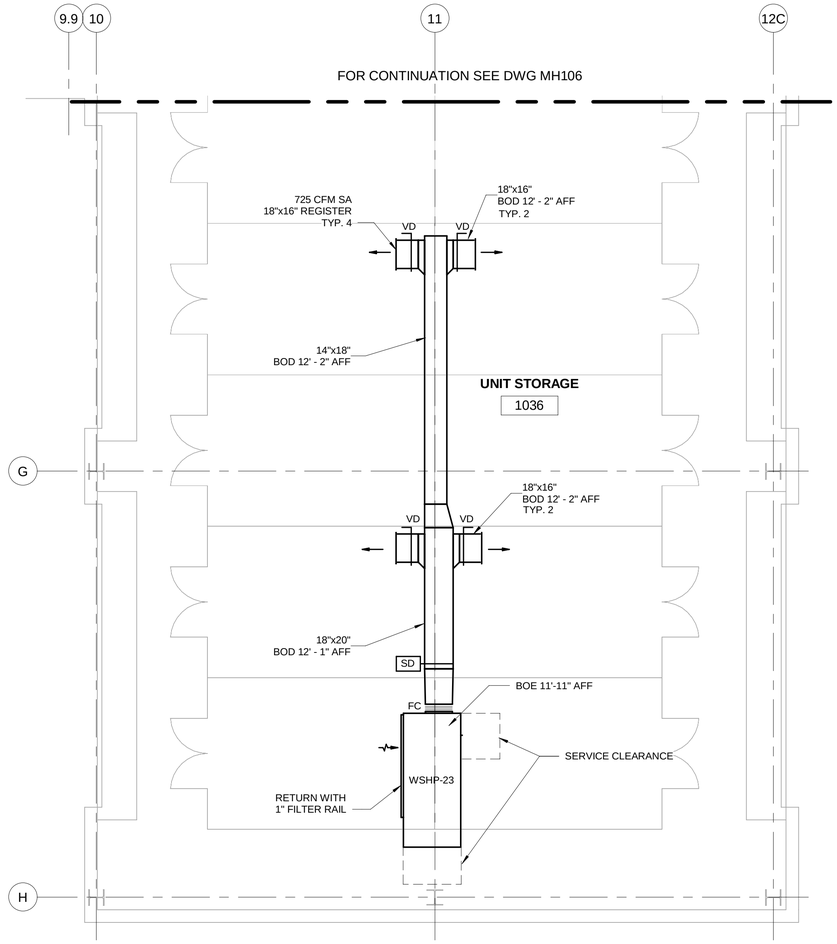
MH106

CORRECTED FINAL SUBMISSION - JULY 29, 2021

PLAN NORTH

NOTES:

1. SEE DWG M-001 FOR SYMBOLS, LEGEND, AND ABBREVIATIONS.
2. SEE DWGS MD101 AND MD102 FOR DEMOLITION WORK.
3. SEE DWGS MH101 TO MH106 FOR CONTINUATION.
4. SEE DWG MH108 FOR ROOF PLAN.
5. SEE DWGS MP201 TO MP207 FOR PIPING WORK.
6. SEE DWGS MI101 TO MI102 FOR CONTROL DIAGRAMS.
7. SEE DWGS M-501 TO M-503 FOR DETAILS.
8. SEE DWGS M-601 TO M-603 FOR EQUIPMENT SCHEDULES.
9. RRF ARE RETURN REGISTER WITH 1" FILTER.



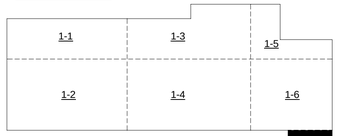

## 1 MECHANICAL DUCTWORK FLOOR PART PLAN 1-7

1/4" = 1'-0"

0 2' 4' 8'

SCALE: 1/4"=1'-0

KEY PLAN-PART 1-7




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MECHANICAL DUCTWORK FLOOR PART PLAN 1-7

SHEET ID

MH107

CORRECTED FINAL SUBMISSION - JULY 29, 2021

PLAN NORTH

NOTES:

1. SEE DWG M-001 FOR SYMBOLS, LEGEND, AND ABBREVIATIONS.
2. SEE DWGS MD101 AND MD102 FOR DEMOLITION WORK.
3. SEE DWGS MH101 TO MH107 FOR DUCTOWORK.
4. SEE DWGS MP201 TO MP207 FOR PIPING WORK.
5. SEE DWGS MI101 TO MI102 FOR CONTROL DIAGRAMS.
6. SEE DWGS M-501 TO M-503 FOR DETAILS.
7. SEE DWGS M-601 TO M-603 FOR EQUIPMENT SCHEDULES.

CRACC-1
CRACC-2
CRACC-3
DOAS CLEARANCE TYP. ALL
DOAS-1
DOAS-2
DOAS-3
DOAS-4
DOAS-5
DOAS-6
DOAS-7
3/4" ø CD RUN CONDENSATE DRAIN TO NEAREST ROOF DRAIN. CONDENSATE PIPE SHALL BE THERMALLY INSULATED AND JACKETED.
40"x12" EA DN 44"x18" RO
36"x26" SA DN 40"x30" RO
36"x12" EA DN 40"x18" RO
26"x24" SA DN 30"x28" RO
(E) ROOF HATCH
EF-1 16"x16" EA DN 18.5"x18.5" RO
EF-2 24"x24" EA DN 26.5"x26.5" RO
EF-3 16"x16" EA DN 19"x19" RO
EF-4 8"x8" EA DN 13"x13" RO
EF-5 10"x10" EA DN 14"X14" RO
GV-1 24"x24" EA DN 26.5"x26.5" RO
6" FLUE UP THRU ROOF. TERMINATE 3'-0" ABOVE THE ROOF
WSHP-12
WSHP-13
20"x32" OA DN 24"x36" RO
14"x30" RA DN 18"x34" RO
22"x38" SA DN 26"x42" RO
18"x36" RA DN 22"x40" RO
MUA-1
12"x12" OA DN 16"x16" RO
SF-1 20"x18" EA DN 23"x23" RO
M

1 MECHANICAL ROOF PLAN
3/32" = 1'-0"

0 4' 8' 16' 24'
SCALE: 3/32"=1'-0

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MECHANICAL ROOF PLAN

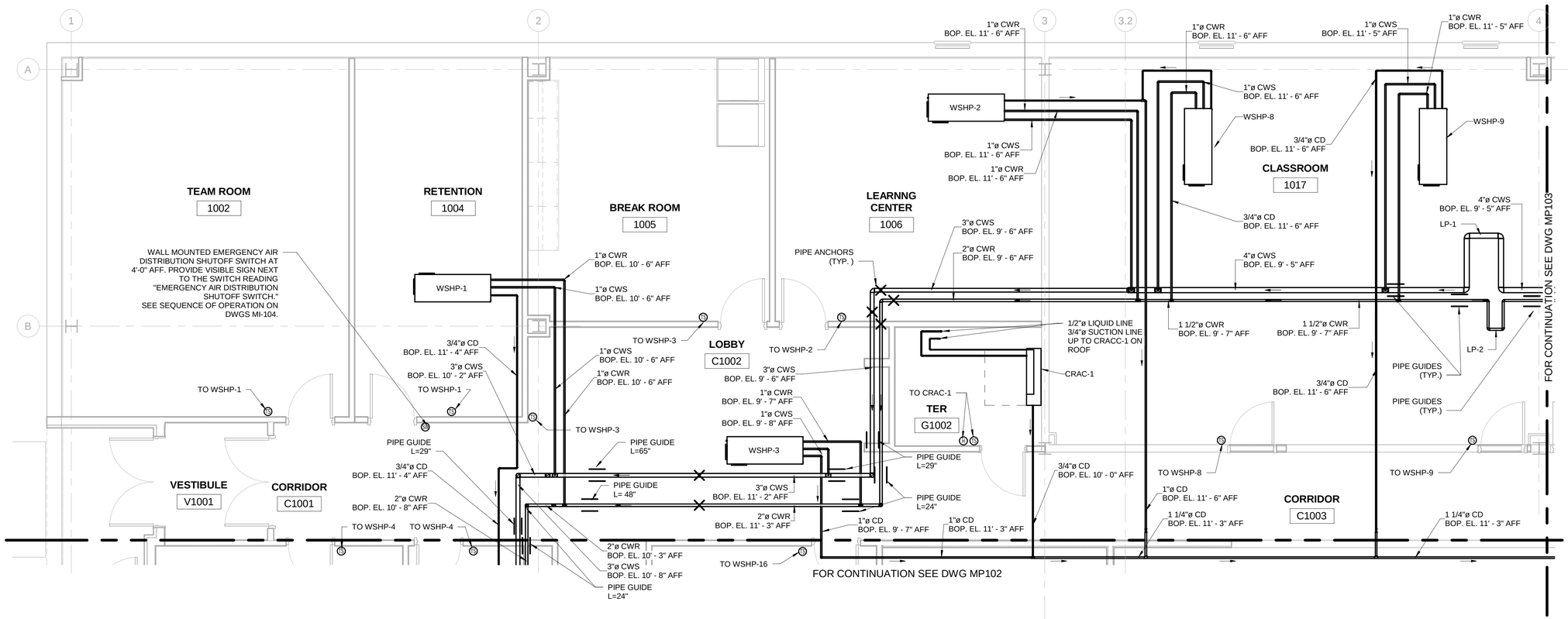
SHEET ID
MH108

CORRECTED FINAL SUBMISSION - JULY 29, 2021

PLAN NORTH

NOTES:

1. SEE DWG M-001 FOR SYMBOLS, LEGEND, AND ABBREVIATIONS.
2. SEE DWGS MD101 AND MD102 FOR DEMOLITION WORK.
3. SEE DWGS MH101 TO MH107 FOR CONTINUATION.
4. SEE DWG MH108 FOR ROOF PLAN.
5. SEE DWGS MP202 TO MP207 FOR CONTINUATION.
6. SEE DWGS MI101 TO MI102 FOR CONTROL DIAGRAMS.
7. SEE DWGS M-501 TO M-503 FOR DETAILS.
8. SEE DWGS M-601 TO M-603 FOR EQUIPMENT SCHEDULES.
9. PROVIDE SHUTOFF VALVES AT ALL WATER SUPPLY AND RETURN PIPE BRANCHES. THE SHUTOFF VALVES ARE NOT SHOWN ON THE FLOOR PLAN FOR CLARITY.
10. THE CONTROL VALVE, SHUTOFF VALVES, STRAINER, DRAIN VALVE TOR EACH ROOF MOUNTED DOAS UNIT SHALL BE LOCATED BELOW THE ROOF IN A CLOSE PROXIMITY OF THE CORRESPONDING UNIT.
11. ALL CONDENSER WATER PIPES SHALL BE INSULATED AND JACKETED.
12. FOR ALL CONDENSATE DRAIN PIPES, PROVIDE CLEANOUTS AT EACH 90 DEGREE ELBOWS. PROVIDE CLEANOUTS EVERY 30 FEET ON THE STRAIGHT RUNS.
13. PROVIDE 1/4" PER FOOT SLOPE FOR THE CONDENSATE DRAIN PIPES. PITCH PIPE DOWN IN DIRECTION OF FLOW AS SHOWN ON THE DRAWING



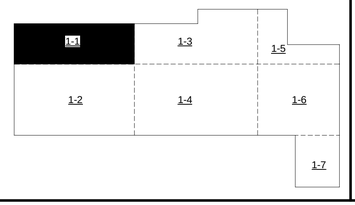

## 1 MECHANICAL PIPING FLOOR PART PLAN 1-1

1/4" = 1'-0"

0 2' 4' 8'

SCALE: 1/4"=1'-0

KEY PLAN-PART 1-1




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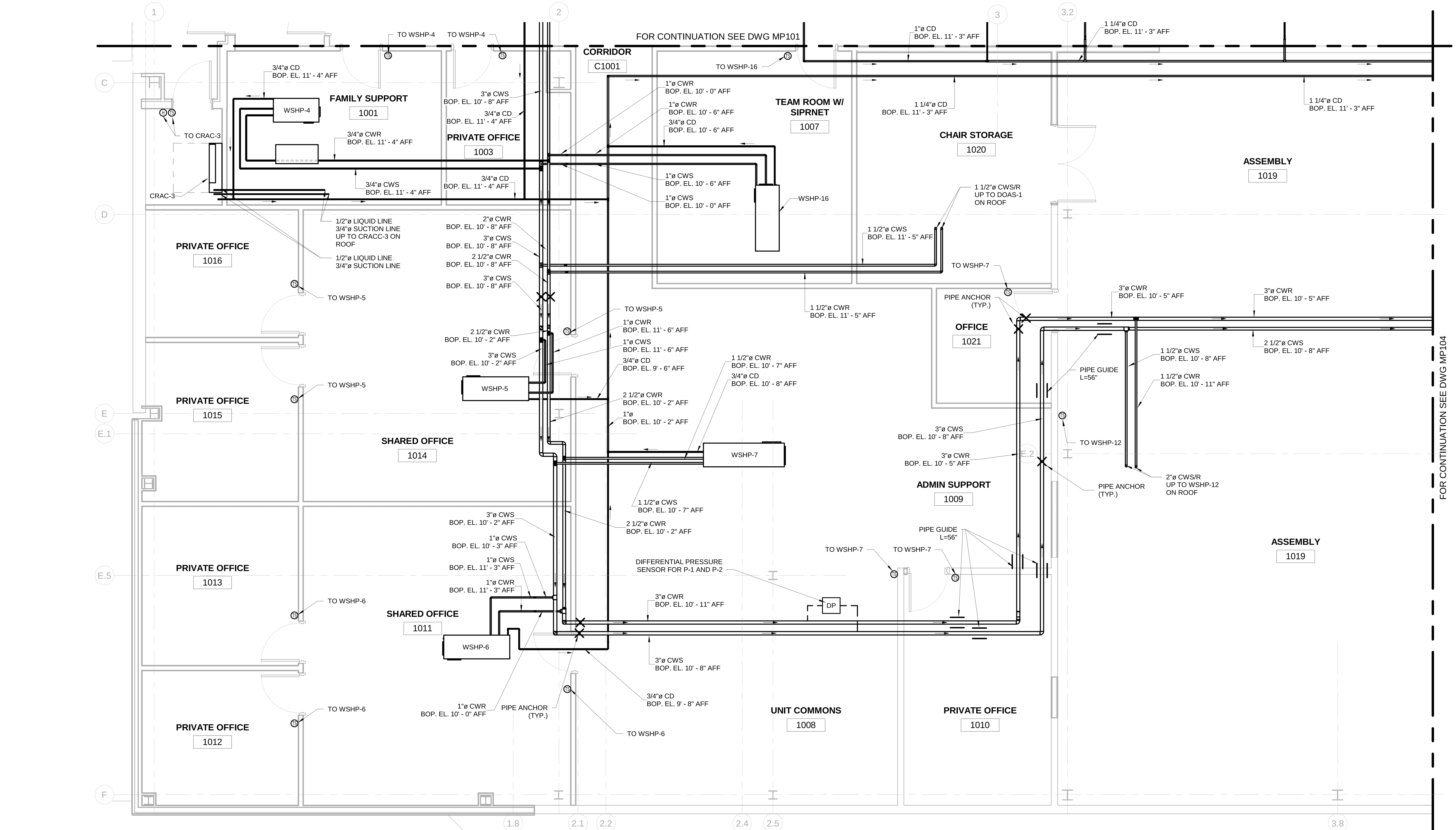
MECHANICAL PIPING FLOOR PART PLAN 1-1

SHEET ID
MP101

CORRECTED FINAL SUBMISSION - JULY 29, 2021

NOTES:

1. SEE DWG M-001 FOR SYMBOLS, LEGEND, AND ABBREVIATIONS.
2. SEE DWGS MD101 AND MD102 FOR DEMOLITION WORK.
3. SEE DWGS MH101 TO MH107 FOR CONTINUATION.
4. SEE DWG MH108 FOR ROOF PLAN.
5. SEE DWGS MP201, MP203 TO MP207 FOR CONTINUATION.
6. SEE DWGS MI101 TO MI102 FOR CONTROL DIAGRAMS.
7. SEE DWGS M-501 TO M-503 FOR DETAILS.
8. SEE DWGS M-601 TO M-603 FOR EQUIPMENT SCHEDULES.
9. PROVIDE SHUTOFF VALVES AT ALL WATER SUPPLY AND RETURN PIPE BRANCHES. THE SHUTOFF VALVES ARE NOT SHOWN ON THE FLOOR PLAN FOR CLARITY.
10. THE CONTROL VALVE, SHUTOFF VALVES, STRAINER, DRAIN VALVE TOR EACH ROOF MOUNTED DOAS UNIT SHALL BE LOCATED BELOW THE ROOF IN A CLOSE PROXIMITY OF THE CORRESPONDING UNIT.
11. ALL CONDENSER WATER PIPES SHALL BE INSULATED AND JACKETED.
12. FOR ALL CONDENSATE DRAIN PIPES, PROVIDE CLEANOUTS AT EACH 90 DEGREE ELBOWS. PROVIDE CLEANOUTS EVERY 30 FEET ON THE STRAIGHT RUNS.
13. PROVIDE 1/4" PER FOOT SLOPE FOR THE CONDENSATE DRAIN PIPES. PITCH PIPE DOWN IN DIRECTION OF FLOW AS SHOWN ON THE DRAWING



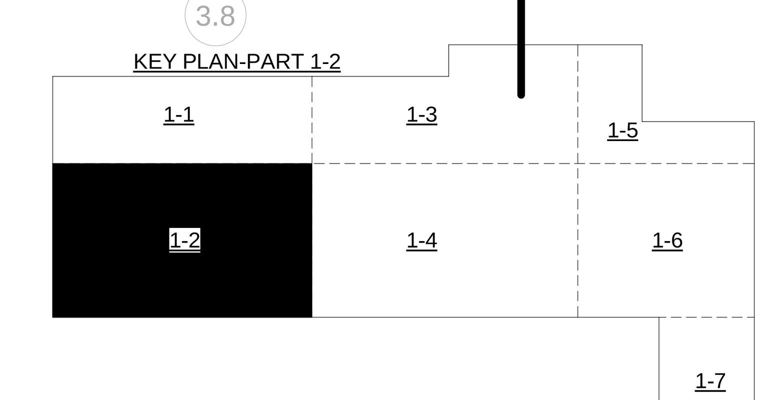

# 1 MECHANICAL PIPING FLOOR PART PLAN 1-2

1/4" = 1'-0"

0 2' 4' 8'

SCALE: 1/4"=1'-0

KEY PLAN-PART 1-2




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MECHANICAL PIPING FLOOR PART PLAN 1-2

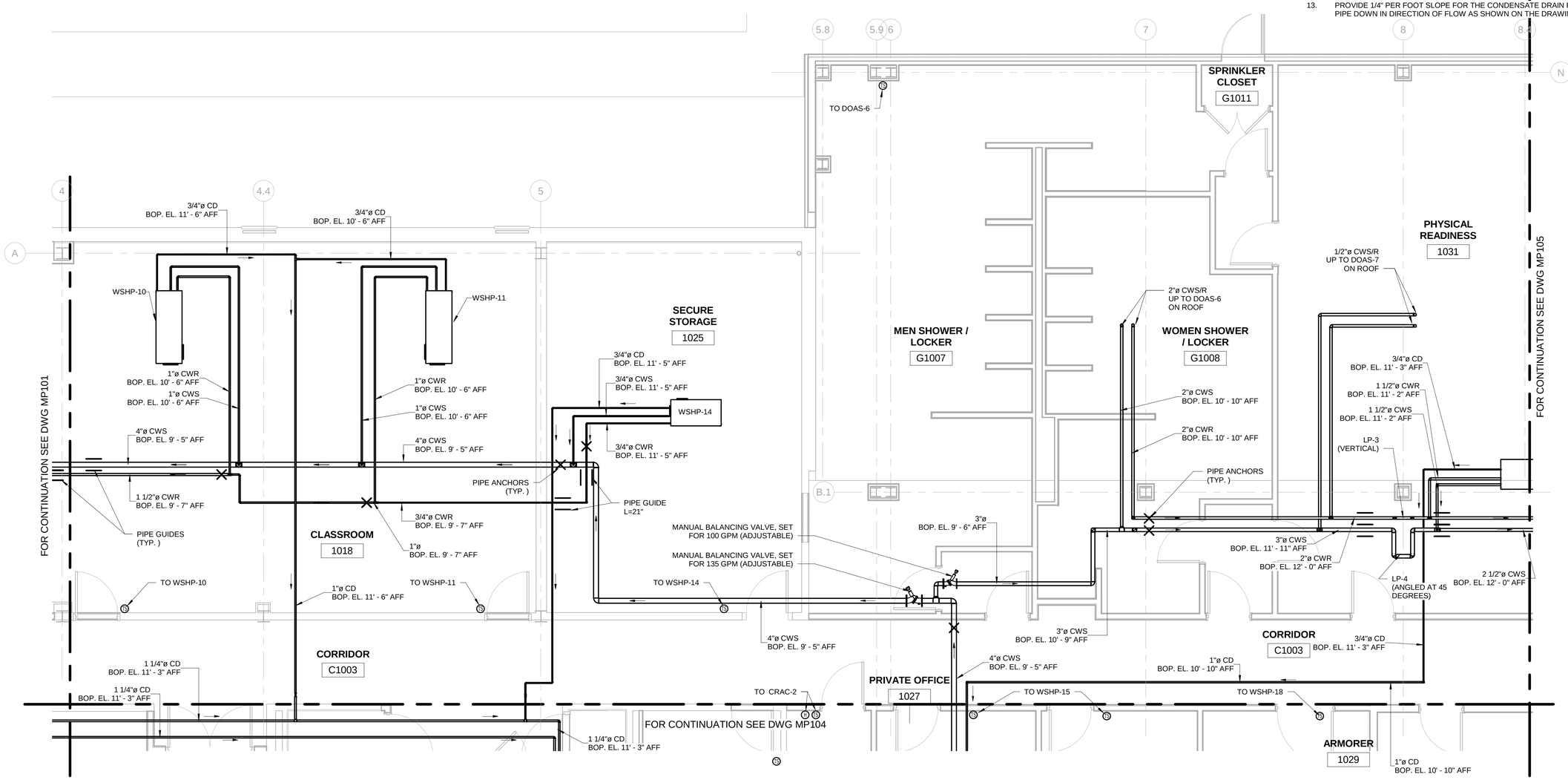
SHEET ID
MP102

CORRECTED FINAL SUBMISSION - JULY 29, 2021

PLAN NORTH

NOTES:

1. SEE DWG M-001 FOR SYMBOLS, LEGEND, AND ABBREVIATIONS.
2. SEE DWGS MD101 AND MD102 FOR DEMOLITION WORK.
3. SEE DWGS MH101 TO MH107 FOR CONTINUATION.
4. SEE DWG MH108 FOR ROOF PLAN.
5. SEE DWGS MP201, MP202, MP204 TO MP207 FOR CONTINUATION.
6. SEE DWGS MI101 TO MI102 FOR CONTROL DIAGRAMS.
7. SEE DWGS M-501 TO M-503 FOR DETAILS.
8. SEE DWGS M-601 TO M-603 FOR EQUIPMENT SCHEDULES.
9. PROVIDE SHUTOFF VALVES AT ALL WATER SUPPLY AND RETURN PIPE BRANCHES. THE SHUTOFF VALVES ARE NOT SHOWN ON THE FLOOR PLAN FOR CLARITY.
10. THE CONTROL VALVE, SHUTOFF VALVES, STRAINER, DRAIN VALVE TOR EACH ROOF MOUNTED DOAS UNIT SHALL BE LOCATED BELOW THE ROOF IN A CLOSE PROXIMITY OF THE CORRESPONDING UNIT.
11. ALL CONDENSER WATER PIPES SHALL BE INSULATED AND JACKETED.
12. FOR ALL CONDENSATE DRAIN PIPE, PROVIDE CLEANOUTS AT EACH 90 DEGREE ELBOWS. PROVIDE CLEANOUTS EVERY 30 FEET ON THE STRAIGHT RUNS.
13. PROVIDE 1/4" PER FOOT SLOPE FOR THE CONDENSATE DRAIN PIPES. PITCH PIPE DOWN IN DIRECTION OF FLOW AS SHOWN ON THE DRAWING.



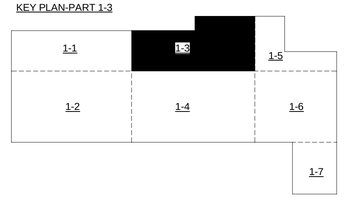

## 1 MECHANICAL PIPING FLOOR PART PLAN 1-3

1/4" = 1'-0"

0 2' 4' 8'

SCALE: 1/4"=1'-0

KEY PLAN-PART 1-3




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MECHANICAL PIPING FLOOR PART PLAN 1-3

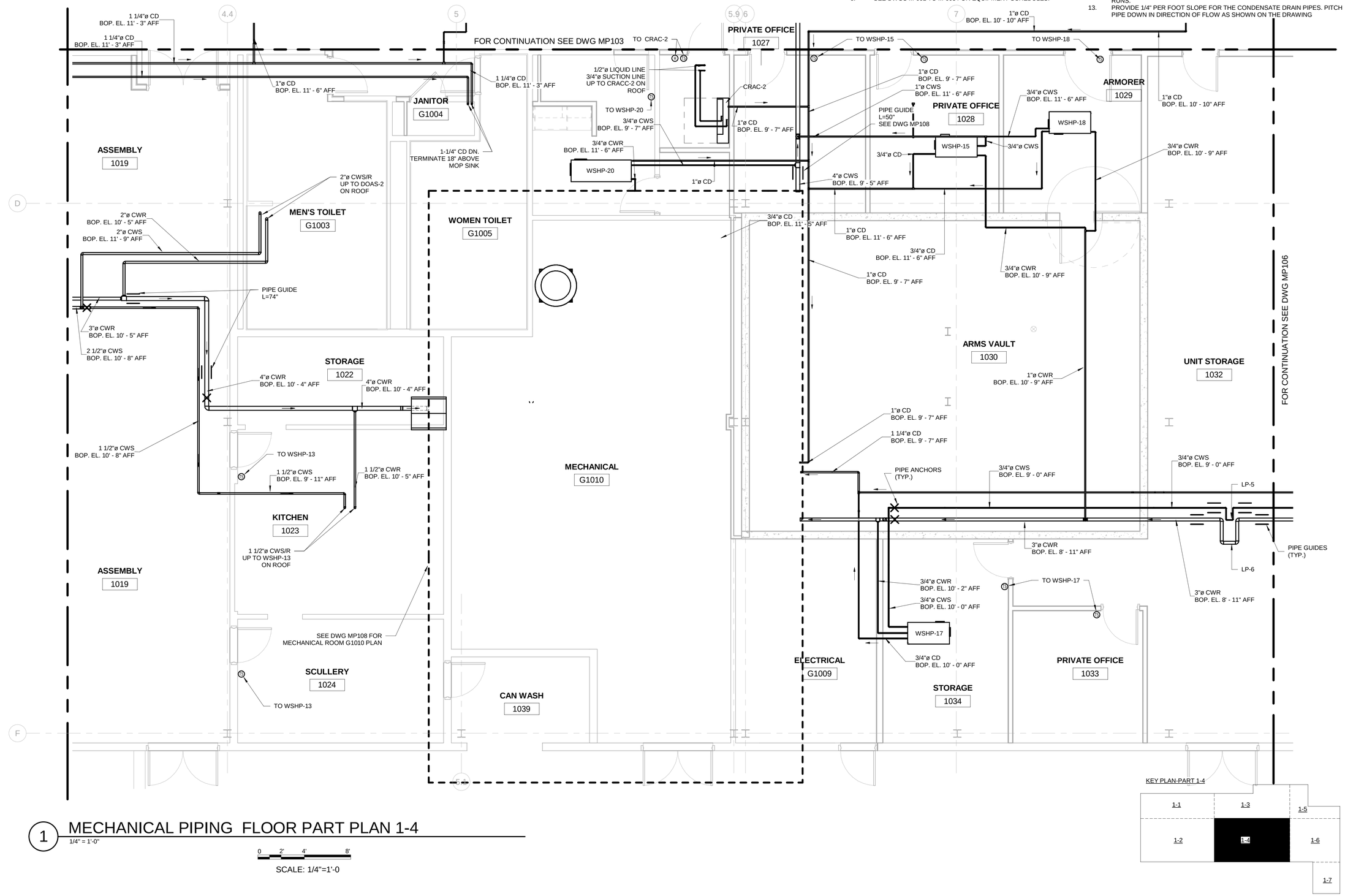
SHEET ID
MP103

CORRECTED FINAL SUBMISSION - JULY 29, 2021

PLAN NORTH

NOTES:

1. SEE DWG M-001 FOR SYMBOLS, LEGEND, AND ABBREVIATIONS.
2. SEE DWGS MD101 AND MD102 FOR DEMOLITION WORK.
3. SEE DWGS MH101 TO MH107 FOR CONTINUATION.
4. SEE DWG MH108 FOR ROOF PLAN.
5. SEE DWGS MP201 TO MP203, MP205 TO MP207 FOR CONTINUATION.
6. SEE DWGS MI101 TO MI102 FOR CONTROL DIAGRAMS.
7. SEE DWGS M-501 TO M-503 FOR DETAILS.
8. SEE DWGS M-601 TO M-603 FOR EQUIPMENT SCHEDULES.
9. PROVIDE SHUTOFF VALVES AT ALL WATER SUPPLY AND RETURN PIPE BRANCHES. THE SHUTOFF VALVES ARE NOT SHOWN ON THE FLOOR PLAN FOR CLARITY.
10. THE CONTROL VALVE, SHUTOFF VALVES, STRAINER, DRAIN VALVE FOR EACH ROOF MOUNTED DOAS UNIT SHALL BE LOCATED BELOW THE ROOF IN A CLOSE PROXIMITY OF THE CORRESPONDING UNIT.
11. ALL CONDENSER WATER PIPES SHALL BE INSULATED AND JACKETED.
12. FOR ALL CONDENSATE DRAIN PIPES, PROVIDE CLEANOUTS AT EACH 90 DEGREE ELBOWS. PROVIDE CLEANOUTS EVERY 30 FEET ON THE STRAIGHT RUNS.
13. PROVIDE 1/4" PER FOOT SLOPE FOR THE CONDENSATE DRAIN PIPES. PITCH PIPE DOWN IN DIRECTION OF FLOW AS SHOWN ON THE DRAWING




1 MECHANICAL PIPING FLOOR PART PLAN 1-4

1/4" = 1'-0"

0 2' 4' 8'

SCALE: 1/4"=1'-0

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MECHANICAL PIPING FLOOR PART PLAN 1-4

SHEET ID

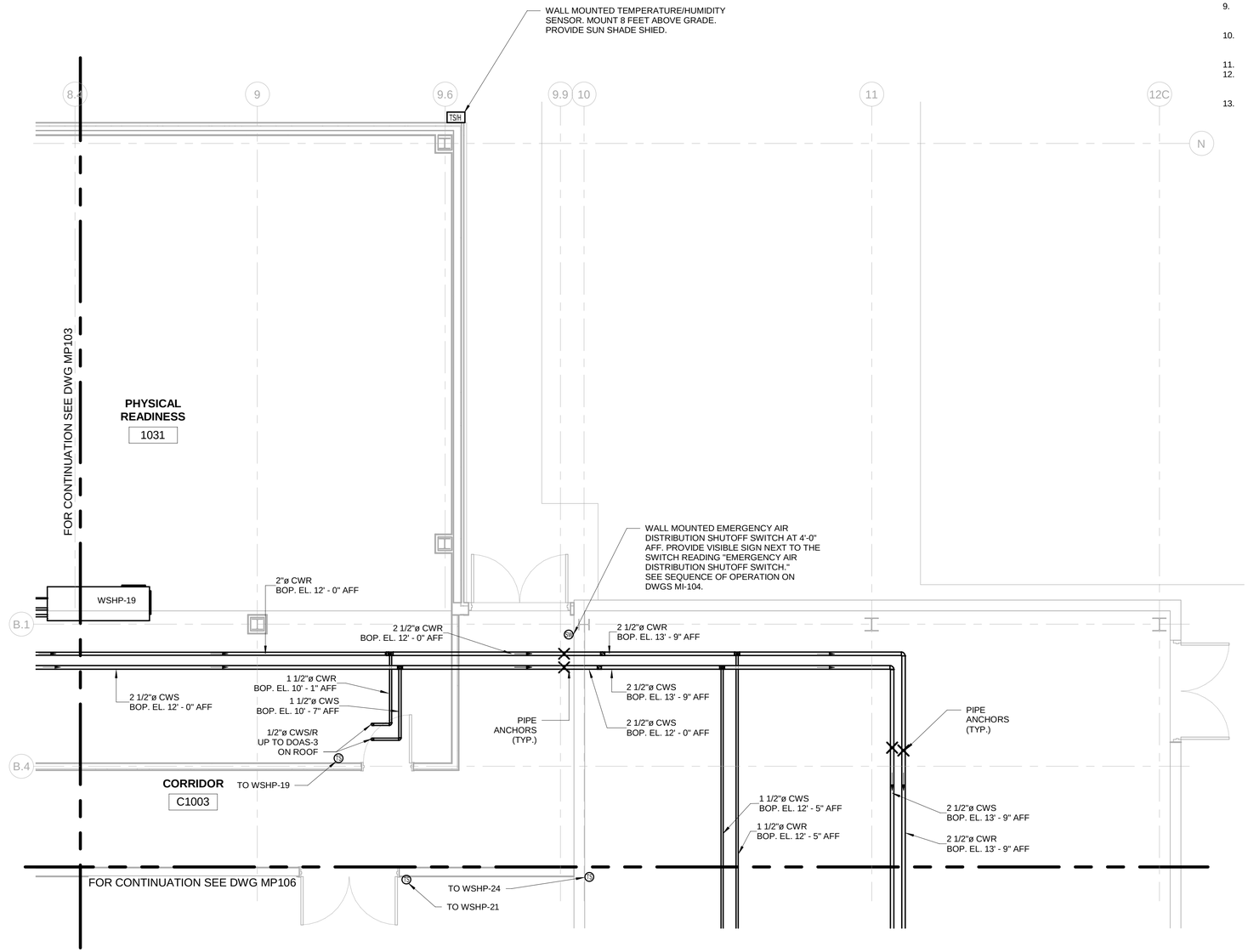
MP104

CORRECTED FINAL SUBMISSION - JULY 29, 2021

PLAN NORTH

NOTES:

1. SEE DWG M-001 FOR SYMBOLS, LEGEND, AND ABBREVIATIONS.
2. SEE DWGS MD101 AND MD102 FOR DEMOLITION WORK.
3. SEE DWGS MH101 TO MH107 FOR CONTINUATION.
4. SEE DWG MH108 FOR ROOF PLAN.
5. SEE DWGS MP201 TO MP204, MP206, MP207 FOR CONTINUATION.
6. SEE DWGS MI101 TO MI102 FOR CONTROL DIAGRAMS.
7. SEE DWGS M-501 TO M-503 FOR DETAILS.
8. SEE DWGS M-601 TO M-603 FOR EQUIPMENT SCHEDULES.
9. PROVIDE SHUTOFF VALVES AT ALL WATER SUPPLY AND RETURN PIPE BRANCHES. THE SHUTOFF VALVES ARE NOT SHOWN ON THE FLOOR PLAN FOR CLARITY.
10. THE CONTROL VALVE, SHUTOFF VALVES, STRAINER, DRAIN VALVE FOR EACH ROOF MOUNTED DOAS UNIT SHALL BE LOCATED BELOW THE ROOF IN A CLOSE PROXIMITY OF THE CORRESPONDING UNIT.
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12. FOR ALL CONDENSATE DRAIN PIPES, PROVIDE CLEANOUTS AT EACH 90 DEGREE ELBOWS. PROVIDE CLEANOUTS EVERY 30 FEET ON THE STRAIGHT RUNS.
13. PROVIDE 1/4" PER FOOT SLOPE FOR THE CONDENSATE DRAIN PIPES. PITCH PIPE DOWN IN DIRECTION OF FLOW AS SHOWN ON THE DRAWING.



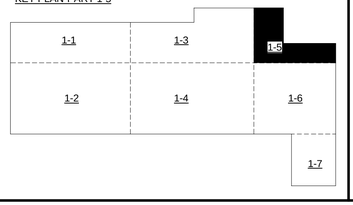

## 1 MECHANICAL PIPING FLOOR PART PLAN 1-5

1/4" = 1'-0"

0 2' 4' 8'

SCALE: 1/4"=1'-0

KEY PLAN-PART 1-5




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MECHANICAL PIPING FLOOR PART PLAN 1-5

SHEET ID

MP105

CORRECTED FINAL SUBMISSION - JULY 29, 2021

PLAN NORTH

FOR CONTINUATION SEE DWG MP105

FOR CONTINUATION SEE DWG MP104

FOR CONTINUATION SEE DWG MP107

TO WSHP-24

TO WSHP-21

1 1/2"ø CWR
BOP. EL. 12' - 5" AFF

1 1/2"ø CWS
BOP. EL. 12' - 5" AFF

2 1/2"ø CWR
BOP. EL. 13' - 9" AFF

2 1/2"ø CWS
BOP. EL. 13' - 9" AFF

WSHP-24

3/4"ø CD
BOP. EL. 13' - 10" AFF

PIPE GUIDES
(TYP.)

LP-8

1 1/2"ø CWR
BOP. EL. 13' - 3" AFF

1 1/2"ø CWS
BOP. EL. 13' - 9" AFF

3"ø CWR
BOP. EL. 13' - 9" AFF

LP-7

3/4"ø CD
BOP. EL. 13' - 10" AFF

**UNIT STORAGE**
1032

3/4"ø CD
BOP. EL. 9' - 0" AFF

WSHP-21

3/4"ø CWR
BOP. EL. 9' - 6" AFF

3/4"ø CWS
BOP. EL. 9' - 6" AFF

1"ø CWS
BOP. EL. 9' - 0" AFF

1-1/2"ø CWS/R
UP TO DOAS-5
ON ROOF

2"ø CWS
BOP. EL. 13' - 9" AFF

3/4"ø CWS
BOP. EL. 9' - 0" AFF

1"ø CWS
BOP. EL. 13' - 10" AFF

3/4"ø CD
BOP. EL. 12' - 0" AFF

3"ø CWR
BOP. EL. 8' - 11" AFF

3"ø CWR
BOP. EL. 8' - 11" AFF

PIPE GUIDES
(TYP.)

WSHP-22

PIPE ANCHORS
(TYP.)

3"ø CWR
BOP. EL. 13' - 9" AFF

3/4"ø CD
BOP. EL. 12' - 4" AFF

TO WSHP-22

1 1/2"ø CWR
BOP. EL. 12' - 3" AFF

1 1/2"ø CWS
BOP. EL. 12' - 3" AFF

3/4"ø CD
BOP. EL. 12' - 0" AFF

2"ø CWS
BOP. EL. 13' - 9" AFF

1 1/2"ø CWR
BOP. EL. 12' - 5" AFF

3"ø CWR
BOP. EL. 13' - 9" AFF

1 1/2"ø CWS
BOP. EL. 13' - 9" AFF

1 1/2"ø CWS
BOP. EL. 12' - 5" AFF

PIPE ANCHORS
(TYP.)

3"ø CWR
BOP. EL. 13' - 9" AFF

3/4"ø CD
BOP. EL. 12' - 0" AFF

**STAGING**
1035

NOTES:

1. SEE DWG M-001 FOR SYMBOLS, LEGEND, AND ABBREVIATIONS.
2. SEE DWGS MD101 AND MD102 FOR DEMOLITION WORK.
3. SEE DWGS MH101 TO MH107 FOR CONTINUATION.
4. SEE DWG MH108 FOR ROOF PLAN.
5. SEE DWGS MP201 TO MP205, MP207 FOR CONTINUATION.
6. SEE DWGS MI101 TO MI102 FOR CONTROL DIAGRAMS.
7. SEE DWGS M-501 TO M-503 FOR DETAILS.
8. SEE DWGS M-601 TO M-603 FOR EQUIPMENT SCHEDULES.
9. PROVIDE SHUTOFF VALVES AT ALL WATER SUPPLY AND RETURN PIPE BRANCHES. THE SHUTOFF VALVES ARE NOT SHOWN ON THE FLOOR PLAN FOR CLARITY.
10. THE CONTROL VALVE, SHUTOFF VALVES, STRAINER, DRAIN VALVE FOR EACH ROOF MOUNTED DOAS UNIT SHALL BE LOCATED BELOW THE ROOF IN A CLOSE PROXIMITY OF THE CORRESPONDING UNIT.
11. ALL CONDENSER WATER PIPES SHALL BE INSULATED AND JACKETED.
12. FOR ALL CONDENSATE DRAIN PIPES, PROVIDE CLEANOUTS AT EACH 90 DEGREE ELBOWS. PROVIDE CLEANOUTS EVERY 30 FEET ON THE STRAIGHT RUNS.
13. PROVIDE 1/4" PER FOOT SLOPE FOR THE CONDENSATE DRAIN PIPES. PITCH PIPE DOWN IN DIRECTION OF FLOW AS SHOWN ON THE DRAWING

1 MECHANICAL PIPING FLOOR PART PLAN 1-6
1/4" = 1'-0"

0 2' 4' 8'
SCALE: 1/4"=1'-0

KEY PLAN-PART 1-6

| | | |
|---|---|---|
| 1-1 | 1-3 | 1-5 |
| 1-2 | 1-4 | 1-6 |
| | | 1-7 |

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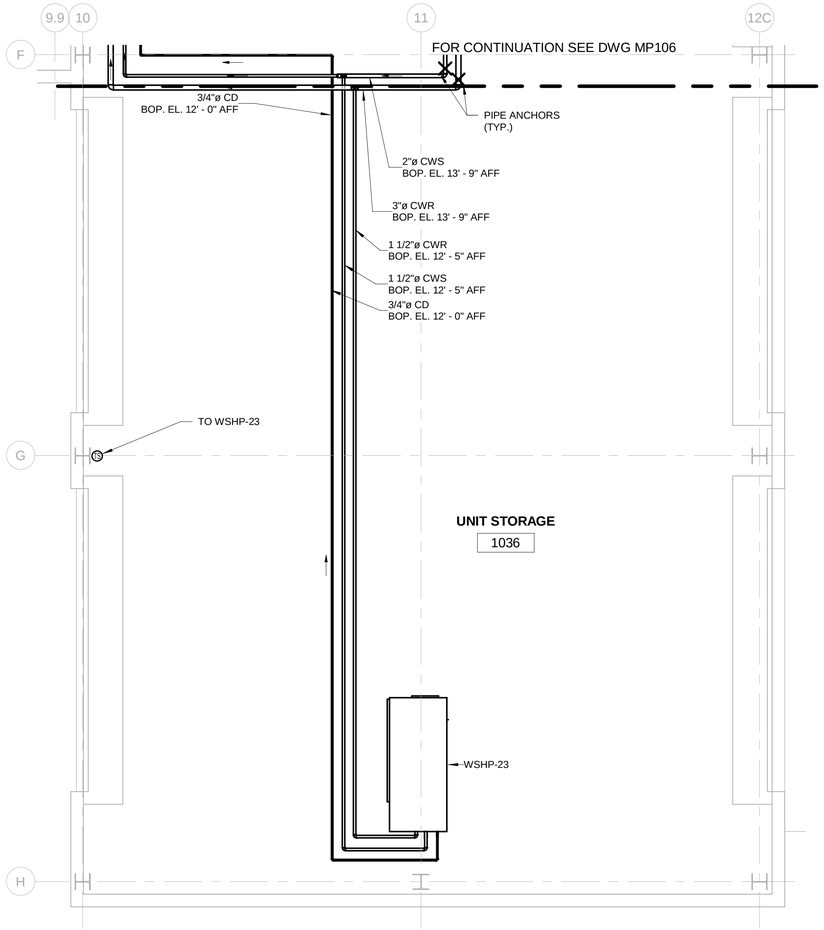
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MECHANICAL PIPING FLOOR PART PLAN 1-6

SHEET ID
MP106

CORRECTED FINAL SUBMISSION - JULY 29, 2021

PLAN NORTH




1 MECHANICAL PIPING FLOOR PART PLAN 1-7

1/4" = 1'-0"

0 2' 4' 8'

SCALE: 1/4"=1'-0

NOTES:

1. SEE DWG M-001 FOR SYMBOLS, LEGEND, AND ABBREVIATIONS.
2. SEE DWGS MD101 AND MD102 FOR DEMOLITION WORK.
3. SEE DWGS MH101 TO MH107 FOR CONTINUATION.
4. SEE DWG MH108 FOR ROOF PLAN.
5. SEE DWGS MP201 TO MP206 FOR CONTINUATION.
6. SEE DWGS MI101 TO MI102 FOR CONTROL DIAGRAMS.
7. SEE DWGS M-501 TO M-503 FOR DETAILS.
8. SEE DWGS M-601 TO M-603 FOR EQUIPMENT SCHEDULES.
9. PROVIDE SHUTOFF VALVES AT ALL WATER SUPPLY AND RETURN PIPE BRANCHES. THE SHUTOFF VALVES ARE NOT SHOWN ON THE FLOOR PLAN FOR CLARITY.
10. THE CONTROL VALVE, SHUTOFF VALVES, STRAINER, DRAIN VALVE FOR EACH ROOF MOUNTED DOAS UNIT SHALL BE LOCATED BELOW THE ROOF IN A CLOSE PROXIMITY OF THE CORRESPONDING UNIT.
11. ALL CONDENSER WATER PIPES SHALL BE INSULATED AND JACKETED.
12. FOR ALL CONDENSATE DRAIN PIPES, PROVIDE CLEANOUTS AT EACH 90 DEGREE ELBOWS. PROVIDE CLEANOUTS EVERY 30 FEET ON THE STRAIGHT RUNS.
13. PROVIDE 1/4" PER FOOT SLOPE FOR THE CONDENSATE DRAIN PIPES. PITCH PIPE DOWN IN DIRECTION OF FLOW AS SHOWN ON THE DRAWING.

KEY PLAN-PART 1-7

| | | |
|---|---|---|
| 1-1 | 1-3 | 1-5 |
| 1-2 | 1-4 | 1-6 |

1-7

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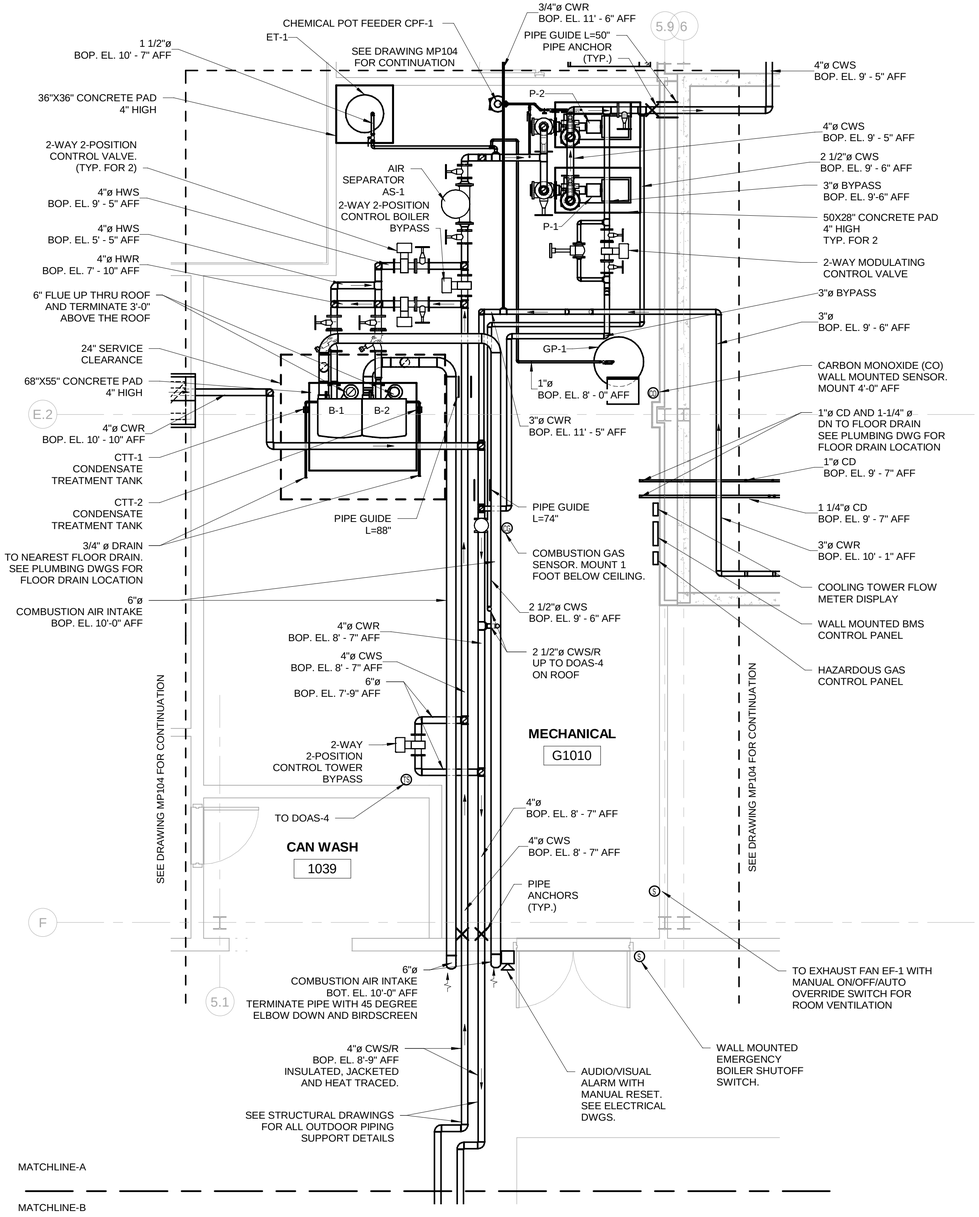
MECHANICAL PIPING FLOOR PART PLAN 1-7

SHEET ID

MP107

CORRECTED FINAL SUBMISSION - JULY 29, 2021

PLAN NORTH

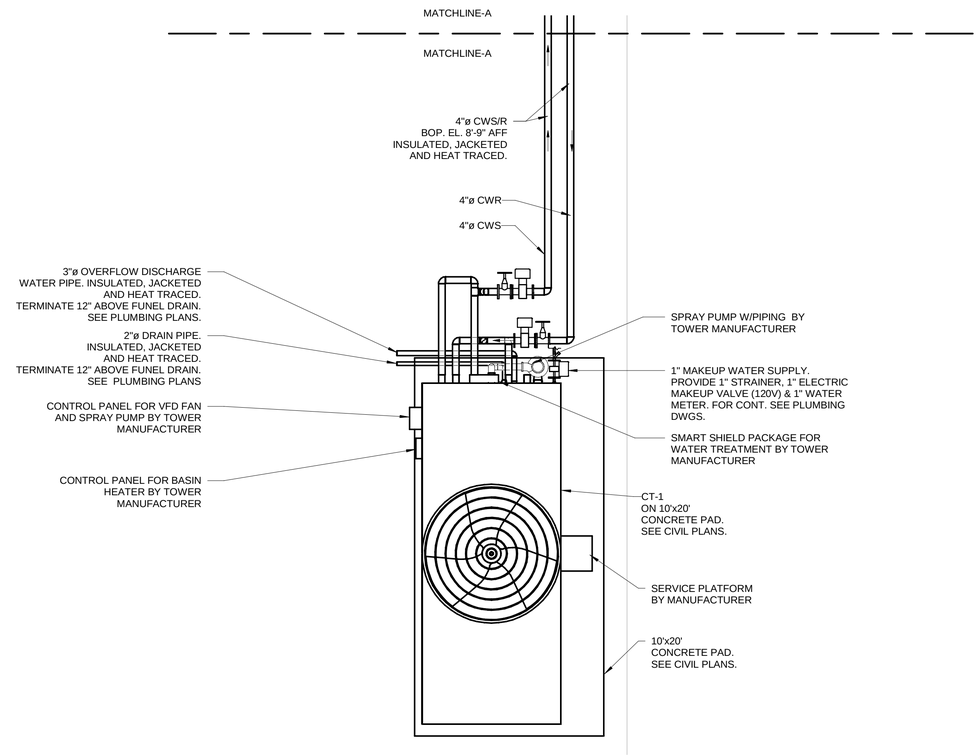



## 1 MECHANICAL PIPING-MECHANICAL ROOM G1010 PLAN

1/4" = 1'-0"

NOTES:

1. SEE DWG M-001 FOR LEGEND, ABBREVIATIONS & GENERAL NOTES.
2. SEE DWGS MD101 AND MD102 FOR DEMOLITION FLOOR PLANS.
3. SEE DWG MH104 FOR DUCTWORK FLOOR PLAN.
4. SEE DWGS MI101 TO MI104 FOR CONTROL SCHEMATICS & SEQUENCE OF OPERATION.
5. SEE DWGS M-501 TO M-503 FOR DETAILS.
6. SEE DWGS M-601 TO M-603 FOR EQUIPMENT SCHEDULES.
7. ALL CONDENSER WATER AND CONDENSATE DRAIN PIPES SHALL BE INSULATED.
8. PROVIDE HEAT TRACING, THERMAL INSULATION AND JACKETING FOR THE COOLING TOWER MOUNTED SPRAY PUMP AND SPRAY PIPING, STANDPIPE ASSEMBLY, MAKEUP PIPING AND SOLENOID VALVE, OVERFLOW AND DRAIN LINES, ANY OTHER CONNECTIONS TO ACCESSORIES AT OR BELOW THE WATER LEVEL SUCH AS ELECTRONIC WATER LEVEL CONTROLLERS. THE CONTRACTOR SHALL PROVIDE, FIELD INSTALL, AND WIRE THE HEAT TRACING SYSTEM WHICH SHALL OPERATE UNDER BUILT IN CONTROLS (BY HEAT TRACING MANUFACTURER). INTEGRATE OPERATION OF THE HEAT TRACING SYSTEM TO THE BMS FOR MONITORING AND ALARMS. SEE ELECTRICAL DWGS FOR THE HEAT TRACING SYSTEM.
9. FOR ALL CONDENSATE DRAIN PIPES, PROVIDE CLEANOUTS AT EACH 90 DEGREE ELBOWS. PROVIDE CLEANOUTS EVERY 30 FEET ON THE STRAIGHT RUNS.
10. PROVIDE 1/4" PER FOOT SLOPE FOR THE CONDENSATE DRAIN PIPES. PITCH PIPE DOWN IN DIRECTION OF FLOW AS SHOWN ON THE DRAWING




## 2 MECHANICAL PIPING-COOLING TOWER PLAN

1/4" = 1'-0"

0 2' 4' 8'

SCALE: 1/4"=1'-0

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MECHANICAL PIPING-MECHANICAL ROOM G1010 PLAN

SHEET ID

MP108

CORRECTED FINAL SUBMISSION - JULY 29, 2021

GENERAL ABBREVIATIONS
- BMS - BUILDING MANAGEMENT SYSTEM
- UM - UNIT MANUFACTURER, EQUIPMENT
- PUB - PROGRAMMABLE UNITARY CONTROLLER

DIRECT DIGITAL CONTROLS ABBREVIATIONS
- AI - ANALOG INPUT
- AO - ANALOG OUTPUT
- CI - CONFIGURABLE INPUT
- CO - CONFIGURABLE OUTPUT
- BI - BINARY INPUT
- BO - BINARY OUTPUT
- DDC - DIRECT DIGITAL CONTROL
- I/O - INPUT/OUTPUT POINT
- PID - PROPORTIONAL, INTEGRAL, DERIVATIVE
- N.O. - NORMALLY OPEN
- N.C. - NORMALLY CLOSED
- S.R. - SPRING RETURN
- N.S.R. - NON-SPRING RETURN

COMPUTER OR ELECTRONICS
- CPU - CENTRAL PROCESSING UNIT
- EEPROM - ELECTRONICALLY ERASABLE PROGRAMMABLE READ ONLY MEMORY
- GUI - GRAPHICAL USER INTERFACE
- LAN - LOCAL AREA NETWORK
- WAN - WIDE AREA NETWORK
- PC - PERSONAL COMPUTER
- OWS - OPERATOR WORKSTATION
- RAM - RANDOM ACCESS MEMORY
- ROM - READ ONLY MEMORY
- TCP/IP - TRANSMISSION CONTROL PROTOCOL/INTERNET PROTOCOL
- UPS - UNINTERRUPTIBLE POWER SUPPLY

COOLING PLANT ABBREVIATIONS
- P- - PRIMARY
- S- - SECONDARY
- CWP - CONDENSER WATER PUMP
- CWS - CONDENSER WATER SUPPLY
- CWR - CONDENSER WATER RETURN
- CTWR - COOLING TOWER

HEATING PLANT ABBREVIATIONS
- B, BLR - BOILER
- BP - BOILER PUMP
- HX - HEAT EXCHANGER
- HWP - HOT WATER PUMP, PRIMARY (P-), SECONDARY (S-)
- HWS/R - HOT WATER SUPPLY/RETURN
- MER - MECHANICAL EQUIPMENT ROOM

HVAC EQUIPMENT ABBREVIATIONS
- AC - AIR CONDITIONING UNIT
- ACCU - AIR COOLED CONDENSING UNIT
- HVAC - HEATING,VENTILATING & AIR CONDITIONING UNIT
- MAU - MAKEUP AIR UNIT
- RTU - ROOF TOP UNIT
- EF - EXHAUST FAN
- HP - HEAT PUMP
- HWC - HOT WATER COIL
- RHC - REHEAT COIL
- UV - UNIT VENTILATOR

FIELD DEVICES ABBREVIATIONS
- CT/CS - CURRENT TRANSDUCER
- CS - CURRENT SWITCH
- CO - CO SENSOR
- FAS - FIRE ALARM SYSTEM
- FACP - FIRE ALARM CONTROL PANEL
- HOA - HAND-OFF-AUTO
- LPS - LOW PRESSURE SWITCH
- HPS - HIGH PRESSURE SWITCH
- ES - END-SWITCH
- LDS - LIQUID DETECTION SWITCH
- LCD - LIQUID CRYSTAL DISPLAY
- LED - LIGHT EMITTING DIODE
- LLS - LOW LIMIT TEMPERATURE SWITCH
- LWCO - LOW WATER CUTOUT SWITCH
- M - ACTUATOR
- MS - MOTOR STARTER
- VFD - VARIABLE FREQUENCY DRIVE
- O/L - OVERLOADS
- OCC - OCCUPANCY SENSOR
- PDT - PRESSURE DIFFERENTIAL TRANSDUCER
- PDS - PRESSURE DIFFERENTIAL SWITCH
- R - CONTROL PILOT RELAY
- RH - RELATIVE HUMIDITY SENSOR
- SD - SMOKE DETECTOR
- SPDT - SINGLE POLE DOUBLE THROW
- SPST - SINGLE POLE SINGLE THROW
- SW - SWITCH
- T/TS - TEMPERATURE / TEMPERATURE SENSOR
- TC - THERMOSTAT SWITCH
- 2W/3W - 2-WAY OR 3-WAY
- CV - CONSTANT AIR VOLUME (AIR)
- CV - FLOW COEFFICIENT (WATER)
- V - VALVE, TEMPERATURE CONTROL

POWER AND ENERGY ABBREVIATIONS
- AWG - AMERICAN WIRE GAUGE
- KW/KWH - KILO-WATTS
- KWH - KILO-WATT-HOURS
- MA - MILLI-AMPERE
- VA - VOLTAGE-AMPERE
- VAC/VDC - VOLTAGE ALTERNATING CURRENT
- VDC - VOLTAGE DIRECT CURRENT
- THERMS - UNIT OF NATURAL GAS USE
- GAL - GALLONS OF WATER USE

CONTROL MEDIA ABBREVIATIONS
- SFSS - SUPPLY FAN COMMAND
- SFST - SUPPLY FAN STATUS
- EFSS - EXHAUST FAN COMMAND
- EFST - EXHAUST FAN STATUS
- RFSS - RETURN FAN COMMAND
- RFST - RETURN FAN STATUS
- SAT - SUPPLY AIR TEMPERATURE
- SAH - SUPPLY AIR HUMIDITY
- DAT - DISCHARGE AIR TEMPERATURE
- DAH - DISCHARGE AIR HUMIDITY
- MAT - MIXED AIR TEMPERATURE
- RAT - RETURN AIR TEMPERATURE
- RARH - RETURN AIR HUMIDITY
- RMT - SPACE TEMPERATURE
- RMSP - SPACE SETPOINT ADJUSTMENT
- CLG - COOLING STAGE COMMAND
- HTG - HEATING STAGE COMMAND
- HGR - HOT GAS REHEAT COMMAND
- ZND - ZONE DAMPER COMMAND
- RAD - RETURN AIR DAMPER COMMAND
- OAD - OUTSIDE AIR DAMPER COMMAND
- RVSS - ROOF VENT DAMPER COMMAND
- FLTR - FILTER STATUS
- HWV - HOT WATER VALVE
- LLS- - LOW LIMIT SWITCH STATUS
- OAT - OUTDOOR AIR TEMPERATURE
- OAH - OUTDOOR AIR HUMIDITY
- CO - CARBON MONOXIDE LEVEL
- HWDP - HOT WATER DIFFERENTIAL PRESSURE
- HWS - HOT WATER SUPPLY TEMPERATURE
- HWR - HOT WATER RETURN TEMPERATURE
- HWPSS - HOT WATER PUMP COMMAND
- HWPCS - HOT WATER PUMP STATUS
- HWPDP - HOT WATER PUMP DIFFERENTIAL PRESSURE
- HWBYP - HOT WATER BYPASS VALVE
- HWFL - HOT WATER FLOW
- MWFL - MAKEUP WATER FLOW
- BCPFLT - BOILER CONTROL PANEL FAULT
- BPCS - BOILER PUMP STATUS

##
XXX
XXX - POINT DESIGNATION
## - POINT TYPE
- AO - ANALOG OUTPUT
- AI - ANALOG INPUT
- BO - BINARY OUTPUT
- BI - BINARY INPUT
- BAV - BACNET ANALOG VALUE
- BBV - BACNET BINARY VALUE
- COMM - COMMUNICATION BUS
- H/W - WIRED INTERLOCK
- FAS - FIRE ALARM SYSTEM

I/O CONTROL POINT

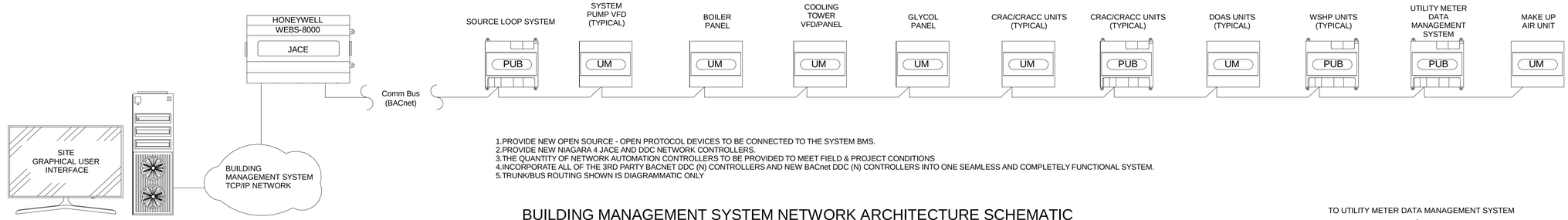
## BUILDING MANAGEMENT SYSTEM (BMS) TERMINOLOGY AND CONTROL POINT LEGEND

AQ - AQUASTATIC SWITCH (SPDT)
AFS - AIR FLOW STATION (ANALOG)
FS - FLOW SWITCH (DIGITAL)
FL - FLOW SENSOR (ANALOG)
M - CONTROL ACTUATOR
DPS - DIFFERENTIAL PRESSURE SWITCH (SPDT)
DPT - DIFFERENTIAL PRESSURE TRANSDUCER (ANALOG)
CONTROL WIRE OR CABLE
ES - POSITION END SWITCH (SPST)
RH - RELATIVE HUMIDITY SENSOR
CO - CARBON-MONOXIDE SENSOR
XT - CONTROL TRANSFORMER

IAQ - INDOOR AIR QUALITY SENSOR
MS - MAGNETIC STARTER
VFD - VARIABLE FREQUENCY DRIVE
R - CONTROL RELAY (SPDT)
CT - CURRENT TRANSDUCER SENSOR (ANALOG)
CS - CURRENT SWITCH SENSOR (DIGITAL)
UPS - UNINTERRUPTABLE POWER SUPPLY
TS - TEMPERATURE SENSOR (PROBE)
TS - TEMPERATURE SENSOR (AVERAGING)
LLS - LOW-LIMIT TEMPERATURE SWITCH (SPDT)
SD - SMOKE DETECTOR (DUCT)
TC - THERMOSTAT SWITCH (SPDT)

## BUILDING MANAGEMENT SYSTEM (BMS) DEVICE LEGEND

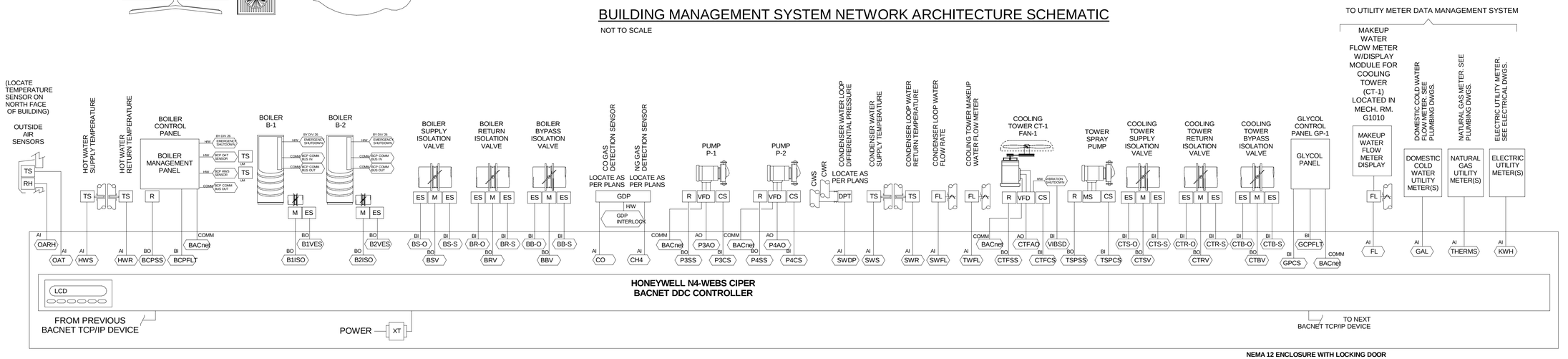
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1.PROVIDE NEW OPEN SOURCE - OPEN PROTOCOL DEVICES TO BE CONNECTED TO THE SYSTEM BMS.
2.PROVIDE NEW NIAGARA 4 JACE AND DDC NETWORK CONTROLLERS.
3.THE QUANTITY OF NETWORK AUTOMATION CONTROLLERS TO BE PROVIDED TO MEET FIELD & PROJECT CONDITIONS
4.INCORPORATE ALL OF THE 3RD PARTY BACNET DDC (N) CONTROLLERS AND NEW BACnet DDC (N) CONTROLLERS INTO ONE SEAMLESS AND COMPLETELY FUNCTIONAL SYSTEM.
5.TRUNK/BUS ROUTING SHOWN IS DIAGRAMMATIC ONLY

## BUILDING MANAGEMENT SYSTEM NETWORK ARCHITECTURE SCHEMATIC

NOT TO SCALE




## CONDENSER WATER LOOP SYSTEM SCHEMATIC

NOT TO SCALE

BOILERS - COOLING TOWER - PUMPS

US Army Corps of Engineers ®

NOT FOR CONSTRUCTION

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DRAWN BY: Author
CHECKED BY: Checker
SUBMITTED BY:
SIZE: ANSI D
ISSUE DATE: 06 MAY 2021
SOLICITATION NO.: W912QR20R0038
CONTRACT NO.: W912QR20R0038


US ARMY CORPS OF ENGINEERS
LOUISVILLE DISTRICT
LOUISVILLE, KY

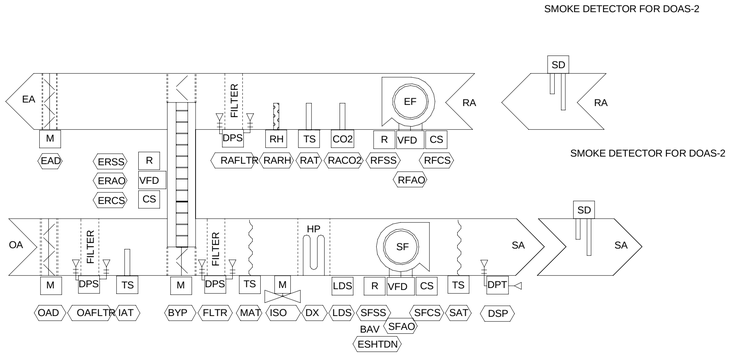
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MECHANICAL CONTROL SCHEMATICS - SHEET 1

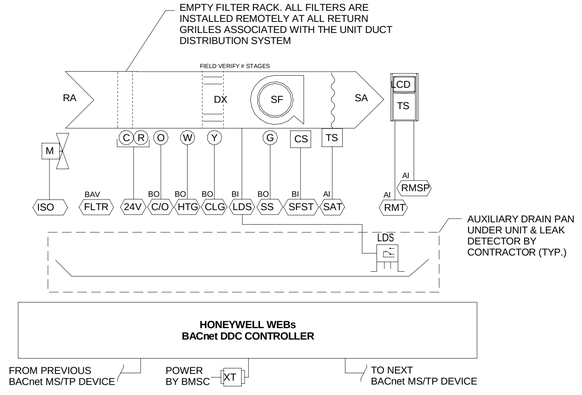
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MI101

CORRECTED FINAL SUBMISSION - JULY 29, 2021



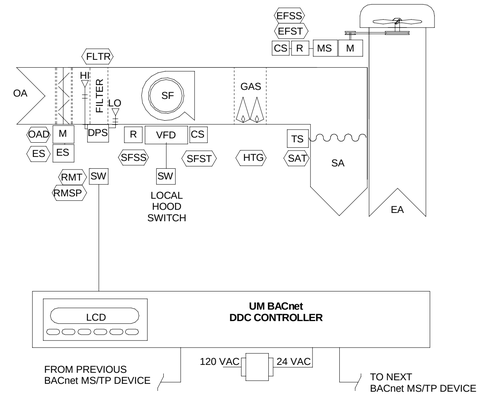

## DOAS WATER SOURCE UNITS SCHEMATIC (TYPICAL FOR DOAS-1 THRU DOAS-6)

NOT TO SCALE




## WATER SOURCE HEAT PUMPS SCHEMATIC (TYPICAL FOR WSHP-1 THRU WSHP-24)

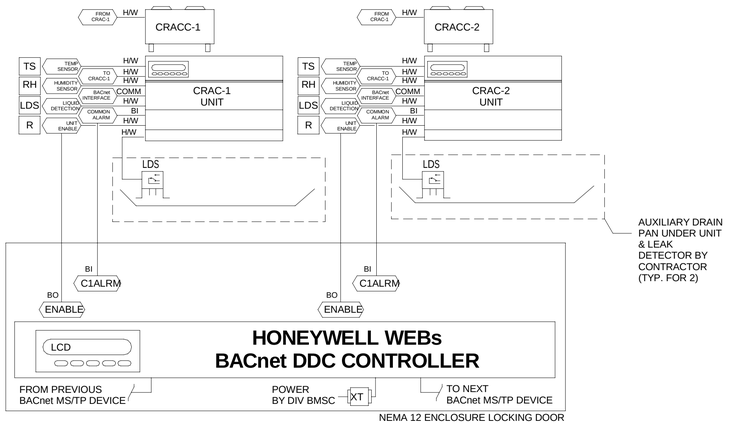
NOT TO SCALE




## MAKEUP AIR UNIT (MAU-1) CONTROL SCHEMATIC

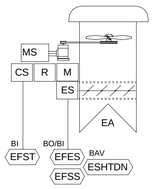
NOT TO SCALE

NATURAL GAS HEATING




## COMPUTER ROOM AIR CONDITIONING UNIT SCHEMATIC (TYPICAL FOR CRAC-1/CRACC-1 & CRAC-2/CRACC-2)

NOT TO SCALE

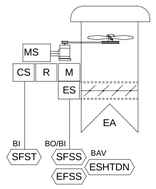



NOTE: PROVIDE CONTROL POINTS ON THE ASSOCIATED INTERLOCKED EQUIPMENT DDC CONTROLLER

## TYPICAL EXHAUST FAN SCHEMATIC

NOT TO SCALE

DDC - INTERLOCKED

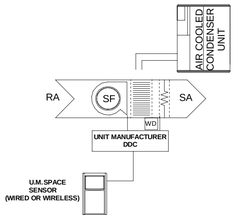



NOTE: PROVIDE CONTROL POINTS ON THE ASSOCIATED INTERLOCKED EQUIPMENT DDC CONTROLLER

## SUPPLY FAN SCHEMATIC

NOT TO SCALE

DDC - INTERLOCKED




## DUCTLESS SPLIT SYSTEM AIR CONDITIONING UNIT SCHEMATIC

NOT TO SCALE

STAND-ALONE

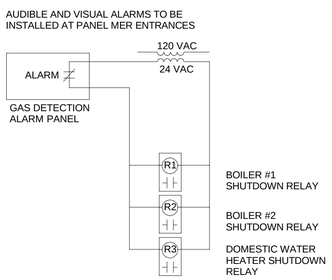



NOTES:
1. PROVIDE CONTROL POINTS ON THE CLOSEST DDC CONTROLLER
2. SCHEMATIC IS TYPICAL FOR 2 SWITCHES

## EMERGENCY AIR DISTRIBUTION SHUTOFF SWITCH SCHEMATIC

NOT TO SCALE

MANUAL




NOTES:

THE CONTRACTOR SHALL PROVIDE ALL THE NECESSARY WIRING AND DEVICE REQUIRED TO PERFORM THE FOLLOWING SEQUENCE OF OPERATIONS:

1. NORMAL OPERATION (CO & CH4 LEVELS BELOW WARNING & ALARM SETPOINTS)
- THE PANEL ALARM CONTACT IS CLOSED.
- R1 / R2 / R3 RELAYS ARE ENERGIZED
- RELAY CONTACTS ARE CLOSED
- EQUIPMENT IS ALLOWED TO OPERATE AS SEQUENCED

2. ALARM OPERATION (CO OR CH4 LEVELS ABOVE SETPOINT)
- THE PANEL ALARM CONTACT IS OPENED.
- R1 / R2 / R3 RELAYS ARE DE-ENERGIZED, RELAY CONTACTS
- ARE OPENED
- EQUIPMENT IS DISABLED

## MECHANICAL RM. HAZARDOUS GAS MONITORING & ALARM INTERLOCKS SCHEMATIC

NOT TO SCALE

HARDWIRED

US Army Corps of Engineers ®

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DRAWN BY: Author
CHECKED BY: Checker
SUBMITTED BY:
SIZE: ANSI D

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MECHANICAL CONTROL SCHEMATICS - SHEET 2

SHEET ID

MI102

CORRECTED FINAL SUBMISSION - JULY 29, 2021

# HVAC CONTROLS GENERAL NOTES

1. BASIS OF DESIGN BMS SYSTEM FOR ALL HVAC EQUIPMENT IS BACNET / NIAGARA VERSION 4.X BY HONEYWELL OR APPROVED EQUAL.
2. THE HEAD-END OF THE NEW DDC SYSTEM SHALL BE CONNECTED TO THE NIAGARA/JACE BOX AND THE NIAGARA/JACE BOX SHALL BE CONNECTED TO ARNET.
3. BMS SYSTEM SHALL CONSIST OF A SERIES OF NON-PROPRIETARY FIELD AND/OR FACTORY MOUNTED NETWORKED DIRECT DIGITAL CONTROLLERS (DDC) THAT MUST COMMUNICATE NATIVE BACNET (IP). BACNET MS/TP SHALL BE USED FOR COMMUNICATION TO THIRD PARTY CONTROLS ONLY. ALL CONTROLS SHALL BE HARDWIRED. WIRELESS CONNECTIONS ARE NOT ACCEPTABLE.
4. BMS SYSTEM CONSIST OF A SERVER PC SUPERVISOR THAT WILL COMMUNICATE VIA THE BACNET OPEN PROTOCOL WITH THE INDIVIDUAL FACTORY OR FIELD MOUNTED DDC CONTROLLERS REQUIRED FOR THIS PROJECT. THE SERVER PC SUPERVISOR WILL ALSO INCLUDE THE EMBEDDED OPERATOR INTERFACE SOFTWARE TO DISPLAY EQUIPMENT AND/OR FLOOR PLAN GRAPHICS, AN ALARM SUMMARY, OVERRIDE PAGES, ETC. THAT ARE REQUIRED FOR A BMS OPERATOR TO MANAGE THE FACILITY. IN THE EVENT OF A BMS COMMUNICATION FAILURE THE DDC CONTROLLERS ASSOCIATED WITH THE HVAC EQUIPMENT WILL CONTINUE TO OPERATE IN A STAND-ALONE FASHION AND CONTINUE TO PROVIDE COMFORT HEATING AND COOLING TO THE OCCUPANTS.
5. THE SPECIFIED BMS, DDC AND UNIT CONTROLLERS MUST BE PROGRAMMED TO MEET THE DESIGNED SEQUENCE OF OPERATIONS AS DESCRIBED ON THE MECHANICAL SPECIFICATIONS OR DRAWINGS. THE SPECIFIED CONTROL SYSTEM SHALL BE IMPLEMENTED WITH OPTIMIZED SYSTEM LEVEL OPTIMIZATION STRATEGIES.
6. BMS SYSTEM SHALL CONTROL AND MONITOR HVAC EQUIPMENT TO PROVIDE ALARM NOTIFICATIONS AT THE SERVER PC SUPERVISOR.
7. DDC SYSTEM SHALL BE ABLE TO ACCEPT UPGRADES AND INTERFACE WITH FUTURE VERSIONS BY THE SAME MANUFACTURER, WITHOUT REPLACING THE HARDWARE, CONTROL MODULES, PROCESSORS, GATEWAYS, OR SENSORS.
8. ALL POWER WIRING 120 VAC AND ABOVE IS ASSUMED TO BE PROVIDED UNDER DIVISION 26 UNLESS OTHERWISE SPECIFIED.
9. CONDUIT: POWER AND LOW VOLTAGE SIGNAL WIRING SHALL ENTER BMS CONTROL CABINETS IN SEPARATE CONDUITS.
10. CONDUIT REQUIRED IN THE MECHANICAL ROOM, FROM ANY BMS CONTROL CABINET TO 8' ABOVE FINISHED FLOOR, AND ANYWHERE ELSE CABLE MAY BE SUBJECT TO PHYSICAL HARM. SOME PROJECTS MAY HAVE MORE STRINGENT CONDUIT REQUIREMENTS THAN LISTED HEREIN, SEE PROJECT SPECIFICATION FOR FURTHER DETAILS.
11. MINIMUM SIZE: 3/4" FOR CONDUIT ENTERING CONTROL PANELS, 1/2" FLEX TO DEVICES ACCEPTABLE, 1/2" STUB UP FOR THERMOSTATS ACCEPTABLE (SUBJECT TO BUILDING/JOB REQUIREMENTS).
12. MAXIMUM FILL: 75% CAPACITY.
13. OPEN CABLING: ALL OPEN CABLES ARE TO BE ADEQUATELY SUPPORTED, NO CABLING IS TO LAY LOOSELY ON CEILING TILES. CABLING SHALL NOT BE TIED TO SPRINKLER PIPING.
14. CABLE MARKERS: EACH CABLE MUST BE MARKED AT EACH END USING A BRADY STYLE SELF-ADHESIVE MARKER. MARKERS SHALL BE PLACED SUCH THAT THEY ARE NOT CUT OFF AND ARE VISIBLE WITHOUT CUTTING WIRING BUNDLES.
15. GROUNDING: AN ESTABLISHED ELECTRICAL SERVICE EARTH GROUND MUST BE CONNECTED TO THE BASEPLATE OF ALL CONTROLLERS. THIS MAY BE ACCOMPLISHED BY DIRECT CONNECTION TO THE CONTROLLER BASEPLATE OR AN EARTH GROUND-TO PANEL BACKPLANE -TO BASEPLATE CONNECTION.
16. CODE COMPLIANCE: THE NATIONAL ELECTRICAL CODE (NEC), NATIONAL PLUMBING CODE (NPC), NATIONAL FIRE PROTECTION ASSOCIATION (NFPA), AND ANY OTHER NATIONAL OR LOCAL ORDINANCE OR CODE SHALL ALWAYS BE CONSIDERED MINIMUM REQUIREMENTS AND ABS WIRING STANDARDS SHALL NOT OVERRIDE ANY OF THE REQUIREMENTS OF THESE CODES.

# SEQUENCE OF OPERATION

1. GLOBAL OUTSIDE AIR TEMPERATURE & HUMIDITY

1.1 GENERAL: THE CONSTRUCTOR SHALL PROVIDE, INSTALL AND WIRE THE OUTSIDE AIR TEMPERATURE & HUMIDITY SENSORS WITH A WEATHER/SUNSHIELD ENCLOSURE SHALL BE PROVIDED ON THE NORTHERN EXPOSURE OF THE BUILDING.

1.2 THE BMS SHALL CALCULATE THE OUTSIDE AIR ENTHALPY AND PROVIDE TO THE CONNECTED DDC DEVICES GLOBAL VALUES OF THE OUTSIDE AIR TEMPERATURE, HUMIDITY AND ENTHALPY FOR USE IN THEIR INDIVIDUAL CONTROL SEQUENCES, WHEN REQUIRED. THE BMS SHALL ALSO PROVIDE TRENDING OF THESE PARAMETERS FOR USE BY THE OPERATOR IN DETERMINING PAST AND CURRENT OUTSIDE AIR CONDITIONS OF THE SITE.

2. <u>WATER SOURCE HEAT PUMPS (WSHP-1 THROUGH WSHP-24)</u>

2.1 GENERAL: THE UNIT MANUFACTURER (UM) SHALL PROVIDE UNIT WITH INTEGRAL CONTROLS OUTLINED UNDER THE EQUIPMENT SPECIFICATIONS & SCHEDULES. THE UNIT MANUFACTURER (UM) SHALL ALSO PROVIDE A 2-POSITION WATER ISOLATION CONTROL VALVE (ISO). THE CONTRACTOR SHALL PROVIDE, FIELD INSTALL AND WIRE A BACNET MS/TP DDC CONTROLLER, ENCLOSURE, TRANSFORMERS, CONTROL VALVES, SENSORS, RELAYS, & ALL NECESSARY EQUIPMENT REQUIRED TO MEET THIS SPECIFICATION WITH SYSTEM CONTROL SEQUENCE AND COMPLETE INTEGRATION TO BMS.

2.2 SCHEDULING: THE SCHEDULE SHALL BE COMMUNICATED TO THE UNIT'S BACNET MS/TP DDC CONTROLLER AS ESTABLISHED IN THE GUI.

2.3 WATER SOURCE HEAT PUMPS (WSHP-2, 8, 9, 10, 11, 14, 16, 18 THROUGH 24) SERVING A SINGLE OFFICE OR A SPACE, SHALL BE CONTROLLED BY A SINGLE SPACE TEMPERATURE SENSOR'S OUTPUT (SEE PLANS FOR SENSOR LOCATION). WATER SOURCE HEAT PUMPS (WSHP-1, 3, 4, 5, 6, 7, 13, 15 & 17 ) SERVING MULTIPLE OFFICES OR MULTIPLE SPACES, SHALL BE CONTROLLED BY AVERAGING SPACE TEMPERATURE SENSORS' OUTPUT (SEE PLANS FOR SENSORS LOCATION). SPACE TEMPERATURE SENSOR (RMT): EACH SPACE TEMPERATURE SENSOR (RMT) SHALL HAVE A LCD SCREEN DEPICTING THE TEMPERATURE & SETPOINTS. THE SPACE TEMPERATURE SENSOR (RMT) SHALL HAVE A LOCALLY ADJUSTABLE HEATING AND COOLING SETPOINT (RMSP) WITH AN OVERRIDE PUSHBUTTON; WHEN THE BUTTON IS DEPRESSED, THE UNIT SHALL BE SCHEDULED INTO THE “OCCUPIED” MODE FOR UP TO 3 HOURS (ADJ.); UPON THE EXPIRATION OF THE OVERRIDE, THE UNIT SHALL REVERT TO ITS SCHEDULED MODE. THE SPACE HEATING (HSP/UHSP) AND COOLING (CSP/UCSP) SHALL BE CONTROLLED FROM THE GUI. THE SETPOINTS SHALL BE INITIALLY SET AT 68 °F (ADJ.) FOR HEATING (HSP) & 78 °F (ADJ.) FOR COOLING (CSP) WITH A SETPOINT ADJUSTMENT SPAN SETTING OF ± 4 °F (ADJ.).

2.4 “UNOCCUPIED” MODE: THE HEAT PUMP'S FAN SHALL BE COMMANDED “OFF”; THE COMPRESSOR SHALL BE COMMANDED “OFF”. THE CHANGEOVER VALVE (COV) SHALL BE IN THE HEATING POSITION; THE WATER ISOLATION VALVE (ISO) SHALL BE “CLOSED”.

2.5 “UNOCCUPIED COOLING” MODE: WHEN THE SPACE TEMPERATURE OR AVERAGE SPACE TEMPERATURE (RMT) IS HIGHER THAN THE “UNOCCUPIED COOLING” SETPOINT (UCSP) OF 80 °F (ADJ.); THE HEAT PUMP UNIT'S FAN (SS) SHALL BE COMMANDED “ON”, WHEN THE HEAT PUMP'S FAN HAS BEEN PROVEN “ON” BY THE FAN CURRENT SWITCH (SFST), THE CHANGEOVER VALVE (C/O) SHALL SWITCH TO “COOLING”, THE WATER ISOLATION VALVE (ISO) SHALL OPEN, THE COMPRESSOR STAGES (CLG) SHALL BE SEQUENCED ON. WHEN THE SPACE TEMPERATURE OR AVERAGE SPACE TEMPERATURE (RMT) IS LOWER THAT THE “UNOCCUPIED COOLING” SETPOINT (UCSP) HYSTERESIS; THE COMPRESSOR STAGES (CLG) SHALL BE SEQUENCED OFF, THE CHANGEOVER VALVE (C/O) SHALL REPOSITION FOR “HEATING”, THE WATER ISOLATION VALVE (ISO) SHALL CLOSE, THE UNIT SHALL REVERT BACK TO THE SCHEDULED SEQUENCE, THE HEAT PUMP'S FAN (SS) SHALL BE COMMANDED “OFF”. THE OWNER SHALL HAVE THE ABILITY TO MODIFY/DISABLE THIS FEATURE VIA SOFTWARE.

2.6 “UNOCCUPIED HEATING” MODE: WHEN THE SPACE TEMPERATURE OR AVERAGE SPACE TEMPERATURE (RMT) IS LOWER THAN THE “UNOCCUPIED HEATING” SETPOINT (UHSP) OF 55 °F (ADJ.), THE HEAT PUMP UNIT'S FAN (SS) SHALL BE COMMANDED “ON”. WHEN THE HEAT PUMP'S FAN HAS BEEN PROVEN “ON” BY THE FAN CURRENT SWITCH (SFST), THE WATER ISOLATION VALVE (ISO) SHALL OPEN, THE COMPRESSOR STAGES (HTG) SHALL BE SEQUENCED ON. WHEN THE SPACE TEMPERATURE OR AVERAGE SPACE TEMPERATURE (RMT) IS HIGHER THAN THE “UNOCCUPIED HEATING” SETPOINT (UHSP) HYSTERESIS, THE COMPRESSOR STAGES (HTG) SHALL BE SEQUENCED OFF, THE HEAT PUMP'S FAN (SS) SHALL BE COMMANDED “OFF”, THE WATER ISOLATION VALVE (ISO) SHALL CLOSE, THE UNIT SHALL REVERT BACK TO THE SCHEDULED SEQUENCE, THE OWNER SHALL HAVE THE ABILITY TO MODIFY/DISABLE THIS FEATURE VIA SOFTWARE.

2.7 “OCCUPIED” MODE: THE HEAT PUMP'S FAN (SS) SHALL BE COMMANDED “ON” AND RUN CONTINUOUSLY. WHEN THE HEAT PUMP'S FAN HAS BEEN PROVEN “ON” BY THE FAN CURRENT SWITCH (SFST), THE WATER ISOLATION CONTROL VALVE (ISO) SHALL OPEN.

2.8 “HEATING” MODE: (HEAT PUMP COMPRESSOR): THE SPACE TEMPERATURE (RMT) OR AVERAGE SPACE TEMPERATURE, THROUGH THE BACNET MS/TP DDC CONTROLLER, SHALL SEQUENCE THE HEAT PUMP COMPRESSORS (HTG) TO MAINTAIN THE SPACE HEATING SETPOINTS (HSP). WHEN THE SPACE TEMPERATURE OR AVERAGE SPACE TEMPERATURE (RMT) IS LOWER THAN THE SPACE HEATING SETPOINT (HSP), THE HEAT PUMP UNIT'S CHANGE OVER-VALVE (C/O) SHALL BE POSITIONED TO “HEATING”, THE BACNET MS/TP DDC CONTROLLER SHALL SEQUENCE THE HEAT PUMP COMPRESSORS (HTG) ON. WHEN THE SPACE TEMPERATURE OR AVERAGE SPACE TEMPERATURE (RMT) IS HIGHER THAN THE SPACE HEATING SETPOINT (HSP), THE BACNET MS/TP DDC CONTROLLER, SHALL SEQUENCE THE HEAT PUMP COMPRESSORS (HTG) “OFF”.

2.9 REMOTE MOUNTED AIR FILTERS MONITORING: THE FILTERS SHALL BE INSTALLED AT EACH CEILING MOUNTED RETURN GRILLE WHICH IS ASSOCIATED WITH THE WATER SOURCE HEAT PUMP DUCTWORK SYSTEM. THE BACNET MS/TP DDC CONTROLLER SHALL MONITOR THE HEAT PUMP UNIT'S FAN RUN TIME (SFCS) & SHALL PROVIDE A MAINTENANCE REMINDER (FILTER) AT THE GUI WHEN THE FILTER REPLACEMENT TIMER SETTING (FILTERSP) HAS BEEN REACHED. SET THE FILTER REPLACEMENT AT 90 DAYS INTERVAL (ADJUSTABLE).

# SEQUENCE OF OPERATION (CONT.)

<u>3. DOAS WATER SOURCE HEAT PUMPS (DOAS-1 THROUGH DOAS-7)</u>

3.1 GENERAL:

3.1.1 THE UNIT MANUFACTURER (UM) SHALL PROVIDE UNIT WITH INTEGRAL CONTROLS OUTLINED UNDER THE EQUIPMENT SPECIFICATIONS & SCHEDULES. THE UNIT MANUFACTURER (UM) SHALL ALSO PROVIDE A 2-POSITION WATER ISOLATION CONTROL VALVE (ISO). THE CONTRACTOR SHALL PROVIDE, FIELD INSTALL AND WIRE A BACNET MS/TP DDC CONTROLLER, ENCLOSURE, TRANSFORMERS, CONTROL VALVES, SENSORS, RELAYS, & ALL NECESSARY EQUIPMENT REQUIRED TO MEET THIS SPECIFICATION WITH SYSTEM CONTROL SEQUENCE AND COMPLETE INTEGRATION TO BMS.

3.1.2 THE SUPPLY AND EXHAUST FANS IN THE DOAS UNITS HAVE ETHER THE ELECTRONICALLY COMMUTATED MOTORS (ECM) OR VARIABLE FREQUENCY DRIVES (VFD) WHICH SHALL BE USED FOR INITIAL BALANCING PURPOSES.

3.2 SCHEDULING: THE SCHEDULE SHALL BE COMMUNICATED TO THE UNIT'S BACNET MS/TP DDC CONTROLLER AS ESTABLISHED IN THE GUI.

3.3 DOAS-4, & DOAS-6 UNITS OPERATION SHALL BE CONTROLLED BY A DEDICATED SPACE MOUNTED TEMPERATURE SENSOR (RMT): THE SPACE TEMPERATURE SENSOR (RMT) SHALL HAVE A LCD SCREEN DEPICTING THE TEMPERATURE & SETPOINTS. THE SPACE TEMPERATURE SENSOR (RMT) SHALL HAVE A LOCALLY ADJUSTABLE HEATING AND COOLING SETPOINT (RMSP) WITH AN OVERRIDE PUSHBUTTON; WHEN THE BUTTON IS DEPRESSED, THE UNIT SHALL BE SCHEDULED INTO THE “OCCUPIED” MODE FOR UP TO 3 HOURS (ADJ.); UPON THE EXPIRATION OF THE OVERRIDE, THE UNIT SHALL REVERT TO ITS SCHEDULED MODE. THE SPACE HEATING (HSP/UHSP) AND COOLING (CSP/UCSP) SHALL BE CONTROLLED FROM THE GUI. THE SETPOINTS SHALL BE INITIALLY SET AT 72 °F (ADJ.) FOR HEATING (HSP) & 78 °F (ADJ.) FOR COOLING (CSP) WITH A SETPOINT ADJUSTMENT SPAN SETTING OF ± 4 °F (ADJ.).

3.4 DOAS-1, DOAS-2, DOAS-3, DOAS-5 & DOAS-7 UNITS OPERATION SHALL BE CONTROLLED BY DUCT MOUNTED TEMPERATURE SENSORS. THE TEMPERATURE SENSOR SHALL BE MOUNTED IN THE DISCHARGE AIR DUCT OF EACH UNIT. THE SUPPLY DUCT HEATING (HSP/UHSP) AND COOLING (CSP/UCSP) SHALL BE CONTROLLED FROM THE GUI. THE SETPOINTS SHALL BE INITIALLY SET AT 72 °F (ADJ.) FOR HEATING (HSP) & 78 °F (ADJ.) FOR COOLING (CSP) WITH A SETPOINT ADJUSTMENT SPAN SETTING OF ± 4 °F (ADJ.).

3.5 “UNOCCUPIED” MODE: THE UNIT SHALL DE-ENERGIZE, THE OUTSIDE AIR INTAKE AND EXHAUST DAMPERS SHALL CLOSE, AND THE CONTROL VALVE AT THE CONDENSER WATER SUPPLY SHALL CLOSE. THE CHANGEOVER VALVE (COV) SHALL BE IN THE HEATING POSITION; THE WATER ISOLATION VALVE (ISO) SHALL BE “CLOSED”.

3.6 “OCCUPIED” MODE: THE UNIT'S SUPPLY AND EXHAUST FANS SHALL BE COMMANDED “ON” AND RUN CONTINUOUSLY. WHEN THE UNIT'S SUPPLY AND EXHAUST FAN HAS BEEN PROVEN “ON” BY THE FAN CURRENT SWITCHES (SFST), THE WATER ISOLATION CONTROL VALVE (ISO) SHALL OPEN.

3.7 “HEATING” MODE: (HEAT PUMP COMPRESSOR): THE SPACE TEMPERATURE OR DUCT MOUNTED TEMPERATURE SENSOR, THROUGH THE BACNET MS/TP DDC CONTROLLER, SHALL SEQUENCE THE HEAT PUMP COMPRESSORS (HTG) TO MAINTAIN THE SPACE HEATING OR DISCHARGE AIR TEMPERATURE SETPOINTS. WHEN THE SPACE TEMPERATURE OR DISCHARGE AIR TEMPERATURE IS LOWER THAN THE HEATING SETPOINT (HSP), THE UNIT'S CHANGE OVER-VALVE (C/O) SHALL BE POSITIONED TO “HEATING”, THE BACNET MS/TP DDC CONTROLLER SHALL SEQUENCE THE HEAT PUMP COMPRESSORS (HTG) ON. WHEN THE SPACE TEMPERATURE OR DISCHARGE AIR TEMPERATURE IS HIGHER THAN THE SPACE OR DISCHARGE AIR HEATING SETPOINT (HSP), THE BACNET MS/TP DDC CONTROLLER SHALL SEQUENCE THE HEAT PUMP COMPRESSORS (HTG) “OFF”.

3.8 “COOLING” MODE: THE SPACE TEMPERATURE OR DUCT MOUNTED TEMPERATURE SENSOR, THROUGH THE BACNET MS/TP DDC CONTROLLER, SHALL SEQUENCE THE HEAT PUMP COMPRESSORS (CLG) TO MAINTAIN THE SPACE OR DISCHARGE AIR COOLING SETPOINTS (CSP). THE HEAT PUMP UNIT'S CHANGE OVER-VALVE (C/O) SHALL BE POSITIONED TO COOLING. WHEN THE SPACE OR DISCHARGE AIR TEMPERATURE IS HIGHER THAN THE SPACE OR DISCHARGE AIR COOLING SETPOINT (CSP), THE BACNET MS/TP DDC CONTROLLER SHALL SEQUENCE THE HEAT PUMP COMPRESSORS (CLG) ON. WHEN THE SPACE OR DISCHARGE AIR TEMPERATURE IS LOWER THAN THE SPACE OR DISCHARGE AIR COOLING SETPOINT (CSP), THE BACNET MS/TP DDC CONTROLLER SHALL SEQUENCE THE HEAT PUMP COMPRESSORS (CLG) “OFF”. DURING THE “COOLING” MODE THE “HEATING” MODE SHALL BE DISABLED.

3.9 ECONOMIZER (COMPARATIVE ENTHALPY):

3.9.1 THE UNIT CONTROLLER SHALL MEASURE THE SUPPLY AIR TEMPERATURE AND MODULATE THE ECONOMIZER DAMPER POSITIONS AS THE FIRST STAGE OF COOLING TO MAINTAIN SUPPLY AIR TEMPERATURE SETPOINT.

3.9.2 THE OUTSIDE AIR DAMPER SHALL BE OPEN TO THE MINIMUM OUTSIDE AIR CFM SETTING ANYTIME THE UNIT IS IN OCCUPIED MODE. THE OUTSIDE AIR DAMPER SHALL BE CLOSED WHEN THE UNIT IS DISABLED.

3.9.3 THE ECONOMIZER SHALL BE ENABLED WHEN THE OUTSIDE AIR ENTHALPY IS LESS THAN RETURN/EXHAUST AIR ENTHALPY BY 2.0 BTU/LB AND THE SUPPLY FAN IS RUNNING.

3.9.4 THE ECONOMIZER SHALL DISABLE WHEN OUTSIDE AIR ENTHALPY IS GREATER THAN RETURN/EXHAUST ENTHALPY OR THE SUPPLY AIR TEMPERATURE FALLS BELOW THE SUPPLY AIR TEMPERATURE LOW LIMIT OF 40 DEG F. (ADJ.).

3.10 ENERGY RECOVERY WHEEL:

3.10.1 THE UNIT CONTROLLER SHALL MEASURE THE SUPPLY AIR TEMPERATURE AND RUN THE ENERGY RECOVERY WHEEL AS THE FIRST STAGE OF HEATING / COOLING TO MAINTAIN SUPPLY AIR TEMPERATURE SETPOINT.

3.10.2 COOLING RECOVERY MODE: WHEN THE OUTDOOR AIR OA ENTHALPY IS HIGHER THAN THE RETURN/EXHAUST AIR RA/EA ENTHALPY AND THE OUTDOOR AIR TEMPERATURE IS GREATER THAN THE ENERGY RECOVERY ENABLE SETPOINT THE WHEEL SHALL BE TURNED ON AND BOTH OUTSIDE AIR OA AND EXHAUST AIR EA BYPASS DAMPERS SHALL BE CLOSED. THE EXHAUST AIR BYPASS DAMPER SHALL MODULATE (AS NECESSARY) TO MAINTAIN DISCHARGE AIR TEMPERATURE AT SETPOINT (ADJ.).

3.10.3 HEATING RECOVERY MODE: WHEN THE OUTSIDE AIR OA ENTHALPY IS LESS THAN THE RA ENTHALPY AND THE OA TEMPERATURE IS LESS THAN THE ENERGY RECOVERY ENABLE SETPOINT THE WHEEL SHALL BE TURNED ON AND BOTH OA AND EA BYPASS DAMPERS SHALL BE CLOSED. THE EA BYPASS DAMPER SHALL MODULATE (AS NECESSARY) TO MAINTAIN DISCHARGE AIR TEMPERATURE AT SETPOINT (ADJ.).

3.10.4 WHEN THE OA ENTHALPY IS LESS THAN THE RA/EA ENTHALPY AND THE AHU IS COOLING (OR AIRSIDE ECONOMIZING), THE WHEEL SHALL BE TURNED OFF AND BOTH OA AND EA BYPASS DAMPERS SHALL BE OPEN.

3.10.5 IF THE OA TEMPERATURE DROPS BELOW THE FROST THRESHOLD SETPOINT (ADJ.), THE OA BYPASS DAMPER SHALL MODULATE TO MAINTAIN THE EXHAUST SIDE LEAVING TEMPERATURE SETPOINT OF 20 DEG. F (ADJ.). IF THE OA BYPASS DAMPER REACHES 100% OPEN FOR 5 MINUTES (ADJ.), THE WHEEL SHALL BE TURNED OFF TO PREVENT FROSTING.

3.11 MINIMUM OUTSIDE AIR

3.11.1 THE OUTSIDE AIR DAMPER SHALL BE OPEN TO THE MINIMUM OUTSIDE AIR CFM SETTING ANYTIME THE UNIT IS OPERATING. THE OUTSIDE AIR DAMPER SHALL BE CLOSED WHEN THE UNIT IS DISABLED.

3.11.2 THE UNIT SHALL OVERRIDE NORMAL OUTSIDE AIR DAMPER OPERATION AND MODULATE THE DAMPER TO MAINTAIN OUTSIDE AIRFLOW SETPOINT.

3.12 DEHUMIDIFICATION

3.12.1 A FACTORY-INSTALLED HOT GAS REHEAT (HGRH) COIL SHALL BE AVAILABLE ON THE LEAD CIRCUIT OR WITH A SECOND COIL FOR REHEAT BOTH REFRIGERANT CIRCUITS. CYCLING OR MODULATING HGRH SHALL BE AVAILABLE.

3.12.2 THE UNIT CONTROLLER SHALL MEASURE THE RETURN/EXHAUST AIR HUMIDITY AND OVERRIDE THE COOLING SEQUENCE TO MAINTAIN RETURN AIR HUMIDITY AT OR BELOW 60% RH (ADJ.). DEHUMIDIFICATION SHALL BE CAPABLE OF BEING ENABLED WHENEVER THE SUPPLY FAN STATUS IS ON.

3.12.3 DURING DEHUMIDIFICATION THE COOLING SHALL OPERATE TO MAINTAIN RETURN/EXHAUST AIR HUMIDITY AND THE REHEAT HOT GAS BYPASS COIL SHALL REHEAT THE AIR TO DISCHARGE AIR TEMPERATURE SETPOINT.

3.13 FILTER DIFFERENTIAL PRESSURE SWITCHES

A DIFFERENTIAL PRESSURE SWITCH SHALL MONITOR THE DIFFERENTIAL PRESSURE ACROSS THE FILTER\ WHEN THE FAN IS RUNNING. IF THE SWITCH CLOSES DURING NORMAL OPERATION A DIRTY FILTER ALARM SHALL BE ANNUNCIATED AT THE BAS.

3.14 SMOKE DETECTORS

THE SMOKE DETECTORS SHALL BE INSTALLED AT THE SUPPLY AND RETURN/EXHAUST DUCT AT THE DOAS-2 UNIT. UPON ACTIVATION OF THE SMOKE DETECTOR, A SIGNAL SHALL BE SENT TO THE BUILDING'S FIRE ALARM PANEL. THE BUILDING'S FIRE ALARM PANEL SHALL SHUTDOWN THE DOAS-2 UNIT.

# SEQUENCE OF OPERATION (CONT.)

4. <u>CONDENSER WATER LOOP SYSTEM (PUMPS P-1 & P-2, BOILERS B-1 & B-2, COOLING TOWER CT-1)</u>

4.1 GENERAL:

4.1.1 CONDENSER WATER LOOP TEMPERATURE SETPOINTS: WHEN THE CONDENSER WATER LOOP TEMPERATURE REACHES MAXIMUM SETPOINT THE COOLING TOWER TURNS ON TO REJECT HEAT AND HOLD THE MAXIMUM SETPOINT. WHEN THE CONDENSER WATER LOOP TEMPERATURE REACHES MINIMUM SETPOINT THE BOILER(S) TURNS ON TO HOLD MINIMUM SETPOINT. SET MAXIMUM / MINIMUM CONDENSER WATER SETPOINTS AT 95 °F / 60°F (ADJUSTABLE).

4.1.2 SYSTEM ENABLE MODE: THE CONDENSER WATER LOOP SYSTEM SHALL BE ENABLED WHENEVER SYSTEM IS SCHEDULED “ON” VIA BMS CONTROL SYSTEM. A MANUAL OVERRIDE OF THE BMS CONTROL SYSTEM SHALL BE PROVIDED TO ALLOW THE OPERATOR TO MANUALLY “ENABLE” THE SYSTEM.

4.2 CONDENSER WATER CIRCULATING PUMPS (P-1 AND P-2)

4.2.1 THE PUMP SHALL BE CONTROLLED BY A LOCAL UNIT CONTROLLER CONNECTED TO THE BMS SYSTEM.

4.2.2 SYSTEM ENABLE: THE LEAD PUMP SHALL BE COMMANDED “ON” AFTER THE CONDENSER WATER SYSTEM IS ENABLED AND THE CONDENSING WATER SUPPLY CONFIRMS STEADY FLOW BY A FLOW METER LOCATED IN THE CONDENSER WATER LOOP.

4.2.3 SYSTEM DISABLE: THE LEAD PUMP SHALL BE COMMANDED “OFF” IMMEDIATELY IF EITHER THE COOLING TOWER BYPASS CONTROL VALVE OR/AND THE BOILER BYPASS CONTROL VALVE IS NOT PROVEN “OPEN" BY ITS POSITION SWITCH, OR THE CONDENSER WATER LOOP DOES NOT HAVE A STEADY FLOW. OTHERWISE, WHEN THE LOOP WATER SYSTEM IS DISABLED, THE LEAD LOOP WATER PUMP SHALL REMAIN “ON” FOR AN ADDITIONAL 30 MINUTES (ADJ.).

4.2.4 LEAD / LAG CONTROL: EACH LOOP WATER PUMP SHALL BE MONITORED BY A CURRENT SWITCH (P#CS) FOR THE OPERATIONAL STATUS OF THE PUMP. IF THE LEAD PUMP FAILS TO OPERATE AFTER A DELAY OF 30 SECONDS (ADJ.), THE LAG PUMP SHALL BE COMMANDED “ON”. WHEN THE LAG PUMP IS STARTED IN AN ALARM CONDITION, THE LEAD PUMP SHALL BE COMMANDED “OFF”.

4.2.5 LEAD ROTATION: THE LEAD PUMP SHALL BE ROTATED EVERY 168 HOURS (ADJUSTABLE) OF ACCUMULATED RUN TIME OR VIA A MANUAL SELECTION POINT ON THE GRAPHICAL USER INTERFACE (GUI).

4.2.6 WATER SYSTEM PRESSURE CONTROL: A DIFFERENTIAL PRESSURE SENSOR (DPT), AS SHOWN ON THE DRAWINGS, SHALL MONITOR DIFFERENTIAL PRESSURE IN THE CONDENSER WATER SYSTEM. WHEN AN INCREASE IN THE SYSTEM PRESSURE (SWDP) IS ABOVE THE LOOP SYSTEM DIFFERENTIAL PRESSURE SETPOINT (SWDPSP), THE BMS VIA BACNET MS/TP DDC CONTROLLER SHALL MODULATE THE PUMP VARIABLE FREQUENCY DRIVE SPEED UNTIL THE SYSTEM DIFFERENTIAL PRESSURE (SWDP) LOWERS TO THE SYSTEM DIFFERENTIAL PRESSURE SETPOINT (SWDPSP). WHEN A DECREASE IN THE SYSTEM PRESSURE (SWDP) IS BELOW THE LOOP SYSTEM DIFFERENTIAL PRESSURE SETPOINT (SWDPSP), THE BMS SHALL MODULATE THE PUMP VARIABLE FREQUENCY DRIVE SPEED UNTIL THE SYSTEM DIFFERENTIAL PRESSURE (SWDP) RISES TO THE SYSTEM DIFFERENTIAL PRESSURE SETPOINT (SWDPSP). THE DIFFERENTIAL SETPOINT (SWDPSP) SHALL BE 20 PSIG (ADJUSTABLE). THE VFD'S AT THE PUMPS SHALL BE PROVIDED WITH A RAMP UP/DOWN TIME DELAY. THE TIME DELAY SHALL ALLOW THE PUMPS TO RAMP UP/DOWN SPEED OVER A 2 MINUTE PERIOD (ADJUSTABLE) WHEN THEY ARE ENABLED.

4.2.7 CONDENSER WATER LOOP FLOW MONITORING: A CONDENSER LOOP WATER SYSTEM BYPASS CONTROL VALVE (SWBYP) SHALL BE NORMALLY CLOSED. A FLOW METER (SWFL) SHALL MONITOR THE CONDENSER WATER FLOW RATE AND SEND A SIGNAL TO MODULATE 2-WAY CONTROL VALVE AT THE BYPASS SO THAT THE MINIMUM FLOW THROUGH THE SYSTEM IS SATISFIED. SET MINIMUM FLOW SET POINT AT 100 GPM (ADJUSTABLE).

4.2.8 COOLING TOWER MAKEUP WATER MONITORING: A FLOW METER SHALL MEASURE THE AMOUNT OF WATER PROVIDE TO THE COOLING TOWER BASIN SYSTEM. WHEN THE MAKE-UP WATER FLOW EXCEEDS THAT MAKE-UP WATER FLOW SETPOINT OF 3 GPM (ADJUSTABLE) IN ANY 10 MINUTE (SLIDING TIME WINDOW) PERIOD, THE BACNET DDC CONTROLLER SHALL GENERATE AN ALARM. THE BMS SHALL CALCULATE ACCOMULATIVE AMOUNT OF THE MAKEUP WATER PROVIDED TO THE COOLING TOWER ON DAILY, MONTHLY & YEARLY (ADJUSTABLE) BASIS.

4.3 SYSTEM IN HEAT REJECTION MODE

4.3.1 INITIAL CONDITIONS:

4.3.1.1 A CONDENSER WATER LOOP PUMP (P-1 OR P-2) IS COMMANDED “ON”.

4.3.1.2 THE COOLING TOWER BYPASS CONTROL VALVE IS COMMANDED “OPEN” (CTBV) AND IS PROVEN “OPEN” BY ITS POSITION SWITCH (CTB-O).

4.3.1.3 THE COOLING TOWER ISOLATION CONTROL VALVES ARE COMMANDED “SHUT” AND ARE PROVEN “SHUT” BY THEIR POSITION SWITCHES (CTS-S AND CTR-S).

4.3.1.4 THE BOILERS' BYPASS CONTROL VALVE IS COMMANDED “OPEN” (BBV) AND IS PROVEN “OPEN” BY ITS POSITION SWITCH (BB-S).

4.3.1.5 THE BOILERS' ISOLATION CONTROL VALVES ARE COMMANDED “SHUT” AND ARE PROVEN “SHUT” BY THEIR POSITION SWITCHES (BS-S AND BR-S).

4.3.2 CHANGEOVER TO HEAT REJECTION:

4.3.2.1 A CONDENSER WATER LOOP PUMP (P-1 OR P-2) SHALL REMAIN COMMANDED “ON”.

4.3.2.2 THE BOILERS' BYPASS CONTROL VALVE SHALL REMAIN “OPEN”.

4.3.2.3 THE BOILERS' ISOLATION CONTROL VALVES SHALL REMAIN “SHUT”.

4.3.2.4 THE COOLING TOWER ISOLATION CONTROL VALVES (CTSV AND CTRV) SHALL BE COMMANDED “OPEN” AND AFTER BOTH ARE PROVEN “OPEN” BY THEIR POSITION SWITCHES (CTS-O AND CTR-O) THE COOLING TOWER BYPASS CONTROL VALVE (CTBV) SHALL BE COMMANDED “SHUT” AND SHALL BE PROVEN “SHUT” BY ITS POSITION SWITCH (CTB-S).

4.3.3 COOLING TOWER CT-1 CONTROL (HEAT REJECTION)

4.3.3.1 GENERAL OPERATION: THE COOLING TOWER MANUFACTURER (UM) SHALL PROVIDE FACTORY THE COOLING TOWER FAN VFD WITH A BACNET COMMUNICATION CARD AND THEIR ASSOCIATED SAFETY CIRCUITRY (VIBRATION SHUTDOWN, OVERLOADS, ETC.), BASING HEATER, WATER MAKEUP VALVE W/ Y-STRAINER. OPERATION OF THE COOLING TOWER SHALL STAGE ITS COMPONENTS (SPRAY PUMP, FAN, ETC.) IN SEQUENCE TO MAINTAIN CONDENSER WATER SUPPLY TEMPERATURE SETPOINT.

4.3.3.2 SYSTEM ENABLE: THE COOLING TOWER CONTROL SHALL BE ENABLED WHEN THE COOLING TOWER SUPPLY AND RETURN CONTROL VALVES ARE BOTH PROVEN “OPEN” BY THEIR POSITION SWITCHES (CTS-O / CTR-O)

4.3.3.3 TEMPERATURE CONTROL: THE BACNET MS/TP DDC CONTROLLER SHALL CONTROL THE COOLING TOWER SPRAY PUMP (TSPSS) AND THE COOLING TOWER FAN (CTFSS) VARIABLE FREQUENCY DRIVE SPEED (CTFAO) TO MAINTAIN THE CONDENSER WATER LOOP TEMPERATURE SETPOINT (SWSP). WHEN THE LOOP WATER RETURN TEMPERATURE (SWR) IS HIGHER THAT THE LOOP WATER SETPOINT (SWSP), THE BMS SHALL COMMAND “ON” THE COOLING TOWER SPRAY PUMP (TSPSS). IF THE CONDENSER WATER RETURN TEMPERATURE (SWR) IS STILL HIGHER THAN THE LOOP WATER SETPOINT (SWSP), THE COOLING TOWER FAN (CTFSS) SHALL BE COMMANDED “ON”, THEN THE COOLING TOWER FAN VFD SPEED (CTFAO) SHALL MODULATE THE UPWARD TO 100%. THE REVERSE SEQUENCE SHALL OCCUR AS THE LOOP WATER RETURN TEMPERATURE (SWR) LOWERS TO THE LOOP WATER SETPOINT (SWSP).

4.3.3.4 SUB-FREEZING WEATHER (UNIT OPERATING): DURING SUB-FREEZING WEATHER THE MINIMUM RECOMMENDED SPEED FOR VARIABLE SPEED CONTROLLERS IS 50%. DURING OPERATION A MINIMUM BASIN WATER TEMPERATURE OF 40ºF (ADJ.) MUST BE MAINTAINED TO PREVENT FREEZING. MINIMUM CONTROL POINT FOR PROCESS FLUID SHOULD NEVER BE LOWER THAN 50º F (ADJ.). WHEN THE UNIT IS IN OPERATION DURING FREEZING WEATHER CAPACITY CONTROL REQUIREMENTS ARE 50% FAN SPEED AND MINIMUM FLOW RATE AT 250 GPM (ADJ.) - THE PROCESS FLUID TEMPERATURES SHALL NOT DROP BELOW 50 DEG. F (ADJ.).

4.3.3.5 SUB-FREEZING WEATHER (UNIT OFF): BASIN HEATER SHALL OPERATE TO KEEP THE RECIRCULATING WATER FROM FREEZING WHEN THE RECIRCULATION PUMP IS OFF. THE UNIT FAN SHALL NOT OPERATE WHEN THE RECIRCULATION PUMP IS OFF. THE BASIN HEATER SHALL MAINTAIN 40 DEG. F. (ADJUSTABLE) BASIN WATER TEMPERATURE AT A 0 DEG. F AMBIENT TEMPERATURE WHEN THE UNIT COMPLETELY SHUT DOWN.

4.3.3.6 ICE MANAGEMENT (DEFROST CYCLE): DURING DEFROST CYCLE THE FAN SHALL BE OPERATE IN REVERSE AT 50% FAN SPEED WHILE THE RECIRCULATING PUMP FLOW WATER THROUGH THE UNIT'S COIL CONDENSER WATER SYSTEM AT 250 GPM (ADJ.). THE DEFROST CYCLE SHALL BE MANUALLY SELECTABLE AT THE BMS OR AUTOMATIC IF OPERATOR HAS DEFINED FREQUENCY AND LENGTH.

4.3.3.7 COOLING TOWER FAN VIBRATION: THE COOLING TOWER MANUFACTURER (UM) SHALL PROVIDE, FACTORY INSTALL & WIRE A VIBRATION SWITCH. IF THE COOLING TOWER HAS EXCESSIVE VIBRATION, THE SWITCH SHALL SHUTDOWN THE COOLING TOWER FAN; PROVIDE A NORMALLY “CLOSED” CONTACT “ON” THE VIBRATION SWITCH.

4.3.3.8 BASIN WATER LEVEL CONTROL: THE BMS SHALL MONITOR THE WATER LEVEL. UPON LOW LEVEL ALARM BEING TRIGGERED AN ALARM SHALL GENERATE AT THE BMS AND THE ELECTRIC MAKEUP VALVE SHALL OPEN. THE ELECTRIC MAKEUP VALVE SHALL REMAIN OPEN UNTIL THE SUMP HIGH LEVEL ALARM IS TRIGGERED. UPON HIGH LEVEL ALARM BEING TRIGGERED AN ALARM SHALL GENERATE AT THE BMS AND THE MAKEUP WATER ISOLATION VALVE SHALL CLOSE. ELECTRIC MAKEUP VALVE WIRED AS PER COOLING TOWER MANUFACTURER'S DIRECTIONS.


US Army Corps of Engineers ®

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## SEQUENCE OF OPERATION (CONT.)

4.3.3.9 HEAT TRACING AND THERMAL INSULATION SHALL BE PROVIDED FOR THE COOLING TOWER MOUNTED SPRAY PUMP AND SPRAY PIPING, STANDPIPE ASSEMBLY, MAKEUP PIPING AND SOLENOID VALVE, OVERFLOW AND DRAIN LINES, ANY OTHER CONNECTIONS OT ACCESSORIES AT OR BELOW THE WATER LEVEL SUCH AS ELECTRONIC WATER LEVEL CONTROLLERS. THE CONTRACTOR SHALL PROVIDE, FIELD INSTALL & WIRE THE HEAT TRACING SYSTEM WHICH SHALL OPERATE UNDER BUILT IN CONTROL (BY HEAT TRACING UNIT MANUFACTURER) AND AS SHOWN ON THE ELECTRICAL DRAWINGS. INTEGRATE OPERATION OF THE HEAT TRACING SYSTEM TO THE BMS FOR MONITORING AND ALARMS.

4.3.3.10 WHEN HEAT REJECTION IS NO LONGER REQUIRES AS IT DETERMINED BY THE WATER LOOP TEMPERATURE SENSOR, THE SYSTEM SHALL OPERATE AS FOLLOWS:

4.3.3.10.1 A CONDENSER WATER LOOP PUMP (P-1 OR P-2) SHALL REMAIN "ON" OPERATING FOR 45 MINUTES (ADJ.) AND SHUTDOWN.

4.3.3.10.2 POSITION OF ALL CONTROL VALVES AT THE COOLING TOWER AND BOILERS SHALL BE AS STATED IN PARAGRAPHS 4.3.1.2 THROUGH 4.3.1.5 ABOVE.

4.3.4 COOLING TOWER WATER TREATMENT SYSTEM

4.3.4.1 THE WATER TREATMENT SYSTEM SHALL OPERATED UNDER BUILT IN CONTROL (BY EQUIPMENT MANUFACTURER). THE BAS SYSTEM SHALL MONITOR OPERATION OF THE WATER TREATMENT SYSTEM.

4.4 SYSTEM IN HEAT INJECTION MODE

4.4.1 INITIAL CONDITIONS

4.4.1.1 A CONDENSER WATER LOOP PUMP (P-1 OR P-2) IS COMMANDED "ON".

4.4.1.2 THE COOLING TOWER BYPASS CONTROL VALVE IS COMMANDED "OPEN" (CTBV) AND IS PROVEN BY ITS POSITION SWITCH (CTB-O).

4.4.1.3 THE COOLING TOWER ISOLATION CONTROL VALVES ARE COMMANDED "SHUT" AND ARE PROVEN "SHUT" BY THEIR POSITION SWITCHES (CTS-S AND CTR-S).

4.4.1.4 THE BOILERS' BYPASS CONTROL VALVE IS COMMANDED "OPEN" (BBV) AND IS PROVEN "OPEN" BY ITS POSITION SWITCH (BB-S).

4.4.1.5 THE BOILERS' ISOLATION CONTROL VALVES ARE COMMANDED "SHUT" AND ARE PROVEN "SHUT" BY THEIR POSITION SWITCHES (BS-S AND BR-S).

4.4.2 CHANGEOVER TO HEAT INJECTION:

4.4.2.1 A CONDENSER WATER LOOP PUMP (P-1 OR P-2) SHALL REMAIN COMMANDED "ON".

4.4.2.2 THE COOLING TOWER BYPASS CONTROL VALVE SHALL REMAIN "OPEN".

4.4.2.3 THE COOLING TOWER ISOLATION CONTROL VALVES SHALL REMAIN "SHUT").

4.4.2.4 THE BOILERS' ISOLATION CONTROL VALVES (BSV AND BRV) SHALL BE COMMANDED "OPEN" AND AFTER BOTH ARE PROVEN "OPEN" BY THEIR POSITION SWITCHES (BS-O AND BR-O) THE BOILERS' BYPASS CONTROL VALVE (BBV) SHALL BE COMMANDED "SHUT" AND SHALL BE PROVEN "SHUT" BY ITS POSITION SWITCH (BB-S).

4.4.3 BOILER CONTROL (BOILERS B-1 & B-2)

4.4.3.1 GENERAL: THE BOILER MANUFACTURER (UM) SHALL PROVIDE BOILER WITH ALL ASSOCIATED SAFETIES AND CONTROLS.

4.4.3.2 SYSTEM ENABLE: THE HOT WATER BOILER CONTROL SHALL BE ENABLED (BCPSS) WHEN A WATER FLOW IN THE LOOP IS PROVEN BY A WATER FLOW SWITCH. THE BMS VIA BACNET MS/TP DDC CONTROLLER SHALL STAGE FIRING RATE OF THE HOT WATER BOILERS TO MAINTAIN THE HOT WATER SETPOINT (HWSP). WHEN THE HOT WATER SUPPLY TEMPERATURE (HWS) IS LESS THAN THE HOT WATER SETPOINT (HWSP) THE BMS VIA BACNET MS/TP DDC CONTROLLER SHALL COMMAND ON THE HOT WATER BOILERS SEQUENTIALLY. THE REVERSE SEQUENCE SHALL OCCUR AS THE HOT WATER SUPPLY TEMPERATURE (HWS) RAISES TO THE HOT WATER SETPOINT (HWSP). SET SUPPLY HOT WATER TEMPERATURE SET POINT AT 95°F (ADJUSTABLE).

4.4.3.3 LEAD / LAG CONTROL: EACH HOT WATER BOILER SHALL BE MONITORED FOR THE OPERATIONAL STATUS OF THE BOILER. IF THE LEAD HOT WATER BOILER FAILS TO OPERATE, THE LAG HOT WATER BOILER SHALL BE COMMANDED "ON". WHEN THE LAG HOT WATER BOILER IS STARTED IN AN ALARM CONDITION, THE LEAD HOT WATER BOILER SHALL BE COMMANDED "OFF".

4.4.3.4 LEAD ROTATION: THE LEAD HOT WATER BOILER SHALL BE ROTATED EVERY 168 HOURS OF ACCUMULATED RUN TIME OR VIA A MANUAL SELECTION POINT ON THE GUI.

4.4.3.5 THE BOILERS CONTROL SHALL BE INTEGRATED TO BMS AND MONITOR THE BOILER MANAGEMENT PANEL, INCLUDING THE ENABLING (BCPSS) AND FAULT (BCPFLT).

4.4.3.6 EMERGENCY BOILER SHUTOFF SWITCH: ACTIVATION OF THE EMERGENCY SHUTOFF SWITCH SHALL IMMEDIATELY SHUTDOWN ALL BOILERS BY DISCONNECTING THE BOILERS FROM ALL SOURCES OF POWER TO THE BURNER CONTROLS.

4.4.3.7 WHEN HEAT INJECTION IS NO LONGER REQUIRES AS IT DETERMINED BY THE WATER LOOP TEMPERATURE SENSOR LOCATED AT THE CONDENSER LOOP, THE SYSTEM SHALL OPERATE AS FOLLOWS:

4.4.3.7.1 A CONDENSER WATER LOOP PUMP (P-1 OR P-2) SHALL REMAIN "ON" OPERATING FOR 45 MINUTES (ADJ.) AND SHUTDOWN.

4.4.3.7.2 POSITION OF ALL CONTROL VALVES AT THE COOLING TOWER AND BOILERS SHALL BE AS STATED IN PARAGRAPHS 4.3.1.2 THROUGH 4.3.1.5 ABOVE.

5. COMPUTER ROOM AIR CONDITIONING UNITS (CRAC-1/CRACC-1, CRAC-2/CRACC-2 & CRAC-3/CRACC-3)

5.1 GENERAL: THE UNIT MANUFACTURER (UM) SHALL PROVIDE THE UNITS WITH ALL INTERNAL CONTROLS AND SEQUENCES TO PERFORM THEIR FUNCTIONS. THE CONTRACTOR SHALL PROVIDE A BACNET MS/TP DDC CONTROLLER, SENSORS, RELAYS, STATUS SENSORS TO MONITOR THE UNITS ALARM CONDITION, EXTERNAL INTERLOCK WIRING WITH TERMINATION BETWEEN THE INDOOR CRAC AND ITS ASSOCIATED OUTDOOR CRACC CONDENSING UNIT, INTEGRATION OF THE UNITS' CONTROLS INTO BMS.

5.2 THE UNIT SHALL OPERATE UNDER BUILT-IN CONTROLS BY UNIT MANUFACTURER. THE UNIT SHALL ENABLE CONTINUOUSLY AND OPERATE AS REQUIRED TO MAINTAIN SPACE TEMPERATURE AND HUMIDITY SET POINTS VIA THE SPACE MOUNTED HUMIDISTAT AND THERMOSTAT. SET SPACE TEMPERATURE AT 72 (ADJUSTABLE) AND HUMIDITY AT 45 °F (ADJUSTABLE).

5.3 LEAK DETECTOR: A LEAK DETECTOR IN THE UNIT SHALL BE PROVIDED BY UNIT MANUFACTURE THE LEAK DETECTOR SHALL BE WIRED TO THE UNIT SUCH THAT WHEN A LEAK IS DETECTED THE UNIT SHALL SHUT DOWN AND AN ALARM SHALL BE ANNUNCIATED AT THE BMS.

5.4 AUXILIARY DRAIN PAN WITH A LEAK DETECTOR: A LEAK DETECTOR SHALL BE PROVIDED BY THE CONTRACTOR. THE LEAK DETECTOR SHALL BE WIRED TO THE UNIT SUCH THAT WHEN A LEAK IS DETECTED THE UNIT SHALL SHUT DOWN AND AN ALARM SHALL BE ANNUNCIATED AT THE BMS.

6. SPLIT SYSTEM HEAT PUMP UNIT (HP-1/HPC-1)

6.1 THE UNIT SHALL OPERATE UNDER BUILT-IN CONTROLS BY UNIT MANUFACTURER. THE UNIT SHALL ENABLE CONTINUOUSLY AND OPERATE AS REQUIRED TO MAINTAIN SPACE TEMPERATURE SET POINT VIA THE SPACE MOUNTED TEMPERATURE SENSOR.

6.2 SPACE TEMPERATURE SENSOR (RMT): THE UNIT MANUFACTURER SHALL PROVIDE SPACE TEMPERATURE SENSORS (RMT) WITH A LCD SCREEN DEPICTING THE TEMPERATURE & SETPOINTS. THE SPACE TEMPERATURE SENSOR (RMT) SHALL HAVE A LOCALLY ADJUSTABLE HEATING AND COOLING SETPOINT (RMSP). THE SETPOINTS SHALL BE SET AT 74 °F (ADJUSTABLE).

7.1. MAKE-UP AIR UNIT MUA-1 AND EXHAUST FAN EF-3 (SERVICING KITCHEN HOOD IN THE KITCHEN 1023)

7.1 OPERATION OF THE MUA-1 UNIT AND THE EF-3 EXHAUST FAN SHALL BE UNDER THE CONTROL PANEL OF THE KITCHEN HOOD (BY KITCHEN HOOD SUPPLIER).

7.2 OPERATION OF THE EF-3 FAN SHALL BE MONITORED/CONTROLLED BY CONTROL PANEL OF THE KITCHEN HOOD.

7.3 INITIAL START OF THE MUA-1 AND EF-3 UNITS SHALL BE DETERMINED BY A MANUAL OPERATOR COMMAND, INITIATING PRE-PROGRAMMED CONTROL ALGORITHM, RESIDING IN THE CONTROL CENTER OF THE KITCHEN HOOD.

7.3.1 WHEN OPERATION OF THE KITCHEN HOOD IS INITIATED, THE SUPPLY FAN IN THE MUA-1 SHALL OPERATE CONTINUOUSLY. THE OUTSIDE AIR DAMPER AT THE UNIT SHALL OPEN, AND THE NATURAL GAS FURNACE SHALL MODULATE AS REQUIRED TO MAINTAIN THE DISCHARGE AIR TEMPERATURE (AS DETECTED BY A DUCT MOUNTED TEMPERATURE SENSOR) AT 68°F (ADJUSTABLE). THE MUA-1 UNIT SHALL DE-ENERGIZE WHEN THE KITCHEN HOOD IS NOT OPERATING, THE OUTSIDE AIR DAMPER SHALL BE CLOSED, AND THE NATURAL GAS FURNACE SHALL DE-ENERGIZE.

7.3.2 WHEN OPERATION OF THE KITCHEN HOOD IS INITIATED, THE EXHAUST FAN EF-3 SHALL OPERATE CONTINUOUSLY. THE EF-3 FAN SHALL DE-ENERGIZE WHEN THE KITCHEN HOOD IS NOT OPERATING.

7.4 EMERGENCY MODE

IF THE FREEZESTAT LOCATED AT DOWNSTREAM OF THE NATURAL GAS FURNACE OF THE MUA-1 UNIT DETECTS THE TEMPERATURE BELOW 45°F (ADJUSTABLE), THE SUPPLY FAN SHALL STOP, THE OUTSIDE AIR DAMPER SHALL CLOSE. ALARM CONDITION WHEN THE UNIT IN THE EMERGENCY MODE TO THE BMS.

## SEQUENCE OF OPERATION (CONT.)

8. GLYCOL MAKE-UP PACKAGE (GP-1)

8.1 THE GLYCOL PACKAGE WILL OPERATE UNDER BUILT-IN CONTROLS (BY UNIT MANUFACTURER) AND WILL MAINTAIN A CONSISTENT PRESSURE IN CLOSED CONDENSER WATER SYSTEM LOOP BY FEEDING GLYCOL ON A PRESSURE DROP.

8.2 GLYCOL PANEL SYSTEM MONITORING: THE CONTRACTOR SHALL INTEGRATE TO BMS (BACNET) AND MONITOR THE GLYCOL SYSTEM PANEL, INCLUDING STATUS (GPCS) AND FAULT (GCPFLT).

8.3 IF THE GLYCOL MAKE-UP PACKAGE IS SHUT DOWN BY THE BUILT-IN SAFETY CONTROLS, THE AUDIBLE AND VISUAL ALARM SHALL INITIATE AT THE LOCAL GLYCOL MAKE-UP PACKAGE CONTROL PANEL. AN ALARM SIGNAL SHALL BE SENT TO BMS.

9. EXHAUST FANS EF-1 & EF-5 AND MOTOR OPERATED DAMPERS BEHIND LOUVERS (MECHANICAL AND ELECTRICAL ROOM VENTILATION)

9.1 GENERAL: THE CONTRACTOR SHALL PROVIDE A CONTROL RELAY (R), A CURRENT SWITCH (CS), AND DAMPER STATUS END-SWITCH (ES) TO COMMAND (EFSS OR SFSS) AND MONITOR (EFST OR SFST) THE FAN. PROVIDE WALL MOUNTED THERMOSTATS IN EACH ROOM WITH MANUAL ON/OFF/AUTO OVERRIDE SWITCH.

9.2 INTERLOCK OPERATION AS FOLLOWS:
A. EXHAUST FAN EF-1 WITH MOTOR OPERATED DAMPERS AT THE FAN AND BEHIND THE AIR INTAKE LOUVER IN THE MECHANICAL ROOM.
B. EXHAUST FAN EF-5 WITH MOTOR OPERATED DAMPERS AT THE FAN AND BEHIND THE AIR INTAKE LOUVER IN THE ELECTRICAL ROOM.

9.3 IF THE SPACE AIR TEMPERATURE RISES ABOVE THE SET POINT, THE EXHAUST FAN SHALL START AND OPERATE CONTINUOUSLY. THE EXHAUST FAN SHALL NOT OPERATE UNTIL THE END SWITCHES AT THE RESPECTIVE MOTOR OPERATED DAMPERS INDICATE THAT ALL DAMPERS ARE OPEN.

9.4 WHEN THE SPACE TEMPERATURE DROPS BELOW THE SET POINT, THE EXHAUST FAN SHALL STOP AND ALL RESPECTIVE MOTOR OPERATED DAMPERS SHALL CLOSE.

9.5 THE BMS SHALL MONITOR THE SPACE TEMPERATURE AND STATUS OF THE EXHAUST FAN AND ALL RESPECTIVE MOTOR OPERATED DAMPERS.

9.6 SET SPACE TEMPERATURE SET POINT AT 80°F (ADJUSTABLE).

10. SUPPLY FAN SF-1 AND EXHAUST FAN EF-2 (VENTILATION FOR THE EXISTING EMERGENCY GENERATOR)

10.1 GENERAL: THE CONTRACTOR SHALL PROVIDE A CONTROL RELAY (R), A CURRENT SWITCH (CS), AND DAMPER STATUS END-SWITCH (ES) TO COMMAND (EFSS OR SFSS) AND MONITOR (EFST OR SFST) THE FANS.

10.2 INTERLOCK OPERATION OF THE SUPPLY AND EXHAUST FANS, MOTOR OPERATED DAMPERS AT EACH FAN WITH THE EXISTING EMERGENCY GENERATOR LOCATED IN THE MECHANICAL ROOM.

10.3 WHEN THE EXISTING EMERGENCY GENERATOR IS ON, THE SUPPLY AND EXHAUST FANS SHALL START AND OPERATE CONTINUOUSLY. THE SUPPLY OR EXHAUST FAN SHALL NOT OPERATE UNTIL THE END SWITCHES AT THE RESPECTIVE MOTOR OPERATED DAMPERS INDICATE THAT ALL DAMPERS ARE OPEN.

10.4 WHEN THE EXISTING EMERGENCY GENERATOR IS OFF, THE SUPPLY AND EXHAUST FANS SHALL STOP AND ALL RESPECTIVE MOTOR OPERATED DAMPERS SHALL CLOSE.

10.5 THE BMS SHALL MONITOR STATUS OF THE SUPPLY AND EXHAUST FANS AND ALL RESPECTIVE MOTOR OPERATED DAMPERS.

11. EXHAUST FAN EF-4 (SERVICING KITCHEN HOOD LOCATED IN SCULLERY 1024)

11.1 OPERATION OF THE EF-4 EXHAUST FAN SHALL BE UNDER THE CONTROL PANEL OF THE KITCHEN HOOD (BY KITCHEN HOOD SUPPLIER).

11.2 INITIAL START OF THE EF-4 FAN SHALL BE DETERMINED BY A MANUAL OPERATOR COMMAND, INITIATING PRE-PROGRAMMED CONTROL ALGORITHM, RESIDING IN THE CONTROL CENTER OF THE KITCHEN HOOD.

11.3 WHEN OPERATION OF THE KITCHEN HOOD IS INITIATED, THE EXHAUST FAN EF-4 SHALL OPERATE CONTINUOUSLY. THE EF-4 FAN SHALL DE-ENERGIZE WHEN THE KITCHEN HOOD IS NOT OPERATING.

11.4 OPERATION OF THE EXHAUST FAN SHALL BE MONITORED/CONTROLLED BY CONTROL PANEL OF THE KITCHEN HOOD.

12. HAZARDOUS GAS MONITORING SYSTEM

12.1 THE HAZARDOUS GAS MONITORING SYSTEM SHALL BE PROVIDED IN THE MECHANICAL ROOM AND CONSIST OF:

- DIGITAL GAS DETECTION AND CONTROL SYSTEM
- A WALL MOUNTED CARBON MONOXIDE (CO) SENSOR LOCATED 2-3 FEET ABOVE THE FLOOR
- COMBUSTIBLE GAS (CH4) SENSOR LOCATED 1 FOOT BELOW THE CEILING
- AUDIO/VISUAL ALARMS WITH RESET BUTTON (LOCATED INDOOR AT THE MECHANICAL ROOM DOOR)
- COMBINATION STROBES/HORNS INDICATORS (LOCATED OUTDOOR AT THE MECHANICAL ROOM DOOR)

12.2 INTERLOCK OPERATION OF THE HAZARDOUS GAS DETECTION AND CONTROL SYSTEM WITH AUTOMATIC SAFETY NATURAL GAS SHUTOFF VALVES (VALVES AS SHOWN ON PLUMBING DWGS), BOILERS B-1 & B-2, AND DOMESTIC WATER HEATER DWH-1 (SHOWN ON PLUMBING DRAWINGS).

12.3 WHEN CARBON MONOXIDE (CO) LEVEL RISES ABOVE 25 PPM (ADJUSTABLE) OR COMBUSTIBLE GAS LEVEL RISES ABOVE LOWER EXPLOSIVE LIMIT (LEL) SET POINT OF 20% LEL (ADJUSTABLE ), AN AUDIBLE & VISUAL ALARMS IN AND JUST OUTSIDE THE MECHANICAL ROOM SHALL INITIATE, THE BOILERS B-1 & B-2 AND DOMESTIC WATER HEATER SHALL DISABLE, THE AUTOMATIC SAFETY NATURAL GAS SHUTOFF VALVES SHALL CLOSE. A HARDWIRED CONNECTION SHALL PROVIDE AN ALARM TO THE BMS.

12.5 THE LOCAL ALARM DEVICE SHALL HAVE AN ALARM SILENCE BUTTON.

12.6 WHEN THE CARBON MONOXIDE OR THE COMBUSTION GAS LEVELS DROP BELOW THE SET POINTS, THE HAZARDOUS GAS DETECTION AND CONTROL SYSTEM SHALL DEACTIVATE. START UP OF THE BOILERS AND DOMESTIC WATER HEATER SHALL BE DONE MANUALLY BY OPERATOR.

13. EMERGENCY AIR DISTRIBUTION SHUTOFF SWITCH (TYPICAL FOR 2)

13.1 BUILDING - EMERGENCY SHUTDOWN MODE: THE CONTRACTOR SHALL PROVIDE, INSTALL & WIRE A MANUAL MUSH-ROOM HEAD STYLE, SWITCH WITH A PROTECTIVE FLIP COVER. THIS SWITCH SHALL BE LOCATED AS SHOWN ON DRAWINGS & SHALL ALLOW FOR MANUAL OPERATION.

13.2 SHUTDOWN INITIATION MODE: WHEN THE SWITCH IS PUSHED, ALL OF THE DDC CONTROLLED EQUIPMENT SHALL BE COMMANDED "OFF" INCLUDING:

- CLOSE OUTSIDE AND EXHAUST AIR DAMPERS IN DOAS-1 THROUGH DOAS-6 UNITS
- CLOSE OA INTAKE DAMPER IN MAU-1
- SHUT DOWN EXHAUST FANS EF-1, EF-2, EF-3, EF-4
- SHUT DOWN SUPPLY FAN SF-1
- CLOSE MOTOR OPERATED DAMPERS AT SF-1, EF-1 THRU EF-4 FANS
- CLOSE AIR INTAKE MOTOR OPERATED DAMPER IN THE MECHANICAL ROOM
- CLOSE AIR INTAKE MOTOR OPERATED DAMPER IN THE ELECTRICAL ROOM

13.3 ACTIVATION OF THE EMERGENCY SWITCH SHALL SHUTDOWN THE DDC CONTROLLED EQUIPMENT REGARDLESS OF THEIR OPERATION MODE (OCCUPIED / UNOCCUPIED) AND CLOSE ASSOCIATED LOW LEAKAGE DAMPERS WITH 30 SECONDS OF SWITCH ACTIVATION

13.4 PROVIDE VISIBLE SIGN NEXT TO EACH EMERGENCY SWITCH READING: "EMERGENCY AIR DISTRIBUTION SHUTOFF SWITCH". SEE MECHANICAL DRAWINGS FOR LOCATION OF THE SWITCHES.

14. UTILITY METER DATA MANAGEMENT SYSTEM

14.1 ALL ENERGY USAGE METERS (GAS, WATER AND ELECTRIC) SHALL BE CONNECTED TO THE BMS SYSTEM FOR MONITORING. DATA SHALL BE STORED LOCALLY AT THE BMS.

14.2 THE FOLLOWING DATA SHALL BE MONITORED FOR EACH METER:

- HOURLY LOAD PROFILES FOR EACH DAY
- MONTHLY AVERAGE DAILY LOAD PROFILES
- MONTHLY AND ANNUALLY ENERGY CONSUMPTION
- MONTHLY AND ANNUAL PEAK DEMAND

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CONTRACT NO.: W91QQR20R0038

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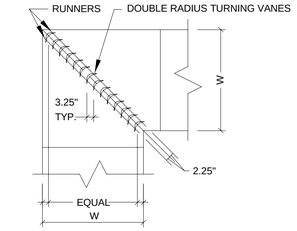
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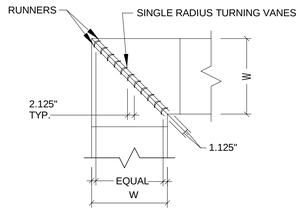
MECHANICAL CONTROL SEQUENCE OF OPERATION - SHEET 2

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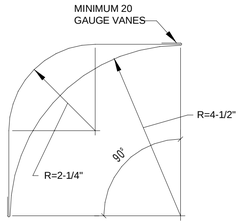
CORRECTED FINAL SUBMISSION - JULY 29, 2021



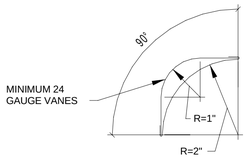

LARGE ELBOW




SMALL ELBOW




LARGE ELBOW TURNING VANE

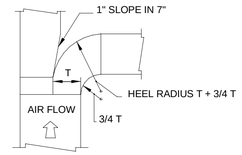



SMALL ELBOW TURNING VANE

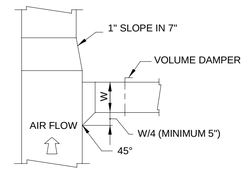
NOTES:
1.FOR DUCT SIZES WHERE W IS BELOW 20 INCHES, USE SMALL ELBOW DETAIL.
2.FOR DUCT SIZES WHERE W IS 20 INCHES AND LARGER, USE LARGE ELBOW DETAIL.
3.ALL VANES SHALL BE SECURE AND STABLE IN OPERATING POSITION.
4.VANES SHALL BE SECURELY FASTENED TO RUNNERS.
5.INSTALL VANES IN SECTIONS OR USE TIE RODS TO LIMIT THE UNBRACED LENGTH TO 60 INCHES.

## 90 SQUARE ELBOW RECTANGULAR DUCTWORK

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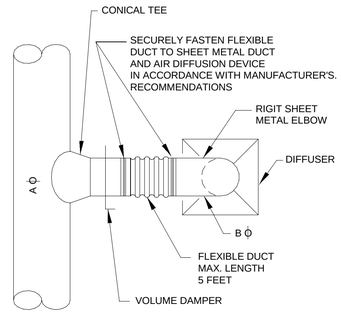

ROUND TAKE-OFF

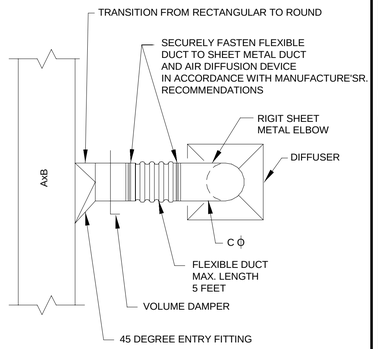



TAP TAKE-OFF

## DUCT DETAILS

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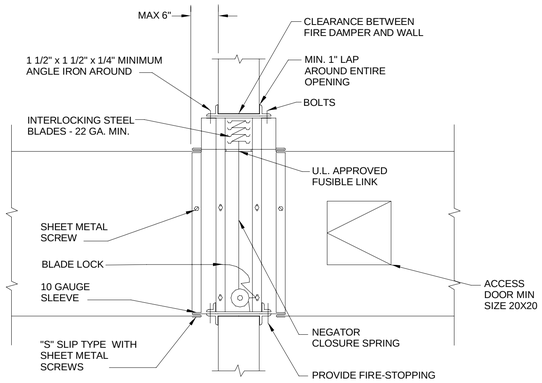



NOTES:
1. DIMENSIONS A, B, AND C AS INDICATED ON THE DRAWINGS.
2. PROVIDE INSULATED FLEXIBLE DUCT UNLESS OTHERWISE NOTED. ROUTE TO DIFFUSER, REGISTER, AND GRILLE WITH MINIMUM BENDS AND DISTANCE.
3. TAP MUST BE A MINIMUM OF 2 INCHES SMALLER THAN MAIN DUCT. SIDE TAP SHOWN, BOTTOM TAP SIMILAR.
4. EXTEND SHEET METAL DUCT TO LIMIT FLEXIBLE DUCT LENGTH TO 5 FEET OR LESS.
5. USE CONICAL TEE FITTING ON ROUND DUCTS AND RECTANGULAR-TO-ROUND TRANSITION FITTING ON RECTANGULAR TO ROUND DUCT WHENEVER POSSIBLE OR UNLESS OTHERWISE INDICATED.
6. PROVIDE MANUAL VOLUME DAMPER WITH QUADRANT HANDLE. SEE SPECIFICATIONS FOR DAMPER REQUIREMENTS.
7. PROVIDE THERMAL INSULATION ON THE BUCK OF THE DIFFUSERS.

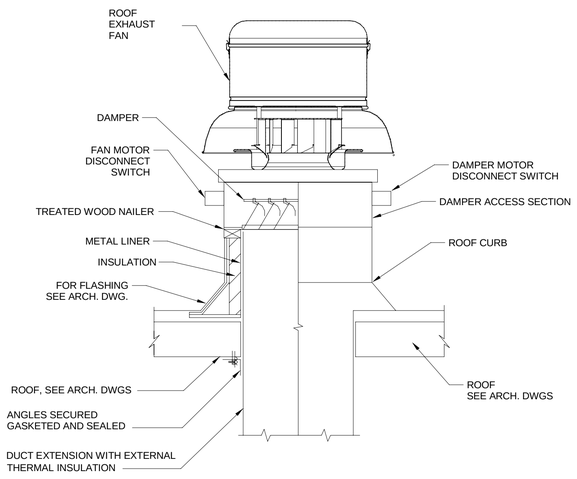
## SUPPLY AIR DIFFUSER DETAIL

NOT TO SCALE




## FIRE DAMPER WALL ASSEMBLY DETAIL

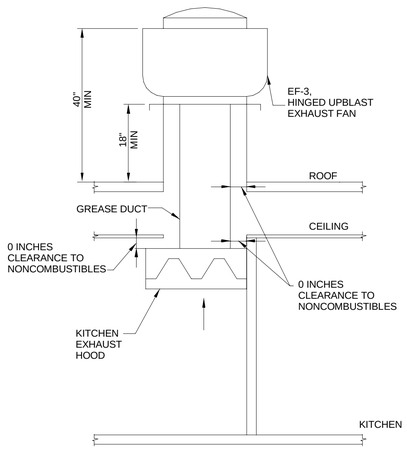
NOT TO SCALE




NOTES:
1. CURBS AND FANS SHALL BE FROM SAME MANUFACTURER.
2. DISCHARGE OEPNING OF THE KITCHEN EXHAUST FAN (EF-3) SHALL BE LOCATED NOT LESS THAN 40 INCHES ABOVE THE ROOF LEVEL. PROVIDE MINIMUM 18 INCHES CURB FOR THE KITCHEN EXHAUST (EF-3)

## ROOF MOUNTED FAN DETAIL

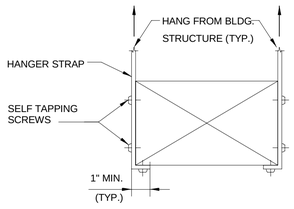
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NOTES:
1. PROVIDE FIRE RATED DUCT WRAP ON THE HORIZONTAL PORTION OF THE EXHAUST DUCT.
2. PROVIDE INSULATION ON MAKEUP AIR DUCT TO THE HOOD. DUCT INSULATION INSTALLED WITHIN 18 INCHES OF THE HOOD SHALL BE NONCOMBUSTIBLE OR SHALL BE LISTED FOR THE APPLICATION.
3. EXHAUST DUCT SHALL BE OF WELDED CONSTRUCTION.

## KITCHEN HOOD EXHAUST SYSTEM

NOT TO SCALE

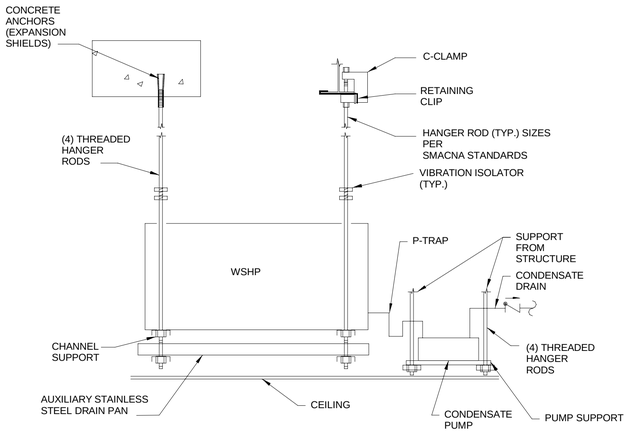



## LOW PRESSURE DUCT

NOTE: DISTANCE BETWEEN DUCT HANGERS SHALL BE IN ACCORDANCE WITH SMACNA STANDARD

## HANGING DUCTWORK DETAIL

NOT TO SCALE




NOTES:
1. PROVIDE CONDENSATE PUMP AT EACH WATER SOURCE HEAT PUMP AT THE DISCHARGE SIDE OF THE P-TRAP. (TYP. FOR 24)
2. PROVIDE CHECK VALVE AT THE DISCHARGE OF THE CONDENSATE PUMP. (TYP. FOR 24)

## WSHP UNIT HANGING DETAIL

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CONTRACT NO.: W912QR20R0038

US ARMY CORPS OF ENGINEERS
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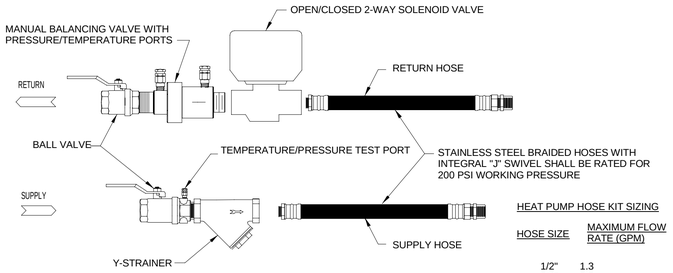
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MECHANICAL DETAILS - SHEET 1

SHEET ID

M-501

CORRECTED FINAL SUBMISSION - JULY 29, 2021




HEAT PUMP HOSE KIT SIZING

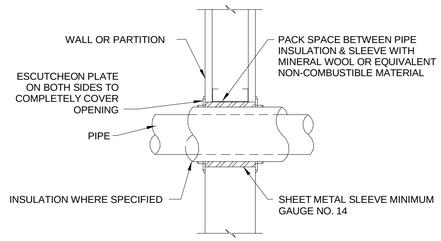
| HOSE SIZE | MAXIMUM FLOW RATE (GPM) |
|---|---|
| 1/2" | 1.3 |
| 3/4" | 3.5 |
| 1" | 8.0 |
| 1 1/4" | 13.0 |
| 1 1/2" | 21.0 |

NOTES:

1. PROVIDE PERMANENT TAG FOR BALANCING VALVE.
2. REFER TO WATER SOURCE HEAT PUMPS SCHEDULE FOR FLOW RATES.
3. MAXIMUM PRESSURE DROP THRU HOSE KIT SHALL NOT EXCEED 2 PSI.

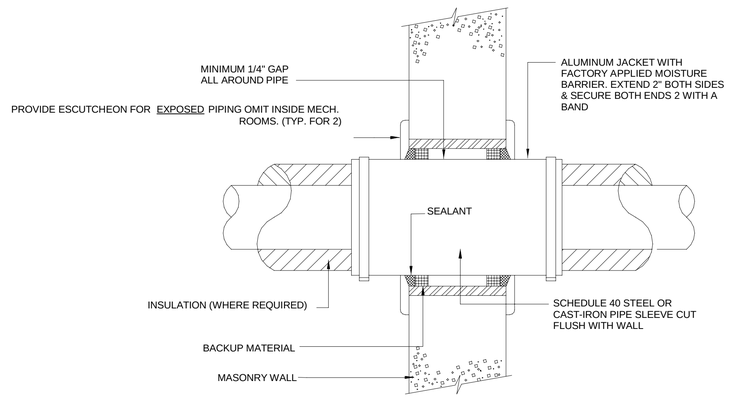
## TYPICAL HOSE KIT DETAIL FOR WSHP AND DOAS UNITS.

NOT TO SCALE




## PIPE PENETRATION THRU INTERIOR WALL

NOT TO SCALE

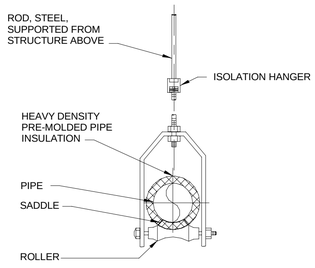



NOTES:

1. FOR GYP. BOARD WALLS PROVIDE MIN. 16 GAUGE GALV. STEEL SLEEVE W/ LOCK-TYPE LONGITUDINAL SEAM.
2. OMIT ALUMINUM JACKET IF PIPING IS UNINSULATED

## EXTERIOR WALL PIPE PENETRATION DETAIL

NOT TO SCALE

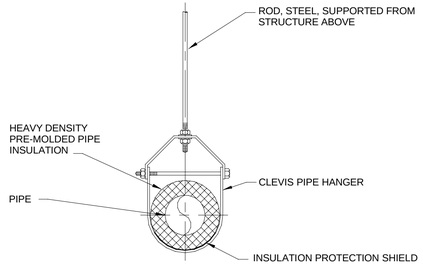



NOTES:

1. ALL PIPING SUBJECT TO THERMAL EXPANSION SHALL BE PROVIDED WITH ROLLER HANGERS.
2. PROVIDE HANGER SUPPORT FROM STRUCTURE ABOVE AS PER SPECIFICATION SECTION 23 64 26.00 48.
3. PIPE HANGERS LONGER THAN 18" SHALL HAVE A LATERAL BRACE EVERY 4TH HANGER.

## CLEVIS ROLLER HANGER W/ SADDLE FOR INSULATED PIPE

NOT TO SCALE

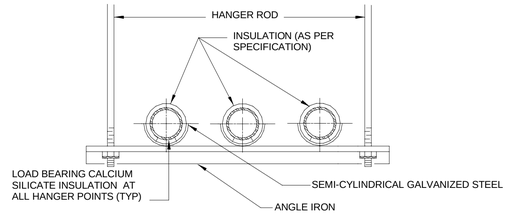



NOTES:

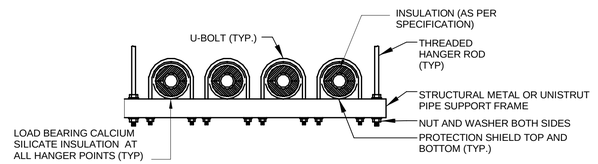
1. PROVIDE HANGER SUPPORT FROM STRUCTURE ABOVE AS PER SPECIFICATION SECTION 23 64 26.00 48.
2. PIPE HANGERS LONGER THAN 18" SHALL HAVE A LATERAL BRACE EVERY 4TH HANGER.

## CLEVIS HANGER FOR INSULATED PIPE

NOT TO SCALE




PIPE SUPPORT WITHOUT U-BOLTS



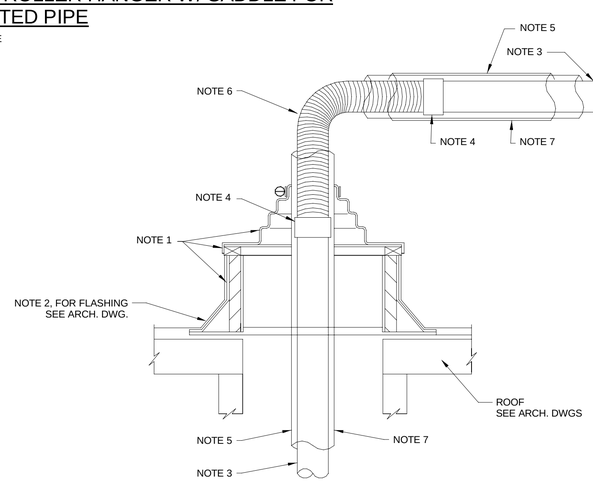

PIPE SUPPORT WITH U-BOLTS

NOTES:

1. PROVIDE HANGER SUPPORT FROM STRUCTURE ABOVE AS PER SPECIFICATION SECTION 23 64 26.00 48.
2. PIPE HANGERS LONGER THAN 18" SHALL HAVE A LATERAL BRACE EVERY 4TH HANGER.
3. PROVIDE TRAPEZE WITH ROLLER HANGERS FOR ALL PIPING SUBJECT OF THERMAL EXPANSION (NOT SHOWN ON THE DRAWING).

## TRAPEZE HANGERS

NOT TO SCALE




NOTES:

1. 18 GAUGE GALVANIZED ROOF CURB WITH INTEGRAL BASE PLATE, CONTINUOUSLY WELDED CORNER SEAMS, FACTORY-INSTALLED WOOD NAILER, AND 1.5" 3LB. RIGID FIBERGLASS INSULATION, WITH A LAMINATED, ACRYLIC COATED, ABS PLASTIC CURB COVER WITH PREPUNCHED HOLES AND MOLDED SEALING RINGS ON COLLARED OPENINGS BY PORTAL PLUS MANUFACTURER OR APPROVED EQUAL.

   SEE PLANS FOR QUANTITY OF PIPES AND SELECT CURB AND CURB COVER WITH REQUIRED QUANTITY OF PREPUNCHED HOLES AND MOLDED SEALING RINGS ON COLLARED OPENINGS. PROVIDE STAINLESS STEEL SNAPLOCK CLAMPS.
2. INSULATION AND ROOFING, FLASH PENETRATION. SEE ARCHITECTURAL DRAWINGS FOR FLASHING.
3. STANDARD PIPE MATERIAL FOR REFRIGERANT LINES, SUPPORT PIPE AWAY FROM BUILDING.
4. SUITABLE ADAPTING COUPLING TO CONNECT COPPER REFRIGERANT LINE TO HOSE SECTION.
5. PIPE INSULATION SHALL BE CONTINUOUS THRU BOUNDARY SURFACE (CURB, ROOF AND BEYOND).
6. NON-METAL HIGH PRESSURE HOSE SECTION. HOSE SECTION AND ABOVE ROOF PIPING SHALL BE COVERED WITH INSULATION AND BANDED ALUMINUM PIPE JACKET.
7. PIPE SUPPORT POINT. ENSURE HOSE DOES NOT CARRY ANY PIPE LOAD FROM REFRIGERANT LINES, SEE NOTE 3.

## REFRIGERANT LINE ROOF PENETRATION

NOT TO SCALE

US Army Corps of Engineers ®

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| MARK | DESCRIPTION | DATE |
|---|---|---|

DESIGNED BY: GB
DRAWN BY: GB
CHECKED BY: MEP
SUBMITTED BY:
ISSUE DATE: 06 MAY 2021
SOLICITATION NO.: W912QR20R0038
CONTRACT NO.: W912QR21C0038
SIZE: ANSI D

US ARMY CORPS OF ENGINEERS
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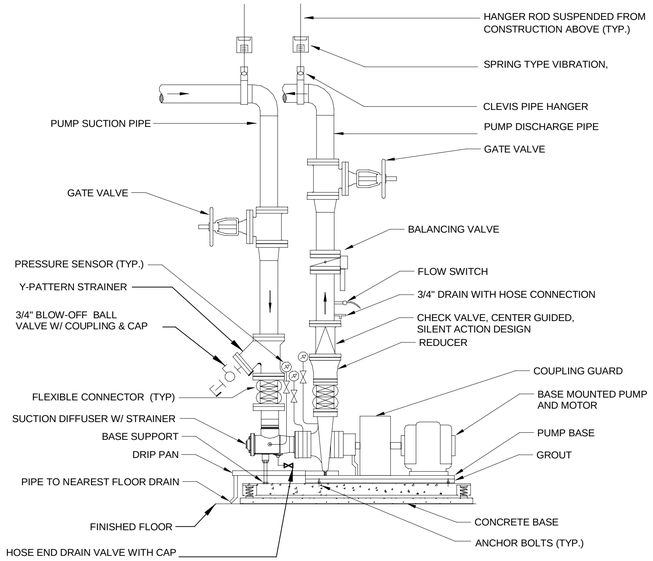
UNITED STATES ARMY RESERVE CENTER
ORANGEBURG, NEW YORK

MECHANICAL DETAILS - SHEET 2

SHEET ID

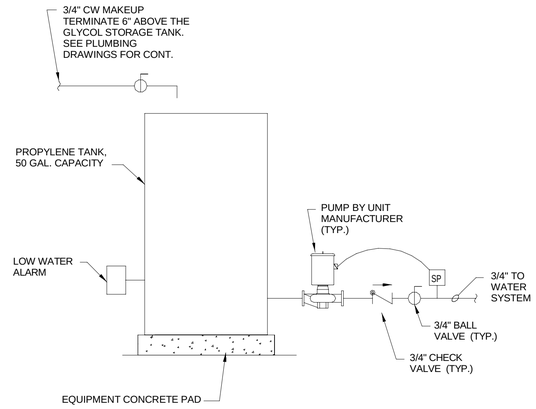
M-502

CORRECTED FINAL SUBMISSION - JULY 29, 2021




## END SUCTION BASED MOUNTED PUMP DETAIL

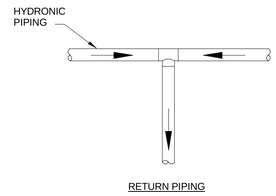
NOT TO SCALE

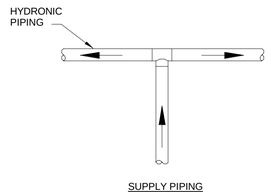



NOTE:
1. SUITABLE FOR 35% PROPYLENE GLYCOL SOLUTION

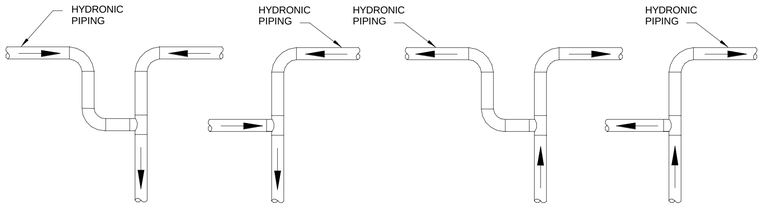
## GLYCOL SYSTEM FILL DETAIL

NOT TO SCALE



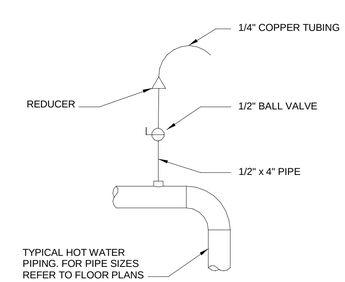

## BULL HEAD TEES - DO NOT USE




## PREFERRED PIPING ARRANGEMENTS

## HYDRONIC (CHILLED / HOT WATER) PIPING SYSTEMS

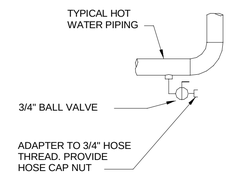
NOT TO SCALE




NOTE: PROVIDE MANUAL AIR VENTS AT ALL HIGH POINTS

## TYPICAL AIR VENT DETAIL

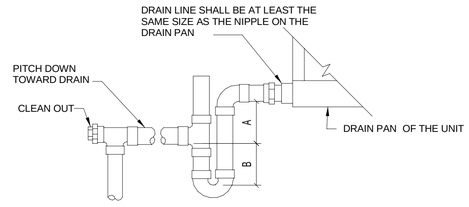
NOT TO SCALE




NOTE:
PROVIDE 3/4" DRAIN VALVES WITH HOSE BIBB AT THE LOWEST POINTS OF HVAC PIPING RISERS.

## TYPICAL PIPING DRAIN VALVE CONNECTIONS

NOT TO SCALE

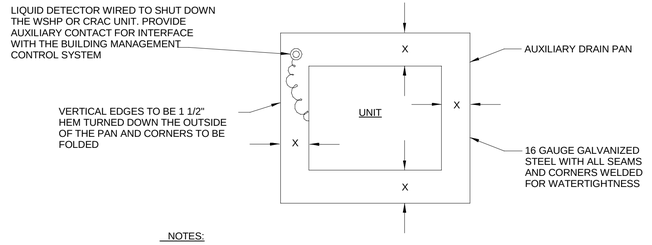



| UNIT TYPE | A | B |
|---|---|---|
| DRAW THRU | 2" PLUS X | X |
| BLOW THRU | 1" MINIMUM | 2X |

WHERE X = STATIC PRESSURE IN PAN

## CONDENSATE DRAIN P-TRAP DETAIL

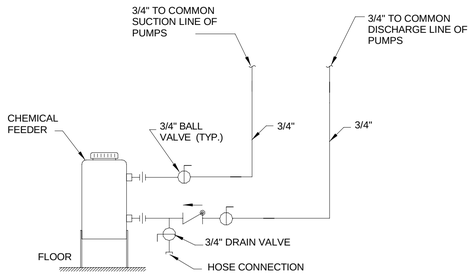
NOT TO SCALE




NOTES:
1. THIS DETAIL APPLIES TO BE INSTALLED UNDER SPACE MOUNTED WSHP OR CRAC UNITS.
2. PITCH DRAIN PAN TO LIQUID DETECTOR. PROVIDE 3/4" PLUGGED DRAIN AT LOW POINT.
3. VERTICAL EDGES TO BE 1 1/2" HEM TURNED DOWN THE OUTSIDE OF THE PAN AND CORNERS TO BE FOLDED

## AUXILIARY DRAIN PAN FOR WSHP & CRAC UNITS

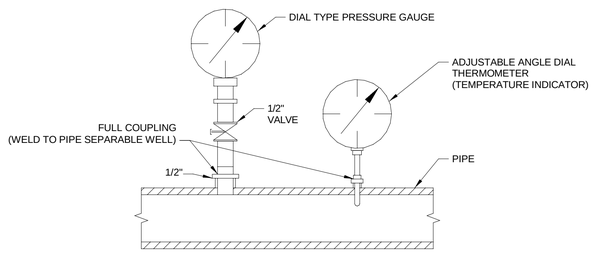
NOT TO SCALE




NOTE:
1. SATIABLE FOR 35% PROPYLENE GLYCOL SOLUTION

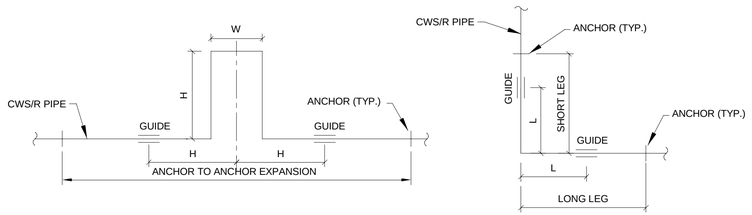
## CHEMICAL POT FEEDER DETAIL

NOT TO SCALE




## TYPICAL PRESSURE AND TEMPERATURE GAUGE INSTALLATION

NOT TO SCALE




## TYPICAL PIPE GUIDE INSTALLATION

NOT TO SCALE

US Army Corps of Engineers ®

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| MARK | DESCRIPTION | DATE |
|---|---|---|
| | | |

ISSUE DATE: 06 MAY 2021
SOLICITATION NO.: W912QR20R0038
CONTRACT NO.: W912QR21R0038

DESIGNED BY: GB
DRAWN BY: GB
CHECKED BY: MLK
SUBMITTED BY:
SIZE: ANSI D

US ARMY CORPS OF ENGINEERS
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ORANGEBURG, NEW YORK

MECHANICAL DETAILS - SHEET 3

SHEET ID

M-503

CORRECTED FINAL SUBMISSION - JULY 29, 2021

## DOAS WATER SOURCE HEAT PUMP SCHEDULE - PART 1 OF 2

BASIS OF DESIGN "YORK"

| TAG | LOCATION | SUPPLY FAN | | | | | OUTSIDE AIR FLOW | EXHAUST FAN | | | | | COOLING | | | | | | | | | | | | HEATING | | | | | | | | | MODEL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | AIR FLOW | ESP | QTY | BHP | MOTOR | | AIR FLOW | ESP | QTY | BHP | MOTOR | CAPACITY TOTAL | CAPACITY SENSIBLE | HEAT REJECTION | CAPACITY TOTAL W/WHEEL | CAPACITY SENSIBLE W/WHEEL | EAT DB/WB | LAT DB/WB | APD | EFT °F | LFT °F | FLUID FLOW | WATER PD FEET OF WATER IN WC | EER | CAPACITY TOTAL | CAPACITY TOTAL W/WHEEL | EAT | LAT | APD | EFT °F | LFT °F | FLUID FLOW | WATER PD FEET OF WATER IN WC | COP | |
| | | CFM | IN. WC | EACH | | HP. | CFM | CFM | IN. WC | EACH | | HP. | MBH | MBH | MBH | MBH | MBH | °F | °F | IN WC | | | GPM | | | MBH | MBH | °F | °F | IN WC | | | GPM | | | |
| DOAS-1 | ROOF | 1,100 | 1.00 | 1 | 0.5 | 2.41 | 1,100 | 990 | 1.00 | 1 | 0.5 | 2.41 | 85 | 33 | 64 | 55 | 31 | 76.6 / 67.2 | 50.8 / 50.7 | 0.14 | 85 | 95 | 13 | 9.9 | 22.7 | 58 | 55 | 53 | 99 | 0.09 | 70.0 | 62 | 13.0 | 11.1 | 5.7 | JROW 48 B0 |
| DOAS-2 | ROOF | 2,960 | 1.10 | 1 | 2.1 | 2.41 | 2,960 | 2,410 | 1.50 | 1 | 1.4 | 2.41 | 230 | 87 | 168 | 143 | 81 | 76.9 / 67.9 | 52.3 / 52.2 | 0.26 | 85 | 95 | 36 | 19.2 | 21.3 | 155 | 142 | 50 | 95 | 0.17 | 70.0 | 63 | 36.0 | 21.5 | 5.4 | JROW 120 C0 |
| DOAS-3 | ROOF | 900 | 1.00 | 1 | 0.4 | 2.41 | 900 | 675 | 1.00 | 1 | 0.3 | 2.41 | 70 | 27 | 50 | 42 | 24 | 76.9 / 67.9 | 52.6 / 52.6 | 0.1 | 85 | 95 | 11 | 19.7 | 23.3 | 48 | 42 | 49 | 92 | 0.07 | 70.0 | 63 | 11.0 | 22.1 | 6.2 | JROW 36 B0 |
| DOAS-4 | ROOF | 360 | 0.50 | 1 | 0.1 | 2.41 | 360 | 360 | 0.50 | 1 | 0.1 | 2.41 | - | - | - | - | - | - | - | - | - | - | - | - | - | 41 | - | 17 | 122 | 0.07 | 70.0 | 62 | 9.0 | 15.5 | 4.0 | JROW 36 B0 |
| DOAS-5 | ROOF | 1,800 | 0.70 | 1 | 1.0 | 2.41 | 1,800 | 1,780 | 1.00 | 1 | 0.9 | 2.41 | - | - | - | - | - | - | - | - | - | - | - | - | - | 95 | 71 | 51 | 88 | 0.20 | 70.0 | 60 | 14.0 | 13.9 | 5.9 | JROW 60 B0 |
| DOAS-6 | ROOF | 1,480 | 1.00 | 1 | 0.8 | 2.41 | 1,480 | 1,655 | 1.00 | 1 | 0.8 | 2.41 | 115 | 44 | 84 | 71 | 41 | 76.4 / 67.1 | 51.3 / 51.1 | 0.22 | 85 | 95 | 18 | 19 | 22.5 | 77 | 71 | 55 | 100 | 0.15 | 70.0 | 63 | 18.0 | 21.5 | 5.5 | JROW 60 B0 |
| DOAS-7 | ROOF | 875 | 0.70 | 1 | 0.3 | 2.41 | 875 | 860 | 0.60 | 1 | 0.3 | 2.41 | 68 | 26 | 48 | 41 | 25 | 76.3 / 66.4 | 50.7 / 50.6 | 0.1 | 85 | 95 | 11 | 19.8 | 25 | 44 | 41 | 56 | 100 | 0.07 | 70.0 | 63 | 11.0 | 22.1 | 5.9 | JROW 36 B0 |

PROVIDE:
- 2" MERV 8 PLEATED AND 4" MERV 14 PLEATED FILTERS INSIDE UNITS FOR OAI & ENERGY WHEELS
- DISCONNECT SWITCHES NEMA 3R ENCLOSURES
- ROOF CURBS MIN. 18 INCHES HIGH FOR DOAS-6 & 7
- DOAS-1, 2, 3, 4 & 5 INSTALLED ON ROOF DUNNAGES. SEE STRUCTURAL DWGS.
- ALL FANS WITH EMC MOTORS
- PREMIUM EFFICIENCY FAN MOTORS
- AIR-TO-AIR ENERGY WHEEL FOR DOAS-1, 2, 3, 5, 6 & 7
- 100% MODULATING ENTHALPY BASED ECONOMIZERS
- REHEAT GAS BYPASS COILS
- FROST CONTROL FOR THE UNITS & ENERGY WHEELS
- SMOKE DUCT DETECTORS ON DOAS -2 SUPPLY AND EXHAUST DUCT
- STAINLESS STEEL CONDENSATE DRAIN PANS W/OVERFLOW SWITCHES
- SINGLE POINT POWER CONNECTIONS
- UNIT SUITABLE FOR 35% PROPYLENE GLYCOL SOLUTION
- DDC CONTROLS
- INSTALLATION OF UNITS , CURBS AND DUNNAGES SHALL COMPLY WITH SPECIFICATION 23 05 48.00 40 FOR VIBRATION AND WIND CONTROLS
- SUPPLY AND EXHAUST DUCT OPENINGS AT THE BOTTOM OF THE UNITS
- HOSE KIT FOR EACH UNIT INCLUDES: (2) STAINLESS STEEL BRAID HOSES W/ INTEGRAL "J" SWIVEL, (1) MANUAL VALANCING VALVE, (1) Y - STRAINER W/ BLOWDOWN VALVE, (1) 2-WAY MOTORIZED VALVE AND (2) SHUTOFF BALL VALVES WITH P/T PLUGS

## DOAS WATER SOURCE HEAT PUMP SCHEDULE - PART 2 OF 2

| TAG | ENERGY RECOVERY WHEEL | | | | | | | | | | | | | | | ENERGY RECOVERY WHEEL MODEL | UNIT ELECTRICAL DATA | | | | WEIGHT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | SUMMER | | | | | | | WINTER | | | | | | | | | | | | | |
| | SUPPLY | | EXHAUST | | EFFICIENCY | | | SUPPLY | | EXHAUST | | EFFICIENCY | | | | | FLA | MCA | MOP | | |
| | EAT DB/WB °F | LAT DB/WB °F | EAT DB/WB °F | LAT DB/WB °F | SENSIBLE % | LATENT % | CAPACITY MBH | EAT DB/WB °F | LAT DB/WB °F | EAT DB/WB °F | LAT DB/WB °F | SENSIBLE % | LATENT % | CAPACITY MBH | | | AMPS | AMPS | AMP | V/PH/HZ | LBS |
| DOAS-1 | 81/ 76.1 | 76.6 / 67.2 | 75 / 63 | 79.6 / 73.1 | 81 | 78 | 38.25 | 17.3 / 15 | 53.2 / 46.8 | 70 / 58 | 26.8 / 25.6 | 86 | 83 | 64.37 | ECW 324 | 27.7 | 31.7 | 45 | 208/3/60 | 2475 |
| DOAS-2 | 81/ 76.1 | 76.9 / 68 | 75 / 63 | 79.8 / 73.3 | 83 | 79 | 94.46 | 17.3 / 15 | 50.1 / 44.5 | 70 / 58 | 26.1 / 25 | 87 | 84 | 158.01 | ECW 484 | 52 | 56.5 | 70 | 208/3/60 | 3880 |
| DOAS-3 | 81/ 76.1 | 76.9 / 67.8 | 75 / 63 | 80 / 74 | 91 | 89 | 29.12 | 17.3 / 15 | 49.4 / 44.2 | 70 / 58 | 24.1 / 22.6 | 94 | 92 | 47.49 | ECW 324 | 23.3 | 26.2 | 35 | 208/3/60 | 2410 |
| DOAS-4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 20.9 | 23.8 | 35 | 208/3/60 | 2195 |
| DOAS-5 | - | - | - | - | - | - | - | 17.3 / 15 | 51.4 / 45.2 | 70 / 58 | 31.9 / 30.7 | 74 | 69 | 98.92 | ECW 324 | 29.5 | 34 | 50 | 208/3/60 | 2510 |
| DOAS-6 | 81/ 76.1 | 74.6 / 67.1 | 75 / 63 | 78.9 / 71.4 | 80 | 75 | 51.76 | 17.3 / 15 | 55 / 47.9 | 70 / 58 | 32.9 / 31.4 | 75 | 70 | 90.21 | ECW 324 | 29.5 | 34 | 50 | 208/3/60 | 2510 |
| DOAS-7 | 81/ 76.1 | 76.3 / 66.4 | 75 / 63 | 79.5 / 72.9 | 86 | 83 | 32.68 | 17.3 / 15 | 56.1 / 48.9 | 70 / 58 | 27.6 / 26.2 | 85 | 83 | 55.57 | ECW 324 | 23.3 | 26.2 | 35 | 208/3/60 | 2410 |

## EXPANSION LOOP SCHEDULE

BASIS OF DESIGN "METRAFLEX"

| TAG | STEEL PIPE DIA. IN. | ANCHOR TO ANCHOR DISTANCE FT. | GUIDE SPACING IN. | FORCE AT EACH ANCHOR LBS | PIPE TOTAL EXPANSION IN. | W IN | H IN |
|---|---|---|---|---|---|---|---|
| LP-1 | 4 | 82 | 40 | 800 | 0.46 | 20 | 40 |
| LP-2 | 1-1/2 | 57 | 20 | 400 | 0.32 | 10 | 20 |
| LP-3 | 2 | 58 | 24 | 500 | 0.33 | 12 | 24 |
| LP-4 | 3 | 58 | 30 | 600 | 0.33 | 15 | 30 |
| LP-5 | 3/4 | 62 | 16 | 200 | 0.35 | 8 | 16 |
| LP-6 | 3 | 62 | 32 | 600 | 0.35 | 16 | 32 |
| LP-7 | 2 | 70 | 30 | 500 | 0.39 | 15 | 30 |
| LP-8 | 3 | 70 | 34 | 600 | 0.39 | 17 | 34 |

NOTES:
- DIMENSIONS ARE FOR INTERNALLY LOCATED EXPANSION LOOP
- ANCHORS ARE BASED ON MODELS PA & PAI FOR INSULATED PIPE
- LOOP LP-4 TO BE INSTALLED AT A 45 DEGREE ANGLE
-GUIDE IS BASED ON MODEL STYLE IV SPIDER TYPE FOR INSULATED PIPE

## WATER SOURCE HEAT PUMP SCHEDULE

BASIS OF DESIGN "YORK"

| TAG No. | LOCATION | AREA SERVED | SUPPLY CFM | OA CFM (SEE NOTE 1) | ESP | HP | COOLING | | | | | | | | | | | HEATING | | | | | | | | ELECTRICAL | | | | | | WEIGHT | MODEL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | CAPACITY TOTAL | CAPACITY SENSIBLE | HEAT REJECTION | EAT °F | LAT °F | EWT °F | LWT °F | FLUID FLOW | WATER PD FEET OF WATER | INPUT | EER | CAPACITY TOTAL | EAT °F | LAT °F | EWT °F | LWT °F | FLUID FLOW | WATER PD FEET OF WATER | COP | V | PH | HZ | FLA | MCA | MOP | | |
| | | | | | IN. W.C. | | MBH | MBH | MBH | DB / WB | DB / WB | | | GPM | | kW | | MBH | DB | DB | | | GPM | | | | | | | | | LBS | |
| WSHP-1 | RETENTION 1004 | TEAM RM 1002 AND RETENTION 1004 | 700 | 120 | 1 | 0.5 | 22.0 | 17.1 | 27 | 79.8 / 63.8 | 57.2 / 52.9 | 85 | 95 | 5.4 | 3 | 1.5 | 17.9 | 28.5 | 68 | 106 | 70 | 62 | 5.4 | 3.5 | 6.1 | 208 | 3 | 60 | 3.9 | 12.8 | 15 | 266 | JSH024CHS30ALPB |
| WSHP-2 | LEARNING CENTER 1006 | LEARNING CENTER 1006 | 420 | - | 0.9 | 0.3 | 12.3 | 10.6 | 16 | 80.2 / 64.5 | 56.8 / 54.5 | 85 | 95 | 3.2 | 3.7 | 1.1 | 15.5 | 15.8 | 68 | 103 | 70 | 63 | 3.2 | 4.3 | 5.3 | 208 | 1 | 60 | 2.6 | 9.6 | 15 | 153 | JCH015AGS30CLPB |
| WSHP-3 | CORRIDOR C1001 | VESTIBULE V1001, LOBBY C1002, CORRIDOR C1001, BREAK RM 1005 | 650 | - | 1 | 0.5 | 17.3 | 16.0 | 21.7 | 79.7 / 64.4 | 56.9 / 55.4 | 85 | 95 | 4.3 | 4.1 | 1.3 | 16.5 | 22.3 | 68 | 100 | 70 | 62 | 4.3 | 5 | 5.9 | 208 | 1 | 60 | 4.3 | 15.6 | 20 | 257 | JSH018BGS30CLPB |
| WSHP-4 | FAMILY SUPPORT 1001 | FAMILY SUPPORT 1001, PRIVATE OFFICE 1003 | 180 | 65 | 1 | 0.1 | 5.4 | 4.5 | 6.9 | 79.9 / 64.1 | 56.8 / 53.8 | 85 | 95 | 1.4 | 1.7 | 0.5 | 14 | 8.1 | 68 | 110 | 70 | 61 | 1.4 | 2 | 4.8 | 208 | 1 | 60 | 1.5 | 4.8 | 15 | 103 | JCH006AGS30CLPB |
| WSHP-5 | SHARED OFFICE 1014 | SHARED OFFICE 1014, PRIVATE OFFICE 1015, PRIVATE OFFICE 1016 | 700 | 125 | 1 | 0.5 | 22.0 | 17.1 | 27 | 79.8 / 63.8 | 57.2 / 52.9 | 85 | 95 | 5.4 | 3 | 1.5 | 17.9 | 28.5 | 68 | 106 | 70 | 62 | 5.4 | 3.5 | 6.1 | 208 | 3 | 60 | 3.9 | 12.8 | 15 | 266 | JSH024CHS30ALPB |
| WSHP-6 | SHARED OFFICE 1011 | SHARED OFFICE 1011, PRIVATE OFFICE 1012, PRIVATE OFFICE 1013 | 700 | 125 | 1 | 0.5 | 22.0 | 17.1 | 27 | 79.8 / 63.8 | 57.2 / 52.9 | 85 | 95 | 5.4 | 3 | 1.5 | 17.9 | 28.5 | 68 | 106 | 70 | 62 | 5.4 | 3.5 | 6.1 | 208 | 3 | 60 | 3.9 | 12.8 | 15 | 266 | JSH024CHS30ALPB |
| WSHP-7 | ADMIN SUPPORT 1009 | UNIT COMMONS 1008, ADMIN. SUPPORT 1009, OFFICES 1021 & 1010 | 1,370 | - | 1 | 1 | 45.7 | 35.0 | 55.9 | 79.7 / 63.8 | 56/ 52.1 | 85 | 95 | 11.2 | 8.6 | 3.0 | 17.2 | 55.9 | 68 | 106 | 70 | 62 | 11.2 | 9 | 5.2 | 208 | 3 | 60 | 6.9 | 24 | 35 | 416 | JSH048CHS30ALPB |
| WSHP-8 | CLASSROOM 1017 | CLASSROOM 1017 | 650 | 295 | 1 | 0.5 | 17.2 | 16.2 | 21.6 | 80 / 64.2 | 56.9 / 55.2 | 85 | 95 | 4.3 | 4.1 | 1.3 | 16.5 | 22.3 | 68 | 100 | 70 | 62 | 4.3 | 5 | 5.9 | 208 | 1 | 60 | 4.3 | 15.6 | 20 | 257 | JSH018BGS30CLPB |
| WSHP-9 | CLASSROOM 1017 | CLASSROOM 1017 | 650 | 295 | 1 | 0.5 | 17.2 | 16.2 | 21.6 | 80 / 64.2 | 56.9 / 55.2 | 85 | 95 | 4.3 | 4.1 | 1.3 | 16.5 | 22.3 | 68 | 100 | 70 | 62 | 4.3 | 5 | 5.9 | 208 | 1 | 60 | 4.3 | 15.6 | 20 | 257 | JSH018BGS30CLPB |
| WSHP-10 | CLASSROOM 1018 | CLASSROOM 1018 | 650 | 295 | 1 | 0.5 | 17.2 | 16.2 | 21.6 | 80 / 64.2 | 56.9 / 55.2 | 85 | 95 | 4.3 | 4.1 | 1.3 | 16.5 | 22.3 | 68 | 100 | 70 | 62 | 4.3 | 5 | 5.9 | 208 | 1 | 60 | 4.3 | 15.6 | 20 | 257 | JSH018BGS30CLPB |
| WSHP-11 | CLASSROOM 1018 | CLASSROOM 1018 | 650 | 295 | 1 | 0.5 | 17.2 | 16.2 | 21.6 | 80 / 64.2 | 56.9 / 55.2 | 85 | 95 | 4.3 | 4.1 | 1.3 | 16.5 | 22.3 | 68 | 100 | 70 | 62 | 4.3 | 5 | 5.9 | 208 | 1 | 60 | 4.3 | 15.6 | 20 | 257 | JSH018BGS30CLPB |
| WSHP-12 | ROOF | ASSEMBLY 1019, CHAIR STORAGE 1020 | 2,025 | - | 1.5 | 1.5 | 65.8 | 52.3 | 83.1 | 79.9 / 64.0 | 56.0 / 52.7 | 85 | 95 | 16.6 | 7.9 | 5.1 | 15 | 85.6 | 68 | 107 | 70 | 62 | 16.6 | 8.7 | 5 | 208 | 3 | 60 | 5 | 29.5 | 45 | 880 | JRE072DHP3CCABF |
| WSHP-13 | ROOF | STORAGE 1022, KITCHEN 1023, SCULLER 1024 | 1,695 | - | 1.5 | 1 | 59.2 | 44.5 | 73.7 | 80 /63.9 | 55.7 / 51.6 | 85 | 95 | 14.8 | 9.6 | 4.2 | 15.7 | 71.6 | 68 | 107 | 70 | 63 | 14.8 | 10.3 | 5.1 | 208 | 3 | 60 | 4 | 23.5 | 35 | 785 | JRE060DHP3CCFCF |
| WSHP-14 | SECURE STORAGE 1025 | SECURE STORAGE 1025 | 150 | 90 | 1 | 0.1 | 5.5 | 4.2 | 7 | 79.9 / 65.7 | 54.0 / 53.3 | 85 | 95 | 1.4 | 1.7 | 0.5 | 14 | 8.0 | 68 | 117 | 70 | 61 | 1.4 | 2 | 4.8 | 208 | 1 | 60 | 1.5 | 4.8 | 15 | 103 | JCH006AGS30CLPB |
| WSHP-15 | PRIVATE OFFICE 1028 | PRIVATE OFFICE 1027, PRIVATE OFFICE 1028 | 175 | 40 | 1 | 0.1 | 5.4 | 4.4 | 6.9 | 79.8 / 63.8 | 56.5 / 53.1 | 85 | 95 | 1.4 | 1.7 | 0.5 | 14 | 8.1 | 68 | 111 | 70 | 61 | 1.4 | 2 | 4.8 | 208 | 1 | 60 | 1.5 | 4.8 | 15 | 103 | JCH006AGS30CLPB |
| WSHP-16 | TEAM ROOM W/ SIPRNET 1007 | TEAM ROOM W/ SIPRNET 1007 | 380 | - | 0.9 | 0.3 | 12.1 | 10.2 | 15.7 | 79.9 / 63.9 | 55 / 52.8 | 85 | 95 | 3.2 | 3.7 | 1.1 | 15.5 | 15.7 | 68 | 106 | 70 | 63 | 3.2 | 4.3 | 5.3 | 208 | 1 | 60 | 2.6 | 9.6 | 15 | 153 | JCH015AGS30CLPB |
| WSHP-17 | STORAGE 1034 | PRIVATE OFFICE 1033, STORAGE 1034 | 200 | 50 | 1 | 0.1 | 5.6 | 4.6 | 7.2 | 79.8 / 65.4 | 58.5 / 56.1 | 85 | 95 | 1.5 | 1.9 | 0.5 | 14 | 8.2 | 68 | 106 | 70 | 61 | 1.5 | 2.3 | 4.8 | 208 | 1 | 60 | 1.5 | 4.8 | 15 | 103 | JCH006AGS30CLPB |
| WSHP-18 | ARMORER 1029 | ARMORER 1029 | 160 | 30 | 1 | 0.1 | 5.3 | 4.3 | 6.9 | 79.9 / 63.9 | 55 / 52.1 | 85 | 95 | 1.4 | 1.7 | 0.5 | 14 | 8.0 | 68 | 114 | 70 | 61 | 1.4 | 2 | 4.8 | 208 | 1 | 60 | 1.5 | 4.8 | 15 | 103 | JCH006AGS30CLPB |
| WSHP-19 | PHYSICAL READINESS 1031 | PHYSICAL READINESS 1031 | 1,315 | 875 | 1 | 1 | 45.5 | 34.4 | 55.7 | 79.8 / 64.1 | 55.6 / 52.0 | 85 | 95 | 11.1 | 8.4 | 3.0 | 17.2 | 55.5 | 68 | 107 | 70 | 62 | 11.1 | 8.8 | 5.2 | 208 | 3 | 60 | 6.9 | 24 | 35 | 416 | JSH048CHS30ALPB |
| WSHP-20 | LACTATION 1026 | LACTATION 1026, CORRIDOR C1003 | 375 | - | 0.9 | 0.3 | 12.3 | 10.3 | 15.9 | 79.9 / 64.9 | 54.5 / 53.7 | 85 | 95 | 3.2 | 3.7 | 1.1 | 15.5 | 15.4 | 68 | 108 | 70 | 61 | 3.2 | 4.4 | 5.3 | 208 | 1 | 60 | 2.6 | 9.6 | 15 | 153 | JCH012AGS30CLPB |
| WSHP-21 | UNIT STORAGE 1032 | UNIT STORAGE 1032 | 520 | - | 0.9 | 0.3 | - | - | - | - | - | - | - | - | - | - | - | 15.6 | 68 | 96 | 70 | 60 | 2.5 | 2.7 | 5.3 | 208 | 1 | 60 | 2.6 | 9.6 | 15 | 153 | JCH015AGS30CLPB |
| WSHP-22 | STAGING 1035 | STAGING 1035 | 1,490 | - | 0.9 | 0.5 | - | - | - | - | - | - | - | - | - | - | - | 46.3 | 68 | 97 | 70 | 60 | 8.0 | 5.6 | 6 | 208 | 3 | 60 | 3.9 | 16.9 | 25 | 414 | JSH042CHS30ALPB |
| WSHP-23 | UNIT STORAGE 1036 | UNIT STORAGE 1036 | 2,900 | - | 1.4 | 1 | - | - | - | - | - | - | - | - | - | - | - | 90.7 | 68 | 97 | 70 | 60 | 15.0 | 6.8 | 5.2 | 208 | 3 | 60 | 13.2 | 36.6 | 45 | 586 | JCH072AHP3ECLBB |
| WSHP-24 | UNIT STORAGE 1037 | UNIT STORAGE 1037 | 1,350 | - | 0.9 | 0.5 | - | - | - | - | - | - | - | - | - | - | - | 40.6 | 68 | 96 | 70 | 60 | 7.0 | 6 | 5.9 | 208 | 3 | 60 | 3.9 | 16.4 | 25 | 327 | JSH036CHS30ALPB |

PROVIDE:
- NEMA 12 DISCONNECT SWITCHES
- WALL MOUNTED THERMOSTATS/SENSORS
- AUXILIARY DRAIN PANS W/ LEAK DETECTORS
- DDC CONTROLS
- SINGLE POINT POWER CONNECTIONS
- SMOKE DETECTORS ON SUPPLY AND RETURN/EXHAUST DUCTS OF THE WSHP-12 AND WSHP-23
- 1" THICK, MERV 13 IN RETURN REGISTER OR GRILLE
- CONDENSATE DRAIN OUTLETS WITH P-TRAPS
- INSTALLATION OF UNITS SHALL COMPLY WITH SPECIFICATION 23 05 48.00 40 FOR VIBRATION AND WIND CONTROLS
- HOSE KIT FOR EACH UNIT INCLUDES: (2) STAINLESS STEEL BRAID HOSES W/ INTEGRAL "J" SWIVEL, (1) MANUAL VALANCING VALVE, (1) Y - STRAINER W/ BLOWDOWN VALVE, (1) 2-WAY MOTORIZED VALVE AND (2) SHUTOFF BALL VALVES WITH P/T PLUGS
- CONDENSATE PUMP W/ RESERVOIR, CHECK VALVE, OVERFLOW SWITCH, 1/2 GAL RESERVOIR, 1/30 HP, 115V/1PH/60HZ POWER, FLA 1.5 AMPS, 10 GPH AT 20' OF HEAD MODEL VCMX-20ULS BY LITTLE GIANT OR APPROVED EQUAL

NOTE 1: SHOWN OUTSIDE AIR SUPPLY (OA) IS DUCTED TO THE RETURN DUCT AT THE WSHP UNIT. IF NO DATA IS SHOWN FOR OUTSIDE AIR, IT MEANS THAT OUTSIDE AIR IS PROVIDED DIRECTLY TO THE SPACE VIA DOAS.UNITS.

US Army Corps of Engineers ®

NOT FOR CONSTRUCTION

| MARK | DESCRIPTION | DATE |
|---|---|---|
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DESIGNED BY: CM
DRAWN BY: CM
CHECKED BY: MM
SUBMITTED BY:
SIZE: ANSI D

ISSUE DATE: 06 MAY 2021
SOLICITATION NO.: W912QR20R0038
CONTRACT NO.: W912QR20R0038

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UNITED STATES ARMY RESERVE CENTER
ORANGEBURG, NEW YORK

EQUIPMENT SCHEDULES - SHEET 1

SHEET ID

M-601

CORRECTED FINAL SUBMISSION - JULY 29, 2021

## COMPUTER ROOM AIR CONDITIONING UNIT SCHEDULE

BASIS OF DESIGN "LIEBERT"

| TAG | LOCATION | AREA SERVED | TOTAL AIR FLOW CFM | OUTDOOR AIR FLOW CFM | FAN MOTOR HP | COOLING DATA: CAPACITY TOTAL MBTUH | CAPACITY SENSIBLE MBTUH | EAT DB/WB °F | RELATIVE HUMIDITY % | REHEAT KW | HUMIDIFIER CAPACITY LBS/HR | UNIT ELECTRICAL DATA: FLA AMPS | MOCP AMPS | V/PH/HZ | WEIGHT LBS | MODEL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CRAC-1 | TER G1002 | TER G1002 | 825 | 0 | 0.16 | 16.4 | 16.0 | 75/61 | 45.0 | 2.7 | 3 | 18.8 | 25.0 | 208/1/60 | 230 | DME 20EPHN |
| CRAC-2 | TR G1006 | TR G1006 | 825 | 0 | 0.16 | 16.4 | 16.0 | 75/61 | 45.0 | 2.7 | 3 | 18.8 | 25.0 | 208/1/60 | 230 | DME 20EPHN |
| CRAC-3 | EF G1001 | EF G1001 | 825 | 0 | 0.16 | 16.4 | 16.0 | 75/61 | 45.0 | 2.7 | 3 | 18.8 | 25.0 | 208/1/60 | 230 | DME 20EPHN |

PROVIDED :
- DISCONNECT SWITCHES IN NEMA 12 ENCLOUSURE
- WALL MOUNTED TEMPERATURE AND HUMIDITY SENSORS
- CONDENSATE PUMP KIT
- CONDENSATE LEAK DETECTORS
- DDC CONTROLS W/DISPLAYS
- SEPARATE POWER FEEDS MUST BE RUN TO THE INDOOR AND OUTDOOR UNITS
- R-407C REFRIGERANT AND FIELD CHARGE THE UNITS
- AUXILIARY DRAIN PANS UNDER THE INDOOR MOUNTED UNITS WITH LEAK DETECTORS
- THE REFRIGERANT PIPE SIZES, FITTINGS, ROUTING, LAYOUT, ETC. MUST BE REVIEWED AND APPROVED BY THE EQUIPMENT MANUFACTURER BEFORE SUBMISSION TO THE ENGINEER IN CHARGE FOR REVIEW
- CONDENSATE PUMP ( BY UNIT MANUFACTURER) TO BE FIELD MOUNTED AND POWERED FROM THE INDOOR UNITS POWER BLOCK

UNIT CONFIGURATION:
- FLOOR MOUNTED CRAC-1 AND CRAC-2
- WALL MOUNTED CRAC-3

## COMPUTER ROOM REMOTE CONDENSING UNIT SCHEDULE

BASIS OF DESIGN "LIEBERT"

| TAG | LOCATION | AREA SERVED | GROSS COOLING CAPACITY MBTUH | FAN QUANTITY | MOTOR QUANTITY | UNIT ELECTRICAL DATA: V/PH/HZ | FLA AMPS | MOCP AMPS | WEIGHT LBS | MODEL |
|---|---|---|---|---|---|---|---|---|---|---|
| CRACC-1 | ROOF | TER G1002 | 20 | 1.0 | 1.0 | 208/1/60 | 12.1 | 25 | 200 | PFH020ACPLN |
| CRACC-2 | ROOF | TR G1006 | 20 | 1.0 | 1.0 | 208/1/60 | 12.1 | 25 | 200 | PFH020ACPLN |
| CRACC-3 | ROOF | EF G1001 | 20 | 1.0 | 1.0 | 208/1/60 | 12.1 | 25 | 200 | PFH020ACPLN |

PROVIDE:
- ROOF CURBS, MIN. 18" HIGH WITH 1" INSULATION
- DISCONNECT SWITCHES W/ NEMA R3 ENCLOSURE
- SINGLE POINT POWER SUPPLY CONNECTIONS
- INSTALLATION OF THE UNITS SHALL COMPLY WITH SPECIFICATION 23 05 48.00 40 FOR VIBRATION AND WIND CONTROLS

## FAN SCHEDULE

| TAG | LOCATION | AREA SERVED | FAN TYPE | DRIVE | AIR FLOW CFM | ESP IN. WC. | FAN RPM | BHP | MOTOR: TYPE | RPM | HP | V/PH/Hz | WEIGHT LBS | MANUFACTURER | MODEL | PROVIDE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| EF-1 | ROOF | MECH. RM. G1010 | ROOF UPBLAST | DIRECT | 2,230 | 0.60 | 1,687 | 0.60 | TEFC | 1,725 | 1 | 115/1/60 | 148 | GREENHECK | G-140-VG | 1-13 |
| EF-2 | ROOF | MECH. RM. G1010 | ROOF DOWNBLAST | BELT | 6,500 | 0.65 | 980 | 1.89 | TEFC | 1,725 | 2 | 208/3/60 | 348 | GREENHECK | GB-220-VGD-20 | 1-13 |
| EF-3 | ROOF | KITCHEN 1023 | ROOF UPBLAST | DIRECT | 950 | 1.00 | 1,498 | 0.35 | TEAO | 1,725 | 1/2 | 115/1/60 | 109 | CAPTIVE-AIR | DU50HFA | 3, 15-17, 19 |
| EF-4 | ROOF | SCULLERY 1024 | ROOF DOWNBLAST | DIRECT | 300 | 0.50 | 1,271 | 0.10 | TEAO | 1,725 | 1/4 | 115/1/60 | 74 | CAPTIVE-AIR | DR12HFA | 3, 14,18-20 |
| EF-5 | ROOF | ELEC. RM G1009 | ROOF UPBLAST | DIRECT | 510 | 0.66 | 1,725 | 0.11 | TENF | 1,725 | 1/6 | 115/1/60 | 36 | GREENHECK | G-090-VG | 1-13 |
| SF-1 | ROOF | MECH. RM. G1010 | ROOF FORWARD CURVED | BELT | 6,500 | 0.50 | 774 | 3.11 | TEFC | 1,725 | 5 | 208/3/60 | 651 | GREENHECK | RSF-150-50 | 1-13 |

PROVIDE:
1. ALUMINUM FAN CONSTRUCTION
2. INSTALLATION OF FANS SHALL COMPLY WITH SPECIFICATION 23 05 48.00 40 FOR VIBRATION AND WIND CONTROLS
3. DISCONNECT SWITCHES NEMA 3R
4. MINIMUM 14 IN. ROOF CURB WITH 1-1/2 IN. THERMAL INSULATION & DAMPER TRAY
5. MOTOR OPERATED DAMPER (MOD) W/ END SWITCH, 115V, ALUMINUM CONSTRUCTION, CURB MOUNTED
6. HINGED CURB CAP FOR ACCESS TO MOTOR OPERATED DAMPER
7. HI-PRO POLYESTER COATING FOR FAN, MOD DAMPER AND ROOF CURB
8. BIRD SCREEN, ALUMINUM
9. STAINLESS STEEL SHAFT & FASTENERS
11. VARI-GREEN EC MOTOR W/WIRING PACKAGE
12. FAN AND ACCESSORIES SHALL BE COATED W/ HI-PRO POLYESTER
13. COMBINATION MOTOR STARTERS
14. MINIMUM 18 IN. ROOF CURB
15. MINIMUM 18 IN. VENTED ROOF CURB
16. UL 762 LISTED, HIGH HEAT (500 DEGREE F) OPERATION DIRECT DRIVE, TILT OUT WHEEL, LOCKING PIN FOR POWER PACK, MOTOR WEATHER COVER, UTILITY SET GREASE CUP, PAN BASE CERAMIC SEAL.
17. VARIABLE SPEED CONTROLS
18. SPEED CONTROL
19. ECM MOTOR, WIRING PACKAGE, CCW ROTATION
20. BACK DRAFT DAMPER

## MAKEUP AIR UNIT SCHEDULE

| TAG | UNIT LOCATION | AREA SERVED | TOTAL AIR FLOW CFM | OUTDOOR AIR FLOW CFM | ESP IN. WG. | HEATING COIL: HEATING SOURCE | TOTAL INPUT CAPACITY MBH | TOTAL OUTPUT CAPACITY MBH | BURNER EFFICIENCY % | EAT °F | LAT °F | TEMPERATURE RISE °F | UNIT ELECTRICAL DATA: MCA AMPS | FLA AMPS | MFS AMPS | V/PH/HZ | FAN MOTOR HP | FAN MOTOR BHP | MAX. FAN RPM | WEIGHT LBS | MANUFACTURER | MODEL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MUA-1 | ROOF | KITCHEN HOOD | 760 | 760 | 1.00 | NATURAL GAS | 60.4 | 56 | 92 | 13 | 68 | 55 | 12.3 | 8.1 | 20.0 | 115/1/60 | 1 | 0.77 | 1784 | 515 | CAPTIVE AIR | D76 |

PROVIDE:
- FLEXIBLE DUCT CONNECTORS
- VIBRATION ISOLATORS INSIDE THE UNIT FOR SUPPLY FAN
- DISCONNECT SWITCH WITH NEMA 3R ENCLOSURE
- ROOF CURB MIN. 18 INCHES HIGH
- INTAKE WEATHER HOOD WITH FILTERS
- VARIABLE FREQUENCY DRIVE (VFD) FOR SUPPLY FAN SHALL BE PROVIDED WITH THE KITCHEN HOOD CONTROL PACKAGE (BY KITCHEN HOOD SUPPLIER)
- UNIT AND CURB INSTALLATION SHALL COMPLY WITH SPECIFICATION 23 05 48.00 40 FOR VIBRATION AND WIND CONTROLS

UNITS CONFIGURATION TYPE:
1. HORIZONTAL DRAW- THROUGH UNIT WITH GAS FIRED HEATING FURNACE AND FILTERS
2. GAS PRESSURE REQUIREMENTS: MIN. 7 IN. W.C. & MAX. 14 IN. W.C.

## CEILING RETURN GRILLE & REGISTER SCHEDULE

BASIS OF DESIGN "PRICE"

| AIR FLOW RANGE CFM | NOMINAL DUCT SIZE IN. | GRILLE/ REGISTER FACE SIZE IN. | PRESSURE DROP IN WG | NOISE CRITERIA dBA |
|---|---|---|---|---|
| 0 - 150 | 8 x 8 | 10 x 10 | 0.06 | < 16 |
| 160 - 250 | 12 x 12 | 14 x 14 | 0.03 | < 16 |
| 260 - 350 | 14 x 14 | 16 x 16 | 0.03 | < 16 |
| 360 - 500 | 16 x 16 | 18 x 18 | 0.03 | < 16 |
| 510 - 700 | 18 x 18 | 20 x 20 | 0.04 | < 16 |
| 710 - 1000 | 22 x 22 | 24 x 24 | 0.03 | < 16 |

PROVIDE:
- 24"x24" FACE SIZE FOR ALL GRILLES WITH 1" THICK , MERV13 FILTER. MODEL 630 FF OR APPROVED EQUAL.
- FACE SIZE FOR ALL GRILLES/REGISTER WITHOUT FILTER SHALL BE AS PER SCHEDULE ABOVE, MODEL 630/ 630DAL.
- OPPOSED BLADE DAMPERS FOR ALL REGISTERS WITHOUT FILTER

## CLOSED CIRCUIT COOLING TOWER SCHEDULE

BASIS OF DESIGN "EVAPCO"

| TAG | LOCATION | CAPACITY TONS | CAPACITY MBH | FLOW RATE GPM | EWT °F | LWT °F | FLUID P.D. PSI | ELECTRICAL DATA: FAN MOTOR HP | AIR FLOW CFM | V/PH/Hz | AMBIENT TEMP. DB/WB °F | SPRAY PUMP: QTY. | PUMP MOTOR HP | WATER FLOW GPM | FLA AMPS | V/PH/Hz | ELECTRIC BASIN HEATER: QTY. | CAPACITY KW | MIN. AMBIENT TEMP. °F | MIN. WATER TEMP. °F | V/PH/Hz | OPERATING WEIGHT LBS. | MODEL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CT-1 | GROUND, OUTSIDE OF THE BUILDING | 51.6 | 774.6 | 250 | 91.6 | 85 | 10.9 | 7.5 | 31,470 | 208/3/60 | 95/78 | 1 | 2 | 340 | 5.94 | 208/3/60 | 1 | 6 | 0 | 40 | 208/3/60 | 14,800 | ATWB 9-5H8-Z |

PROVIDE:
- NEMA 3R DISCONNECT SWITCHES
- TWO CONTROL PANELS: A). FAN MOTOR VFD & SPRAY PUMP PANEL. B). BASIN HEATER PANEL. ALL PANELS IN NEMA 3R ENCLOSURES (BY UNIT MANUFACTURER)
- CONCRETE PAD AND METAL SUPPORT FOR THE TOWER (SEE STRUCTURAL DRAWINGS)
- EXTERNAL SERVICE PLATFORM WITH ALUMINUM LADDER AND SAFETY CAGE
- SPRAY PUMP W/PIPES (BY MANUFACTURER)
- COOLING TOWER SUITABLE FOR OPERATION W/ 35% PROPYLENE GLYCOL SOLUTION AS PROCESS FLUID
- HEAT TRACING, THERMAL INSULATION & JACKETING FOR SPRAY PUMP & PIPING, MAKEUP VALVE & PIPING, OVERFLOW & DRAINS, ANY CONNECTIONS OR ACCESSORIES AT OR BELOW WATER LINE
- INSTALLATION OF COOLING TOWER SHALL COMPLY WITH 23 05 48.00 40 FOR VIBRATION AND WIND CONTROLS
- 5-PROBE ELECTRONIC WATER LEVEL CONTROL PACKAGE FOR BASIN
- VIBRATION SWITCH
- FLANGED COIL CONNECTIONS AND FLEXIBLE CONNECTORS
- CHEMICAL WATER TREATMENT - SMART SHIELD PACKAGE FMF-6-4 BCF-10 (BY UNIT MANUFACTURER)
- FIELD WIRING BETWEEN CONTROL PANEL AND UNIT MOUNTED DEVICES AND MOTORS (BY CONTRACTOR)
- DDC CONTROLS

## CEILING DIFFUSER SCHEDULE

BASIS OF DESIGN "PRICE"

| AIR FLOW RANGE CFM | ROUND NECK DIAMETER IN. | PRESSURE DROP IN WG | MIN-MAX THROW DISTANCES FEET | NOISE CRITERIA |
|---|---|---|---|---|
| 0 - 100 | 6 | <0.05 | 1 - 4 | < 20 |
| 101 - 250 | 8 | <0.05 | 3 - 7 | < 20 |
| 251 - 350 | 10 | <0.05 | 3 - 9 | < 20 |
| 351 - 400 | 12 | <0.05 | 4- 10 | < 20 |
| 451 - 550 | 14 | <0.09 | 5 - 17 | < 20 |
| | | | | |

PROVIDE:
- DUCT MOUNTED MANUAL VOLUME DAMPERS
- UNLESS SHOWN OTHEWISE THE FACE SIZE OF THE CEILING DIFFUSERS SHALL BE 24"x24"
- DIFFUSER MODEL ASPD OR APPROVED EQUAL

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| MARK | DESCRIPTION | DATE |
|---|---|---|

ISSUE DATE: 06 MAY 2021
SOLICITATION NO.: W912QR20R0038
CONTRACT NO.: W912QR21C0038

DESIGNED BY: CM
DRAWN BY: CM
CHECKED BY: MM
SUBMITTED BY:
SIZE: ANSI D

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EQUIPMENT SCHEDULES - SHEET 2

SHEET ID
M-602

CORRECTED FINAL SUBMISSION - JULY 29, 2021

## GAS-FIRED HOT WATER BOILER SCHEDULE

BASIS OF DESIGN "AERCO"

| TAG | LOCATION | SERVICE | BOILER TYPE | GROSS INPUT MBH | NET OUTPUT MBH | EWT °F | LWT °F | TURNDOWN RATION | TYPE OF GAS | GAS INPUT CFH | AHRI EFFICIENCY % | FLUE CONNECTION IN. | COMBUSTION AIR INTAKE IN. | BOILER PRESSURE RATING PSIG | BOILER MIN/MAX WATER FLOW GPM | ELECTRICAL DATA: BURNER MOTOR HP | ELECTRICAL DATA: FLA AMPS | ELECTRICAL DATA: V/PH/HZ | UNIT OPERATING WEIGHT LBS | MODEL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B-1 | MECH. RM. G1010 | HEATING SYSTEM | CONDENSING, FIRE TUBE | 1,000 | 875 | 60 | 95 | 20:1 | NATURAL GAS | 1,000 | 96.8 | 6 | 6 | 160 | 25/175 | 1.0 | 13 | 120/1/60 | 900 | BMK1000 W/EDGE [i] |
| B-2 | MECH. RM. G1010 | HEATING SYSTEM | CONDENSING, FIRE TUBE | 1,000 | 875 | 60 | 95 | 20:1 | NATURAL GAS | 1,000 | 96.8 | 6 | 6 | 160 | 25/175 | 1.0 | 13 | 120/1/60 | 900 | BMK1000 W/EDGE [i] |

PROVIDE:
- ASME RELIEF VALVES, 75 PSI
- CATEGORY IV DOUBLE WALL AL29-4C STAINLESS STEEL FLUES W/1" CERAMIC THERMAL INSULATION
- DIRECT SEALED COMBUSTION AIR INTAKE PIPES
- BOILERS SUITABLE FOR OPERATION W/ 35% PROPYLENE GLYCOL SOLUTION
- VENTLESS GAS TRAINS
- MINIMUM / MAXIMUM NATURAL GAS INLET PRESSURE 4 IN. WC. / 14 IN. WC.
- DDC CONTROLS

## PUMP SCHEDULE

BASIS OF DESIGN "BELL & GOSSETT"

| TAG | LOCATION | TYPE | WATER FLOW GPM | TOTAL HEAD FT | EFFICIENCY % | IMPELLER DIA IN | SUCTION INLET DIA IN | DISCHARGE OUTLET DIA IN | BHP | MOTOR RPM | MOTOR V/PH/HZ | MOTOR HP | OPERATING WEIGHT LBS | MODEL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P-1 | MECH. RM. G1010 | BASE MOUNTED | 250 | 110 | 73.9 | 11 | 3 | 2 | 9.61 | 1800 | 208/3/60 | 15.0 | 850 | SERIES e-1510, MODEL 2EB |
| P-2 | MECH. RM. G1010 | BASE MOUNTED | 250 | 110 | 73.9 | 11 | 3 | 2 | 9.61 | 1800 | 208/3/60 | 15.0 | 850 | SERIES e-1510, MODEL 2EB |
| | | | | | | | | | | | | | | |

PROVIDE:
- NEMA 12 DISCONNECT SWITCHES
- PREMIUM EFFICIENCY MOTORS
- VARIABLE FREQUENCY DRIVES (VFD) FOR EACH PUMP
- INERTIA BASES W/SPRING ISOLATORS FOR PUMPS
- P-2 PUMP IS A STANDBY
- FLEXIBLE PIPE CONNECTORS
- FLEXIBLE COUPLINGS SUITABLE FOR INVERTER DUTY AND VARIABLE SPEED APPLICATIONS
- PUMPS SUITABLE FOR OPERATION W/ 35% PROPYLENE GLYCOL SOLUTION
- INSTALLATION OF PUMPS SHALL COMPLY WITH SPECIFICATION 23 05 48.00 40 FOR VIBRATION CONTROL

## EXPANSION TANK SCHEDULE

BASIS OF DESIGN "TACO"

| TAG | LOCATION | SYSTEM | TYPE | TANK VOLUME GAL | MAX TEMP F | ACCEPTANCE VOLUME GAL | DIMENSIONS IN | OPERATING WORKING PRESSURE PSI | FILL / WORKING PRESSURE PSI | OPERATING WEIGHT LBS | MODEL |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ET-1 | MECH. RM. G1010 | CONDENSER WATER | BLADDER | 79.0 | 100 | 30.0 | 24x58 | 50 | 125 | 1,100 | CA300-125 |

PROVIDE:
- PRE-CHARGED UP TO 12 PSI
- THE EXPANSION TANK SHALL BE SUITABLE FOR OPERATION WITH 35% PROPYLENE GLYCOL SOLUTION

## GLYCOL MAKE-UP PACKAGE SCHEDULE

BASIS OF DESIGN "ADVANCE CONTROLS"

| TAG | LOCATION | SERVING | SOLUTION CONTAINER GAL | PUMP CAPACITY (EACH) GPM @ PSI | ELECTRICAL DATA: PUMP QTY | ELECTRICAL DATA: PUMP HP (EACH) | ELECTRICAL DATA: V/PH/HZ | MODEL |
|---|---|---|---|---|---|---|---|---|
| GP-1 | MECH. RM. G1010 | CONDENSERT WATER | 100 | 6.1 | 2 | 1/3 | 115/1/60 | GF-2A3B3H-3C12 |

PROVIDE:
- PACKAGED ASSEMBLY W/PUMP, CONTROLS, PRESSURE REDUCING VALVE AND GAUGE
- ALARM KIT WITH PANEL AND FLOAT
- SHUTOFF AND CHECK VALVES ON DISCHARGE PIPES
- EACH PUMP PLUMBED FOR OPERATION AS TRANSFER DUTY PUMP TO FILL THE STORAGE TANK
- DDC CONTROLS WITH PRE-CONFIGURED ETL LISTED XS SERIES CONTROLLERS AND BACNET CARDS
- DISCONNECT SWITCHES IN NEMA 12 ENCLOUSURE

## DEHUMIDIFIER

BASIS OF DESIGN " EBAC"

| TAG | LOCATION | CAPACITY PINTS/DAY | AIRFLOW CFM | V | PH | HZ | AMPS | WEIGHT LBS | MODEL |
|---|---|---|---|---|---|---|---|---|---|
| DH-1 | ARMS VAULT 1030 | 62 | 360 | 115 | 1 | 60 | 8.0 | 82.0 | WM80 |

PROVIDE: -R-407C REFRIGERANT -DRAIN HOSE -UNIT MOUNTED HUMIDISTAT

## CHEMICAL POT FEEDER SCHEDULE

BASIS OF DESIGN "VECTOR INDUSTRIES, INC."

| TAG | LOCATION | SERVING | TANK CAPACITY GAL | MAX OPERATING PRESSURE PSI | DIMENSIONS: DIA IN. | DIMENSIONS: HEIGHT IN. | MODEL |
|---|---|---|---|---|---|---|---|
| CPF-1 | MECHANICAL RM. G1010 | CONDENSER WATER SYSTEM | 5 | 200 | 10 | 20 | FA-1000AL-TC |

PROVIDE: - ADJUSTABLE LEG SET, CAP, EPOXY COATED

## AIR SEPARATOR SCHEDULE

BASIS OF DESIGN "TACO"

| TAG | LOCATION | SYSTEM | PIPE SIZE IN | MAX FLOW RATE GAL | DIMENSIONS IN | MAX. WORKING PRESSURE PSI | OPERATING WEIGHT LBS | MODEL |
|---|---|---|---|---|---|---|---|---|
| AS-1 | MECH. RM. G1010 | CONDENSER WATER | 4 | 330 | 16X32 | 125 | 2150 | ACO4F-125 |

PROVIDE: - 304SS STRAINER - ASME CERTIFIED - FLANGED PIPE CONNECTIONS - BLOWDOWN VALVE

## ELECTRIC HEATED AIR CUTAIN SCHEDULE

| TAG | LOCATION | MANUFACTURER & MODEL NO. | CAPACITY KW | CAPACITY BTUH | TEMPERATURE RISE F | MOTOR HP | MCA A | V/PH/HZ |
|---|---|---|---|---|---|---|---|---|
| EHAC-1 | SCULLERY 1024 | BERNER - CLC08 - 1042E | 10.0 | 34,100 | 27 | 1/5 | 29.5 | 208/3/60 |

PROVIDE:
- STAINLESS STEEL CABINET FINISH
- NEMA 12 DISCONNECT SWITCH
- STAINLESS STEEL SWIVEL WALL/CEILING MOUNTING BRACKET
- UNIT MOUNTED THERMOSTAT

## CONDENSATE NEUTRALIZER SCHEDULE

BASIS OF DESIGN "JJM ALKALINE TECHNOLOGIES"

| TAG | LOCATION | RATING MBH | MAX WATER FLOW GPH | DIMENSIONS: LENGTH IN. | DIMENSIONS: DIAMETER IN. | MODEL |
|---|---|---|---|---|---|---|
| CTT-1 | MECHANICAL G1010 | 1,500 | 11 | 22.5 | 4.5 | CBM-226 |
| CTT-2 | MECHANICAL G1010 | 1,500 | 11 | 22.5 | 4.5 | CBM-226 |

PROVIDE: - FLOOR MOUNTED W/ ACID PROOF COUPLINGS & STAINLESS STEEL CLAMPS

## GRAVITY ROOF RELIEF VENTILATOR SCHEDULE

BASIS OF DESIGN "GREENHECK"

| TAG | LOCATION | AREA SERVED | AIRFLOW CFM | THROAT WIDTH IN | THROAT LENGTH IN | THROAT AREA SQ. IN. | THROAT VELOCITY FT/MIN | OVERALL HEIGHT IN | STATIC PRESSURE IN WG | WEIGHT LBS | MODEL |
|---|---|---|---|---|---|---|---|---|---|---|---|
| GV-1 | ROOF | KITCHEN 1023, STORAGE 1022, SCULLER 1024 | 490 | 24 | 24 | 4 | 123 | 19 | 0.003 | 90 | FGR-24x24 |

PROVIDE:
1. ALUMINUM HOUSING & BIRD SCREEN
2. DAMPER TRAY W/GRAVITY OPERATED DAMPER (RELIEF DAMPER)
3. UNIT SUPPORT AND INSTALLATION SHALL COMPLY WITH SPECIFICATION 23 05 48.00 40 FOR VIBRATION & WIND CONTROLS
4. 18" HIGH ALUMINUM INSULATED ROOF CURB
5. PAINTED HOUSING, CUSTOM COLOR BY ARCH

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DATE | DESCRIPTION | MARK

DESIGNED BY: CM
DRAWN BY: CM
CHECKED BY: MJE
SUBMITTED BY:
SIZE: ANSI D

ISSUE DATE: 06 MAY 2021
SOLICITATION NO.: W912QR20R0038
CONTRACT NO.: W912QR20R0038

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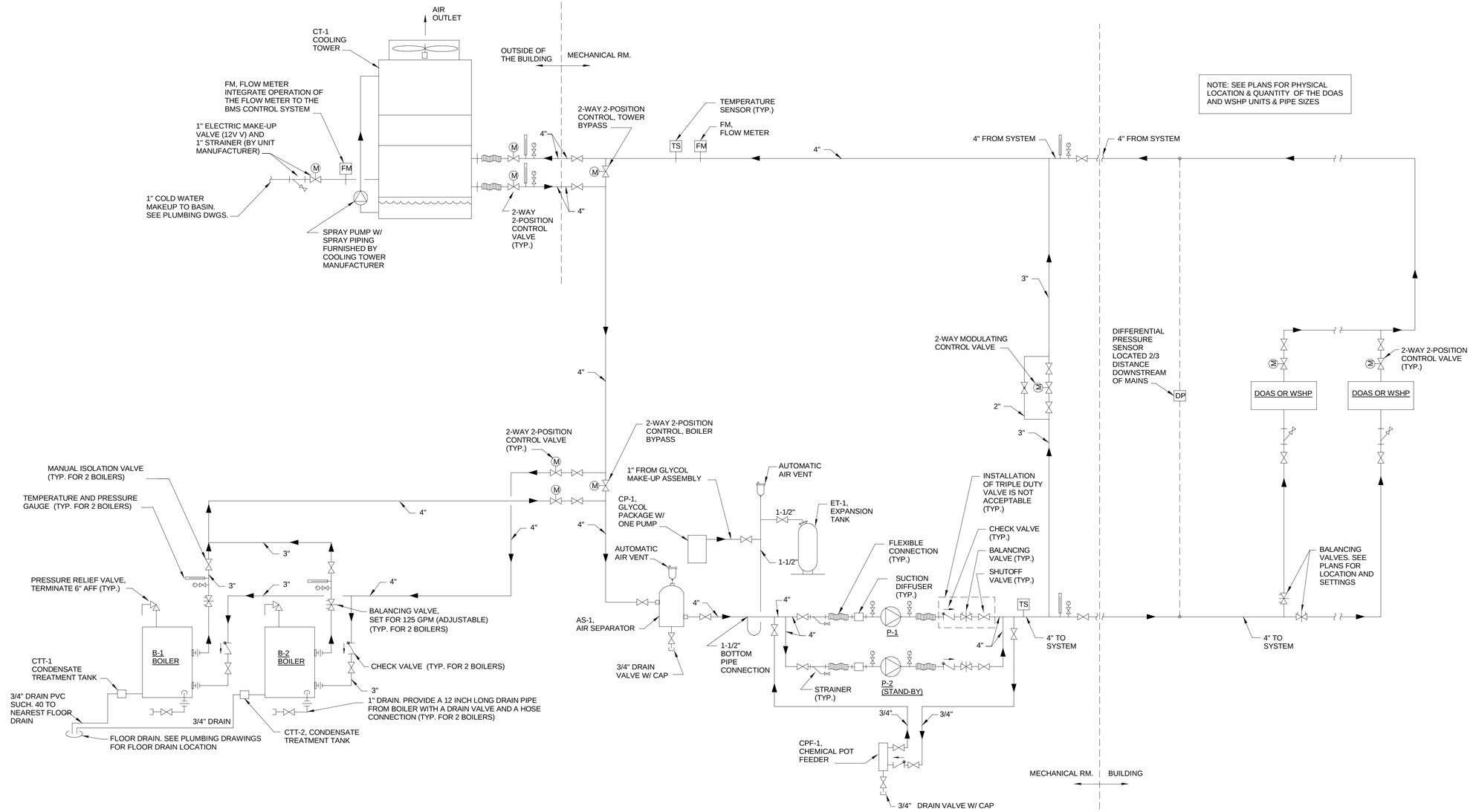
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EQUIPMENT SCHEDULES - SHEET 3

SHEET ID

M-603

CORRECTED FINAL SUBMISSION - JULY 29, 2021




NOTES:

1. THE ENTIRE WATER DISTRIBUTION SYSTEM WITH COOLING TOWER (CT-1) , BOILERS (B-1 & B-2), PUMPS (P-1 & P-2), ALL DOAS AND WATER SOURCE HEAT PUMP (WSHP) UNITS OPERATE WITH 35% PROPYLENE GLYCOL SOLUTION.
2. PROVIDE HEAT TRACING AND THERMAL INSULATION & JACKETING FOR THE COOLING TOWER MOUNTED SPRAY PUMP AND SPRAY PIPING, STANDPIPE ASSEMBLY, MAKEUP PIPING AND SOLENOID VALVE, OVERFLOW AND DRAIN LINES. ANY OTHER CONNECTIONS OR ACCESSORIES AT OR BELOW THE WATER LEVEL SUCH AS ELECTRONIC WATER LEVEL CONTROLLERS. THE CONTRACTOR SHALL PROVIDE FIELD INSTALL & WIRE THE HEAT TRACING SYSTEM WHICH SHALL OPERATE UNDER BUILT IN CONTROL (BY HEAT TRACING UNIT MANUFACTURER). INTEGRATE OPERATION OF THE HEAT TRACING SYSTEM TO THE BMS FOR MONITORING AND ALARMS. SEE ELECTRICAL DRAWINGS FOR THE HEAT TRACING SYSTEM.

## 1 WATER SOURCE HEAT PUMP SYSTEM PIPING DIAGRAM

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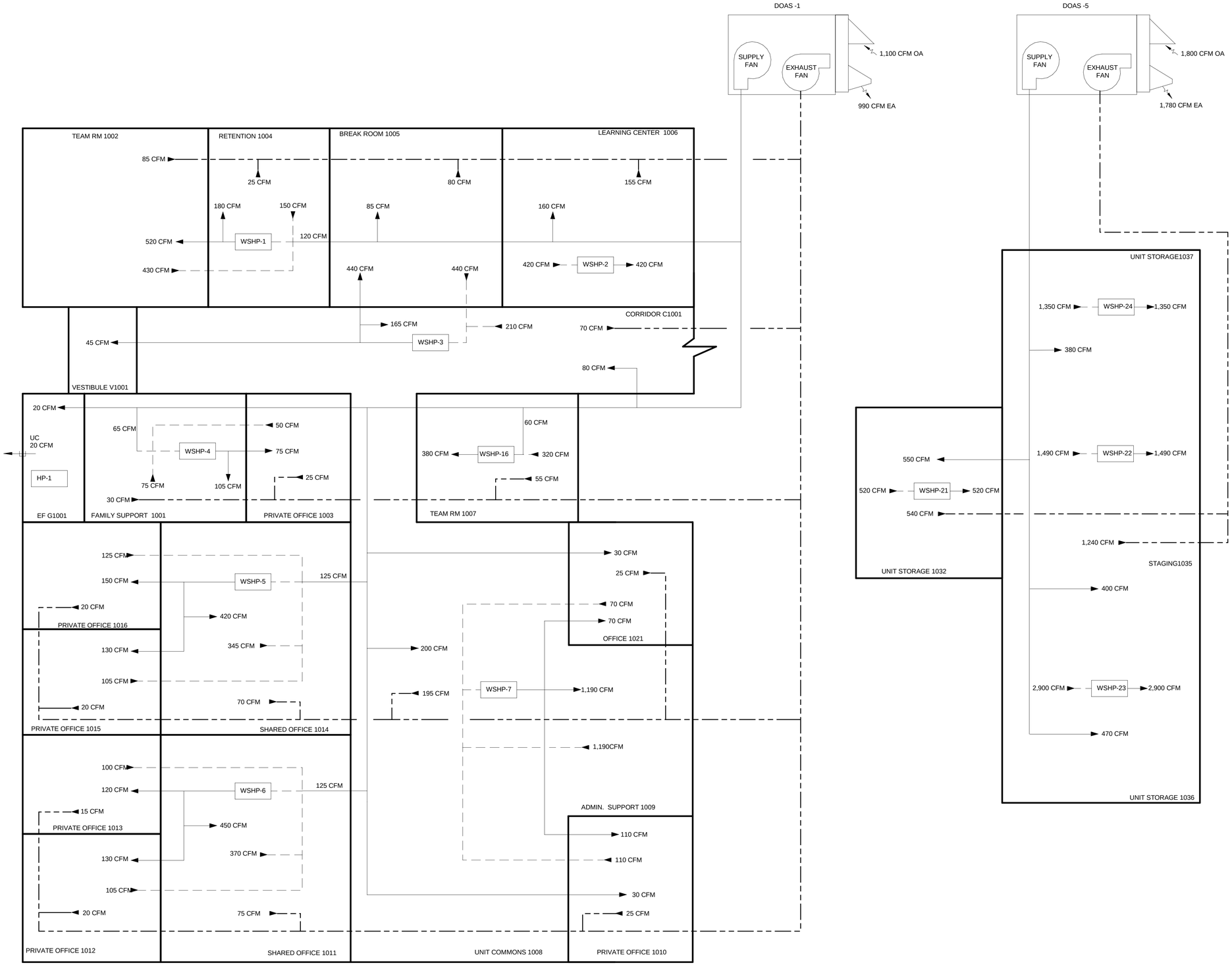
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WATER PIPING DIAGRAM

SHEET ID

M-701

CORRECTED FINAL SUBMISSION - JULY 29, 2021




1 AIR BALANCE DIAGRAM - DOAS-1 AND DOAS-5
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UNITED STATES ARMY RESERVE CENTER
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AIR BALANCING DIAGRAMS - SHEET 1

SHEET ID

M-702

CORRECTED FINAL SUBMISSION - JULY 29, 2021

LEGEND:

SUPPLY DUCT

RETURN DUCT

EXHAUST DUCT

MOVABLE WALL PARTITION

DOAS -2

2,960 CFM OA

2,410 CFM OA

EXHAUST FAN

SUPPLY FAN

WSHP-13

SUPPLY FAN

1,695 CFM

1,695 CFM

MAU-1

760 CFM OA

SUPPLY FAN

GRAVITY RELIEF DAMPER

GV-1

EF-3

EF-4

M

490 CFM

370 CFM

370 CFM

290 CFM

290 CFM

290 CFM

290 CFM

TER G1002

CRAC-1

355CFM

355CFM

355CFM

355CFM

WSHP-8

650 CFM

WSHP-9

650CFM

WSHP-10

650 CFM

WSHP-11

650 CFM

30 CFM

UC
30 CFM

295 CFM

295 CFM

295 CFM

295 CFM

CLASSROOM 1017

CLASSROOM 1018

CORRIDOR C1003

490 CFM

STORAGE 1022

760 CFM

KITCHEN HOOD

950 CFM

375 CFM

375 CFM

KITCHEN 1023

30 CFM

UC
30 CFM

2,025 CFM

WSHP-12

2,025 CFM

1,230 CFM

950 CFM

950 CFM

KITCHEN HOOD

300 CFM

1,250 CFM

CHAIR STORAGE 1020

ASSEMBLY 1019

SCULLERY 1024

DOAS -4

360 CFM OA

360 CFM EA

EXHAUST FAN

SUPPLY FAN

EF-2

SF-1

EF-1

EF-5

M

6,500 CFM

6,500 CFM

2,230 CFM

ELECTRICAL G1009

510 CFM

260 CFM

100 CFM

260 CFM

100 CFM

MECHANICAL G1010

2,230 CFM

510 CFM

1 AIR BALANCE DIAGRAM - DOAS-2 AND DOAS -4

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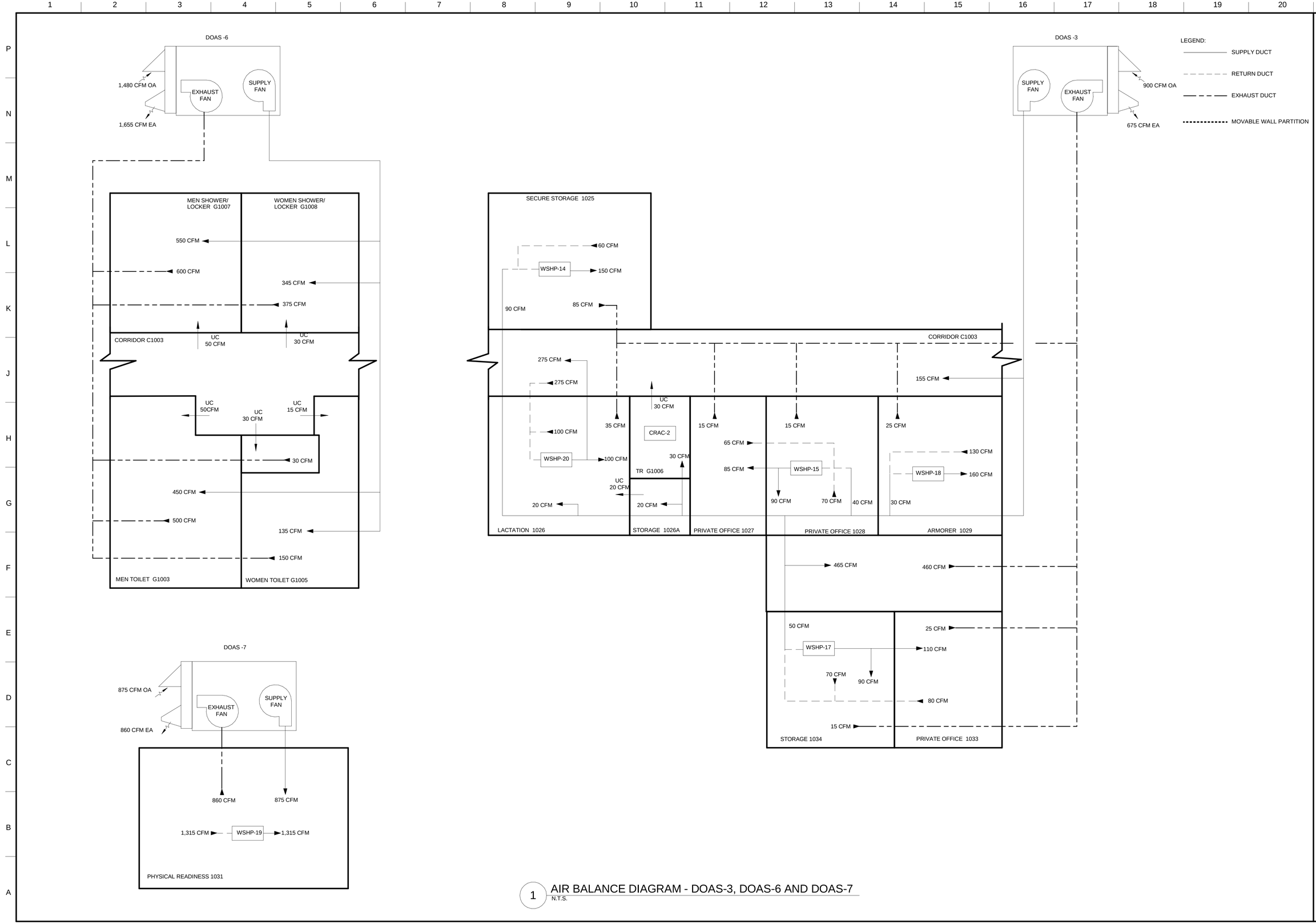
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AIR BALANCING DIAGRAMS - SHEET 2

SHEET ID

M-703

CORRECTED FINAL SUBMISSION - JULY 29, 2021




1 AIR BALANCE DIAGRAM - DOAS-3, DOAS-6 AND DOAS-7
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AIR BALANCING DIAGRAMS - SHEET 3

SHEET ID
M-704

CORRECTED FINAL SUBMISSION - JULY 29, 2021

## GENERAL NOTES

1. REFER TO ARCHITECTURAL PLANS FOR WALL THICKNESS, HEIGHTS, TYPES, AND RATINGS. COORDINATE ALL WALL MOUNTED WIRING DEVICES, JUNCTION BOXES, ETC., WITH THE WALL CONSTRUCTION. VERIFY DEVICE LOCATIONS IN THE FIELD PRIOR TO ROUGH-IN.
2. CONTRACTOR SHALL COORDINATE WITH OTHER TRADES TO ENSURE THAT THE REQUIRED GROUNDING AND BONDING CONNECTIONS TO BUILDING STEEL ARE MADE BEFORE THE STEEL IS COVERED.
3. ALL CONDUITS SHALL BE DE-BURRED AND PROVIDED WITH BUSHINGS TO PREVENT CABLE DAMAGE. CONDUIT FITTINGS SHALL HAVE INSULATED THROATS.
4. CONTRACTOR SHALL INSTALL ABOVE CEILING JUNCTION BOXES IN ROOMS WITH GYPSUM BOARD CEILINGS SUCH THAT THEY ARE ACCESSIBLE. CONTRACTOR SHALL PROVIDE ACCESS PANELS IF NECESSARY, TO MEET CODE REQUIREMENTS.
5. ALL SPARE CONDUITS, DUCTS AND INNERDUCTS SHALL BE PROVIDED WITH PULL WIRE.
6. CONDUIT INSTALLED UNDER THE BUILDING SLAB AND EXTENDING 5' BEYOND THE EDGE OF THE SLAB SHALL BE PVC COATED RGS TYPE.
7. POWER RECEPTACLE MOUNTING HEIGHTS (TO CENTER OF DEVICE) SHALL BE AS FOLLOWS UON:
   - ROOM RECEPTACLES 18" AFF
   - EXTERIOR RECEPTACLES 18" AFF
   - ABOVE COUNTER 4"ABOVE BACKSPLASH
8. POWER AND COMMUNICATIONS OUTLETS IN OFFICES SHALL BE INSTALLED 15" AFF (TO BOTTOM OF OUTLET) TO AVOID CONFLICTS WITH FURNITURE.
9. ELECTRICAL BOXES INSTALLED ON OPPOSITE SIDES OF A FIRE RATED WALL SHALL BE SEPARATED BY A HORIZONTAL DISTANCE OF NOT LESS THAN 24".
10. ALL PENETRATIONS THROUGH FIRE RATED WALLS OR PARTITIONS SHALL BE FIRE-STOPPED IN ACCORDANCE WITH SPECIFICATION SECTION 07 84 00 FIRE-STOPPING. REFER TO ARCHITECTURAL PLANS FOR LOCATIONS OF FIRE RATED WALLS AND PARTITIONS.
11. ANTI-TERRORISM MEASURES: MOUNT ALL OVERHEAD UTILITIES AND OTHER FIXTURES WEIGHING 14 KILOGRAMS (31 POUNDS) OR MORE TO MINIMIZE THE LIKELIHOOD THAT THEY WILL FALL AND INJURE BUILDING OCCUPANTS. DESIGN ALL EQUIPMENT MOUNTINGS TO RESIST FORCES OF 0.5 TIMES THE EQUIPMENT WEIGHT IN ANY HORIZONTAL DIRECTION AND 1.5 TIMES THE EQUIPMENT WEIGHT IN THE DOWNWARD DIRECTION. THIS REQUIREMENT IS NOT INTENDED TO APPLY TO DISTRIBUTED SYSTEMS, SUCH AS PIPING AND CONDUIT NETWORKS.
12. CONDUIT AND WIRING NOT ASSOCIATED WITH THE TELECOMMUNICATIONS ROOMS (EF/TER/TR) SHALL NOT PASS THROUGH THE TELECOMMUNICATIONS ROOMS. ONLY WIRING DEDICATED TO THE TELECOMMUNICATIONS ROOMS SHALL BE INSTALLED IN THESE ROOMS.
13. EQUIPMENT, (PIPING, DUCTWORK, MACHINERY, ETC) THAT DOES NOT SERVE THE EF, TER, OR TR SHALL NOT BE INSTALLED ABOVE, BELOW (I.E. IN OR UNDER SLAB), OR IN THESE IT SPACES, NOR SHALL THIS EQUIPMENT PASS THROUGH OR ENTER THE EF, TER OR TR.
14. ANY MOTOR, TRANSFORMER OR OTHER ELECTRICAL DEVICE GREATER THAN 5KVA SHALL HAVE A MINIMUM OF A 47" BUFFER FROM ANY WALL OF THE EF, TER, OR TR.
15. NOT USED
16. CONSIDER VOLTAGE DROP WHEN DETERMINING THE EXACT ROUTING OF ALL WIRING AND ADJUST CONDUCTOR SIZING ACCORDINGLY. SIZE BRANCH CIRCUIT CONDUCTORS FOR A MAXIMUM TOTAL BRANCH CIRCUIT VOLTAGE DROP OF 3% AND SIZE FEEDER CONDUCTORS FOR A MAXIMUM TOTAL FEEDER VOLTAGE DROP OF 2%.
17. MOUNTING HEIGHTS INDICATED IN THE LEGEND AND ON THE DRAWINGS ARE THE DISTANCE MEASURED FROM THE CENTER OF THE DEVICE TO THE FINISHED FLOOR ELEVATION UNLESS OTHERWISE INDICATED.
18. MOUNTING HEIGHTS SHOWN ON THIS SHEET ARE TO BE USED UNLESS NOTED OTHERWISE ON THE CORRESPONDING, DRAWING OR DETAIL SHEET.
19. SEE THE SPECIFICATIONS FOR GUIDELINES FOR THE INSTALLATION OF ELECTRICAL DEVICES, EQUIPMENT, CONDUIT, BOXES, ETC.
20. DO NOT ALLOW PIPING, DUCTWORK AND OTHER MECHANICAL EQUIPMENT TO BE ROUTED OVER ELECTRICAL PANELS. SEE MECHANICAL, PLUMBING AND FIRE PROTECTION DRAWINGS FOR COORDINATION OF LOCATIONS.
21. PROVIDE PLENUM RATED CABLE PER NEC 300-22 FOR CABLE RUNS IN AREAS USED FOR RETURN AIR.
22. DEVICES AND CONDUIT SHALL BE SURFACE MOUNTED ON BLOCK (CMU) OR CONCRETE WALLS AND CONCEALED IN WALLS FINISHED WITH DRYWALL UNLESS NOTED OTHERWISE.
23. PROVIDE DISCONNECTS FOR ALL MOTORS AND EQUIPMENT INDICATED ON THE MOTOR AND MECHANICAL EQUIPMENT SCHEDULES.
24. REFER TO ARCHITECTURAL INTERIOR AND EXTERIOR ELEVATIONS FOR MOUNTING LOCATIONS AND MOUNTING HEIGHTS.
25. PROVIDE A ROOF MOUNTED LIGHTNING PROTECTION SYSTEM AND ASSOCIATED GROUNDING.

## LIGHTING GENERAL NOTES

1. EMERGENCY FIXTURES NOT DESIGNATED AS SECURITY LIGHTS SHALL BE WIRED SUCH THAT THEY OPERATE 'ON' AND 'OFF' BY SWITCH AND IN EMERGENCY MODE UPON DISRUPTION OF NORMAL ELECTRICAL SERVICE. EMERGENCY FIXTURES NOTED SPECIFICALLY AS 'SECURITY LIGHTS' SHALL OPERATE CONTINUOUSLY.
2. EMERGENCY FIXTURES SHALL OPERATE SUCH THAT THEY TURN ON UNDER LOSS OF NORMAL POWER REGARDLESS OF MANUAL OR AUTOMATIC SWITCHING POSITION.
3. REFER TO ARCHITECTURAL REFLECTED CEILING PLANS PRIOR TO ROUGH IN. COORDINATE LOCATION OF LIGHT FIXTURES WITH HVAC DIFFUSERS, AND OTHER EQUIPMENT.
4. THE QUANTITY OF OCCUPANCY SENSORS SHOWN IS INTENDED FOR TOTAL COVERAGE IN THE AREAS SHOWN. DEPENDING ON THE ACTUAL OCCUPANCY SENSOR INSTALLED, FEWER OR MORE OCCUPANCY SENSORS MAY BE REQUIRED TO MEET THE DESIGN INTENT. THE CONTRACTOR SHALL LOCATE SENSORS AS REQUIRED TO PROVIDE TOTAL COVERAGE.
5. IN RESTROOMS, WALL SLOT FIXTURES SHALL EXTEND FROM WALL TO WALL, WITH LAMPS INSTALLED IN LOCATIONS SHOWN ON PLANS.
6. SEE DRAWING EL-102 FOR FIXTURE SCHEDULE AND SYMBOLS.

## POWER GENERAL NOTES

1. BRANCH CIRCUIT CONDUCTOR SIZES SHOWN ON PL.ANS AND PANEL SCHEDULES ARE BASED ON VOLTAGE DROP CALCULATIONS USING APPROXIMATE CIRCUIT ROUTING PATHS. WHEN FIELD INSTALLED BRANCH CIRCUIT CONDUCTORS FOR 120 VOLT BRANCH CIRCUITS THAT EXCEED 100 FEET, CONDUCTORS SHALL BE NO SMALLER THAN #10 AWG.
2. PROVIDE ELECTRICAL DISCONNECTS AS NECESSARY TO MEET NFPA 70 REQUIREMENTS. IN SOME CASES, THE DISCONNECT MAY BE PROVIDED WITH THE EQUIPMENT, REFER TO MECHANICAL SCHEDULES FOR ADDITIONAL INFORMATION.
3. PLANS SHOW A SEPARATE CONDUIT FOR EACH CIRCUIT. FOR 120- AND 208-VOLT SINGLE PHASE BRANCH CIRCUITS, UP TO THREE HOME RUN CIRCUITS CAN BE COMBINED IN A SINGLE CONDUIT BACK TO THE PANEL THE AMPACITY OF EACH CONDUCTOR SHALL BE REDUCED, AND THE CONDUIT SHALL BE SIZED PER NEC REQUIREMENTS. SIZE CONDUIT TO PROVIDE SPARE CAPACITY FOR ONE ADDITIONAL 20 AMP CIRCUIT IN EACH CONDUIT
4. AN EQUIPMENT GROUNDING CONDUCTOR SHALL BE INSTALLED IN EACH CONDUIT.
5. ANY MOTOR, TRANSFORMER OR OTHER ELECTRICAL DEVICE GREATER THAN 5 KVA SHALL HAVE MINIMUM OF A 47" BUFFER FROM ANY WALL OF THE EF, TER OR TR ROOMS.

## DEMOLITION GENERAL NOTES

1. PRIOR TO START OF DEMOLITION, INSPECT AREAS WHICH WORK WILL BE PERFORMED. NOTE EXISTING CONDITIONS OF STRUCTURE SURFACES, EQUIPMENT, OR SURROUNDING PROPERTY THAT COULD BE MISCONSTRUED AS DAMAGE RESULTING FROM SELECTIVE DEMOLITION WORK.
2. CONTRACTOR SHALL VERIFY FIELD CONDITIONS PRIOR TO COMMENCEMEMT OF WORK AND REPORT ANY AND ALL DISCREPANCIES TO THE CONTRACTING OFFICER.
3. ALL WORK PERFORMED SHALL BE IN COMPLIANCE WITH THE REGULATIONS AND GUIDELINES SET FORTH BY ALL AGENCIES HAVING JURISDICTION OVER THE WORK.
4. ALL WORK SHALL BE PERFORMED IN COMPLIANCE WITH OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) RULES AND REGULATIONS.
5. DEMOLITION AND REMOVAL WORK SHALL BE EXECUTED WITH CARE AND PERFORMED BY COMPETENT EXPERIENCED WORKMEN FOR THE REMOVAL WORK. THE WORK SHALL BE CARRIED OUT THROUGH TO COMPLETION WITH DUE REGARD TO THE SAFETY OF ALL PERSONS ON SITE.
6. UNLESS NOTED OTHERWISE ALL DEMOLISHED COMPONENTS BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE JOB SITE IN A TIMELY FASHION. ALL EQUIPMET MARKED BY THE CONTRACTING OFFICER TO REMAIN SHALL BE CAREFULLY REMOVED BY THE CONTRACTOR AND STORED AS DIRECTED.
7. THE CONTRACTOR SHALL PROTECT AND PRESERVE ALL EXISTING ITEMS TO REMAIN AND SHALL REPAIR AND/OR REPLACE ANY ITEM OR CONSTRUCTION DAMAGED DURING THE COURSE OF WORK AT NO ADDITIONAL COST.
8. ALL DEMOLITION ACTIVITIES, CUTTING AND PATCHING REQUIRED IN CONNECTION WITH THE WORK SHALL BE PERFORMED BY MECHANICS OF THE SPECIFIC TRADE INVOLVED AND AS REQUIRED TO EXECUTE EACH LINE OF WORK. ALL PATCHING SHALL BE FINISHED TO MATCH ADJACENT SURFACES WITH NEW OR EXISTING TO REMAIN.
9. AFTER COMPLETION OF WORK, CLEAN UP ALL RESULTANT DEBRIS AND REMOVE FROM THE JOB SITE TO THE SATISFACTION OF THE CONTRACTING OFFICER.

## ELECTRICAL SYMBOLS

- E — CONDUIT RUN UNDERGROUND
- CONDUIT RUN EXPOSED
- #4/0 BARE COPPER GROUND WIRE OR COPPER WIRE ROPE (LPS)
- 1 → PP-1B — CONDUIT HOME RUN. UNLESS INDICATED OTHERWISE, RUN IS A 3/4"C, 2#12 & 1#12 GND. PP-PB = DESIGNATED PANEL; 1 = INDICATES CIRCUIT
- 1 a / NL-7B (EM) — LIGHTING FIXTURE SYMBOL; NL-7B = FIXTURE TYPE; 1 = CIRCUIT NUMBER; a = CONTROLLING SWITCH; (EM) = FIXTURE EQUIPPED WITH INTEGRAL BATTERY PACK
- SECURITY LIGHT FIXTURE ALWAYS "ON"
- EX3 — EXIT SIGN WITH INTEGRAL BATTERY PACK. 3 = CIRCUIT NUMBER
- R2 (GFI) (AC) (TV) (WP) (S) — 120 VOLT, 20 AMP DUPLEX RECEPTACLE UNLESS NOTED OTHERWISE. R2 = CIRCUIT NUMBER; (GFI) = GROUND FAULT INTERRUPTER TYPE; (AC) = ABOVE COUNTER OR SINK; (TV) = MOUNT AT LEVEL FOR TV USE (6'-0" AFF); (WP) = WEATHERPROOF; (S) = SURFACE
- SAME AS DUPLEX RECEPTACLE ABOVE EXCEPT CONNECTED TO OCCUPANCY SENSOR FOR AUTOMATIC ON/OFF CAPABILITY (COLOR BLUE)
- R4 (AC) (FL) (MFD) — 120 VOLT, 20 AMP - QUAD (2 DUPLEX) RECEPTACLES. R4 = CIRCUIT NUMBER; (AC) = ABOVE COUNTER OR SINK; (FL) = INDICATES RECEPTACLES MOUNTED IN FLOOR BOX-INSTALLED FLUSH WITH EXISTING FLOOR (ROUND TYPE).; (MFD) = MULTI-FUNCTION DEVICE
- SAME AS DUPLEX RECEPTACLE ABOVE EXCEPT CONNECTED TO OCCUPANCY SENSOR FOR AUTOMATIC ON/OFF CAPABILITY (COLOR BLUE)
- $ (F)1d — LIGHT SWITCH (F) = SWITCH TYPE; 1 = CIRCUIT NUMBER; d = SWITCHING CIRCUIT (SEE DRAWING EL-102 FOR ADDITIONAL INFORMATION
- 208 VOLT - 1 PHASE RECEPTACLE, 30A OR AS SHOWN
- 250A / 3P — CIRCUIT BREAKER; A = AMP TRIP; 3P = 3 POLE
- TRANSFORMER
- FUSED SWITCH
- W 24 — POWER WIP FOR FURNITURE POWER; NUMBER INDICATES CIRCUIT
- GROUND ROD
- LPS AIR TERMINAL
- RECESSED PANEL
- SURFACE MOUNTED ELECTRICAL PANEL
- FUSED OR UNFUSED DISCONNECT SWITCH
- OR — CONTACT NO/NC
- EMERGENCY STOP BUTTON (BOILER CUT-OFF)
- C — CONDENSATE PUMP
- PC — PHOTOCELL
- 1 — DRAWING KEY NOTE SYMBOL
- 1 — CABLE AND CONDUIT DESIGNATOR
- G — GAS SHUT OFF VALVE
- INDICATES REMOVALS

## ABBREVIATIONS

| | |
|---|---|
| A/C | AIR CONDITIONING |
| A.F.F. | ABOVE FINISHED FLOOR |
| A.F.G. | ABOVE FINISHED GRADE |
| AMP | AMPERE |
| BLDG | BUILDING |
| CKT | CIRCUIT |
| CLG | CEILING |
| CP | CIRCULATING PUMP |
| CU | COPPER |
| DIA | DIAMETER |
| DIM | DIMENSION |
| DISC | DISCONNECT |
| DN | DOWN |
| DOD | DEPARTMENT OF DEFENSE |
| EA | EACH |
| ELEC | ELECTRIC |
| EMER | EMERGENCY |
| EMT | ELECTRICAL METALLIC TUBING |
| EXH | EXHAUST |
| EXT | EXTERIOR, EXTERNAL |
| F | FAHRENHEIT |
| FDR | FEEDER |
| FIG | FIGURE |
| FL | FLOOR |
| FLA | FULL - LOAD AMPERES |
| FLEX | FLEXIBLE |
| FT | FOOT, FEET |
| GND. | GROUND |
| HH | HANDHOLE |
| HP | HORSEPOWER |
| HR | HOUR |
| HTR | HEATER |
| IN | INCH(ES) |
| JB | JUNCTION BOX |
| KCMIL | 1000 CIRCULAR MILS |
| KO | KNOCK OUT |
| KV | KILOVOLT |
| KVA | KILOVOLT - AMPS |
| KW | KILOWATT |
| LPS | LIGHTNING PROTECTION SYSTEM |
| LTG | LIGHTING |
| LV | LOW VOLTAGE |
| MFD | MULTI-FUNCTION DEVICE |
| MFR | MANUFACTURE |
| MAX | MAXIMUM |
| MCB | MAIN CIRCUIT BREAKER |
| MDP | MAIN DISTRIBUTION PANEL |
| MECH | MECHANICAL |
| MGB | MAIN GROUNDING BUSBAR |
| MIN | MINIMUM, MINUTE |
| MISC | MISCELLANEOUS |
| MLO | MAIN LUGS ONLY |
| MT | MOUNT |
| MTD | MOUNTED |
| MTG | MOUNTING |
| NEC | NATIONAL ELECTRICAL CODE |
| NEMA | NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION |
| NEUT | NEUTRAL |
| NFPA | NATIONAL FIRE PROTECTION ASSOCIATION |
| NIC | NOT IN CONTRACT |
| NC | NORMALLY CLOSED |
| NO | NORMALLY OPEN, NUMBER |
| NOM | NOMINAL |
| NTS | NOT TO SCALE |
| OC | ON CENTER |
| PB | PULL BOX, PUSH BUTTON |
| PH | PHASE |
| PNL | PANEL |
| PR | PAIR |
| PRELIM | PRELIMINARY |
| PRI | PRIMARY |
| PSI | POUND FORCE PER SQUARE INCH |
| PVC | POLYVINYL CHLORIDE |
| QTY | QUANTITY |
| RCPT | RECEPTACLE |
| REQD | REQUIRED |
| REV | REVISION |
| RGS | RIGID GALVANIZED STEEL |
| RMC | RIGID METAL CONDUIT |
| RTU | ROOF TOP UNIT |
| SCHED | SCHEDULE |
| SECT | SECTION |
| SP | SINGLE POLE |
| SPD | SURGE PROTECTION DEVICE |
| SQ | SQUARE |
| SQ FT | SQUARE FOOT |
| STA | STATION |
| STD | STANDARD |
| STRL | STRUCTURAL |
| SW | SWITCH |
| SYS | SYSTEM |
| TEL | TELEPHONE |
| TEMP | TEMPORARY, TEMPERATURE |
| TGB | TELECOMMUNICATIONS GROUNDING BUSBAR |
| TMGB | TELECOMMUNICATIONS MAIN GROUNDING BUSBAR |
| TYP | TYPICAL |
| TV | TELEVISION |
| UGND | UNDERGROUND |
| UNO | UNLESS NOTED OTHERWISE |
| UPS | UNINTERRUPTIBLE POWER SUPPLY |
| UTIL | UTILITY |
| V | VOLT(S) |
| VOL | VOLUME |
| WP | WEATHER PROOF |

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|---|---|---|
| 5 | Revision 5 (CORRECTED FINAL) | Date 5 |
| 3 | Revision 3 (INTERIM) | Date 4 |

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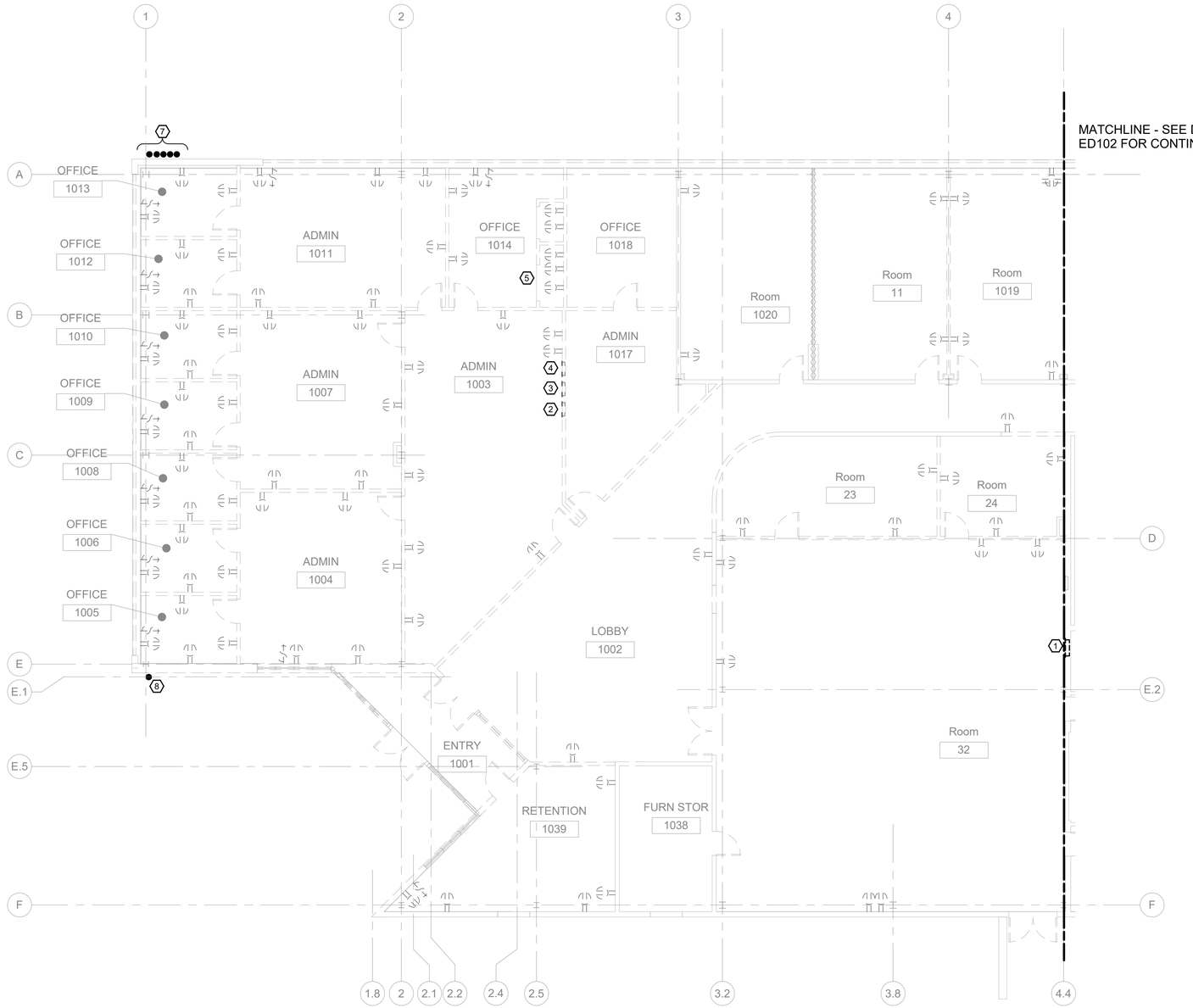
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ORANGEBURG, NEW YORK

ELECTRICAL
NOTES, SYMBOLS AND ABBREVIATIONS

JULY 29, 2021

CORRECTED FINAL SUBMISSION

SHEET ID
E-001




# 1 INTERIOR FLOOR PLAN

1/8" = 1'-0"

## NOTES

1. FOR ADDITIONAL NOTES, SYMBOLS AND ABBREVIATIONS SEE DRAWING E-001.
2. FOR INFORMATION ON EXISTING CIRCUITRY SEE PANEL SCHEDULES ON DRAWINGS EP601 AND EP602.
3. CONTRACTOR SHALL DISCONNECT AND REMOVE ALL EXISTING ABOVE CEILING AND WALL MOUNTED HVAC EQUIPMENT. DISCONNECT AND REMOVE ALL EXISTING CONDUIT AND WIRE BACK TO POWER SOURCE.

## KEYNOTES

1. EXISTING PANEL LP-LB TO BE DISCONNECTED AND REMOVED. DISCONNECT AND REMOVE ALL ASSOCIATED CONDUIT AND WIRE INCLUDING FEEDER CIRCUIT BACK TO MDP.
2. EXISTING PANEL PP-PA TO BE DISCONNECTED AND REMOVED. DISCONNECT AND REMOVE ALL ASSOCIATED CONDUIT AND WIRE, INCLUDING FEEDER CIRCUIT, BACK TO MDP.
3. EXISTING PANEL LP-LA TO BE DISCONNECTED AND REMOVED. DISCONNECT AND REMOVE ALL ASSOCIATED CONDUIT AND WIRE, INCLUDING FEEDER CIRCUIT, BACK TO EMERGENCY GENERATOR PANEL.
4. EXISTING PANEL PP-SI TO BE DISCONNECTED AND REMOVED. DISCONNECT AND REMOVE ALL ASSOCIATED CONDUIT AND WIRE.
5. FOR IT, TELEPHONE, SECURITY EQUIPMENT REMOVALS SEE COMMUNICATIONS DRAWINGS. CONTRACTOR SHALL REMOVE ALL ASSOCIATED CONDUIT AND WIRE.
6. NOT USED
7. LOCATION FOR INTERCOM COMMUNICATIONS AND POWER CONDUIT FOR TWO EXISTING EXTERIOR MOTOR OPERATED GATES. CONDUIT AND WIRE SHALL REMAIN ON BUILDING EXTERIOR. INTERCEPT EXISTING CONDUIT ON BUILDING INTERIOR AND PROVIDE FOR REQUIRED RECONNECTION. SEE DRAWING EP103 FOR CONTINUATION.
8. LOCATION OF CONDUIT AND WIRE RUN TO UNKNOWN EXTERIOR ELECTRICAL LOAD. CONTRACTOR SHALL TRACE OUT CIRCUIT AND RELOCATE AS NECESSARY TO ACCOMODATE THE BUILDING RENOVATION CONTRACTOR SHALL REPOWER WITH NEW CIRCUIT(S). SEE DRAWING EP103 FOR CONTINUATION.

9296463 (TYPICAL)

0 4' 8' 16'

SCALE: 1/8"=1'-0

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LOUISVILLE DISTRICT
LOUISVILLE, KY

SAVIN ENGINEERS, P.C.
3 CAMPUS DRIVE PLEASANTVILLE, NY 10570

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SOLICITATION NO.: W912QR20R0038

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UNITED STATES ARMY RESERVE CENTER
ORANGEBURG, NEW YORK

ELECTRICAL
POWER DEMOLITION PLAN - AREA "A"

SHEET ID

ED101

CORRECTED FINAL SUBMISSION JULY 29, 2021

MATCHLINE - SEE DRAWING ED101 FOR CONTINUATION

Room 10
Room 1
Room 31
Room 30
Room 27
Room 29
Space 1054
Room 33
Room 35
Space 1051
Room 34
Space 1059
Room 39
Room 36
Room 40
Space 1061
Room 37
Room 38
Room 1022

EXISTING SECONDARY SERVICE RUN

(TYP. FOR 6)

## NOTES

1. FOR ADDITIONAL NOTES, SYMBOLS AND ABBREVIATIONS SEE DRAWING E-001.
2. FOR REMOVAL GUIDE INFORMATION OF CONDUIT AND WIRE SEE PANEL SCHEDULE ON DRAWINGS EP601 AND EP602,
3. CONTRACTOR SHALL DISCONNECT AND REMOVE ALL EXISTING ABOVE CEILING AND WALL MOUNTED HVAC EQUIPMENT DISCONNECT AND REMOVE ALL EXISTING CONDUIT AND WIRE BACK TO POWER SOURCE.

## KEYNOTES

1. EXISTING 350 AMP PANEL PP-PK TO DISCONECTED AND REMOVED. DISCONNECT AND REMOVE ALL EXISTING BRANCH CIRCUITS AND ASSOCIATED CONDUIT AND WIRE. REMOVE FEEDER CABLE BACK TO MDP. CONDUIT MAY BE REUSED.
2. KITCHEN AREA. DISCONNECT AND REMOVE ALL KITCHEN EQUIPMENT POWER AND ASSOCIATED CONDUIT AND WIRE.
3. EXISTING 225KVA TRANSFORMER TO REMAIN AND BE REUSED. DISCONNECT AND REMOVE SECONDARY CABLES (208Y/120 VOLT, 3 PHASE, 4 WIRE).
4. EXISTING 800AMP MAIN DISTRIBUTION SWITCHBOARD TO BE DISCONNECTED AND RELOCATED TO NEW ELECTRICAL ROOM.
5. EXISTING 30KW NATURAL GAS GENERATOR TO REMAIN AND BE REUSED. ALL EXISTING GENERATOR ELECTRICAL CONNECTIONS (CONDUIT AND WIRE) INBETWEEN THE GENERATOR AND ATS SHALL REMAIN AND BE REUSED.
6. LOCATION OF EXISTING GENERATOR ATS AND ASSOCIATED EMERGENCY GENERATOR PANEL TO REMAIN AND BE REUSED. WITH THE EXCEPTION OF CIRCUITS 1 AND 8 (8,10,12) ALL BRANCH FEEDER CIRCUITS (CONDUIT AND WIRE) SHALL BE DISCONNECTED AND REMOVED. CONTRACTOR SHALL TRACE OUT THE 50 AMP, 3 POLE CIRCUIT TO DETERMINE WHAT THIS IS ACTUALLY SERVING.
7. LOCATION OF PANEL PP-PB TO BE DISCONNECTED AND REMOVED. PANEL SHALL BE REPLACED WITH NEW IN SAME LOCATION. DISCONNECT AND REMOVE ALL ASSOCIATED BRANCH FEEDER CIRCUITS (CONDUIT AND WIRE) AND ASSOCIATED FEEDER CIRCUIT.
8. LOCATION OF EXISTING EXTERIOR LIGHTING CONTROL CONTACTOR AND ASSOCIATED PANEL LP-LS SHALL DISCONNECTED AND REMOVED AND REPPLACED IN KIND TO MATCH EXISTING. PANEL TO BE UPGRADED TO 22KA. ALL EXTERIOR LIGHTING CIRCUITS TO REMAIN AND BE REUSED.
9. ALL EXISTING HVAC/BOILER EQUIPMENT, ASSOCIATED CIRCULATION PUMPS AND DISCONNECT SWITCHES TO BE DISCONNECTED AND REMOVED. ALL ASSOCIATED CONDUIT AND WIRE SHALL BE REMOVED. SEE MECHANICAL DEMOLITION DRAWINGS FOR ADDITIONAL INFORMATION.
10. EXISITING PANEL LP-LC TO BE DISCONNECTED AND REMOVED. DISCONNECT AND REMOVE ALL EXISTING BRANCH CIRCUIT WIRING (CONDUIT AND WIRE).
11. EXISTING VAULT, DISCONNENT AND REMOVE ALL IN-ROOM CONDUIT WIRE RECEPTACLES, SWITCHES ETC. THIS INCLUDES EQUIPMENT MOUNTED OUTSIDE THE VAULT ROOM DOOR.
12. LOCATION OF EXISTING PANELS LP-LG AND PP-PG. UNLESS NOTED OTHERWISE DISCONNECT AND REMOVE ALL BRANCH CIRCUITS (CONDUIT AND WIRE) AND ASSOCIATED FEEDER CIRCUIT. BOTH PANELS SHALL REMAIN AND BE REUSED. CONTRACTOR SHALL KEEP GARAGE OVERHEAD DOOR CIRCUITS.
13. EXISITING GARAGE DOOR OPENERS AND ASSOCIATED CONTROLS SHALL REMAIN AND BE REUSED.
14. LOCATION OF FAN UNIT. DISCONNECT AND REMOVE ALL CONDUIT AND WIRE BACK TO POWER SOURCE.

1 INTERIOR FLOOR PLAN
1/8" = 1'-0"

0 4' 8' 16'
SCALE: 1/8"=1'-0

US Army Corps of Engineers ®

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LOUISVILLE, KY

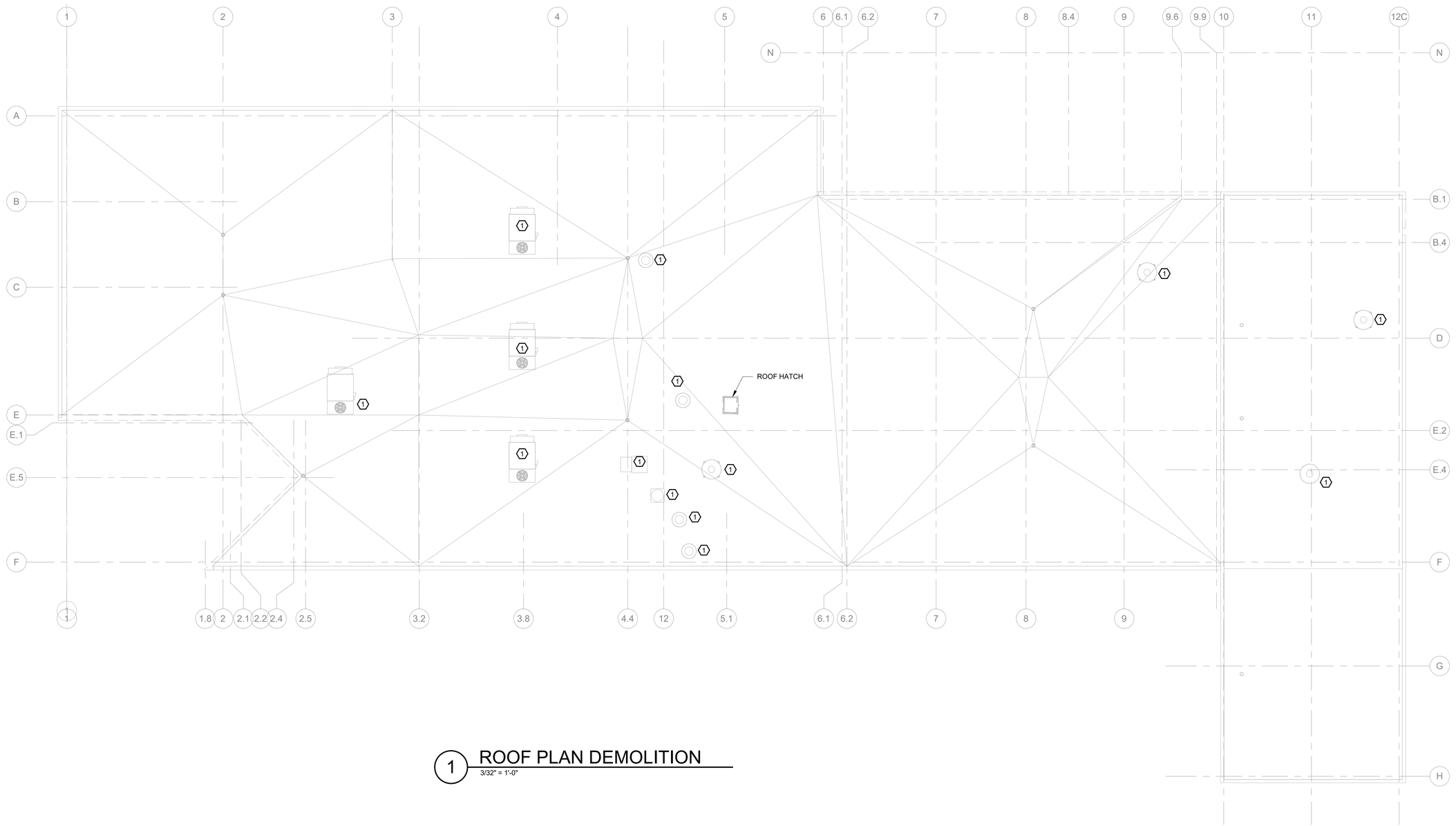
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ELECTRICAL
POWER DEMOLITION PLAN - AREA "B"

SHEET ID
ED102

CORRECTED FINAL SUBMISSION JULY 29, 2021




## 1 ROOF PLAN DEMOLITION

3/32" = 1'-0"

### KEYNOTES

1. DISCONNECT AND REMOVE ALL CONDUIT AND WIRE FROM ROOF TOP UNITS AND EXHAUST/SUPPLY FANS. REMOVE CONDUIT AND WIRE BACK TO POWER SOURCE.

### NOTES

1. FOR ADDITIONAL NOTES, SYMBOLS AND ABBREVIATIONS SEE DRAWING E-001.
2. SEE MECHANICAL DEMOLITION DRAWINGS FOR ADDITIONAL INFORMATION.

0 16' 32' 64'

SCALE: 1/32"=1'-0

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ORANGEBURG, NEW YORK

ELECTRICAL
POWER DEMOLITION ROOF PLAN

SHEET ID

ED103

CORRECTED FINAL SUBMISSION JULY 29, 2021




1 FLOOR PLAN
1/8" = 1'-0"

## NOTES

1. FOR ADDITIONAL NOTES, SYMBOLS AND ABBREVIATIONS SEE DRAWING E-001.
2. UNLESS NOTED OTHERWISE, CONTRACTOR SHALL DISCONNECT AND REMOVE ALL LIGHT FIXTURES, EXIT UNITS, EMERGENCY LIGHTING UNITS, SWITCHES, CONDUIT AND WIRE. CONDUIT AND WIRE TO BE REMOVED BACK TO POWER SOURCE.
3. ALL FLUORESCENT, EXIT AND EMERGENCY FIXTURES SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND DISPOSED OF LEGALLY. ALL EXISTING LED FIXTURES SHALL BE CAREFULLY PACKAGED AND TURNED OVER TO THE FACILITY OWNER.
4. ALL EXISTING EXTERIOR ROADWAY AND PARKING LOT CIRCUITING AND CONTROLS SHALL REMAIN AND BE REUSED

## KEYNOTES

1. EXISTING PERIMETER WALL MOUNTED LIGHTING FIXTURES TO REMAIN AND BE REUSED. EXISTING CIRCUITING (CONDUIT AND WIRE) AND LIGHTING CONTROLS SHALL REMAIN AND BE REUSED.
2. EXISTING PERIMETER WALL MOUNTED LIGHTING FIXTURE TO BE DISCONNECTED, REMOVED AND RELOCATED. EXTEND EXISTING CIRCUITING AS NECESSARY FOR NEW LOCATION (SEE DWG EL-101).
3. EXISTING FLAG POLE FLOOD LIGHT TO BE DISCONNECTED, REMOVED AND RELOCATED TO NEW FLAG POLE LOCATION. EXTEND EXISTING CIRCUITING AS NECESSARY.

0 4' 8' 16'
SCALE: 1/8"=1'-0

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3 CAMPUS DRIVE PLEASANTVILLE, NY 10570

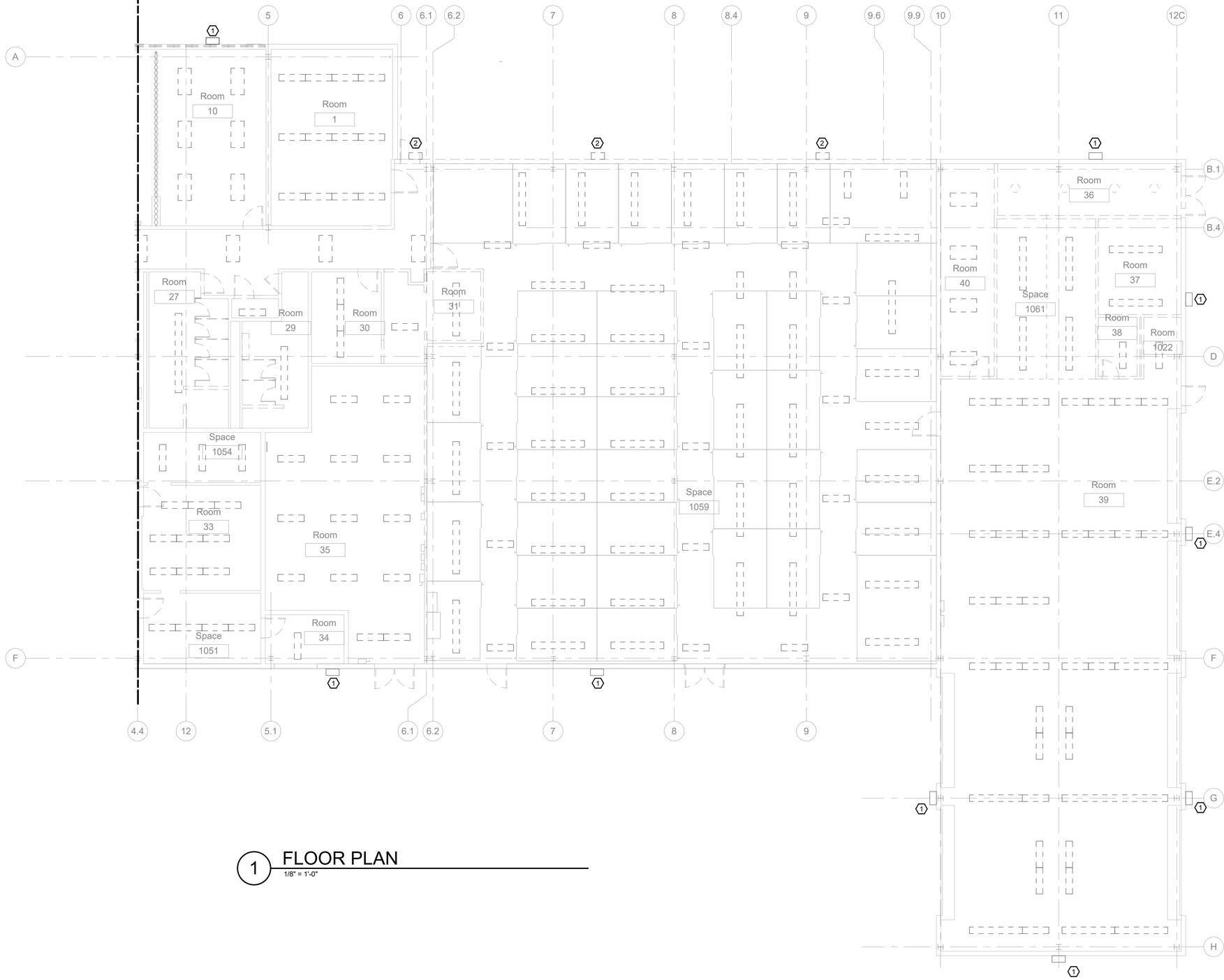
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ELECTRICAL
LIGHTING DEMOLITION PLAN - AREA "A"

SHEET ID
ED104

CORRECTED FINAL SUBMISSION JULY 29, 2021

MATCHLINE - SEE DRAWING ED104 FOR CONTINUATION




## NOTES

1. FOR ADDITIONAL NOTES, SYMBOLS AND ABBREVIATIONS SEE DRAWING E-001.
2. UNLESS NOTED OTHERWISE, CONTRACTOR SHALL DISCONNECT AND REMOVE ALL LIGHT FIXTURES, EXIT UNITS, EMERGENCY LIGHTING UNITS, SWITCHES, CONDUIT AND WIRE. CONDUIT AND WIRE TO BE REMOVED BACK TO POWER SOURCE.
3. ALL FLUORESCENT, EXIT AND EMERGENCY FIXTURE SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND DISPOSED OF LEGALLY. ALL EXISTING LED FIXTURES SHALL BE CAREFULLY PACKAGED AND TURNED OVER TO THE FACILITY OWNER.
4. ALL EXISTING EXTERIOR ROADWAY AND PARKING LOT POLE MOUNTED LIGHTING, INCLUDING ALL EXISTING POWER CIRCUITS AND CONTROLS, SHALL REMAIN AND BE REUSED.

## KEYNOTES

1. EXISTING PERIMETER WALL MOUNTED LIGHTING FIXTURES TO REMAIN AND BE REUSED. EXISTING CIRCUITING (CONDUIT AND WIRE) AND LIGHTING CONTROLS SHALL REMAIN AND BE REUSED.
2. EXISTING PERIMETER WALL MOUNTED LIGHTING FIXTURE TO BE DISCONNECTED, REMOVED AND RELOCATED. EXTEND EXISTING CIRCUITING AS NECESSARY FOR NEW LOCATION (SEE DWG EL-101b).
3. CARE SHALL BE TAKEN SO AS NOT TO DAMAGE EXISTING POLE, FOUNDATION AND FLOOD LIGHTING FIXTURES DURING CONSTRUCTION OF NEW ADDITION.

1 FLOOR PLAN
1/8" = 1'-0"

0 4' 8' 16'
SCALE: 1/8"=1'-0

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3 CAMPUS DRIVE PLEASANTVILLE, NY 10570

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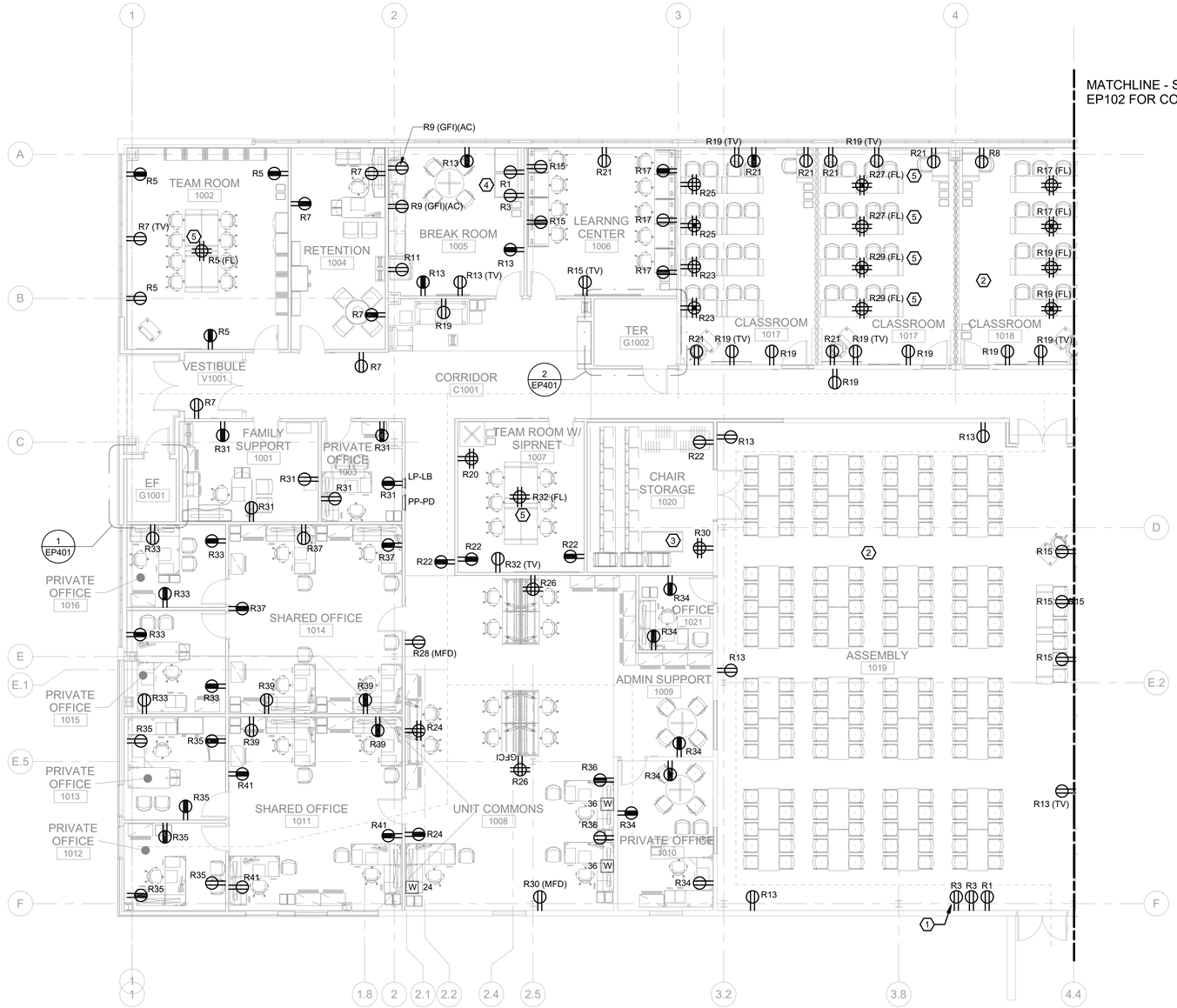
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ELECTRICAL
LIGHTING DEMOLITION PLAN - AREA "B"

SHEET ID
ED105

CORRECTED FINAL SUBMISSION JULY 29, 2021




## 1 RECEPTACLE FLOOR PLAN

1/8" = 1'-0"

## NOTES

1. FOR ADDITIONAL NOTES, SYMBOLS AND ABBREVIATIONS SEE DRAWING E-001.
2. ALL RECEPTACLES SHALL BE FLUSH MOUNTED UNLESS NOTED OTHERWISE.
3. UNLESS NOTED OTHERWISE ALL RECEPTACLES SHALL USE #12 AWG WIRE AND GROUND.
4. UNLESS NOTED OTHERWISE, ALL RECEPTACLES SHOWN SHALL BE CIRCUITED VIA POWER PANEL PP-PD. SEE PANEL SCHEDULE ON DRAWING EP603 FPR ADDITIONAL INFORMATION.
5. FOR RECEPTACLES SHOWN TO BE TURNED ON/OFF VIA OCCUPAANCY SENSORS, SEE DRAWING EP501 FOR TYPICAL WIRING DIAGRAM.
6. CONTRACTOR SHALL COORDINTE ALL RECEPTACLE EXACT LOCATIONS WITH NOTES ON DRAWING IF001.
7. RECEPTACLES TO BE USED FOR "TV" POWER (TV) SHALL BE RECESSED MOUNTED 6'-0" A.F.F..
8. UNLESS NOTED OTHERWISE, ALL ROUND FLOOR MOUNTED RECEPTACLES (RECESSED) SHALL BE NON-COMBINATION 120 VOLT POWER OUTLETS ONLY.
9. FOR ROUND FLOOR MOUNTED RECEPTACLES (RECESSED) REQUIRING DATA OUTLETS, COORDINATE WITH IT DRAWINGS.

## KEY NOTES

1. WORK TABLE WITH BACKSPLASH. (19A) SEE DRAWING EP403 FOR ADDITIONAL INFORMATION. POWER FOR THESE 3 RECEPTACLES COME FROM PP-BK.
2. UNLESS NOTED OTHERWISE ALL RECEPATCLES IN ASSEMBLY AREA 1019 AND CLASSROOM 1018 SHALL BE CIRCUITED VIA PANEL PP-PC.
3. QUAD RECEPTACLE FOR PA SYSTEM. COORDINATE EXACT LOCATION OF PA SYSTEM COMPONENTS WITH DATA DRAWINGS. POWER FOR RECEPTACLE IS VIA PP-PC.
4. POWER OUTLETS FOR VENDING MACHINES.
5. RECESSED FLOOR BOX REQUIRES COMBINATION 120 VOLT OUTLET AND TELECOM / DATA PORTS.

SCALE: 1/8"=1'-0

US Army Corps of Engineers ®

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LOUISVILLE, KY

SAVIN ENGINEERS, P.C.
3 CAMPUS DRIVE PLEASANTVILLE, NY 10570

UNITED STATES ARMY RESERVE CENTER
ORANGEBURG, NEW YORK

ELECTRICAL
RECEPTACLE POWER PLAN - AREA "A"

SHEET ID

EP101

CORRECTED FINAL SUBMISSION JULY 29, 2021

MATCHLINE - SEE DRAWING EP101 FOR CONTINUATION

MEN SHOWER / LOCKER G1007
WOMEN SHOWER / LOCKER G1008
PHYSICAL READINESS 1031
(x5)
SECURE STORAGE 1025
CLASSROOM 1018
CORRIDOR C1003
TR G1006
PRIVATE OFFICE 1027
PRIVATE OFFICE 1028
ARMORER 1029
LACTATION ROOM 1026
MEN'S TOILET G1003
WOMEN TOILET G1005
STORAGE 1022
MECHANICAL G1010
ARMS VAULT 1030
UNIT STORAGE 1032
(SEE NOTE 3)
UNIT STORAGE 1037
UNIT STORAGE 1036
KITCHEN 1023
SCULLERY 1024
CAN WASH 1039
ELECTRICAL G1009
STORAGE 1034
PRIVATE OFFICE 1033
LP-LG
PP-PG

## NOTES

1. FOR ADDITIONAL NOTES, SYMBOLS AND ABBREVIATIONS SEE DRAWING E-001.
2. ALL RECEPTACLES SHALL BE FLUSH MOUNTED UNLESS NOTED OTHERWISE.
3. UNLESS NOTED OTHERWISE ALL RECEPTACLES SHALL USE #12 AWG WIRE AND GROUND. RECEPTACLES LOCATED IN THE UNIT STORAGE BAYS SHALL BE CIRCUITED VIA PANEL PP-PG.
4. ALL REMAINING RECEPTACLES SHALL BE POWERED VIA PANEL PP-PC.
5. SEE DRAWING EP603 AND EP604 FOR PANEL SCHEDULES.
6. FOR RECEPTACLES SHOWN TO BE TURNED ON/OFF VIA OCCUPAANCY SENSORS, SEE DRAWING EP501 FOR TYPICAL WIRING DIAGRAM.
7. CONTRACTOR SHALL COORDINTE ALL RECEPTACLE EXACT LOCATIONS WITH NOTES ON DRAWING IF001.
8. RECEPTACLES TO BE USED FOR "TV" POWER (TV) SHALL BE RECESSED MOUNTED 6'-0" A.F.F..
9. UNLESS NOTED OTHERWISE, ALL ROUND FLOOR MOUNTED RECEPTACLES (RECESSED) SHALL BE NON-COMBINATION 120 VOLT POWER OUTLETS ONLY.

## KEY NOTES

1. COORDINATE EXACT RECEPTACLE LOCATIONS BASE ON INSTALLED GYM EQUIPMENT AS NECESSARY.

## 1 RECEPTACLE FLOOR PLAN

1/8" = 1'-0"

SCALE: 1/8"=1'-0

US Army Corps of Engineers ®

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DATE:

| MARK | DESCRIPTION | DATE |
|---|---|---|
| 5 | Revision 5 (CORRECTED FINAL) | Date 5 |
| 3 | Revision 3 (INTERIM) | Date 4 |

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US ARMY CORPS OF ENGINEERS
LOUISVILLE DISTRICT
LOUISVILLE, KY

SAVIN ENGINEERS, P.C.
3 CAMPUS DRIVE PLEASANTVILLE, NY 10570

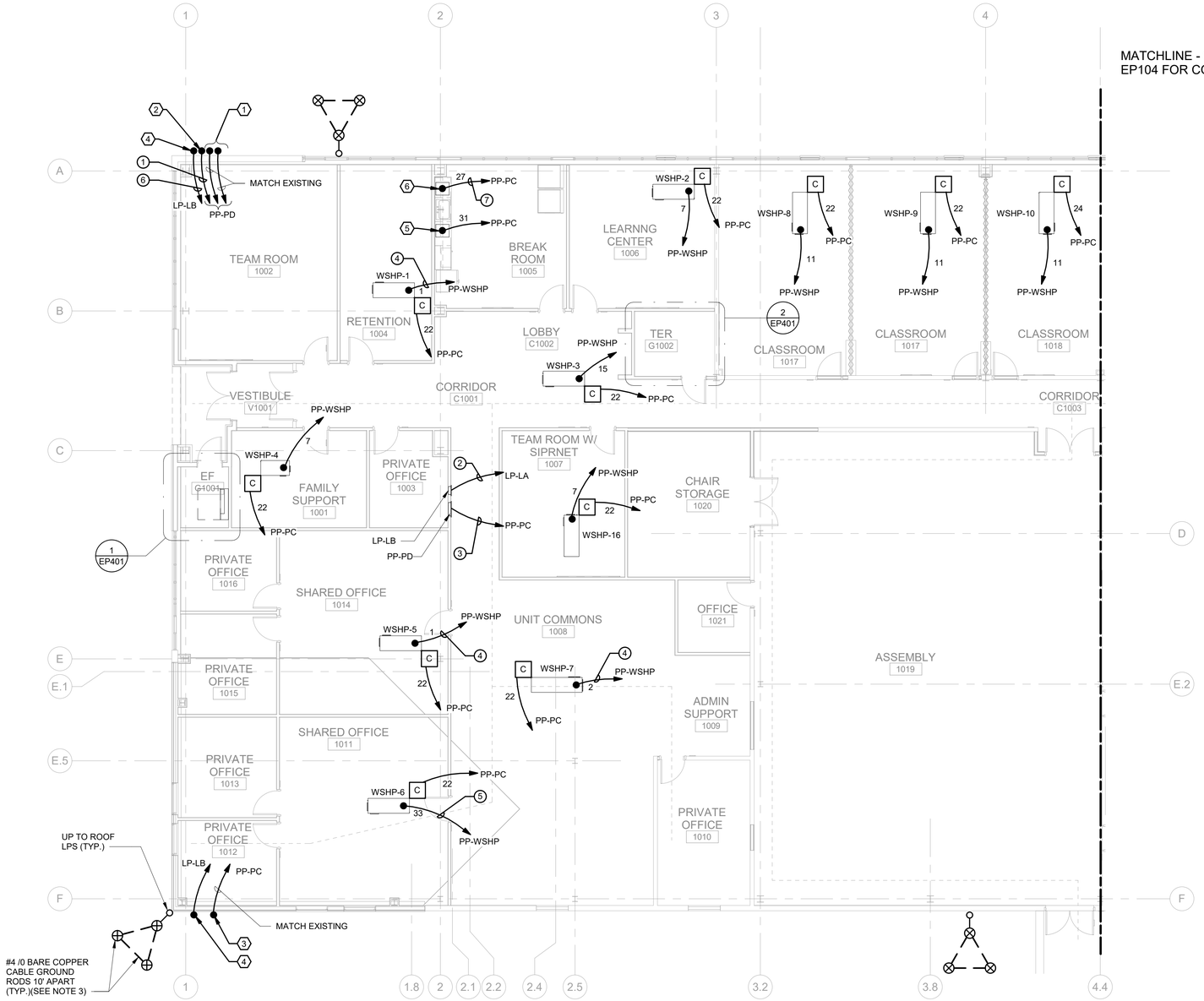
UNITED STATES ARMY RESERVE CENTER
ORANGEBURG, NEW YORK

ELECTRICAL
RECEPTACLE POWER PLAN - AREA "B"

SHEET ID

EP102

CORRECTED FINAL SUBMISSION JULY 29, 2021




1 FLOOR PLAN
1/8" = 1'-0"

## NOTES

1. FOR ADDITIONAL NOTES AND SYMBOLS SEE DRAWING E-001.
2. SEE DRAWING EP106 FOR CONTINUATION OF LIGHTNING PROTECTION SYSTEM.
3. CONNECT EACH LPS GROUNDING TRIANGLE TO BUILDING STEEL.
4. CONTRACTOR SHALL PROVIDEAND INSTALL A SMALL DISCONNECT SWITCH FOR EACH CONDENSATE PUMP. IF CONDENSATE PUMPS COME WITH A PLUG ARRANGEMENT PROVIDE NEW RECEPTACLE, WHICH CAN DOUBLE AS A DISCONNECT.

## KEY NOTES

1. TWO EXISTING EXTERIOR AUTOMATIC GATE POWER CONDUIT AND WIRE CIRCUITS SHALL BE INTERCEPTED AND EXTEND WITH NEW CONDUIT AND WIRE TO PANEL PP-PD. MATCH EXISTING CONDUIT AND WIRE SIZES. INTERCOM CONDUIT NOT SHOWN.
2. PROVIDE NEW CONDUIT AND WIRE FOR NEW GATE POWER AND 120 VOLT CONTROL. SEE FAST TRACK PROJECT FOR CONTINUATION.
3. EXISTING RELOCATED CONDUIT AND WIRE. MATCH EXISTING, EXTEND WITH NEW CONDUIT AND WIRE AS SHOWN. MODIFY PANEL PP-PC AS NECESSARY TO ACCOMODATE EXISTING CIRCUIT NEEDS.
4. POWER FOR NEW SITE LIGHTING. SEE FAST TRACK PROJECT FOR CONTINUATION.
5. UNDER-COUNTER EJECTOR PUMP. PROVIDE DISCONNECT SWITCH ADJACENT TO PUMP.
6. UNDER-COUNTER INSTANT HOT WATER HEATER PROVIDE DISCONNECT SWITCH ADJACENT TO PUMP.

## CONDUIT AND WIRE LEGEND

| | |
|---|---|
| 1 | 1 1/4"C, 3#8, 2#10 & 1#10 GND |
| 2 | 1 1/4"C, 4#4 & 1#8 GND |
| 3 | 2 1/2"C, 4#4/0 & 1#4 GND |
| 4 | 3/4"C, 3#12 & 1#12 GND |
| 5 | 3/4"C, 3#8 & 1#12 GND |
| 6 | 1 1/4"C, 2#6 & 1#10 GND |
| 7 | 3/4"C, 2#10 & 1#10 GND |

SCALE: 1/8"=1'-0

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SUBMITTED BY:
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OPTION FIELD 2

US ARMY CORPS OF ENGINEERS
LOUISVILLE DISTRICT
LOUISVILLE, KY

SAVIN ENGINEERS, P.C.
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UNITED STATES ARMY RESERVE CENTER
ORANGEBURG, NEW YORK

ELECTRICAL
POWER PLAN - AREA "A"

SHEET ID
EP103

CORRECTED FINAL SUBMISSION JULY 29, 2021

MATCHLINE - SEE DRAWING EP103 FOR CONTINUATION

SECURE STORAGE 1025
MEN SHOWER / LOCKER G1007
WOMEN SHOWER / LOCKER G1008
SPRINKLER CLOSET G1011
PHYSICAL READINESS 1031
CLASSROOM 1018
CORRIDOR C1003
JANITOR G1004
LACTATION ROOM 1026
TR G1006
PRIVATE OFFICE 1027
PRIVATE OFFICE 1028
MEN'S TOILET G1003
WOMEN TOILET G1005
STORAGE 1026A
ARMORER 1029
ARMS VAULT 1030
GEN
IDS CONTROL PANEL
UNIT STORAGE 1032
STORAGE 1022
MECHANICAL G1010
KITCHEN 1023
PRIVATE OFFICE 1033
ELECTRICAL G1009
SCULLERY 1024
CAN WASH 1039
STORAGE 1034
STAGING 1035
UNIT STORAGE 1036
UNIT STORAGE 1037

C 24 WSHP-11 15 PP-PC PP-WSHP
C 24 WSHP-14 19 PP-WSHP PP-PC
20 PP-PC
C ? 8 4 PP-WSHP PP-PC
3 EP401 7 EP401
C 24 PP-PC 24 PP-PC
C 24 WSHP-18 23 PP-WSHP
C 24 WSHP-15 19 PP-WSHP
C 19 WSHP-20 PP-WSHP 24 PP-PC
1 EP403
C 22 23 PP-PG PP-WSHP WSHP-21
C 24 WSHP-17 23 PP-WSHP
24 PP-PC
PP- 1
MKT PAD JUNCTION BOX (SEE FAST TRACK DRAWINGS FOR CONTINUATION.
4 EP401
1 EP402
UP TO ROOF LPS (TYP.)
#4 /0 BARE COPPER CABLE GROUND RODS 10' APART (TYP.)(SEE NOTE 3)
3 PP-WSHP 27 WSHP-24 C 22 PP-PG
3 PP-WSHP 27 WSHP-22 C 22 PP-PG
2 LP-PA LP-LG
PP-PC 2 PP-PG
4 PP-WSHP 14 WSHP-23 PP-PG 22 C

## NOTES

1. FOR ADDITIONAL NOTES, SYMBOLS AND ABBREVIATIONS SEE DRAWING E-001.
2. SEE DRAWING EP106 FOR CONTINUATION OF LIGHTNING PROTECTION SYSTEM.
3. CONNECT EACH LPS GROUNDING TRIANGLE TO BUILDING STEEL.
4. CONTRACTOR SHALL PROVIDEAND INSTALL A SMALL DISCONNECT SWITCH FOR EACH CONDENSATE PUMP. IF CONDENSATE PUMPS COME WITH A PLUG ARRANGEMENT PROVIDE NEW RECEPTACLE, WHICH CAN DOUBLE AS A DISCONNECT.

## CONDUIT AND WIRE LEGEND

| | |
|---|---|
| 1 | 1 1/2"C, 4#2 & 1#8 GND |
| 2 | 1"C, 4#6 & 1#6 GND |
| 3 | 3/4"C, 3#10 & 1#10 GND |
| 4 | 3/4"C, 3#8 & 1#10 GND |

1 FLOOR PLAN
1/8" = 1'-0"

0 4' 8' 16'
SCALE: 1/8"=1'-0

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DRAWN BY: JC
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US ARMY CORPS OF ENGINEERS
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LOUISVILLE, KY

SAVIN ENGINEERS, P.C.
3 CAMPUS DRIVE FLEASANTVILLE, NY 10570

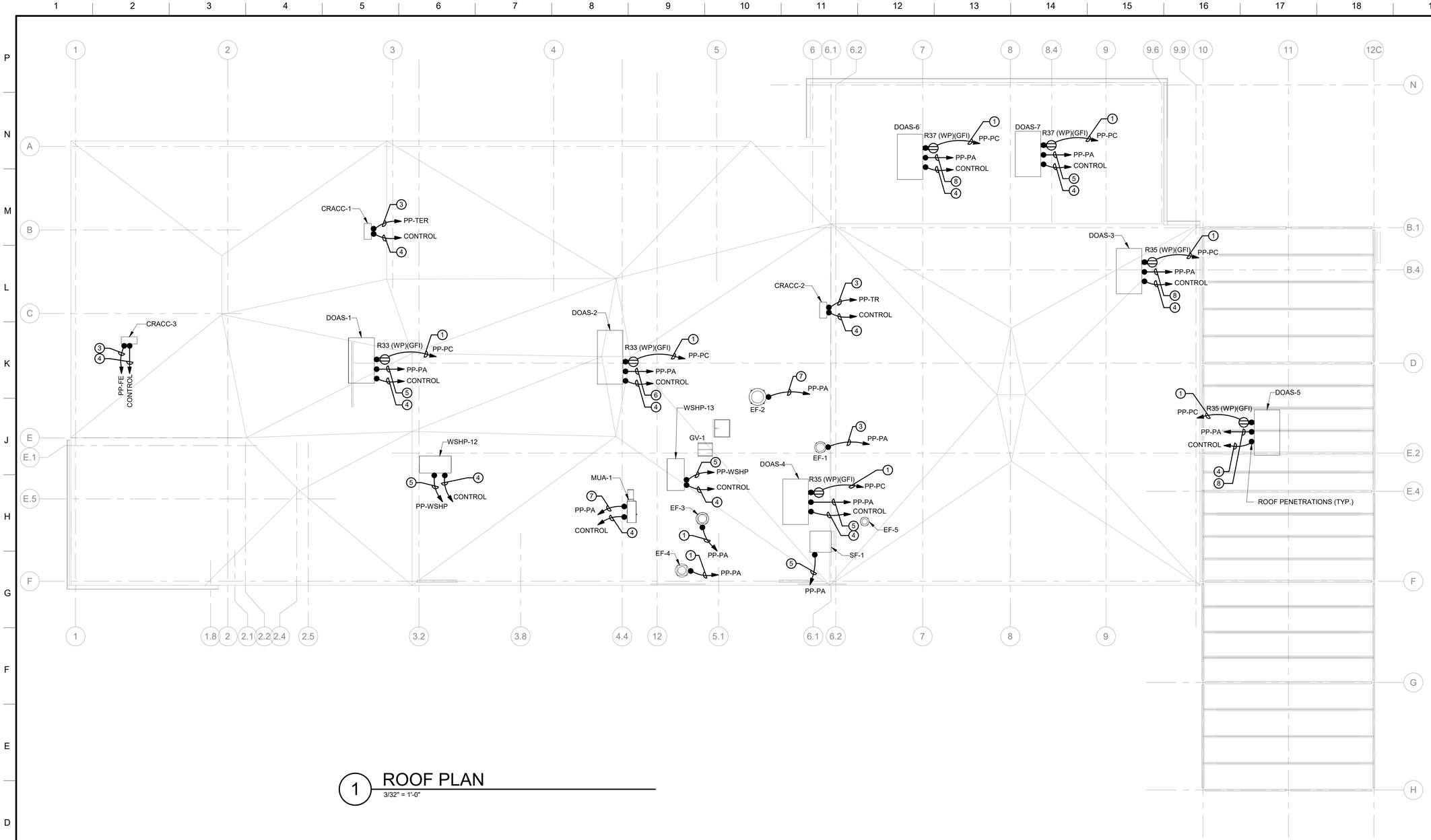
UNITED STATES ARMY RESERVE CENTER
ORANGEBURG, NEW YORK

ELECTRICAL
POWER PLAN - AREA "B"

JULY 29, 2021

CORRECTED FINAL SUBMISSION

SHEET ID
EP104




## 1 ROOF PLAN

3/32" = 1'-0"

### CONDUIT AND WIRE LEGEND

| | |
|---|---|
| 1 | 3/4"C, 2#12 & 1#12 GND |
| 2 | 3/4"C, 2PR#16 SHIELDED |
| 3 | 3/4"C, 2#10 & 1#10 GND |
| 4 | 3/4"C, CONTROL WIRING (SEE NOTE 3) |
| 5 | 3/4"C, 3#8 & 1#10 GND |
| 6 | 1"C, 3#4 & 1#8 GND |
| 7 | 3/4"C, 3#12 & 1#12 GND |
| 8 | 1"C, 3#6 & 1#10 GND |

### NOTES

1. FOR ADDITIONAL NOTES, SYMBOLS AND ABBREVIATIONS SEE DRAWING E-001.
2. FOR INTERCONNECTION DIAGRAM FOR HPCU/HPU-1 SEE DRAWING EP501.
3. SEE MECHANICAL DRAWING FOR EQUIPMENT CONTROL WIRING INFORMATION.
4. ALL ROOF PENETRATIONS SHALL BE VIA PIPE PORTAL SYSTEM BY PORTALSPLUS OR APPROVED EQUAL.

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|---|---|---|

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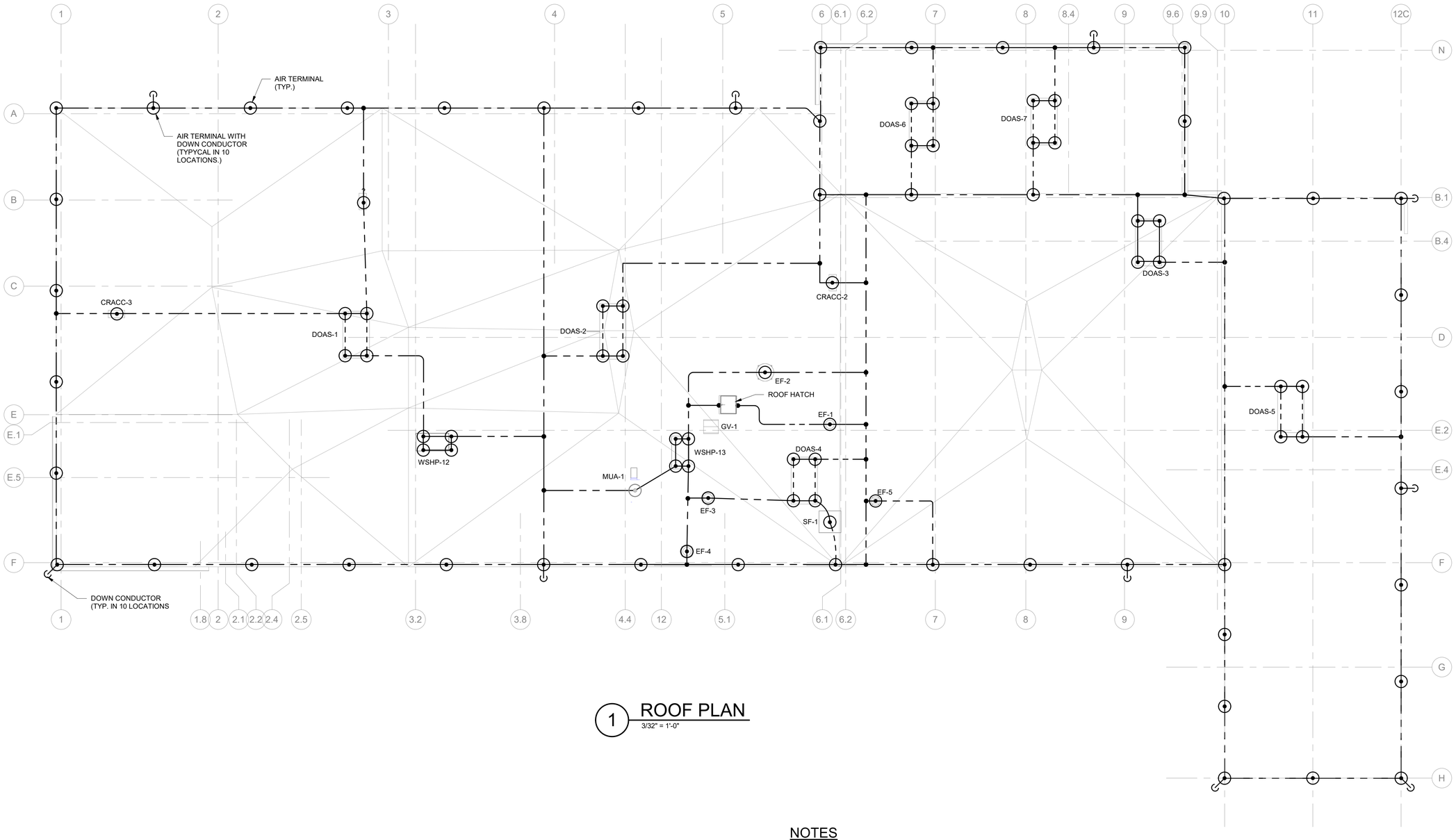
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ELECTRICAL
POWER ROOF PLAN

SHEET ID

EP105

CORRECTED FINAL SUBMISSION JULY 29, 2021




## 1 ROOF PLAN

3/32" = 1'-0"

## NOTES

1. FOR ADDITIONAL NOTES, SYMBOLS AND ABBREVIATIONS SEE DRAWING E-001.
2. CONTRACTOR IS ADVISED, THE LIGHTING PROTECTION SYSTEM SHOWN AND SPECIFIED SHALL BE USED AS A GUIDE. CONTRACTOR SHALL HIRE A CERTIFIED LIGHTING PROTECTION SPECIALIST FOR DESIGN AND INSTALLATION OF THE NEW SYSTEM. INSTALLER SHALL PROVIDE ALL LABOR AND MATERIALS NECESSARY SO AS TO OBTAIN UL96a CERTIFICATION (MASTER LABEL). INSTALLER SHALL PROVIDE FOR ALL NECESSARY BONDING FOR COMPLETE SYSTEM.
3. COORDINATE WITH ARCHITECTURAL, MECHANICAL AND PLUMBING (ROOF DRAINAGE) DRAWINGS FOR SPECIFIC INFORMATION AND ROOF STRUCTURE MATERIALS.
4. PROVIDE ALL REQUIRED CONNECTIONS TO ROOF DRAINS AND FLUE PIPES AS NECESSARY.
5. SEE DRAWINGS EP103 AND EP104 FOR CONTINUATION OF LPS GROUNDING.

0 4' 8' 16' 24'

SCALE: 3/32"=1'-0"

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LOUISVILLE, KY

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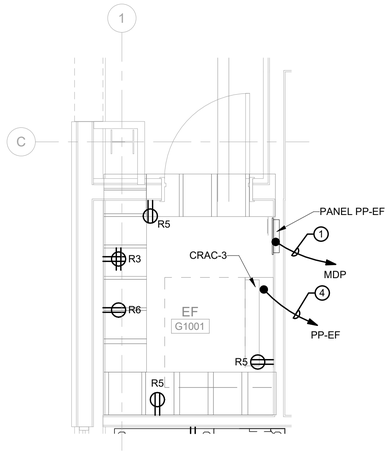
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ELECTRICAL
LIGHTNING PROTECTION ROOF PLAN

SHEET ID

EP106

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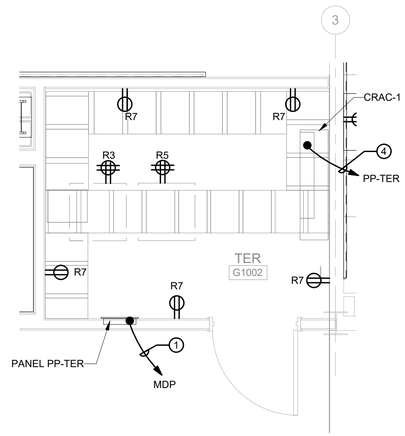



## 1 EF ENLARGED PLAN - POWER

3/8" = 1'-0"

NOTES

1. RECEPTACLES POWERED VIA PP-EF.

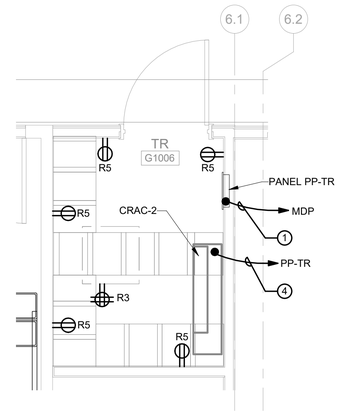



## 2 TER ENLARGED PLAN - POWER

3/8" = 1'-0"

NOTES

1. RECEPTACLES POWERED VIA PP-TER.

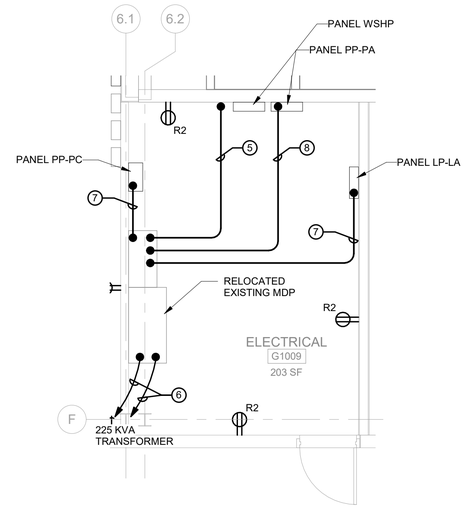



## 3 TR ENLARGED PLAN - POWER

3/8" = 1'-0"

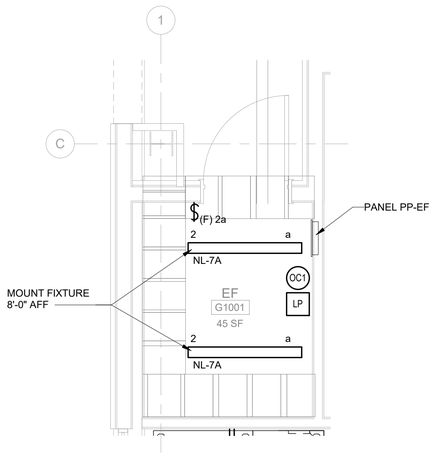
NOTES

1. RECEPTACLES POWERED VIA PP-TR.




## 4 ELECTRICAL ENLARGED PLAN - POWER

1/4" = 1'-0"

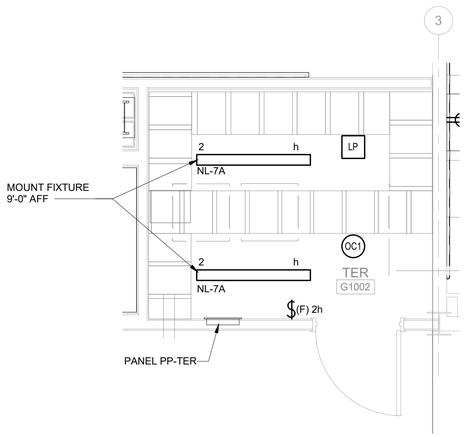



## 5 EF ENLARGED PLAN - LIGHTING

3/8" = 1'-0"

NOTES

1. LIGHTING POWERED VIA LP-LB.

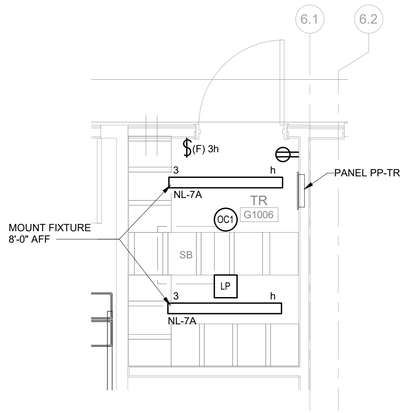



## 6 TER ENLARGED PLAN - LIGHTING

3/8" = 1'-0"

NOTES

1. LIGHTING POWERED VIA LP-LB.




## 7 TR ENLARGED PLAN - LIGHTING

3/8" = 1'-0"

NOTES

1. LIGHTING POWERED VIA LP-LC.

NOTES

1. FOR ADDITIONAL NOTES AND SYMBOLS SEE DRAWING E-001.
2. SEE DRAWING EP603 AND EP604 FOR PANEL SCHEDULES.
3. ALL LIGHTING AND RECEPTACLE CIRCUITS SHALL BE 3/4"C, 2#12 & 1#12 GND UNLESS NOTED OTHERWISE.
4. COORDINATE RECEPTACLE LOCATIONS WITH EQUIPMENT INSTALLATION LOCATIONS.

| CONDUIT AND WIRE LEGEND | |
|---|---|
| 1 | 1 1/4"C, 4#4 & 1#8 GND |
| 2 | 3/4"C, 2PR#16 SHIELDED |
| 3 | 3/4"C, 2#12 & 1#12 GND |
| 4 | 3/4"C, 2#10 & 1#10 GND |
| 5 | 3"C, 4-350 KCMIL & 1#4 GND |
| 6 | 2 SETS OF 4" C, 4-500 KCML CABLES |
| 7 | 1 1/4"C, 4#2 & 1#8 GND |
| 8 | 2 1/2"C, 4#250 KCML & 1#4 GND |

0 2' 4' 8'
SCALE: 1/4"=1'-0

0 1' 2' 4' 6'
SCALE: 3/8"=1'-0"

US Army Corps of Engineers ®

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OPTION FIELD 2

US ARMY CORPS OF ENGINEERS
LOUISVILLE DISTRICT
LOUISVILLE, KY

SAVIN ENGINEERS, P.C.
3 CAMPUS DRIVE PLEASANTVILLE, NY 10570

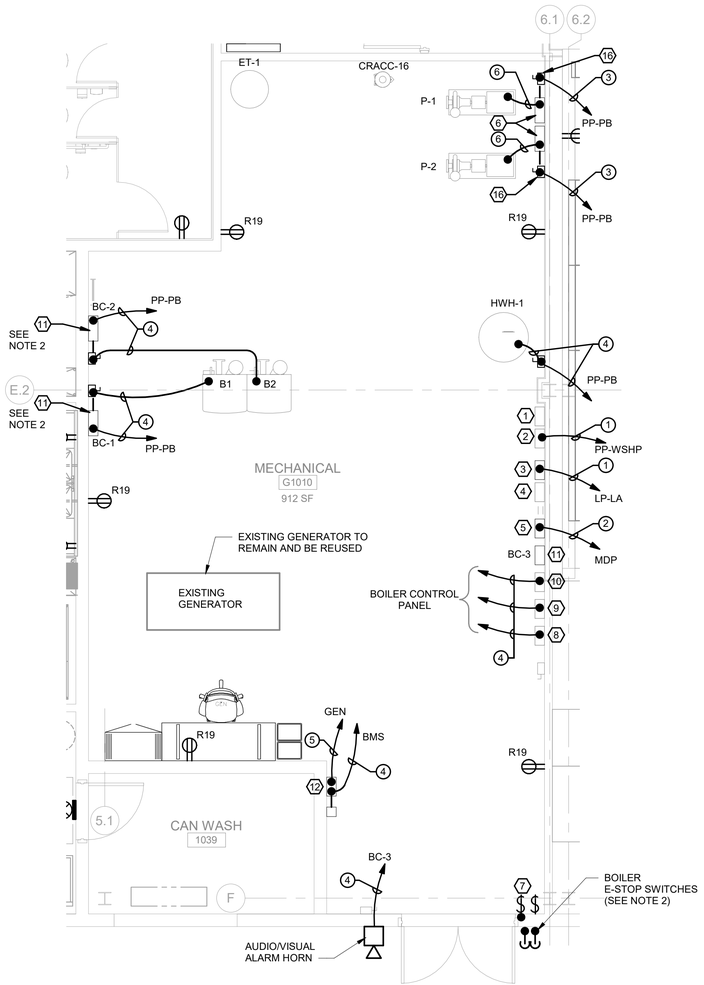
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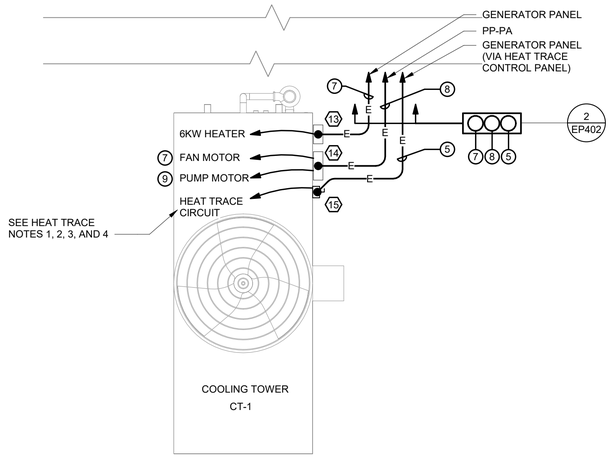
ELECTRICAL
PART PLAN

SHEET ID

EP401

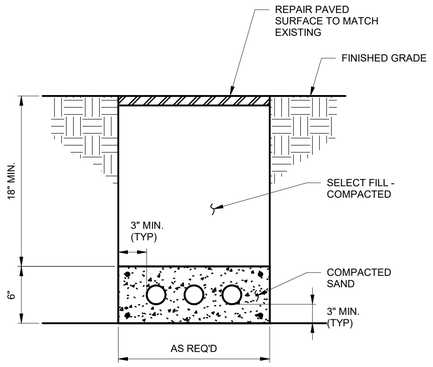
CORRECTED FINAL SUBMISSION JULY 29, 2021




## 1 MECHANICAL ENLARGED PLAN

1/4" = 1'-0"




## 2 SECTION

SCALE: N.T.S.

## NOTES

1. FOR ADDITIONAL NOTES AND SYMBOLS SEE DRAWING E-001.
2. SEE BOILER EMERGENCY SHUTDOWN WIRING DIAGRAM ON DRAWING EP501.
3. RECEPTACLES ARE POWERED VIA PP-PB.

## HEAT TRACE NOTES

1. CONTRACTOR SHALL PROVIDE AND INSTALL HEAT TRACING ON MULTIPLE SECTIONS OF 4" PIPING LOCATED WITHIN THE COOLING TOWER. PROVIDE FOR 2" MINIMUM FIBERGLASS INSULATION FOR EACH PIPING SYSTEM. SEE MECHANICAL DRAWINGS FOR ADDITIONAL INFORMATION. ASSUME 150' OF PIPING, TWO VALVES AND FITTINGS FOR EACH SECTION OF PIPING. HEAT TRACING SHALL BE INSTALLED, INCLUDING ALL REQUIRED SIGNAGE, PER THE NEC, AND MANUFACTURER INSTRUCTIONS.
2. REFER TO MECHANICAL DRAWINGS FOR COOLING TOWER PIPING PLAN AND DETAILS.
3. PROVIDE SELF-REGULATING HEAT TRACE CABLE WITH CABLE FAILURE DETECTION CABLE TYPE FLX-8-1-0J, 120 VOLT AC, 8 WATTS/FOOT. POWER CONNECTION KIT WITH JUNCTION BOX TYPE PCA-COM-JB, CABLE END TERMINATOR TYPE ET-8C, PIPING LINE SENSING THERMOSTAT SET AT 40 DEGREES F TYPE RTD-100-3, HEAT TRACE CONTROL PANEL (WITH HORN, LIGHT AND RELAY TYPE IC-202A, POLYESTER FIBER ATTACHEMENT TYPE PF-1/180, WARNING LABEL TYPE CL AS MANUFACTURED BY THERMON HEAT TRACING, CHROMALOX OR APPROVED EQUAL. FAILURE ALARM TO BE WIRED BACK TO BMS PANEL.
4. PROVIDE 120 VOLT, 1 POLE, 30MA GFI CIRCUIT BREAKER FROM PANEL PP-GENERATOR.

## KEY NOTES

1. EXISTING GENERATOR PANEL TO REMAIN AND BE REUSED.
2. EXISTING AUTOMATIC TRANSFER SWITCH TO REMAIN AND BE REUSED. EXISITING GENERATOR CIRCUIT TO REMAIN. REFEED NORMAL POWER FROM PP-WSHP.
3. NEW PANEL LP-LS. ALL EXISTING CIRCUITS TO REMAIN. PROVIDE NEW POWER VIA LP-LA.
4. EXISTING LIGHTING CONTROL TO REMAIN AND BE REUSED. ALL CIRCUITS TO REMAIN.
5. NEW POWER PANEL PP-PB. PROVIDE NEW POWER VIA MDP. SEE DRAWING EP602 FOR SCHEDULE.
6. PUMP MOTOR VFDS.
7. EXHAUST FAN EF-1 ON/OFF OVERIDE SWITCH/ROOM VENTILATION. SEE MECHANICAL DRAWINGS.
8. BOILER CONTROL PANEL – SEE DRAWING EP501 FOR ADDITIONAL INFORMATION.
9. COMBUSTIBLE GAS DETECTION PANEL.
10. BMS PANEL.
11. BOILER SHUTDOWN CONTACTORS B1, B2 & B3. SEE DRAWING EP501 FOR ADDITIONAL INFORMATION.
12. HEAT TRACE CONTROL PANEL AND GFI CIRCUIT BREAKER – SEE HEAT TRACE NOTES.
13. 6KW HEATER CONTROL PANEL. PANEL BY MECHANICAL, INSTALLED BY ELECTRICAL CONTRACTOR.
14. CT-1 CONTROL PANEL. PANEL BY MECHANICAL, INSTALLED BY ELECTRICAL CONTRACTOR.
15. HEAT TRACE DISCONNECT SWITCH (NEMA 3R ENCLOSURE).
16. 60 AMP, 3 POLE, PUMP VFD DISCONNECT SWITCH SUITABLE FOR PROPER SHUTDOWN OF VFD DRIVE MOTORS/UNITS.

## CONDUIT AND WIRE LEGEND

| | |
|---|---|
| 1 | 1 1/4"C, 4#2 & 1#8 GND |
| 2 | 2"C, 4#2/0 & 1#6 GND |
| 3 | 1 1/4"C, 3#2 & 1#8 GND |
| 4 | 3/4"C, 2#12 & 1#12 GND |
| 5 | 3/4"C, 2#10 & 1#12 GND |
| 6 | 2"C, 3#2 WITH INTEGRAL SHIELD & CABLE GND (2000 VOLT, VFD RATED) |
| 7 | 1"C, 3#10 & 1#10 GND |
| 8 | 1"C, 3#6 & 1#10 GND |
| 9 | 3/4"C, 3#12 & 1#12 GND |

0 2' 4' 8'

SCALE: 1/4"=1'-0

US Army Corps of Engineers ®

SEAL AND SIGNATURE

DATE:

| MARK | DESCRIPTION | DATE |
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DESIGNED BY: KC
DRAWN BY: JC
CHECKED BY: DE
SUBMITTED BY:
SIZE: ANSI D
OPTION FIELD 2

US ARMY CORPS OF ENGINEERS
LOUISVILLE DISTRICT
LOUISVILLE, KY

SAVIN ENGINEERS, P.C.
3 CAMPUS DRIVE PLEASANTVILLE, NY 10570

ISSUE DATE:
SOLICITATION NO.: W912QR20R0038
CONTRACT NO.: W912BA-XX-X-XXX

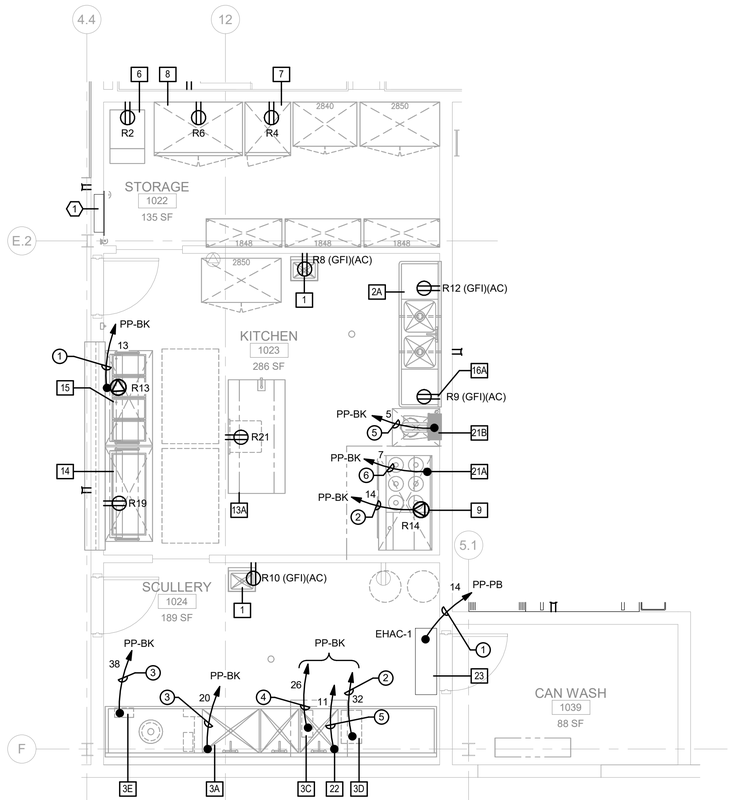
UNITED STATES ARMY RESERVE CENTER
ORANGEBURG, NEW YORK

ELECTRICAL PART PLAN

SHEET ID

EP402

CORRECTED FINAL SUBMISSION JULY 29, 2021




## 1 KITCHEN ENLARGED PLAN

1/4" = 1'-0"

## KITCHEN EQUIPMENT (ELECTRICAL REQUIRED)

| ITEM # | QUANTITY | ITEM DESCRIPTION | ELECTRICAL DATA | | | | TYPE OF CONNECTION | REMARKS |
|---|---|---|---|---|---|---|---|---|
| | | | V | PHASE | KW | AMP | | |
| 1 | 2 | HAND SINK, SOAP & TOWEL DISPENSER | 120 | 1 | 1.4 | | C&C | PLUG INTO CO ON WALL, ELECTRIC EYE |
| 2A | 1 | VEGETABLE SINK | 120 | 1 | 1.4 | | CO | CO'S ON WALL |
| 3A | 1 | THREE COMPARTMENT SINK, POWERED | 208 | 3 | | 15.1 | FF | |
| 3C | 1 | SANITIZING SINK HEATER | 208 | 3 | 9 | | FF | |
| 3D | 1 | HOT WATER BOOSTER HEATER | 208 | 3 | 15 | | FF | |
| 3E | 1 | DISPOSER & CONTROL PANEL | 208 | 3 | | 7.7 | FF | |
| 6 | 1 | ICE MAKER AND BIN | 120 | 1 | | 11.3 | C&C | PLUG INTO CO ON WALL, CW FROM #5 |
| 7 | 1 | FREEZER, 1-SECTION MOBILE | 120 | 1 | | 7.8 | C&C | PLUG INTO CO ON WALL |
| 8 | 1 | REFRIGERATOR, 2-SECTION MOBILE | 120 | 1 | | 9 | C&C | PLUG INTO CO ON WALL |
| 9 | 1 | 6-BURNER RANGLE W/ GRIDDLE & OVEN | 208 | 3 | 13.0-15.8 | | FF | |
| 13A | 1 | FOOD PREPARATION TABLE | 120 | 1 | 1.4 | | CO | CO ON FLOOR STANCHION |
| 14 | 1 | COLD FOOD COUNTER, MOBILE | 120 | 1 | | 12 | C&C | PLUG INTO CO ON WALL |
| 15 | 1 | HOT FOOD COUNTER, MOBILE | 120/208 | 1 | | 32 | C&C | PLUG INTO CO ON WALL |
| 16A | 1 | 12 QUART MIXER | 120 | 1 | | 0.5 | C&C | PLUG INTO CO ON #24 |
| 19A | 2 | WORK TABLE W/ BACKSPLASH | 120 | 1 | 1.4 | | CO | CO ON WALL |
| 19B | 1 | ICE DISPENSER | 120 | 1 | | 2.5 | C&C | PLUG INTO CO ON WALL |
| 19C | 1 | COFFEE MAKER | 120 | 1 | | 11.4 | C&C | PLUG INTO CO ON WALL |
| 21A | 1 | HOOD, TYPE 1 | 120 | 1 | | 15 | FF | EXHAUST 951 CFM |
| 21B | 1 | FIRE SUPPRESSION SYSTEM TO SERVE HOOD, TYPE 1 | 120 | 1 | 1.4 | | FF | FOR #21A |
| 22 | 1 | HOOD, TYPE 2 | 120 | 1 | | 15 | FF | EXHAUST 300 CFM |
| 23 | 1 | AIR CURTAIN | 208 | 3 | | 28 | FF | |

## NOTES

1. FOR ADDITIONAL NOTES AND SYMBOLS SEE DRAWING E-001.
2. CONTRACTOR TO COORDINATE ALL FINAL REQUIRED ELECTRICAL CONNECTIONS WITH ACTUAL EQUIPMENT BEING INSTALLED.
3. UNLESS NOTED OTHERWISE ALL 120 VOLT RECEPTACLES SHALL USE 3/4"C, 2#12 AND 1 #12 GROUND.

## KEY NOTES

(1) NEW PANEL PP-PK SEE DRAWING EP604 FOR SCHEDULE.

## CONDUIT AND WIRE LEGEND

| | |
|---|---|
| (1) | 3/4"C, 3#8 & 1#10 GND |
| (2) | 1"C, 3#6 & 1#10 GND |
| (3) | 3/4"C, 3#12 & 1#12 GND |
| (4) | 3/4"C, 3#10 & 1#10 GND |
| (5) | 3/4"C, 2#12 & 1#12 GND |
| (6) | 3/4"C, 2#10 & 1#10 GND |

## LEGEND

| | |
|---|---|
| 3C | KITCHEN EQUIPMENT ITEM NUMBER |

## CONNECTION LEGEND

| | |
|---|---|
| FF | FLEX FEEDER |
| C&C | CORD AND CAP |
| CO | CONVENIENCE OUTLET |

0 2' 4' 8'

SCALE: 1/4"=1'-0

US Army Corps of Engineers ®

SEAL AND SIGNATURE

DATE:

| MARK | DESCRIPTION | DATE |
|---|---|---|
| 3 | Revision 3 (INTERIM) | Date 4 |

DESIGNED BY: KC
DRAWN BY: JC
CHECKED BY: DF
SUBMITTED BY:
SIZE: ANSI D

ISSUE DATE:
SOLICITATION NO.: W912QR20R0038
CONTRACT NO.: W91QB5-XX-XXXX
OPTION FIELD 2

US ARMY CORPS OF ENGINEERS
LOUISVILLE DISTRICT
LOUISVILLE, KY

SAVIN ENGINEERS, P.C.
3 CAMPUS DRIVE PLEASANTVILLE, NY 10570

UNITED STATES ARMY RESERVE CENTER
ORANGEBURG, NEW YORK

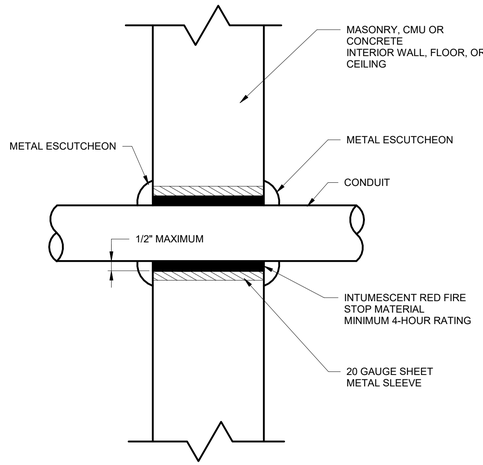
ELECTRICAL
ENLARGED KITCHEN POWER PLAN

JULY 29, 2021

CORRECTED FINAL SUBMISSION

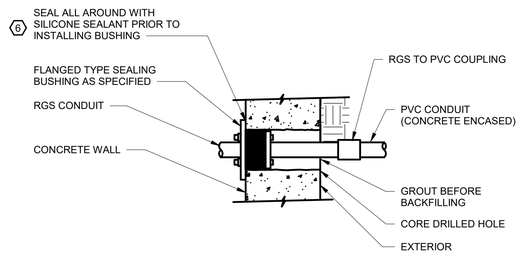
SHEET ID

EP403



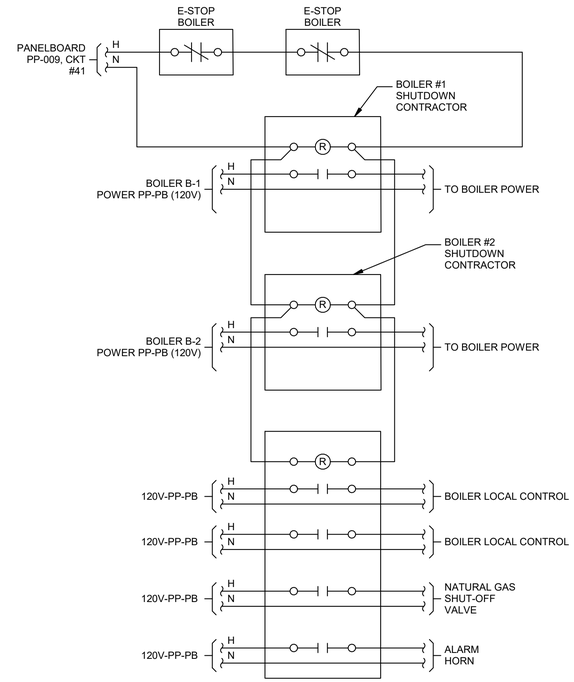

## FIRE PROOF WALL PENETRATION DETAIL

SCALE: N.T.S.



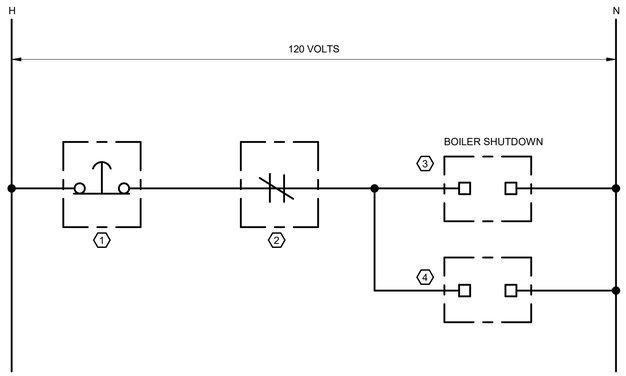

## CONDUIT PENETRATON THRU EXISTING CONCRETE WALL DETAIL

SCALE: N.T.S.




## BOILER EMERGENCY SHUT-DOWN WIRING DIAGRAM

SCALE: N.T.S.

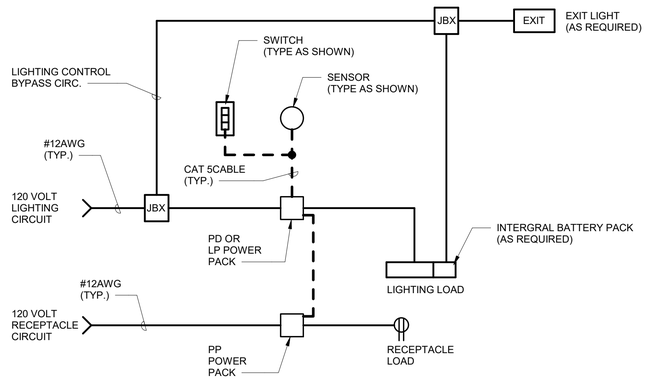



## KEY NOTES

1. EMERGENCY BOILER SHUT-DOWN PUSHBUTTOM (UL LISTED AND LABELED AS SUCH) SUITABLE FOR EXTERIOR WALL MOUNTING. PUSHBUTTOM SHALL BE MAINTANED TYPE - PUSH FOR SHUTDOWN. PULL TO RESET. PUSHBUTTOM SHALL BE RED.
2. SUPERVISED CONTACT IN MAIN FIRE ALARM CONTROL PANEL. CONTACT SHALL OPEN WHEN CO DETECTOR(S) AVTIVE.
3. BOILER CONTROL PANEL (BY OTHERS) SHUTDOWN CIRCUIT.
4. GAS VALVE BY (BY OTHERS) 0 THE VALAVE IS NORMALLY CLOSED (NO GAS FLOW), POWER TO OPEN (GAS FLOW). IS GAS IS DETECTED (BY CO DETECTORS) THE GAS VALVE WILL SHUT-OFF.

## GAS SHUT-OFF WIRING DIAGRAM

SCALE: N.T.S.




## TYPICAL LIGHTING AND RECEPTACLE CONTROL WIRING DIAGRAM

SCALE: N.T.S.

## NOTES

1. FOR ADDITIONAL NOTES, SYMBOLS AND ABBREVIATIONS SEE DRAWING E-001.
2. CONTRACTOR SHALL PROVIDE FACTORY GENERATED SUBMITTAL, SPECIFIC TO THE PROJECT, FOR ALL LIGHTING AND RECEPTACLE CONTROL FOR APPROVAL.
3. SEE DESIGN NARRATIVE FOR COMPLETE ROOM-BY-LIGHTING AND RECEPTACLE CONTROL REFERENCE.

US Army Corps of Engineers ®

SEAL AND SIGNATURE

DATE:

| MARK | DESCRIPTION | DATE |
|---|---|---|
| 5 | Revision 5 (CORRECTED FINAL) | Date 5 |
| 3 | Revision 3 (INTERIM) | Date 4 |

ISSUE DATE:

SOLICITATION NO.: W912QR20R0038

CONTRACT NO.: W912QR-XX-XXXX

DESIGNED BY: KC

DRAWN BY: JC

CHECKED BY: PE

SUBMITTED BY:

SIZE: ANSI D

OPTION FIELD 2

US ARMY CORPS OF ENGINEERS
LOUISVILLE DISTRICT
LOUISVILLE, KY

SAVIN ENGINEERS, P.C.
3 CAMPUS DRIVE PLEASANTVILLE, NY 10570

UNITED STATES ARMY RESERVE CENTER
ORANGEBURG, NEW YORK

ELECTRICAL DETAILS

SHEET ID

EP501

CORRECTED FINAL SUBMISSION JULY 29, 2021

**PANELBOARD:** PP-PA **LOCATION:** ADMIN RM 1003

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1 | **NEMA RATING** | | | | 3 | **POLES** | | **MOUNTING:** | SURFACE |
| 225 | **AMP BUS RATING** | 150 | **AMP MDP** | | 10 | **KA SHORT CIRCUIT RATING** | | | |
| 208Y/120 | **VOLTS** | 3 | **PHASE** | 4 | **WIRE** | | | **ELECTRONIC GRADE :** | NO |

| CIRCUIT NO. | DESCRIPTION | LOAD KVA PHASE A | LOAD KVA PHASE B | LOAD KVA PHASE C | BREAKER AMPS/ POLES | NOTES | CIRCUIT NO. | DESCRIPTION | LOAD KVA PHASE A | LOAD KVA PHASE B | LOAD KVA PHASE C | BREAKER AMPS/ POLES | NOTES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | A/C ROOM 5 | | | | 20/1 | | 2 | A/C ROOM 4 | | | | 20/1 | |
| 3 | A/C ROOM 6 | | | | 20/1 | | 4 | A/C ROOM 3 | | | | 20/1 | |
| 5 | A/C ROOM 7 | | | | 20/1 | | 6 | A/C ROOM 2 | | | | 20/1 | |
| 7 | A/C ROOM 8 | | | | 20/1 | | 8 | A/C ROOM 11 | | | | 20/1 | |
| 9 | A/C ROOM 8 | | | | 20/1 | | 10 | SPARE | | | | 20/1 | |
| 11 | A/C ROOM 1 | | | | 20/1 | | 12 | SODA MACH RM 118 | | | | 20/1 | |
| 13 | VVT 10 TON A/C | | | | 20/1 | | 14 | SPARE | | | | 20/1 | |
| 15 | VVT 5 TON A/C | | | | 20/1 | | 16 | SPARE | | | | 20/1 | |
| 17 | ROOF TOP GFI | | | | 20/1 | | 18 | MITS BLOWER UNIT RM 128 | | | | 15/2 | |
| 19 | A/C ROOM 10 | | | | 20/2 | | 20 | | | | | | |
| 21 | | | | | | | 22 | ROOFTOP COMP RM 128 | | | | 25/2 | |
| 23 | A/C ROOM 16 | | | | 20/2 | | 24 | | | | | | |
| 25 | | | | | | | 26 | 5 TON ROOF TOP A/C NORTH RM 118 | | | | 40/3 | |
| 27 | SPARE | | | | 20/1 | | 28 | | | | | | |
| 29 | SPARE | | | | 20/1 | | 30 | | | | | | |
| 31 | SPARE | | | | 20/1 | | 32 | 5 TON ROOF TOP A/C SOUTH RM 118 | | | | 40/3 | |
| 33 | SPARE | | | | 20/1 | | 34 | | | | | | |
| 35 | CAB HTR VEST | | | | 20/1 | | 36 | | | | | | |
| 37 | SPARE | | | | 20/1 | | 38 | SPARE | | | | 20/1 | |
| 39 | SPARE | | | | 20/1 | | 40 | SPARE | | | | 20/1 | |
| 41 | SPARE | | | | 20/1 | | 42 | SPARE | | | | 20/1 | |
| | **TOTAL PHASE KVA THIS SIDE** | 0 | 0 | 0 | | | | **TOTAL PHASE KVA THIS SIDE** | 0 | 0 | 0 | | |
| | | | | | | | | **TOTAL KVA PER PHASE** | 0 | 0 | 0 | | |
| | | | | | | | | **TOTAL THREE PHASE KVA** | | 0 | | | |

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**PANELBOARD:** PP-PB **LOCATION:** MECHANICAL ROOM

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1 | **NEMA RATING** | | | | 3 | **POLES** | | **MOUNTING:** | SURFACE |
| 225 | **AMP BUS RATING** | 150 | **AMP MDP** | | 10 | **KA SHORT CIRCUIT RATING** | | | |
| 208Y/120 | **VOLTS** | 3 | **PHASE** | 4 | **WIRE** | | | **ELECTRONIC GRADE :** | NO |

| CIRCUIT NO. | DESCRIPTION | LOAD KVA PHASE A | LOAD KVA PHASE B | LOAD KVA PHASE C | BREAKER AMPS/ POLES | NOTES | CIRCUIT NO. | DESCRIPTION | LOAD KVA PHASE A | LOAD KVA PHASE B | LOAD KVA PHASE C | BREAKER AMPS/ POLES | NOTES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | BLANK | | | | | | 2 | BLANK | | | | | |
| 3 | BLANK | | | | | | 4 | BLANK | | | | | |
| 5 | BLANK | | | | | | 6 | BLANK | | | | | |
| 7 | | | | | | | 8 | SPARE | | | | 20/1 | |
| 9 | HW CIRCULATING PUMP | | | | 60/3 | | 10 | SPARE | | | | 20/1 | |
| 11 | | | | | | | 12 | SPARE | | | | 20/1 | |
| 13 | | | | | | | 14 | | | | | | |
| 15 | SPARES TO RM 18 | | | | 15/3 | | 16 | KITCHEN HOOD FAN EF 11 | | | | 15/3 | |
| 17 | | | | | | | 18 | | | | | | |
| 19 | | | | | | | 20 | | | | | | |
| 21 | SPARES TO RM 18 | | | | 15/3 | | 22 | SPARE | | | | 15/3 | |
| 23 | | | | | | | 24 | | | | | | |
| 25 | | | | | | | 26 | EXHAUST FAN EF 5 | | | | 20/1 | |
| 27 | KITCHEN SUPPLY FAN EF 12 | | | | 15/3 | | 28 | EXHAUST FAN EF 9 | | | | 20/1 | |
| 29 | | | | | | | 30 | EXHAUST FAN EF 10 | | | | 20/1 | |
| 31 | SPARE | | | | 20/1 | | 32 | SPARE | | | | 20/1 | |
| 33 | SPARE | | | | 20/1 | | 34 | SPARE | | | | 20/1 | |
| 35 | SPARE | | | | 20/1 | | 36 | SPARE | | | | 20/1 | |
| 37 | SPARE | | | | 20/1 | | 38 | SPARE | | | | 20/1 | |
| 39 | SPARE | | | | 20/1 | | 40 | SPARE | | | | 20/1 | |
| 41 | SPARE | | | | 20/1 | | 42 | SPARE | | | | 20/1 | |
| | **TOTAL PHASE KVA THIS SIDE** | 0 | 0 | 0 | | | | **TOTAL PHASE KVA THIS SIDE** | 0 | 0 | 0 | | |
| | | | | | | | | **TOTAL KVA PER PHASE** | 0 | 0 | 0 | | |
| | | | | | | | | **TOTAL THREE PHASE KVA** | | 0 | | | |

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**PANELBOARD:** PP-PG **LOCATION:** GARAGE

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1 | **NEMA RATING** | | | | 3 | **POLES** | | **MOUNTING:** | SURFACE |
| 200 | **AMP BUS RATING** | 150 | **AMP MDP** | | 10 | **KA SHORT CIRCUIT RATING** | | | |
| 208Y/120 | **VOLTS** | 3 | **PHASE** | 4 | **WIRE** | | | **ELECTRONIC GRADE :** | NO |

| CIRCUIT NO. | DESCRIPTION | LOAD KVA PHASE A | LOAD KVA PHASE B | LOAD KVA PHASE C | BREAKER AMPS/ POLES | NOTES | CIRCUIT NO. | DESCRIPTION | LOAD KVA PHASE A | LOAD KVA PHASE B | LOAD KVA PHASE C | BREAKER AMPS/ POLES | NOTES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | 2 | | | | | | |
| 3 | SPARE | | | | 15/3 | | 4 | AIR COMPRESSER | | | | 15/3 | |
| 5 | | | | | | | 6 | | | | | | |
| 7 | | | | | | | 8 | PARTS WASHING | | | | 50/2 | |
| 9 | VEHICLE EXHAUST FAN | | | | 15/3 | | 10 | | | | | | |
| 11 | | | | | | | 12 | EXHAUST FAN #8 | | | | 20/1 | |
| 13 | RECEPTACLES | | | | 20/1 | | 14 | RECEPTACLES | | | | 20/1 | |
| 15 | RECEPTACLES | | | | 20/1 | | 16 | RECEPTACLES | | | | 20/1 | |
| 17 | RECEPTACLES | | | | 20/1 | | 18 | RECEPTACLES | | | | 20/1 | |
| 19 | RECEPTACLES | | | | 20/1 | | 20 | UNIT HEATER # 1-5-6 | | | | 20/1 | |
| 21 | | | | | | | 22 | UNIT HEATER # 3-2-4 | | | | 20/1 | |
| 23 | SPARE | | | | 100/3 | | 24 | SPARE | | | | 20/1 | |
| 25 | | | | | | | 26 | SPARE | | | | | |
| 27 | SPARE | | | | 15/2 | | 28 | AIR COMPRESSER | | | | 20/2 | |
| 29 | | | | | | | 30 | | | | | | |
| | **TOTAL PHASE KVA THIS SIDE** | 0 | 0 | 0 | | | | **TOTAL PHASE KVA THIS SIDE** | 0 | 0 | 0 | | |
| | | | | | | | | **TOTAL KVA PER PHASE** | 0 | 0 | 0 | | |
| | | | | | | | | **TOTAL THREE PHASE KVA** | | 0 | | | |

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**PANELBOARD:** PP-PK **LOCATION:** KITCHEN

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1 | **NEMA RATING** | | | | 3 | **POLES** | | **MOUNTING:** | SURFACE |
| 200 | **AMP BUS RATING** | 150 | **AMP MDP** | | 10 | **KA SHORT CIRCUIT RATING** | | | |
| 208Y/120 | **VOLTS** | 3 | **PHASE** | 4 | **WIRE** | | | **ELECTRONIC GRADE :** | NO |

| CIRCUIT NO. | DESCRIPTION | LOAD KVA PHASE A | LOAD KVA PHASE B | LOAD KVA PHASE C | BREAKER AMPS/ POLES | NOTES | CIRCUIT NO. | DESCRIPTION | LOAD KVA PHASE A | LOAD KVA PHASE B | LOAD KVA PHASE C | BREAKER AMPS/ POLES | NOTES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | CONVECTION OVEN | | | | 15/1 | | 2 | GFI NEXT TO SINK | | | | 20/1 | |
| 3 | OUTLET | | | | 15/1 | | 4 | SPARE | | | | 20/1 | |
| 5 | SPARE | | | | 15/1 | | 6 | POTATO PEELER | | | | 20/1 | |
| 7 | RECIRCULATING PUMP | | | | 20/1 | | 8 | MIXER | | | | 20/1 | |
| 9 | ICE MAKER | | | | 20/1 | | 10 | FREEZER | | | | 20/1 | |
| 11 | | | | | 20/1 | | 12 | SPARE | | | | 20/1 | |
| 13 | | | | | 20/1 | | 14 | 3 BAY REFRIGERATOR | | | | 20/1 | |
| 15 | HOT FOOD TABLE | | | | 20/2 | | 16 | SPARE | | | | 20/1 | |
| 17 | | | | | | | 18 | SPARE | | | | | |
| 19 | | | | | | | 20 | SPARE | | | | 20/3 | |
| 21 | SINK HEATER | | | | 40/2 | | 22 | SPARE | | | | | |
| 23 | | | | | | | 24 | COFFEE MACHINE | | | | 20/2 | |
| 25 | SPARE | | | | 40/2 | | 26 | | | | | | |
| 27 | | | | | | | 28 | | | | | | |
| 29 | | | | | | | 30 | COFFEE MACHINE | | | | 30/3 | |
| 31 | TILT BRAISING PAN | | | | 30/3 | | 32 | | | | | | |
| 33 | | | | | | | 34 | | | | | | |
| 35 | | | | | | | 36 | BOOSTER FOR HOT WATER | | | | 60/3 | |
| 37 | SPARE | | | | 50/3 | | 38 | | | | | | |
| 39 | | | | | | | 40 | BLANK | | | | | |
| 41 | BLANK | | | | | | 42 | BLANK | | | | | |
| | **TOTAL PHASE KVA THIS SIDE** | 0 | 0 | 0 | | | | **TOTAL PHASE KVA THIS SIDE** | 0 | 0 | 0 | | |
| | | | | | | | | **TOTAL KVA PER PHASE** | 0 | 0 | 0 | | |
| | | | | | | | | **TOTAL THREE PHASE KVA** | | 0 | | | |

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**PANELBOARD:** PP-S1 **LOCATION:** ADMIN RM 1003

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|---|---|---|---|---|---|---|---|---|---|
| 1 | **NEMA RATING** | | | | 3 | **POLES** | | **MOUNTING:** | SURFACE |
| 60 | **AMP BUS RATING** | 80 | **AMP MDP** | | 10 | **KA SHORT CIRCUIT RATING** | | | |
| 208Y/120 | **VOLTS** | 3 | **PHASE** | 4 | **WIRE** | | | **ELECTRONIC GRADE :** | NO |

| CIRCUIT NO. | DESCRIPTION | LOAD KVA PHASE A | LOAD KVA PHASE B | LOAD KVA PHASE C | BREAKER AMPS/ POLES | NOTES | CIRCUIT NO. | DESCRIPTION | LOAD KVA PHASE A | LOAD KVA PHASE B | LOAD KVA PHASE C | BREAKER AMPS/ POLES | NOTES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | COMPUTER SERVER QUAD | | | | 20/1 | | 2 | BLANK | | | | | |
| 3 | COMPUTER CSU/DSC | | | | 20/1 | | 4 | BLANK | | | | | |
| 5 | COMPUTER ADS | | | | 20/1 | | 6 | BLANK | | | | | |
| 7 | WORK STATION WI RM# 117 | | | | 20/1 | | 8 | BLANK | | | | | |
| 9 | WORK STATION W2,W3 RMS #129 & 130 | | | | 20/1 | | 10 | BLANK | | | | | |
| 11 | FIRE ALARM PANEL | | | | 20/1 | | 12 | BLANK | | | | | |
| 13 | BLANK | | | | | | 14 | BLANK | | | | | |
| 15 | BLANK | | | | | | 16 | BLANK | | | | | |
| 17 | BLANK | | | | | | 18 | BLANK | | | | | |
| | **TOTAL PHASE KVA THIS SIDE** | 0 | 0 | 0 | | | | **TOTAL PHASE KVA THIS SIDE** | 0 | 0 | 0 | | |
| | | | | | | | | **TOTAL KVA PER PHASE** | 0 | 0 | 0 | | |
| | | | | | | | | **TOTAL THREE PHASE KVA** | | 0 | | | |

NOTES:
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**PANELBOARD:** PP-GEN **LOCATION:** MECHANICAL ROOM

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1 | **NEMA RATING** | | | | 3 | **POLES** | | **MOUNTING:** | SURFACE |
| 200 | **AMP BUS RATING** | 100 | **AMP MDP** | | 10 | **KA SHORT CIRCUIT RATING** | | | |
| 208Y/120 | **VOLTS** | 3 | **PHASE** | 4 | **WIRE** | | | **ELECTRONIC GRADE :** | NO |

| CIRCUIT NO. | DESCRIPTION | LOAD KVA PHASE A | LOAD KVA PHASE B | LOAD KVA PHASE C | BREAKER AMPS/ POLES | NOTES | CIRCUIT NO. | DESCRIPTION | LOAD KVA PHASE A | LOAD KVA PHASE B | LOAD KVA PHASE C | BREAKER AMPS/ POLES | NOTES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | GENERATOR REC | | | | 15/1 | | 2 | | | | | | |
| 3 | BOILER ROOM | | | | 20/1 | | 4 | PANEL LP -LA | | | | 60/3 | |
| 5 | ARGO | | | | 20/1 | | 6 | | | | | | |
| 7 | BOILER #1 | | | | 20/1 | | 8 | | | | | | |
| 9 | HW CIR. PUMP | | | | 20/1 | | 10 | SECURITY LIGHTING | | | | 50/3 | |
| 11 | HW CIR. PUMP | | | | 20/1 | | 12 | | | | | | |
| 13 | HW CIR. PUMP | | | | 20/1 | | 14 | BOILER ROOM LIGHTS | | | | 20/2 | |
| 15 | HWH HEATER | | | | 20/1 | | 16 | | | | | | |
| 17 | TEKMAR | | | | 20/1 | | 18 | VAULT | | | | 20/2 | |
| 19 | BOILER #2 | | | | 20/1 | | 20 | | | | | | |
| 21 | BLANK | | | | | | 22 | BLANK | | | | | |
| 23 | BLANK | | | | | | 24 | BLANK | | | | | |
| 25 | BLANK | | | | | | 26 | BLANK | | | | | |
| 27 | BLANK | | | | | | 28 | BLANK | | | | | |
| 29 | BLANK | | | | | | 30 | BLANK | | | | | |
| | **TOTAL PHASE KVA THIS SIDE** | 0 | 0 | 0 | | | | **TOTAL PHASE KVA THIS SIDE** | 0 | 0 | 0 | | |
| | | | | | | | | **TOTAL KVA PER PHASE** | 0 | 0 | 0 | | |
| | | | | | | | | **TOTAL THREE PHASE KVA** | | 0 | | | |

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## NOTE:

UNLESS NOTED OTHERWISE ALL PANELS ON THIS SHEET SHOW EXISTING CONDITIONS AND SHOULD BE USED FOR REFERNCE ONLY. PANEL SCHEDULES SHOWN ON EP-602c & EP-602d SHALL BE USED FOR NEW CONSTRUCTION.

US Army Corps of Engineers ®

SEAL AND SIGNATURE DATE:

| MARK | DESCRIPTION | DATE |
|---|---|---|

DESIGNED BY: KC
DRAWN BY: JC
CHECKED BY: DB
SUBMITTED BY:
ISSUE DATE:
SOLICITATION NO.: W912QR20R0038
CONTRACT NO.: W912QR-XX-X-XXXX
OPTION FIELD 2
SIZE: ANSI D

US ARMY CORPS OF ENGINEERS
LOUISVILLE DISTRICT
LOUISVILLE, KY

SAVIN ENGINEERS, P.C.
3 CAMPUS DRIVE PLEASANTVILLE, NY 10570

UNITED STATES ARMY RESERVE CENTER
ORANGEBURG, NEW YORK

ELECTRICAL
EXISTING PANELBOARD SCHEDULES - SHEET 1

SHEET ID
EP601

CORRECTED FINAL SUBMISSION JULY 29, 2021

**PANELBOARD:** LP-LA **LOCATION:** ADMIN RM 1003

1 **NEMA RATING** 3 **POLES** **MOUNTING:** SURFACE

200 **AMP BUS RATING** **AMP MDP** 10 **KA SHORT CIRCUIT RATING**

208Y/120 **VOLTS** 3 **PHASE** 4 **WIRE** **ELECTRONIC GRADE :** NO

| CIRCUIT NO. | DESCRIPTION | LOAD KVA PHASE A | LOAD KVA PHASE B | LOAD KVA PHASE C | BREAKER AMPS/ POLES | NOTES |
|---|---|---|---|---|---|---|
| 1 | LIGHTING RM 11 | | | | 20/1 | |
| 3 | LIGHTING RM 8 | | | | 20/1 | |
| 5 | LIGHTING RM 8 | | | | 20/1 | |
| 7 | LIGHTING RM 9 | | | | 20/1 | |
| 9 | LIGHTING RM 9 | | | | 20/1 | |
| 11 | LIGHTING RM 13 | | | | 20/1 | |
| 13 | LIGHTING RM 13 | | | | 20/1 | |
| 15 | LIGHTING RM 20 | | | | 20/1 | |
| 17 | LIGHTING RM 21 | | | | 20/1 | |
| 19 | RECEPTACLES RMS 2,8,9 | | | | 20/1 | |
| 21 | RECEPTACLES RMS 1,8 | | | | 20/1 | |
| 23 | RECEPTACLES RMS 3,4 | | | | 20/1 | |
| 25 | RECEPTACLES RMS 11,12,13 | | | | 20/1 | |
| 27 | RECEPTACLES RMS 9,11,12 | | | | 20/1 | |
| 29 | RECEPTACLES RMS 8,11,13 | | | | 20/1 | |
| 31 | AUTOMATIC GATE | | | | 20/1 | |
| 33 | AUTOMATIC GATE | | | | 20/1 | |
| 35 | | | | | 20/1 | |
| 37 | | | | | | |
| 39 | 60 FEED NEW SUB PANEL SI TO THE RIGHT | | | | 60/3 | |
| 41 | | | | | | |
| | **TOTAL PHASE KVA THIS SIDE** | 0 | 0 | 0 | | |

| CIRCUIT NO. | DESCRIPTION | LOAD KVA PHASE A | LOAD KVA PHASE B | LOAD KVA PHASE C | BREAKER AMPS/ POLES | NOTES |
|---|---|---|---|---|---|---|
| 2 | LIGHTING RM 6,7 | | | | 20/1 | |
| 4 | LIGHTING RM 3,4,5 | | | | 20/1 | |
| 6 | LIGHTING RM 1,2 | | | | 20/1 | |
| 8 | LIGHTING RM 10 | | | | 20/1 | |
| 10 | LIGHTING RM 10 | | | | 20/1 | |
| 12 | LIGHTING RM 12 | | | | 20/1 | |
| 14 | LIGHTING RM 12 | | | | 20/1 | |
| 16 | LIGHTING RM 12 | | | | 20/1 | |
| 18 | RECEPTACLES 9,10,12 | | | | 20/1 | |
| 20 | RECEPTACLES 5,6,10 | | | | 20/1 | |
| 22 | RECEPTACLES 6,7,10 | | | | 20/1 | |
| 24 | RECEPTACLES EWC CORRIDOR | | | | 20/1 | |
| 26 | RECEPTACLES 13,20 | | | | 20/1 | |
| 28 | RECEPTACLES 21,22 | | | | 20/1 | |
| 30 | | | | | 20/1 | |
| 32 | TELEPHONE CIRCUIT DIAL | | | | 20/1 | |
| 34 | | | | | 20/1 | |
| 36 | ACCESS CONTROL | | | | 20/1 | |
| 38 | BLANK | | | | | |
| 40 | BLANK | | | | | |
| 42 | BLANK | | | | | |
| | **TOTAL PHASE KVA THIS SIDE** | 0 | 0 | 0 | | |
| | **TOTAL KVA PER PHASE** | 0 | 0 | 0 | | |
| | **TOTAL THREE PHASE KVA** | | 0 | | | |

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**PANELBOARD:** LP-LB **LOCATION:** ASSEMBLY RM 32

1 **NEMA RATING** 3 **POLES** **MOUNTING:** SURFACE

200 **AMP BUS RATING** 80 **AMP MDP** 10 **KA SHORT CIRCUIT RATING**

208Y/120 **VOLTS** 3 **PHASE** 4 **WIRE** **ELECTRONIC GRADE :** NO

| CIRCUIT NO. | DESCRIPTION | LOAD KVA PHASE A | LOAD KVA PHASE B | LOAD KVA PHASE C | BREAKER AMPS/ POLES | NOTES |
|---|---|---|---|---|---|---|
| 1 | LIGHTING RM 18 | | | | 20/1 | |
| 3 | LIGHTING RM 18 | | | | 20/1 | |
| 5 | LIGHTING RM 18 | | | | 20/1 | |
| 7 | LIGHTING CORRIDOR | | | | 20/1 | |
| 9 | LIGHTING RM 17 | | | | 20/1 | |
| 11 | LIGHTING RM 16 | | | | 20/1 | |
| 13 | LIGHTING RM 22 | | | | 20/1 | |
| 15 | LIGHTING RM 23 | | | | 20/1 | |
| 17 | LIGHTING RM 15 | | | | 20/1 | |
| 19 | RECEPTACLES CORRIDOR | | | | 20/1 | |
| 21 | RECEPTACLES RMS 22,23 | | | | 20/1 | |
| 23 | RECEPTACLES EWC | | | | 20/1 | |
| 25 | RECEPTACLES MECHANICAL AREA | | | | 20/1 | |
| 27 | RECEPTACLES MECHANICAL AREA | | | | 20/1 | |
| 29 | RECEPTACLES MECHANICAL AREA | | | | 20/1 | |
| 31 | | | | | 20/1 | |
| 33 | | | | | 20/1 | |
| 35 | | | | | 20/1 | |
| 37 | NEW OFFICE DRILL HALL RECEPTACLE | | | | 20/1 | |
| 39 | BLANK | | | | | |
| 41 | BLANK | | | | | |
| | **TOTAL PHASE KVA THIS SIDE** | 0 | 0 | 0 | | |

| CIRCUIT NO. | DESCRIPTION | LOAD KVA PHASE A | LOAD KVA PHASE B | LOAD KVA PHASE C | BREAKER AMPS/ POLES | NOTES |
|---|---|---|---|---|---|---|
| 2 | LIGHTING RM 18 | | | | 20/1 | |
| 4 | LIGHTING RM 18 | | | | 20/1 | |
| 6 | LIGHTING RM 18 | | | | 20/1 | |
| 8 | LIGHTING RM 25,26 | | | | 20/1 | |
| 10 | LIGHTING RM 27 | | | | 20/1 | |
| 12 | | | | | 20/1 | |
| 14 | LIGHTING RM 28,29,30 | | | | 20/1 | |
| 16 | RECEPTACLES 18 | | | | 20/1 | |
| 18 | RECEPTACLES 16,17 | | | | 20/1 | |
| 20 | RECEPTACLES 14 | | | | 20/1 | |
| 22 | RECEPTACLES 18 | | | | 20/1 | |
| 24 | RECEPTACLES 18 | | | | 20/1 | |
| 26 | RECEPTACLES 27,28 | | | | 20/1 | |
| 28 | RECEPTACLES COLD FOOD | | | | 20/1 | |
| 30 | | | | | 20/1 | |
| 32 | | | | | 20/1 | |
| 34 | | | | | 20/1 | |
| 36 | | | | | 20/1 | |
| 38 | BLANK | | | | | |
| 40 | BLANK | | | | | |
| 42 | BLANK | | | | | |
| | **TOTAL PHASE KVA THIS SIDE** | 0 | 0 | 0 | | |
| | **TOTAL KVA PER PHASE** | 0 | 0 | 0 | | |
| | **TOTAL THREE PHASE KVA** | | 0 | | | |

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**PANELBOARD:** LP-LC **LOCATION:**

1 **NEMA RATING** 3 **POLES** **MOUNTING:** SURFACE

200 **AMP BUS RATING** 80 **AMP MDP** 10 **KA SHORT CIRCUIT RATING**

208Y/120 **VOLTS** 3 **PHASE** 4 **WIRE** **ELECTRONIC GRADE :** NO

| CIRCUIT NO. | DESCRIPTION | LOAD KVA PHASE A | LOAD KVA PHASE B | LOAD KVA PHASE C | BREAKER AMPS/ POLES | NOTES |
|---|---|---|---|---|---|---|
| 1 | LIGHTING UNIT STORAGE | | | | 20/1 | |
| 3 | LIGHTING UNIT STORAGE | | | | 20/1 | |
| 5 | LIGHTING UNIT STORAGE | | | | 20/1 | |
| 7 | LIGHTING UNIT STORAGE | | | | 20/1 | |
| 9 | LIGHTING UNIT STORAGE | | | | 20/1 | |
| 11 | LIGHTING UNIT STORAGE | | | | 20/1 | |
| 13 | RECEPTACLES UNIT STORAGE | | | | 20/1 | |
| 15 | RECEPTACLES UNIT STORAGE | | | | 20/1 | |
| 17 | | | | | 20/1 | |
| 19 | | | | | 20/1 | |
| 21 | | | | | 20/1 | |
| 23 | | | | | 20/1 | |
| 25 | | | | | 20/1 | |
| 27 | BLANK | | | | | |
| 29 | BLANK | | | | | |
| | **TOTAL PHASE KVA THIS SIDE** | 0 | 0 | 0 | | |

| CIRCUIT NO. | DESCRIPTION | LOAD KVA PHASE A | LOAD KVA PHASE B | LOAD KVA PHASE C | BREAKER AMPS/ POLES | NOTES |
|---|---|---|---|---|---|---|
| 2 | LIGHTING UNIT STORAGE | | | | 20/1 | |
| 4 | | | | | 20/1 | |
| 6 | | | | | 20/1 | |
| 8 | | | | | 20/1 | |
| 10 | | | | | 20/1 | |
| 12 | | | | | 20/1 | |
| 14 | RECEPTACLES UNIT STORAGE | | | | 20/1 | |
| 16 | RECEPTACLES UNIT STORAGE | | | | 20/1 | |
| 18 | RECEPTACLES VAULT | | | | 20/1 | |
| 20 | EXHAUST FAN EF 3 | | | | 20/1 | |
| 22 | | | | | | |
| 24 | | | | | 15/3 | |
| 26 | | | | | | |
| 28 | BLANK | | | | | |
| 30 | BLANK | | | | | |
| | **TOTAL PHASE KVA THIS SIDE** | 0 | 0 | 0 | | |
| | **TOTAL KVA PER PHASE** | 0 | 0 | 0 | | |
| | **TOTAL THREE PHASE KVA** | | 0 | | | |

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**PANELBOARD:** LP-LG **LOCATION:**

1 **NEMA RATING** 3 **POLES** **MOUNTING:** SURFACE

200 **AMP BUS RATING** 80 **AMP MDP** 10 **KA SHORT CIRCUIT RATING**

208Y/120 **VOLTS** 3 **PHASE** 4 **WIRE** **ELECTRONIC GRADE :** NO

| CIRCUIT NO. | DESCRIPTION | LOAD KVA PHASE A | LOAD KVA PHASE B | LOAD KVA PHASE C | BREAKER AMPS/ POLES | NOTES |
|---|---|---|---|---|---|---|
| 1 | LIGHTING WORK BAYS | | | | 20/1 | |
| 3 | LIGHTING WORK BAYS | | | | 20/1 | |
| 5 | LIGHTING WORK BAYS | | | | 20/1 | |
| 7 | BCU CAGE RMS 37,38 | | | | 20/1 | |
| 9 | 136 BCU CAGE 41, EF 13 | | | | 20/1 | |
| 11 | RECEPTACLES RM 41 | | | | 20/1 | |
| 13 | RECEPTACLES RM 38 | | | | 20/1 | |
| 15 | RECEPTACLES RM 37 | | | | 20/1 | |
| 17 | AIR CONDITIONER RM 37 | | | | 20/1 | |
| 19 | SPARE | | | | 20/1 | |
| 21 | | | | | 20/1 | |
| 23 | | | | | 20/1 | |
| 25 | BLANK | | | | | |
| 27 | BLANK | | | | | |
| 29 | BLANK | | | | | |
| | **TOTAL PHASE KVA THIS SIDE** | 0 | 0 | 0 | | |

| CIRCUIT NO. | DESCRIPTION | LOAD KVA PHASE A | LOAD KVA PHASE B | LOAD KVA PHASE C | BREAKER AMPS/ POLES | NOTES |
|---|---|---|---|---|---|---|
| 2 | LIGHTING WORK BAYS | | | | 20/1 | |
| 4 | LIGHTING WORK BAYS | | | | 20/1 | |
| 6 | LIGHTING WORK BAYS | | | | 20/1 | |
| 8 | RECEPTACLES RM 38 | | | | 20/1 | |
| 10 | RECEPTACLES RM 40 LTG | | | | 20/1 | |
| 12 | RECEPTACLES RM 40 | | | | 20/1 | |
| 14 | EWC | | | | 20/1 | |
| 16 | GARAGE OVER HEAD DOOR | | | | 20/1 | |
| 18 | GARAGE OVER HEAD DOOR | | | | 20/1 | |
| 20 | A/C 812 MD MAINTENANCE OFFICE | | | | 20/2 | |
| 22 | | | | | | |
| 24 | A/C EN BN MAINTENANCE | | | | 20/2 | |
| 26 | | | | | | |
| 28 | BLANK | | | | | |
| 30 | BLANK | | | | | |
| | **TOTAL PHASE KVA THIS SIDE** | 0 | 0 | 0 | | |
| | **TOTAL KVA PER PHASE** | 0 | 0 | 0 | | |
| | **TOTAL THREE PHASE KVA** | | 0 | | | |

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**PANELBOARD:** LP-LS **LOCATION:**

1 **NEMA RATING** 3 **POLES** **MOUNTING:** SURFACE

200 **AMP BUS RATING** **AMP MDP** 10 **KA SHORT CIRCUIT RATING**

208Y/120 **VOLTS** 3 **PHASE** 4 **WIRE** **ELECTRONIC GRADE :** NO

| CIRCUIT NO. | DESCRIPTION | LOAD KVA PHASE A | LOAD KVA PHASE B | LOAD KVA PHASE C | BREAKER AMPS/ POLES | NOTES |
|---|---|---|---|---|---|---|
| 1 | BUILDING EXTERIOR LTE | | | | 20/1 | |
| 3 | BUILDING EXTERIOR LTE | | | | 20/1 | |
| 5 | SPARE | | | | 35/1 | |
| 7 | | | | | | |
| 9 | SPARE | | | | 35/1 | |
| 11 | | | | | | |
| | **TOTAL PHASE KVA THIS SIDE** | 0 | 0 | 0 | | |

| CIRCUIT NO. | DESCRIPTION | LOAD KVA PHASE A | LOAD KVA PHASE B | LOAD KVA PHASE C | BREAKER AMPS/ POLES | NOTES |
|---|---|---|---|---|---|---|
| 2 | BUILDING EXTERIOR LTE | | | | 20/1 | |
| 4 | BUILDING EXTERIOR LTE | | | | 20/1 | |
| 6 | SPARE | | | | 20/1 | |
| 8 | | | | | | |
| 10 | PARKING LOT POLE LIGHTS | | | | 50/3 | |
| 12 | | | | | | |
| | **TOTAL PHASE KVA THIS SIDE** | 0 | 0 | 0 | | |
| | **TOTAL KVA PER PHASE** | 0 | 0 | 0 | | |
| | **TOTAL THREE PHASE KVA** | | 0 | | | |

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## NOTE:

UNLESS NOTED OTHERWISE ALL PANELS SHOWN ON THIS DRAWING SHOW EXISTING CONDITIONS AND SHOULD BE USED FOR REFERENCE ONLY. PANEL SCHEDULES SHOWN ON EP-602c, EP-602d & EP-602e SHALL BE USED FOR NEW CONSTRUCTION ONLY.

US Army Corps of Engineers ®

SEAL AND SIGNATURE DATE:

| MARK | DESCRIPTION | DATE |
|---|---|---|

ISSUE DATE:
SOLICITATION NO.: W912QR20R0038
CONTRACT NO.: W912DR-XX-X-XXXX
DESIGNED BY: KC
DRAWN BY: JC
CHECKED BY: DH
SUBMITTED BY:
SIZE: ANSI D
OPTION FIELD 2

US ARMY CORPS OF ENGINEERS
LOUISVILLE DISTRICT
LOUISVILLE, KY

SAVIN ENGINEERS, P.C.
3 CAMPUS DRIVE PLEASANTVILLE, NY 10570

UNITED STATES ARMY RESERVE CENTER
ORANGEBURG, NEW YORK

ELECTRICAL
EXISTING PANELBOARD SCHEDULES - SHEET 2

JULY 29, 2021

CORRECTED FINAL SUBMISSION

SHEET ID

EP602

**PANELBOARD:** PP-EF (NEW) — **LOCATION:** EF ROOM G1001

| | | | | | |
|---|---|---|---|---|---|
| 1 | **NEMA RATING** | | | 3 | **POLES** |
| 100 | **AMP BUS RATING** | 80 | **AMP MDP** | 10 | **KA SHORT CIRCUIT RATING** |
| 208Y/120 | **VOLTS** | 3 | **PHASE** 4 **WIRE** | | **ELECTRONIC GRADE :** NO |

| CIRCUIT NO. | DESCRIPTION | LOAD KVA PHASE A | LOAD KVA PHASE B | LOAD KVA PHASE C | BREAKER AMPS/ POLES | NOTES |
|---|---|---|---|---|---|---|
| 1 | SPARE | | | | 20/1 | |
| 3 | QUAD RECEPTACLE | | 0.36 | | 20/1 | |
| 5 | RECEPTACLES | | | 0.54 | 20/1 | |
| 7 | SPARE | | | | 20/1 | |
| 9 | SPARE | | | | 20/1 | |
| 11 | SPARE | | | | 20/1 | |
| 13 | | | | | | |
| 15 | SPD | | | | 40/3 | 1 |
| 17 | | 0.0 | 0.36 | 0.54 | | |
| | **TOTAL PHASE KVA THIS SIDE** | | | | | |

| CIRCUIT NO. | DESCRIPTION | LOAD KVA PHASE A | LOAD KVA PHASE B | LOAD KVA PHASE C | BREAKER AMPS/ POLES | NOTES |
|---|---|---|---|---|---|---|
| 2 | CRAC-3 | 2 | | | 25/2 | |
| 4 | | | 2 | | | |
| 6 | RECEPTACLE L5-15R | | | 0.18 | 15/1 | |
| 8 | CRACC-3 (ROOF) | 1.3 | | | 20/2 | |
| 10 | | | 1.3 | | | |
| 12 | SPACE | | | | | |
| 14 | SPACE | | | | | |
| 16 | SPACE | | | | | |
| 18 | SPACE | | | | | |
| | **TOTAL PHASE KVA THIS SIDE** | 2.3 | 2.3 | 0.18 | | |
| | **TOTAL KVA PER PHASE** | 2.3 | 2.66 | 0.72 | | |
| | **TOTAL THREE PHASE KVA** | | 5.68 | | | |

NOTES:
1. PROVIDE AND INSTALL SPD FOR THIS PANEL
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NOTES CONT.:
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**PANELBOARD:** PP-PC (NEW) — **LOCATION:** ELECTRICAL ROOM

| | | | | | |
|---|---|---|---|---|---|
| 1 | **NEMA RATING** | | | 3 | **POLES** |
| 225 | **AMP BUS RATING** | MLO | **AMP MDP** | 22 | **KA SHORT CIRCUIT RATING** |
| 208Y/120 | **VOLTS** | 3 | **PHASE** 4 **WIRE** | | **ELECTRONIC GRADE :** NO |

| CIRCUIT NO. | DESCRIPTION | LOAD KVA PHASE A | LOAD KVA PHASE B | LOAD KVA PHASE C | BREAKER AMPS/ POLES | NOTES |
|---|---|---|---|---|---|---|
| 1 | OFFICE/STORAGE RECEPT. | 0.7 | | | 20/1 | |
| 3 | VAULT AND OFFICE RECPT. | | 0.3 | | 20/1 | |
| 5 | OFFICE RECEPT. | | | 0.7 | 20/1 | |
| 7 | LACATATION RECEPT. | 0.7 | | | 20/1 | |
| 9 | WOMENS 7 MENS TOILET | | 0.7 | | 20/1 | |
| 11 | WOMENS & MENS SHOWERLOCKER | | | 0.7 | 20/1 | |
| 13 | ASSEMBLY ROOM | 0.7 | | | 20/1 | |
| 15 | ASSEMBLY ROOM | | 0.5 | | 20/1 | |
| 17 | CLASSROOM | | | 0.7 | 20/1 | |
| 19 | CLASSROOM | 0.7 | | | 20/1 | |
| 21 | LACTATION ROOM | | 0.7 | | 20/1 | |
| 23 | VAULT | | | 0.5 | 20/1 | |
| 25 | VAULT DEHUMIDIFIER | 1 | | | 20/1 | |
| 27 | INSTANANEOUS WATER HEATER | | 2 | | 30/2 | |
| 29 | | | | 2 | | |
| 31 | EJECTOR PUMP | | | | 20/1 | |
| 33 | RECP. DOAS-1 AND DOAS-2 | | .3 | | 20/1 | |
| 35 | RECP. DOAS-3 THRU DOAS-5 | | | .3 | 20/1 | |
| 37 | RECP. DOAS-6 AND DOAS-7 | .3 | | | 20/1 | |
| 39 | SPARE | | | | 20/1 | |
| 41 | SPARE | | | | | |
| | **TOTAL PHASE KVA THIS SIDE** | 4.64 | 6.3 | 2.6 | | |

| CIRCUIT NO. | DESCRIPTION | LOAD KVA PHASE A | LOAD KVA PHASE B | LOAD KVA PHASE C | BREAKER AMPS/ POLES | NOTES |
|---|---|---|---|---|---|---|
| 2 | ELECTRICAL ROOM RECEPT | 0.3 | | | 20/1 | |
| 4 | CLASSROOM | | 0.8 | | 20/1 | |
| 6 | CLASSROOM | | | 0.8 | 20/1 | |
| 8 | CLASSROOM/ STORAGE | 0.7 | | | 20/1 | |
| 10 | GYM | | 0.3 | | 20/1 | |
| 12 | GYM | | | 1 | 20/1 | |
| 14 | GYM | 1 | | | 20/1 | |
| 16 | GYM | | 1 | | 20/1 | |
| 18 | GYM | | | 1 | 20/1 | |
| 20 | WATER FOUNTAIN | 0.5 | | | 20/1 | |
| 22 | CONDENSATE PUMPS | | 0.84 | | 20/1 | |
| 24 | CONDENSATE PUMPS | | | 0.84 | 20/1 | |
| 26 | SPARE | | | | 20/1 | |
| 28 | SPARE | | | | 20/1 | |
| 30 | PA QUAD RECEPT. | | | 1 | 20/1 | |
| 32 | | 6.9 | | | 100/3 | |
| 34 | PP-PD | | 6.9 | | | |
| 36 | | | | 6.9 | | |
| 38 | | 2 | | | 60/3 | |
| 40 | PP-PG | | 2 | | | |
| 42 | | | | 2 | | |
| | **TOTAL PHASE KVA THIS SIDE** | 10.9 | 11.84 | 13.54 | | |
| | **TOTAL KVA PER PHASE** | 15.54 | 18.14 | 16.14 | | |
| | **TOTAL THREE PHASE KVA** | | 49.82 | | | |

NOTES:
1. CONTRACTOR IS ADVISED. UNKNOWN CONDUIT LOCATED ON SOUTH CORNER SHALL RECEIVE POWER FROM THIS PANEL. MODIFY ACCORDINGLY TO ACCOMODATE CIRCUIT.

NOTES CONT.:

**PANELBOARD:** PP-PG (EXISTING) — **LOCATION:** UNIT STORAGE AREA

| | | | | | |
|---|---|---|---|---|---|
| 1 | **NEMA RATING** | | | 3 | **POLES** |
| 225 | **AMP BUS RATING** | MLO | **AMP MDP** | 10 | **KA SHORT CIRCUIT RATING** |
| 208Y/120 | **VOLTS** | 3 | **PHASE** 4 **WIRE** | | **ELECTRONIC GRADE :** NO |

| CIRCUIT NO. | DESCRIPTION | LOAD KVA PHASE A | LOAD KVA PHASE B | LOAD KVA PHASE C | BREAKER AMPS/ POLES | NOTES |
|---|---|---|---|---|---|---|
| 1 | | | | | | |
| 3 | SPARE | | | | 15/3 | 1 |
| 5 | | | | | | |
| 7 | | | | | | |
| 9 | SPARE | | | | 15/3 | 1 |
| 11 | | | | | | |
| 13 | UNIT STORAGE RECEPT. | 0.7 | | | 20/1 | 2 |
| 15 | UNIT STORAGE RECEPT. | | 0.7 | | 20/1 | 2 |
| 17 | UNIT STORAGE RECEPT. | | | 0.7 | 20/1 | 2 |
| 19 | UNIT STORAGE RECEPT. | 0.7 | | | 20/1 | 2 |
| 21 | | | | | | |
| 23 | SPARE | | | | 100/3 | 1 |
| 25 | | | | | | |
| 27 | SPARE | | | | 15/2 | 1 |
| 29 | | | | | | |
| | **TOTAL PHASE KVA THIS SIDE** | 1.4 | 0.7 | 0.7 | | |

| CIRCUIT NO. | DESCRIPTION | LOAD KVA PHASE A | LOAD KVA PHASE B | LOAD KVA PHASE C | BREAKER AMPS/ POLES | NOTES |
|---|---|---|---|---|---|---|
| 2 | | | | | | |
| 4 | SPARE | | | | 15/3 | 1 |
| 6 | | | | | | |
| 8 | SPARE | | | | 15/2 | 1 |
| 10 | | | | | | |
| 12 | UNIT STORAGE | | | 0.7 | 20/1 | 2 |
| 14 | UNIT STORAGE | 0.7 | | | 20/1 | 2 |
| 16 | UNIT STORAGE | | 0.7 | | 20/1 | 2 |
| 18 | UNIT STORAGE | | | 0.7 | 20/1 | 2 |
| 20 | UNIT STORAGE | 0.5 | | | 20/1 | 2 |
| 22 | CONDENSATE PUMPS | | 0.37 | | 20/1 | 2 |
| 24 | SPARE | | | | 20/1 | 2 |
| 26 | SPARE | | | | 20/1 | 2 |
| 28 | SPARE | | | | 20/1 | 2 |
| 30 | SPARE | | | | 20/1 | 2 |
| | **TOTAL PHASE KVA THIS SIDE** | 1.2 | 1.07 | 1.4 | | |
| | **TOTAL KVA PER PHASE** | 2.6 | 1.77 | 2.1 | | |
| | **TOTAL THREE PHASE KVA** | | 6.47 | | | |

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**PANELBOARD:** PP-PB (NEW) — **LOCATION:** MECHANICAL ROOM

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|---|---|---|---|---|---|
| 1 | **NEMA RATING** | | | 3 | **POLES** |
| 100 | **AMP BUS RATING** | MLO | **AMP MDP** | 22 | **KA SHORT CIRCUIT RATING** |
| 208Y/120 | **VOLTS** | 3 | **PHASE** 4 **WIRE** | | **ELECTRONIC GRADE :** NO |

| CIRCUIT NO. | DESCRIPTION | LOAD KVA PHASE A | LOAD KVA PHASE B | LOAD KVA PHASE C | BREAKER AMPS/ POLES | NOTES |
|---|---|---|---|---|---|---|
| 1 | | 4 | | | | |
| 3 | P-1 | | 4 | | 90/3 | |
| 5 | | | | 4 | | |
| 7 | | 4 | | | | |
| 9 | P-2 | | 4 | | 90/3 | |
| 11 | | | | 4 | | |
| 13 | BOLIER NO 1 | 0.5 | | | 20/1 | |
| 15 | BOILER NO 2 | | 0.5 | | 20/1 | |
| 17 | HW-1 | | | 0.5 | 20/1 | |
| 19 | RECEPTACLE | 0.3 | | | 20/1 | |
| 21 | SPARES | | | | 20/1 | |
| 23 | SPARES | | | | 20/1 | |
| 25 | SPARES | | | | 20/1 | |
| 27 | SPARES | | | | 20/1 | |
| 29 | SPARES | | | | 20/1 | |
| 31 | SPACE | | | | | |
| 33 | SPACE | | | | | |
| 35 | SPACE | | | | | |
| 37 | SPACE | | | | | |
| 39 | SPACE | | | | | |
| 41 | SPACE | | | | | |
| | **TOTAL PHASE KVA THIS SIDE** | 8.8 | 8.5 | 8.5 | | |

| CIRCUIT NO. | DESCRIPTION | LOAD KVA PHASE A | LOAD KVA PHASE B | LOAD KVA PHASE C | BREAKER AMPS/ POLES | NOTES |
|---|---|---|---|---|---|---|
| 2 | BMS PANEL | 0.2 | | | 20/1 | |
| 4 | BOILER CONTROL PANEL | | 0.2 | | 20/1 | |
| 6 | GAS DETECTION PANEL | | | 0.2 | 20/1 | |
| 8 | ALARM HORN | 0.2 | | | 20/1 | |
| 10 | NATURAL GAS SHUT-OFF | | 0.2 | | 20/1 | |
| 12 | SPARES (EXIST.) | | | | 20/1 | |
| 14 | | 3.3 | | | | |
| 16 | EHAC-1 | | 3.3 | | 40/3 | |
| 18 | | | | 3.3 | | |
| 20 | SPARES | | | | 20/1 | |
| 22 | SPARES | | | | 20/1 | |
| 24 | SPARES | | | | 20/1 | |
| 26 | SPACE | | | | | |
| 28 | SPACE | | | | | |
| 30 | SPACE | | | | | |
| 32 | SPACE | | | | | |
| 34 | SPACE | | | | | |
| 36 | SPACE | | | | | |
| 38 | SPACE | | | | | |
| 40 | SPACE | | | | | |
| 42 | SPACE | | | | | |
| | **TOTAL PHASE KVA THIS SIDE** | 3.7 | 3.7 | 3.5 | | |
| | **TOTAL KVA PER PHASE** | 12.5 | 12.2 | 12 | | |
| | **TOTAL THREE PHASE KVA** | | 36.7 | | | |

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**PANELBOARD:** PP-PD (NEW) — **LOCATION:** CORRIDOR

| | | | | | |
|---|---|---|---|---|---|
| 1 | **NEMA RATING** | | | 3 | **POLES** |
| 125 | **AMP BUS RATING** | 100 | **AMP MDP** | 10 | **KA SHORT CIRCUIT RATING** |
| 208Y/120 | **VOLTS** | 3 | **PHASE** 4 **WIRE** | | **ELECTRONIC GRADE :** NO |

| CIRCUIT NO. | DESCRIPTION | LOAD KVA PHASE A | LOAD KVA PHASE B | LOAD KVA PHASE C | BREAKER AMPS/ POLES | NOTES |
|---|---|---|---|---|---|---|
| 1 | VENDING | 0.5 | | | | |
| 3 | VENDING | | 0.2 | | | |
| 5 | TEAM ROOM RECPT | | | 0.7 | | |
| 7 | RETENTION & CORR. REC | 0.7 | | | | |
| 9 | MICROWAVE | | 1 | | | |
| 11 | REFRIGERATOR | | | 0.5 | | |
| 13 | BREAK ROOM | 0.7 | | | | |
| 15 | LEARNING CENTER | | 0.5 | | | |
| 17 | LEARNING CENTER | | | 0.7 | | |
| 19 | CORRIDOR/CLASSROOMS | 0.5 | | | | |
| 21 | CLASSROOM | | 0.7 | | | |
| 23 | CLASSROOM FLOOR BOXES | | | 0.8 | | |
| 25 | CLASSROOM FLOOR BOXES | 0.8 | | | | |
| 27 | CLASSROOM FLOOR BOXES | | 0.8 | | | |
| 29 | CLASSROOM FLOOR BOXES | | | 0.8 | | |
| 31 | FAMILTY SUPPORT/OFFICE | 1 | | | | |
| 33 | OFFICE | | 1 | | | |
| 35 | OFFICE | | | 1 | | |
| 37 | SHARED OFFICE | 0.5 | | | | |
| 39 | SHARED OFFICE | | 0.5 | | | |
| 41 | SHARED OFFICE | | | 0.6 | | |
| | **TOTAL PHASE KVA THIS SIDE** | 4.7 | 4.7 | 4.5 | | |

| CIRCUIT NO. | DESCRIPTION | LOAD KVA PHASE A | LOAD KVA PHASE B | LOAD KVA PHASE C | BREAKER AMPS/ POLES | NOTES |
|---|---|---|---|---|---|---|
| 2 | | 0.2 | | | | |
| 4 | GATE OPERATOR NO 1 (EXISTING) | | 0.2 | | 15/3 | |
| 6 | | | | 0.2 | | |
| 8 | | 0.2 | | | | |
| 10 | GATE OPERATOR NO 2 (EXISTING) | | 0.2 | | 15/3 | |
| 12 | | | | 0.2 | | |
| 14 | | 0.2 | | | | |
| 16 | GATE OPERATOR NO 3 (NEW) | | 0.2 | | 15/3 | |
| 18 | | | | 0.2 | | |
| 20 | TEAM ROOM QUAD | 0.7 | | | 20/1 | |
| 22 | TEAM ROOM /STORAGE | | 0.5 | | 20/1 | |
| 24 | FURNATURE WIP/UNIT | | | 0.5 | 20/1 | |
| 26 | UNIT COMMONS | 0.5 | | | 20/1 | |
| 28 | MFD QUAD | | 0.5 | | 20/1 | |
| 30 | MFD QUAD | | | 0.5 | 20/1 | |
| 32 | OFFICE QUAD | 0.5 | | | 20/1 | |
| 34 | OFFICE | | 0.7 | | 20/1 | |
| 36 | FURNATURE WIP/UNIT | | | 0.5 | 20/1 | |
| 38 | NEW GATE 120V CONTROL POWER | 0.5 | | | 20/1 | |
| 40 | SPARE | | | | 20/1 | |
| 42 | SPARE | | | | 20/1 | |
| | **TOTAL PHASE KVA THIS SIDE** | 2.3 | 2.3 | 2.1 | | |
| | **TOTAL KVA PER PHASE** | 7 | 7 | 6.6 | | |
| | **TOTAL THREE PHASE KVA** | | 20.6 | | | |

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**PANELBOARD:** PP-TR (NEW) — **LOCATION:** TR ROOM G1006

| | | | | | |
|---|---|---|---|---|---|
| 1 | **NEMA RATING** | | | 3 | **POLES** |
| 100 | **AMP BUS RATING** | 80 | **AMP MDP** | 10 | **KA SHORT CIRCUIT RATING** |
| 208Y/120 | **VOLTS** | 3 | **PHASE** 4 **WIRE** | | **ELECTRONIC GRADE :** NO |

| CIRCUIT NO. | DESCRIPTION | LOAD KVA PHASE A | LOAD KVA PHASE B | LOAD KVA PHASE C | BREAKER AMPS/ POLES | NOTES |
|---|---|---|---|---|---|---|
| 1 | SPARE | | | | 20/1 | |
| 3 | QUAD RECEPTACLE | | 0.36 | | 20/1 | |
| 5 | RECEPTACLES | | | 0.72 | 20/1 | |
| 7 | SPARE | | | | 20/1 | |
| 9 | SPARE | | | | 20/1 | |
| 11 | SPARE | | | | 20/1 | |
| 13 | | | | | | |
| 15 | SPD | | | | 40/3 | 1 |
| 17 | | | | | | |
| | **TOTAL PHASE KVA THIS SIDE** | 0.0 | 0.36 | 0.72 | | |

| CIRCUIT NO. | DESCRIPTION | LOAD KVA PHASE A | LOAD KVA PHASE B | LOAD KVA PHASE C | BREAKER AMPS/ POLES | NOTES |
|---|---|---|---|---|---|---|
| 2 | CRAC-2 | 2 | | | 25/2 | |
| 4 | | | 2 | | | |
| 6 | CRAC-2 (ROOF) | | | 1.3 | 20/2 | |
| 8 | | 1.3 | | | | |
| 10 | SPARE | | | | 15/1 | |
| 12 | SPARE | | | | | |
| 14 | SPARE | | | | | |
| 16 | SPARE | | | | | |
| 18 | SPARE | | | | | |
| | **TOTAL PHASE KVA THIS SIDE** | 2.3 | 2 | 1.3 | | |
| | **TOTAL KVA PER PHASE** | 2.3 | 2.36 | 2.02 | | |
| | **TOTAL THREE PHASE KVA** | | 6.68 | | | |

NOTES:
1. PROVIDE AND INSTALL SPD FOR THIS PANEL
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US Army Corps of Engineers ®

SEAL AND SIGNATURE

DATE:

| MARK | DESCRIPTION | DATE |
|---|---|---|
| 3 | Revision 3 (INTERIM) | Date 4 |

US ARMY CORPS OF ENGINEERS
LOUISVILLE DISTRICT
LOUISVILLE, KY

SAVIN ENGINEERS, P.C.
3 CAMPUS DRIVE PLEASANTVILLE, NY 10570

DESIGNED BY: KC
DRAWN BY: JC
CHECKED BY: DE
SUBMITTED BY:
SIZE: ANSI D

ISSUE DATE:
SOLICITATION NO.: W912QR20R0038
CONTRACT NO.: W912QR-XX-X-XXXX
OPTION FIELD 2

UNITED STATES ARMY RESERVE CENTER
ORANGEBURG, NEW YORK

ELECTRICAL
NEW WORK PANEL SCHEDULES - SHEET 1

JULY 29, 2021

CORRECTED FINAL SUBMISSION

SHEET ID

EP603

**PANELBOARD:** GENERATOR( EXISTING) **LOCATION:** MECHANICAL ROOM

1 **NEMA RATING** 3 **POLES** **MOUNTING:** SURFACE

125 **AMP BUS RATING** MLO **AMP MDP** 10 **KA SHORT CIRCUIT RATING**

208Y/120 **VOLTS** 3 **PHASE** 4 **WIRE** **ELECTRONIC GRADE :** NO

| CIRCUIT NO. | DESCRIPTION | LOAD KVA PHASE A | LOAD KVA PHASE B | LOAD KVA PHASE C | BREAKER AMPS/ POLES | NOTES |
|---|---|---|---|---|---|---|
| 1 | GENERATOR RECEPT.( EXISTING) | 0.3 | | | 15/1 | |
| 3 | BOLIER ROOM | | 0.3 | | 20/1 | |
| 5 | SPARE | | | | 20/1 | |
| 7 | IDS SYSTEM | 0.4 | | | 20/1 | |
| 9 | VAULT ROOM LIGHITNG | | 0.4 | | 20/1 | |
| 11 | CORRIDORS C1001 & C1003 ALWAYS "ON" LIGHTS | | | 0.2 | 20/1 | |
| 13 | SPARE | | | | 20/1 | |
| 15 | SPARE | | | | 20/1 | |
| 17 | SPARE | | | | 20/1 | |
| 19 | SPARE | | | | 20/1 | |
| 21 | SPACE | | | | | |
| 23 | SPACE | | | | | |
| 25 | SPACE | | | | | |
| 27 | SPACE | | | | | |
| 29 | SPACE | | | | | |
| | **TOTAL PHASE KVA THIS SIDE** | 0.7 | 0.7 | 0.2 | | |

| CIRCUIT NO. | DESCRIPTION | LOAD KVA PHASE A | LOAD KVA PHASE B | LOAD KVA PHASE C | BREAKER AMPS/ POLES | NOTES |
|---|---|---|---|---|---|---|
| 2 | | | | | | |
| 4 | SPARE (EXIST) | | | | 60/3 | |
| 6 | | | | | | |
| 8 | | 0.7 | | | | |
| 10 | SECURITY LTG. ( EXIST) | | 0.7 | | 50/3 | |
| 12 | | | | 0.7 | | |
| 14 | | 2 | | | | |
| 16 | CT-1 6KW HEATER | | 2 | | 25/3 | |
| 18 | | | | 2 | | |
| 20 | HEAT TRACING (CT-1) | 1.2 | | | 30/1 | |
| 22 | SPACE | | | | | |
| 24 | SPACE | | | | | |
| 26 | SPACE | | | | | |
| 28 | SPACE | | | | | |
| 30 | SPACE | | | | | |
| | **TOTAL PHASE KVA THIS SIDE** | 3.9 | 2.7 | 2.7 | | |
| | **TOTAL KVA PER PHASE** | 4.6 | 3.4 | 2.9 | | |
| | **TOTAL THREE PHASE KVA** | | 10.9 | | | |

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**PANELBOARD:** PP-PK (NEW) **LOCATION:** KITCHEN DRY STORAGE

1 **NEMA RATING** 3 **POLES** **MOUNTING:** RECESSED

350 **AMP BUS RATING** MLO **AMP MDP** 22 **KA SHORT CIRCUIT RATING**

208Y/120 **VOLTS** 3 **PHASE** 4 **WIRE** **ELECTRONIC GRADE :** NO

| CIRCUIT NO. | DESCRIPTION | LOAD KVA PHASE A | LOAD KVA PHASE B | LOAD KVA PHASE C | BREAKER AMPS/ POLES | NOTES |
|---|---|---|---|---|---|---|
| 1 | COFFEE MAKER RECEPT (19C) | 0.8 | | | 20/1 | |
| 3 | ICE DESPENSER & RECPT 19B | | 0.6 | | 20/1 | |
| 5 | FIRE SUPPRESSION PANEL (21B) | | | 1.4 | 20/1 | |
| 7 | HOOD (21A) | 1.8 | | | 30/1 | |
| 9 | 12 QT MIXER RECEPT (16A) | | 0.6 | | 20/1 | |
| 11 | HOOD (22) | | | 1.8 | 20/1 | |
| 13 | | 3.8 | | | | |
| 15 | MOBILE HOT FOOD CTR. (15) | | 3.8 | | 40/3 | |
| 17 | | | | 3.8 | | |
| 19 | MOBILE COLD FOOD (14) | 1.4 | | | 20/1 | |
| 21 | FOOD PREP TABLE (13A) | | 1.4 | | 20/1 | |
| 23 | SPARE | | | | 20/1 | |
| 25 | SPARE | | | | 20/1 | |
| 27 | SPARE | | | | 20/1 | |
| 29 | SPARE | | | | 20/1 | |
| 31 | SPARE | | | | 20/1 | |
| 33 | SPACE | | | | | |
| 35 | SPACE | | | | | |
| 37 | SPACE | | | | | |
| 39 | SPACE | | | | | |
| 41 | SPACE | | | | | |
| | **TOTAL PHASE KVA THIS SIDE** | 7.8 | 6.4 | 7 | | |

| CIRCUIT NO. | DESCRIPTION | LOAD KVA PHASE A | LOAD KVA PHASE B | LOAD KVA PHASE C | BREAKER AMPS/ POLES | NOTES |
|---|---|---|---|---|---|---|
| 2 | ICE MAKER (6) | 1..6 | | | 20/1 | |
| 4 | FREEZER (7) | | 0.9 | | 20/1 | |
| 6 | REFRIGERATOR (8) | | | 1 | 20/1 | |
| 8 | HAND SINK RECEPT. (1) | 1.4 | | | 20/1 | |
| 10 | HAND SINK RECPT. (1) | | 1.4 | | 20/1 | |
| 12 | VEGETABLE SINK RECPT. (2A) | | | 1.4 | 20/1 | |
| 14 | | 5.3 | | | | |
| 16 | RANGE/GRIDDLE OVEN (9) | | 5.3 | | 50/3 | |
| 18 | | | | 5.3 | | |
| 20 | | 1.8 | | | | |
| 22 | 3 COMPART. SINK (3A) | | 1.8 | | 20/3 | |
| 24 | | | | 1.8 | | |
| 26 | | 3 | | | | |
| 28 | SANITIZING SINK HTR (3C) | | 3 | | 30/3 | |
| 30 | | | | 3 | | |
| 32 | | 5 | | | | |
| 34 | H.W. BOOSTER HTR (3D) | | 5 | | 50/3 | |
| 36 | | | | 5 | | |
| 38 | | 0.9 | | | | |
| 40 | DISPOSAL/CONTROL PNL (3E) | | 0.9 | | 20/3 | |
| 42 | | | | 0.9 | | |
| | **TOTAL PHASE KVA THIS SIDE** | 17.4 | 18.3 | 17.5 | | |
| | **TOTAL KVA PER PHASE** | 25.2 | 24.7 | 24.5 | | |
| | **TOTAL THREE PHASE KVA** | | 74.4 | | | |

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**PANELBOARD:** PP-WSHP (NEW) **LOCATION:** ELECTRICAL ROOM

1 **NEMA RATING** 3 **POLES** **MOUNTING:** SURFACE

400 **AMP BUS RATING** MLO **AMP MDP** 22 **KA SHORT CIRCUIT RATING**

208Y/120 **VOLTS** 3 **PHASE** 4 **WIRE** **ELECTRONIC GRADE :** NO

| CIRCUIT NO. | DESCRIPTION | LOAD KVA PHASE A | LOAD KVA PHASE B | LOAD KVA PHASE C | BREAKER AMPS/ POLES | NOTES |
|---|---|---|---|---|---|---|
| 1 | | 0.93 | | | | |
| 3 | WSHP-1 & WSHP-5 | | 0.93 | | 15/3 | |
| 5 | | | | 0.93 | | |
| 7 | | 0.46 | | | | |
| 9 | WSHP-2, WSHP-4 & WSHP-16 | | 0.46 | | 15/2 | |
| 11 | | | | 0.89 | | |
| 13 | WSHP-8, WSHP-9 & WSHP-10 | 0.89 | | | 20/2 | |
| 15 | | | 0.6 | | | |
| 17 | WSHP-3 & WSHP-11 | | | 0.6 | 20/2 | |
| 19 | | 0.39 | | | | |
| 21 | WSHP-14, WSHP-15 & WSHP-20 | | 0.39 | | 15/2 | |
| 23 | | | | 0.39 | | |
| 25 | WSHP-17, WSHP-18 & WSHP-21 | 0.39 | | | 15/2 | |
| 27 | | | 0.93 | | | |
| 29 | WSHP-22 & WSHP-24 | | | 0.93 | 25/3 | |
| 31 | | 0.93 | | | | |
| 33 | | | 0.93 | | | |
| 35 | WSHP-6 | | | 0.93 | 35/3 | |
| 37 | | 0.93 | | | | |
| 39 | SPARE | | | | | |
| 41 | SPARE | | | | | |
| | **TOTAL PHASE KVA THIS SIDE** | 4.92 | 4.24 | 4.67 | | |

| CIRCUIT NO. | DESCRIPTION | LOAD KVA PHASE A | LOAD KVA PHASE B | LOAD KVA PHASE C | BREAKER AMPS/ POLES | NOTES |
|---|---|---|---|---|---|---|
| 2 | | 0.83 | | | | |
| 4 | WSHP-7 | | 0.83 | | 15/3 | |
| 6 | | | | 0.83 | | |
| 8 | | 0.83 | | | | |
| 10 | WSHP-19 | | 0.83 | | 35/3 | |
| 12 | | | | 0.83 | | |
| 14 | | 0.72 | | | | |
| 16 | WSHP-23 | | 0.72 | | 45/3 | |
| 18 | | | | 0.72 | | |
| 20 | | 0.6 | | | | |
| 22 | WSHP-12 | | 0.6 | | 45/3 | |
| 24 | | | | 0.6 | | |
| 26 | | 0.48 | | | | |
| 28 | WSHP-13 | | 0.48 | | 35/3 | |
| 30 | | | | 0.48 | | |
| 32 | | 6 | | | | |
| 34 | GEN PANEL (VIA ATS) | | 6 | | 100/3 | |
| 36 | | | | 6 | | |
| 38 | | 8.4 | | | | |
| 40 | MKT PAD | | 8.4 | | 100/3 | |
| 42 | | | | 8.4 | | |
| | **TOTAL PHASE KVA THIS SIDE** | 17.86 | 17.86 | 17.86 | | |
| | **TOTAL KVA PER PHASE** | 22.78 | 22.1 | 22.53 | | |
| | **TOTAL THREE PHASE KVA** | | 67.41 | | | |

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**PANELBOARD:** PP-PA (NEW) **LOCATION:** ELECTRICAL ROOM

1 **NEMA RATING** 3 **POLES** **MOUNTING:** SURFACE

400 **AMP BUS RATING** MLO **AMP MDP** 22 **KA SHORT CIRCUIT RATING**

208Y/120 **VOLTS** 3 **PHASE** 4 **WIRE** **ELECTRONIC GRADE :** NO

| CIRCUIT NO. | DESCRIPTION | LOAD KVA PHASE A | LOAD KVA PHASE B | LOAD KVA PHASE C | BREAKER AMPS/ POLES | NOTES |
|---|---|---|---|---|---|---|
| 1 | | 3.32 | | | | |
| 3 | DOAS-1 | | 3.32 | | 45/3 | |
| 5 | | | | 3.32 | | |
| 7 | | 6.2 | | | | |
| 9 | DOAS-2 | | 6.2 | | 70/3 | |
| 11 | | | | 6.2 | | |
| 13 | | 3.5 | | | | |
| 15 | DOAS-3 | | 3.5 | | 50/3 | |
| 17 | | | | 3.5 | | |
| 19 | | 2.5 | | | | |
| 21 | DOAS-4 | | 2.5 | | 35/3 | |
| 23 | | | | 2.5 | | |
| 25 | | 3.5 | | | | |
| 27 | DOAS-5 | | 3.5 | | 50/3 | |
| 29 | | | | 3.5 | | |
| 31 | | 3.5 | | | | |
| 33 | DOAS-6 | | 3.5 | | 50/3 | |
| 35 | | | | 3.5 | | |
| 37 | | 1 | | | | |
| 39 | MUA-1 | | 1 | | 20/3 | |
| 41 | | | | 1 | | |
| | **TOTAL PHASE KVA THIS SIDE** | 23.52 | 23.52 | 22.52 | | |

| CIRCUIT NO. | DESCRIPTION | LOAD KVA PHASE A | LOAD KVA PHASE B | LOAD KVA PHASE C | BREAKER AMPS/ POLES | NOTES |
|---|---|---|---|---|---|---|
| 2 | | 2.7 | | | | |
| 4 | DOAS-7 | | 2.7 | | 35/3 | |
| 6 | | | | 2.7 | | |
| 8 | SPARE | | | | 20/1 | |
| 10 | SPARE | | | | 20/1 | |
| 12 | SPARE | | | | 20/1 | |
| 14 | EF-1 | 0.88 | | | 30/1 | |
| 16 | EF-3 | | 0.44 | | 20/1 | |
| 18 | EF-4 | | | 0.22 | 15/1 | |
| 20 | | 0.59 | | | | |
| 22 | EF-2 | | 0.59 | | 15/3 | |
| 24 | | | | 0.59 | | |
| 26 | | 1.5 | | | | |
| 28 | SF-1 | | 1.5 | | 35/3 | |
| 30 | | | | 1.5 | | |
| 32 | | 3 | | | | |
| 34 | CT-1 | | 3 | | 60/3 | |
| 36 | | | | 3 | | |
| 38 | SPARE | | | | 20/1 | |
| 40 | SPARE | | | | 20/1 | |
| 42 | SPARE | | | | 20/1 | |
| | **TOTAL PHASE KVA THIS SIDE** | 6.33 | 5.89 | 5.67 | | |
| | **TOTAL KVA PER PHASE** | 29.85 | 29.41 | 28.19 | | |
| | **TOTAL THREE PHASE KVA** | | 87.45 | | | |

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**PANELBOARD:** PP-TER (NEW) **LOCATION:** TER ROOM G1002

1 **NEMA RATING** 3 **POLES** **MOUNTING:** RECESSED

100 **AMP BUS RATING** 80 **AMP MDP** 22 **KA SHORT CIRCUIT RATING**

208Y/120 **VOLTS** 3 **PHASE** 4 **WIRE** **ELECTRONIC GRADE :** NO

| CIRCUIT NO. | DESCRIPTION | LOAD KVA PHASE A | LOAD KVA PHASE B | LOAD KVA PHASE C | BREAKER AMPS/ POLES | NOTES |
|---|---|---|---|---|---|---|
| 1 | SPARE | | | | 20/1 | |
| 3 | QUAD RECEPTACLE | | 0.36 | | 20/1 | |
| 5 | QUAD RECEPTACLE | | | 0.36 | 20/1 | |
| 7 | RECEPTACLES | 0.72 | | | 20/1 | |
| 9 | SPARE | | | | 20/1 | |
| 11 | SPARE | | | | 20/1 | |
| 13 | | | | | | |
| 15 | SPD | | | | 40/3 | 1 |
| 17 | | | | | | |
| | **TOTAL PHASE KVA THIS SIDE** | 0.72 | 0.36 | 0.36 | | |

| CIRCUIT NO. | DESCRIPTION | LOAD KVA PHASE A | LOAD KVA PHASE B | LOAD KVA PHASE C | BREAKER AMPS/ POLES | NOTES |
|---|---|---|---|---|---|---|
| 2 | CRAC-1 | 2 | | | 25/2 | |
| 4 | | | 2 | | | |
| 6 | CRACC-1 (ROOF) | | | 1.3 | 20/2 | |
| 8 | | 1.3 | | | | |
| 10 | SPARE | | | | 15/1 | |
| 12 | SPARE | | | | 20/1 | |
| 14 | SPARE | | | | | |
| 16 | SPARE | | | | | |
| 18 | SPARE | | | | | |
| | **TOTAL PHASE KVA THIS SIDE** | 3.3 | 2 | 1.3 | | |
| | **TOTAL KVA PER PHASE** | 4.02 | 2.36 | 1.66 | | |
| | **TOTAL THREE PHASE KVA** | | 8.04 | | | |

NOTES:
1.
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NOTES CONT.:
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US Army Corps of Engineers ®

SEAL AND SIGNATURE DATE:

| MARK | DESCRIPTION | DATE |
|---|---|---|
| 3 | Revision 3 (INTERIM) | Date 4 |

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SUBMITTED BY:
SIZE: ANSI D
ISSUE DATE:
SOLICITATION NO.: W912QR20R0038
CONTRACT NO.: W912DR-XX-X-XXXX
OPTION FIELD 2

US ARMY CORPS OF ENGINEERS
LOUISVILLE DISTRICT
LOUISVILLE, KY

SAVIN ENGINEERS, P.C.
3 CAMPUS DRIVE PLEASANTVILLE, NY 10570

UNITED STATES ARMY RESERVE CENTER
ORANGEBURG, NEW YORK

ELECTRICAL
NEW WORK PANEL SCHEDULES - SHEET 2

JULY 29, 2021

CORRECTED FINAL SUBMISSION

SHEET ID

EP604

**PANELBOARD:** LP-LG (EXISTING TO BE REUSED) **LOCATION:** UNITS STORAGE

1 **NEMA RATING** 3 **POLES** **MOUNTING:** SURFACE

225 **AMP BUS RATING** MLO **AMP MDP** 10 **KA SHORT CIRCUIT RATING**

208Y/120 **VOLTS** 3 **PHASE** 4 **WIRE** **ELECTRONIC GRADE :** NO

| CIRCUIT NO. | DESCRIPTION | LOAD KVA PHASE A | LOAD KVA PHASE B | LOAD KVA PHASE C | BREAKER AMPS/ POLES | NOTES |
|---|---|---|---|---|---|---|
| 1 | UNIT STORAGE 1036 & 1037 | 0.7 | | | 20/1 | |
| 3 | UNIT STORAGE 1032 | | 0.4 | | 20/1 | |
| 5 | CORRIDORS AROUND 1036 & 10 | | | 0.6 | 20/1 | |
| 7 | CORRIDOR AROUND 1032 | 0.4 | | | 20/1 | |
| 9 | | | | | | |
| 11 | SPARE | | | | 20/1 | |
| 13 | SPARE | | | | 20/1 | |
| 15 | SPARE | | | | 20/1 | |
| 17 | SPARE | | | | 20/1 | |
| 19 | SPARE | | | | 20/1 | |
| 21 | SPARE | | | | 20/1 | |
| 23 | SPARE | | | | 20/1 | |
| 25 | SPACE | | | | | |
| 27 | SPACE | | | | | |
| 29 | SPACE | | | | | |
| | **TOTAL PHASE KVA THIS SIDE** | 1.1 | 0.4 | 0.6 | | |

| CIRCUIT NO. | DESCRIPTION | LOAD KVA PHASE A | LOAD KVA PHASE B | LOAD KVA PHASE C | BREAKER AMPS/ POLES | NOTES |
|---|---|---|---|---|---|---|
| 2 | SPARE | | | | 20/1 | |
| 4 | SPARE | | | | 20/1 | |
| 6 | SPARE | | | | 20/1 | |
| 8 | SPARE | | | | 20/1 | |
| 10 | SPARE | | | | 20/1 | |
| 12 | SPARE | | | | 20/1 | |
| 14 | SPARE | | | | 20/1 | |
| 16 | GARAGE DOORS (EXISTING) | | 1 | | 20/1 | 1 |
| 18 | GARAGE DOORS (EXISTING) | | | 1 | 20/1 | 1 |
| 20 | SPARE | | | | 20/2 | |
| 22 | | | | | | |
| 24 | SPARE | | | | 20/3 | |
| 26 | | | | | | |
| 28 | SPACE | | | | | |
| 30 | SPACE | | | | | |
| | **TOTAL PHASE KVA THIS SIDE** | 0 | 1 | 1 | | |
| | **TOTAL KVA PER PHASE** | 1.1 | 1.4 | 1.6 | | |
| | **TOTAL THREE PHASE KVA** | | 3.1 | | | |

NOTES:
1. GARAGE DOORS TO REMAIN.
2.
3.
4.

NOTES CONT.:
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**PANELBOARD:** LP-LA (NEW) **LOCATION:** ELECTRICAL ROOM

1 **NEMA RATING** 3 **POLES** **MOUNTING:** SURFACE

225 **AMP BUS RATING** MLO **AMP MDP** 22 **KA SHORT CIRCUIT RATING**

208Y/120 **VOLTS** 3 **PHASE** 4 **WIRE** **ELECTRONIC GRADE :** NO

| CIRCUIT NO. | DESCRIPTION | LOAD KVA PHASE A | LOAD KVA PHASE B | LOAD KVA PHASE C | BREAKER AMPS/ POLES | NOTES |
|---|---|---|---|---|---|---|
| 1 | EXTERIOR EMERG./DOOR LTG. (NL-20) | 0.07 | | | 20/1 | |
| 3 | G1003, G1104, 1022, 1023, 1024, 1026, 1027 & 1028 | | 0.7 | | 20/1 | |
| 5 | LTG 1025, G1007, G1008 & 1031 | | | 0.7 | 20/1 | |
| 7 | SPARE | | | | 20/1 | |
| 9 | CORRIDOR C1001& C1003 | | 0.27 | | 20/1 | |
| 11 | NAC #2 PANEL | | | 1 | 20/1 | 1 |
| 13 | SPACE | | | | | |
| 15 | SPACE | | | | | |
| 17 | SPACE | | | | | |
| 19 | SPACE | | | | | |
| 21 | SPACE | | | | | |
| 23 | SPACE | | | | | |
| 25 | SPACE | | | | | |
| 27 | SPACE | | | | | |
| 29 | SPACE | | | | | |
| 31 | SPACE | | | | | |
| 33 | SPACE | | | | | |
| 35 | SPACE | | | | | |
| 37 | SPACE | | | | | |
| 39 | SPACE | | | | | |
| 41 | SPACE | | | | | |
| | **TOTAL PHASE KVA THIS SIDE** | 0.09 | 0.97 | 0.7 | | |

| CIRCUIT NO. | DESCRIPTION | LOAD KVA PHASE A | LOAD KVA PHASE B | LOAD KVA PHASE C | BREAKER AMPS/ POLES | NOTES |
|---|---|---|---|---|---|---|
| 2 | SPARE | | | | 20/2 | |
| 4 | | | | | | |
| 6 | SPARE | | | | 20/1 | |
| 8 | SPARE | | | | 20/1 | |
| 10 | SPARE | | | | 20/1 | |
| 12 | SPARE | | | | 20/1 | |
| 14 | SPACE | | | | 20/1 | |
| 16 | SPARE | | | | 20/1 | |
| 18 | SPARE | | | | 20/1 | |
| 20 | SPARE | | | | 20/1 | |
| 22 | SPARE | | | | 20/1 | |
| 24 | SPARE | | | | 20/1 | |
| 26 | | 1 | | | | |
| 28 | LP-LS | | 1 | | 80/3 | 1 |
| 30 | | | | 1 | | |
| 32 | | 2 | | | | |
| 34 | LP-LB | | 2 | | 80/3 | |
| 36 | | | | 2 | | |
| 38 | | 0.6 | | | | |
| 40 | LP-LG | | 0.6 | | 80/3 | |
| 42 | | | | 0.6 | | |
| | **TOTAL PHASE KVA THIS SIDE** | 3.6 | 3.6 | 3.6 | | |
| | **TOTAL KVA PER PHASE** | 3.69 | 4.57 | 4.3 | | |
| | **TOTAL THREE PHASE KVA** | | 12.47 | | | |

NOTES:
1. PROVIDE "RED" PAINTED BREAKER-LOCKING CAPABILITY.
2.
3.
4.

NOTES CONT.:
5.
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8.

**PANELBOARD:** LP-LB (NEW) **LOCATION:** UNIT COMMONS CORRIDOR

1 **NEMA RATING** 3 **POLES** **MOUNTING:** RECESSED

125 **AMP BUS RATING** 80 **AMP MDP** 10 **KA SHORT CIRCUIT RATING**

208Y/120 **VOLTS** 3 **PHASE** 4 **WIRE** **ELECTRONIC GRADE :** NO

| CIRCUIT NO. | DESCRIPTION | LOAD KVA PHASE A | LOAD KVA PHASE B | LOAD KVA PHASE C | BREAKER AMPS/ POLES | NOTES |
|---|---|---|---|---|---|---|
| 1 | LTG RMS 1011, 1012, 1013, 1014, 1015, 1016 | 1 | | | 20/1 | |
| 3 | LTG RMS 1007, 1008, 1009, 1010, 1020, 1021 | | 1.2 | | 20/1 | |
| 5 | LTG RM 1019 | | | 0.8 | 20/1 | |
| 7 | FIRE ALARM CONTROL PANEL | 1 | | | 20/1 | 1 |
| 9 | NAC #1 PANEL | | 1 | | 20/1 | 1 |
| 11 | SPARE | | | | 20/1 | |
| 13 | EXTERIOR SITE LIGHTING | 0.8 | | | 30/2 | |
| 15 | | | 0.8 | | | |
| 17 | SPACE | | | | | |
| 19 | SPACE | | | | | |
| 21 | SPACE | | | | | |
| 23 | SPACE | | | | | |
| | **TOTAL PHASE KVA THIS SIDE** | 1.8 | 2 | 0.8 | | |

| CIRCUIT NO. | DESCRIPTION | LOAD KVA PHASE A | LOAD KVA PHASE B | LOAD KVA PHASE C | BREAKER AMPS/ POLES | NOTES |
|---|---|---|---|---|---|---|
| 2 | G1001, 1001, G1002, 1002, 1003, 1004, 1005, 1006 | 1.2 | | | 20/1 | |
| 4 | LTG RMS 1017 & 1018 | | 1.2 | | 20/1 | |
| 6 | SPARE | | | | 20/1 | |
| 8 | SPARE | | | | 20/1 | |
| 10 | SPARE | | | | 20/1 | |
| 12 | SPARE | | | | 20/1 | |
| 14 | SPACE | | | | | |
| 16 | SPACE | | | | | |
| 18 | SPACE | | | | | |
| 20 | SPACE | | | | | |
| 22 | SPACE | | | | | |
| 24 | SPACE | | | | | |
| | **TOTAL PHASE KVA THIS SIDE** | 1.2 | 1.2 | 0 | | |
| | **TOTAL KVA PER PHASE** | 3 | 3.2 | 0.8 | | |
| | **TOTAL THREE PHASE KVA** | | 7 | | | |

NOTES:
1. PROVIDE "RED" PAINTED BREAKER-LOCKING CAPABILITY.
2.
3.
4.

NOTES CONT.:
5.
6.
7.
8.

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CHECKED BY: DE
SUBMITTED BY:
SIZE: ANSI D
OPTION FIELD 2

ISSUE DATE:
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CONTRACT NO.: W912ER-XX-XXXX

US ARMY CORPS OF ENGINEERS
LOUISVILLE DISTRICT
LOUISVILLE, KY

SAVIN ENGINEERS, P.C.
3 CAMPUS DRIVE PLEASANTVILLE, NY 10570

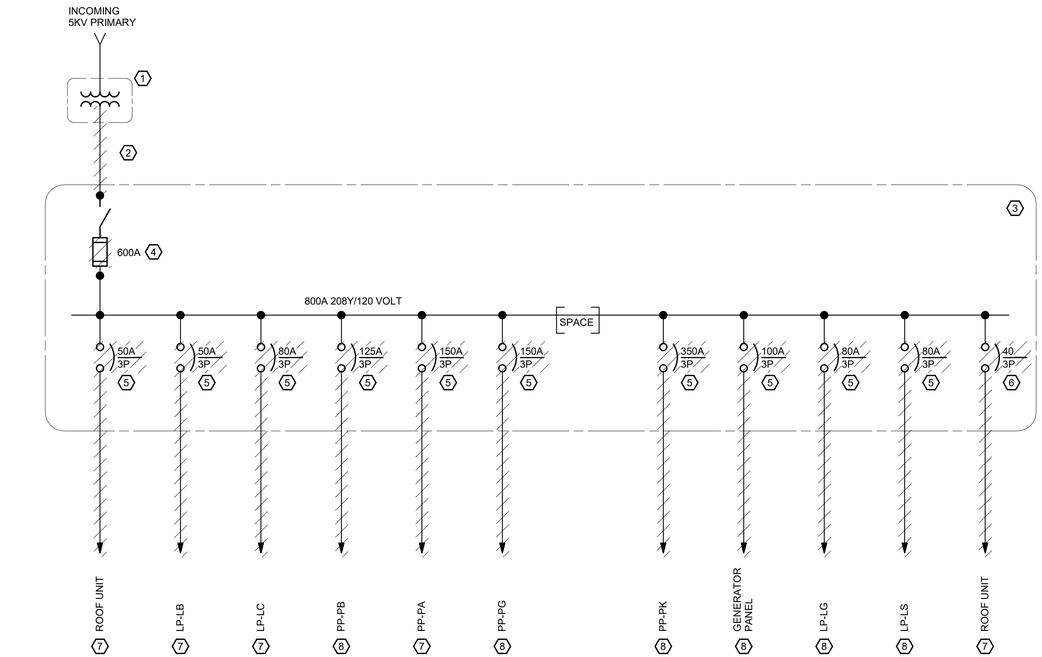
UNITED STATES ARMY RESERVE CENTER
ORANGEBURG, NEW YORK

ELECTRICAL
NEW WORK PANEL SCHEDULES - SHEET 3

SHEET ID

EP605

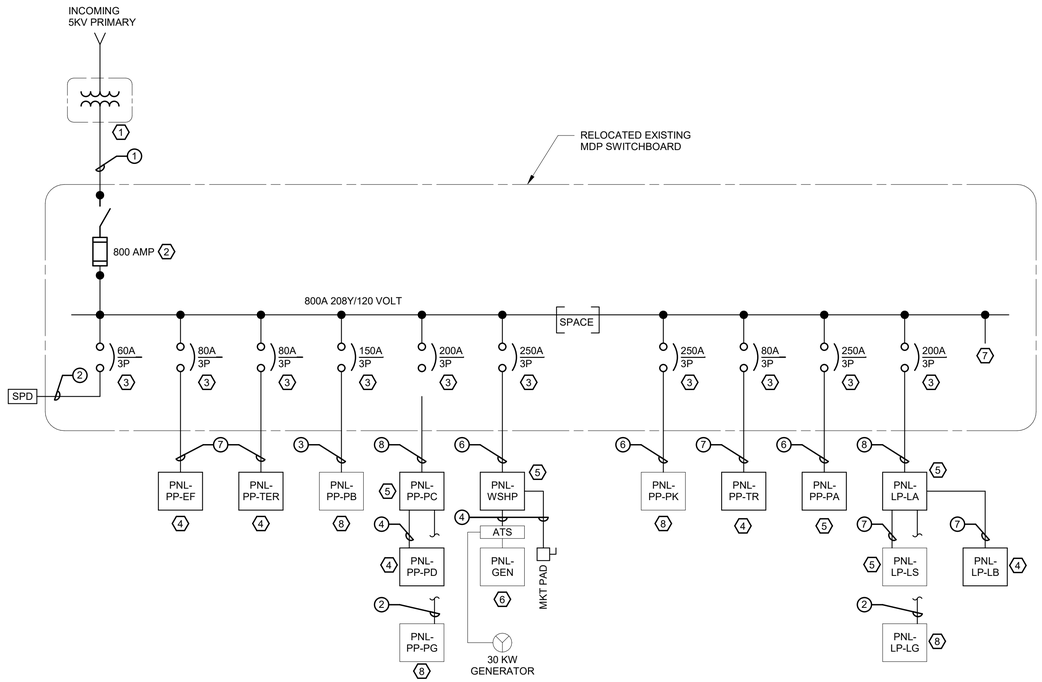
CORRECTED FINAL SUBMISSION JULY 29, 2021




## DEMOLITION SINGLE LINE DIAGRAM

NTS

NOTE: EXISTING BREAKERS ARE RATED AT 65 KA AIC.




## NEW WORK SINGLE LINE DIAGRAM

NTS

## NOTES

1. FOR ADDITIONAL NOTES, SYMBOLS AND ABBREVIATIONS SEE DRAWING E-001.
2. SEE PANEL SCHEDULES ON DRAWING EP-602c & EP-602d FOR EXISTING AND NEW PANEL RATINGS AND CONFIGURATIONS.

## DEMOLITION KEY NOTES

1. EXISTING 225 KVA TRANSFORMER TO REMAIN AND BE REUSED.
2. DISCONNECT AND REMOVE EXISTING SECONDARY CABLES. ABANDON CONDUIT IN PLACE.
3. EXISTING 800 AMP MAIN DISTRIBUTION BOARD TO BE RELOCATED TO NEW ELECTRICAL ROOM.
4. REMOVE EXISTING 600 AMP FUSES.
5. EXISTING CIRCUIT BREAKERS TO BE DISCONNECTED AND REMOVED.
6. DISCONNECT AND REMOVE CIRCUIT BREAKER. SPACE TO BE FOR FUTURE PHOTO-VOLTAIC SYSTEM CONNECTIONS.
7. DISCONNECT AND REMOVE EQUIPMENT/PANEL CONDUIT AND WIRE IN ITS ENTIRETY.
8. EXISTING PANEL TO REMAIN AND BE REUSED. REMOVE EXISTING FEEDER WIRING. EXTEND/PROVIDE WITH NEW CONDUIT AND WIRE AS REQUIRED.

## NEW WORK KEY NOTES

1. CONNECT NEW SECONDARY FEEDER CABLES.
2. REPLACE EXISTING SWITCHBOARD FUSES WITH NEW 800 AMP FUSES AS SHOWN.
3. PROVIDE NEW CIRCUIT BREAKERS WITH TRIP SETTINGS AS SHOWN. ALL NEW CIRCUIT BREAKERS SHALL BE 42 KA AIC RARED.
4. NEW 208Y/120V PANELBOARD - RECESSED.
5. NEW 208Y/120V PANELBOARD - SURFACE MOUNTED.
6. EXISTING PANEL ATS AND GENERATOR FEEDER TO BE REUSED.
7. SPACE FOR FUTURE PHOTO-VOLTAIC INTERCONNECTION.
8. EXISTING PANEL TO REMAIN AND BE REUSED.

## CONDUIT AND WIRE LEGEND

| | |
|---|---|
| 1 | 2 SETS OF 4"C, 4-500 KCMIL CABLES |
| 2 | 3/4"C, 4#6 & 1#6 GND |
| 3 | 2"C, 4#2/0 & 1#6 GND |
| 4 | 1 1/2"C, 4#2 & 1#8 GND |
| 5 | 2 1/2"C, 4#4/0 & 1#4 GND |
| 6 | 2 1/2"C, 4#250 KCMIL & 1#4 GND |
| 7 | 1 1/4"C, 4#4 & 1#8 GND |
| 8 | 2 1/2"C, 4#4/0 & 1#4 GND |

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SUBMITTED BY:
SIZE: ANSI D
OPTION FIELD 2

US ARMY CORPS OF ENGINEERS
LOUISVILLE DISTRICT
LOUISVILLE, KY

SAVIN ENGINEERS, P.C.
3 CAMPUS DRIVE PLEASANTVILLE, NY 10570

ISSUE DATE:

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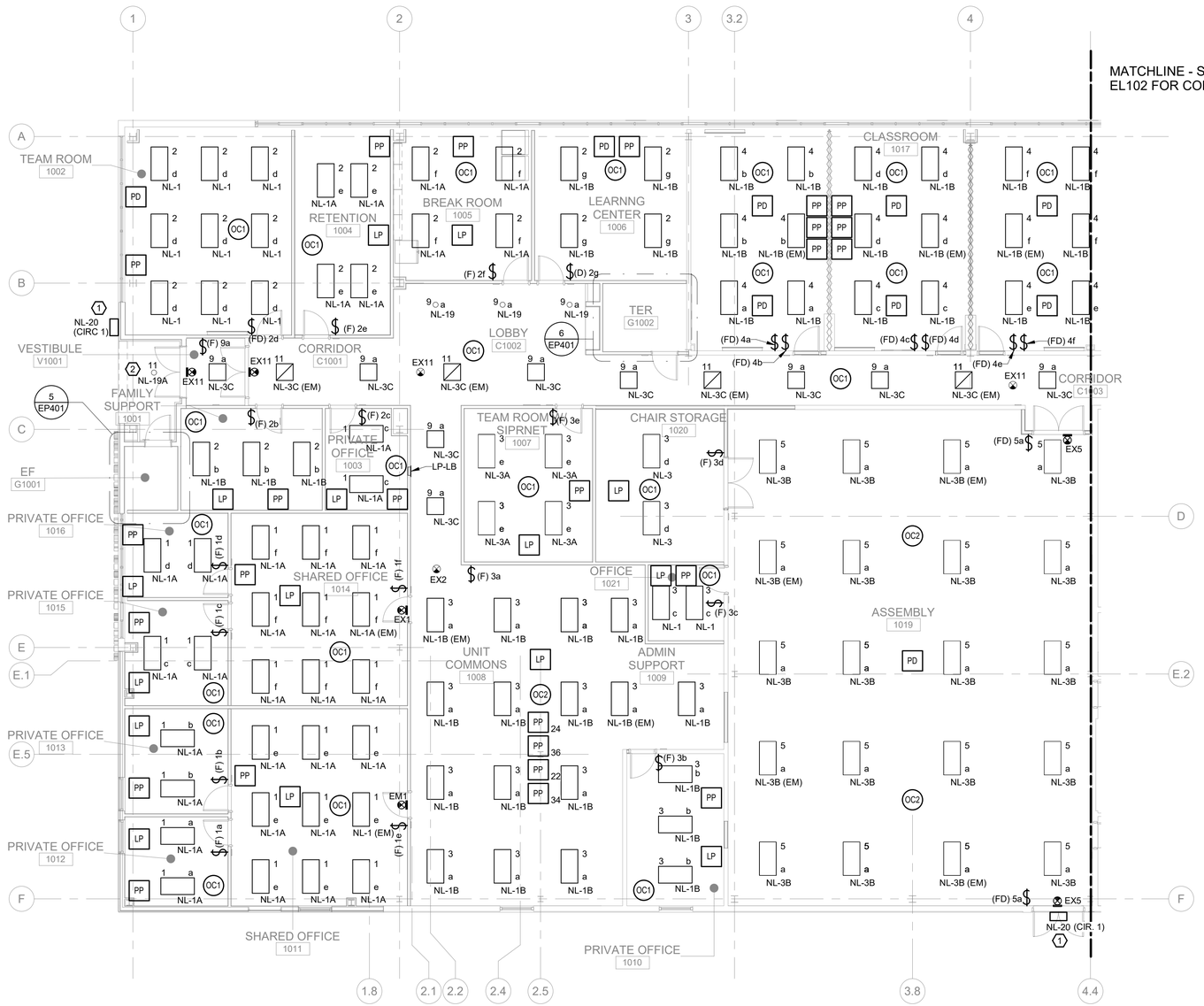
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ORANGEBURG, NEW YORK

ELECTRICAL
SINGLE LINE DIAGRAM

SHEET ID

EP606

CORRECTED FINAL SUBMISSION JULY 29, 2021




## NOTES

1. FOR ADDITIONAL NOTES, SYMBOLS AND ABBREVIATIONS SEE DRAWING E-001.
2. FOR ADDITIONAL FIXTURE SYMBOLS AND INFORMATION SEE DRAWING EL103.
3. ALL EMERGENCY EGRESS FIXTURES (EM) AND EXIT SIGN UNITS SHALL BE SUPPLIED WITH UNSWITCHED HOT LEG (CONTINUOUS 120 VOLT POWER TO INTEGRAL BATTERY SYSTEM(S).
4. ALL "ALWAYS ON" LIGHT FIXTURES (WITH INTEGRAL BATTERY PACKS) SHALL BE CIRCUITED VIA CIRCUIT No 11 IN GENERATOR PANEL.
5. EXCEPT FOR COORIDOR C1001, C1003 AND LOBBY C1002, ALL LIGHTING IS CIRCUITED VIA LIGHTING PANEL LP-LB. SEE DRAWING EP605 FOR PANEL SCHEDULE.
6. SEE DRAWING EL103 FOR FIXTURE LIGHTING CONTROL.

## KEYNOTES

1. CONNECT ALL NL-20 LIGHTING TO PANEL PP-LC. NL-20 FIXTURES SHALL HAVE CONSTANT 120 VOLT POWER. FIXTURES SHALL BE INDIVIDUALLY PHOTOCELL CONTROLLED AND BE PROVIDED WITH INTEGRAL BATTERY PACKS.
2. CONNECT FIXTURE INTO THE "ALWAYS ON" CIRC. #11.

## 1 LIGHTING FLOOR PLAN

1/8" = 1'-0"

0 4' 8' 16'

SCALE: 1/8"=1'-0

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LOUISVILLE, KY

SAVIN ENGINEERS, P.C.
3 CAMPUS DRIVE PLEASANTVILLE, NY 10570

UNITED STATES ARMY RESERVE CENTER
ORANGEBURG, NEW YORK

ELECTRICAL
LIGHTING PLAN AREA "A"

SHEET ID

EL101

CORRECTED FINAL SUBMISSION JULY 29, 2021

MATCHLINE - SEE DRAWING EL101 FOR CONTINUATION

MOUNT FIXTURES 10'-0" AFF.

CLASSROOM 1018 | SECURE STORAGE 1025 | MEN SHOWER / LOCKER G1007 | SPRINKLER CLOSET G1011 | WOMEN SHOWER / LOCKER G1008 | PHYSICAL READINESS 1031 | PRIVATE OFFICE 1027 | PRIVATE OFFICE 1028 | CORRIDOR C1003 | JANITOR G1004 | TR G1006 | ARMORER 1029 | MEN'S TOILET G1003 | WOMEN TOILET G1005 | LACTATION 1026 | STORAGE 1026A | ARMS VAULT 1030 | STORAGE 1022 | MECHANICAL G1010 | UNIT STORAGE 1032 | KITCHEN 1023 | ELECTRICAL G1009 | PRIVATE OFFICE 1033 | SCULLERY 1024 | CAN WASH 1039 | STORAGE 1034 | UNIT STORAGE 1037 | STAGING 1035 | UNIT STORAGE 1036

PANEL LP-LA

LP-LG

LINE VOLTAGE ON/OFF SWITCH (TYP. IN ALL CAGES).

CAGE STORAGE UNIT (SEE NOTES 2 AND 3)(TYP.)

CAGE STORAGE UNIT (SEE NOTE 2 AND 3)(TYP.)

## NOTES

1. FOR ADDITIONAL NOTES, SYMBOLS AND ABBREVIATIONS SEE DRAWING E-001.
2. LIGHTING SHOWN FOR CAGE STORAGE UNITS SHALL BE SURFACE MOUNTED TO UNDERSIDE OF CAGE FENCE STRUCTURE.
3. ALL FIXTURES LOCATED IN THE CAGES SHALL BE SWITCHED VIA A 120V STANDARD LIGHT SWITCH. EACH CAGE SHALL BE SWITCH INDIVIDUALLY FOR UNIT STORAGE AREAS 1036 AND 1037 USE CIRCUIT #1 FROM LP-LG. FOR UNIT STORAGE AREA 1032 USE CIRCUIT #3 FROM LP-LG.
4. ALL EMERGENCY EGRESS FIXTURES (EM) AND EXIT SIGN UNITS SHALL BE SUPPLIED WITH UNSWITCHED HOT LEG (CONTINUOUS 120 VOLT POWER TO INTEGRAL BATTERY SYSTEM(S).
5. CORRIDOR LIGHTING LOCATED IN THE UNIT STORAGE AREAS (1032, 1037, 1035 & 1036) SHALL BE MOUNTED 9'-0" A.F.F..
6. SEE DRAWING EL103 FOR FIXTURE LIGHTING CONTROL.

## KEYNOTES

1. CONNECT AL NL-20 LIGHTING TO PANEL PP-LC NL-20 FIXTURES SHALL HAVE CONSTANT 120 VOLT POWER. FIXTURES ARE INDIVIDUALLY PHOTOCELL CONTROLLED AND WITH INTEGRAL BATTERY PACKS.
2. LIGHTING IN THIS AREA IS POWERED VIA THE GENERATOR PANEL.
3. LIGHTING CONTROL IN THIS AREA IS VIA A 120 VOLT STANDARD LIGHT SWITCH.
4. MOUNT FIXTURES 9'-0" A.F.F.
5. CEILING MOUNT FIXTURES.
6. SURFACE MOUNTED 12"x12" DOWNLIGHT WITH INTERGRAL ON / OFF SENSOR.
7. KITCHEN LIGHT FIXTURES AND CAN WASH AREA LIGHT FIXTURE ARE PROVIDED WITH THEIR OWN INTEGRAL PHOTO/OCCUPANCY SENSOR FOR AUTOMATIC ON/OFF FUNCTION. NO SWITCHES OR OTHER OCCUPANCY SENSORS ARE REQUIRED.

## 1 LIGHTING FLOOR PLAN

1/8" = 1'-0"

SCALE: 1/8"=1'-0

US Army Corps of Engineers ®

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OPTION FIELD 2

US ARMY CORPS OF ENGINEERS
LOUISVILLE DISTRICT
LOUISVILLE, KY

SAVIN ENGINEERS, P.C.
3 CAMPUS DRIVE PLEASANTVILLE, NY 10570

UNITED STATES ARMY RESERVE CENTER
ORANGEBURG, NEW YORK

ELECTRICAL
LIGHTING PLAN AREA "B"

CORRECTED FINAL SUBMISSION JULY 29, 2021

SHEET ID

EL102

## LIGHTING FIXTURE SCHEDULE- BASIS OF DESIGN

| SYMBOL | FIXTURE TYPE | VOLTS | MOUNTING | LED LUMEN-WATTS | COLOR TEMPERATURE | CRI | CATALOG NUMBERS | REMARKS |
|---|---|---|---|---|---|---|---|---|
| ▭ | NL-1 | 120V | RECESSED MOUNT | 2757-27 | 35K | 80CRI | HOLOPHANE HVT 2X4 DOP 2600LM 35K MVOLT MIN1 80CRI EZT OR APPROVED EQUAL | |
| ▭ | NL-1EM | 120V | RECESSED MOUNT | 2757-27 | 35K | 80CRI | HOLOPHANE HVT 2X4 DOP 2600LM 35K MVOLT MIN1 80CRI E10WLCP EZT OR APPROVED EQUAL | |
| ▭ | NL-1A | 120V | RECESSED MOUNT | 3939-36 | 35K | 80CRI | HOLOPHANE HVT 2X4 DOP 3900LM 35K MVOLT MIN1 80CRI EZT OR APPROVED EQUAL | |
| ▭ | NL-1AEM | 120V | RECESSED MOUNT | 3939-36 | 35K | 80CRI | HOLOPHANE HVT 2X4 DOP 3900LM 35K MVOLT MIN1 80CRI E10WLCP EZT OR APPROVED EQUAL | |
| ▭ | NL-1B | 120V | RECESSED MOUNT | 5928-52 | 35K | 80CRI | HOLOPHANE HVT 2X4 DOP 5500LM 35K MVOLT MIN1 80CRI EZT OR APPROVED EQUAL | |
| ▭ | NL-1BEM | 120V | RECESSED MOUNT | 5928-52 | 35K | 80CRI | HOLOPHANE HVT 2X4 DOP 5500LM 35K MVOLT MIN1 80CRI E10WLCP EZT OR APPROVED EQUAL | |
| ▭ | NL-3 | 120V | RECESSED MOUNT | 2983-23 | 35K | 80CRI | LITHONIA LIGHTING 2GTL4 30L SWL GZ10 LP835 OR APPROVED EQUAL | |
| ▭ | NL-3A | 120V | RECESSED MOUNT | 3922-30 | 35K | 80CRI | LITHONIA LIGHTING 2GTL4 40L SWL GZ10 LP835 OR APPROVED EQUAL | |
| ▭ | NL-3B | 120V | RECESSED MOUNT | 4777-36 | 35K | 80CRI | LITHONIA LIGHTING 2GTL4 48L SWL GZ10 LP835 N80 OR APPROVED EQUAL | |
| ▭ | NL-3BEM | 120V | RECESSED MOUNT | 4777-36 | 35K | 80CRI | LITHONIA LIGHTING 2GTL4 48L SWL GZ10 LP835 N80 E10WLCP OR APPROVED EQUAL | |
| ▢ | NL-3C | 120V | RECESSED MOUNT | 2248-18 | 35K | 80CRI | LITHONIA LIGHTING 2GTL2 20L SWL GZ10 LP835 OR APPROVED EQUAL | |
| ▢ | NL-3CEM | 120V | RECESSED MOUNT | 2248-18 | 35K | 80CRI | LITHONIA LIGHTING 2GTL2 20L SWL GZ10 LP835 E10WLCP OR APPROVED EQUAL | |
| ▭ | NL-4 | 120V | RECESSED MOUNT | 4735-38.7 | 35K | 80CRI | LITHONIA LIGHTING 2WRTL G L48 5000LM OAW AFL MVOLT EZ1 35K 80CRI FPA MSE10NWL WH OR APPROVED EQUAL | |
| ▭ | NL-4EM | 120V | RECESSED MOUNT | 4735-38.7 | 35K | 80CRI | LITHONIA LIGHTING 2WRTL G L48 5000LM OAW AFL MVOLT EZ1 35K 80CRI FPA E10WLCP MSE10NWL WH OR APPROVED EQUAL | |
| ▢ | NL-4A | 120V | RECESSED MOUNT | 2912-27 | 35K | 80CRI | LITHONIA LIGHTING 2WRTL G L24 3000LM OAW AFL MVOLT EZ1 35K 80CRI WT OR APPROVED EQUAL | INTERGRAL SENSOR, FOOD PROCESS AREA |
| ▢ | NL-4AEM | 120V | RECESSED MOUNT | 2912-27 | 35K | 80CRI | LITHONIA LIGHTING 2WRTL G L24 3000LM OAW AFL MVOLT EZ1 35K 80CRI E10WLCP WH OR APPROVED EQUAL | INTERGRAL SENSOR, FOOD PROCESS AREA |
| ▭ | NL-5 | 120V | PENDANT MOUNT | 4188-32 | 35K | 80CRI | LITHONIA LIGHTING LBL4 3000LM 80CRI 35K MIN10 GZT MVOLT OR APPROVED EQUAL | |
| ▭ | NL-5EM | 120V | PENDANT MOUNT | 4188-32 | 35K | 80CRI | LITHONIA LIGHTING LBL4 3000LM 80CRI 35K MIN10 GZT MVOLT E10WLCP OR APPROVED EQUAL | |
| ▬ | NL-7 | 120V | PENDANT MOUNT | 4700-27 | 40K | 80CRI | HOLOPHANE HRTC L48 5000LM MVOLT GZ10 40K 80CRI WH OR APPROVED EQUAL | |
| ▬ | NL-7EM | 120V | PENDANT MOUNT | 4700-27 | 40K | 80CRI | HOLOPHANE HRTC L48 5000LM MVOLT GZ10 40K 80CRI WH E10WLCP RFB323070 OR APPROVED EQUAL | |
| ▬ | NL-7A | 120V | CEILING OR PENDANT MOUNT | 3880-30 | 35K | 80CRI | HOLOPHANE HZL1D L48 3000LM FST MVOLT 35K 80 CRI WH OR APPROVED EQUAL | |
| ▬ | NL-7AEM | 120V | CEILING OR PENDANT MOUNT | 3880-30 | 35K | 80CRI | HOLOPHANE HZL1D L48 3000LM FST MVOLT 35K 80 CRI WH E10WLCP OR APPROVED EQUAL | |
| ○ | NL-19 | 120V | RECESSED MOUNT | 1470-15 | 35K | 80CRI | GOTHAM LIGHTING EVO6 35/15 AR MWD LD MVOLT GZ10 TRW OR APPROVED EQUAL | |
| ○ | NL-19A | 120V | RECESSED MOUNT | 839-10 | 35K | 80CRI | GOTHAM LIGHTING EVO6SH 35/10 DFF SOL MVOLT EZ10 OR APPROVED EQUAL | DEAD FRONT-SHOWER LIGHT |
| ☠ | EX | 120V | VARIOUS | .81W | N/A | N/A | HOLOPHANE MEX S 1 OR 2 R OR APPROVED EQUAL | |
| ▭ | NL-20 | 120V | WALL MOUNT | 1/W | N/A | N/A | HOLOPHANE CZAFP PEL DBLBXD UVOLT LTP SDRT FCT CW OR APPROVED EQUAL | EXTERIOR DOOR LIGHTING FIXTURE INTEGRAL PHOTOCELL CONTROLLED |
| □ | NL-21 | 120V | SURFACE MOUNT | 7373-66 | 40K/50K | 80CRI | HOLOPHANE PPSQL2 P60 40K AS PY T5M SSM GYSDP 80CRI OR APPROVED EQUAL | |

## LIGHTING CONTROL - BASIS OF DESIGN

| SYMBOL | DESCRIPTION | CATALOG NUMBERS | REMARKS |
|---|---|---|---|
| OC1 | LOW VOLTAGE CEILING MOUNT SENSOR, PASSIVE DUAL TECHNOLOGY, SMALL MOTION/STANDARD RANGE 360 DEGREE LENS. | ACUITY BRANDS NCM PDT 9 OR APPROVED EQUAL | |
| OC2 | LOW VOLTAGE CEILING MOUNT SENSOR, PASSIVE DUAL TECHNOLOGY, LARGE MOTION/EXTENDED RANGE 360 DEGREE LENS. | ACUITY BRANDS NCM PDT 10 OR APPROVED EQUAL | |
| PD | POWER/RELAY PACK, OCCUPANCY CONTROLLED DIMMING, EXTERNAL FAULT PROTECTION | ACUITY BRANDS NPP 16 D EFP OR APPROVED EQUAL | |
| LP | POWER/RELAY PACK, OCCUPANCY CONTROLLED, EXTERNAL FAULT PROTECTION | ACUITY BRANDS NPP 16 EFP OR APPROVED EQUAL | |
| PP | POWER/RELAY PACK, OCCUPANCY CONTROLLED, PLUG LOAD | ACUITY BRANDS NPP 20 PL OR APPROVED EQUAL | |
| $S | LIGHT SWITCH, 20A, 125VOLT | VARIOUS | |
| $(F) | LOW VOLTAGE WALL SWITCH, ON/OFF CAPABILITY | ACUITY BRANDS NPODMA OR APPROVED EQUAL | |
| $(D) | LOW VOLTAGE WALL SWITCH, ON/OFF WITH DIMMING CAPABILITY | ACUITY BRANDS NPODMA DX OR APPROVED EQUAL | |
| $(FD) | LOW VOLTAGE WALL SWITCH, ON/OFF WITH DUAL LEVEL AND DIMMING CAPABILITY | ACUITY BRANDS NPODMA 25 DX OR APPROVED EQUAL | |

## LIGHTING CONTROL SEQUENCE OF OPERATION

1. GENERAL: LIGHTING SHALL BE PER THE LATESTED ISSUE OF UFC 3-530-01 AND THE ROOM-BY-ROOM REQUIREMENTS AS FOUND IN ITEM 14 OF THE DESIGN NARRATIVE. UNLESS NOTED OTHERWISE, ALL LIGHTING CONTROL SHALL BE LOW VOLTAGE VIA CAT 5 CABLE CONNECTIONS.
2. TEAM ROOM (ROOM 1002): PROVIDE DUAL-LEVEL SWITCHING (100% / 50%) WITH FULL DIMMING CAPABILITY. BASIS OF DESIGN LIGHTING CONTROL SWITCH-ACUITY BRANDS NPODMA 25 DX SWITCH OR APPROVED EQUAL.
3. LEARNING CENTER (ROOM 1006): PROVIDE FULL DIMMING CAPABILITY. BASIS OF DESIGN LIGHTING CONTROL SWITCH-ACUITY BRANDS NPODMA DX SWITCH OR APPROVED EQUAL.
4. CLASSROOMS (ROOMS 1017 AND 1018): PROVIDE DUAL-LEVEL SWITCHING (100% / 50%) BROKEN DOWN INTO TWO ZONES – FRONT 1/3 AND REAR 2/3. BASIS OF DESIGN LIGHTING CONTROL SWITCH-ACUITY BRANDS NPODMA 2S DX (DISABLE DIMMING PORTION OF SWITCH) OR APPROVED EQUAL.
5. ASSEMBLY (ROOM 1019): PROVIDE DUAL-LEVEL SWITCHING (100% / 50%) CAPABILITY. BASIS OF DESIGN LIGHTING CONTROL SWITCH-ACUITY BRANDS NPODMA 2S DX (DISABLE DIMMING PORTION OF SWITCH) OR APPROVED EQUAL.
6. STORAGE CAGES (1032, 1036,1037), MECHANICAL ROOM (G1010), ELECTRICAL ROOM (G1009), CLOSET/STORAGE (1026A) & JANITOR CLOSET (G1004): PROVIDE STANDARD 120 VOLT LIGHT SWITCH.
7. KITCHEN (1022, 1023, 1024) & CAN WASH (1039): LIGHTING SHALL BE AUTOMATIC ON/OFF VIA INTEGRAL MOUNTED, LIGHT SENSORS IN EACH FIXTURE.
8. ALL OTHER AREAS: PROVIDE ON/OFF SWITCHING CAPABILITY. BASIS OF DESIGN LIGHTING CONTROL SWITCH-ACUITY BRANDS NPODMA OR APPROVED EQUAL.

US Army Corps of Engineers ®

SEAL AND SIGNATURE

DATE:

| MARK | DESCRIPTION | DATE |
|---|---|---|
| 5 | Revision 5 (CORRECTED FINAL) | Date 5 |
| 3 | Revision 3 (INTERIM) | Date 4 |

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LOUISVILLE DISTRICT
LOUISVILLE, KY

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DESIGNED BY: KC
DRAWN BY: JC
CHECKED BY: DF
SUBMITTED BY:
SIZE: ANSI D
ISSUE DATE:
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OPTION FIELD 2

UNITED STATES ARMY RESERVE CENTER
ORANGEBURG, NEW YORK

ELECTRICAL
FIXTURE SCHEDULE

SHEET ID

EL103

CORRECTED FINAL SUBMISSION JULY 29, 2021

## FIRE ALARM/MASS NOTIFICATION

| | |
|---|---|
| FAA | FIRE ALARM ANNUNCIATOR PANEL |
| M | FIRE ALARM MANUAL PULL STATION |
| LOC | LOCAL OPERATING CONSOLE |
| S | COMBINATION FIRE ALARM/MASS NOTIFICATION DEVICE WITH "CLEAR" STROBES, MARKED "ALERT", WALL MOUNTED. |
| F WP | EXTERIOR WALL MOUNTED FIRE ALARM SPEAKER STROBE |
| S P | CEILING MOUNTED SMOKE DETECTOR<br>P : PHOTOELECTRIC |
| D | DUCT MOUNTED SMOKE DETECTOR (REFER TO MECHANICAL DRAWINGS) |
| H | HEAT DETECTOR |
| PS | PRESSURE SWITCH CONNECTION |
| FS | FLOW SWITCH CONNECTION |
| TS | TAMPER SWITCH CONNECTION |
| MM | FIRE ALARM MONITOR MODULE |
| C | FIRE ALARM CONTROL MODULE |
| R | FIRE ALARM RELAY |
| F | SPRINKLER FIRE ALARM BELL |
| FACP | FIRE ALARM VOICE EVACUATION/<br>MASS NOTIFICATION CONTROL PANEL |
| CO P | CARBON MONOXIDE DETECTOR<br>P : PHOTOELECTRIC |
| CG | COMBUSTION GAS DETECTOR |
| AIM | ADDRESSABLE INTERFACE MODULE |
| | END OF LINE RESISTOR |
| NAC | NOTIFICATION APPLIANCE CIRCUIT PANEL |
| RTS-K | REMOTE TEST STATION WITH KEY |

## FIRE ALARM/MASS NOTIFICATION GENERAL NOTES

1. STROBES SHOWN NEAR THE ENDS OF CORRIDORS SHALL BE INSTALLED WITHIN 15' OF THE END OF THE CORRIDOR. STROBES IN CORRIDORS SHALL BE SPACED SUCH THAT NO PLACE IN THE CORRIDOR IS FURTHER THAN 25' FROM A STROBE.
2. CHECK FOR STROBE REFLECTION IN SURFACES LIKE GLASS AND MIRRORS DURING FIRE ALARM TESTING AND SYNCHRONIZE STROBES AS NECESSARY TO MAKE SURE THAT ALL VISIBLE STROBES ARE SYNCHRONIZED.
3. FIRE ALARM SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH SPECIFICATIONS, NFPA 72, NFPA 70, UFC3-600-01, AND UFC 4-021-01.
4. PAINT ALL FIRE ALARM JUNCTION BOXES AND COVERS RED IN UNFINISHED AREAS (I.E., ABOVE CEILINGS, MECHANICAL ROOMS, ETC). CONDUIT MUST HAVE PAINTED RED BANDS 3/4" WIDE AT 20 FOOT INTERVALS AND ON BOTH SIDES OF A FLOOR, WALL, OR CEILING PENETRATION.
5. THE MASS NOTIFICATION SYSTEM SHALL BE CAPABLE OF TEMPORARILY INTERRUPTING THE FIRE ALARM VOICE MESSAGE IN ORDER TO ALLOW MASS NOTIFICATION VOICE ANNOUNCEMENTS WHEN NEEDED IN THE EVENT OF SIMULTANEOUS TERRORIST AND FIRE EVENTS, AS REQUIRED BY UFC 4-021-01 DESIGN AND O&M: MASS NOTIFICATION SYSTEMS.
6. MONITOR MODULES SHALL BE PLACED AT THE WATER FLOW OR PRESSURE SWITCHES INSTALLED IN THE PIPING AND/OR BRANCH LINES. WATER FLOW PRESSURE SWITCHES AND MONITOR MODULES ARE SHOWN ON PLANS FOR REFERENCE ONLY. CONTRACTOR SHALL FIELD VERIFY EXACT LOCATION AND NUMBER OF MONITORING MODULES REQUIRED.
7. REFER TO ARCHITECTURAL REFLECTED CEILING PLANS PRIOR TO ROUGH-IN. COORDINATE LOCATION OF CEILING MOUNTED SPEAKERS WITH HVAC DIFFUSERS, LIGHT FIXTURES, AND OTHER EQUIPMENT.
8. PROVIDE PHOTOELECTRIC DUCT SMOKE DETECTORS IN ALL HVAC MAIN SUPPLY AND RETURN DUCTS WHEN SYSTEM IS GREATER THAN 2000 CFM. IN SOME CASES, THE DETECTORS MAY BE PROVIDED WITH THE EQUIPMENT. REFER TO MECHANICAL PLANS FOR ADDITIONAL INFORMATION. LOCATE DETECTORS PER NFPA 72 REQUIREMENTS.
9. PROVIDE A REMOTE TEST SWITCH WITH LIGHT EMITTING DIODE (LED) FOR EACH DUCT SMOKE DETECTOR THAT IS NOT READILY ACCESSIBLE.
10. PROVIDE A LOCKABLE DOCUMENT STORAGE CABINET FOR THE FA/MN SYSTEM IN ACCORDANCE WITH NFPA 72, ART 7.7.2. CABINET SHALL HAVE A MINIMUM DEPTH OF 6" WITH A LOCK TO MATCH THE FMCP. STORAGE UNIT COLOR SHALL MATCH THE FMCP COLOR AND BE INSTALLED IN THE SAME MANNER.
11. EXISTING OMS BUILDING MAIN FIRE ALARM CONTROL PANEL SHALL BE USED FOR THIS BUILDING. EXTEND NECESSARY CONDUIT AND WIRE FOR NEW EQUIPMENT AND DEVICES LOCATED IN THE ARC FACILITY. THE EXISTING TRAINING CENTER FACP HAS BEEN RELOCATED AND ALL APPLIANCES IN THE TRAINING CENTER WILL BE CONNECTED TO THIS PANEL.
12. SYSTEM SUBMITTALS MUST BE APPROVED BY ALL AUTHORITIES HAVING JURISDICATION, THE FIRE DEPARTMENT, THE FIRE MARSHALL, AND THE ENGINEER FOR APPROVAL. CONTRACTOR MAY NOT FURNISH OR INSTALL ANY COMPONENTS RELATED TO THE FIRE ALARM SYSTEM WITHOUT THE APPROVALS FROM ALL PARTIES STATED ABOVE.
13. THE FIRE ALARAM AND VOICE EVACUATION / MASS NOTIFICATION NO SYSTEM SHALL BE FULLY ADDRESSABLE AND CAPABLE OF BEING PROGRAMMED VIA THE PANEL KEYBOARD AND / OR COMPUTER CONTROLLER.
14. CONTRACTOR IS ADVISED, THE FIRE ALARM AND VOICE EVACUATION / MASS NOTIFICATION SYSTEM SHALL BE UL LISTED AS ONE COMPLETE INTEGRATED SYSTEM. FIRE ALARM AND VOICE EVACUATION SYSTEM SHALL BE INSTALLED, BUT NOT LIMITED TO, THE CRITERIA AS SET FOR THE FOLLOWING:
    - A. UFC 3-600-01-FIRE PROTECTION ENGINEERING FOR FACILITIES.
    - B. UFC 4-021-01-DESIGN AND O & M: MASS NOTIFICATION SYSTEMS, WITH CHANGE 1.
    - C. INTERNATIONAL BUILDING CODE (IBC)
    - D. INTERNATIONAL FIRE CODE (IFC)
    - E. NATIONAL ELECTRIC CODE (NFPA 70)
    - F. NATIONAL LIFE SAFETY CODE (NFPA 101)
    - G. NATIONAL FIRE ALARM AND SIGNALING CODE (NFPA 72)
    - H. CONTRACT DRAWING AND SPECIFICATIONS
15. FIRE ALARM AND VOICE EVECUATION / MASS NOTIFICATION SYSTEMS SHALL BE A COMPLETED INTEGRATED SYSTEM WITH ONE MAIN CONTROL PANEL AND ONE ANNUNCIATOR PANEL. CONTRACTOR SHALL INSTALL ALL REQUIRED PANELS, COMPONENTS, AMPLIFIERS, BATTERIES, DEVICES, WIRING, ETC. AMPLIFIERS SHALL HAVE SUFFICIENT CAPACITY TO DRIVE FIRE ALARM SPEAKERS AT THEIR FULL CAPACITY PLUS 20% SPACE CAPACITY.
16. FIRE ALARM SYSTEM BATTERIES SHALL BE SIZED FOR 72 HOURS. PROVIDE 15 MINUTES OF ALARM OPERATION AND 60 MINUTES OF MASS NOTIFICATION ALARM (WITH OUT STANDBY TIME. PROVIDE BATTERY CALCULATION TO ACCOMPLISH THIS REQUIREMENT).
17. ENTIRE FIRE ALARM AND VOICE EVACUATION / MASS NOTFICATION SYSTEM SHALL BE FURNISHED BY ONE MANUFACTURER. THIS INCLUDES ALL COMPONENTS, AMPLIFIERS, DEVICES, BATTERIES, ETC. CONTRACTOR SHALL PROVIDE ALL THAT IS NECESSARY, EITHER SHOWN OR NOT, FOR COMPLETED INTERGRATED SYSTEM.
18. THE POWER CIRCUIT TO THE FACP AND TO THE FIRE ALARM POWER SUPPLIES SHALL BE ON A DEDICATED 120V, 20A BRANCH CIRCUIT BREAKER, AND SHALL HAVE RED MARKING, LOCK-ON PROVISIONS AND SHALL BE IDENTIFIED AS FIRE ALARM CONTROL CIRCUIT. THE LOCATION OF THE CIRCUIT DISCONNECT MEANS SHALL BE PERMANENTLY IDENTIFIED AT THE FIRE ALARM CONTROL UNIT.
19. ANY SMOKE AND OR HEAT DETECTOR HEADS, STROBES, SPEAKERS, ETC.. INSTALLED BEFORE THE BUILDING IS CLEANED AND ACCEPTED SHALL BE COVERED TO PROTECT FROM DUST. ANY FALSE ALARMS DUE TO DIRT CONTAMINATION SHALL BE THE RESPONSIBLITY OF THE FIRE ALARM INSTALLER.
20. INSTALLATION OF DEVICES SHALL BE IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS, POWER LIMITED AND NON-POWER LIMITED FIELD WIRING MUST BE INSTALLED WITHIN THE FACP ENCLOSURE IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS AND ALL APPLICABLE CODES.
21. ALL WIRING SHALL BE INSTALLED IN ACCORDANCE WITH ALL APPLICABLE CODES.
22. FIRE ALARM CIRCUITS SHALL BE IDENTIFIED IN ACCORDANCE WITH NEC ARTICLE 760. MARK ALL FIRE ALARM WIRES IN ACCORDANCE WITH NEC ARTICLE 760.
23. FIRE ALARM CABLE INSTALLED IN DUCTS, PLENUM AND OTHER SPACED USED FOR ENVIRONMENTAL AIR SHALL BE TYPE FIRE POWER LIMITED PLENUM (FPLP).
24. FIRE ALARM CABLE INSTALLED IN THE VERTICAL RUNS AND PENETRATING MORE THAN ONE FLOOR OR CABLES INSTALLED IN VERTICAL RUNS IN SHAFTS BE TYPE FIRE POWER LIMITED RISER (FPLR).
25. ALL WIRING, INCLUDING SHIELDS MUST BE DRY AND FREE OF SHORTS AND GROUND.
26. ALL SHIELDED WIRE MUST HAVE SHIELD CONTINUITY FOR FULL LENGTH OF THE WIRE.
27. ONLY FIRE ALARM SYSTEM WIRING CAN BE RUN IN DESIGNATED FIRE ALARM CONDUITS.
28. 120VAC POWER WIRES ARE NOT PERMITTED IN THE SAME CONDUIT AS FIRE ALARM LOW VOLTAGE WIRING.
29. SPEAKERS SHALL BE LISTED AND UTILIZED FOR BOTH FIRE ALARM AND MASS NOTIFICATION SYSTEMS.
30. STROBES SHALL BE LISTED AND UTILIZED FOR BOTH FIRE ALARM AND MASS NOTIFICATION SYSTEMS.
31. ALL FIRE SMOKE DAMPERS SHALL BE EQUIPPED WITH FACTORY MOUNTED SMOKE-DETECTORS.
32. NEW FIRE ALARM SYSTEM SHALL BE FULLY COMPATIABLE WITH THE ADJACENT OMS BUILDING FIRE ALARM SYSTEM. OMS BUILDING FIRE ALARM SYSTEM IS EDWARDS, EST3.
33. UPON ACTIVATION OF A DUCT MOUNTED SMOKE DETECTOR, A SIGNAL SHALL BE SENT TO THE BUILDING'S MAIN FIRE ALARM CONTROL PANEL. THE FIRE ALARM CONTROL PANEL SHALL PROVIDE A SHUTDOWN SIGNAL TO THE CORRESPONDING HVAC UNIT AND ASSOCIATED FIRE / SMOKE DAMPER(S) (CONTROL PANEL AND / OR EQUIPMENT).

## ABBREVIATIONS

| | |
|---|---|
| A.F.F. | ABOVE FINISHED FLOOR |
| A.F.G. | ABOVE FINISHED GRADE |
| AMP | AMPERE |
| BLDG | BUILDING |
| CKT | CIRCUIT |
| CLG | CEILING |
| CP | CIRCULATING PUMP |
| CU | COPPER |
| DIA | DIAMETER |
| DISC | DISCONNECT |
| DOD | DEPARTMENT OF DEFENSE |
| EA | EACH |
| ELEC | ELECTRIC |
| ELEV | ELEVATOR |
| EMER | EMERGENCY |
| EMT | ELECTRICAL METALLIC TUBING |
| EXH | EXHAUST |
| EXT | EXTERIOR, EXTERNAL |
| F | FAHRENHEIT |
| FL | FLOOR |
| FLA | FULL - LOAD AMPERES |
| FT | FOOT, FEET |
| HH | HANDHOLE |
| HP | HORSEPOWER |
| HR | HOUR |
| HTR | HEATER |
| ID | INSIDE DIAMETER |
| IN | INCH(ES) |
| JB | JUNCTION BOX |
| KCMIL | 1000 CIRCULAR MILS |
| KO | KNOCK OUT |
| KV | KILOVOLT |
| KVA | KILOVOLT - AMPS |
| KVAR | KILOVOLT AMPS REACTIVE |
| KW | KILOWATT |
| KWH | KILOWATT HOUR |
| LTG | LIGHTING |
| LV | LOW VOLTAGE |
| MAN | MANUAL |
| MFR | MANUFACTURE |
| MAX | MAXIMUM |
| MCB | MAIN CIRCUIT BREAKER |
| MCC | MOTOR CONTROL CENTER |
| MDP | MAIN DISTRIBUTION PANEL |
| MECH | MECHANICAL |
| MGB | MAIN GROUNDING BUSBAR |
| MIN | MINIMUM, MINUTE |
| MISC | MISCELLANEOUS |
| MT | MOUNT |
| MTD | MOUNTED |
| MTG | MOUNTING |
| MTL | METAL |
| NEC | NATIONAL ELECTRICAL CODE |
| NEMA | NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION |
| NFPA | NATIONAL FIRE PROTECTION ASSOCIATION |
| NIC | NOT IN CONTRACT |
| NO | NORMALLY OPEN, NUMBER |
| NOM | NOMINAL |
| NTS | NOT TO SCALE |
| OC | ON CENTER |
| OD | OUTSIDE DIAMETER |
| OVHD | OVERHEAD |
| PB | PULL BOX, PUSH BUTTON |
| PH | PHASE |
| PNL | PANEL |
| P.O.C. | POINT OF CONNECTION |
| PR | PAIR |
| PRELIM | PRELIMINARY |
| PRESS | PRESSURE |
| PRI | PRIMARY |
| PSI | POUND FORCE PER SQUARE INCH |
| PVC | POLYVINYL CHLORIDE |
| QTY | QUANTITY |
| RCPT | RECEPTACLE |
| REQD | REQUIRED |
| REV | REVISION |
| RGS | RIGID GALVANIZED STEEL |
| RMC | RIGID METAL CONDUIT |
| SCHED | SCHEDULE |
| SECT | SECTION |
| SPD | SURGE PROTECTION DEVICE |
| SQ | SQUARE |
| SQ FT | SQUARE FOOT |
| STA | STATION |
| STD | STANDARD |
| STL | STEEL |
| STRL | STRUCTURAL |
| SW | SWITCH |
| SYS | SYSTEM |
| TEL | TELEPHONE |
| TEMP | TEMPORARY, TEMPERATURE |
| TYP | TYPICAL |
| UGND | UNDERGROUND |
| UNO | UNLESS NOTED OTHERWISE |
| UPS | UNINTERRUPTIBLE POWER SUPPLY |
| V | VOLT(S) |
| VOL | VOLUME |
| W/ | WITH |
| W/O | WITHOUT |
| WP | WEATHER PROOF |
| WT | WEIGHT |

## FIRE ALARM SYSTEM SEQUENCE OF OPERATION MATRIX

| | SYSTEM INPUTS | SYSTEM OUTPUTS | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | ACTUATE COMMON ALARM SIGNAL INDICATOR | ACTUATE AUDIBLE ALARM SIGNAL AT FACP AND ANNUNICATORS | ACTUATE COMMON SUPERVISTORY SIGNAL INDICATOR | ACTUATE AUDIBLE SUPERVISORY SIGNAL | ACTUATE COMMON TROUBLE SIGNAL INDICATOR | ACTUATE COMMON TROUBLE SIGNAL SIGNAL | ACTUATE DEVICE ADDRESS ALARM INDICATOR | ACTUATE GENERAL EVACUATION SIGNAL | DISPLAY CHANGE OF STATUS AT FACP AND ANNUNCIATORS | TRANSMIT FIRE ALARM SIGNAL TO SUPERVISING STATION | TRANSMIT SUPERVISORY SIGNAL TO SUPERVISING STATION | TRANSMIT TROUBLE SIGNAL TO SUPERVISING STATION | ACTIVATE SPRINKLER ALARM BELL | ACTIVATE VOICE ANNOUNCEMENTS | ACTIVATE ASSOCIATED DOAS SHUTDOWN VIA BMS PANEL | ACTIVATE SHUTDOWN OF BOILER MASTER CONTROL PANEL AND GAS DETECTION PANEL AND GAS VALVE |
| | | A | B | C | D | E | F | G | H | I | J | K | L | P | Q | R | S |
| 1 | FIRE ALARM SYSTEM AC POWER FAILURE | | | | | ● | ● | | | ● | | ● | ● | | | | |
| 2 | FIRE ALARM SYSTEM LOW BATTERY | | | | | ● | ● | | | ● | | ● | ● | | | | |
| 3 | OPEN CIRCUIT | | | | | ● | ● | | | ● | | ● | ● | | | | |
| 4 | GROUND FAULT | | | | | ● | ● | | | ● | | ● | ● | | | | |
| 5 | PANEL DOOR TAMPER SWITCH | | | | | ● | ● | | | ● | | ● | ● | | | | |
| 6 | NOTIFICATION APPLIANCE CIRCUIT SHORT | | | | | ● | ● | | | ● | | ● | ● | | | | |
| 7 | ADDRESSABLE DEVICE FAIL | | | | | ● | ● | | | ● | | ● | ● | | | | |
| 8 | MANUAL PULL STATIONS | ● | ● | | | | | ● | ● | ● | ● | ● | | | ● | | |
| 9 | SMOKE DETECTOR AT FACP | ● | ● | | | | | ● | ● | ● | ● | ● | | | ● | | ● |
| 10 | AREA SMOKE OR HEAT DETECTORS | ● | ● | | | | | ● | ● | ● | ● | ● | | | ● | | ● |
| 11 | DOAS DUCT SMOKE DETECTORS | ● | ● | | | | | ● | ● | ● | ● | | | | ● | ● | ● |
| 12 | SPRINKLER WATER FLOW IN BUILDING | ● | ● | | | | | ● | ● | ● | ● | ● | | ● | ● | ● | ● |
| 13 | SPRINKLER TAMPER SWITCH | | | ● | ● | | | ● | | ● | | ● | | | | | |
| 14 | CO DETECTOR | ● | ● | ● | ● | | | ● | ● | ● | ● | ● | | | ● | | |
| 15 | BYPASS OF AUDIO / VISUAL DEVICES | | | | | ● | ● | | | | | ● | ● | | | | |
| 16 | DISABLE HVAC | | | | | ● | ● | | | | | ● | ● | | | | |
| 17 | DISABLE TRANSMITTER UNIT | | | | | ● | ● | | | | | ● | | | | | |
| 18 | WET CHEMICAL SYSTEM ALARM / TROUBLE SIGNALS | | | | | ● | ● | ● | ● | ● | ● | ● | ● | | ● | | |

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SEAL AND SIGNATURE DATE:

| MARK | DESCRIPTION | DATE |
|---|---|---|
| 5 | Revision 5 (CORRECTED FINAL) | Date 5 |
| 3 | Revision 3 (INTERIM) | Date 4 |

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SIZE: ANSI D
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LOUISVILLE DISTRICT
LOUISVILLE, KY

SAVIN ENGINEERS, P.C.
3 CAMPUS DRIVE PLEASANTVILLE, NY 10570

UNITED STATES ARMY RESERVE CENTER
ORANGEBURG, NEW YORK

FIRE ALARM
NOTES, SYMBOLS AND ABBREVIATIONS

JULY 29, 2021

CORRECTED FINAL SUBMISSION

SHEET ID

FA001

# COMMUNICATION/SPECIAL SYSTEMS LEGEND

- STANDARD TELECOMMUNICATIONS OUTLET, 1 JACK
- X — MULTIJACK TELECOMMUNICATIONS OUTLET, "X" DENOTES NUMBER OF JACK
- WID — WID TELECOMMUNICATIONS OUTLET IN ACCESSIBLE CEILING SPACE, 1 JACK
- WID — WID TELECOMMUNICATIONS OUTLET IN NON-ACCESSIBLE CEILING SPACE, 1 JACK
- WAP — WAP TELECOMMUNICATIONS OUTLET IN ACCESSIBLE CEILING SPACE, 1 JACK
- WAP — WAP TELECOMMUNICATIONS OUTLET IN NON-ACCESSIBLE CEILING SPACE, 1 JACK
- S — SIPRNET OUTLET, 1 JACK
- STANDARD TELECOMMUNICATINS FLOOR BOX, 1 JACK
- IDS — IDS PANEL (2 CAT. 6A CABLES)
- DDC/UMP — DDC/UMP TELECOMMUNICATIONS OUTLET. MOUNT AS CLOSE TO THE CONTROL PANEL AS POSSIBLE, 1 JACK
- W — WALL PHONE TELECOMMUNICATIONS OUTLET. 2 LUG WALL PHONE FACEPLATE, 1 JACK
- CB — EXTERIOR CALL BOX, 1 JACK
- MFD — MULTI-FUNCTIONAL DEVICE TELECOMMUNICATIONS OUTLET, 2 JACK
- AC — TELECOMMUNICATIONS OUTLET MOUNT 6 INCHES ABOVE COUNTER TOP, 1 JACK
- M — MODULAR FURNITURE TELECOMMUNICATIONS OUTLET, 1 JACK
- M "X" — MULTI-JACK MODULAR FURNITURE TELECOMMUNICATIONS OUTLET, "X" DENOTES NUMBER OF JACKS
- X — MULTI-JACK TELECOMMUNICATIONS FLOOR BOX, "X" DENOTES NUMBER OF JACKS
- TYPICAL CABLE TRAY
- TYPICAL WIRE BASKET
- TYPICAL MAINTENANCE HOLE
- CU — CU — TYPICAL COMMUNICATIONS LINE
- J — JUNCTION BOX
- SP — TYPICAL CEILING MOUNTING SPEAKER
- CR — TYPICAL CARD READER
- X — SHEET KEYNOTE
- 1 — REVISION NOTE INDICATOR
- X / X-XXX — TYPICAL DETAIL CALLOUT. TOP INDICATES DETAIL NUMBER. BOTTOM INDICATED DETAIL SHEET.

# COMMUNICATIONS GENERAL NOTES

1. CONTRACTOR SHALL VERIFY QUANTITY OF ALL PATCH PANELS, AND OTHER RELATED COMPONENTS NEEDED FOR A COMPLETE AND WORKING TURN KEY COMMUNICATIONS SYSTEM WITH AN ADDITIONAL 10% SPARE.
2. TOTAL LENGTH OF HORIZONTAL CABLE FROM TELECOMMUNICATIONS RACK TO WORKSTATION OUTLET SHALL REMAIN UNDER 295' PER EIA/TIA.
3. THE PPGB SHALL BE BONDED TO THE STEEL WITHIN THE SAME ROOM WITH A #3/0 AWG CONDUCTOR. BONDING CONDUCTORS SHALL BE INSTALLED IN PVC CONDUIT AND SHALL BE AS SHORT AND STRAIGHT AS POSSIBLE.
4. PENETRATIONS OF FIRE-RATED PARTITIONS, WALLS, OR FLOORS BY DATA AND COMMUNICATION WIRING OR CABLE SHALL BE THROUGH MECHANICAL MODULAR, RE-ENTERABLE FIRE STOPPING DEVICE(S) CONTAINING SEL-SEALING INTUMESCENT INSERTS PER SPECIFICATION SECTION 07 84 00. INITIAL FILL CAPACITY SHALL NOT EXCEED 80%, PLUS ONE SPARE.
5. INSTALL BOTTOM OF CABLE TRAY TO PROVIDE A MINIMUM OF 12" OF CLEARANCE ABOVE CABLE TRAYS FOR FURTURE ACCESS.
6. CABLE TRAY SHALL BE USED FOR LOW VOLTAGE SIGNAL CABLING ONLY.
7. COMMUNICATIONS CABLES SHALL BE INSTALLED IN CABLE TRAY, IN CONDUIT, OR ABOVE CEILING IN J-HOOKS.
8. COMMUNICATIONS OUTLETS (OTHER THAN FLOOR BOXES AND POKE-THRUS) SHALL BE MOUNTED AT AN ELEVATION TO MATCH POWER RECEPTACLES.
9. ENTRANCE CONDUITS SHALL PASS BELOW FOOTERS OR THROUGH THE BUILDING FOUNDATION WALL. PVC COATED RGS SHALL BE USED FOR THE ELBOW INTO THE FACILITY. CONDUIT SHALL EXTEND BETWEEN FOUR TO SIX INCHES ABOVE THE FINISHED FLOOR. ENTRANCE CONDUITS SHALL BE PLUGGED OR SEALED TO PREVENT WATER INTRUSION.
10. NO MORE THAN FOUR (4) CATEGORY 6A CABLE SHALL BE INSTALLED IN A 1" CONDUIT. RUNS OF 5 TO 6 CATEGORY 6A CABLES SHALL BE INSTALLED IN 1 1/4" MINIMUM. IF MORE THAN SIX (6) CATEGORY 6A CABLES ARE REQUIRED, THE CONTRACTOR SHALL EITHER PROVIDE ADDITIONAL CONDUITS AS REQUIRED OR SIZE UP THE CONDUIT IN ACCORDANCE WITH TIA/EIA 569C. CONDUITS SHALL BE SIZED NOT TO EXCEED A 40% INITIAL FILL CAPACITY (BASED ON A GENERAL 0.24 CABLE DIAMETER). ALL CONDUITS SHALL BE SIZED ACCORDINGLY.
11. PROVIDE DUPLEX SC CONNECTOR FOR ALL FIBER TERMINATIONS.
12. PROVIDE A BLUE CABLE JACKET AND OUTLET JACK FOR ALL HORIZONTAL CATEGORY 6A CABLING.
13. TERMINATE ALL CATEGORY 6A HORIZONTAL CABLING WITH A T568B PIN-OUT.
14. ALL CATEGORY 6A PATCH PANELS, CONNECTORS AND JACKS SHALL BE BY THE SAME MANUFACTURER.
15. EQUIPMENT (PIPING, DUCTWORK, MACHINERY, ETC.) THAT DOES NOT SERVE THE EF, TER, OR TR(S) SHALL NOT BE INSTALLED ABOVE, BELOW (i.e. IN OR UNDER SLAB) OR IN THESE THESE SPACES NOR WILL THIS EQUIPMENT PASS THROUGH OR ENTER THE EF, TER, OR TR(S).
16. ANY MOTOR, TRANSFORMER OR OTHER ELECTRICAL DEVICE GREATER THAN 5 KVA SHALL HAVE A MINIMUM OR A 47" BUFFER FROM ANY WALL OF THE EF, TER, OR TR.
17. ALL IT GROUNDING AND BONDING SHALL BE PER ANSI/TIA-607-B.
18. CABLING INSTALLED IN THE UNIT STORAGE/STAGING AREA SHALL BE INSTALLED IN EMT. OPEN CABLING IS NOT ALLOWED IN THE UNIT STORAGE/STAGING AREAS.

# ABBREVIATIONS

| | |
|---|---|
| @ | AT |
| A/C | AIR CONDITIONING |
| AC | ALTERNATING CURRENT |
| A/E | ARCHITECT/ENGINEER |
| AFD | ADJUSTABLE FREQUENCY DRIVE |
| AFF | ABOVE FINISHED FLOOR |
| AFG | ABOVE FINISHED GRADE |
| AHJ | AUTHORITY HAVING JURISDICTION |
| AHU | AIR HANDLER UNIT |
| AIC | AMPS INTERRUPTING CAPACITY |
| AL | ALUMINUM |
| AM | AMMETER |
| AMP | AMPERE |
| ANSI | AMERICAN NATIONAL STANDARDS INSTITUTE |
| ATS | AUTOMATIC TRANSFER SWITCH |
| AWG | AMERICAN WIRE GAUGE |
| BB | BLOWER BUILDING |
| B&CB | BLOWER AND CHLORINE BUILDING |
| BKR | BREAKER |
| BLDG | BUILDING |
| BMS | BUILDING MANAGEMENT SYSTEM |
| BPS | BOLTED PRESSURE SWITCH |
| BTU | BRITISH THERMAL UNITS |
| BTUH | BRITISH THERMAL UNITS PER HOUR |
| C | CONDUIT |
| CB | CIRCUIT BREAKER |
| CBM | CERTIFIED BALLAST MANUFACTURERS |
| CD | CANDELA |
| CFM | CUBIC FEET PER MINUTE |
| CHH | CONTROL HANDHOLE |
| CI&S | COMPLETE INTEGRATION AND SERVICES |
| CKT | CIRCUIT |
| C/L | CENTER LINE |
| CLG | CEILING |
| COMP | COMPRESSOR |
| COND | CONDUIT |
| CONN | CONNECTION |
| CONT | CONTINUOUS |
| CRAC | COMPUTER ROOM AIR CONDITIONING UNIT |
| CRI | COLOR RENDERING INDEX |
| CT | CURRENT TRANSFORMER |
| CTR | COUNTER |
| CU | COPPER OR CONDENSER UNIT |
| CW | COLD WATER |
| DB | DIRECT BURIED |
| DC | DIRECT CURRENT |
| DISC | DISCONNECT |
| DISC SW | DISCONNECT SWITCH |
| DN | DOWN |
| DPST | DOUBLE POLE SINGLE THROW |
| DS | DISCONNECT SWITCH |
| EA | EACH |
| ECB | ENCLOSED CIRCUIT BREAKER |
| EC | ELECTRICAL CONTRACTOR |
| EDH | ELECTRIC DUCT HEATER |
| EF | EXHAUST FAN |
| ELEV | ELEVATION OR ELEVATOR |
| EMS | ENERGY MANAGEMENT SYSTEM |
| EMT | ELECTRICAL METALLIC TUBING |
| EQUIP | EQUIPMENT |
| EST | ESTIMATE |
| ETD | EXISTING TO BE DEMOLISHED |
| ETR | EXISTING TO BE RELOCATED |
| EWC | ELECTRIC WATER COOLER |
| EWH | ELECTRIC WATER HEATER |
| EX OR EXIST | EXISTING |
| F/A | FIRE ALARM |
| FAAP | FIRE ALARM ANNUNCIATOR PANEL |
| FACP | FIRE ALARM CONTROL PANEL |
| FATC | FIRE ALARM TERMINAL CABINET |
| FB | FILTER BUILDING |
| FC | FOOTCANDLES |
| FLA | FULL LOAD AMPERES |
| FLR | FLOOR |
| FT | FEET |
| FTB | FAN TERMINAL BOX |
| FVNR | FULL VOLTAGE NON-REVERSING |
| G OR GND | GROUND |
| GAL | GALLON |
| GALV | GALVANIZED |
| GC | GENERAL CONTRACTOR |
| GFI | GROUND FAULT INTERRUPTING |
| GFP | GROUND FAULT PROTECTION |
| GPH | GALLONS PER HOUR |
| GPM | GALLONS PER MINUTE |
| GRS | GALVANIZED RIGID STEEL |
| HID | HIGH INTENSITY DISCHARGE |
| HH | HAND HOLE |
| HO | HIGH OUTPUT |
| HP | HORSEPOWER OR HEAT PUMP |
| HPF | HIGH POWER FACTOR |
| HPS | HIGH PRESSURE SODIUM |
| HR | HOUR |
| HS | HEAT STRIP |
| HT | HEIGHT |
| HTR | HEATER |
| HZ | HERTZ |
| IG | ISOLATED GROUND |
| IMC | INTERMEDIATE METALLIC CONDUIT |
| INCAND | INCANDESCENT |
| IN | INCHES |
| JB | JUNCTION BOX |
| K | KELVIN OR KILO |
| KCMIL | THOUSAND CIRCULAR MILS |
| KVA | KILOVOLT AMPERE |
| KW | KILOWATT |
| KWH | KILOWATT HOUR |
| LAHJ | LOCAL AUTHORITY HAVING JURISDICTION |
| LED | LIGHT EMITTING DIODE |
| LF | LINEAR FEET |
| LLD | LAMP LUMEN DEPRECIATION |
| LLF | LIGHT LOSS FACTOR |
| LPF | LOW POWER FACTOR |
| LT | LIGHT |
| LTG | LIGHTING |
| LTS | LIGHTS |
| LV | LOW VOLTAGE |
| M | METER |
| MAINT | MAINTENANCE |
| MAX | MAXIMUM |
| MCB | MAIN CIRCUIT BREAKER |
| MCC | MOTOR CONTROL CENTER |
| MCM | THOUSAND CIRCULAR MILS |
| MFG | MANUFACTURER |
| MH | MANHOLE OR METAL HALIDE |
| MIN | MINIMUM |
| MLO | MAIN LUG ONLY |
| MM | MILIMETER |
| MOCP | MAXIMUM OVERCURRENT PROTECTION |
| MPH | MILES PER HOUR |
| MTD | MOUNTED |
| MV | MEDIUM VOLTAGE |
| # | NUMBER |
| N | NEUTRAL |
| NC | NORMALLY CLOSED |
| NEC | NATIONAL ELECTRICAL CODE (NFPA 70) |
| NEMA | NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION |
| NF | NON-FUSED |
| NFPA | NATIONAL FIRE PROTECTION ASSOCIATION |
| NIC | NOT IN CONTRACT |
| NL | NIGHT LIGHT, NOT SWITCHED |
| NO | NORMALLY OPEN OR NUMBER |
| NPT | NATIONAL PIPE THREAD |
| OD | OUTSIDE DIAMETER |
| OL | OVERLOAD |
| OS&Y | OUTSIDE SCREW AND YOKE |
| % | PERCENT |
| P | POLE |
| PB | PULL BOX |
| PH OR □ | PHASE |
| PHH | POWER HANDHOLE |
| PL | COMPACT FLUORESCENT LAMP |
| PNL | PANEL OR PANELBOARD |
| PR | PAIR |
| PRI | PRIMARY |
| PSF | POUNDS PER SQUARE FOOT |
| PSI | POUNDS PER SQUARE INCH |
| PT | POTENTIAL TRANSFORMER |
| PVC | POLYVINYL CHLORIDE |
| RECEPT | RECEPTACLE |
| RGS | RIGID GALVANIZED STEEL |
| RPM | REVOLUTIONS PER MINUTE |
| RS | RAPID START |
| RTU | ROOF TOP UNIT |
| SCA | SHORT CIRCUIT AMPERES |
| SEC | SECONDARY |
| SF | SQUARE FOOT OR SUPPLY FAN |
| S/N | SOLID NEUTRAL |
| SPST | SINGLE POLE SINGLE THROW |
| SS | STAINLESS STEEL |
| SW | SWITCH |
| SWBD | SWITCHBOARD |
| SYS | SYSTEM |
| TEMP | TEMPERATURE |
| TTB | TELEPHONE TERMINAL BOARD |
| TTC | TELEPHONE TERMINAL CABINET |
| TV | TELEVISION |
| TVSS | TRANSIENT VOLTAGE SURGE SUPPRESSOR |
| TVTC | TELEVISION TERMINAL CABINET |
| TVEC | TELEVISION EQUIPMENT CABINET |
| TYP | TYPICAL |
| UG | UNDERGROUND |
| UL | UNDERWRITER'S LABORATORIES |
| UON | UNLESS OTHERWISE NOTED |
| VE | VALUE ENGINEER |
| VFD | VARIABLE FREQUENCY DRIVE |
| VHF | VERY HIGH FREQUENCY |
| VHO | VERY HIGH OUTPUT |
| V | VOLT |
| VA | VOLT AMPERE |
| VAV | VARIABLE AIR VOLUME |
| VM | VOLT METER |
| VOL | VOLUME |
| W | WATT OR WIRE |
| WAS | WASTE ACTIVATED SLUDGE |
| WP | WEATHERPROOF |
| WSA | WIRE SIZE AMPERES |
| WW | WIREWAY OR AUXILIARY GUTTER |
| XFMR | TRANSFORMER |
| Y | WYE |
| YD | YARD |
| YR | YEAR |
| 3R | RAINPROOF |
| 4X | DUSTIGHT, WATERTIGHT |

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| CHECKED BY: RDN | CONTRACT NO.: W912QR20C0036 | | |
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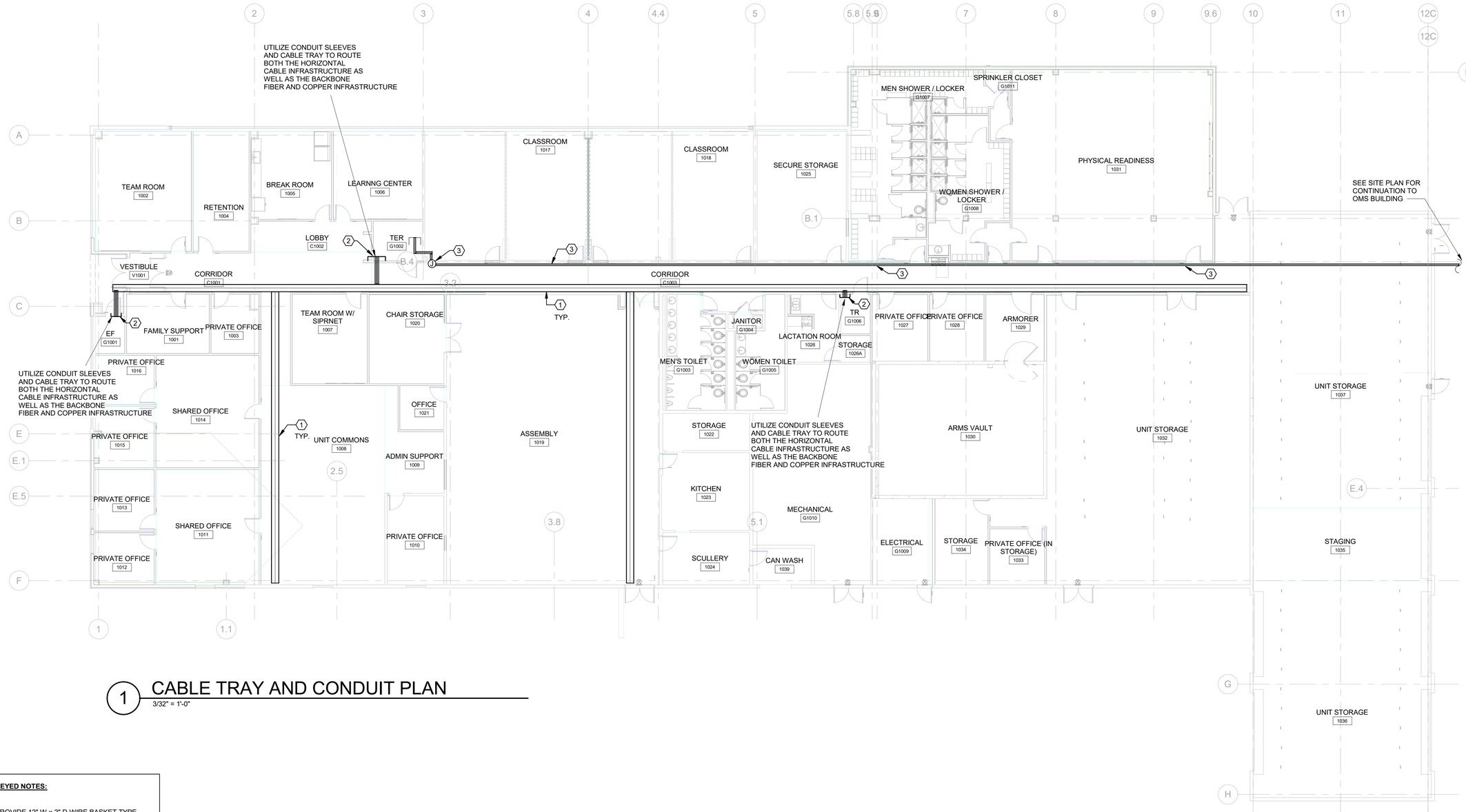
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GENERAL NOTES AND ABBREVIATIONS

SHEET ID

T-001

CORRECTED FINAL SUBMISSION - JULY 29, 2021




## 1 CABLE TRAY AND CONDUIT PLAN

3/32" = 1'-0"

**KEYED NOTES:**

1. PROVIDE 12" W x 2" D WIRE BASKET TYPE CABLE TRAY.
2. PROVIDE 2-4" CONDUIT SLEEVES FROM WIRE BASKET TRAY TO LADDER RACK IN COMMUNICATIONS ROOMS. USE A WATERFALL ONCE IN ROOM TO CHANGE ELEVATION.
3. INTERCEPT EXISTING CONDUITS FIBER & COPPER LINES EXTENDING FROM OMS BUILDING TO EXISTING ROOM #1016 WITH A PULL BOX. REUSE 12-STANDS OF SINGLE MODE FIBER & 25 PAIRS OF COPPER BACK BONE CABLING. RE-ROUTE CONDUITS TO NEW TER ROOM # G-1002. RE-CONNECT OMS BUILDING TO NEW TELECOM INFRASTRUCTURE.

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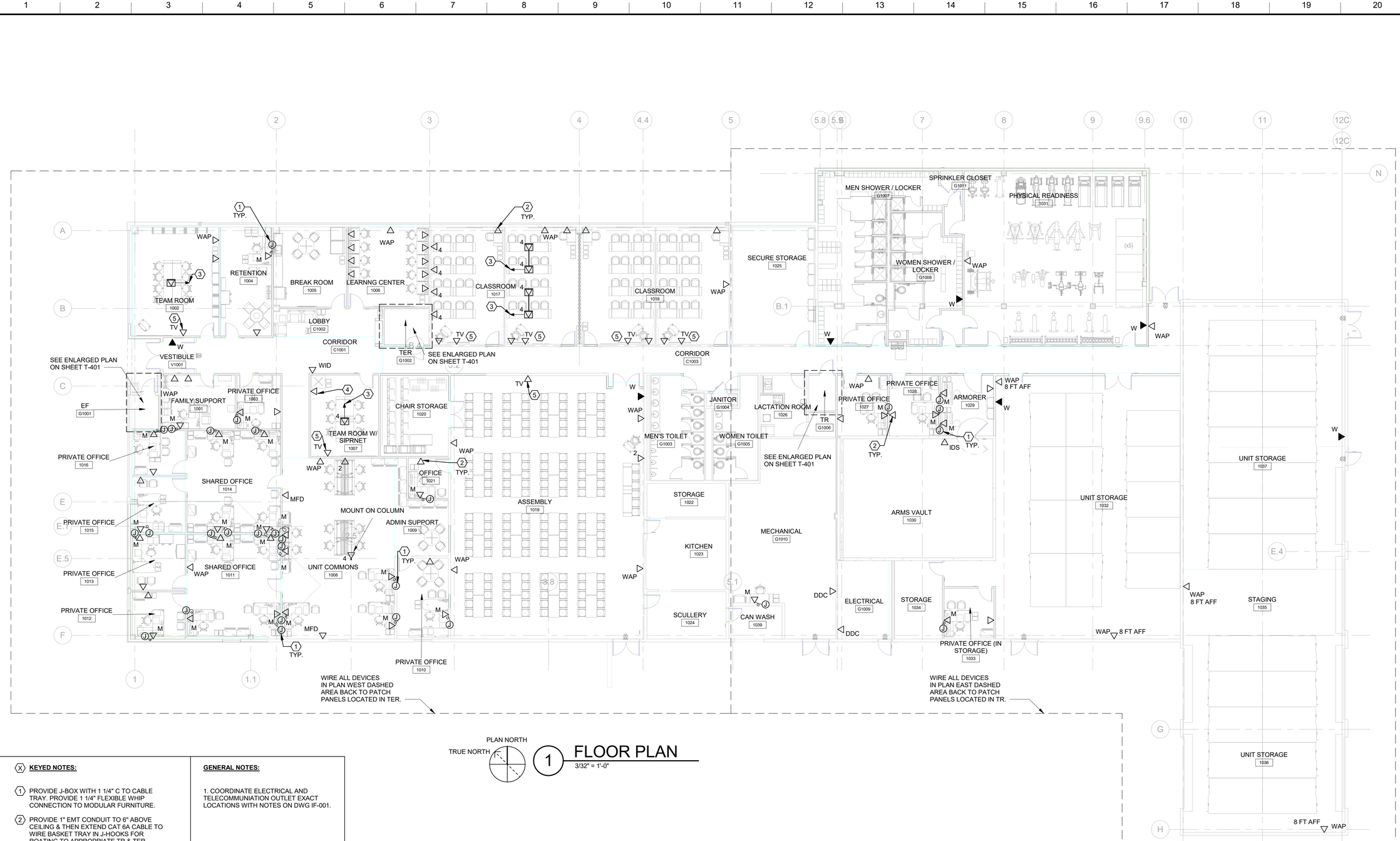
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TELECOMMUNICATIONS CABLE TRAY AND CONDUIT PLAN

SHEET ID

T-100

CORRECTED FINAL SUBMISSION - JULY 29, 2021




1 FLOOR PLAN
3/32" = 1'-0"

**KEYED NOTES:**

1. PROVIDE J-BOX WITH 1 1/4" C TO CABLE TRAY. PROVIDE 1 1/4" FLEXIBLE WHIP CONNECTION TO MODULAR FURNITURE.
2. PROVIDE 1" EMT CONDUIT TO 6" ABOVE CEILING & THEN EXTEND CAT 6A CABLE TO WIRE BASKET TRAY IN J-HOOKS FOR ROATING TO APPROPRIATE TR & TER.
3. PROVIDE 1" MINIMUM CONDUIT HOMERUN TO TER. SEE DETAIL 1 & 2 ON SHEET T-505. SAW CUT AND PATCH FLOOR AS REQUIRED TO INSTALL CONDUIT AND BOXES.
4. STANDARD TELECOMMUNICATIONS OUTLET TO BE USED FOR SIPR-IN-A-BOX DEVICE. SEE DETAIL 1 & 2 ON SHEET T-504.
5. COORDINATE HEIGHT FOR DATA DROP THAT IS USED FOR FLAT SCREEN TV WITH ARCHITECTURAL DRAWINGS.

**GENERAL NOTES:**

1. COORDINATE ELECTRICAL AND TELECOMMUNIATION OUTLET EXACT LOCATIONS WITH NOTES ON DWG IF-001.

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OPTION FIELD 1
OPTION TITLE 2
OPTION FIELD 2

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TELECOMMUNICATIONS PLAN

SHEET ID
T-101

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NOTE: THERE ARE TWO OR THREE EXISTING ELECTRIFIED GATES THAT ENTER THE BUILDING IN THIS ROOM AND ARE ATTACHED TO THE EXISTING EXISTING ACCESS CONTROL SYSTEM. INTERCEPT THESE CONTROL CIRCUITS AND EXTEND TO ROOM G1002 AND RE-CONNECT TO RELOCATED ACCESS CONTROL EQUIPMENT.

CURRENT LOCATION OF EXISTING ACCESS CONTROL SYSTEM THAT IS TO BE RELOCATED TO TER G1002

RELOCATED PHYSICAL ACCESS CONTROL EQUIPMENT TO BE RE-USED TO CONTROL DOORS & ENTRANCE GATE AS INDICATED IN THE PLANS. SEE ELECTRICAL PLANS FOR POWER CONNECTIONS TO EQUIPMENT.

LOCATE NEW ELECTRIC GATE CONTROLS IN THE TEAM ROOM. COORDINATE FINAL LOCATION WITH THE GOVERNMENT.

WALL MOUNTED REAR HINGED 19" RACK FOR ASSEMBLY PA SYSTEM. SEE ELECTRICAL PLANS FOR DEDICATED DUPLEX NEMA-20R RECEPTACLE TO BE PROVIDED FOR SYSTEM. (3) (5)

SEE ENLARGED PLAN FOR ARMS VAULT ON SHEET T-103

CARD READER TYPICAL

(6) EXISTING CARD READER, REX DEVICE, DOOR POSTION SWITCH AND ELECTRIC LOCK TO BE PROTECTED AND RECONNECTED TO RE-LOCATED HEAD END PHYSICAL ACCESS CONTROLS.

(6) EXISTING CARD READER, REX DEVICE, DOOR POSTION SWITCH AND ELECTRIC LOCK TO BE PROTECTED AND RECONNECTED TO RE-LOCATED HEAD END PHYSICAL ACCESS CONTROLS.

EXISTING PHYSICAL ACCESS CONTROL HEAD END EQUIPMENT MANUFACTURED BY ALTRONIX MODEL MAXIM AND GALAXY SYSTEMS TO BE RELOCATED & RE-USED FROM PRIVATE OFFICE TO THE NEW TER G1002. SEE PHOTOS ON SHEET T-513 FOR ADDITIONAL PHOTOS OF EQUIPMENT.



PLAN NORTH
TRUE NORTH

## 1 SPECIAL SYSTEM PLAN
3/32" = 1'-0"

## 1 TER CARD ACCESS SYSTEM DETAIL

**KEYED NOTES:**

(1) PROVIDE SPEAKER WIRE IN 3/4" EMT CONDUIT. PROVIDE WIRE PER MANUFACTURERS REQUIREMENTS.

(2) PROVIDE WIRED MICROPHONE OUTLET. PROVIDE CABLING IN 3/4" EMT CONDUIT PER MANUFACTURERS REQUIREMENTS.

(3) PROVIDE AMPLIFIER, MIXER, AM/FM TUNER, & COMPACT DISC PLAYER MOUNTED IN CABINET. SEE SPECIFICATION SECTIION 27 51 16 FOR REQUIREMENTS.

(4) ROUTE 1 1/4" CONDUIT TO ROOF WITH RG/6U COAXIAL CABLE. PROVIDE AM/FM ANTENNA & APPROPRIATE SUPPORT MAST. SEAL ROOF PENETRATION WITH APPROPRIATE FLASHING & SEALANT. PROVIDE LIGHTNING ARRESTOR ON ROOF FOR COAXIAL CABLE.

(5) PROVIDE A MINIMUM OF 1 WIRELESS CLIP ON TYPE MICROPHONE & 1 WIRED MICROPHONE WITH FLOOR STAND ASSEMBLY.

(6) EXISTING CARD READERS UTILIZED AT THE BUILDING CURRENTLY MAY BE RE-USED TO SERVE THE NEW FUCTION OF THE BUILDING. ALL NEW CARD READERS SHOULD MATCH THOSE THAT ARE EXISTING IN FUNCTION AND BE COMPATIBLE WITH THE EXISTING HEAD END ACCESS CONTROL SYSTEM. SEE PHOTO ON THIS SHEET AND SHEET T-513.

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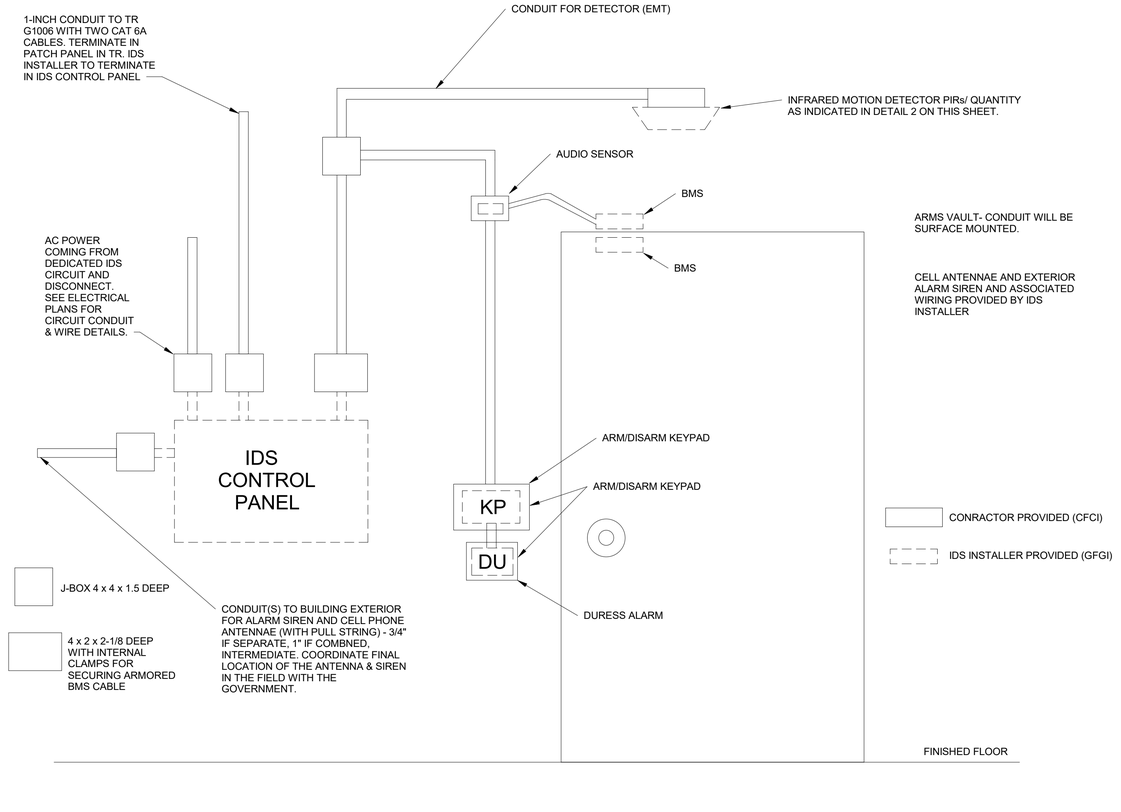
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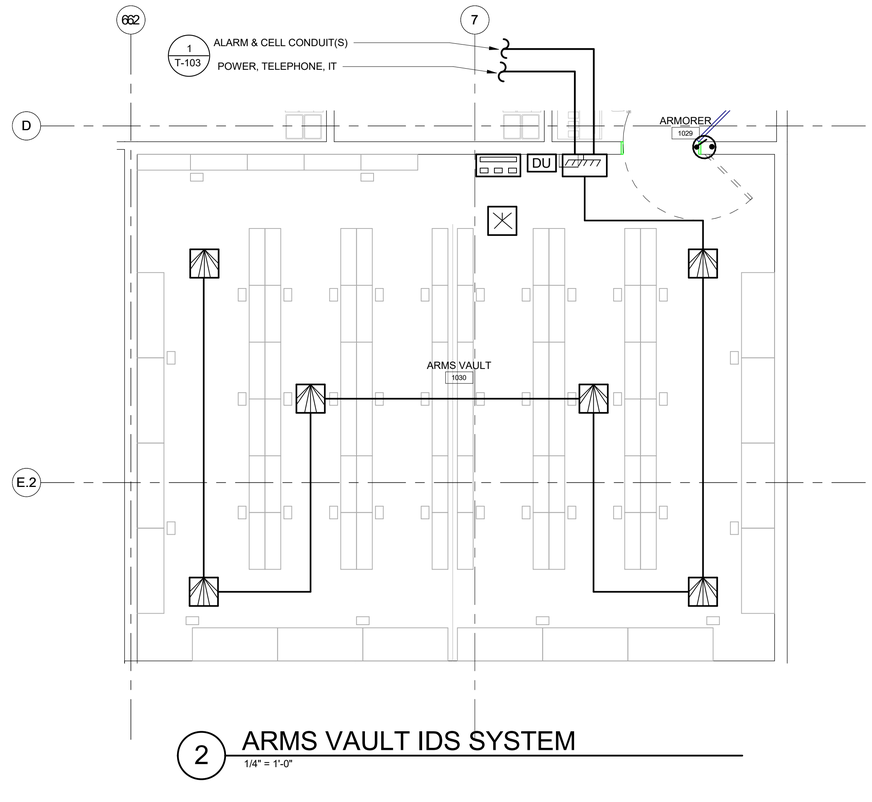
SPECIAL SYSTEMS PLAN

SHEET ID
T-102

CORRECTED FINAL SUBMISSION - JULY 29, 2021




1 IDS DETAIL
NOT TO SCALE




2 ARMS VAULT IDS SYSTEM
1/4" = 1'-0"

**GENERAL NOTES - INTRUSION DETECTION SYSTEMS**

1. THE IDS IS SEPARATE FROM THE ELECTRONIC SECURITY SYSTEM SPECIFIED IN SECTION 28 13 00.00 48. SECTION 28 13 00.00 48 SPECIFIES A COMPLETE ENTRY CONTROL SYSTEM FOR THE BUILDINGS. THE IDS IS PROVIDED BY THE GOVERNMENT UNDER A SEPARATE CONTRACT AND THIS CONTRACTOR SHALL PROVIDE CONDUIT AND THE BOXES ONLY THAT ARE INDICATED FOR THE IDS. MINIMUM SIZE OF THE CONDUIT SHALL BE 1". ALL SECURITY SYSTEM CONDUIT WITHIN THE PROTECTED VAULT SHALL BE EMT, ALL SECURITY SYSTEM CONDUIT OUTSIDE THE PROTECTED SPACE SHALL BE IN RIGID STEEL CONDUIT.
2. PROVIDE CIRCUITS, CONDUCTORS, CONDUIT AND BOXES FOR INTRUSION DETECTION SYSTEM (I.D.S.). SYSTEM. GOVERNMENT PROVIDED COMPONENTS SHOWN FOR LOCATION INFORMATION ONLY.
3. THE CONTRACTOR SHALL PROVIDE 120V DEDICATED CIRCUIT TO JUNCTION BOXES.
4. DEHUMDIFIERS AND EXHAUST FANS SHOWN ON POWER FLOOR PLANS.
5. FIELD VERIFY LOCATIONS OF IDS SERVICES AND DEVICES WITH CONTRACTING OFFICER'S REPRSENTATIVE AND IDS INSTALLER PRIOR TO ROUGH-IN.
6. PROVIDE AUXILIARY CONTACTS IN SMOKE AND HEAT DETECTORS IN VAULT SO THAT THEY CAN BE MONITORED DIRECTLY BY IDS.
7. ALL IDS CONDUITS SHALL BE PROVIDED WITH A PULL STRING.
8. CONDUITS ARE TO EXTEND A MINIMUM OF 2 INCHES THROUGH TOP OF VAULT AND BE SPACED A MINIMUM OF 2 INCHES FROM EACH OTHER.
9. ALL CONDUITS TO BE LABELED ACCORDINGLY (SIREN, ANTENNA, BUILDING D-MARK, ETC).

| | IDS SYMBOLS | |
|---|---|---|
| SYMBOL | DESCRIPTION | ABBREVIATION |
| | IDS CONTROL PANEL | IDS |
| | KEYPAD | KP |
| | BALANCED MAGNETIC SWITCH | BMS |
| | PASSIVE INFRARED MOTION SENSOR | PIR |
| DU | DURESS PUSH BUTTON | DU |
| | AUDIO SENSOR | AS |
| | AUDIBLE ALARM | AA |

US Army Corps of Engineers ®

SEAL AND SIGNATURE
RYAN D. NATION DATE: 5-6-21
RCDD,BICSI LIC. NO. 185418

| MARK | DESCRIPTION | DATE |
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DRAWN BY: SDN
CHECKED BY: RDN
SUBMITTED BY:
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ISSUE DATE: 29 JULY 2021
SOLICITATION NO.: W912QR20R0038
CONTRACT NO.: W912QR21C0036
OPTION TITLE 1
OPTION FIELD 1
OPTION TITLE 2
OPTION FIELD 2

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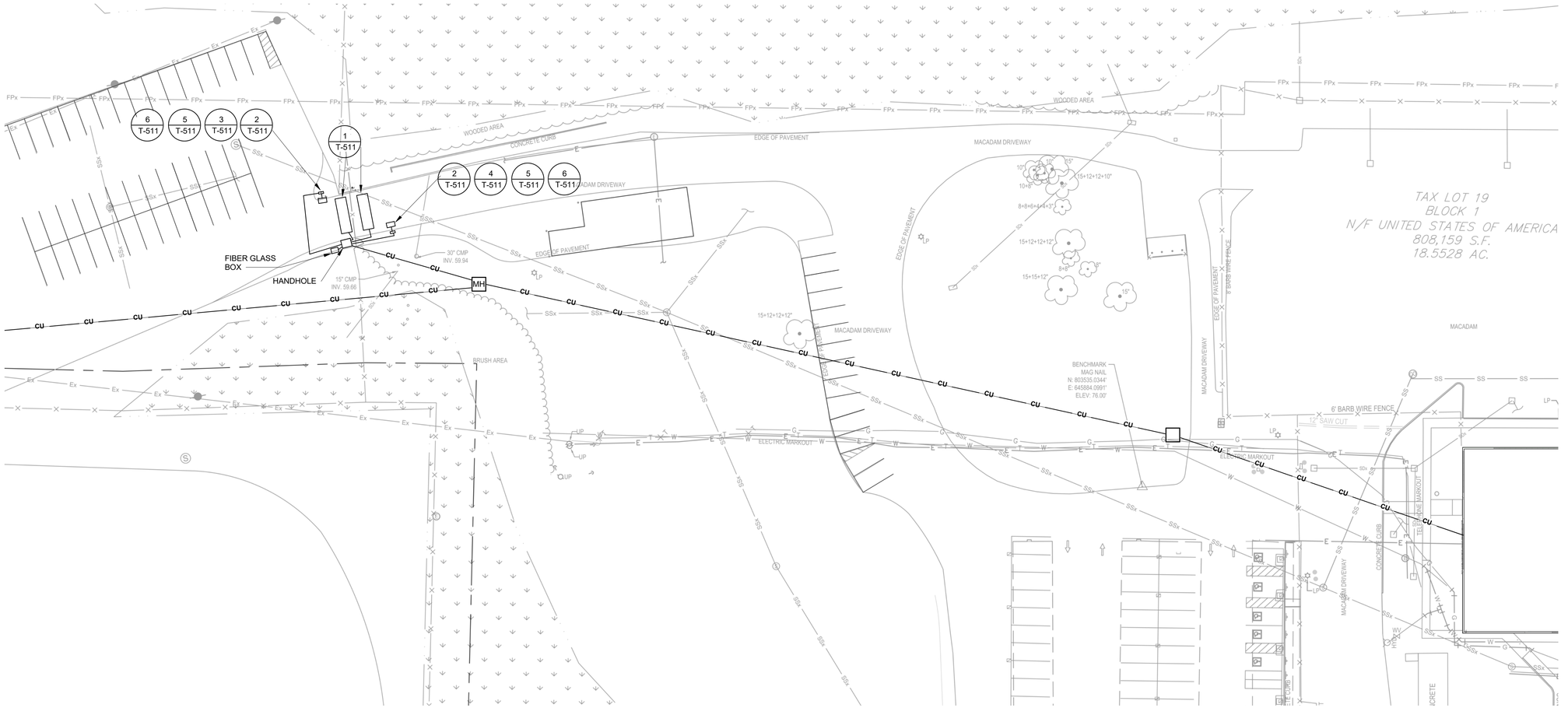
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ARMS VAULT IDS SYSTEM AND DETAILS

SHEET ID
T-103

CORRECTED FINAL SUBMISSION - JULY 29, 2021




# TELECOMMUNICATIONS SLIDING GATE ENLARGED SITE PLAN

1 — 1" = 30'-0"

PLAN NORTH

TRUE NORTH

US Army Corps of Engineers ®

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RYAN D. NATION DATE: 5-6-21
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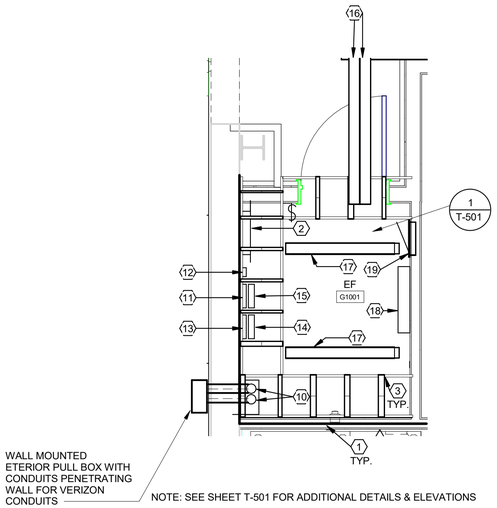

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ENLARGED SLIDING GATE PLAN

SHEET ID

T-104

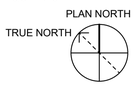
CORRECTED FINAL SUBMISSION - JULY 29, 2021

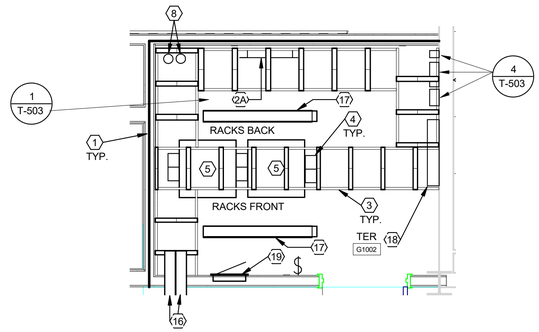



NOTE: SEE SHEET T-501 FOR ADDITIONAL DETAILS & ELEVATIONS

## 1 EF ENLARGED PLAN

3/8" = 1'-0"

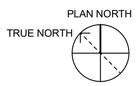


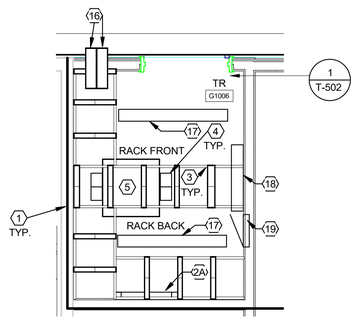




NOTE: SEE SHEET T-503 FOR ADDITIONAL DETAILS & ELEVATIONS

## 2 TER ENLARGED PLAN

3/8" = 1'-0"

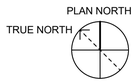



NOTE: SEE SHEET T-502 FOR ADDITIONAL DETAILS & ELEVATIONS

## 3 TR ENLARGED PLAN

3/8" = 1'-0"




### X KEYED NOTES:

1. PLYWOOD BACKBOARD 3/4" 4' x 8' FIRE RETARDANT FROM 18" AFF TO 114" AFF
2. PRIMARY BUS BAR
2A. SECONDARY BUS BAR
3. HORIZONTAL LADDER RACK
4. VERTICAL WIRE MANAGERS
5. TELECOMMUNICATIONS EQUIPMENT RACK
6. NOT USED
7. NOT USED
8. 2-4" CONDUITS TO OMS BUILDING
9. NOT USED
10. 2-4" CONDUIT PENETRATIONS TO VERIZON DEMARCATION POINT AND 1-2" CONDUIT TO POWERED GATE FOR ACESS CONTROLS AND VIDEO/VOICE INTERCOM.
11. SERVICE PROVIDER INSTALED BUILDING ENTRANCE PROTECTOR FOR COPPER BACKBONE CABLE
12. SERVICE PROVIDER COPPER BACKBONE TERMINATION BLOCK
13. SERVICE PROVIDER INSTALLED WALL MOUNTED FIBER OPTIC PATCH PANEL
14. WALL MOUNTED FIBER OPTIC PATCH PANEL FOR 12 STRAND FIBER OPTIC CABLE TO TER
15. WALL MOUNTED 24 PORT CATEGORY 6A PATCH PANEL FOR 24 CATEGORY 6A CABLES TO TER
16. PROVIDE 2-4" CONDUIT SLEEVES FROM LADDER RACKS TO WIRE BASKET CABLE TRAYS. USE A WATERFALL ONCE IN ROOM TO CHANGE ELEVATION. ROUTE BACKBONE AND HORIXONTAL CABLING BETWEEN EF,TR, AND TER THROUGH WIRE BASKET TRAY AND SLEEVES. PROVIDE SELF-SEALING RE-ENTERABLE, MECHANICAL FIRE STOPPING IN EACH CONDUIT.
17. NEW LIGHTING FIXTURES. SEE ELECTRICAL PLANS FOR MORE INFORMATION.
18. NEW CRAC UNIT. SEE MECHANICAL AND ELECTRICAL PLANS FOR MORE INFORMATION.
19. NEW POWER PANEL FOR ROOM. SEE ELECTRICAL PLANS FOR MORE INFORMATION.

US Army Corps of Engineers ®

SEAL AND SIGNATURE
RYAN D. NATION DATE: 5-6-21
RCDD,BICSI LIC. NO. 185416

| MARK | DESCRIPTION | DATE |
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| SOLICITATION NO.: | W912QR20R0038 |
| CONTRACT NO. | W912QR21C0036 |
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| | OPTION FIELD 1 |
| DESIGNED BY: | OPTION TITLE 2 |
| SDN | OPTION FIELD 2 |
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| SDN | |
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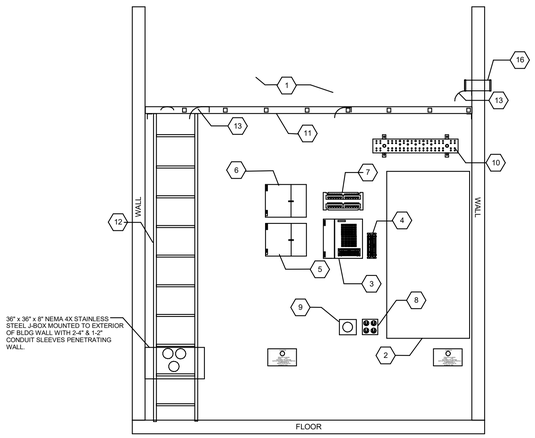
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ENLARGED TELECOMMUNICATION PLANS

SHEET ID

T-401

CORRECTED FINAL SUBMISSION - JULY 29, 2021




## SHEET KEY NOTES

1. PLYWOOD BACKBOARD
2. SPACE RESERVED FOR SERVICE PROVIDER INSTALLED EQUIPMENT
3. SERVICE PROVIDER INSTALLED BUILDING ENTRANCE PROTECTOR FOR COPPER BACKBONE CABLE
4. SERVICE PROVIDER INSTALLED COPPER TERMINATION BLOCK
5. SERVICE PROVIDER INSTALLED WALL MOUNTED FOPP
6. WALL MOUNTED FOPP FOR 12 STRAND FOC TO TER.
7. 24 PORT WALL MOUNTED CAT6A PATCH PANEL FOR 24 CATEGORY 6A CABLES TO TER
8. DOUBLE DUPLEX NEMA 5-20R POWER RECEPTACLE. SEE ELECTRICAL PLANS FOR CONDUIT, WIRE, AND CIRCUIT INFORMATION.
9. NEMA L5-15R POWER RECEPTACLE SEE ELECTRICAL PLANS FOR, CONDUIT WIRE, AND CIRCUIT INFORMATION.
10. PBB
11. HORIZONTAL LADDER RACK
12. VERTICAL LADDER RACK
13. CABLE RADIUS DROP OUTS (WATERFALL SUPPORTS)
14. NOT USED
15. NOT USED
16. STANDARD WALL/CEILING SLEEVES OR SELF-SEALING, RE-ENTERABLE, MECHANICAL FIRE-STOPPING WALL SLEEVES (AS REQUIRED PER TECHNICAL CRITERIA). ROUTE BACKBONE AND HORIZONTAL CABLING THROUGH CABLE TRAY AND SLEEVES.

## 1 EF WALL ELEVATION DIAGRAM

NTS

US Army Corps of Engineers ®

SEAL AND SIGNATURE

RYAN D. NATION DATE: 5-6-21
RCDD,BICSI LIC. NO. 185416

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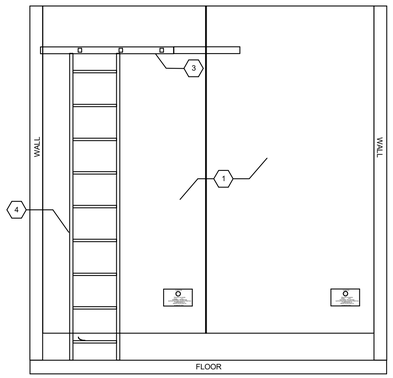
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EF ROOM TELECOMMUNICATIONS DETAILS

SHEET ID

T-501

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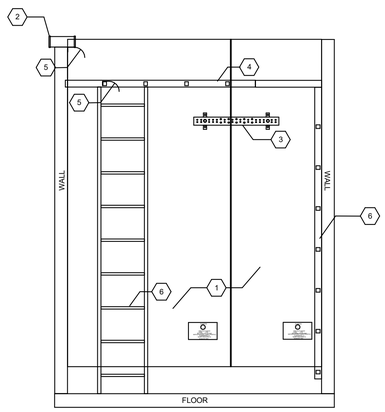



SHEET KEY NOTES

1. PLYWOOD BACKBOARD
2. NOT USED
3. HORIZONTAL LADDER RACK
4. VERTICAL LADDER RACK
5. NOT USED

## 1 FIRST FLOOR SMALL TR PLAN WALL WEST ELEVATION DIAGRAM

NTS

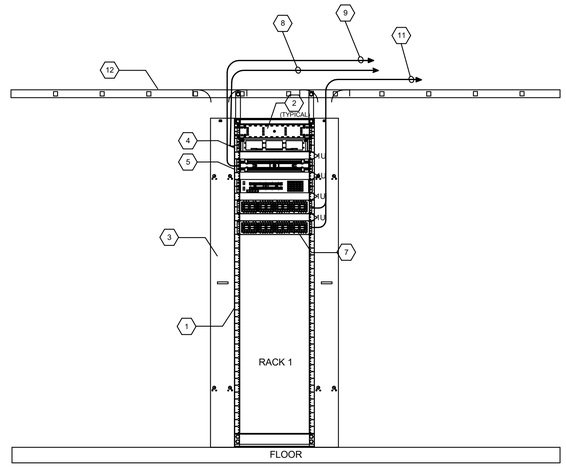



SHEET KEY NOTES

1. PLYWOOD BACKBOARD
2. STANDARD WALL SLEEVES OR SELF-SEALING, RE-ENTERABLE, MECHANICAL FIRE-STOPPING WALL SLEEVES (AS REQUIRED PER TECHNICAL CRITERIA). ROUTE BACKBONE CABLING THROUGH SLEEVE AND WIRE BASKET CABLE TRAY.
3. SECONDARY GROUND BUS BAR
4. HORIZONTAL LADDER RACK
5. CABLE RADIUS DROP OUTS (WATERFALL SUPPORTS)
6. VERTICAL LADDER RACK

## 2 FIRST FLOOR SMALL TR PLAN WALL SOUTH ELEVATION DIAGRAM

NTS

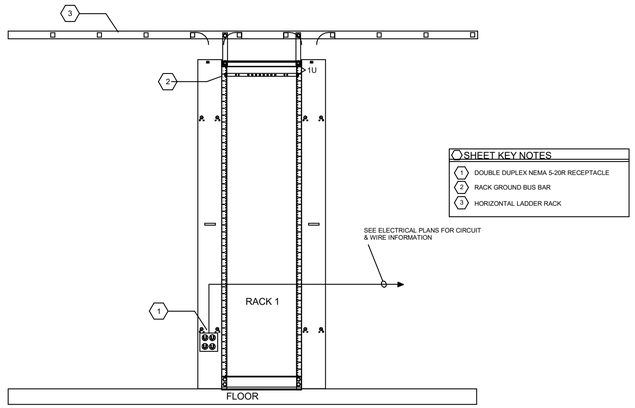



SHEET KEY NOTES

1. 2 POST EQUIPMENT RACK
2. 2U HORIZONTAL WIRE MANAGER
3. VERTICAL WIRE MANAGER
4. 2U FIBER PATCH PANEL
5. 110 BLOCK FOR COPPER BACKBONE CABLE TO TER G1002
6. NOT USED
7. 48 PORT PATCH PANEL FOR CATEGORY 6A CABLES
8. ISP FIBER OPTIC CABLE TO TER ROOM G1002
9. ISP COPPER BACKBONE CABLE TO TER G1002
10. NOT USED
11. CATEGORY 6A HORIZONTAL CABLE
12. HORIZONTAL LADDER RACK

## 3 SMALL TR RACK FRONT ELEVATION DIAGRAM

NTS




SHEET KEY NOTES

1. DOUBLE DUPLEX NEMA 5-20R RECEPTACLE
2. RACK GROUND BUS BAR
3. HORIZONTAL LADDER RACK

## 4 SMALL TR RACK ELEVATION REAR VIEW DIAGRAM

NTS

US Army Corps of Engineers ®

SEAL AND SIGNATURE
RYAN D. NATION
RCDD,BICSI LIC. NO. 185416
DATE: 5-6-21

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| CHECKED BY: | CONTRACT NO. |
| RDN | W912QR20C0036 |
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| SIZE: | OPTION TITLE 2 |
| ANSI D | OPTION FIELD 2 |

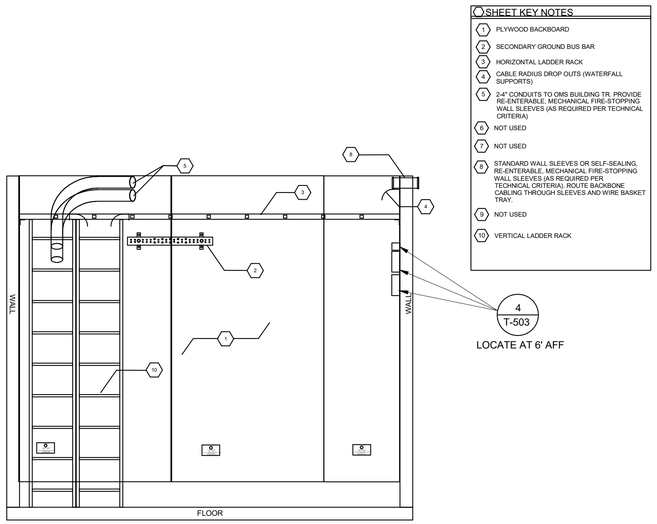
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TR ROOM TELECOMMUNICATIONS DETAILS

SHEET ID

T-502

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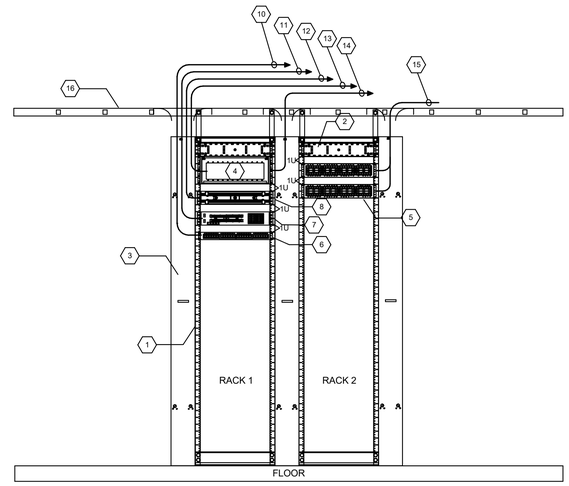



SHEET KEY NOTES

1. PLYWOOD BACKBOARD
2. SECONDARY GROUND BUS BAR
3. HORIZONTAL LADDER RACK
4. CABLE RADIUS DROP OUTS (WATERFALL SUPPORTS)
5. 2-4" CONDUITS TO OMS BUILDING TR. PROVIDE RE-ENTERABLE MECHANICAL FIRE-STOPPING WALL SLEEVES (AS REQUIRED PER TECHNICAL CRITERIA)
6. NOT USED
7. NOT USED
8. STANDARD WALL SLEEVES OR SELF-SEALING, RE-ENTERABLE MECHANICAL FIRE-STOPPING WALL SLEEVES (AS REQUIRED PER TECHNICAL CRITERIA). ROUTE BACKBONE CABLING THROUGH SLEEVES AND WIRE BASKET TRAY.
9. NOT USED
10. VERTICAL LADDER RACK

## 1 TER WALL ELEVATION DIAGRAM

NTS

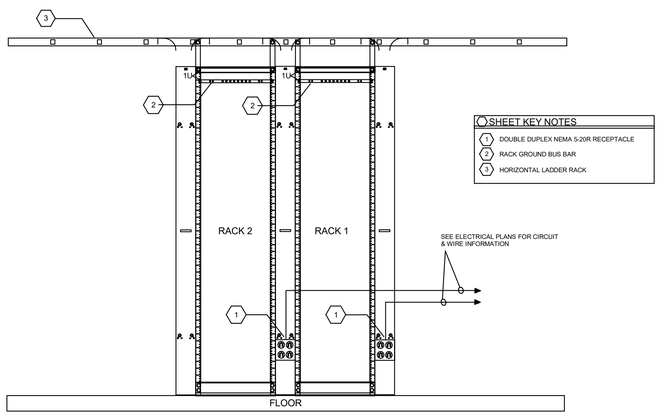



SHEET KEY NOTES

1. 2 POST EQUIPMENT RACK
2. 2U HORIZONTAL WIRE MANAGER
3. VERTICAL WIRE MANAGER
4. 4U FIBER PATCH PANEL
5. 48 PORT PATCH PANEL FOR CATEGORY 6A CABLES
6. 24 PORT PATCH PANEL FOR 24 CATEGORY 6A CABLES TO EF
7. BET FOR COPPER BACKBONE CABLE TO OMS BUILDING TR
8. 110 BLOCK FOR COPPER BACKBONE CABLE TO TR G1005
9. NOT USED
10. (24) CATEGORY 6A CABLES TO EF
11. OSP COPPER BACKBONE CABLE TO OMS BUILDING
12. ISP COPPER BACKBONE CABLE TO TR G1005
13. ISP FOC TO TR G1005
14. 12 STRAND FOC TO EF
15. CATEGORY 6A HORIZONTAL CABLE
16. HORIZONTAL LADDER RACK

## 2 TER FRONT ELEVATION DIAGRAM

NTS




SHEET KEY NOTES

1. DOUBLE DUPLEX NEMA 5-20R RECEPTACLE
2. RACK GROUND BUS BAR
3. HORIZONTAL LADDER RACK

## 3 TER RACK REAR ELEVATION DIAGRAM

NTS

US Army Corps of Engineers ®

SEAL AND SIGNATURE
RYAN D. NATION DATE: 5-6-21
RCDD,BICSI LIC. NO. 185416

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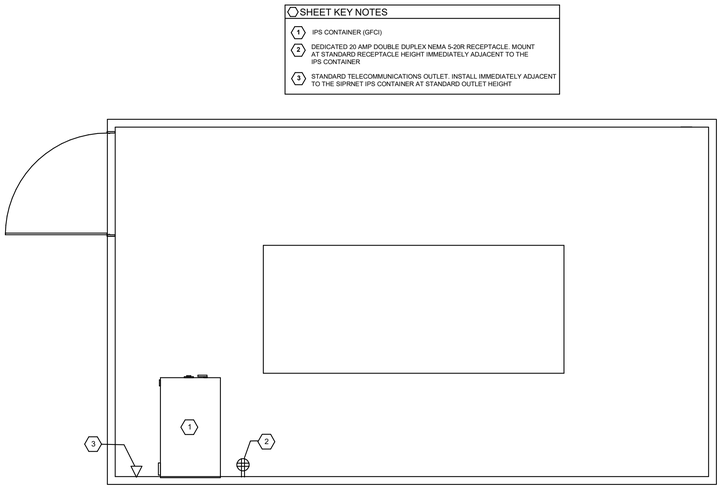
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TER ROOM TELECOMMUNICATIONS DETAILS

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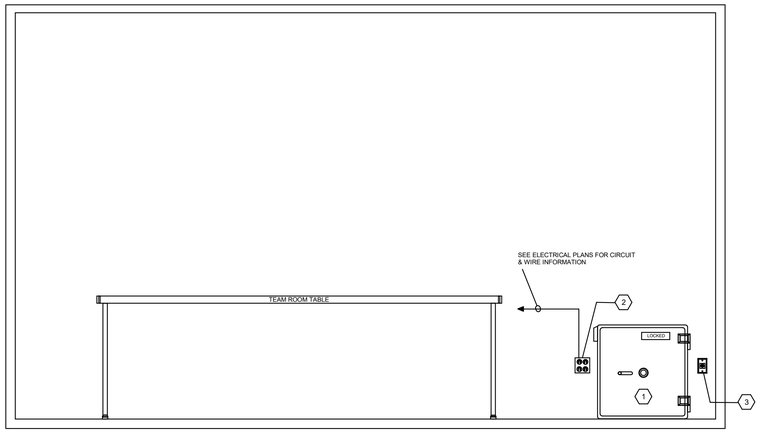
T-503

CORRECTED FINAL SUBMISSION - JULY 29, 2021




## 1 TYPICAL SIPR-IN-A-BOX ROOM AERIAL DIAGRAM

NTS




## 2 TYPICAL SIPR-IN-A-BOX WALL ELEVATION DIAGRAM

NTS

US Army Corps of Engineers ®

SEAL AND SIGNATURE
RYAN D. NATION DATE: 5-6-21
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| CHECKED BY: RDN | CONTRACT NO.: W912DQ21C0036 |
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SPIR-IN-BOX TELECOMMUNICATIONS DETAILS

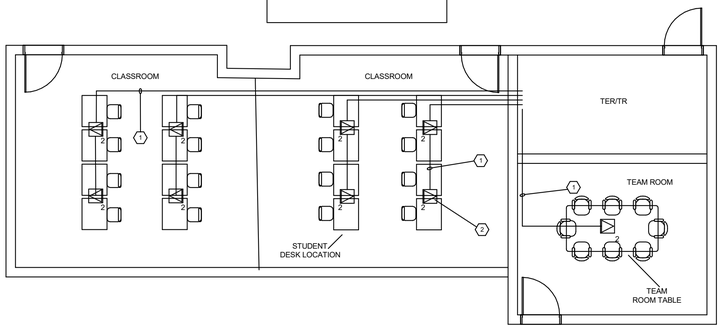
SHEET ID

T-504

CORRECTED FINAL SUBMISSION - JULY 29, 2021

| SHEET KEY NOTES |
|---|
| 1 ONE 1 INCH MINIMUM EMT CONDUIT HOMERUN TO TER/TR |
| 2 TELECOMMUNICATIONS FLOOR BOX |

| SHEET GENERAL NOTES |
|---|
| 1. A MAXIMUM OF 3 FLOOR BOXES CAN BE DAISY CHAINED TO A HOMERUN CONDUIT |

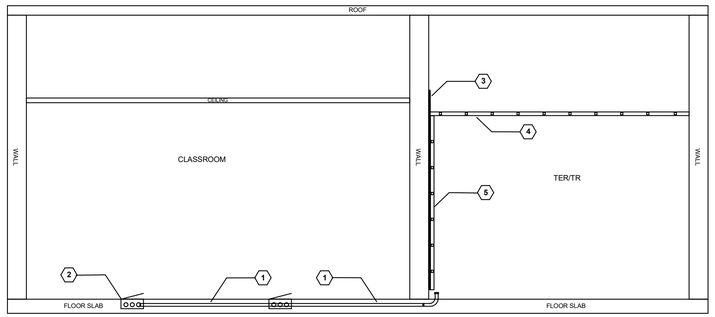



## 1 FLOOR BOX HOMERUN CONDUIT AERIAL DIAGRAM

NTS

| SHEET KEY NOTES |
|---|
| 1 ONE 1 INCH MINIMUM EMT CONDUIT HOMERUN TO TER/TR |
| 2 TELECOMMUNICATIONS FLOOR BOX |
| 3 PLYWOOD BACKBOARD |
| 4 HORIZONTAL LADDER RACK |
| 5 VERTICAL LADDER RACK |

| SHEET GENERAL NOTES |
|---|
| 1. A MAXIMUM OF THREE FLOOR BOXES CAN BE DAISY CHAINED TO A HOMERUN CONDUIT |




## 2 FLOOR BOX HOMERUN CONDUIT ELEVATION DIAGRAM

NTS

US Army Corps of Engineers ®

SEAL AND SIGNATURE
RYAN D. NATION DATE: 04-26-21
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| | ISSUE DATE: |
| | 29 JULY 2021 |

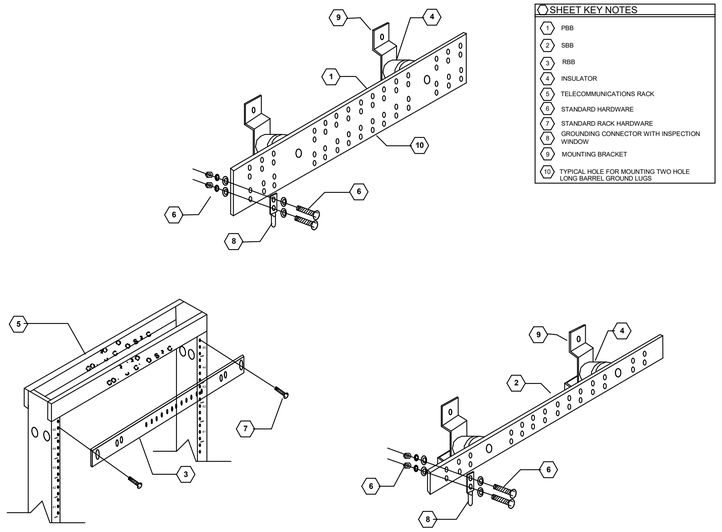
UNITED STATES ARMY RESERVE CENTER
ORANGEBURG, NEW YORK

FLOOR BOX TELECOMMUNICATIONS DETAILS

SHEET ID

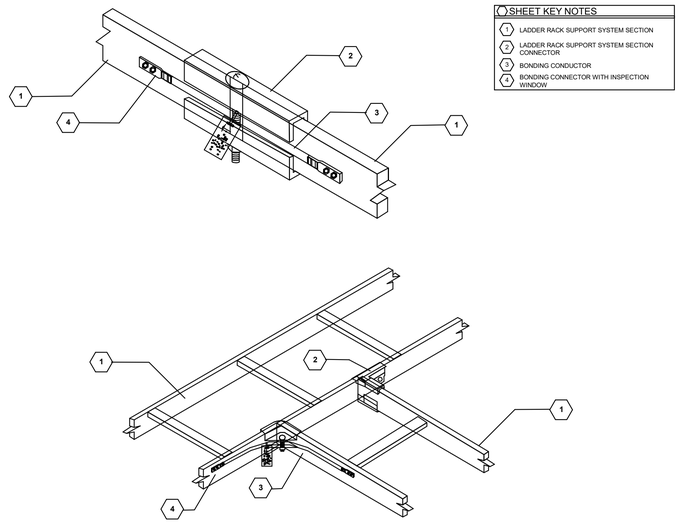
T-505

BUILDING FINAL SUBMISSION - MAY 28, 2021



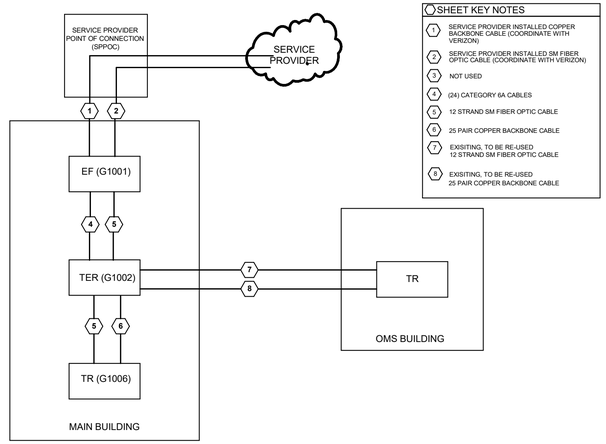

## 1 TELECOMMUNICATION BUS-BAR ENLARGED DIAGRAMS

NTS




## 2 LADDER RACK GROUNDING DIAGRAMS

NTS




## 3 BACKBONE CABLE RISER DIAGRAM

NTS

US Army Corps of Engineers ®

SEAL AND SIGNATURE
RYAN D. NATION DATE:
RCDD,BICSI LIC. NO. 185416

| MARK | DESCRIPTION | DATE |
|---|---|---|

| | |
|---|---|
| DESIGNED BY: SDN | ISSUE DATE: 29 JULY 2021 |
| DRAWN BY: SDN | SOLICITATION NO.: W912QR20R0038 |
| CHECKED BY: RDN | CONTRACT NO.: W912QR20C0036 |
| SUBMITTED BY: | OPTION TITLE 1 OPTION FIELD 1 |
| SIZE: ANSI D | OPTION TITLE 2 OPTION FIELD 2 |

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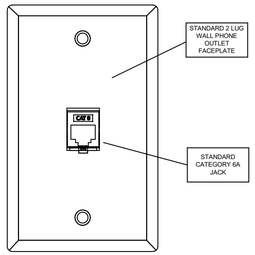
UNITED STATES ARMY RESERVE CENTER
ORANGEBURG, NEW YORK

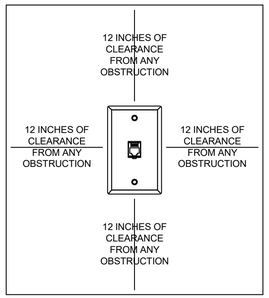
TELECOMMUNICATIONS GROUNDING DETAILS

SHEET ID

T-506

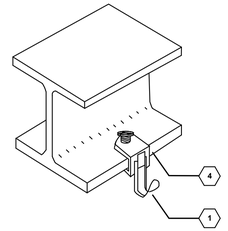
CORRECTED FINAL SUBMISSION - JULY 29, 2021



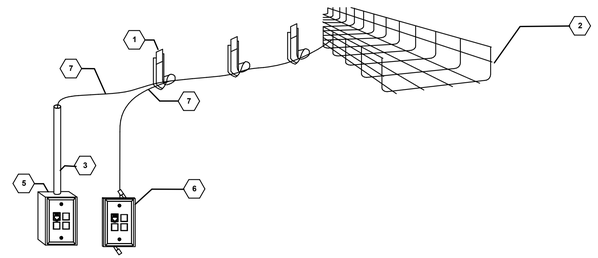

## 1 WAP OUTLET AND WAP OUTLET CLEARANCE DIAGRAMS

NTS



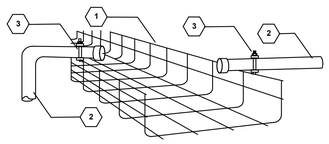

SHEET KEY NOTES

1. CATEGORY 6A RATED J-HOOK
2. WIRE MESH CABLE TRAY
3. CONDUIT STUB-OUT TO ACCESSIBLE CEILING SPACE
4. J-HOOK BEAM CLAMP
5. OUTLET BOX
6. LOW VOLTAGE MOUNTING BRACKET
7. CATEGORY 6A CABLE



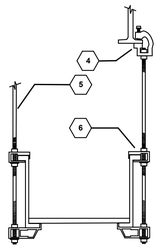

## 2 J-HOOK ENLARGED DIAGRAMS

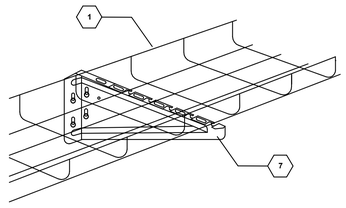
NTS




SHEET KEY NOTES

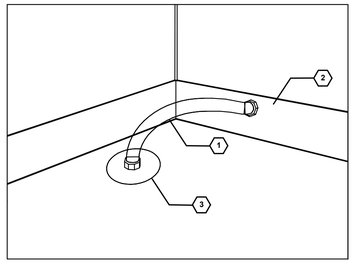
1. BASKET STYLE CABLE TRAY
2. CONDUIT FROM OUTLET TO CABLE TRAY
3. BOND CONDUIT TO CABLE TRAY
4. BEAM CLAMP FOR CABLE TRAY SUPPORT
5. THREADED ROD
6. CABLE TRAY SUPPORTS
7. TRIANGLE CABLE TRAY SUPPORT BRACKET



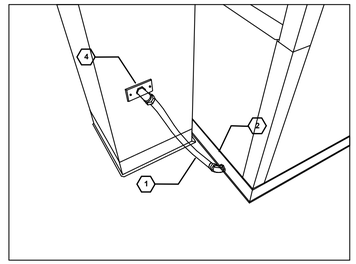

## 3 CABLE TRAY ENLARGED DIAGRAMS

NTS




SHEET KEY NOTES

1. FLEXIBLE METAL CONDUIT FROM FLOOR BOX TO ACOUSTIC PANEL RACEWAY
2. FURNITURE ACOUSTIC RACEWAY
3. FLOOR BOX OR POKE-THRU
4. WALL MOUNTED JUNCTION BOX




## 4 FURNITURE WHIP DETAILS

1" = 1'-0"

US Army Corps of Engineers ®

SEAL AND SIGNATURE
RYAN D. NATION DATE: 5-6-21
RCDD,BICSI LIC. NO. 185416

| MARK | DESCRIPTION | DATE |
|---|---|---|

| | |
|---|---|
| DESIGNED BY: SDN | ISSUE DATE: 29 JULY 2021 |
| DRAWN BY: SDN | SOLICITATION NO.: W912QR20R0038 |
| CHECKED BY: RDN | CONTRACT NO.: W912QR20C0036 |
| SUBMITTED BY: | OPTION TITLE 1 OPTION FIELD 1 |
| SIZE: ANSI D | OPTION TITLE 2 OPTION FIELD 2 |

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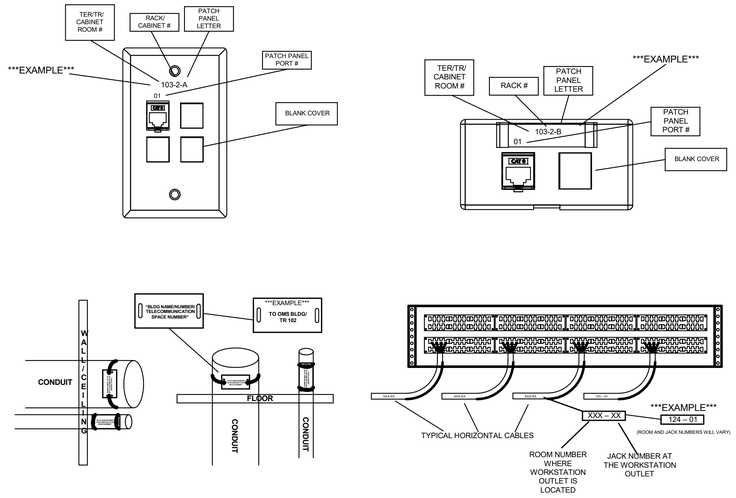
UNITED STATES ARMY RESERVE CENTER
ORANGEBURG, NEW YORK

TELECOMMUNICATIONS DETAILS

SHEET ID

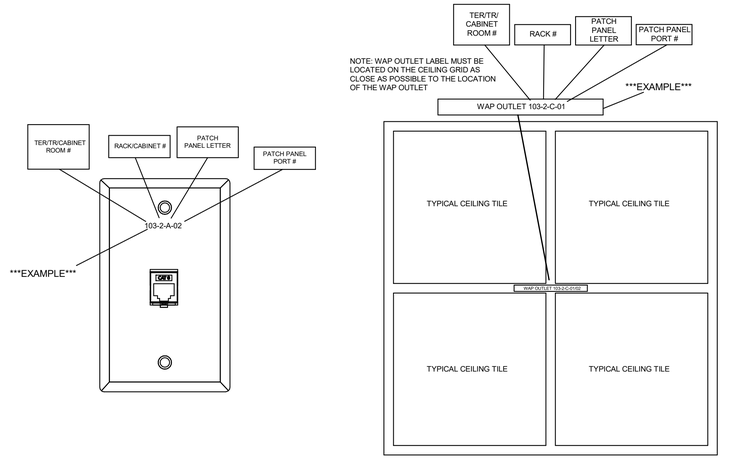
T-507

CORRECTED FINAL SUBMISSION - JULY 29, 2021



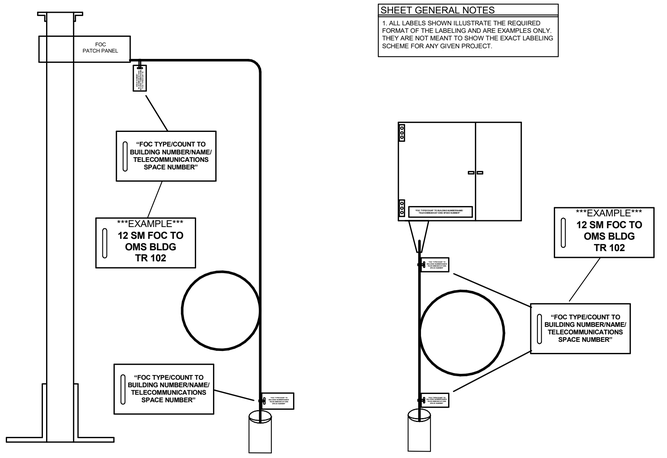

## 1 LABELING DIAGRAMS

NTS




## 2 LABELING DIAGRAMS 2

NTS




SHEET GENERAL NOTES

1. ALL LABELS SHOWN ILLUSTRATE THE REQUIRED FORMAT OF THE LABELING AND ARE EXAMPLES ONLY, THEY ARE NOT MEANT TO SHOW THE EXACT LABELING SCHEME FOR ANY GIVEN PROJECT.

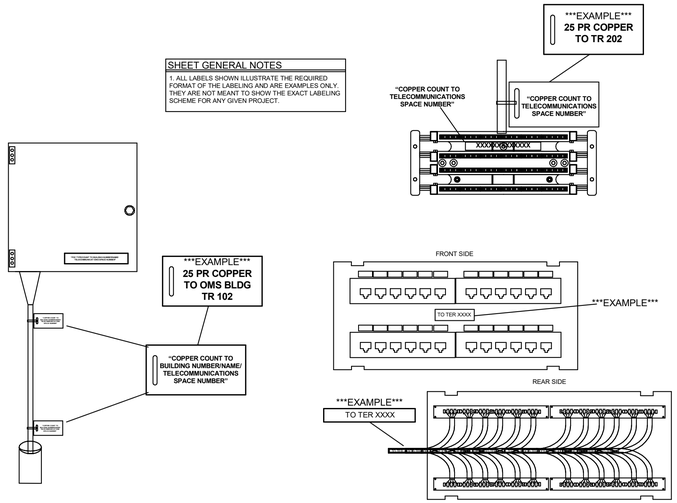



## 3 LABELING DIAGRAMS 3

1" = 1'-0"

SHEET GENERAL NOTES

1. ALL LABELS SHOWN ILLUSTRATE THE REQUIRED FORMAT OF THE LABELING AND ARE EXAMPLES ONLY, THEY ARE NOT MEANT TO SHOW THE EXACT LABELING SCHEME FOR ANY GIVEN PROJECT.




## 4 LABELING DIAGRAMS 4

1" = 1'-0"

US Army Corps of Engineers ®

SEAL AND SIGNATURE
RYAN D. NATION
RCDD,BICSI LIC. NO. 185416
DATE: 5-6-21

| MARK | DESCRIPTION | DATE |
|---|---|---|

US ARMY CORPS OF ENGINEERS
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| DESIGNED BY: | |
| SDN | |
| DRAWN BY: | |
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| CHECKED BY: | |
| RDN | |
| SUBMITTED BY: | |
| | |
| SIZE: | OPTION TITLE 2 |
| ANSI D | OPTION FIELD 2 |
| ISSUE DATE: | |
| 29 JULY 2021 | |
| SOLICITATION NO.: | |
| W912QR20R0038 | |
| CONTRACT NO.: | |
| W912QR20C0038 | |
| PROJECT TITLE | |
| OPTION TITLE 1 | |
| OPTION FIELD 1 | |

UNITED STATES ARMY RESERVE CENTER
ORANGEBURG, NEW YORK

LABELING DIAGRAMS

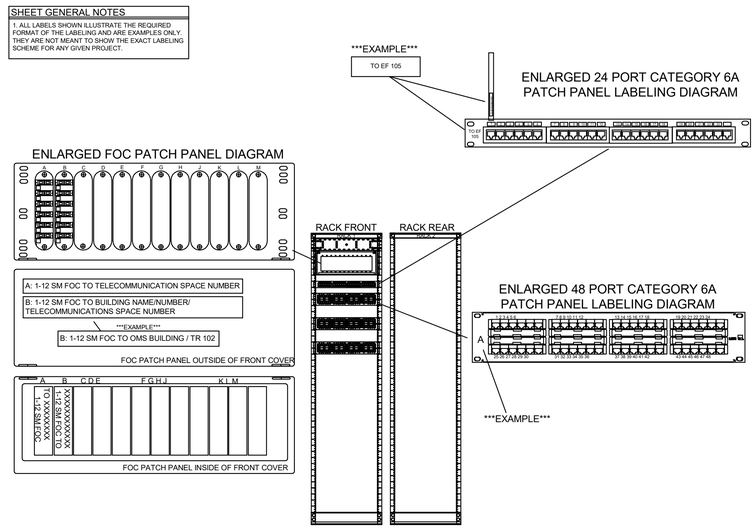
SHEET ID

T-508

CORRECTED FINAL SUBMISSION - JULY 29, 2021

SHEET GENERAL NOTES

1. ALL LABELS SHOWN ILLUSTRATE THE REQUIRED FORMAT OF THE LABELING AND ARE EXAMPLES ONLY. THEY ARE NOT MEANT TO SHOW THE EXACT LABELING SCHEME FOR ANY GIVEN PROJECT.

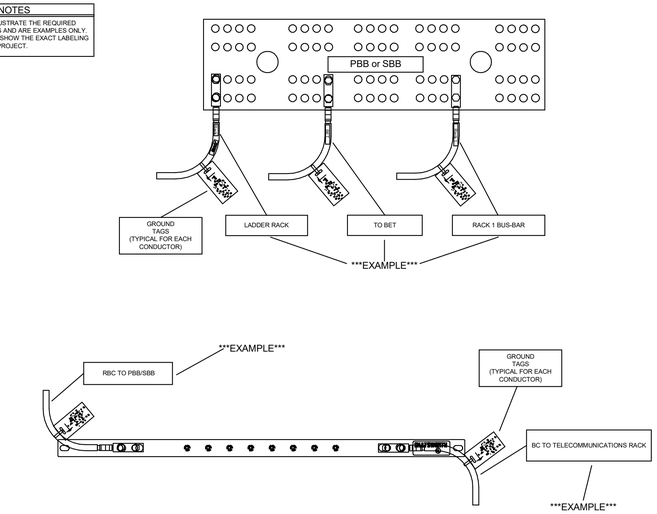



## 1 LABELING DIAGRAMS 5

NTS

SHEET GENERAL NOTES

1. ALL LABELS SHOWN ILLUSTRATE THE REQUIRED FORMAT OF THE LABELING AND ARE EXAMPLES ONLY. THEY ARE NOT MEANT TO SHOW THE EXACT LABELING SCHEME FOR ANY GIVEN PROJECT.




## 2 LABELING DIAGRAMS 6

NTS

US Army Corps of Engineers ®

SEAL AND SIGNATURE
RYAN D. NATION
RCDD,BICSI LIC. NO. 185416
DATE: 5-6-21

| MARK | DESCRIPTION | DATE |
|---|---|---|

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|---|---|
| DESIGNED BY: | |
| SDN | |
| DRAWN BY: | |
| SDN | |
| CHECKED BY: | |
| RDN | |
| SUBMITTED BY: | |
| SIZE: | OPTION TITLE 2 |
| ANSI D | OPTION FIELD 2 |

| | |
|---|---|
| ISSUE DATE: | |
| 29 JULY 2021 | |
| SOLICITATION NO.: | |
| W912QR20R0038 | |
| CONTRACT NO.: | |
| W912QR20C0036 | |
| PROJECT TITLE: | |
| OPTION TITLE 1 | |
| OPTION FIELD 1 | |

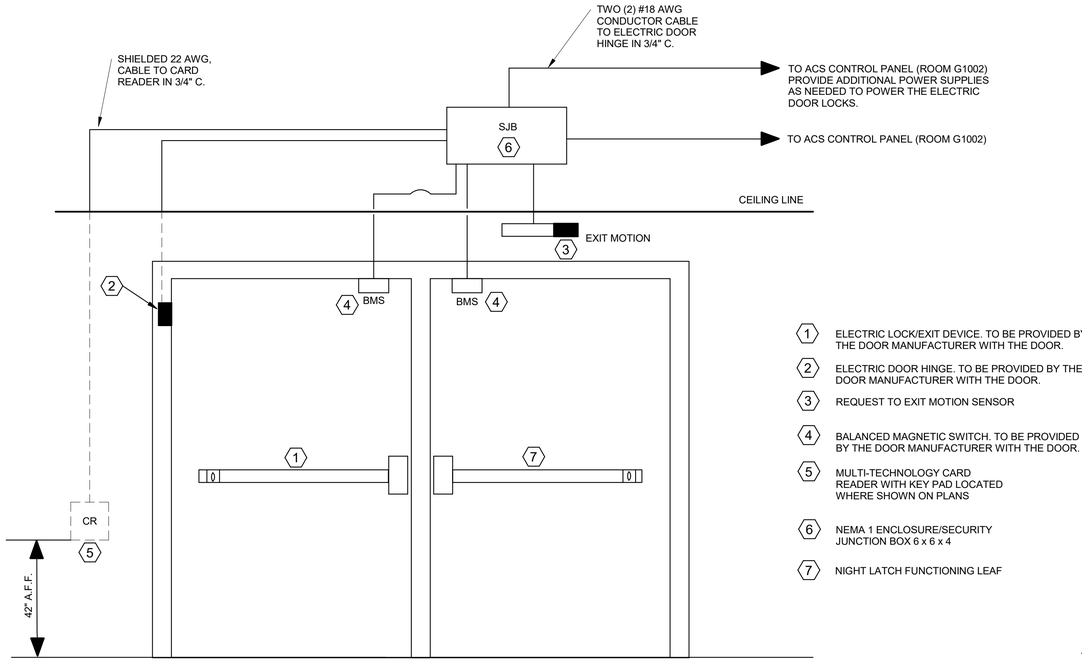
UNITED STATES ARMY RESERVE CENTER
ORANGEBURG, NEW YORK

LABELING DIAGRAMS

SHEET ID

T-509

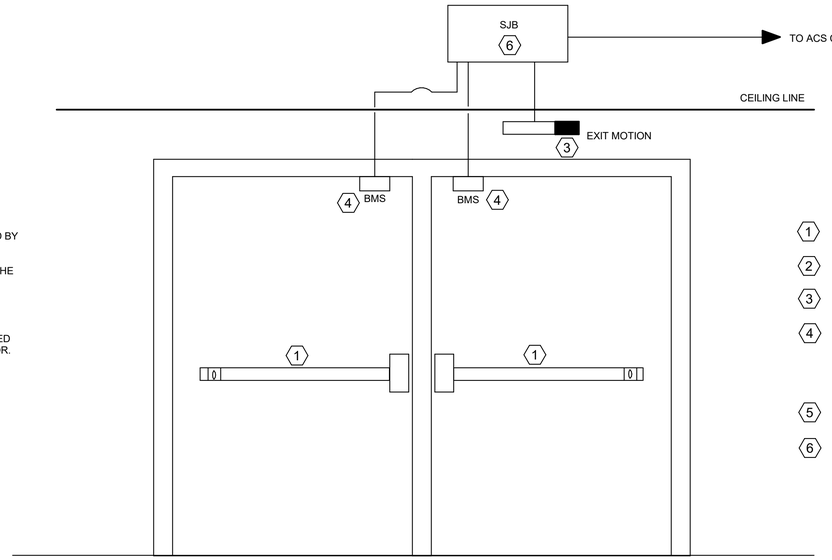
CORRECTED FINAL SUBMISSION - JULY 29, 2021




1. ELECTRIC LOCK/EXIT DEVICE. TO BE PROVIDED BY THE DOOR MANUFACTURER WITH THE DOOR.
2. ELECTRIC DOOR HINGE. TO BE PROVIDED BY THE DOOR MANUFACTURER WITH THE DOOR.
3. REQUEST TO EXIT MOTION SENSOR
4. BALANCED MAGNETIC SWITCH. TO BE PROVIDED BY THE DOOR MANUFACTURER WITH THE DOOR.
5. MULTI-TECHNOLOGY CARD READER WITH KEY PAD LOCATED WHERE SHOWN ON PLANS
6. NEMA 1 ENCLOSURE/SECURITY JUNCTION BOX 6 x 6 x 4
7. NIGHT LATCH FUNCTIONING LEAF

## 1 DOUBLE DOOR CAC CARD READER DETAILS

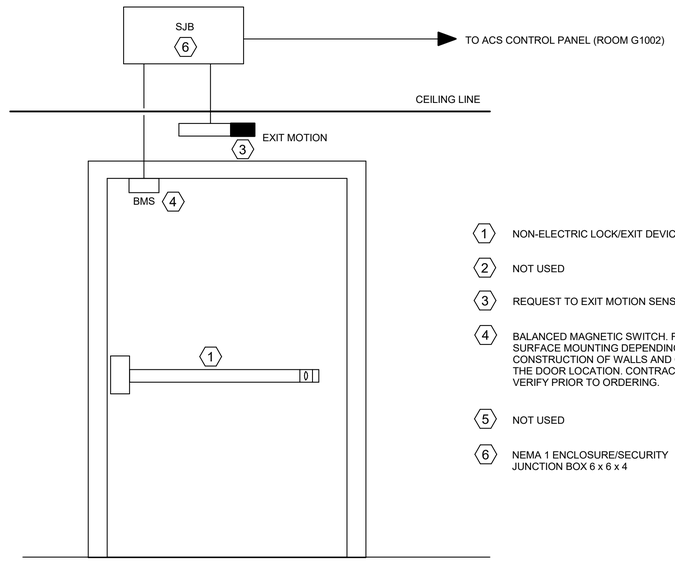
NTS




1. NON ELECTRICLOCK/EXIT DEVICE
2. NOT USED
3. REQUEST TO EXIT MOTION SENSOR
4. BALANCED MAGNETIC SWITCH. FLUSH OR SURFACE MOUNTING DEPENDING ON CONSTRUCTION OF WALLS AND CEILINGS AT THE DOOR LOCATION. CONTRACTOR TO FIELD VERIFY PRIOR TO ORDERING.
5. NOT USED
6. NEMA 1 ENCLOSURE/SECURITY JUNCTION BOX 6 x 6 x 4

## 2 DOUBLE DOOR BMS DETAIL

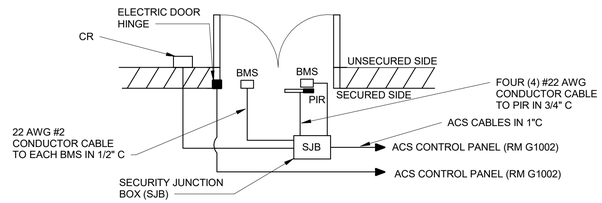
1" = 1'-0"




1. NON-ELECTRIC LOCK/EXIT DEVICE
2. NOT USED
3. REQUEST TO EXIT MOTION SENSOR
4. BALANCED MAGNETIC SWITCH. FLUSH OR SURFACE MOUNTING DEPENDING ON CONSTRUCTION OF WALLS AND CEILINGS AT THE DOOR LOCATION. CONTRACTOR TO FIELD VERIFY PRIOR TO ORDERING.
5. NOT USED
6. NEMA 1 ENCLOSURE/SECURITY JUNCTION BOX 6 x 6 x 4

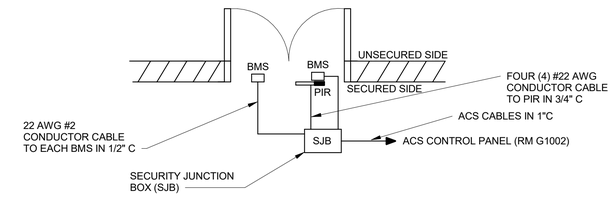
## 3 SINGLE DOOR BMS DETAIL

1" = 1'-0"



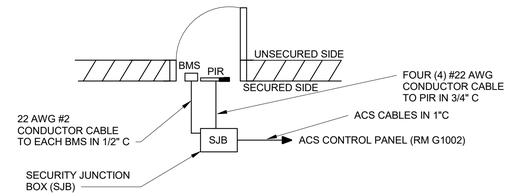

## 4 AERIAL VIEW DOUBLE DOOR OF CAC CARD READER DETAIL

NTS




## 5 AERIAL VIEW DOUBLE DOOR BMS DETAIL

NTS




## 6 AERIAL VIEW SINGLE DOOR BMS DETAIL

NTS

**GENERAL NOTES:**

1. LOCKING DEVICES SHALL CONSIST OF LEAF WITH ELECTRIC LATCH RETRACTION RIM EXIT DEVICE & ONE LEAF WITH NIGHT LATCH FUNCTION. COORDINATE WITH ARCHITECTURAL DOOR HARDWARE SCHEDULE AND SPECIFICATIONS.
2. EXIT DEVICES SHALL COMPLY WITH LIFE SAFETY REQUIREMENTS OF NFPA 101 & UL LISTED MODERN RIM STYLE DEVICE SHALL BE FAIL SECURE.
3. THE EXIT DEVICE SHALL HAVE A DOGGING FEATURE OR ABILITY TO LOCK THE LATCH IN A RETRACTED POSITION FOR UNRESTRICTED ACCESS AT THE USERS CHOOSING.
4. ALL CARD READERS WILL BE CAC COMPATIBLE PHYSICAL ACCESS CONTROL DEVICES AND BE COMPATIBLE WITH THE EXISTING ALTRONIX AND GALAXY HEAD END EQUIPMENT.
5. ALL WIRING IS TO BE CONCEALED WHERE WALL AND CEILING CONSTRUCTION PERMIT.

US Army Corps of Engineers ®

SEAL AND SIGNATURE
RYAN D. NATION DATE: 5-6-21
RCDD,BICSI LIC. NO. 185416

| MARK | DESCRIPTION | DATE |
|---|---|---|

DESIGNED BY: SDN
DRAWN BY: SDN
CHECKED BY: RDN
SUBMITTED BY:
SIZE: ANSI D
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SOLICITATION NO.: W912QR20R0038
CONTRACT NO.: W912QR20C0036
OPTION TITLE 1
OPTION FIELD 1
OPTION TITLE 2
OPTION FIELD 2

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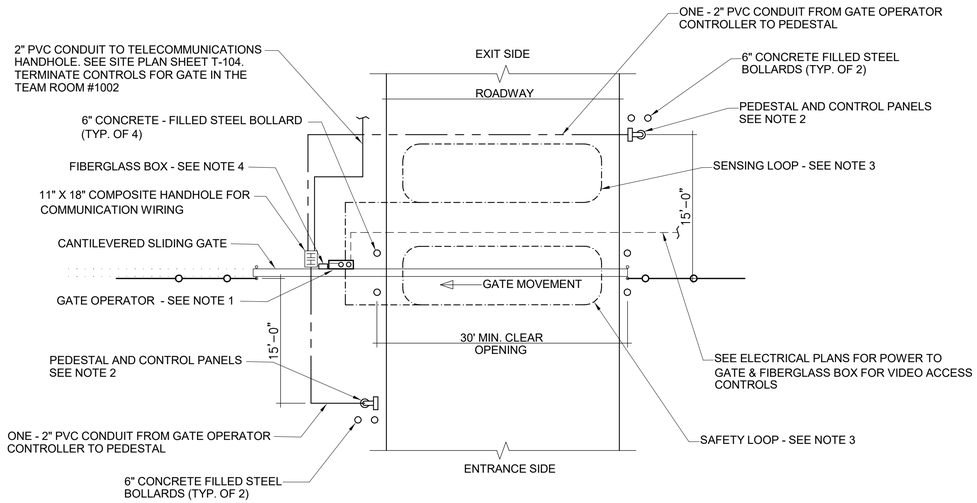
UNITED STATES ARMY RESERVE CENTER
ORANGEBURG, NEW YORK

DOOR SECURITY DETAILS

SHEET ID

T-510

CORRECTED FINAL SUBMISSION - JULY 29, 2021




## 1 ELECTRICALLY OPERATED SLIDING GATE DETAIL

ELECTRICALLY OPERATED SLIDING GATE NOTES:

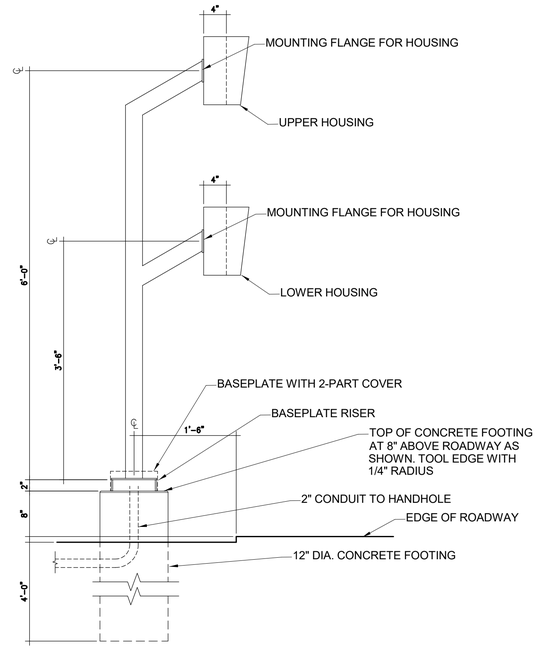
1.GATE OPERATOR SEE CIVIL PLAN.

2.PEDESTALS WITH CONCRETE FOOTING ON THE ENTRANCE AND EXIT SIDE OF GATES. GATE OPERATION TO BE CONTROLLED BY CARD READER AND VIDEO INTERCOM SYSTEM. INTERCOM SYSTEM AND CARD READER TO BE COMPATIBLE WITH THE EXISTING HEAD END CAC SYSTEM. EACH PEDESTAL TO HAVE TWO (2) CONTROL PANELS, ONE MOUNTED AT +42" AND ONE MOUNTED AT +72", SEE DETAIL 2 ON THIS SHEET.

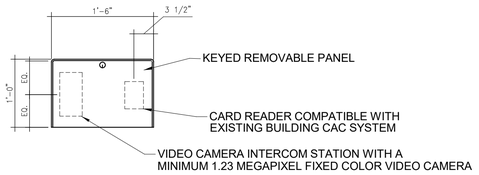
3.SENSING LOOP AND SAFETY LOOP SEE CIVIL PLANS.

4.PROVIDE A 16"W X 20"H X 8"D FIBERGLASS WEATHERPROOF ENCLOSURE WITH LATCHING LID ADJACENT TO THE GATE OPERATOR FOR CARD ACCESS & VIDEO INTERCOM EQUIPMENT. PROVIDE TWO - 1" PVC CONDUITS WITH PULL-STRINGS FROM ENCLOSURE TO GATE OPERATOR AND TWO - 1" PVC CONDUIT WITH PULL-STRINGS FROM ENCLOSURE TO 11" X 18" HANDHOLE. INSTALL AND CONNECT WIRING PER MANUFACTURERS REQUIREMENTS FOR GATE CONTROLS.

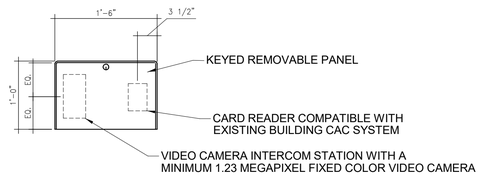
5.PROVIDE REQUIRED LOW VOLTAGE POWER SUPPLIES AS REQUIRED IN GATE OPERATOR FOR SENSING LOOP, SAFETY LOOP, AND GATE SENSING EDGE. INTERCOM DOOR STATION IS TO BE POWERED FROM A RECEPTACLE INSIDE THE FIBERGLASS BOX DESCRIBED BY NOTE 4 ABOVE. SEE ELECTRICAL PLANS FOR CONDUIT, WIRE AND CIRCUIT INFORMATION FOR RECEPTACLE.




## 2 DUAL-STATION PEDESTAL DETAIL

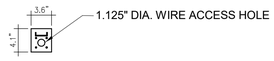



UPPER ENTRANCE PEDESTAL STATION



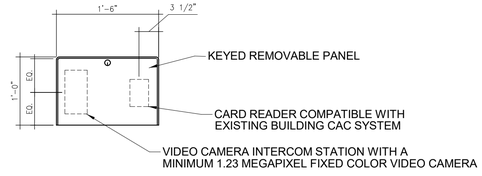

LOWER ENTRANCE PEDESTAL STATION

## 3 DUAL-STATION PEDESTAL ENTRANCE SIDE DETAILS

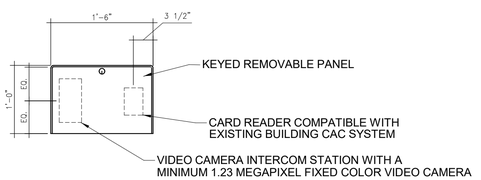



DUEL-STATION PEDESTAL HOUSING MOUNTING FLANGE

## 5 DUAL-STATION PEDESTAL HOUSING MOUNTING FLANGE DETAIL

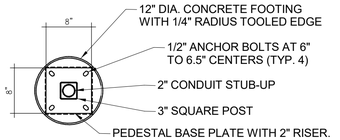



UPPER EXIT PEDESTAL STATION




LOWER EXIT PEDESTAL STATION

## 4 DUAL-STATION PEDESTAL EXIT SIDE DETAILS




DUEL-STATION PEDESTAL BASE PLATE

## 6 DUAL-STATION PEDESTAL BASE PLATE DETAIL

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SEAL AND SIGNATURE
RYAN D. NATION DATE: 5-6-21
RCDD,BICSI LIC. NO. 185418

| MARK | DESCRIPTION | DATE |
|---|---|---|

ISSUE DATE: 29 JULY 2021
SOLICITATION NO.: W912QR20R0038
CONTRACT NO.: W912QR20C0038
OPTION TITLE 1
OPTION FIELD 1
OPTION TITLE 2
OPTION FIELD 2

DESIGNED BY: SDN
DRAWN BY: SDN
CHECKED BY: RDN
SUBMITTED BY:
SIZE: ANSI D

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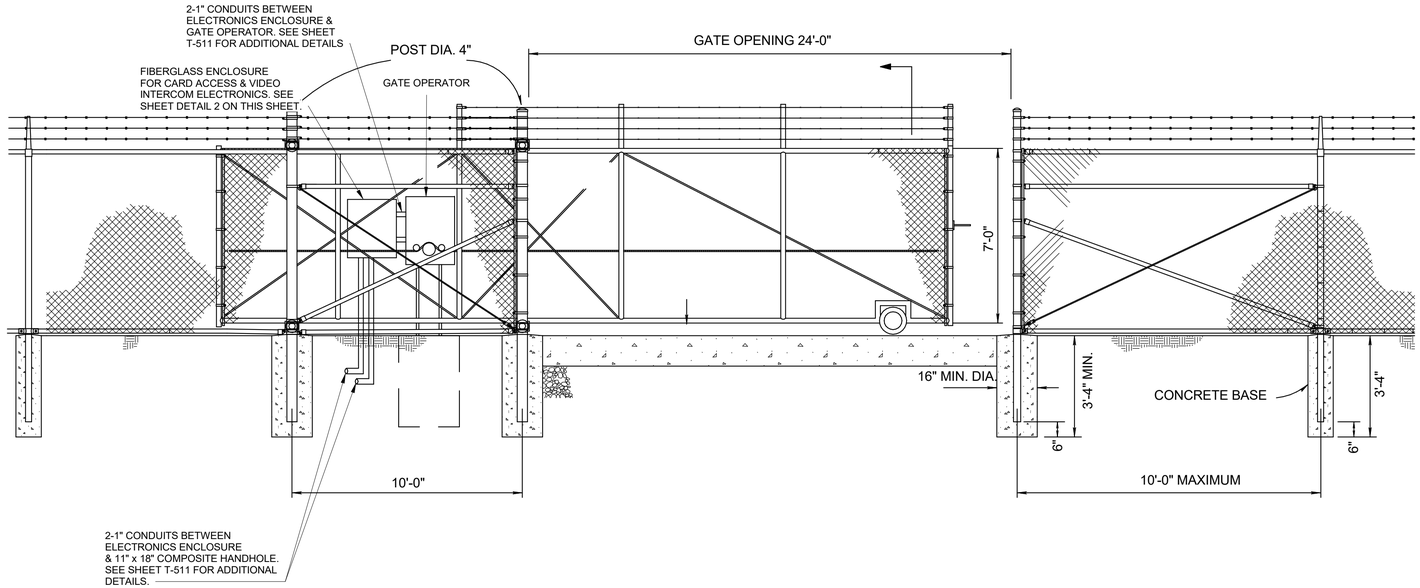
UNITED STATES ARMY RESERVE CENTER
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SLIDING GATE DETAILS

SHEET ID

T-511

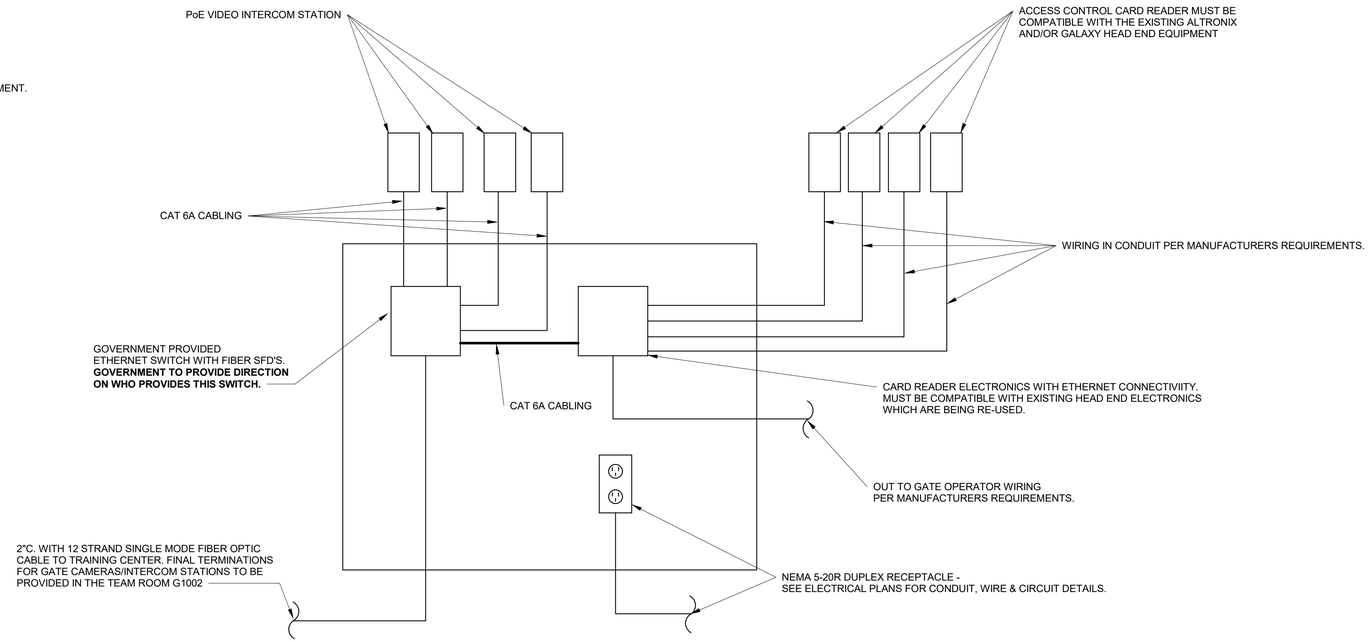
CORRECTED FINAL SUBMISSION - JULY 29, 2021




## 1 SLIDING GATE DETAIL
NTS

**GENERAL NOTES:**

SEE SHEET T-513 FOR PHOTOGRAPHS OF EXISTING SECURITY ACCESS CONTROL HEAD END EQUIPMENT.




## 2 ELECTRONICS ENCLOSURE DETAIL
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| SOLICITATION NO.: | W912QR20R0038 |
| CONTRACT NO. | W912QR21C0006 |
| OPTION TITLE 1 | |
| OPTION FIELD 1 | |
| OPTION TITLE 2 | |
| OPTION FIELD 2 | |

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SLIDING GATE DETAILS

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T-512

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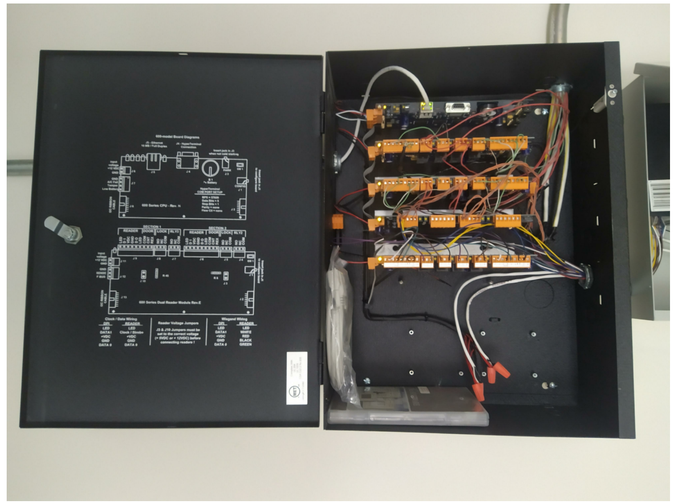
## 1 EXISTING ALTRONIX ACCESS CONTTROL SYSTEMS PANEL 1



## 2 EXISTING ALTRONIX ACCESS CONTTROL SYSTEMS PANEL 2



## 3 EXISTING GALAXY CONTTROL SYSTEM





EXISTING SURFACE MOUNTED REQUEST TO EXIT DEVICE AND MAGNETIC POSITION SWITCH

4




EXISTING SURFACE MOUNTED MAGNETIC LOCK. NEW LOCKS WILL BE PROVIDED WITH THE DOORS FROM THE MANUFACTURER.

5



6 EXISTING CAC READER PICTURE 1




7 EXISTING CAC READER PICTURE 2

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|---|---|---|

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|---|---|
| ISSUE DATE: | 29 JULY 2021 |
| SOLICITATION NO.: | W912QR20R0038 |
| CONTRACT NO. | W912QR20C0036 |
| OPTION TITLE 1 | |
| OPTION FIELD 1 | |
| OPTION TITLE 2 | |
| OPTION FIELD 2 | |

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EXISTING ACCESS CONTROLS EQUIPMENT

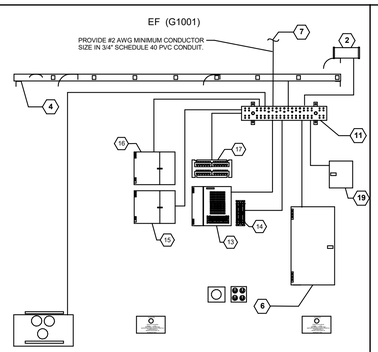
SHEET ID

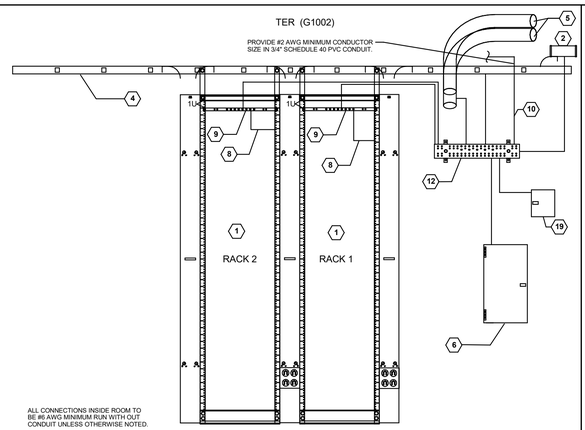
T-513

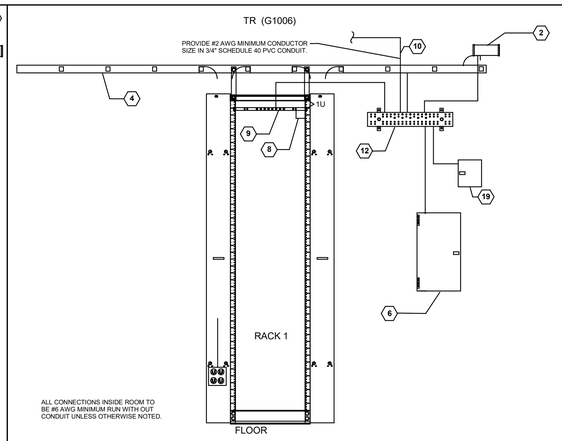
CORRECTED FINAL SUBMISSION - JULY 29, 2021

## SHEET KEY NOTES

1. TELECOMMUNICATIONS RACKS
2. CEILING SLEEVE/MECHANICAL FIRE STOP/OVERHEAD METALLIC CONDUIT
3. BUILDING ENTRANCE TERMINAL
4. LADDER RACK SUPPORT SYSTEM
5. METALLIC CONDUITS
6. ELECTRICAL PANEL
7. BONDING CONDUCTOR TO BUILDING STEEL
8. TYPICAL METALLIC COMPONENT BONDING CONDUCTOR
9. RACK BUS BAR
10. SECONDARY BUS BAR TO PRIMARY BUS BAR
11. PRIMARY BUS BAR
12. SECONDARY BUS BAR
13. SERVICE PROVIDER INSTALLED BUILDING ENTRANCE PROTECTOR FOR COPPER BACKBONE CABLE
14. SERVICE PROVIDER INSTALLED COPPER TERMINATION BLOCK
15. SERVICE PROVIDER INSTALLED WALL MOUNTED FOPP
16. WALL MOUNTED FOPP FOR 12 STRAND FOC TO TER
17. 24 PORT WALL MOUNTED CAT6A PATCH PANEL FOR 24 CATEGORY 6A CABLES TO TER
18. SERVICE PROVIDER ENTRY POINT J-BOX
19. MECHANICAL CRAC UNIT




## 1 BONDING RISER DIAGRAM

NTS

US Army Corps of Engineers ®

SEAL AND SIGNATURE

RYAN D. NATION DATE:
RCDD,BICSI LIC. NO. 185416

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SUBMITTED BY:
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ISSUE DATE: 29 JULY 2021
SOLICITATION NO.: W912QR20R0038
CONTRACT NO.: W912QR21C0036
OPTION TITLE 1
OPTION FIELD 1
OPTION TITLE 2
OPTION FIELD 2

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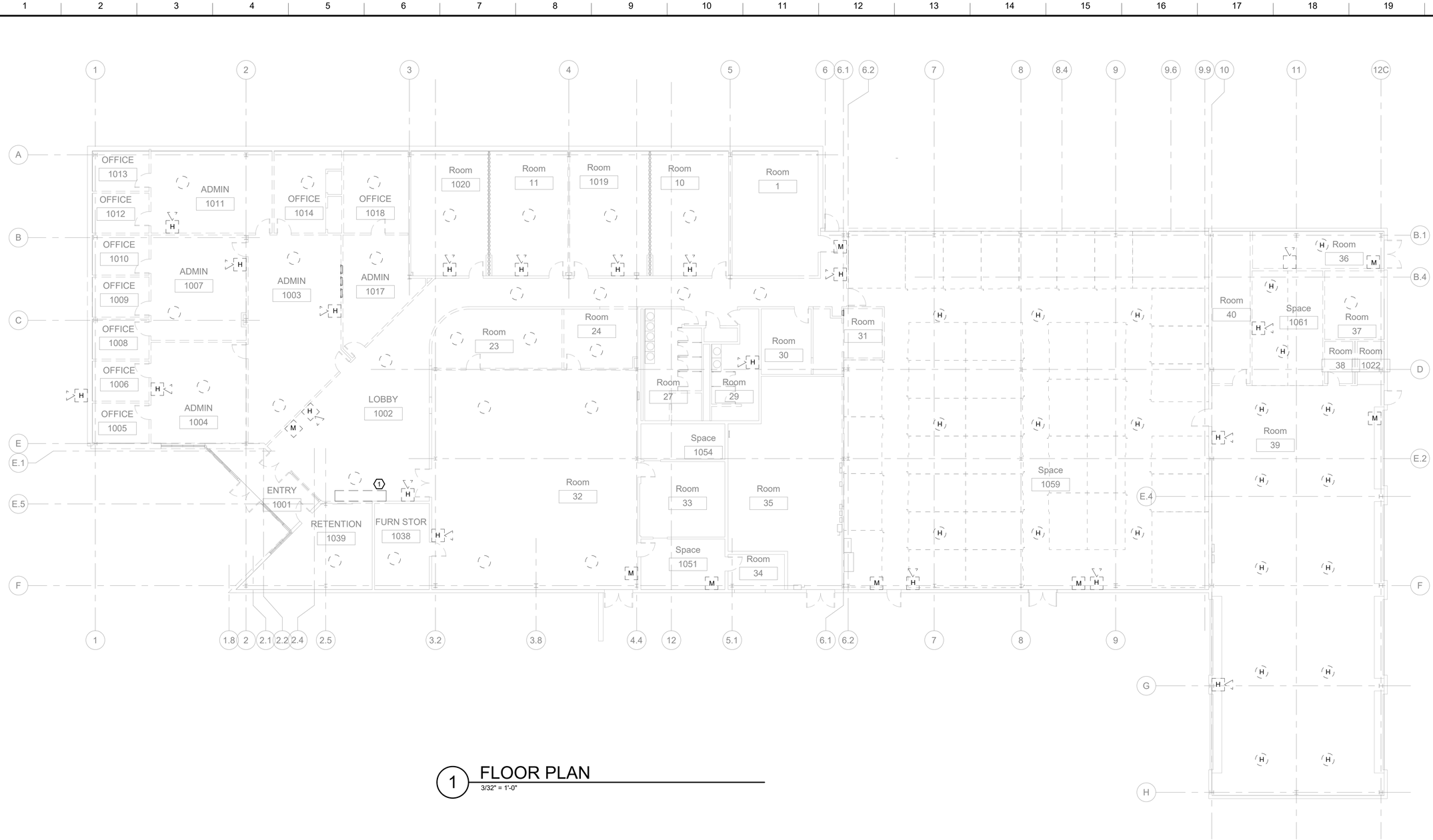
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BONDING RISER DIAGRAM

SHEET ID

T-514

CORRECTED FINAL SUBMISSION - JULY 29, 2021




## 1 FLOOR PLAN

3/32" = 1'-0"

## KEYNOTES

1. EXISTING MAIN FIRE ALARM CONTROL PANEL. TO BE RELOCATED, MODIFIED AND REUSED.

## NOTES

1. FOR ADDITIONAL NOTES, SYMBOLS AND ABBREVIATIONS SEE DRAWING FA-001.
2. CONTRACTOR SHALL DISCONNECT AND REMOVE ALL EXISTING FIRE ALARM SYSTEM EQUIPMENT AND DEVICES. THIS INCLUDES ALL ASSOCIATED CONDUIT AND WIRE.

0 4' 8' 16' 24'

SCALE: 3/32"=1'-0"

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| 3 | Revision 3 (INTERIM) | Date4 |

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SOLICITATION NO.: W912QR20R0038

CONTRACT NO.: W912QR-XX-XXXX

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|---|---|---|
| DESIGNED BY: KC | | |
| DRAWN BY: JC | | |
| CHECKED BY: DF | | |
| SUBMITTED BY: FF | | |
| SIZE: ANSI D | | OPTION FIELD 2 |

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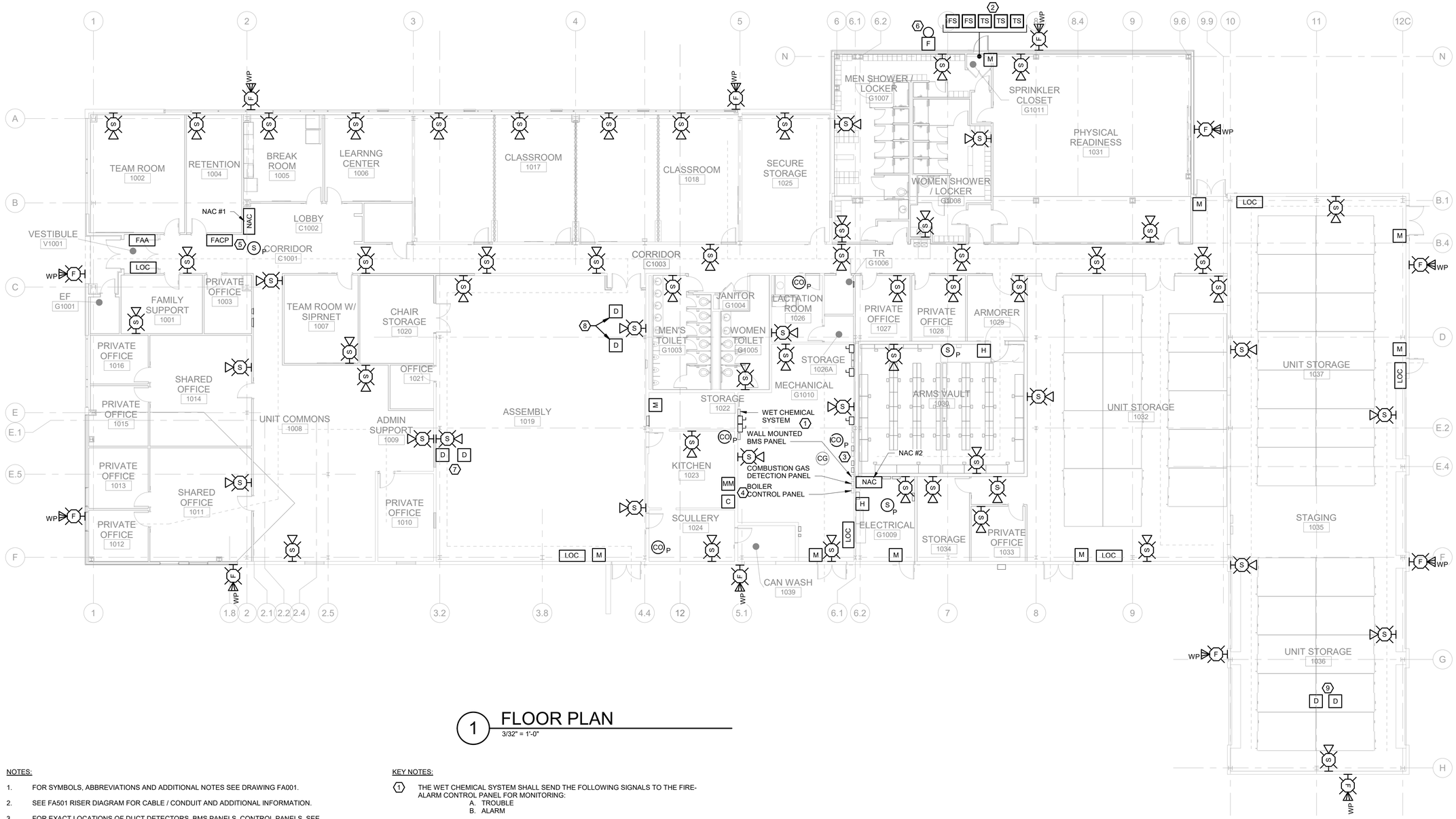
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FIRE ALARM
FLOOR PLAN DEMOLITION

SHEET ID

FA101

CORRECTED FINAL SUBMISSION JULY 29, 2021




## 1 FLOOR PLAN

3/32" = 1'-0"

NOTES:

1. FOR SYMBOLS, ABBREVIATIONS AND ADDITIONAL NOTES SEE DRAWING FA001.
2. SEE FA501 RISER DIAGRAM FOR CABLE / CONDUIT AND ADDITIONAL INFORMATION.
3. FOR EXACT LOCATIONS OF DUCT DETECTORS, BMS PANELS, CONTROL PANELS, SEE MECHANICAL DRAWINGS.
4. FOR SPECIFIC HVAC EQUIPMENT TO BE SHUTDOWN UPON ACTIVATED DUCT SMOKE DETECTORS SEE MECHANICAL DRAWINGS.
5. EACH DUCT MOUNTED SMOKE DETECTOR SHOWN ON FIRE ALARM DRAWINGS SHALL BE EQUIPPED WITH REMOTE TEST STATIONS, PER NFPA-72. REMOTE TESTING / STATIONS SHALL INCLUDE BUT ARE NOT LIMITED TO INTEGRAL TEST / RESET FUNCTIONALLITY AND CONTINUOUS MONITORING INDICATION VIA LED LIGHTS. REMOTE TESTING STATIONS SHALL BE MOUNTED WITHIN REACH, ON THE NEAREST ACCESSIBLE WALL UNDERNEATH THE SMOKE DETECTOR, UNLESS OTHERWISE INDICATED BY THE AUTHORITY HAVING JURISDICTION. ALL REMOTE TESTING STATIONS SHALL BE CLEARLY MARKED AND LABELED WITH CORRESPONDING DUCT SMOKE DETECTORS INDENTIFICATION.
6. FINAL SPEAKER AND STROBE SETTINGS SHALL BE DETERMINED IN THE FIELD BY THE MANUFACTURER'S FIELD REPRESENATIVE.
7. SEE DRAWING FA501 FOR 120 VOLT EQUIPMENT POWER CIRCUITING.

KEY NOTES:

1. THE WET CHEMICAL SYSTEM SHALL SEND THE FOLLOWING SIGNALS TO THE FIRE-ALARM CONTROL PANEL FOR MONITORING:
   A. TROUBLE
   B. ALARM
2. CONTRACTOR SHALL INSTALL THREE (3) TAMPER SWITCHES AND TWO (2) FLOW SWITCHES. FOR EXACT LOCATION SEE FIRE PROTECTION DRAWINGS.
3. COMBUSTION GAS DETECTORS SHALL BE PROVIDED BY MECHANICAL CONTRACTOR. SEE MECHAINCAL DRAWINGS AND SPECIFICATIONS FOR ADDITIONAL INFORMATION.
4. THE MOTORIZED GAS VALVE SHALL BE MONITORED AND CONTROL FROM THE FIRE ALARM CONTROL PANEL. FOR EXACT LOCATIONS OF THE GAS-VALVE SEE PLUMBING DRAWINGS.
5. EXISTING FACP TO BE REPROGRANMED AND ANNUNCIATE TO OMS BUILDING MAIN FIRE ALARM PANEL VIA TWO EXISTING FIBER OPTIC CABLES. CONTRACTOR SHALL UPGRADE AND PROVIDE ALL REQUIRED MATERIAL AND LABOR TO ACCOMODATE THE REQUIREMENTS OF THE NEW FIRE ALARM / MASS NOTIFICATION SYSTEM.
6. SPRINKLER FIRE ALARM BELL TO BE LOCATED ABOVE SPRINKLER PIPING FIRE TRUCK (WATER TANKER) CONNECTION. SEE FIRE PROTECTION DRAWING FOR EXACT LOCATION.
7. WSHP-12 DUCT SMOKE DETECTORS.
8. DOAS-2 DUCT SMOKE DETECTORS.
9. WSHP-23 DUCT SMOKE DETECTORS.

0 4' 8' 16' 24'

SCALE: 3/32"=1'-0"

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OPTION FIELD 2

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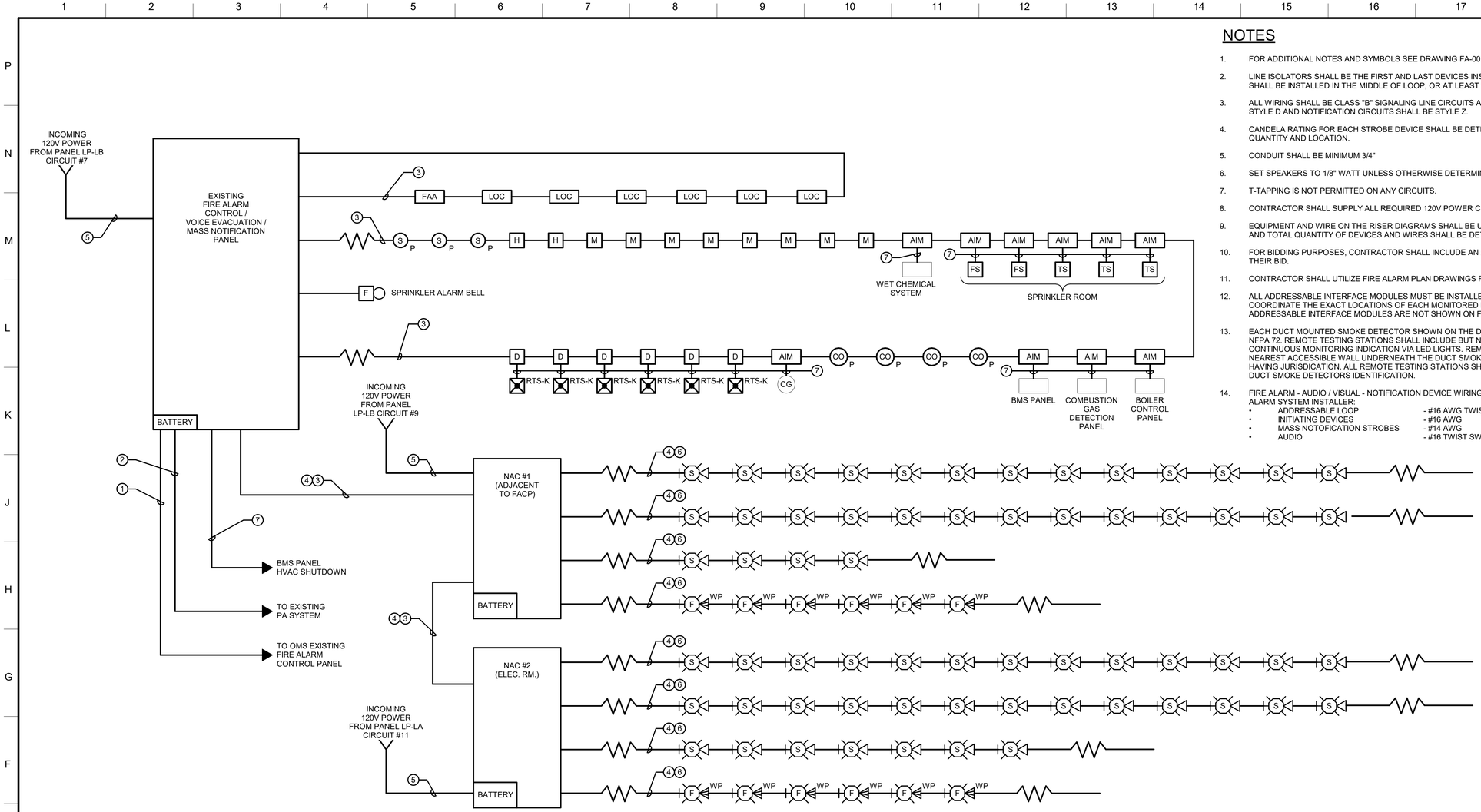
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FIRE ALARM
NEW WORK PLAN

SHEET ID

FA102

CORRECTED FINAL SUBMISSION JULY 29, 2021




## NOTES

1. FOR ADDITIONAL NOTES AND SYMBOLS SEE DRAWING FA-001.
2. LINE ISOLATORS SHALL BE THE FIRST AND LAST DEVICES INSTALLED ON THE CLASS "B" SIGNALING LINE CIRCUITS. LINE ISOLATORS SHALL BE INSTALLED IN THE MIDDLE OF LOOP, OR AT LEAST 1 EVERY 25 DEVICES.
3. ALL WIRING SHALL BE CLASS "B" SIGNALING LINE CIRCUITS AND SHALL BE STYLE 7 WITH ISOLATORS. INTIATING CIRCUITS SHALL BE STYLE D AND NOTIFICATION CIRCUITS SHALL BE STYLE Z.
4. CANDELA RATING FOR EACH STROBE DEVICE SHALL BE DETERMINED BY THE FIRE ALARM SYSTEM INSTALLER BASED ON DEVICE QUANTITY AND LOCATION.
5. CONDUIT SHALL BE MINIMUM 3/4"
6. SET SPEAKERS TO 1/8" WATT UNLESS OTHERWISE DETERMINED BY FIRE ALARM MANUFACTURER.
7. T-TAPPING IS NOT PERMITTED ON ANY CIRCUITS.
8. CONTRACTOR SHALL SUPPLY ALL REQUIRED 120V POWER CIRCUITS AS NECESSARY PER FIRE ALARM OPERATION.
9. EQUIPMENT AND WIRE ON THE RISER DIAGRAMS SHALL BE USED AS A GUIDE AND FOR BIDDING PURPOSES. EXACT CONFIGURATION AND TOTAL QUANTITY OF DEVICES AND WIRES SHALL BE DETERMINED BY THE CONTRACTOR IN THE FIELD.
10. FOR BIDDING PURPOSES, CONTRACTOR SHALL INCLUDE AN ADDITIONAL 5 COMBINATION SPEAKERS / STROBE DEVICES AS PART OF THEIR BID.
11. CONTRACTOR SHALL UTILIZE FIRE ALARM PLAN DRAWINGS FOR EXACT EQUIPMENT QUANTITIES.
12. ALL ADDRESSABLE INTERFACE MODULES MUST BE INSTALLED WITHIN 3 FEET OF THE MONITORIZED DEVICE. CONTRACTOR SHALL COORDINATE THE EXACT LOCATIONS OF EACH MONITORED DEVICE WITH THE MECHANICAL / FIRE PROTECTION DRAWINGS. ADDRESSABLE INTERFACE MODULES ARE NOT SHOWN ON FIRE ALARM PLAN DRAWINGS.
13. EACH DUCT MOUNTED SMOKE DETECTOR SHOWN ON THE DRAWINGS SHALL BE EQUIPPED WITH REMOTE TEST STATIONS PER NFPA 72. REMOTE TESTING STATIONS SHALL INCLUDE BUT NOT BE LIMITED TO, INTEGRAL TEST / RESET FUNCTIONALITY AND CONTINUOUS MONITORING INDICATION VIA LED LIGHTS. REMOTE TESTING STATIONS SHALL BE MOUNTED WITHIN REACH, ON THE NEAREST ACCESSIBLE WALL UNDERNEATH THE DUCT SMOKE DETECTOR, UNLESS OTHERWISE INDICATED BY THE AUTHORITY HAVING JURISDICATION. ALL REMOTE TESTING STATIONS SHALL BE CLEARLY MARKED AND LABELED WITH THE CORRESPONDING DUCT SMOKE DETECTORS IDENTIFICATION.
14. FIRE ALARM - AUDIO / VISUAL - NOTIFICATION DEVICE WIRING AS FOLLOWS UNLESS OTHERWISE RECOMMENDED BY THE FIRE ALARM SYSTEM INSTALLER:
    - ADDRESSABLE LOOP - #16 AWG TWISTED
    - INITIATING DEVICES - #16 AWG
    - MASS NOTOFICATION STROBES - #14 AWG
    - AUDIO - #16 TWIST SWELDED PAIR

## CONDUIT AND WIRE LEGEND

| | |
|---|---|
| 1 | EXISTING FIBER OPTIC (2 STRANDS) |
| 2 | 3/4"C, 2#14 (PA SYSTEM SHUTDOWN) |
| 3 | 3/4"C, 4#16 TWISTED |
| 4 | 3/4"C, 2#14 |
| 5 | 3/4"C, 2#12 & 1#12 GND. |
| 6 | 3/4"C, 2#16 TWISTED SHIELDED PAIR (AUDIO) |
| 7 | 3/4"C, 4#14 |

1 FIRE ALARM RISER DIAGRAM
SCALE: N.T.S.

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NOT FOR CONSTRUCTION

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FIRE ALARM
RISER DIAGRAM

SHEET ID
FA501

CORRECTED FINAL SUBMISSION JULY 29, 2021