CITY OF WINCHESTER, VIRGINIA
CITY YARDS MAINTENANCE FACILITY:
RENOVATION and ADDITIONS
301 EAST CORK STREET
WINCHESTER, VIRGINIA 22601
DEVELOPMENT PLANS

CITY OF WINCHESTER, VIRGINIA
ROUSS CITY HALL
DEPARTMENT OF PUBLIC SERVICES
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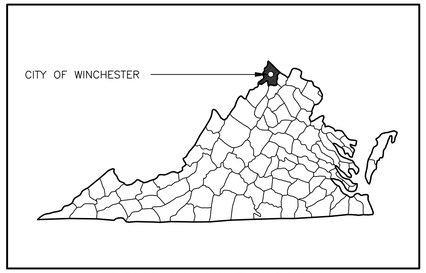
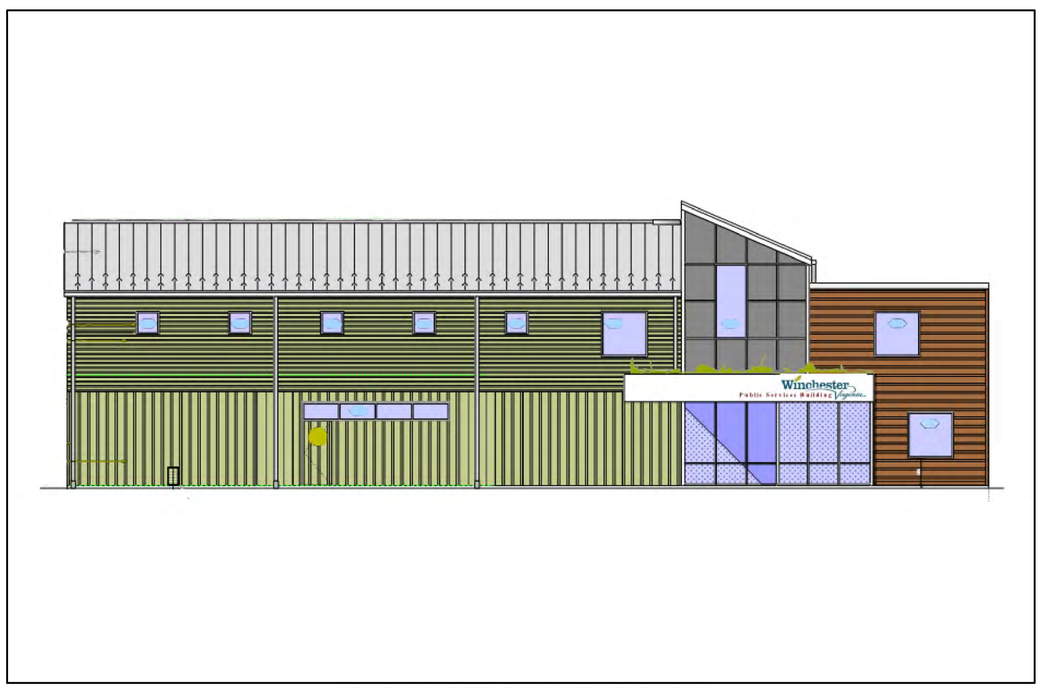


FREDERICK COUNTY, VIRGINIA

VICINITY MAP 1" = 600'



CITY OF WINCHESTER: PUBLIC SERVICES BUILDING

LIST OF DRAWINGS:

SITE PLAN:
SITE PLAN: SHTS 1/35-35/35 (35 SHEETS)

PEDESTRIAN BRIDGE PLAN:
PLANS & DETAILS: SHT PB1/PB1 (1 SHEET)

METAL STORAGE BUILDINGS #2,#3,#6,#7&#9:
STRUCTURAL: SHTS SB1-SB21 (28 SHEETS)
ARCHITECTURAL: SHTS A.1-A.4 (4 SHEETS)
MECHANICAL: SHTS M.1-M3.3 (9 SHEETS)
ELECTRICAL: SHTS E1.1-E3.1 (11 SHEETS)
PLUMBING: SHTS P1.1-P2.5 (7 SHEETS)

POLE BARNS #5,#5A,#8:
STRUCTURAL: SHTS PS1-PS12 (12 SHEETS)
ELECTRICAL: SHTS E1.4-E3.1 (5 SHEETS)

OFFICE BUILDING #1:
ARCHITECTURAL: SHTS A1.1-A7.2 (23 SHEETS)
STRUCTURAL: SHTS S1-S14 (14 SHEETS)
MECHANICAL: SHTS M1.1-M3.1 (10 SHEETS)
ELECTRICAL: SHTS E1.1-E4.1 (9 SHEETS)
PLUMBING: SHTS P1.1-P2.5 (7 SHEETS)

BUILDING DESCRIPTIONS:

BUILDING #1 (PHASE 1):
2-STORY OFFICE BUILDING WITH WALKOUT BASEMENT
VB CONSTRUCTION TYPE (WOOD FRAMED)
B - BUSINESS USE GROUP
NON-SPRINKLED
CONDITIONED SPACE

BUILDING #2 (PHASE 1):
1-STORY PRE-ENGINEERED METAL STORAGE BUILDING
IIB CONSTRUCTION TYPE (STEEL FRAMED)
S2 - STORAGE LOW HAZARD USE GROUP
SPRINKLED
CONDITIONED SPACE

BUILDING #3 (PHASE 1):
1-STORY PRE-ENGINEERED METAL STORAGE BUILDING
IIB CONSTRUCTION TYPE (STEEL FRAMED)
S2 - STORAGE LOW HAZARD USE GROUP
SPRINKLED
CONDITIONED SPACE

BUILDING #5&#5A (PHASE 1):
1-STORY POLE BARNS
VB CONSTRUCTION TYPE (WOOD FRAMED)
U - UTILITY AND MISCELLANEOUS USE GROUP
NON-SPRINKLED
NON-CONDITIONED SPACE

BUILDING #6 (PHASE1):
1-STORY PRE-ENGINEERED METAL STORAGE BUILDING
IIB CONSTRUCTION TYPE (STEEL FRAMED)
S2 - STORAGE LOW HAZARD USE GROUP
NON-SPRINKLED
CONDITIONED SPACE

BUILDING #7&#9 (PHASE 2):
1-STORY PRE-ENGINEERED METAL STORAGE BUILDING WITH WASH BAYS
IIB CONSTRUCTION TYPE (STEEL FRAMED)
S2 - STORAGE LOW HAZARD USE GROUP
SPRINKLED
CONDITIONED SPACE

BUILDING #8 (PHASE 2):
1-STORY POLE BARN
VB CONSTRUCTION TYPE (WOOD FRAMED)
U - UTILITY AND MISCELLANEOUS USE GROUP
NON-SPRINKLED
NON-CONDITIONED SPACE

CITY YARDS MAINTENANCE FACILITY RENOVATION AND ADDITIONS
301 EAST CORK STREET
CITY OF WINCHESTER, VIRGINIA

CONSTRUCTION NOTES:

A. GENERAL:
1. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE VIRGINIA STATEWIDE UNIFORM BUILDING CODE, THE 2015 INTERNATIONAL BUILDING CODE (IBC) AND THE STANDARDS AND SPECIFICATIONS OF THE CITY OF WINCHESTER, VIRGINIA.
2. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY "MISS UTILITY" BY TELEPHONE AT 811 AT LEAST TWO (2) WORKING DAYS BUT NOT MORE THAN TEN (10) WORKING DAYS PRIOR TO COMMENCEMENT OF ANY LAND DISTURBING ACTIVITIES.
3. THE CONTRACTOR SHALL BE LICENSED IN THE COMMONWEALTH OF VIRGINIA IN ACCORDANCE WITH CHAPTER 11 OF TITLE 54.1 OF THE CODE OF VIRGINIA. THE CONTRACTOR SHALL BE REQUIRED TO OBTAIN ALL NECESSARY PERMITS PRIOR TO CONSTRUCTION. IT SHALL ALSO BE THE RESPONSIBILITY OF THE CONTRACTOR TO MAINTAIN WORKMANS COMPENSATION INSURANCE AND CONTRACTORS GENERAL LIABILITY COVERAGE. A CERTIFICATE OF INSURANCE SHALL BE SUBMITTED TO THE OWNER.
4. ALL WORK SHALL BE PERFORMED IN AN EXPEDITIOUS AND WORKMANLIKE MANNER AND IN ACCORDANCE WITH ALL GENERALLY ACCEPTED TRADE PRACTICES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO MAINTAIN A CLEAN AND ORDERLY SITE THROUGHOUT THE CONSTRUCTION PROCESS.
5. THESE STRUCTURAL DRAWINGS SHALL BE READ IN CONCERT WITH ALL OTHER CONTRACT DOCUMENTS AND SPECIFICATIONS.
6. EVERY EFFORT HAS BEEN MADE TO VERIFY THE DIMENSIONS AND ENSURE THE ACCURACY OF THESE PLANS. HOWEVER, THE CONTRACTOR SHALL VERIFY DIMENSIONS PRIOR TO THE CONSTRUCTION PROCESS AND IF ANY DISCREPANCIES DO EXIST, THEN THE PROJECT ARCHITECT OR PROJECT ENGINEER SHALL BE NOTIFIED BEFORE THE NECESSARY ADJUSTMENTS ARE MADE.
7. DO NOT SCALE THE DRAWINGS. THE DIMENSIONS INDICATED ON THE PRINTS SHALL CONTROL.
8. THE TYPICAL DETAILS PROVIDED ON THESE DRAWINGS ARE TO DESCRIBE THE CONSTRUCTION STANDARDS TO BE APPLIED FOR THIS PROJECT. THE DETAILS MAY BE ADJUSTED, AS REQUIRED, TO ACCOUNT FOR VARYING CONDITIONS IN THE FIELD. SIGNIFICANT ADJUSTMENTS MUST BE PRESENTED TO THE PROJECT ENGINEER FOR REVIEW AND APPROVAL PRIOR TO ANY INSTALLATION OR FABRICATION. ALL TYPICAL DETAILS SHALL BE REVIEWED BY THE CONTRACTOR AND APPROPRIATE SUBCONTRACTORS PRIOR TO ANY DETAILING, FABRICATION, AND/OR INSTALLATION. ANY CONFLICTS OR CLARIFICATIONS SHALL BE RESOLVED BEFORE THE COMMENCEMENT OF WORK.
9. SHOP DRAWINGS OF ALL CONCRETE, STEEL, COLD-FORMED STEEL FRAMING, PRE-ENGINEERED STRUCTURAL COMPONENTS, ETC. SHALL BE SUBMITTED FOR REVIEW PRIOR TO ANY FABRICATION OR INSTALLATION.
   REQUIRED SHOP DRAWINGS:
   -REINFORCING STEEL
   -STRUCTURAL STEEL
   -FLOOR JOISTS AND RAFTERS
   -ROOF TRUSSES
   -STAIRS
   -HANDRAILS
10. COORDINATE SIZE AND INSTALLATION OF ALL OPENINGS, SLEEVES, INSERTS, TIES, EQUIPMENT PADS, EQUIPMENT SUPPORTS, ETC. WITH APPROPRIATE TRADES AND CONTRACT DRAWINGS PRIOR TO INSTALLATION OR FABRICATION.
11. THE CONTRACTOR IS RESPONSIBLE FOR THE IMPLEMENTATION OF ALL O.S.H.A. STANDARDS, SO THAT THE CONSTRUCTION SITE IS SECURE AND THAT THE SAFETY OF THE PUBLIC AND ALL PARTIES INVOLVED IN THE CONSTRUCTION PROCESS IS PRESERVED.
12. ADEQUATE TEMPORARY SUPPORT STRUCTURES, SUCH AS SHEETING, SHORING, AND BRACING, SHALL BE INSTALLED DURING CONSTRUCTION UNTIL THE WIND RESISTING SYSTEMS AND THE SUPPORTING DIAPHRAGMS ARE IN PLACE AND HAVE ATTAINED 75% DESIGN STRENGTH. SHORING AND BRACING SHALL RESIST FORCES SUCH AS WIND AND UNBALANCED LOADING DUE TO CONSTRUCTION. BRACING SYSTEMS SHALL BE DESIGNED BY A REGISTERED PROFESSIONAL ENGINEER LICENSED TO PRACTICE IN THE STATE OF MARYLAND. IMPOSED CONSTRUCTION LOADS IN EXCESS OF THE STATED DESIGN LOADS MUST BE APPROVED BY THE STRUCTURAL ENGINEER PRIOR TO PLACING OF SUCH LOADS.
13. IF APPLICABLE, BOTH SIDES OF THE FOUNDATION WALL SYSTEM SHALL BE BACKFILLED SIMULTANEOUSLY AS TO PREVENT OVERTURNING OR LATERAL MOVEMENT OF THE WALLS. NO FOUNDATION WALLS SHALL BE BACKFILLED WITHOUT THE FLOOR DIAPHRAGM OR SUPPORTING SLAB AND ALL TEMPORARY SUPPORTS BEING CONSTRUCTED IN PLACE AND SECURE.

B. DESIGN CRITERIA:
1. CODES: (USE LATEST EDITIONS U.N.O.)
   a. INTERNATIONAL BUILDING CODE (2015).
   b. BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE (ACI-318)
   c. AISC MANUAL OF STEEL CONSTRUCTION (AISC-14th EDITION).
   d. BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES. (ACI 530-08/ASCE 5-08/TMS 402-08)
2. LIVE LOADS:

ROOF SNOW LOAD	30 PSF (MINIMUM)
ROOF MECHANICAL AREA	100 PSF
ATTIC AREA	20 PSF
STORAGE AREA (LIGHT STORAGE)	125 PSF
CORRIDORS	100 PSF
OFFICE AREAS	50 PSF
PARTITION	20 PSF
STAIR LOAD	100 PSF

DEAD LOADS:

ACTUAL MATERIAL WEIGHTS	
PITCHED ROOF DIAPHRAGM	17 PSF
FLAT ROOF DIAPHRAGM (GREEN ROOF)	40 PSF
FLAT ROOF DIAPHRAGM (MECHANICAL AREA)	50 PSF
TYPICAL FLOOR LOAD	25 PSF
TILE FLOOR LOAD	32 PSF
COLLATERAL LOADS	5.0 PSF

3. WIND LOAD:

ULTIMATE WIND SPEED	115 MPH
IMPORTANCE FACTORS	1.0
EXPOSURE	B
COMPONENTS AND CLADDING	24 PSF

4. SNOW LOAD:

MEAN GROUND SNOW LOAD	35.0 PSF*
FLAT ROOF SNOW LOAD	30.0 PSF
SNOW EXPOSURE FACTOR	0.7
SNOW IMPORTANCE FACTOR	1.0

*ADJUST FOR SNOW ACCUMULATION, IF APPLICABLE.

5. EARTHQUAKE LOAD:

MAPPED SHORT PERIOD SPECTRAL RESPONSE ACCELERATION (Ss)	0.131
MAPPED 1 SECOND PERIOD SPECTRAL RESPONSE ACCELERATION (S1)	0.055
SHORT PERIOD SPECTRAL RESPONSE ACCELERATION (SDS)	0.140
1 SECOND PERIOD SPECTRAL RESPONSE ACCELERATION (SD1)	0.087
SOIL SITE CLASS	D
SEISMIC HAZARD EXPOSURE GROUP	II
SEISMIC PERFORMANCE CATEGORY	B
SEISMIC RESPONSE COEFFICIENT (Cs)	0.022
RESPONSE MODIFICATION FACTOR	6.5

   FRAMED WALLS SHEATHED w/ WOOD STRUCTURAL PANELS FOR SHEAR WALL
6. FOUNDATION DESIGN WAS ESTABLISHED BASED UPON THE BEST AVAILABLE GEOTECHNICAL INFORMATION OBTAINED ABOUT THE SITE. A LIMITED SOILS REPORT WAS PREPARED BY TRIAD ENGINEERING, INC., ENTITLED REPORT OF GEOTECHNICAL EXPLORATION, CITY MAINTENANCE YARD, WINCHESTER, VIRGINIA, WITH TRIAD PROJECT NUMBER 07-18-0326. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO HIRE A LICENSED GEOTECHINICAL ENGINEER TO VERIFY THE SITE CONDITIONS.
7. TO VERIFY COMPLIANCE WITH THE DESIGN RECOMMENDATIONS OF THIS PROJECT, ALL FOOTING EXCAVATIONS SHALL BE INSPECTED BY A LICENSED GEO-TECHNICAL ENGINEER OR CERTIFIED INSPECTOR, PRIOR TO PLACEMENT OF THE CONCRETE. FOR THIS PROJECT A SOIL BEARING CAPACITY OF 2500 PSF WAS USED. IF THE SOIL BEARING CAPACITY IS FOUND TO BE LESS THAN THE ASSUMED DESIGN VALUE, THEN THE FOOTINGS MUST BE REDESIGNED ACCORDINGLY.
8. A MINIMUM FROST DEPTH OF 24" SHALL BE MAINTAINED FOR THIS PROJECT AS REQUIRED BY THE LOCAL BUILDING DEPARTMENT OF CITY OF WINCHESTER, VA.
9. IT IS ANTICIPATED THAT ROCK WILL BE ENCOUNTERED IN THE FOUNDATION EXCAVATIONS FOR BUILDING #1. FOOTINGS BEARING ON ROCK SHALL BE UNDERCUT BY A MINIMUM OF 12" AND BACKFILLED WITH VDOT 21-A OR 21-B CRUSHED STONE OR SAND, AS DIRECTED BY THE GEOTECHNICAL ENGINEER, PLACED IN 8" LIFTS AND COMPACTED TO 95% PROCTOR. EACH LIFT OF ALL COMPACTED FILL MATERIAL SHALL BE TESTED AND VERIFIED BY A LICENSED GEO-TECHNICAL ENGINEER.

C. CONCRETE:
1. CONCRETE USED FOR THIS PROJECT SHALL MEET OR EXCEED THE FOLLOWING COMPRESSIVE STRENGTH AT 28 DAYS:

FOUNDATION FOOTINGS & WALLS	3000 psi NORMAL WT.
SLAB-ON-GRADE (INTERIOR)	3000 psi NORMAL WT.
SLAB-ON-GRADE (EXTERIOR)	3500 psi NORMAL WT.
MASONRY GROUT	2000 psi NORMAL WT.
BOND BEAM GROUT	2000 psi NORMAL WT.

2. ALL CONCRETE SUBJECT TO FREEZE/THAW CYCLES SHALL BE AIR ENTRAINED.
3. AS DIRECTED BY THE GEO-TECHNICAL SPECIALIST, THE FOOTINGS MAY BE PLACED DIRECTLY AGAINST THE SOIL WITH ADEQUATE FORMING.
4. CONCRETE SLABS SHALL BE POURED IN A STRIP PATTERN. CONSTRUCTION JOINTS SHALL COINCIDE WITH THE CONTROL JOINTS (INDICATED AS C.J. ON THE PLANS). CONSTRUCTION JOINTS IN THE SLAB SHALL HAVE THE REINFORCING CONTINUE THROUGH THE JOINT U.N.O. IN THE DETAILS.

C. CONCRETE (CONT.)
5. CONTROL JOINTS AND WATER-STOPS SHALL BE INSTALLED, AS NEEDED, IN ACCORDANCE WITH THE BUILDING CODE REQUIREMENTS, COMMON CONSTRUCTION PRACTICES AND THESE CONSTRUCTION DOCUMENTS.
6. ALL CONTROL JOINTS MAY BE SAW-CUT OR CONSTRUCTED WITH A METAL CONTROL JOINT FORM. CONTROL JOINTS SHALL BE SEALED WITH A SUITABLE JOINT SEALANT.
7. SAW-CUT OR TOOLED CONTROL JOINTS SHALL BE AS DETAILED. SAW-CUTS SHALL BE MADE AS SOON AS PRACTICAL WITHOUT DAMAGING THE FINISHED CONCRETE FLOOR SURFACE (WITHIN 12 HOURS, MAXIMUM OF CURING.)
8. A DIAMOND PATTERN CONTROL JOINT SHALL BE PROVIDED AT ALL ISOLATED COLUMN LOCATIONS, AS INDICATED ON THESE PLANS. THE CORNERS OF THE DIAMOND SHALL COINCIDE WITH THE CONTROL JOINTS, AS SPECIFIED ON THESE PLANS AND BE FILLED WITH 1/2" PREFORMED JOINT FILLER.
9. EXPOSED CONCRETE EDGES SHALL BE BUILT SQUARE AND RUBBED TO A MINIMUM RADIUS CHAMFER, UNLESS SPECIFIC CHAMFERS ARE CALLED FOR IN DETAILS.
10. CONCRETE FORMWORK SHALL BE DESIGNED BY A REGISTERED PROFESSIONAL ENGINEER LICENSED TO PRACTICE IN THE COMMONWEALTH OF VIRGINIA.
11. ALL CONCRETE WALLS SHALL BE CONSTRUCTED TO THE NOMINAL DIMENSIONS AS INDICATED ON THE CONSTRUCTION PLANS. THE CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3000 psi AT 28 DAYS, U.N.O., AND PLACED WITH A MAXIMUM SLUMP OF 4". ALL WORK SHALL CONFORM TO THE STANDARDS AND SPECIFICATIONS OF THE AMERICAN CONCRETE INSTITUTE.
12. ALL REINFORCING STEEL SHALL COMPLY WITH ASTM A615, GRADE 60 STEEL. MINIMUM COVER OVER THE STEEL SHALL BE 2" FOR ALL FOUNDATION WALL CONSTRUCTION. ALL REINFORCING STEEL FOR THE WALLS, HEADERS, GIRDERS, ETC. SHALL BE IN PLACE PRIOR TO THE POURING OF THE WALLS. THE REINFORCING STEEL SHALL BE PROPERLY TIED AND LOCATED IN ACCORDANCE WITH THE DESIGN PLANS.
13. INTER-LOCKING METAL FORMS SHALL BE USED FOR THE CONSTRUCTION OF THE CONCRETE WALL SYSTEM. ALL FORMS SHALL BE CLEAN, PLUM, SQUARE AND PROPERLY ALIGNED FOR CONCENTRIC LOADING ON THE WALL FOOTINGS. ALL DOOR AND WINDOW ELEMENTS SHALL BE BOXED-FRAMED INSIDE OF THE FORMWORK TO THE APPROPRIATE HORIZONTAL AND VERTICAL DIMENSIONS WITH PROPER ALLOWANCES MADE FOR THE FRAMEWORK OF THE DOOR AND WINDOW UNITS. THE FORM SYSTEM SHALL BE PROPERLY PREPPED SO AS TO PREVENT ADHESION OF THE CONCRETE TO THE FORMWORK DURING THE CURING PROCESS.
14. ALL THROUGH-WALL PENETRATIONS SHALL BE IN PLACE PRIOR TO THE POURING OPERATION AND PRECAUTIONS SHALL BE TAKEN TO PREVENT FUTURE LEAKAGE IN THE AREAS OF THESE PENETRATIONS (i.e. WATER-PROOF EXPANSIVE FILLER MATERIAL SHALL BE INJECTED INTO THE VOID AREAS OF THE PENETRATION).
15. SEE ARCHITECTURAL, BUILDING, MECHANICAL AND PLUMBING DRAWINGS FOR LOCATIONS OF OPENINGS AND SLEEVES. DO NOT CUT REINFORCEMENT.

D. REINFORCEMENT:
1. ALL REINFORCING STEEL SHALL BE DEFORMED BARS IN ACCORDANCE WITH ASTM A615 SPECIFICATIONS, GRADE 60.
2. WELDED WIRE FABRIC REINFORCING SHALL CONFORM TO ASTM A185. THE WELDED WIRE FABRIC SHALL HAVE A MINIMUM STEEL YIELD STRENGTH OF 65,000 psi. (f'_y = 65,000 psi).
3. MAINTAIN MINIMUM CONCRETE COVERAGE FOR REINFORCING AS SPECIFIED IN ACI-318.

CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH:	3"
CONCRETE EXPOSED TO EARTH OR WEATHER:	2" (NO. 6 THROUGH NUM. 8 BARS)
	1-1/2" (NO. 5 BAR, W31 OR D31 WIRE OR SMALLER)
CONCRETE NOT EXPOSED TO WEATHER OR IN CONTACT w/ GROUND - SLABS, WALLS & JOISTS:	3/4" (NO. 11 BARS & SMALLER)

4. ALL CONTINUOUS REINFORCING IN FOOTINGS SHALL BE LAP-SPLICED 2'-0". ALL OTHER SPLICES SHALL BE CLASS B TENSION, 32" LAP (MIN.), U.N.O.
5. DETAILING, FABRICATION, AND INSTALLATION OF REINFORCING BARS SHALL COMPLY WITH THE LATEST EDITION OF THE "DESIGN HANDBOOK OF THE CRSI" AND THE MANUAL OF STANDARD PRACTICE OF THE ACI.
6. PROVIDE DOWELS TO MATCH REINFORCEMENT IN ALL WALLS, PIERS, COLUMNS, AND FOUNDATIONS.
7. ALL PEDESTALS OR HOLES IN THE CONCRETE SLAB SHALL HAVE, ADDITIONALLY, (2) #4 x (OPENING DIM. + 2 FT.) ALONG EACH SIDE OF OPENING AND (2) #3 x 2'-0" DIAGONALLY AT EACH PEDESTAL CORNER.

E. MASONRY:
1. ALL MASONRY CONSTRUCTION SHALL CONFORM TO THE LATEST EDITION OF THE STANDARDS AND SPECIFICATIONS OF THE MASONRY STANDARDS JOINT COMMITTEE.
2. CONCRETE MASONRY UNITS (CMU) SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 1500 psi @ 28 DAYS.
3. THE MINIMUM CMU PRISM STRENGTH SHALL BE 1900 psi. ($f'm$=1900 psi).
4. THE BLOCK MORTAR SHALL BE TYPE "M" MORTAR FOR ALL MASONRY MATERIALS BELOW GRADE AND ALL OTHER MORTAR SHALL BE TYPE "S" IN ACCORDANCE WITH ASTM C270.
5. THE CMU SHALL BE REINFORCED WITH STEEL REINFORCING BARS THAT COMPLY WITH ASTM A615 GRADE 60 STEEL. TYPICALLY, THE HORIZONTAL JOINT REINFORCEMENT OF THE CMU SHALL CONSIST OF TRUSS TYPE WELDED WIRE, 9 GAUGE, PLACED IN EVERY OTHER COURSE. MORTAR JOINTS SHALL BE UNIFORM 3/8" THICK. JOINTS AS REQUIRED FOR COURSING.
6. FULLY GROUT AND REINFORCE, AS SPECIFIED, ALL POINTS OF BEARING IN THE CMU WALLS. ALL GROUT SHALL HAVE A MINIMUM COMPRESSION STRENGTH OF 2000 psi AT 28 DAYS.
7. IF APPLICABLE, ALL MASONRY BOND BEAMS SHALL BE GROUTED SOLID WITH 2000 psi CONCRETE GROUT.
8. ALL MASONRY BELOW GRADE SHALL BE GROUTED SOLID AT POINTS OF BEARING AND WHERE REINFORCED.
9. SOLID MASONRY PIERS, IDENTIFIED AS SMP ON PLAN, SHALL BE GROUTED SOLID FULL HEIGHT OF WALL TO FOUNDATION.

F. STRUCTURAL STEEL:
1. ALL STRUCTURAL STEEL SHALL BE IN ACCORDANCE WITH ASTM SPECIFICATIONS. ALL STRUCTURAL STEEL SHALL BE SUPPLIED, FABRICATED, AND ERECTED IN ACCORDANCE WITH THE LATEST EDITION OF THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION MANUAL, THIS DESIGN, AND PROJECT SPECIFICATIONS.
2. ALL STRUCTURAL STEEL SHALL BE ASTM, A992-50 GRADE 50 STEEL, U.N.O., & A36 FOR PLATES, M, S, C, MC AND L SHAPES.
3. FRAMING BOLTS SHALL CONFORM TO ASTM A325N, 3/4" DIA. MIN., U.N.O.
4. ANCHOR BOLTS SHALL CONFORM TO ASTM A307, U.N.O. SEE DETAILS FOR LOCATION,TYPE, & SIZE.
5. WELDING SHALL CONFORM TO AMERICAN WELDING SOCIETY D1.1-1, E-70xx ELECTRODES. FILLER METAL SHALL HAVE A MINIMUM YIELD STRENGTH OF 57 KSI.
6. PROVIDE 1/4" SPACE BETWEEN ENDS OF CONTINUOUS ANGLES, SUPPORTING DECKING OR MASONRY.
7. THE CENTERLINES OF ALL COLUMNS AND BEAMS SHALL BE LOCATED ON THE CENTROID OF THE STRUCTURAL MEMBERS AND THE FOOTING ELEMENTS, UNLESS OTHERWISE SHOWN.
8. ALL CONNECTIONS SHALL BE STANDARD SHEAR CONNECTIONS, UNLESS NOTED OTHERWISE. WHERE CONNECTIONS OR REACTIONS ARE NOT SPECIFIED, THE FABRICATOR SHALL PROVIDE CONNECTIONS TO SUPPORT ONE-HALF OF THE ALLOWABLE UNIFORM LOAD SHOWN IN THE AISC MANUAL, 14th EDITION TABLES OF ALLOWABLE UNIFORM LOADS, PART 2 FOR THE GIVEN BEAM, SPAN AND GRADE OF STEEL SPECIFIED.
9. WHERE SLOTTED CONNECTION HOLES ARE USED, THE FABRICATOR SHALL ADJUST THE BOLT VALUES ACCORDINGLY.
10. THE FOLLOWING CONDITIONS SHALL BE CHECKED WHEN DESIGNING BEAM CONNECTIONS: BOLT SHEAR, BOLT BEARING ON CONNECTING MATERIAL, BLOCK WEB SHEAR ON THE NET AREA OF THE CONNECTING ANGLES OR PLATES AND LOCAL BENDING STRESSES.
11. UNLESS NOTED OTHERWISE, ALL ANCHOR BOLTS SHALL BE 3/4" Ø, ALL CARRIAGE BOLTS SHALL BE 1/2" Ø, ALL EXPANSION BOLTS SHALL BE 1/2" Ø AND ALL BOLTS FOR STEEL TO STEEL CONNECTIONS SHALL BE 3/4" Ø.
12. THE MINIMUM NUMBER OF BOLTS PER CONNECTION SHALL BE AS FOLLOWS:
   W8 & W10 SECTIONS : 2 BOLTS
   W12 & W14 SECTIONS: 3 BOLTS
   W16 & W18 SECTIONS: 4 BOLTS
   W21 SECTIONS: 5 BOLTS
   W24 SECTIONS: 6 BOLTS

G. WOOD:
1. THE CONTRACTOR SHALL PROVIDE ALL WOOD NAILS, BOLTS, SCREWS, FRAMING ANCHORS, CONSTRUCTION ADHESIVES, ETC., AS NEEDED, TO PERFORM THE ROUGH AND FINISH CARPENTRY FOR THIS PROJECT.
2. ALL INTERIOR FRAMING DIMENSIONS ARE FROM FACE TO FACE OF THE ACTUAL FRAMING LUMBER.
3. ALL FRAME WALLS SHALL BE CONSTRUCTED WITH 2x4 OR 2x6 NOMINAL WOOD STUDS, AS INDICATED ON THE PLANS, WITH A DOUBLE TOP PLATE AND SINGLE BOTTOM PLATE OR AS SPECIFIED ON THE PLANS. THE SPACING OF THE WOOD STUD MEMBERS SHALL BE AS SPECIFIED ON THE PLANS. ALL WOOD MATERIALS WHICH ARE IN CONTACT WITH CONCRETE, MASONRY, STEEL, EARTH, ETC. SHALL BE A WOOD PRESERVATIVE, PRESSURE TREATED MATERIAL. THE TREATMENT SHALL BE IN ACCORDANCE WITH AWPA TREATMENT U1, USING A WATERBORNE PRESERVATIVE WITH 0.25 PERCENT TYPICAL RETAINAGE OR A 0.40 PERCENTAGE RETAINAGE FOR MATERIAL IN CONTACT WITH SOIL.
4. UNLESS NOTED OTHERWISE, ALL WOOD STUD FRAMING, JOIST AND RAFTER MEMBERS SHALL BE SPRUCE-PINE-FIR, #2 GRADE (SPF #2) MATERIAL, OR EQUAL, AND SHALL BE FASTENED IN ACCORDANCE WITH THE INTERNATIONAL RESIDENTIAL BUILDING CODE FOR ONE-AND TWO-FAMILY DWELLINGS (2012), OR AS SPECIFIED ON THESE DRAWINGS. ALL SPRUCE-PINE-FIR FRAMING LUMBER SHALL HAVE A MINIMUM BENDING STRESS (Fb) OF 875 psi, A MINIMUM HORIZONTAL SHEAR STRESS (Fv) OF 135 psi, A MINIMUM COMPRESSIVE STRENGTH PERPENDICULAR TO THE GRAIN (Fc) OF 425 psi AND A MINIMUM MODULUS OF ELASTICITY (E) OF 1400 ksi. SOLID WOOD BLOCKING SHALL BE INSTALLED WHERE REQUIRED FOR STRUCTURAL BRACING, FIRESTOPPING AND DRAFTSTOPPING.
5. UNLESS NOTED OTHERWISE, ALL TRUSS MEMBERS SHALL BE SOUTHERN YELLOW PINE #2 GRADE (SYP #2) MATERIAL, OR EQUAL. ALL SOUTHERN YELLOW PINE FRAMING LUMBER SHALL HAVE A MINIMUM BENDING STRESS (Fb) OF 975 psi, A MINIMUM HORIZONTAL SHEAR STRESS (Fv) OF 175 psi, A MINIMUM COMPRESSIVE STRENGTH PERPENDICULAR TO THE GRAIN (Fc) OF 565 psi AND A MINIMUM MODULUS OF ELASTICITY (E) OF 1600 ksi.
6. ALL MICRO=LAM, PARALLAM & PRE-MANUFACTURED TRUSSES, SHALL BE HANDLED, STORED, CUT, AND INSTALLED IN ACCORDANCE WITH THE STANDARDS AND AND SPECIFICATIONS OF THE MANUFACTURER.
7. ALL MICRO=LAM JOIST AND BEAM ELEMENTS SHALL HAVE AN ALLOWABLE BENDING STRESS (Fb) OF 2650 psi, A HORIZONTAL SHEAR STRESS (Fv) OF 285 psi, A COMPRESSIVE STRENGTH PERPENDICULAR TO THE GRAIN (Fc) OF 750 psi AND A MODULUS OF ELASTICITY (E) OF 1900 ksi.
8. FLOOR SHEATHING SHALL BE 23/32" (3/4" NOMINAL) APA RATED STURD-I-FLOOR, OR EQUIVALENT, TONGUE & GROOVE, PLYWOOD. PANELS SHALL HAVE THE LONG DIMENSION ORIENTED ACROSS THREE OR MORE JOISTS AND SHALL BE FASTENED IN CONSTRUCTION ADHESIVE AND 10d NAILS AT 6" o.c. AT ALL PANEL EDGES AND AT 12" o.c. AT ALL INTERMEDIATE SUPPORTS. UNLESS NOTED OTHERWISE, PANEL EDGES ARE NOT REQUIRED TO BE BLOCKED.
9. LPI JOISTS SHALL BE STORED AND INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND SPECIFICATIONS.
10. IF APPLICABLE, WEB STIFFENERS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.
11. ALL LPI JOISTS SHALL BE USED IN FOR DRY-USE APPLICATIONS ONLY.
12. DO NOT WALK ON JOISTS UNTIL THEY ARE PROPERLY BRACED. DO NOT STACK BUILDING MATERIALS ON UNSHEATHED JOISTS. DO NOT WALK ON JOISTS THAT ARE LYING FLAT.
13. ALL BLOCKING, HANGERS, RIM BOARDS AND RIM JOISTS AT THE END SUPPORTS OF THE LPI JOISTS MUST BE COMPLETELY INSTALLED AND PROPERLY NAILED.
14. LATERAL STRENGTH MUST BE ESTABLISHED AT THE ENDS OF THE BAY. THIS CAN BE ACCOMPLISHED BY TEMPORARY OR PERMANENT DECKING (SHEATHING) FASTENED TO THE FIRST FOUR THE LPI JOISTS AT THE END OF THE BAY.
15. SHEATHING MUST BE COMPLETELY ATTACHED TO THE LPI JOIST BEFORE ADDITIONAL LOADS CAN BE PLACED ON THE SYSTEM.
16. IF APPLICABLE, THE ENDS OF CANTILEVERED LPIs REQUIRE SAFETY BRACING ON BOTH THE TOP & BOTTOM FLANGES.
17. THE FLANGES OF THE LPIs MUST REMAIN STRAIGHT WITHIN A TOLERANCE OF 1/8" FROM TRUE ALIGNMENT.
18. EXTERIOR WALLS WITH STUCCO FINISH SHALL BE SHEATHED WITH 15/32" (1/2" NOMINAL) APA RATED EXTERIOR-GRADE SHEATHING. EXTERIOR WALLS WITHOUT STUCCO FINISH SHALL BE SHEATHED WITH THE MINIMUM THICKNESS AS INDICATED ON THE SHEAR WALL SCHEDULE ON THE PLANS. EXTERIOR WALL SHEATHING SHALL BE FASTENED TO WOOD FRAMING AS INDICATED ON THE SHEAR WALL SCHEDULE. UNLESS NOTED OTHERWISE, PANEL EDGES ARE REQUIRED TO BE BLOCKED.
19. ROOF DIAPHRAGMS WITH SUPPORT MEMBERS SPACED AT 16" o.c. OR LESS SHALL BE SHEATHED WITH 15/32" (1/2" NOMINAL) APA RATED EXTERIOR-GRADE SHEATHING, WITH A SPAN RATING OF 24/0 OR BETTER. ROOF DIAPHRAGMS WITH SUPPORT MEMBERS SPACED AT GREATER THAN 16" o.c. SHALL BE 19/32" (5/8" NOMINAL) APA EXTERIOR-GRADE SHEATHING. FASTEN PANELS TO WOOD FRAMING WITH 8d NAILS AT 6" o.c. AT ALL PANEL EDGES AND 12" o.c. AT ALL INTERMEDIATE SUPPORTS. PANELS SHALL HAVE THE LONG DIMENSION ORIENTED ACROSS THREE OR MORE SUPPORT MEMBERS. UNLESS NOTED OTHERWISE, PANEL EDGES ARE NOT REQUIRED TO BE BLOCKED.
20. BUILDING PAPER SHALL BE NO. 30 ASPHALT FELT OR SPUN BONDED POLYETHYLENE. THE AIR INFILTRATION BARRIER SHALL BE TYVEK, OR EQUAL.
21. UNLESS NOTED OTHERWISE, ALL ANCHOR BOLTS SHALL BE 3/4" Ø, ALL CARRIAGE BOLTS SHALL BE 1/2" Ø AND ALL EXPANSION BOLTS SHALL BE 1/2" Ø.

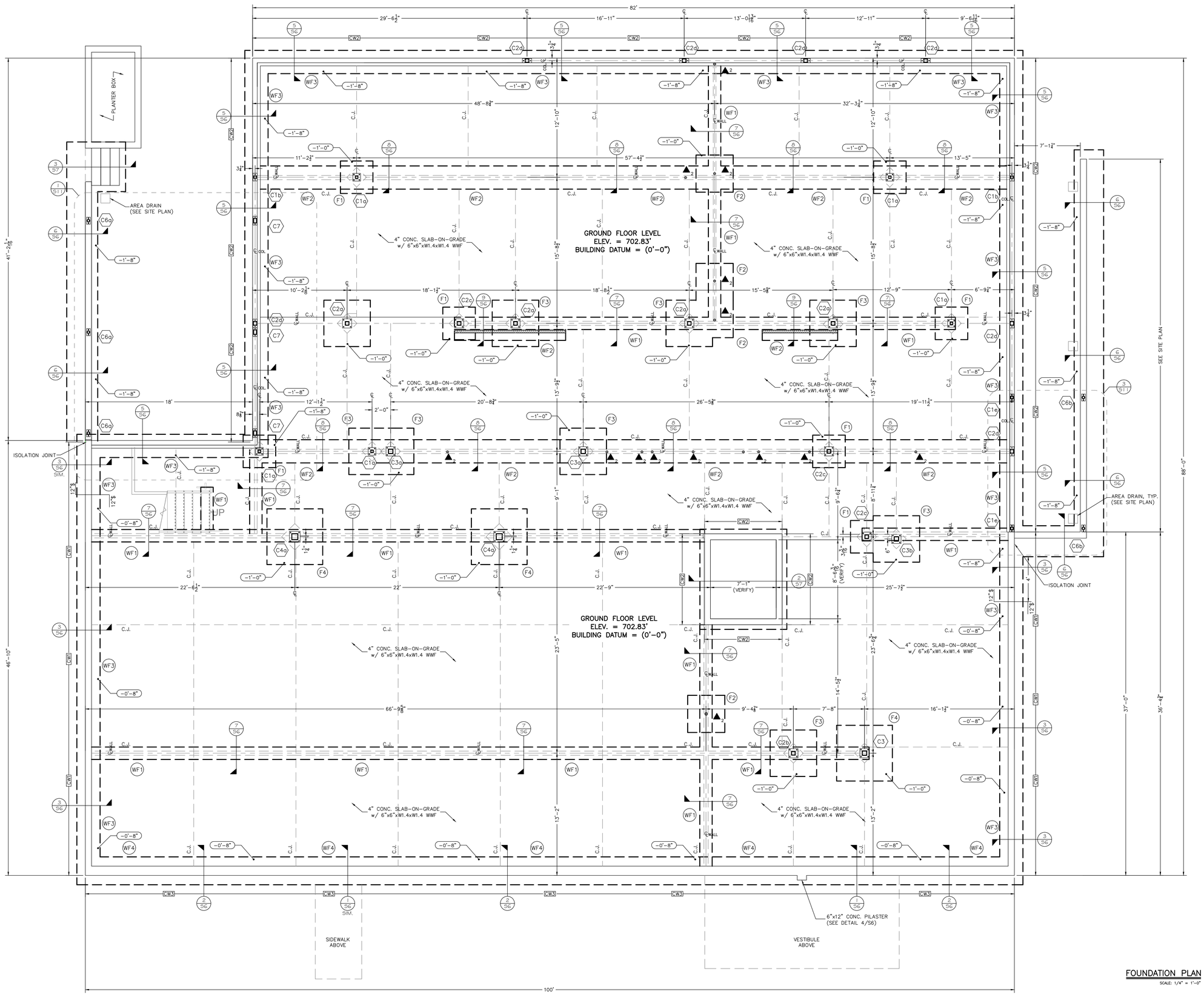
H. UTILITY SYSTEMS:
1. THE PLUMBING, MECHANICAL, AND ELECTRICAL SYSTEMS SHALL BE READ IN CONCERT WITH THESE PLANS. ALLOWANCES SHALL BE MADE DURING THE CONSTRUCTION TO PERMIT INSTALLATION AND COORDINATION OF THESE SYSTEMS.

ABBREVIATIONS:

AB	ANCHOR BOLT
ADJ	ADJACENT
ADDL	ADDITIONAL
ALT	ALTERNATE
ARCH	ARCHITECTURE
B	BOTTOM
BF	BEAM FLANGE WIDTH
BLT	BOLT
BM	BEAM
B.O.STL.	BOTTOM OF STEEL
BRG	BEARING
CANT.	CANTILEVER
CFSF	COLD FORM STEEL FRAMING
CIP	CAST-IN-PLACE
CJ	CONTROL JOINT
CLR	CLEAR
CMU	CONCRETE MASONRY UNIT
COL	COLUMN
CONN	CONNECTION
CONT	CONTINUOUS
CSJ	CONSTRUCTION JOINT
CTR.	CENTER
D	DEEP or DEPTH
DIAG	DIAGONAL
DIA or Ø	DIAMETER
DIM	DIMENSION
DN	DOWN
DWG	DRAWING
DWLS	DOWELS
EA	EACH
EF	EACH FACE
EL	ELEVATION
ELEC	ELECTRICAL
E-O-S	EDGE OF SLAB
EQ	EQUAL
EW	EACH WAY
EXP JT	EXPANSION JOINT
EXT	EXTERIOR
FF	FAR FACE
F. FLR.	FINISHED FLOOR
FLR	FLOOR
FOM	FACE OF MASONRY
FRMG	FRAMING
FRT	FIRE RETARDANT TREATED
FTG	FOOTING
GA	GAGE
GALV	GALVANIZED
HORIZ	HORIZONTAL
HP	HIGH POINT
IF	INSIDE FACE
INSUL	INSULATION
INT	INTERIOR
ISOL JT	ISOLATION JOINT
J.B.E.	JOIST BEARING ELEVATION
JT	JOINT
K	KIPS
L	LINTEL
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LP	LOW POINT
LW	LONG WAY
MANUF	MANUFACTURER
MATL	MATERIAL
MAX	MAXIMUM
MECH	MECHANICAL
MIN	MINIMUM
N.I.C.	NOT IN CONTRACT
N.T.S.	NOT TO SCALE
O.C.	ON CENTERS
OF	OUTSIDE FACE
OPNG	OPENING
OPP	OPPOSITE
ORIENT	ORIENTATION
PAFs	POWDER ACTUATED FASTENERS
PC	PRECAST
P.E.	PRE-ENGINEERED
PL	PLATE
PLBG	PLUMBING
REINF	REINFORCING(MENT)
REQD	REQUIRED
REQMTS	REQUIREMENTS
RW	RETAINING WALL
SCHED	SCHEDULE
SECT	SECTION
SIM	SIMILAR
SMP	SOLID MASONRY PIER
S-O-G	SLAB-ON-GRADE
STIFF	STIFFENER
SUBFLR.	SUBFLOOR
SW	SHORT WAY
T	TOP
TEMP.	TEMPORARY
T.B.R.	TO BE REMOVED
T.O.F.	TOP OF FOOTING
T.O.S.	TOP OF SLAB
T.O.STL.	TOP OF STEEL
T.O.W.	TOP OF WALL
TYP	TYPICAL
U.N.O.	UNLESS NOTED OTHERWISE
VB	VAPOR BARRIER
VERT	VERTICAL
(V.I.F.)	VERIFY IN FIELD
W	WITH
WF	WIDE FLANGE
W/O	WITHOUT
WP	WATERPROOFING
WS	WATERSTOP
WWF	WELDED WIRE FABRIC

SYMBOLS

SECTION MARK
DETAIL MARK
ELEVATION
TOP OF FTG. ELEVATION (XX.XX)
SLAB DEPRESSION
FT FOOTING TYPE
BEARING WALL & SHEAR WALL
SHEAR WALL
OR (FMC) FULL MOMENT CONNECTION
(+/- X'-X") ELEVATION DIFFERENCE
(XX'-XX") DESIGNATED JOIST BEARING TOP OF STEEL ELEVATION ABOVE DATUM
CENTERLINE
NUMBER
PROPOSED ELEVATION
X



FOUNDATION PLAN

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

NORTH (building)

Winchester Virginia

CITY YARDS MAINTENANCE FACILITY:

RENOVATION AND ADDITIONS

301 EAST CORK ST.
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ISSUE/REVISIONS:

DRAWING TITLE:

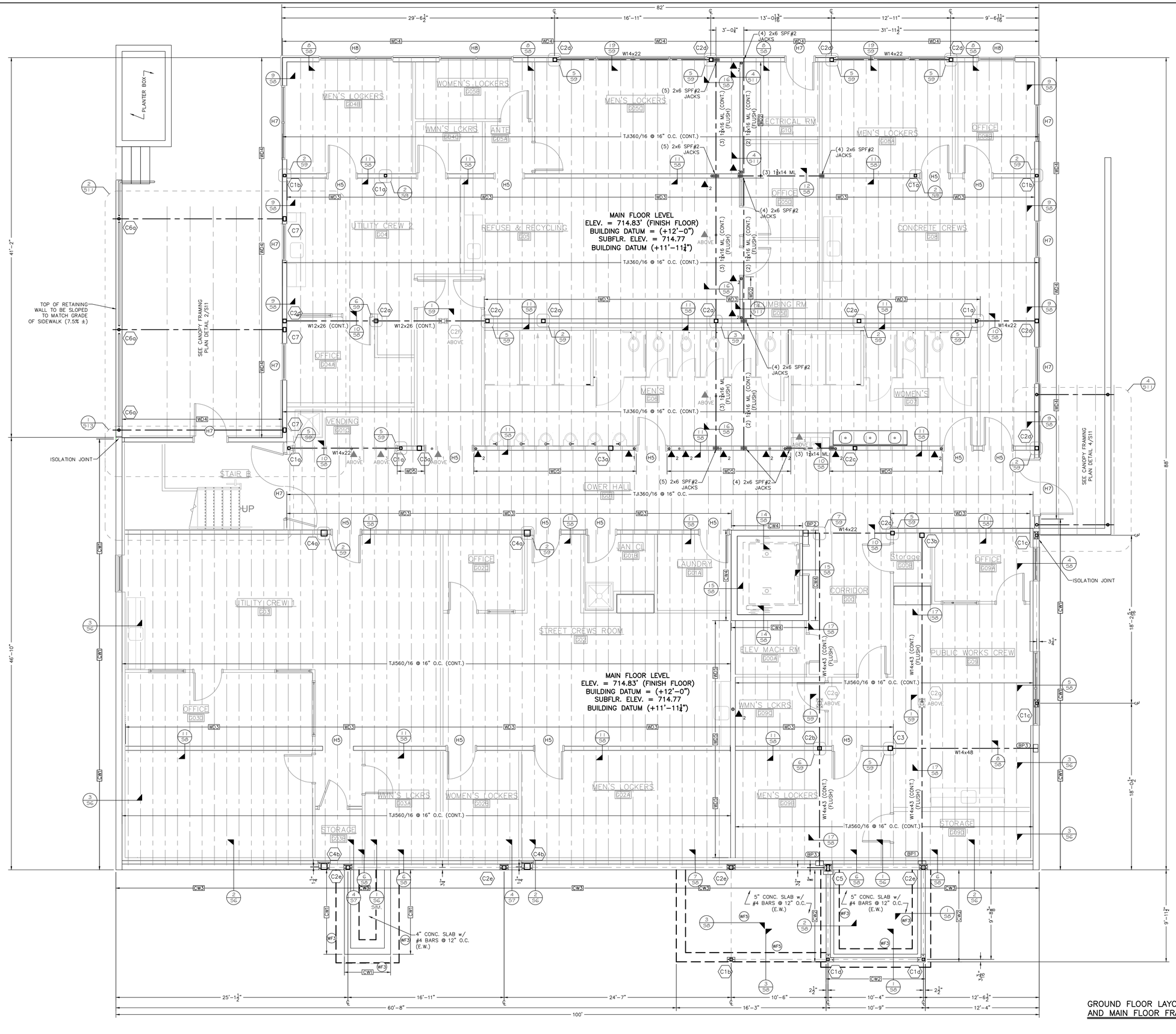
CITY YARDS:
BUILDING #1

SHEET TITLE:

FOUNDATION PLAN

DATE: AUGUST 5, 2019
SCALE: AS NOTED
PROJECT NUMBER: 1801014
SHEET:

S2/S14



GROUND FLOOR LAYOUT PLAN
AND MAIN FLOOR FRAMING PLAN

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

NORTH (building)

Winchester Virginia

CITY YARDS MAINTENANCE FACILITY:

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GROUND FLOOR LAYOUT PLAN AND MAIN FLOOR FRAMING PLAN

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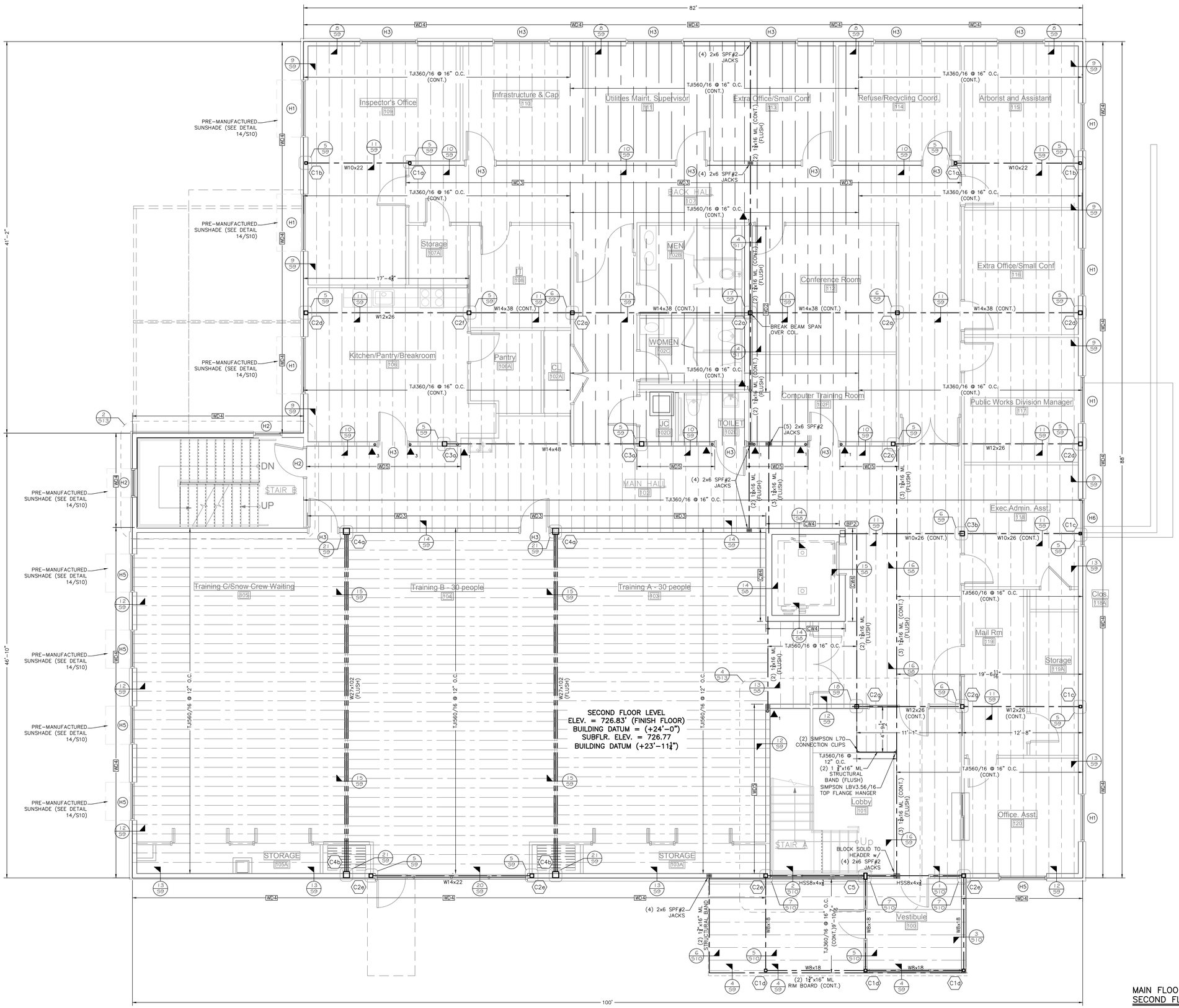
SCALE: AS NOTED
PROJECT NUMBER: 1801014
SHEET:

S3/S14



MAIN FLOOR LAYOUT PLAN AND SECOND FLOOR FRAMING PLAN

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

NORTH (building)

Winchester Virginia

CITY YARDS MAINTENANCE FACILITY:

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CITY YARDS: BUILDING #1

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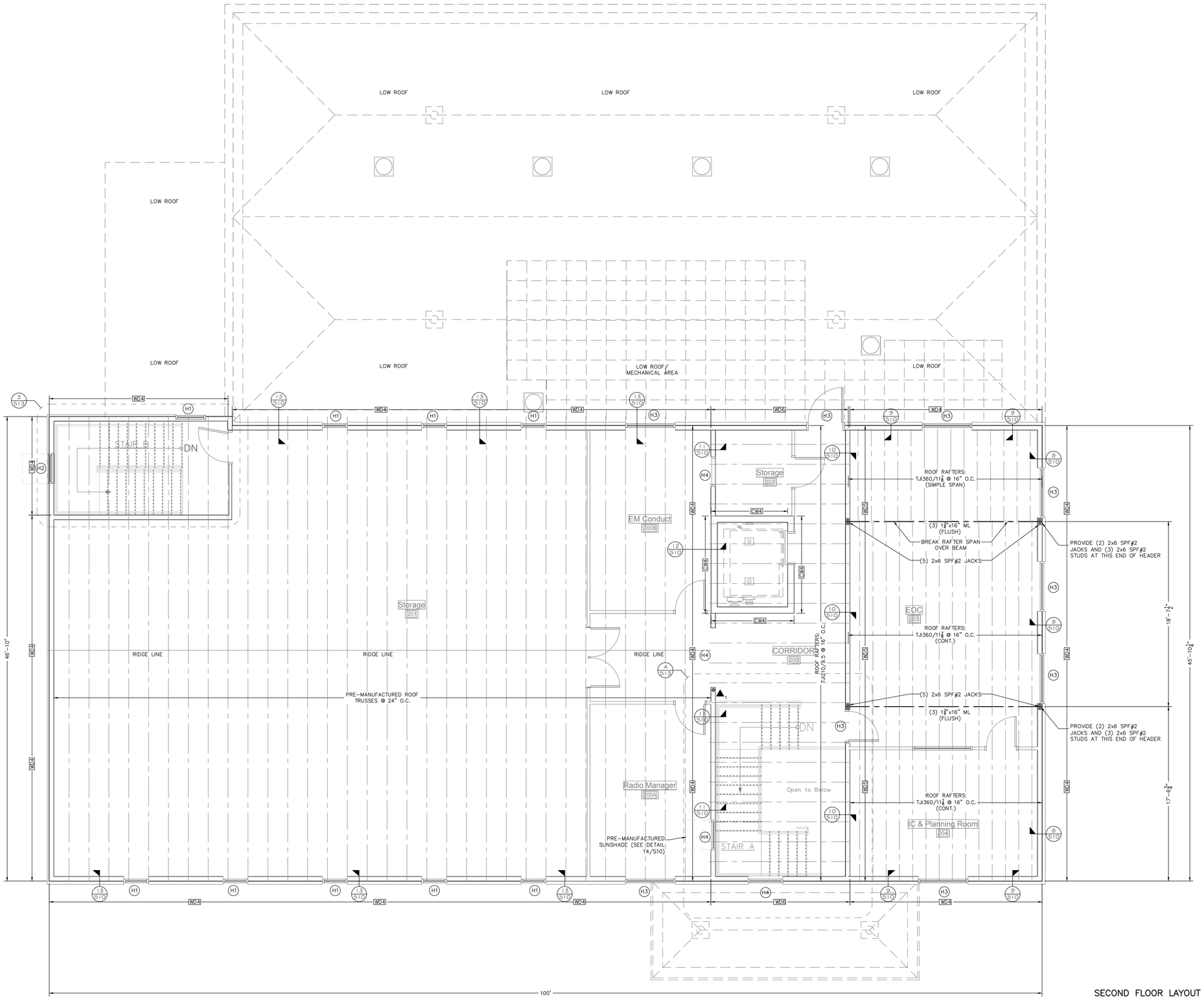
MAIN FLOOR LAYOUT PLAN AND SECOND FLOOR FRAMING PLAN

DATE: AUGUST 5, 2019
SCALE: AS NOTED
PROJECT NUMBER: 1801014
SHEET:

S4/S14



SECOND FLOOR LAYOUT PLAN
AND ROOF FRAMING PLAN

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

NORTH (building)

Winchester Virginia

CITY YARDS MAINTENANCE FACILITY:

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CITY YARDS:
BUILDING #1

SHEET TITLE:

SECOND FLOOR LAYOUT
PLAN AND ROOF
FRAMING PLAN

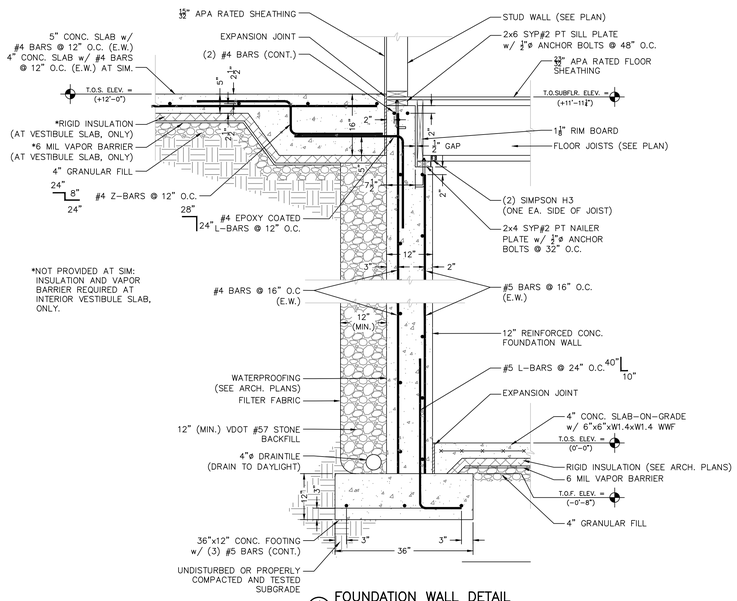
DATE: AUGUST 5, 2019

SCALE: AS NOTED

PROJECT NUMBER: 1801014

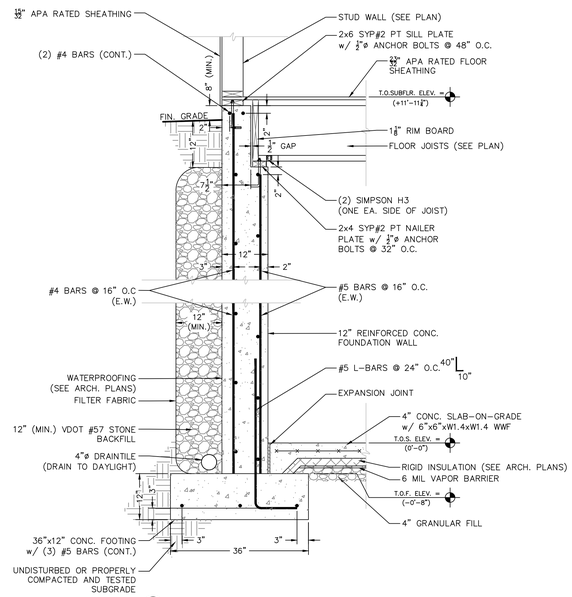
SHEET:

S5/S14



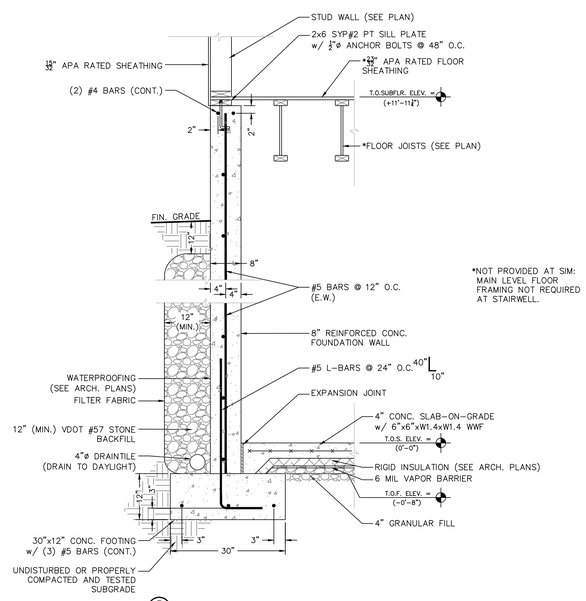
1/S6 FOUNDATION WALL DETAIL AT VESTIBULE

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



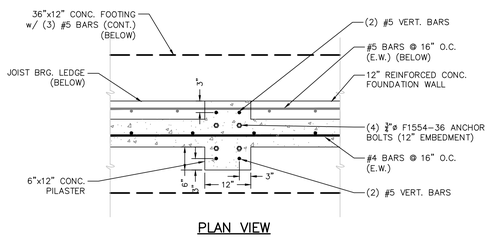
2/S6 FOUNDATION WALL DETAIL

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

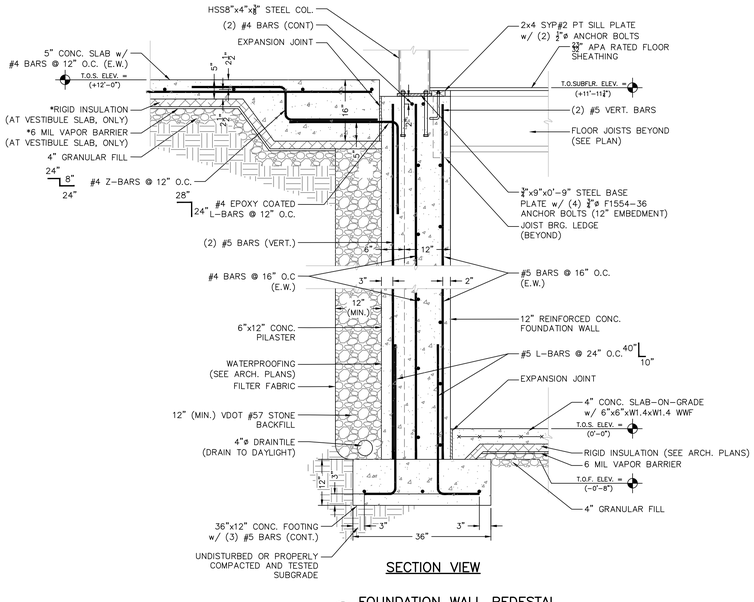


3/S6 FOUNDATION WALL DETAIL

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



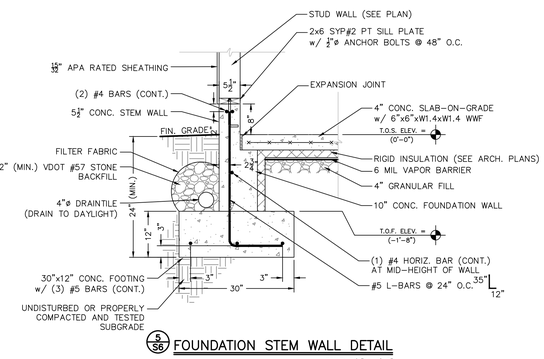
PLAN VIEW



SECTION VIEW

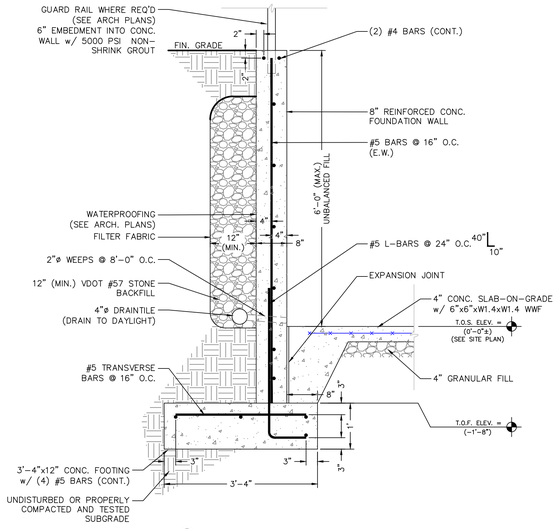
4/S6 FOUNDATION WALL PEDESTAL DETAIL AT VESTIBULE

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



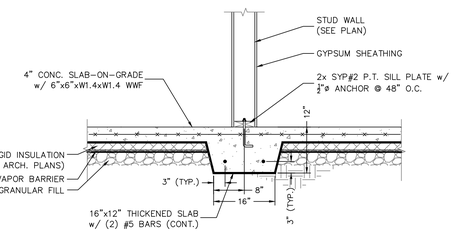
5/S6 FOUNDATION STEM WALL DETAIL

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



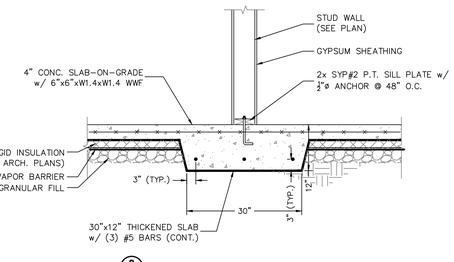
6/S6 RETAINING WALL WALL DETAIL

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



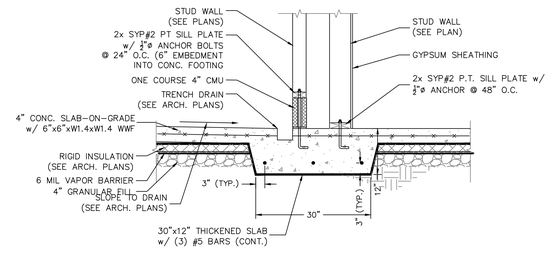
7/S6 TYP. 16"x12" THICKENED SLAB DETAIL

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



8/S6 TYP. 30"x12" THICKENED SLAB DETAIL

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



9/S6 THICKENED SLAB DETAIL AT TRENCH DRAINS

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

NORTH (building)

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ISSUE/REVISIONS:

DRAWING TITLE:

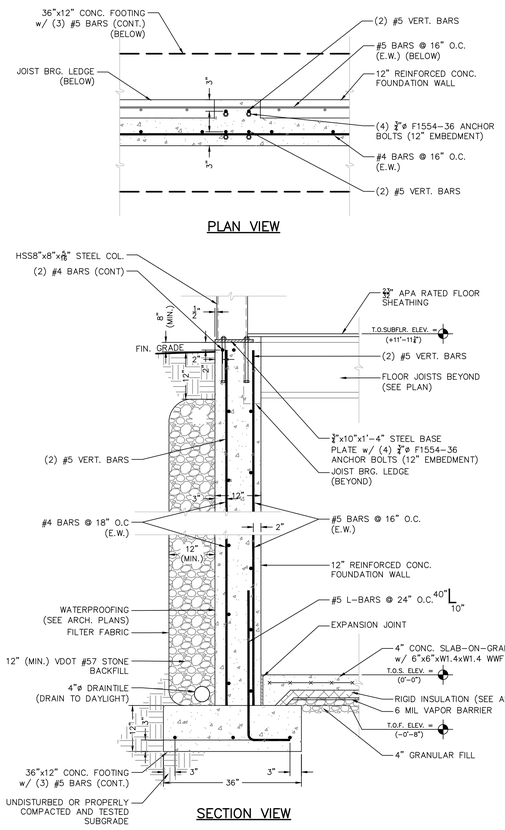
CITY YARDS: BUILDING #1

SHEET TITLE:

FOUNDATION DETAILS

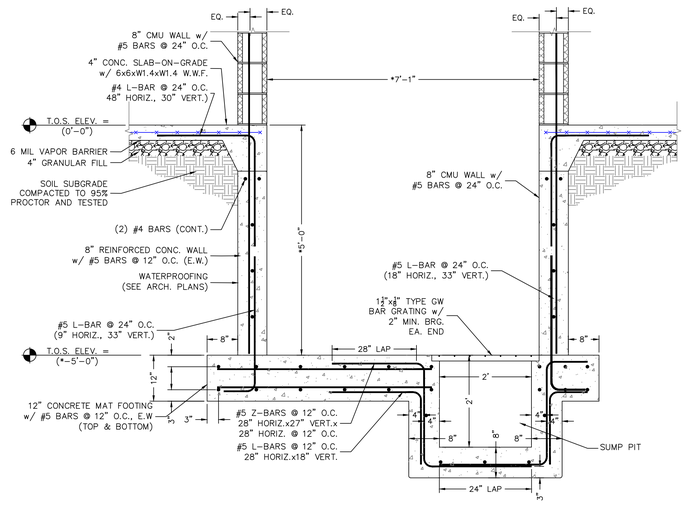
DATE: AUGUST 5, 2019
SCALE: AS NOTED
PROJECT NUMBER: 1801014
SHEET:

S6/S14



1/S7 FOUNDATION WALL PEDESTAL DETAIL 8"x8" COLUMNS

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

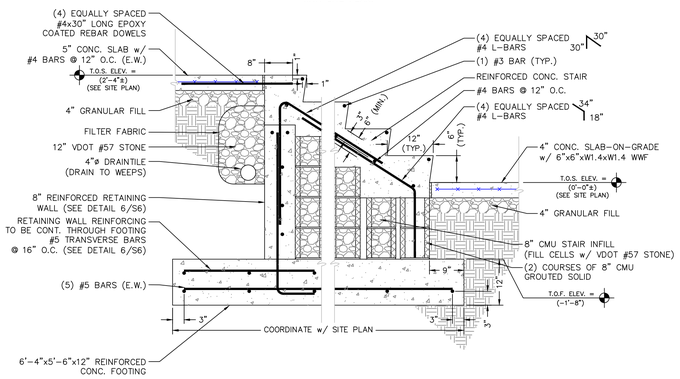


2/S7 ELEVATOR SHAFT PIT DETAIL

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

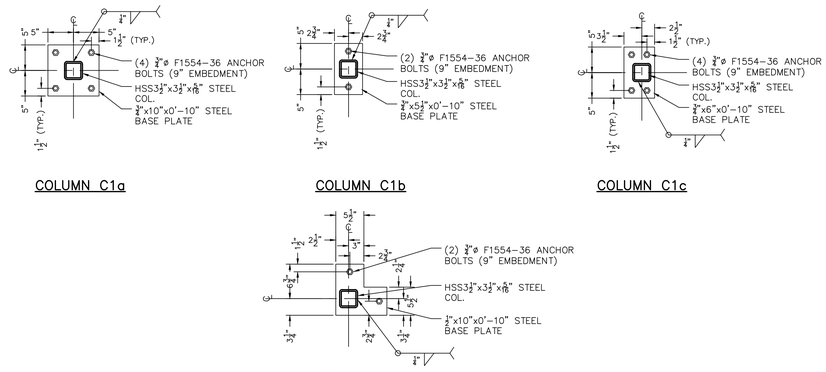
*DIMENSIONS MUST BE CONFIRMED WITH ELEVATOR MANUFACTURER.

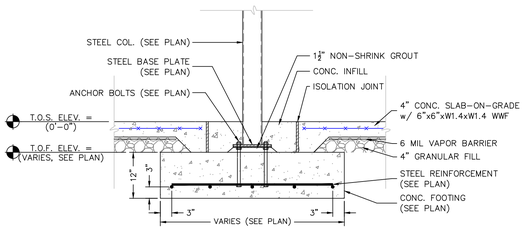
NOTE:
STAIRS TO BE COORDINATED WITH SITE PLAN.



3/S7 EXTERIOR CONC. STAIR DETAIL

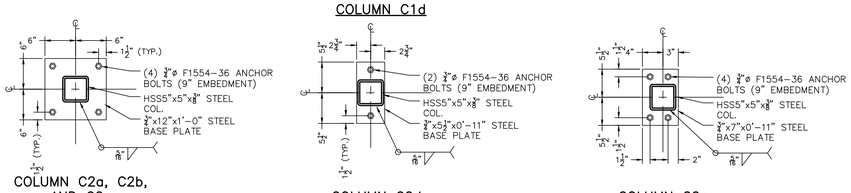
SCALE: 3/4" = 1'-0"

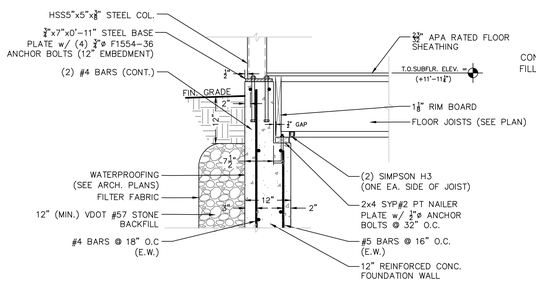




TYP. INTERIOR PIER FOOTING DETAIL

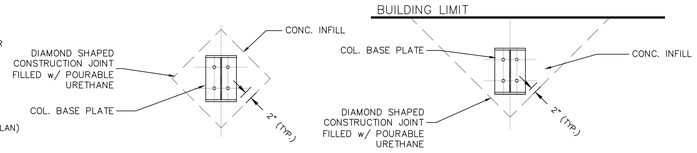
SCALE: 3/4" = 1'-0"





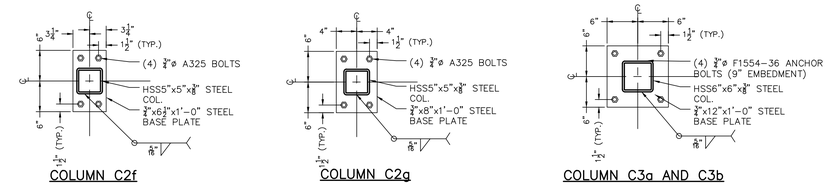
4/S7 COLUMN-TO-FOUNDATION WALL CONNECTION DETAIL

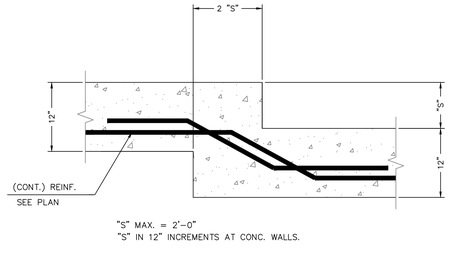
SCALE: 3/4" = 1'-0"



ISOLATION JOINT DETAILS

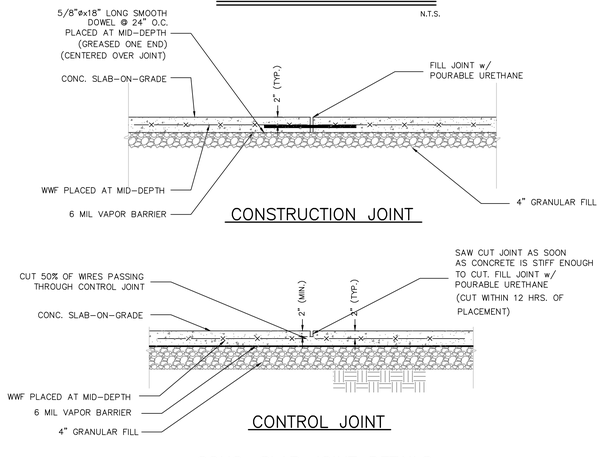
N.T.S.





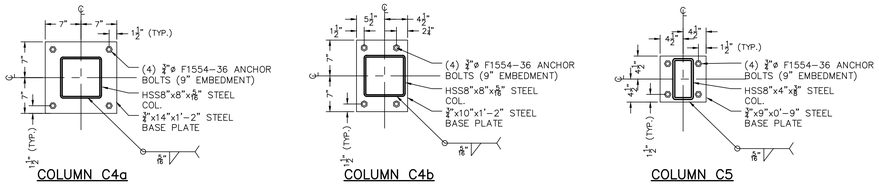
TYP. STEP FOOTING DETAIL

SCALE: N.T.S



CONC. SLAB JOINT DETAILS

N.T.S.



COLUMN BASE PLATE DETAILS

SCALE: 1" = 1'-0"

NORTH (building)

Winchester Virginia

CITY YARDS MAINTENANCE FACILITY: RENOVATION AND ADDITIONS

301 EAST CORK ST.
WINCHESTER, VIRGINIA
22601

CITY OF WINCHESTER VIRGINIA FARE FAC 51744

ARCHITECT:

GDA Architecture Planning Interiors Landscape
Grove & Dall'Olio Architects pllc
MA, LEED AP
GDAarc.com
325 Magnolia Lane Carrollstown, WV 25420 304-267-2120
18 West Boscawen Street Winchester, VA 22601 540-773-2328

Seal

CIVIL and STRUCTURAL ENGINEERS:

CONSULTING ENGINEERS

COMMONWEALTH OF VIRGINIA JASON S. MARSHALL Lic. No. 047220 08-05-2019 PROFESSIONAL ENGINEER

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Seal

ISSUE/REVISIONS:

DRAWING TITLE:

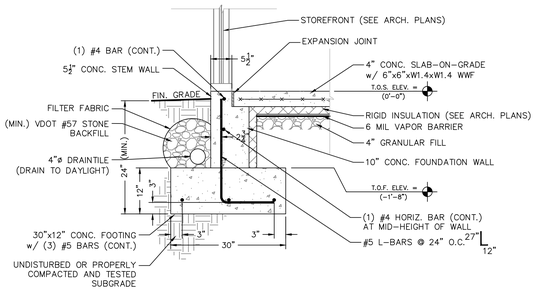
CITY YARDS: BUILDING #1

SHEET TITLE:

FOUNDATION DETAILS

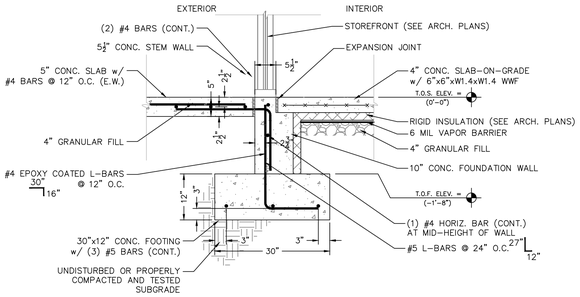
DATE: AUGUST 5, 2019
SCALE: AS NOTED
PROJECT NUMBER: 1801014
SHEET:

S7/S14



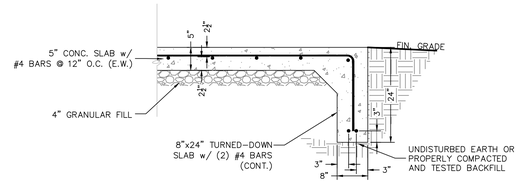
1/S8 VESTIBULE FOUNDATION WALL DETAIL

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



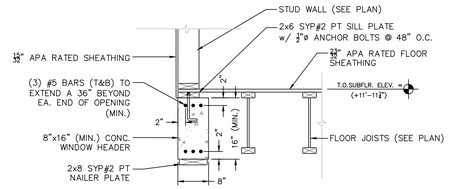
2/S8 VESTIBULE FOUNDATION WALL DETAIL

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



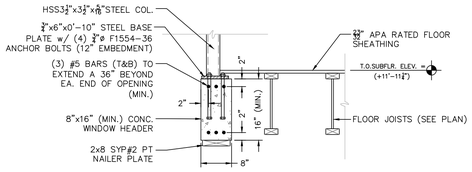
3/S8 VESTIBULE TURNED-DOWN SLAB DETAIL

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



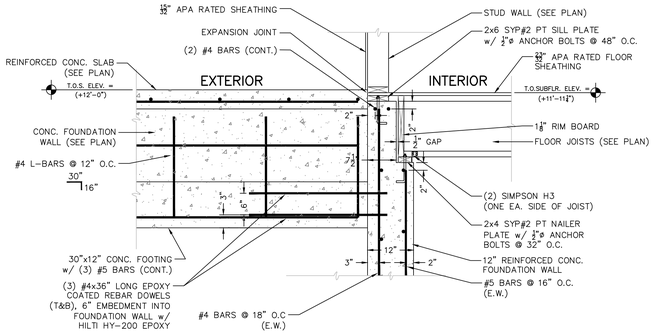
4/S8 CONCRETE WINDOW HEADER DETAIL

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



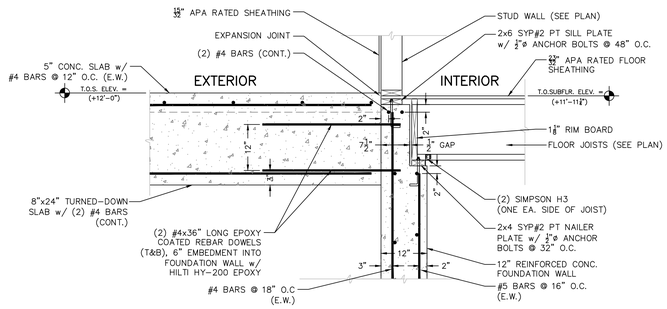
5/S8 CONCRETE WINDOW HEADER AT COLUMN DETAIL

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



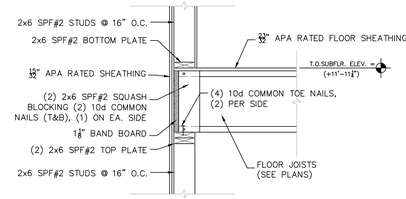
6/S8 VESTIBULE FOUNDATION WALL DETAIL

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



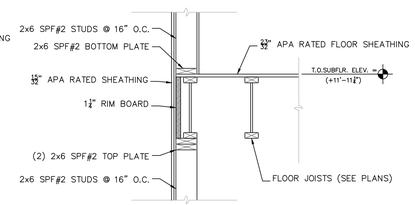
7/S8 VESTIBULE FOUNDATION WALL DETAIL

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



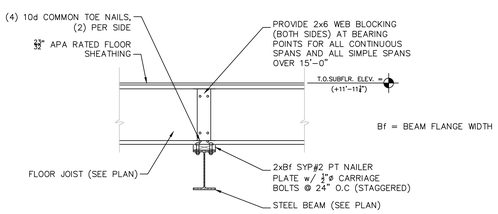
8/S8 BEARING WALL FLOOR JOIST CONNECTION DETAIL

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



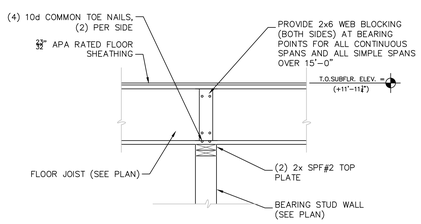
9/S8 PERIMETER NON-BEARING WALL DETAIL

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



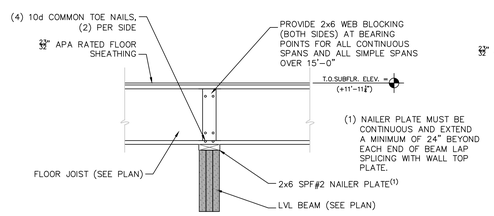
10/S8 JOIST-TO-BEAM CONNECTION DETAIL

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



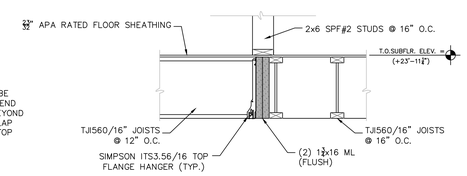
11/S8 JOIST-TO-WALL CONNECTION DETAIL

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



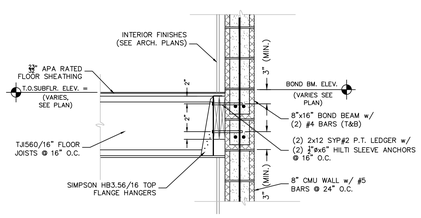
12/S8 JOIST-TO-BEAM CONNECTION DETAIL

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



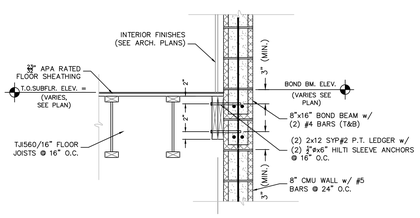
13/S8 JOIST-TO-BEAM CONNECTION DETAIL

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



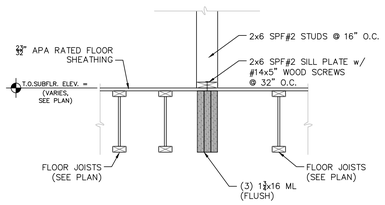
14/S8 JOIST-TO-CMU WALL CONNECTION DETAIL

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



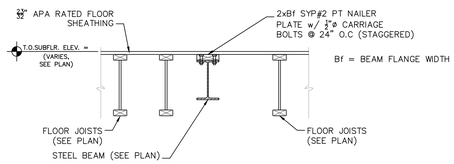
15/S8 SHEATHING LEDGER AT ELEVATOR SHAFT DETAIL

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



16/S8 LVL BEAM FRAMING DETAIL

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



17/S8 STEEL FLOOR BEAM FRAMING DETAIL

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

NORTH (building)

Winchester Virginia

CITY YARDS MAINTENANCE FACILITY: RENOVATION AND ADDITIONS

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GDAarc.com
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18 West Boscawen Street Winchester, VA 22601 540-773-2328

Seal

CIVIL and STRUCTURAL ENGINEERS:

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JASON S. MARSHALL
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ISSUE/REVISIONS:

DRAWING TITLE:

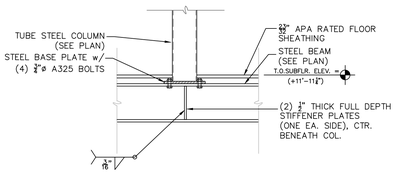
CITY YARDS: BUILDING #1

SHEET TITLE:

FRAMING DETAILS

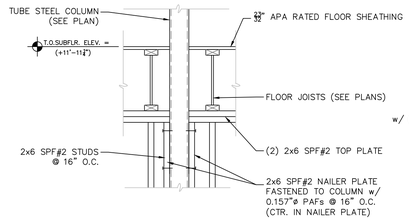
DATE: AUGUST 5, 2019
SCALE: AS NOTED
PROJECT NUMBER: 1801014
SHEET:

S8/S14



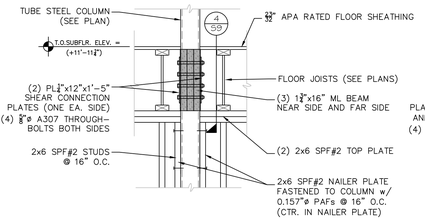
1/S9 COLUMN–TO–BEAM CONNECTION DETAIL

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



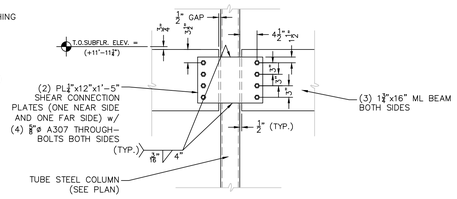
2/S9 MULTI–STORY COLUMN DETAIL

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



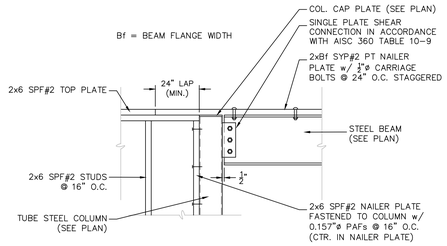
3/S9 LVL BEAM–TO–STEEL COL. CONNECTION DETAIL

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



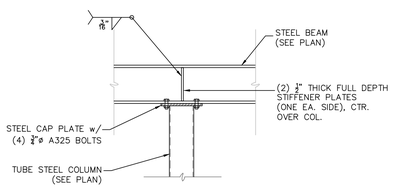
4/S9 LVL BEAM–TO–STEEL COL. CONNECTION DETAIL

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



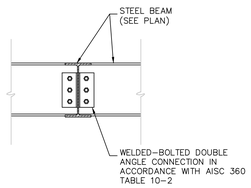
5/S9 STEEL BEAM–TO–COL. CONNECTION DETAIL

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



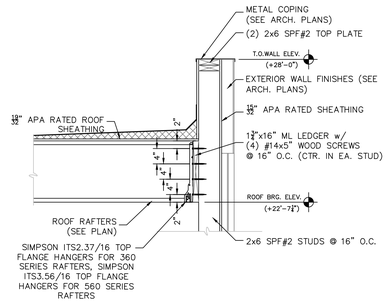
6/S9 TYP. CONTINUOUS BEAM–TO–COLUMN CONNECTION DETAIL

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



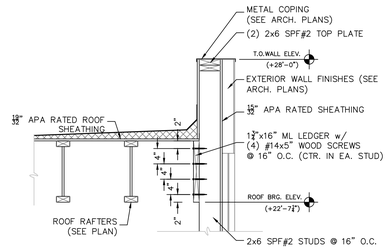
7/S9 TYP. BEAM–TO–BEAM CONNECTION DETAIL

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



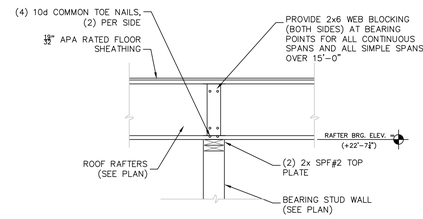
8/S9 ROOF RAFTER BEARING DETAIL

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



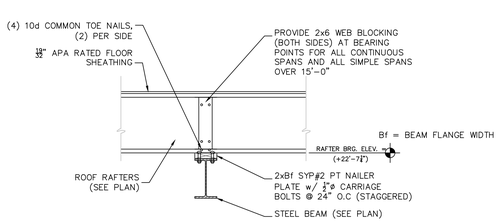
9/S9 ROOF PARAPET WALL DETAIL

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



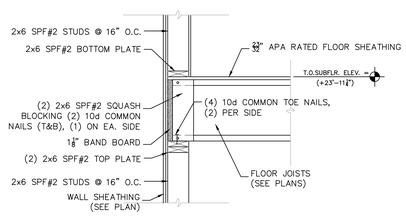
10/S9 RAFTER–TO–WALL CONNECTION DETAIL

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



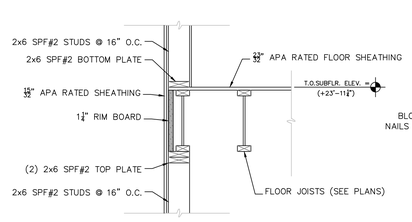
11/S9 JOIST–TO–BEAM CONNECTION DETAIL

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



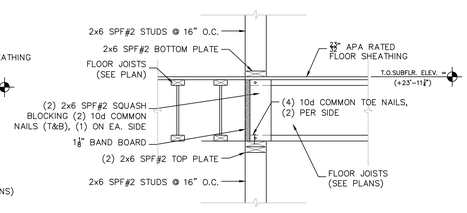
12/S9 BEARING WALL FLOOR JOIST CONNECTION DETAIL

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



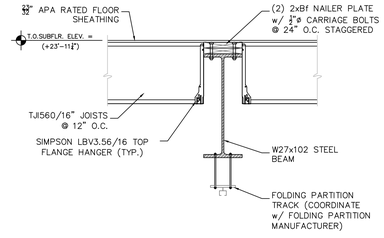
13/S9 NON–BEARING WALL FLOOR JOIST CONNECTION DETAIL

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



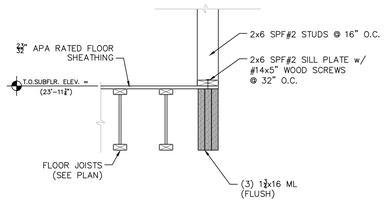
14/S9 BEARING WALL FLOOR JOIST CONNECTION DETAIL

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



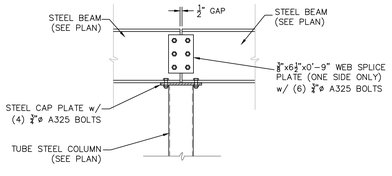
15/S9 JOIST–TO–STEEL BEAM CONNECTION DETAIL

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



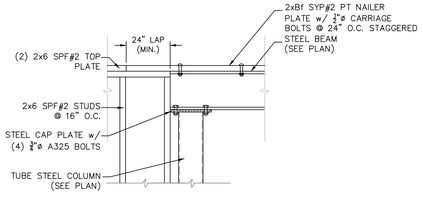
16/S9 LVL BEAM FRAMING DETAIL

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



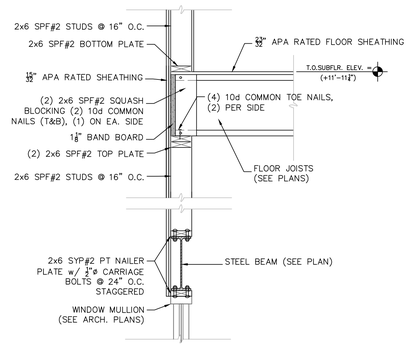
17/S9 BEAM SPAN BREAK OVER COLUMN DETAIL

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



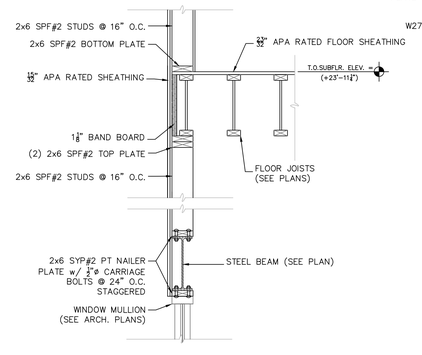
18/S9 STEEL BEAM–TO–COL. CONNECTION DETAIL

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



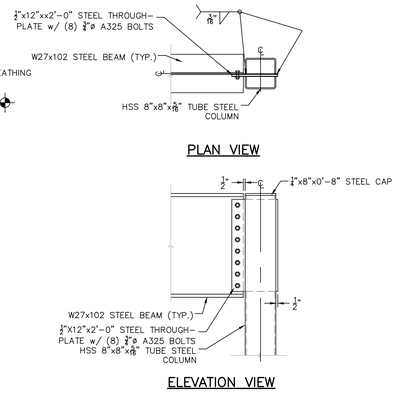
19/S9 WINDOW HEADER DETAIL

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



20/S9 WINDOW HEADER DETAIL

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



21/S9 STEEL BEAM–TO–COL. CONNECTION DETAIL

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

NORTH (building)

Winchester Virginia

CITY YARDS MAINTENANCE FACILITY:

RENOVATION AND ADDITIONS

301 EAST CORK ST.
WINCHESTER, VIRGINIA
22601

CITY OF WINCHESTER VIRGINIA FARE FAC 51744

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MA, LEED AP
GDAaia.com
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CIVIL and STRUCTURAL ENGINEERS:

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DRAWING TITLE:

CITY YARDS: BUILDING #1

SHEET TITLE:

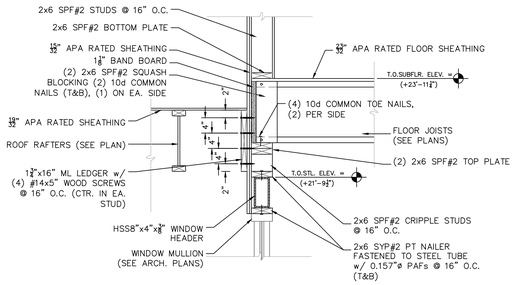
FRAMING DETAILS

DATE: AUGUST 5, 2019

SCALE: AS NOTED | PROJECT NUMBER: 1801014

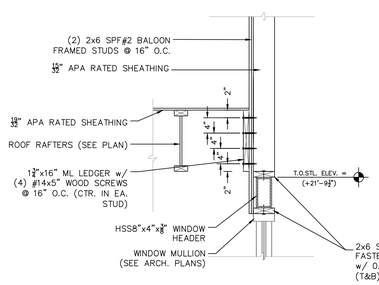
SHEET:

S9/S14



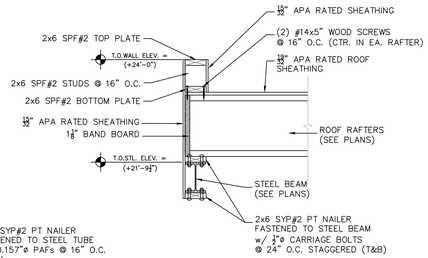
1 S10 VESTIBULE ROOF FRAMING DETAIL

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



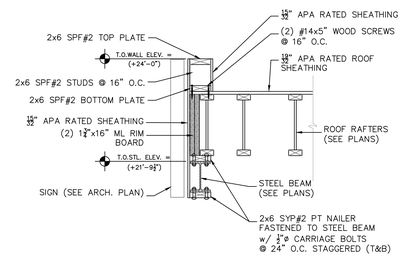
2 S10 VESTIBULE ROOF FRAMING DETAIL

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



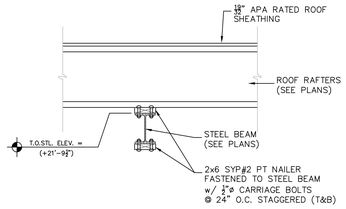
3 S10 VESTIBULE ROOF FRAMING DETAIL

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



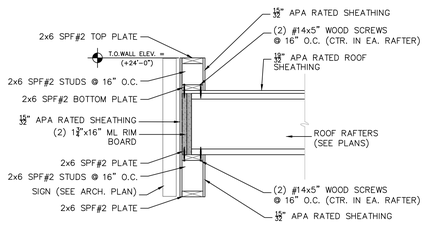
4 S10 VESTIBULE ROOF FRAMING DETAIL

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



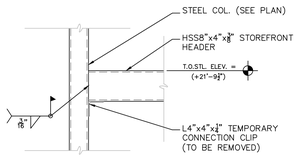
5 S10 VESTIBULE ROOF FRAMING DETAIL

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



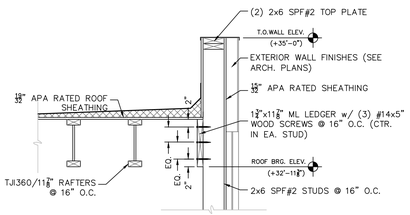
6 S10 VESTIBULE ROOF FRAMING DETAIL

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



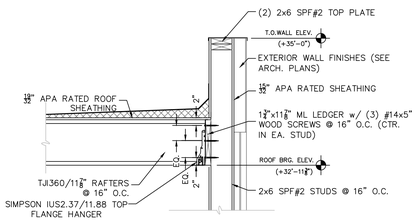
7 S10 VESTIBULE ENTRY STEEL HEADER CONNECTION DETAIL

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



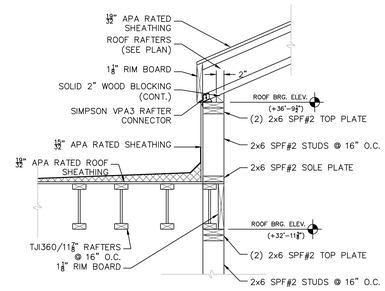
8 S10 ROOF FRAMING DETAIL

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



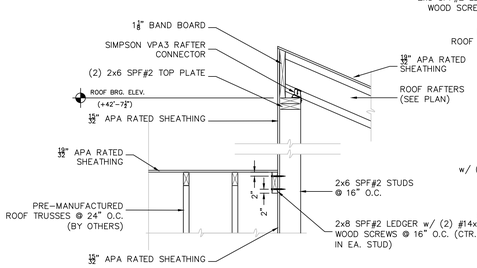
9 S10 ROOF FRAMING DETAIL

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



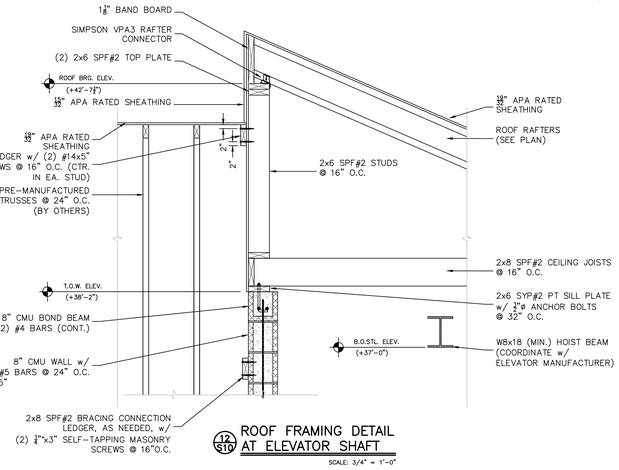
10 S10 ROOF FRAMING DETAIL

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



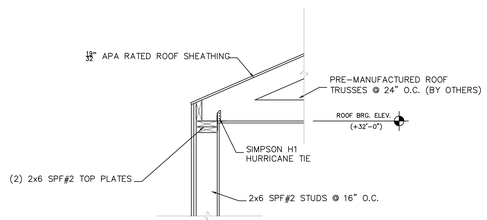
11 S10 ROOF FRAMING DETAIL

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



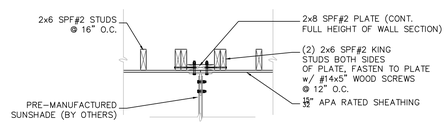
12 S10 ROOF FRAMING DETAIL AT ELEVATOR SHAFT

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



13 S10 ROOF FRAMING DETAIL

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



14 S10 SUNSHADE CONNECTION DETAIL (PARTIAL PLAN VIEW)

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

NORTH (building)

Winchester Virginia

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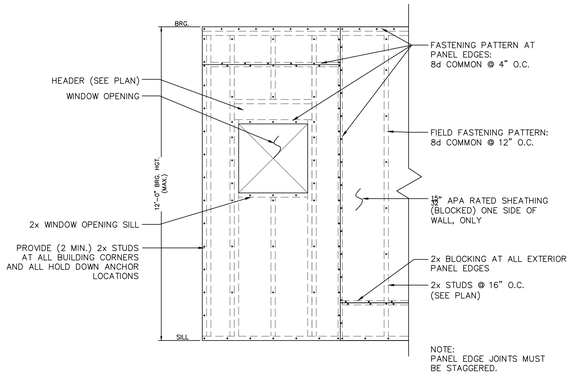
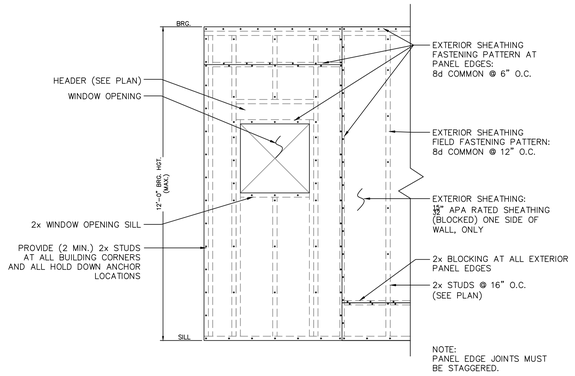


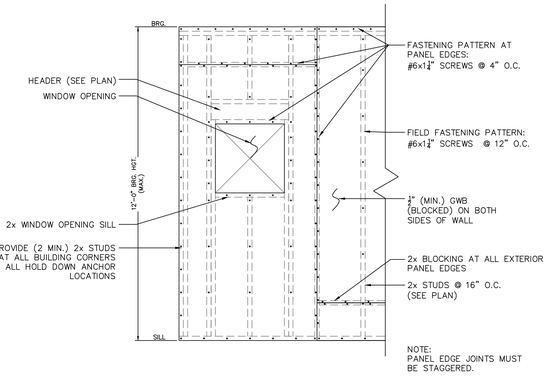
1/S11 WD2 SHEARWALL DETAIL

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



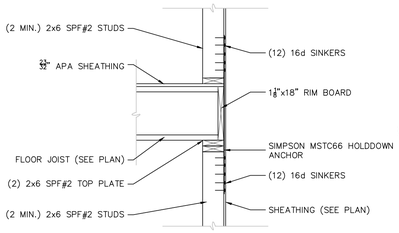
2/S11 WD4 SHEARWALL DETAIL

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



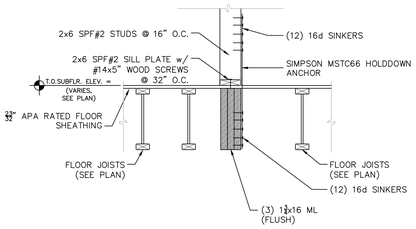
3/S11 WD5 SHEARWALL DETAIL

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



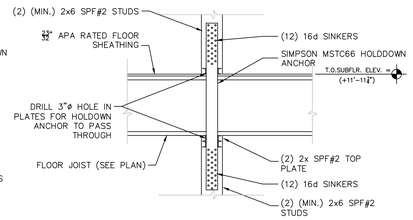
TYP. SIMPSON MSTC66 HOLDOWN ANCHOR DETAIL AT FLOOR DIAPHRAGM

SCALE 3/4" = 1'-0"



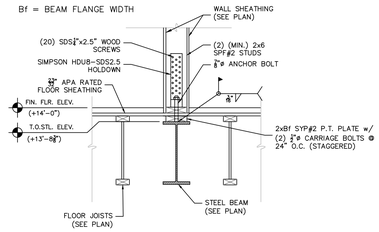
TYP. SIMPSON MSTC66 HOLDOWN ANCHOR DETAIL AT FLOOR BEAM

SCALE 3/4" = 1'-0"



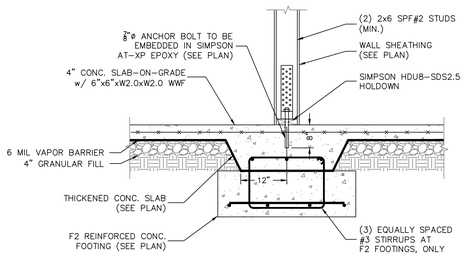
TYP. SIMPSON MSTC66 HOLDOWN ANCHOR DETAIL AT INTERIOR WALL

SCALE 3/4" = 1'-0"



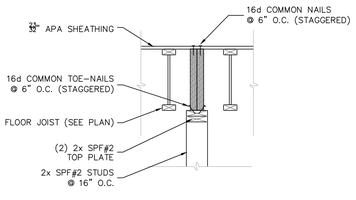
TYP. SIMPSON HDU8-SDS2.5 HOLDOWN ANCHOR DETAIL AT STEEL BEAM

SCALE 3/4" = 1'-0"



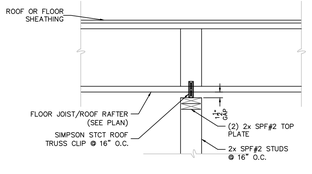
TYP. SIMPSON HDU8-SDS2.5 HOLDOWN ANCHOR DETAIL AT CONCRETE FOOTING

SCALE 3/4" = 1'-0"



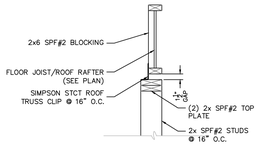
4/S11 SHEARWALL COLLECTOR-TO-WALL CONNECTION DETAIL

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



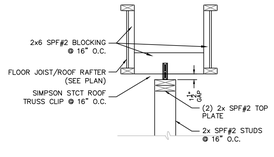
TYP. PARTITION WALL-TO-JOIST CONNECTION DETAIL

SCALE 1" = 1'-0"



TYP. PARTITION WALL-TO-JOIST CONNECTION DETAIL

SCALE 1" = 1'-0"



TYP. PARTITION WALL-TO-JOIST CONNECTION DETAIL

SCALE 1" = 1'-0"

NORTH (building)

Winchester Virginia

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SHEARWALL DETAILS

DATE: AUGUST 5, 2019
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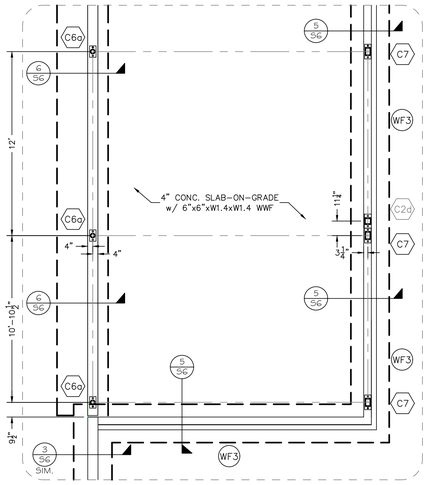
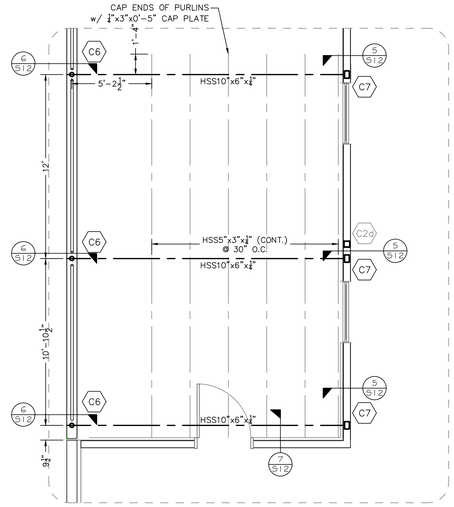
SHEET:

S11/S14



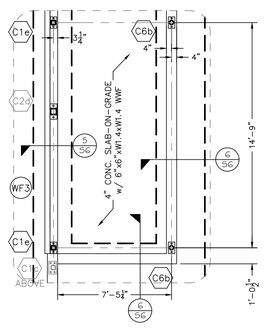
1/S12 SOUTH CANOPY FOUNDATION PLAN

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



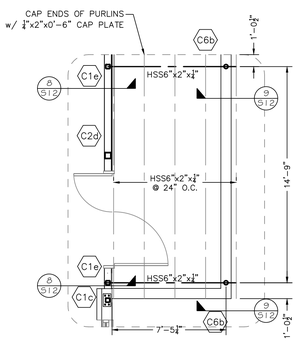
2/S12 SOUTH CANOPY FRAMING PLAN

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



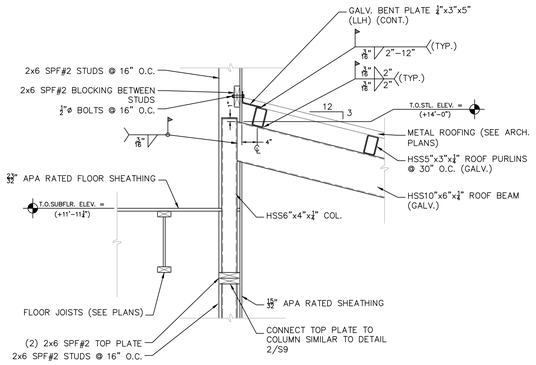
3/S12 NORTH CANOPY FOUNDATION PLAN

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



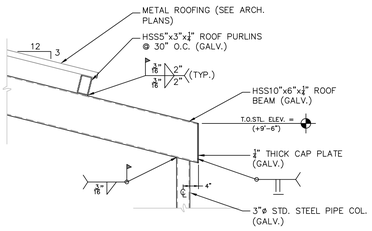
4/S12 NORTH CANOPY FRAMING PLAN

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



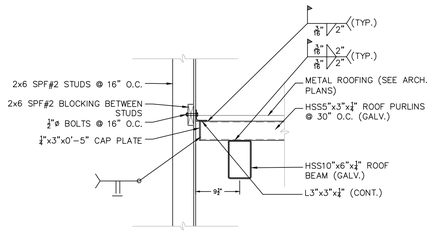
5/S12 SOUTH CANOPY FRAMING DETAIL

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



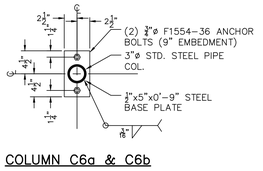
6/S12 SOUTH CANOPY FRAMING DETAIL

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

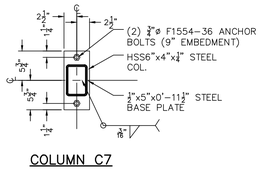


7/S12 SOUTH CANOPY FRAMING DETAIL

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



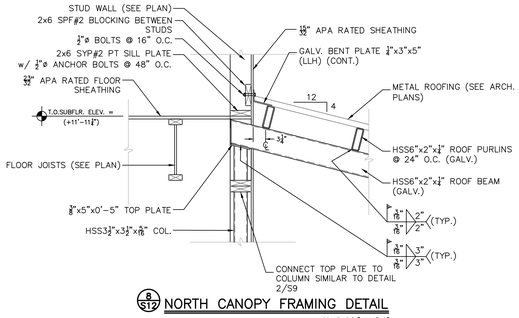
COLUMN C6a & C6b



COLUMN C7

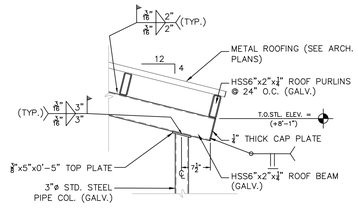
COLUMN C6 & C7 BASE PLATE DETAILS

SCALE: 1" = 1'-0"



8/S12 NORTH CANOPY FRAMING DETAIL

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



9/S12 NORTH CANOPY FRAMING DETAIL

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

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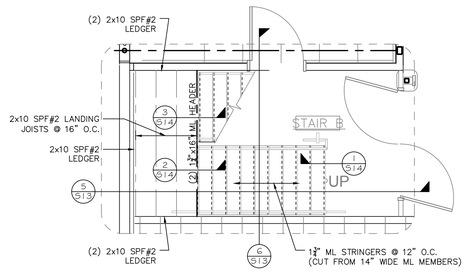
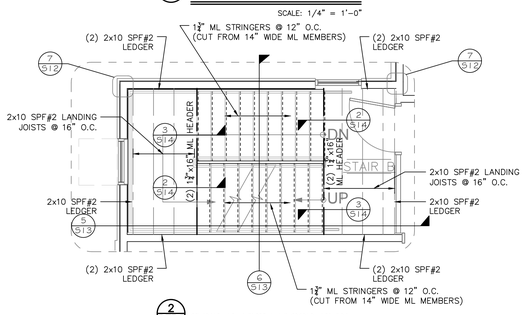
SHEET:

S12/S14



1/S13 STAIR B GROUND LEVEL PLAN

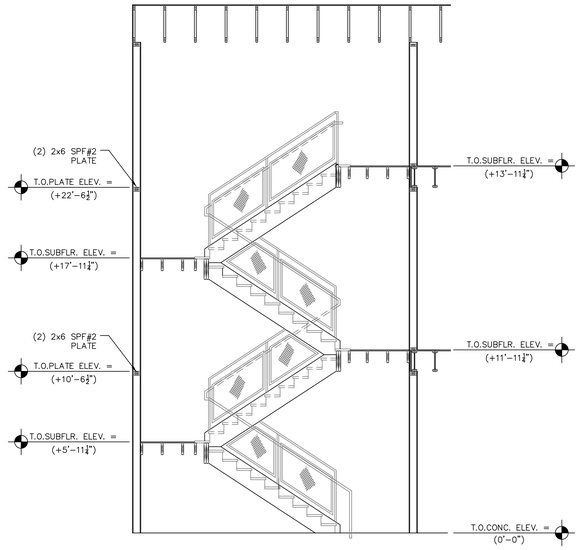
SCALE: 1/4" = 1'-0"



2/S13 STAIR B FIRST FLOOR PLAN

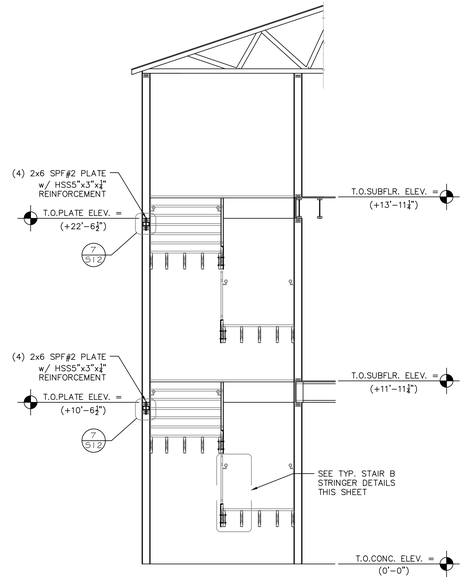
SCALE: 1/4" = 1'-0"

NOTE:
SHOP DRAWINGS SHALL BE PREPARED FOR STAIRS AND RAILS AND MUST BE SUBMITTED TO THE DESIGN TEAM FOR REVIEW PRIOR TO FABRICATION.



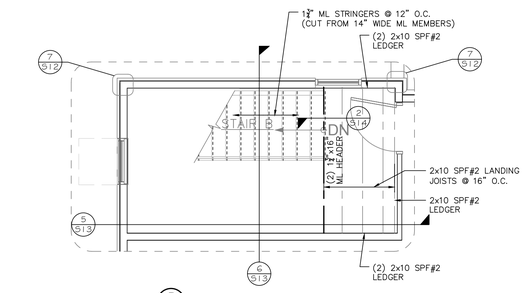
5/S13 STAIR B SECTION VIEW

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



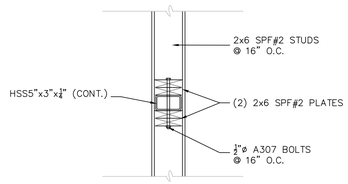
6/S13 STAIR B SECTION VIEW

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

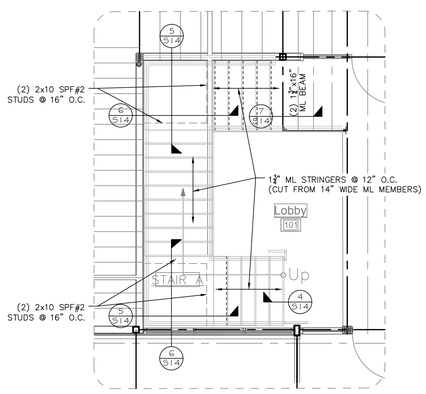


3/S13 STAIR B SECOND FLOOR PLAN

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

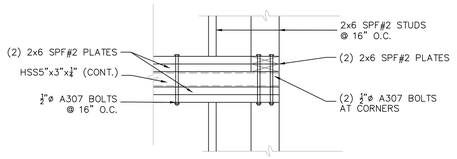


SECTION VIEW

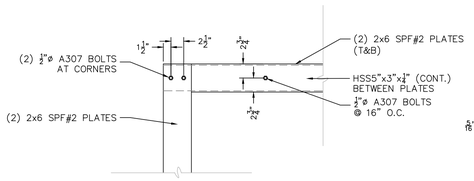


4/S13 STAIR A FIRST FLOOR PLAN

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



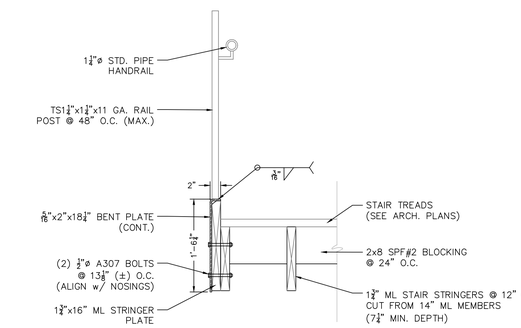
ELEVATION VIEW



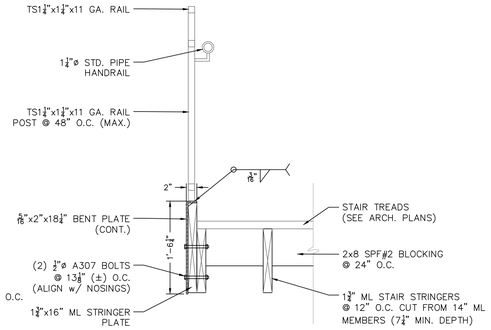
PLAN VIEW

7/S17 WALL PLATE DETAIL

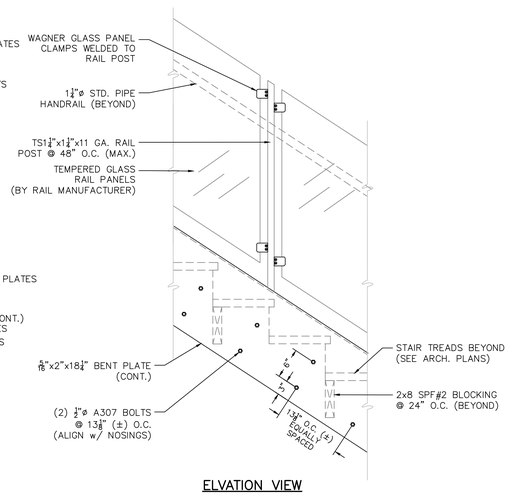
SCALE: 1" = 1'-0"



SECTION VIEW



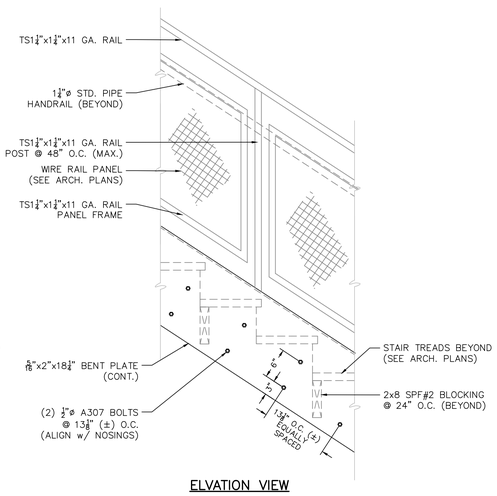
SECTION VIEW



ELVATION VIEW

TYP. STAIR A STRINGER DETAILS

SCALE: 1" = 1'-0"



ELVATION VIEW

TYP. STAIR B STRINGER DETAILS

SCALE: 1" = 1'-0"

NORTH (building)

Winchester Virginia

CITY YARDS MAINTENANCE FACILITY:

RENOVATION AND ADDITIONS

301 EAST CORK ST.
WINCHESTER, VIRGINIA
22601

CITY OF WINCHESTER VIRGINIA FARE FAC 81744

ARCHITECT:

GDA Architecture Planning Interiors Landscape
Grove & Dall'Olio Architects pllc
MA, LEED AP
GDAaia.com
325 Magnolia Lane Charlestown, WV 25420 304-267-2120
18 West Boscawen Street Winchester, VA 22601 540-773-2328

Seal

CIVIL and STRUCTURAL ENGINEERS:

CONSULTING ENGINEERS

COMMONWEALTH OF VIRGINIA
JASON S. MARSHALL
Lic. No. 047220
08-05-2019
PROFESSIONAL ENGINEER

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817 CEDAR CREEK GRADE, Suite 120
WINCHESTER, VIRGINIA 22601
(540) 662–5792

MECHANICAL, ELECTRICAL, and PLUMBING ENGINEERS:

CDi
Comfort Designs Inc.
620 Pennsylvania Avenue
Winchester, VA 22604
540 665–2846

Seal

ISSUE/REVISIONS:

DRAWING TITLE:

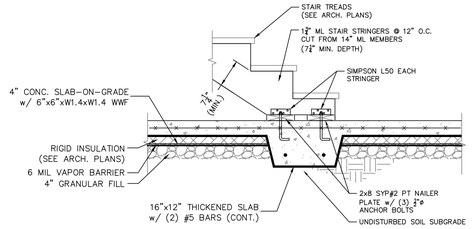
CITY YARDS: BUILDING #1

SHEET TITLE:

STAIR FRAMING PLANS AND DETAILS

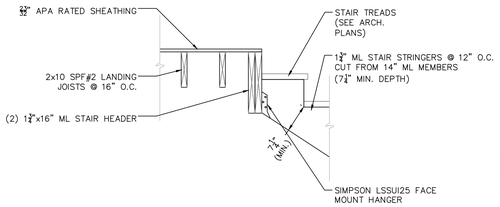
DATE: AUGUST 5, 2019
SCALE: AS NOTED
PROJECT NUMBER: 1801014
SHEET:

S13/S14



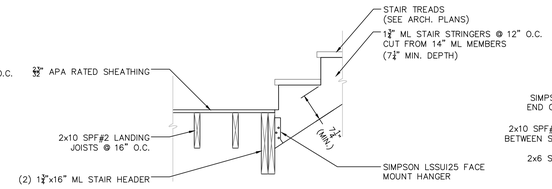
1/S14 STAIR B FRAMING DETAIL

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



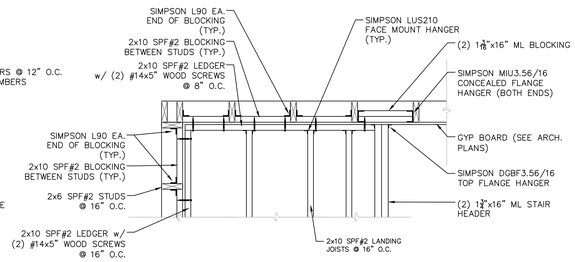
2/S14 STAIR B FRAMING DETAIL

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



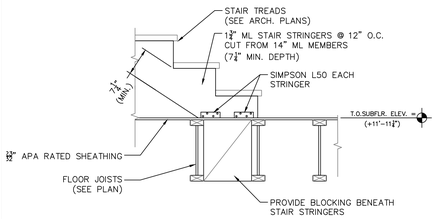
3/S14 STAIR B FRAMING DETAIL

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



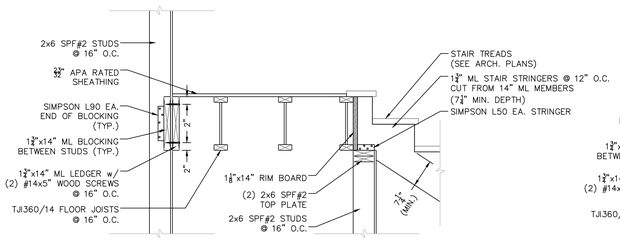
TYP. STAIR B LANDING FRAMING DETAIL

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



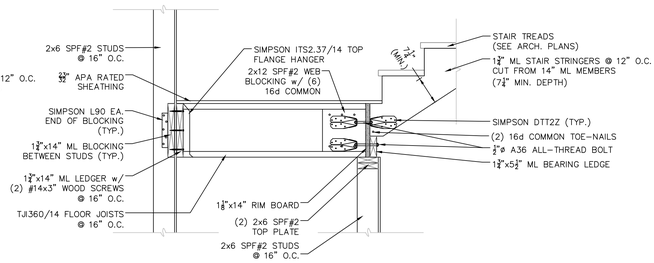
4/S14 STAIR A FRAMING DETAIL

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



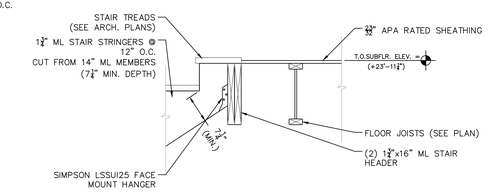
5/S14 STAIR A FRAMING DETAIL

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



6/S14 STAIR A FRAMING DETAIL

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



7/S14 STAIR A FRAMING DETAIL

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

NORTH (building)

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ISSUE/REVISIONS:

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STAIR FRAMING DETAILS

DATE: AUGUST 5, 2019

SCALE: AS NOTED | PROJECT NUMBER: 1801014

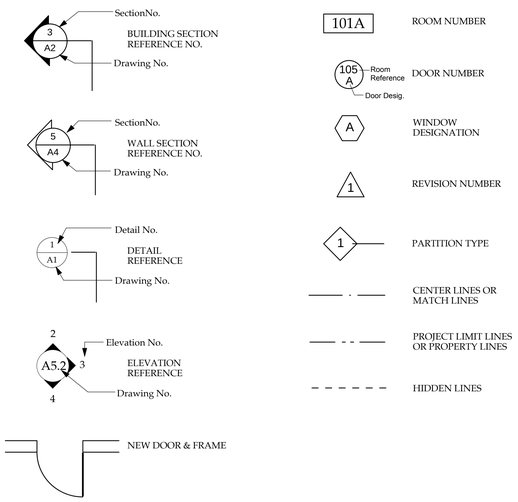
SHEET:

S14/S14

MATERIALS LEGEND

COMPACTED GRAVEL FILL	GLASS
CONCRETE	CERAMIC TILE
BRICK MASONRY	FINISHED WOOD
CONCRETE MASONRY	ROUGH WOOD
MARBLE, STONE	PLASTER, GYPSUM
METAL	BATT INSULATION
PLYWOOD	RIGID INSULATION

SYMBOLS LEGEND



ABBREVIATIONS

ATC	Acoustical Tile Ceiling	HM	Hollow Metal
ADJUST	Adjustable	HPL	High Pressure Laminate
AFF	Above Finish Floor	HR	Hour
ALUM	Aluminum	HW	Hardware
CPT	Carpet	INSUL	Insulation
CAB	Cabinet	JB	Junction Box
CL	Closet	MAX	Maximum
CT	Ceramic Tile	MIN	Minimum
CLG	Ceiling	MTL	Metal
CONT	Continuous	NIC	Not in Contract
COTR	Contract Officer's Tech'l Representative	NO	Number
CMU	Concrete Masonry Unit	NTS	Not to Scale
DF	Drinking Fountain	OC	On Center
DN	Down	OH	Opposite Hand
DWG	Drawing	PLAM	Plastic Laminate
ELEC	Electrical	PT	Paint
EQ	Equal	PWD	Plywood
EQUIP	Equipment	SS	Stainless Steel
EXG	Existing	TBD	To Be Determined
FEC	Fire Extinguisher Cabinet	Temp	Tempered
FFE	Finish Floor Elevation	TYP	Typical
GA	Gauge	UON	Unless Otherwise Noted
GC	General Contractor	VCT	Vinyl Composition Tile
GL	Glass	VIF	Verify in Field
GWB	Gypsum Wallboard	WD	Wood
GWB-X	5/8" Type X Gypsum Wallboard	WR	Water Resistant

GENERAL NOTES

1. All contractors doing work on site shall have a Business License from the State of Virginia.
2. Locating Openings: Unless otherwise dimensioned, center doors and framed openings between adjacent walls.
3. Schedule: The Contractor shall prepare a construction schedule prior to the start of the job which will be reviewed at each progress payment request.
4. Fire Safety:
   a)All materials stored at construction area, and/or in any area of the building, are to be secured in a locked area. Access to such areas is to be controlled by Owner and General Contractor.
   b)All materials to be stored in an orderly fashion.
   c)All flammable materials to be kept tightly sealed in their respective manufacturer's containers. Such materials are to be kept away from heat.
   d)All flammable materials to be used and stored in an adequately ventilated space.
5. Dust Control:
   a)Debris, dirt, and soot shall be kept to a minimum, and be confined to the immediate construction area.
   b)Debris, dirt and dust to be cleaned up and cleared from building periodically to avoid any excessive accumulation.
   c)Tape off and poly. doorways between work area and non work areas.
6. Furnish all labor, materials, appurtenances, equipment, and services necessary and required to complete all work so noted or depicted on the following drawings.
7. All interior partition dimensions are from stud to stud, unless noted otherwise.
8. Examine the conditions and preparations made for the performance of all work and notify the Architect in writing of conditions detrimental to the proper and timely completion of the work. Do not proceed with work until conditions are made satisfactory for performance of work.
9. Order all specified materials and fabricated items with sufficient lead time so as not to delay work in any manner.
10. Care should be taken to protect all site and construction conditions throughout the course of construction. Should any damage occur, the contractor shall restore to the prior condition.
11. The Contractor shall make arrangements with the Architect to coordinate and direct connection of service so as not to delay the progress of the job.
12. Manufacturer's recommendations and installation instructions shall be adhered to for all materials used.
13. The Contractor shall not scale the drawings. In the event that a needed dimension is not clearly indicated, notify the Architect at once. Proceed with the affected work only upon receipt of explicit direction by the Architect.
14. The Contractor shall alert the Architect a minimum of 48 hours in advance of the following field inspections: The Architect shall verify floor layout of walls prior to their construction. The Architect shall verify framing installation prior to installation of wall board panels or block.
15. The Contractor shall collect all product warranties and relevant receipts on the project. The Contractor shall compile this information and turn it over to the Architect prior to final payment. All work shall be warrented by the Contractor for one year from the date of Substantial Completion.
16. Unless noted specifically that work is to be done by others or by the Owner, the Contractor shall provide and install all work shown or described in the Contract Documents.
17. All penetrations through fire and smoke rated construction shall be sealed. See mechanical drawings for locations of fire and smoke rated dampers.
18. Provide and maintain in a sanitary condition during the construction period adequate toilet facilities for use of all employees from beginning to end of work; install at an approved location to meet the requirements of the local health department. Equip temporary toilets with weatherproof enclosure doors. Shield toilets to insure privacy. Use of permanent plumbing fixtures within the building during construction will not be permitted.

LIFE SAFETY NOTES

Code Analysis for the WINCHESTER PUBLIC WORK Administration Building 2019

City: City of Winchester

Zoning: Commercial
Allowable Uses: All

Building Codes:
2015 Virginia Construction Code
2015 Virginia Statewide Fire Prevention Code (VCC)
2015 Virginia Statewide Uniform Building Code (USBC)
2012 Virginia Mechanical Code
2012 Virginia Plumbing Code
2011 National Electric Code

Building Restriction Lines:	N/A
Building Use Permitted on Lot:	N/A
Size of Structure Permitted on Lot:	N/A
Aesthetic Review Process Required:	N/A
Landscaping Requirements:	N/A
Restrictive Covenants:	N/A
Floor Area Ratio:	N/A
Height permitted above grade:	N/A
Side/Rear Setbacks:	N/A
Front Setbacks:	N/A
Parking Requirements:	(by Painter-Lewis)
Loading Berth Requirements:	N/A

Proposed Use Group: Business Group B

Separation Required: N/A

Construction Type: V B (Unprotected wood frame)
V (000)

Fire Suppression System: No

Area of allowable uses: No limit

Maximum Number of Stories: 2 (building includes walkout basement level)

Fire Resistance Rating Requirements:
frame - 0 hour*
ext bearing walls - 0 hours
int. bearing walls - 0 hour
floor joists & beams - 0 hr.
roof beams/joists – 0

Interior exit stairways must have a Class A flame spread in exits.

Corridor (serving more than 30) Fire Resistant rating requirement (table 1018.1): 1 hour rating

Doors can swing into the rooms if they have less than a 50 person occupancy (1010.1.2)

Common Path of travel shall not exceed 75'.

The maximum travel distance shall not exceed 200'.

Interior Wall & Ceiling Requirements:
Interior Exits – Class A
Exit Corridors –Class A

Floor Finish Requirements in Exit Enclosures: Class I or II

Minimum Egress Corridor width: 44" (table 1020.2)

Occupant Load:

Max. Floor Area per occupant:

Business = 100 Gross SF/person

2d Floor storage/circ = 3740 sf =		0
2d Floor offiece = 860 sf / 100 =		9
1st Floor =	8142 sf / 100 =	81
Gr Floor =	8042 sf / 100 =	80
Totals =	20,784 sf	170 people

Exits Required: 2

Exit Width required: .3" per person exit width x 81 occupants = 24.3"
44" minimum required

ADA Requirements: yes

Restroom Requirements: Business Occupancy
170 people/2 = 85 people per sex

3 wc for women (1 per 25 for first 50, then 1 per 50)
3 wc for men (1 per 25 for first 50, then 1 per 50)
3 lavs (1 per 40 for first 80, then 1 per 80)
2 DF (1 per 100) with 2 of them accessible to wheelchairs

Areas of refuge shall include signage and 2-way communication in compliance with VCC 1007.6, 1007.8.1, 1007.8.2 And 1007.9.

LIST OF DRAWINGS

ARCHITECTURAL

A1.1 General Notes, Legend
A2.1 Ground Floor Construction Plan
A2.2 First Floor Construction Plan
A2.3 Second Floor Construction Plan
A2.4 Roof Level Construction Plan & Partition Types
A2.5 Ground Floor Reflected Ceiling Plan
A2.6 First Floor Reflected Ceiling Plan
A2.7 Second Floor Reflected Ceiling Plan
A2.8 Ground Floor Furniture, Finish & Equipment Plan
A2.9 First Floor Furniture, Finish & Equipment Plan
A2.10 Second Floor Furniture, Finish & Equipment Plan
A3.1 Exterior Elevations
A3.2 Exterior Elevations
A3.3 Building Sections
A4.1 Interior Elevations
A4.2 Interior Elevations
A5.1 Wall Sections
A5.2 Stair & Elevator Sections
A6.1 Door Schedules& Details
A6.2 Window Schedule
A6.3 Finish Schedule
A7.1 Interior Details
A7.2 Exterior Details

NORTH (building)

Winchester Virginia

CITY YARDS MAINTENANCE FACILITY:
RENOVATION and ADDITIONS
301 East Cork St.
Winchester, Virginia 22601

Public Services Building

CIVIL and STRUCTURAL ENGINEERS:

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540-773-2328

Issue/Revision

Seal

STATE OF VIRGINIA
Lisa Dallolio
NO. 014691
REGISTERED
ARCHITECT

Drawing Title

Notes, Legend, Abbreviations

Date 8/5/19

Scale Noted

Project Number 18665

Drawing Number

A1.1

1 Ground Floor PLan
Scale: 1/4" = 1'-0"

NORTH (building)

Winchester Virginia

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Issue / Revision

Seal

STATE OF VIRGINIA
Lisa Dallolio
NO. 014691
REGISTERED
ARCHITECT

Drawing Title

Ground Floor Construction Plan

Date 8/5/19

Scale Noted

Project Number 18665

Drawing Number

A2.1

1 First Floor PLan
Scale: 1/4" = 1'-0"

NORTH (building)

Winchester Virginia

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Issue / Revision

Seal

STATE OF VIRGINIA
Lisa Dallolio
NO. 014691
REGISTERED ARCHITECT

Drawing Title

First Floor Construction Plan

Date 8/5/19
Scale Noted
Project Number 18665
Drawing Number

A2.2

1 Second Floor Plan
Scale: 1/4" = 1'-0"

NORTH (building)

Winchester Virginia

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Issue / Revision

Seal

STATE OF VIRGINIA
Lisa Dallolio
NO. 014601
REGISTERED ARCHITECT

Drawing Title

Second Floor Construction Plan

Date 8/5/19

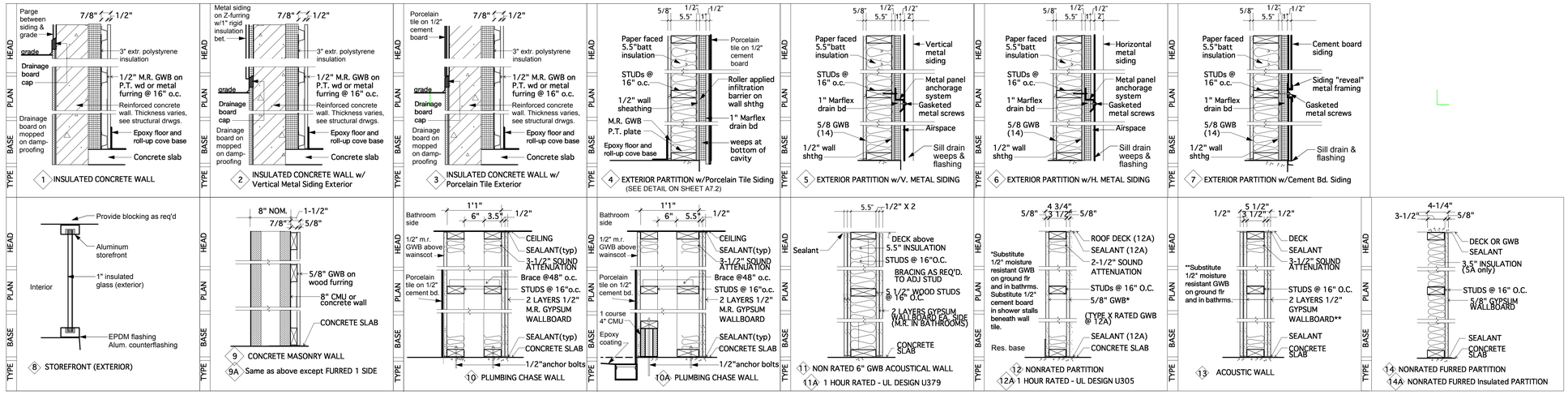
Scale Noted

Project Number 18665

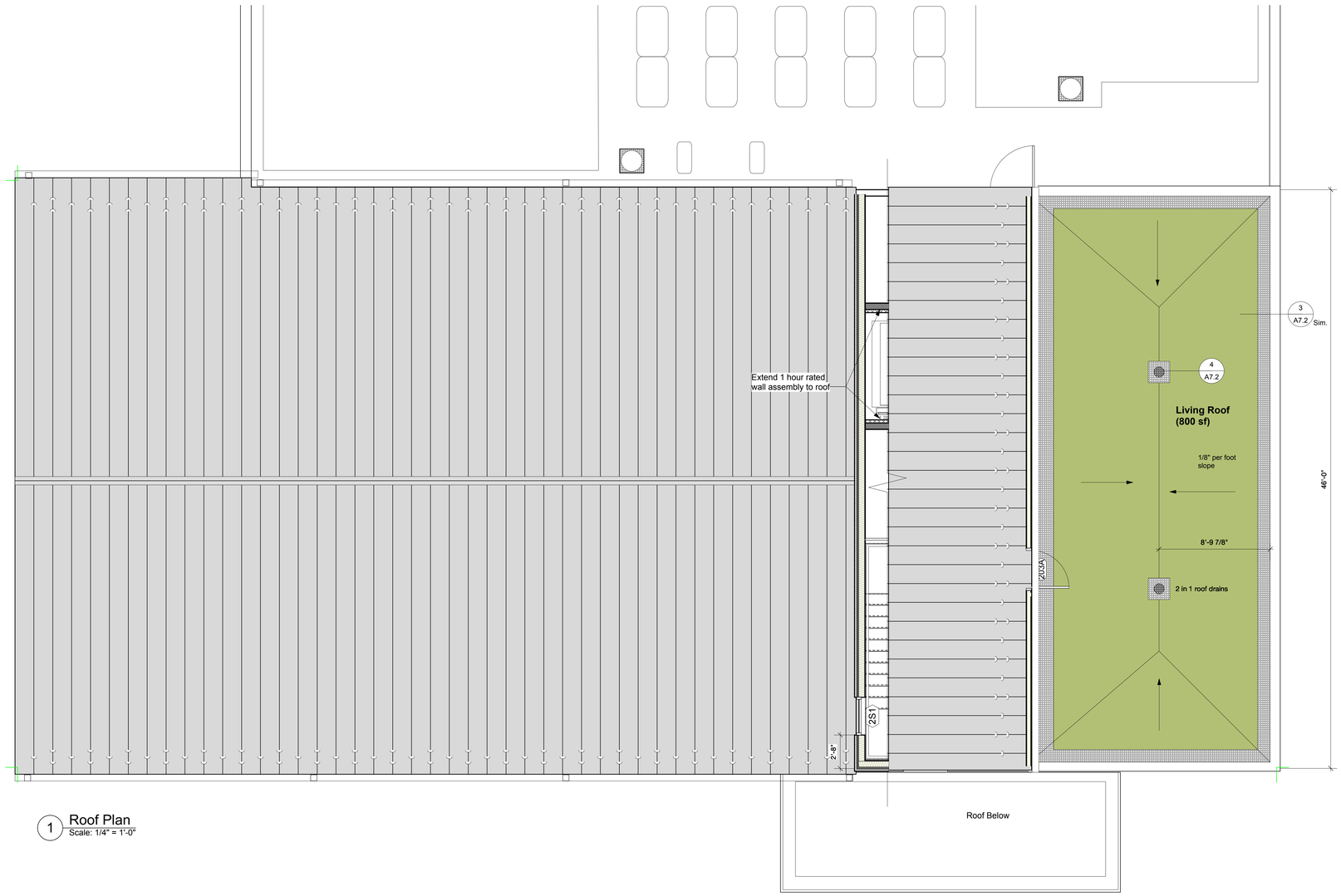
Drawing Number

A2.3

PARTITION TYPES



NOTES 1. Add layer of moisture resistant GWB on wall surfaces of all partitions in toilet rooms or janitor's closets.



1 Roof Plan
Scale: 1/4" = 1'-0"

NORTH (building)

2A SAME EXCEPT 2 LAYERS 5/8" GYPSUM

Winchester Virginia

CITY YARDS MAINTENANCE FACILITY: RENOVATION and ADDITIONS
INTERIOR FURRED CMU
301 East Cork St.
Winchester, Virginia 22601

Public Services Building

CITY OF WINCHESTER VIRGINIA FARE FAC 31744 E

CIVIL and STRUCTURAL ENGINEERS:

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Mech / Elect Engineer

CDi
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620 Pennsylvania Avenue
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540 665-2846

Architect

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AIA, LEED AP
GDAaia.com
18 West Boscawen Street
Winchester, VA 22601
540-773-2328

Issue / Revision

Seal

STATE OF VIRGINIA COMMONWEALTH Lisa Dallolio NO. 014691 REGISTERED ARCHITECT

Drawing Title

Upper Roof Plan & Partition Types

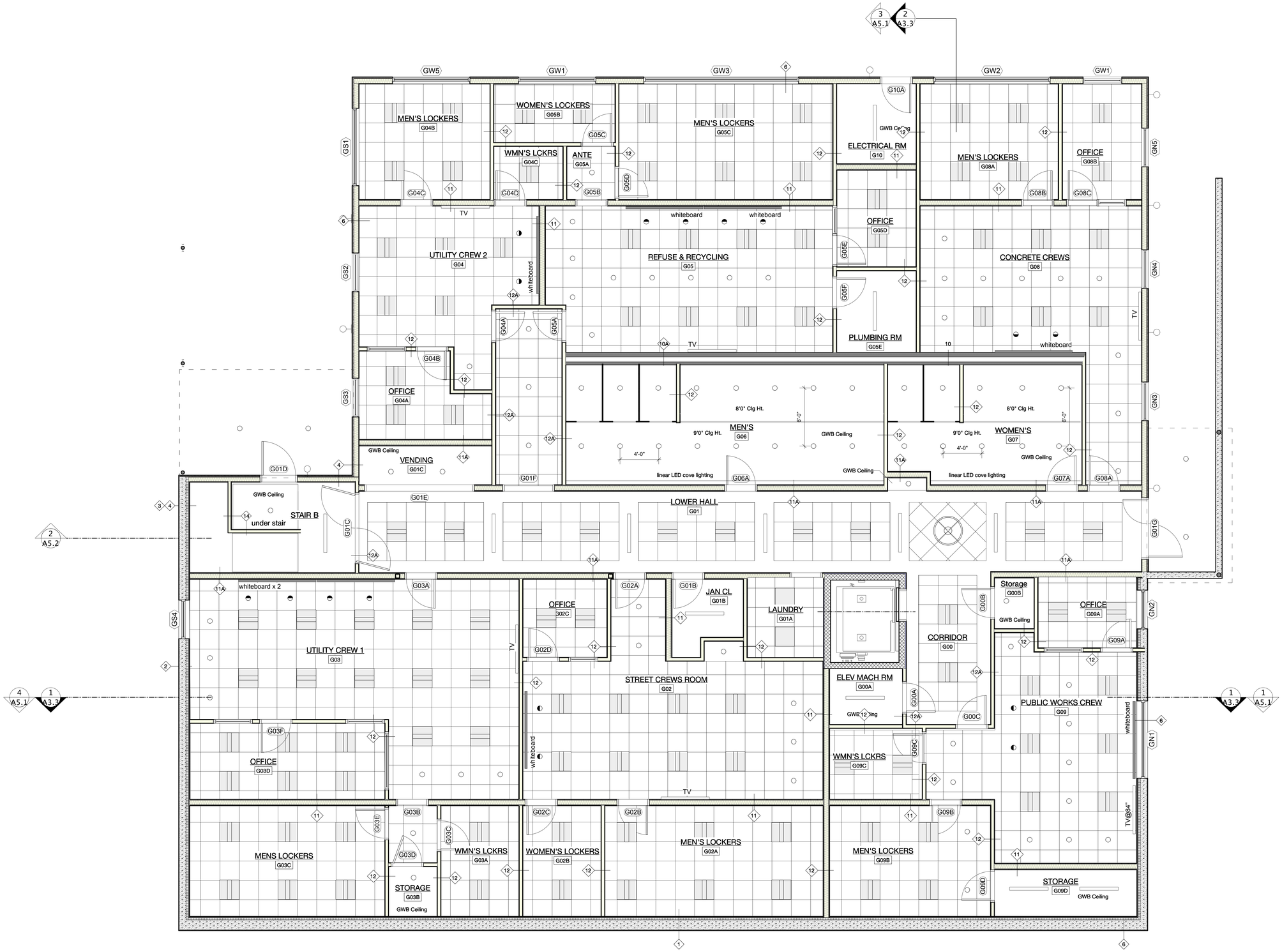
Date 8/5/19

Scale Noted

Project Number 18665

Drawing Number

A2.4



1 Ground Floor PLan
Scale: 1/4" = 1'-0"

NORTH (building)

Winchester Virginia

CITY YARDS
MAINTENANCE FACILITY:
RENOVATION and ADDITIONS
301 East Cork St.
Winchester, Virginia 22601

Public Services Building

CITY OF WINCHESTER VIRGINIA

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Issue / Revision

Seal

STATE OF VIRGINIA
Lisa Dallolio
NO. 014691
REGISTERED
ARCHITECT

Drawing Title

Ground Floor RCP

Date 8/5/19

Scale Noted

Project Number 18665

Drawing Number

A2.5

1 First Floor PLan
Scale: 1/4" = 1'-0"

NORTH (building)

Winchester Virginia

CITY YARDS
MAINTENANCE FACILITY:
RENOVATION and ADDITIONS
301 East Cork St.
Winchester, Virginia 22601

Public Services Building

CIVIL and STRUCTURAL ENGINEERS:

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Winchester, VA 22601
540-773-2328

Issue / Revision

Seal

STATE OF VIRGINIA
Lisa Dallolio
NO. 014691
REGISTERED ARCHITECT

Drawing Title

First Floor RCP

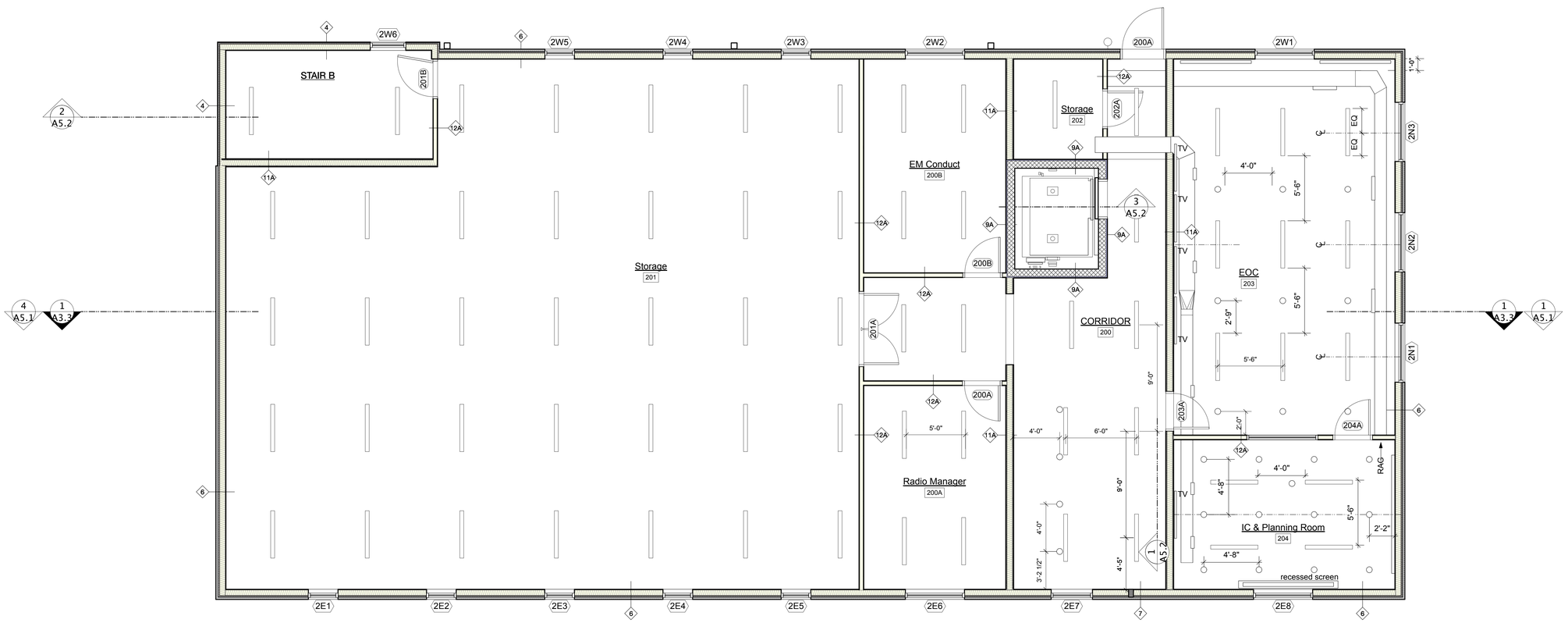
Date 8/5/19

Scale Noted

Project Number 18665

Drawing Number

A2.6



1 Second Floor Plan
Scale: 1/4" = 1'-0"

NORTH (building)

Winchester Virginia

CITY YARDS
MAINTENANCE FACILITY:
RENOVATION and ADDITIONS
301 East Cork St.
Winchester, Virginia 22601

Public Services Building

CITY OF WINCHESTER VIRGINIA

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Issue / Revision

Seal

STATE OF VIRGINIA
Lisa Dallolio
NO. 014691
REGISTERED ARCHITECT

Drawing Title

Second Floor RCP

Date 8/5/19

Scale Noted

Project Number 18665

Drawing Number

A2.7

1 Ground Floor PLan
Scale: 1/4" = 1'-0"

NORTH (building)

Winchester Virginia

CITY YARDS MAINTENANCE FACILITY:
RENOVATION and ADDITIONS
301 East Cork St.
Winchester, Virginia 22601

Public Services Building

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Issue / Revision

Seal

STATE OF VIRGINIA
Lisa Dallolio
NO. 014691
REGISTERED
ARCHITECT

Drawing Title

Ground Floor
FFE Plan (8000sf)

Date 8/5/19
Scale Noted
Project Number 18665
Drawing Number

A2.8

1 First Floor PLan
Scale: 1/4" = 1'-0"

NORTH (building)

Winchester Virginia

CITY YARDS
MAINTENANCE FACILITY:
RENOVATION and ADDITIONS
301 East Cork St.
Winchester, Virginia 22601

Public Services Building

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Winchester, VA 22601
540-773-2328

Issue / Revision

Seal

STATE OF VIRGINIA
Lisa Dallolio
NO. 014691
REGISTERED
ARCHITECT

Drawing Title

First Floor
FFE Plan

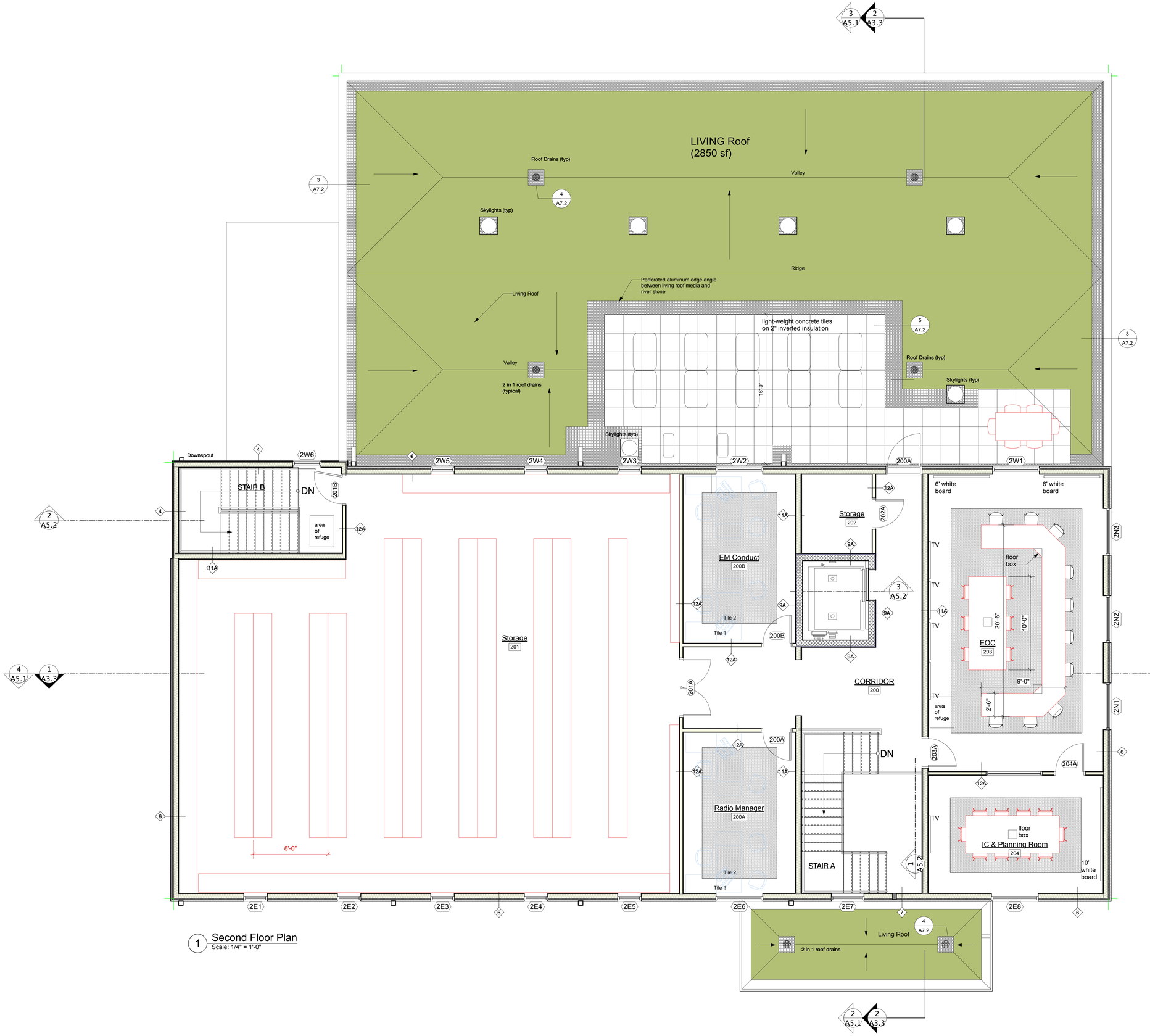
Date 8/5/19

Scale Noted

Project Number 18665

Drawing Number

A2.9



1 Second Floor Plan
Scale: 1/4" = 1'-0"

NORTH (building)

Winchester Virginia

CITY YARDS
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RENOVATION and ADDITIONS
301 East Cork St.
Winchester, Virginia 22601

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Issue / Revision

Seal

STATE OF VIRGINIA
Lisa Dallolio
NO. 014601
REGISTERED ARCHITECT

Drawing Title

Second Floor FFE Plan

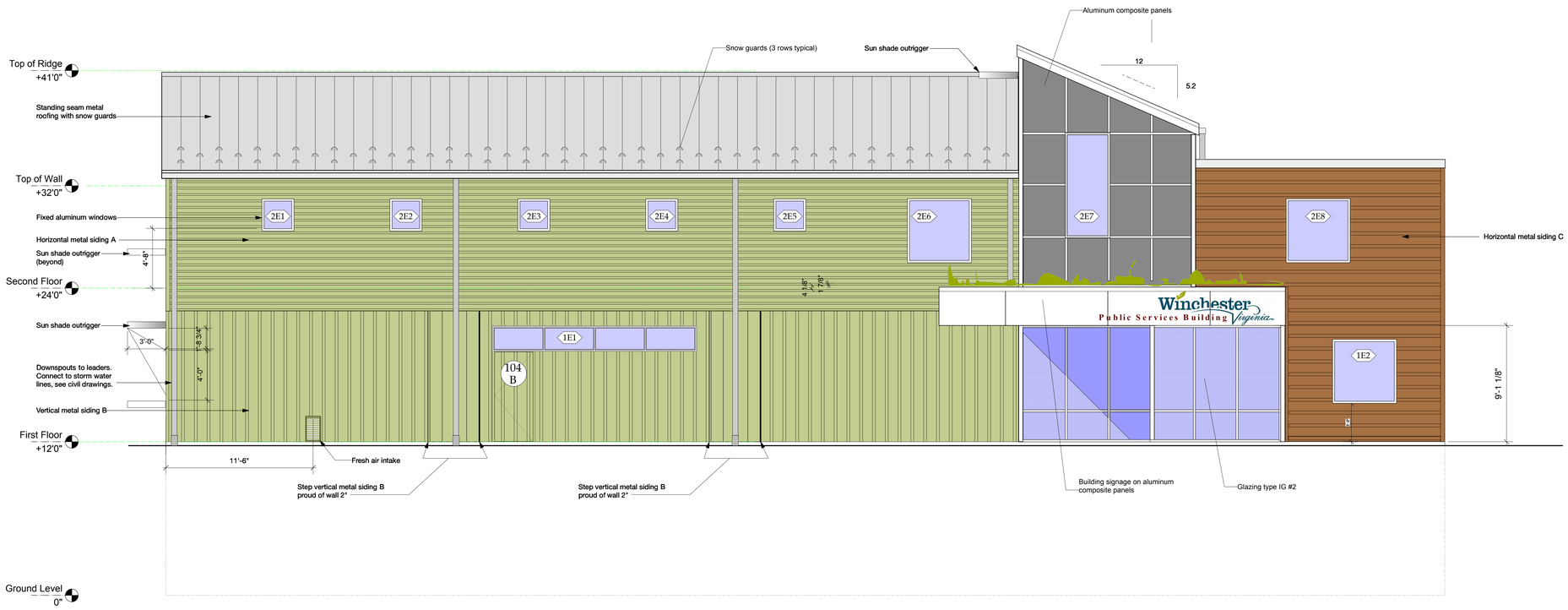
Date 8/5/19

Scale Noted

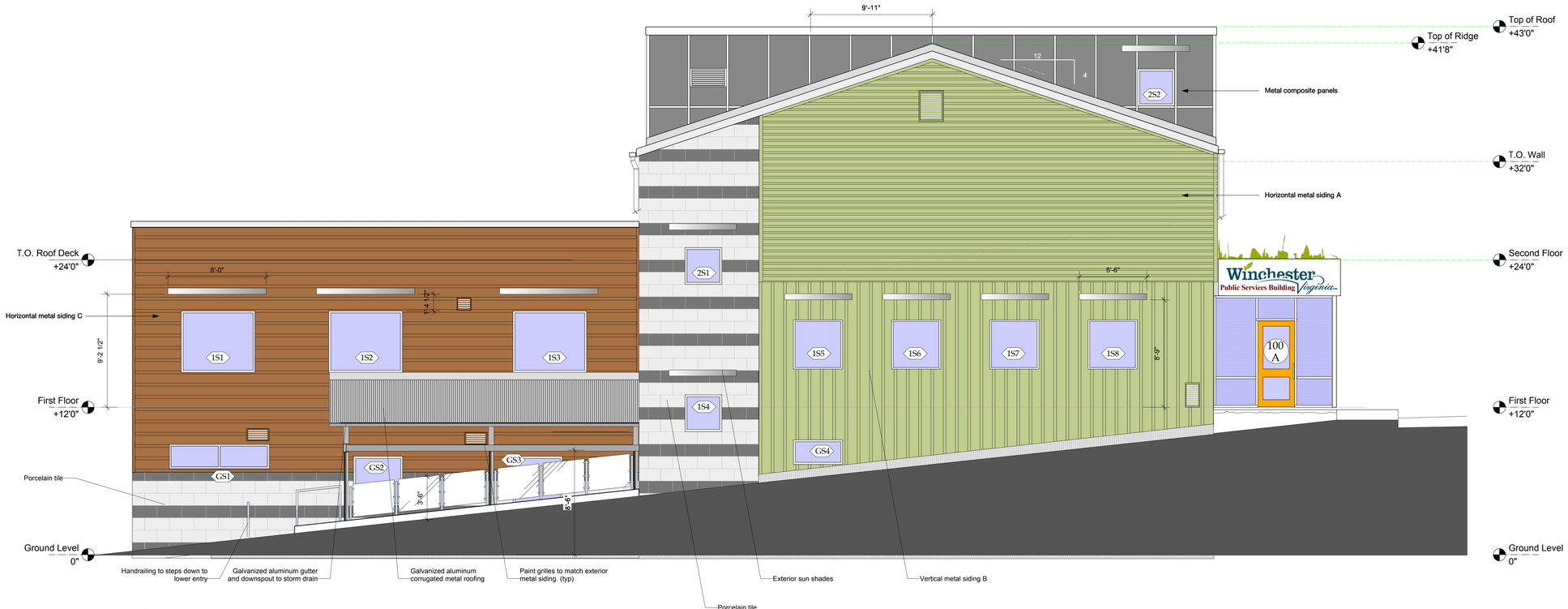
Project Number 18665

Drawing Number

A2.10



1 Building East Elevation
Scale: 1/4" = 1'-0"



2 Building South Elevation
Scale: 1/4" = 1'-0"

NORTH (building)

Winchester Virginia

CITY YARDS MAINTENANCE FACILITY:
RENOVATION and ADDITIONS
301 East Cork St.
Winchester, Virginia 22601

Public Services Building

CITY OF WINCHESTER VIRGINIA
FARE FAC
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540-773-2328

Issue / Revision

Seal

STATE OF VIRGINIA
Lisa Dallolio
NO. 014691
REGISTERED ARCHITECT

Drawing Title

Building Elevations

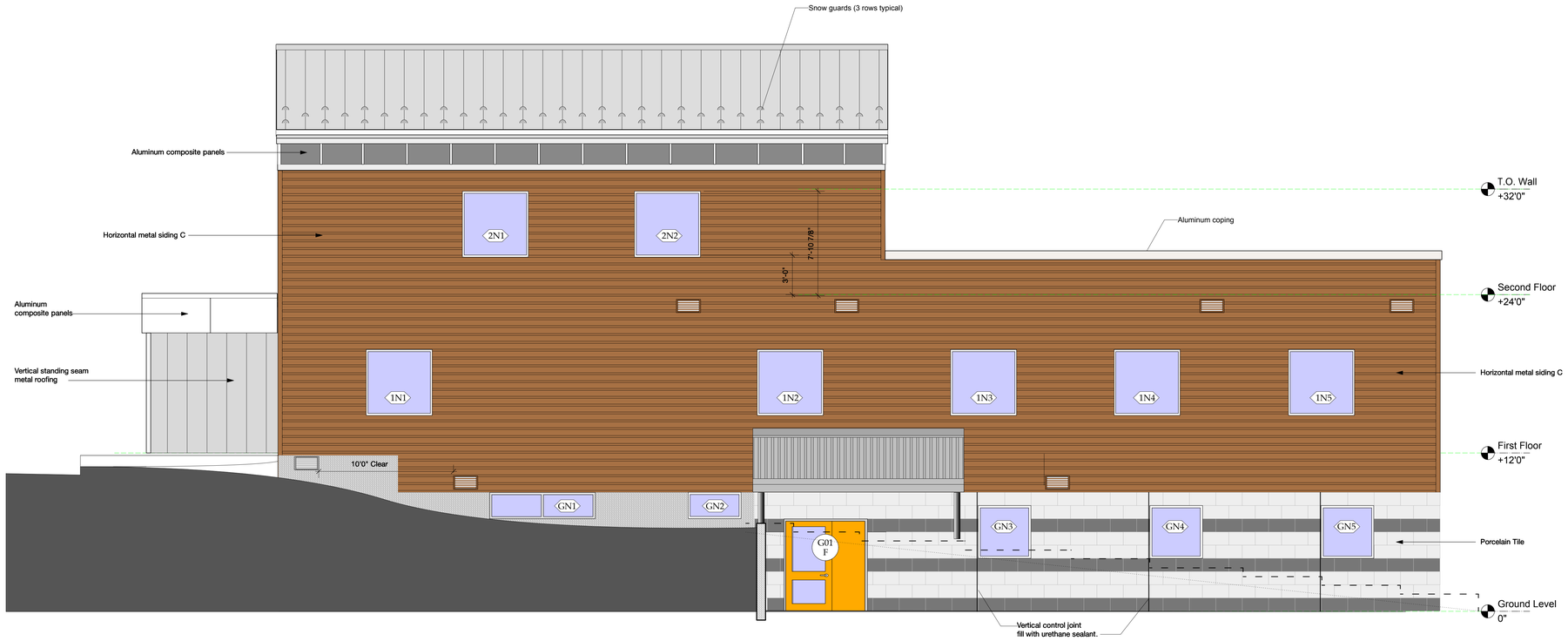
Date 8/5/19

Scale Noted

Project Number 18665

Drawing Number

A3.1



1 Building North Elevation
Scale: 1/4" = 1'-0"

2 Building West Elevation
Scale: 1/4" = 1'-0"

NORTH (building)

Winchester Virginia

CITY YARDS
MAINTENANCE FACILITY:
RENOVATION and ADDITIONS
301 East Cork St.
Winchester, Virginia 22601

Public Services Building

CITY OF WINCHESTER VIRGINIA

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Issue / Revision

Seal

STATE OF VIRGINIA
Lisa Dallolio
NO. 014691
REGISTERED ARCHITECT

Drawing Title

Building Elevations

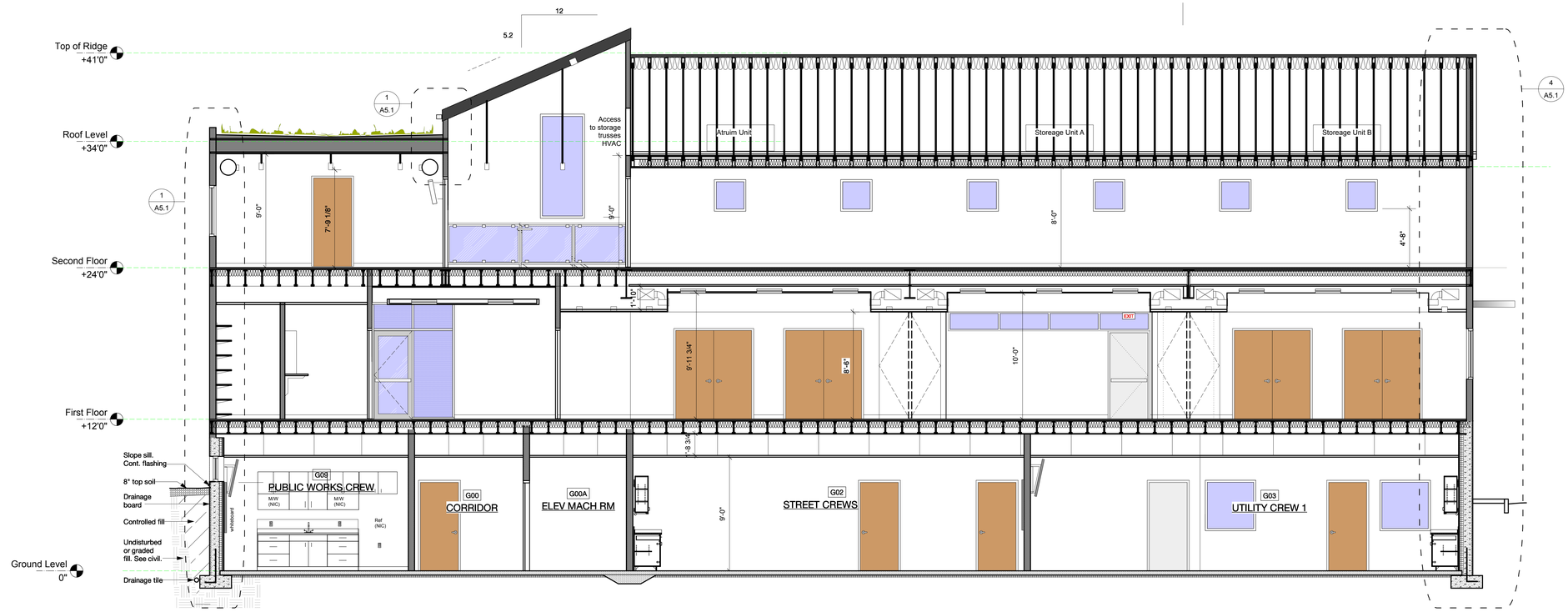
Date 8/5/19

Scale Noted

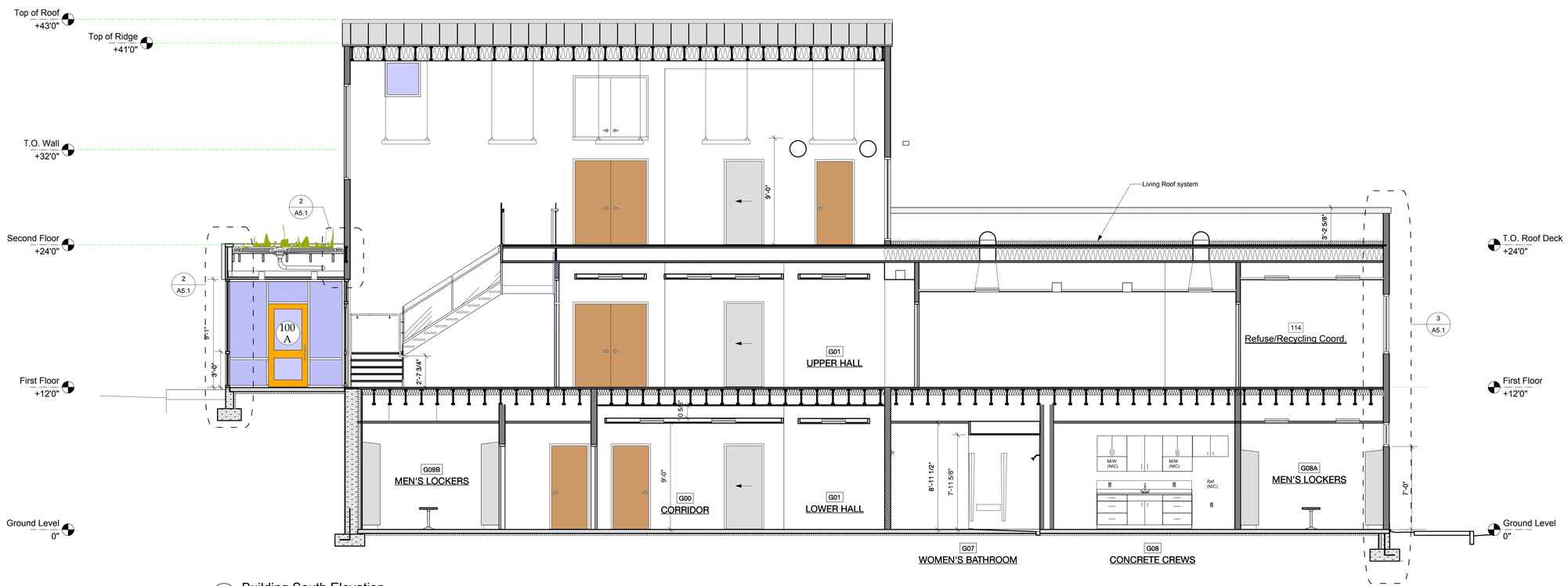
Project Number 18665

Drawing Number

A3.2



1 Building Section Looking East
Scale: 1/4" = 1'-0"



2 Building South Elevation
Scale: 1/4" = 1'-0"

NORTH (building)

Winchester Virginia

CITY YARDS
MAINTENANCE FACILITY:
RENOVATION and ADDITIONS
301 East Cork St.
Winchester, Virginia 22601

Public Services Building

CIVIL and STRUCTURAL ENGINEERS:

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Winchester, VA 22601
540-773-2328

Issue / Revision

Seal

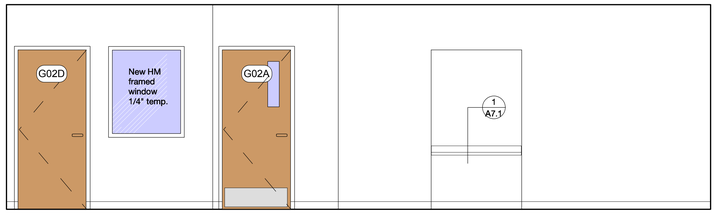
STATE OF VIRGINIA
Lisa Dallolio
NO. 014691
REGISTERED ARCHITECT

Drawing Title

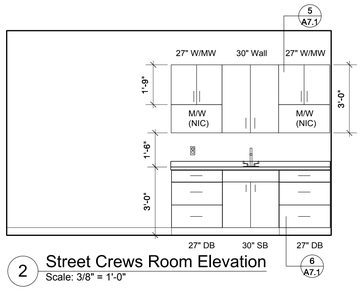
Building Sections

Date 8/5/19
Scale Noted
Project Number 18665
Drawing Number

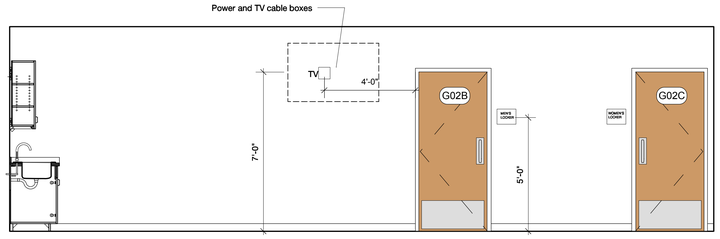
A3.3



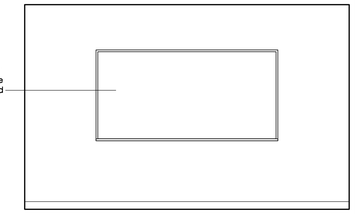
1 Street Crews Room Elevation
Scale: 3/8" = 1'-0"



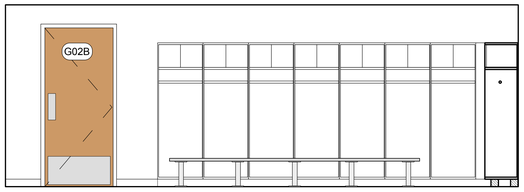
2 Street Crews Room Elevation
Scale: 3/8" = 1'-0"



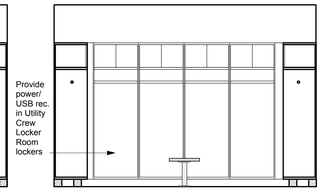
3 Street Crews Room Elevation
Scale: 3/8" = 1'-0"



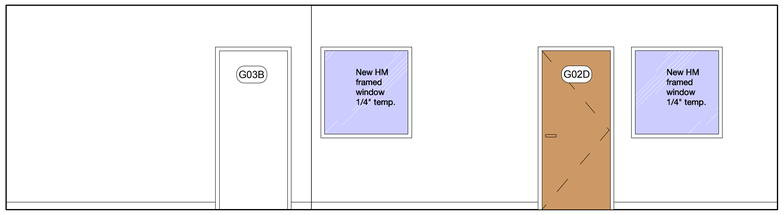
4 Street Crews Room Elevation
Scale: 3/8" = 1'-0"



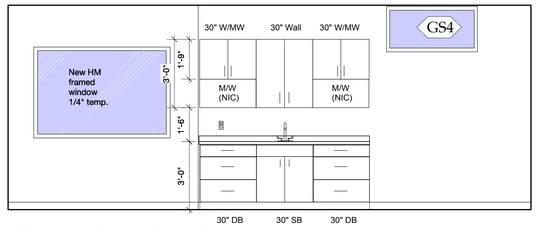
5 Locker Room Elevation
Scale: 3/8" = 1'-0"



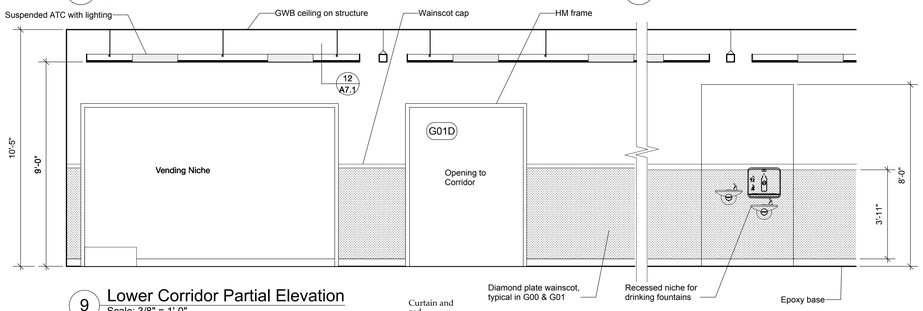
6 Locker Room Elevation
Scale: 3/8" = 1'-0"



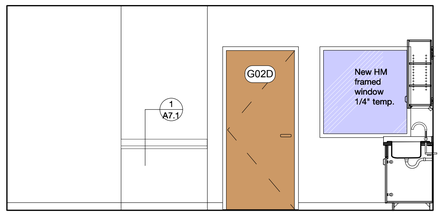
7 Utility Crew 1 Room Elevation
Scale: 3/8" = 1'-0"



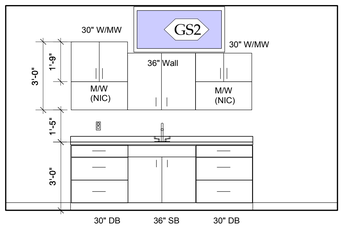
8 Utility Crew 1 Room Elevation
Scale: 3/8" = 1'-0"



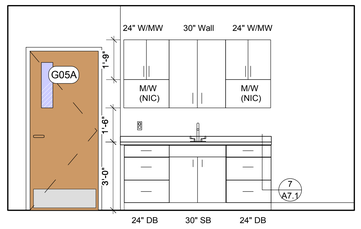
9 Lower Corridor Partial Elevation
Scale: 3/8" = 1'-0"



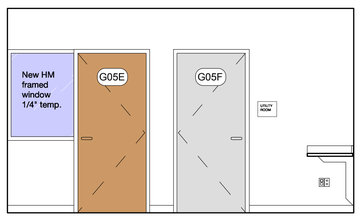
10 Utility Crew 2 Room Elevation
Scale: 3/8" = 1'-0"



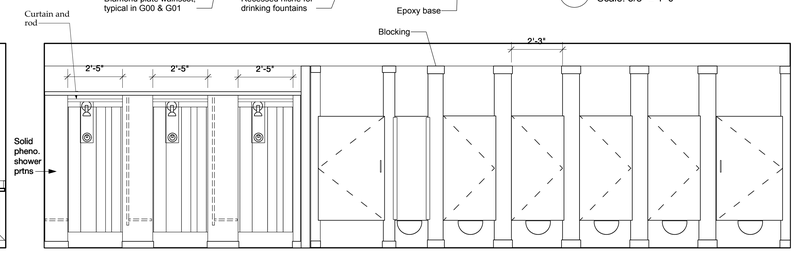
11 Utility Crew 2 Room Elevation
Scale: 3/8" = 1'-0"



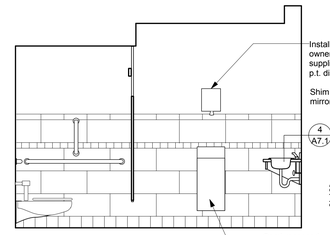
12 Refuse & Recycling Crew Room Elevation
Scale: 3/8" = 1'-0"



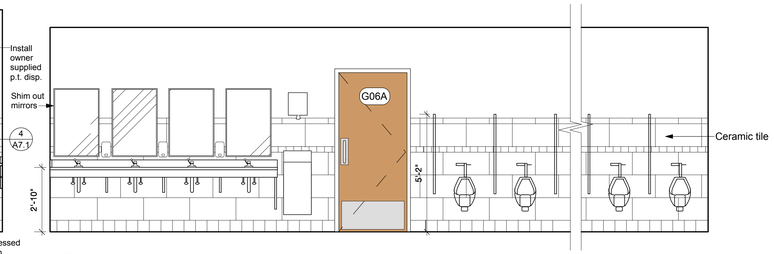
13 Refuse & Recycling Crew Room Elevation
Scale: 3/8" = 1'-0"



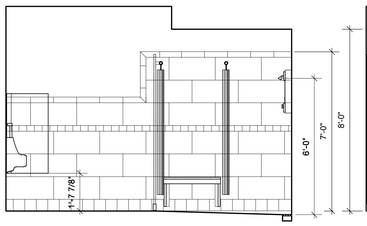
14 Men's Bathoom Elevation
Scale: 3/8" = 1'-0"



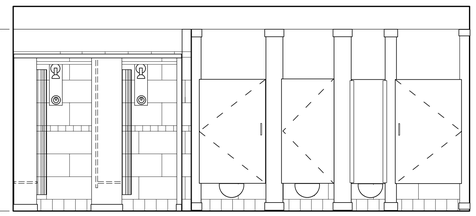
15 Men's Bathoom Elevation
Scale: 3/8" = 1'-0"



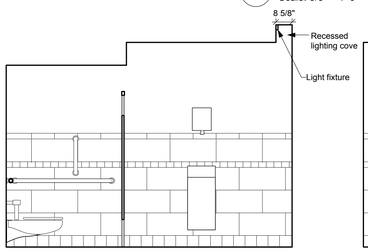
16 Men's Bathoom Elevation
Scale: 3/8" = 1'-0"



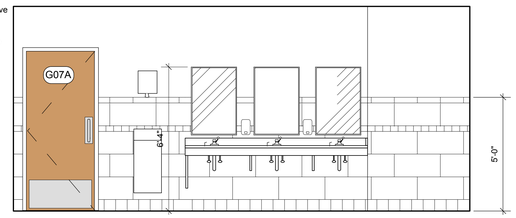
17 Men's Bathoom Elevation
Scale: 3/8" = 1'-0"



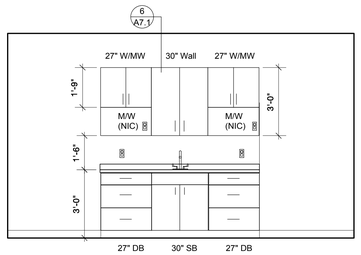
18 Women's Bathoom Elevation
Scale: 3/8" = 1'-0"



19 Women's Bathoom Elevation
Scale: 3/8" = 1'-0"

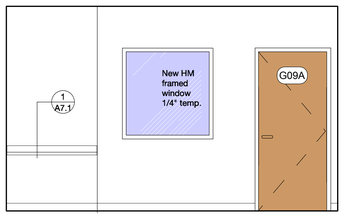


20 Women's Bathoom Elevation
Scale: 3/8" = 1'-0"

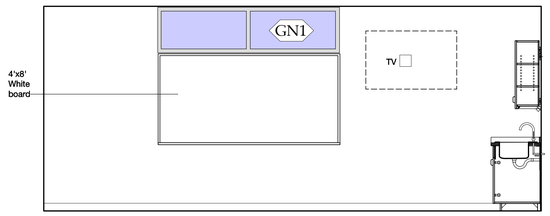


21 Concrete Crew Room Elevation
Scale: 3/8" = 1'-0"

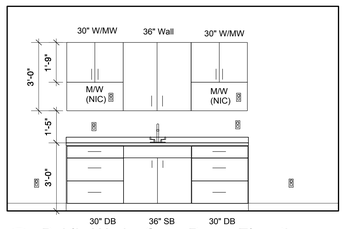
22 Concrete Crew Room Elevation
Scale: 3/8" = 1'-0"



23 Public Works Crew Room Elevation
Scale: 3/8" = 1'-0"



24 Public Works Crew Room Elevation
Scale: 3/8" = 1'-0"



25 Public Works Crew Room Elevation
Scale: 3/8" = 1'-0"

NORTH (building)

Winchester Virginia

CITY YARDS MAINTENANCE FACILITY:
RENOVATION and ADDITIONS
301 East Cork St.
Winchester, Virginia 22601

Public Services Building

CITY OF WINCHESTER VIRGINIA

CIVIL and STRUCTURAL ENGINEERS:

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(540) 662-5792

Mech / Elect Engineer

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540-773-2328

Issue / Revision

Seal

STATE OF VIRGINIA
Lisa Dallolio
NO. 014691
REGISTERED ARCHITECT

Drawing Title

Ground Floor Interior Elevations

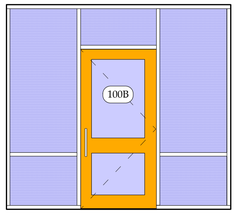
Date 8/5/19

Scale Noted

Project Number 18665

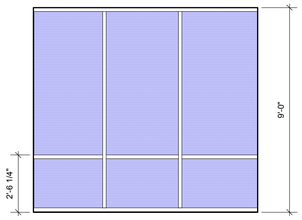
Drawing Number

A4.1

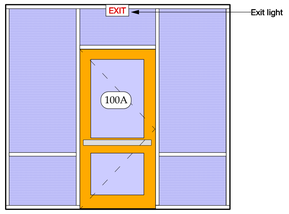


1 Vestibule Elevation
Scale: 3/8" = 1'-0"

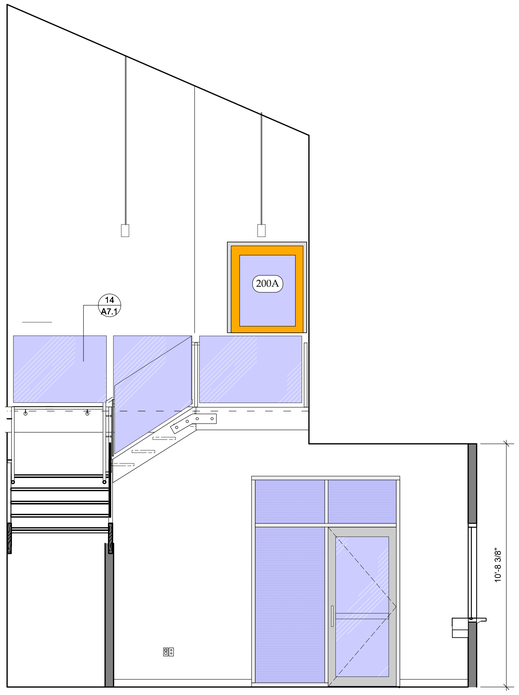
2 Vestibule Elevation
Scale: 3/8" = 1'-0"



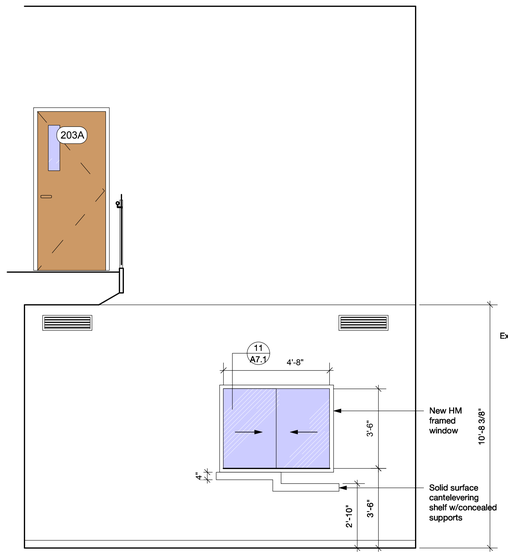
3 Vestibule Elevation
Scale: 3/8" = 1'-0"



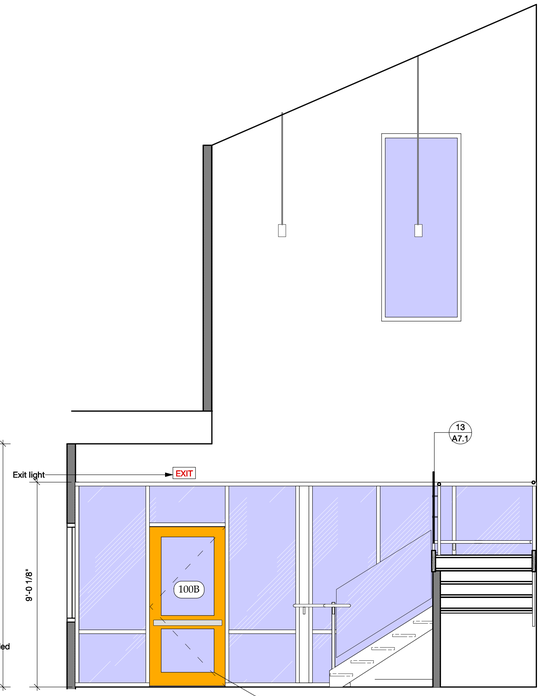
4 Vestibule Elevation
Scale: 3/8" = 1'-0"



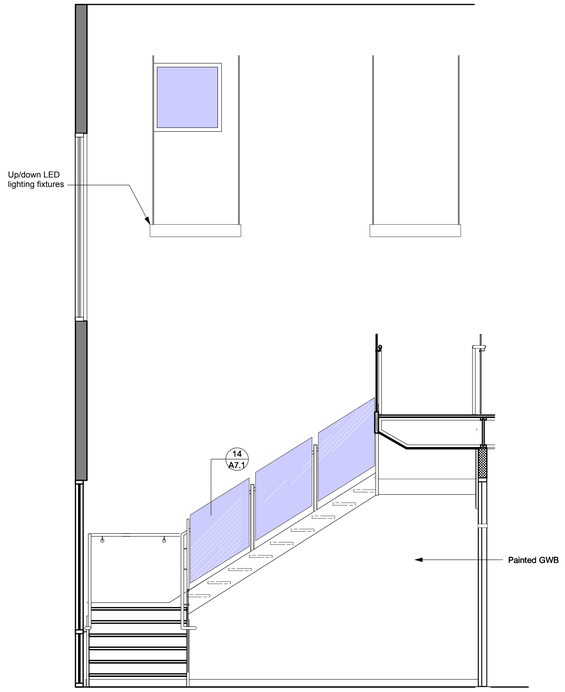
5 Lobby Elevation
Scale: 3/8" = 1'-0"



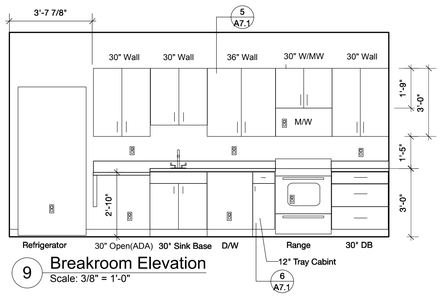
6 Lobby Elevation
Scale: 3/8" = 1'-0"



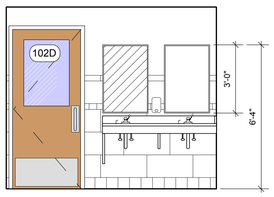
7 Lobby Elevation
Scale: 3/8" = 1'-0"



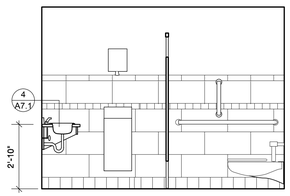
8 Lobby Elevation
Scale: 3/8" = 1'-0"



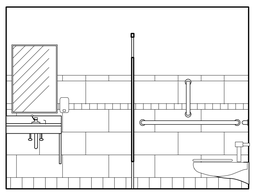
9 Breakroom Elevation
Scale: 3/8" = 1'-0"



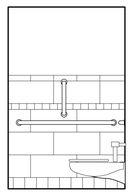
10 Men's Room Elevation
Scale: 3/8" = 1'-0"



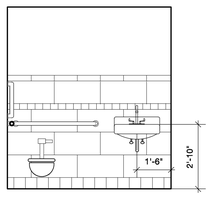
11 Men's Room Elevation
Scale: 3/8" = 1'-0"



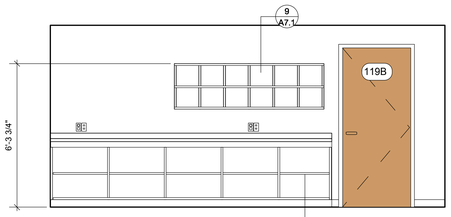
12 Women's Room Elevation
Scale: 3/8" = 1'-0"



13 ADA Toilet
Scale: 3/8" = 1'-0"



14 ADA Toilet
Scale: 3/8" = 1'-0"



15 Copy/Mail Room Elevation
Scale: 3/8" = 1'-0"

NORTH (building)

Winchester Virginia

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Issue / Revision

Seal

STATE OF VIRGINIA
Lisa Dallolio
NO. 014691
REGISTERED ARCHITECT

Drawing Title

Ground Floor Interior Elevations

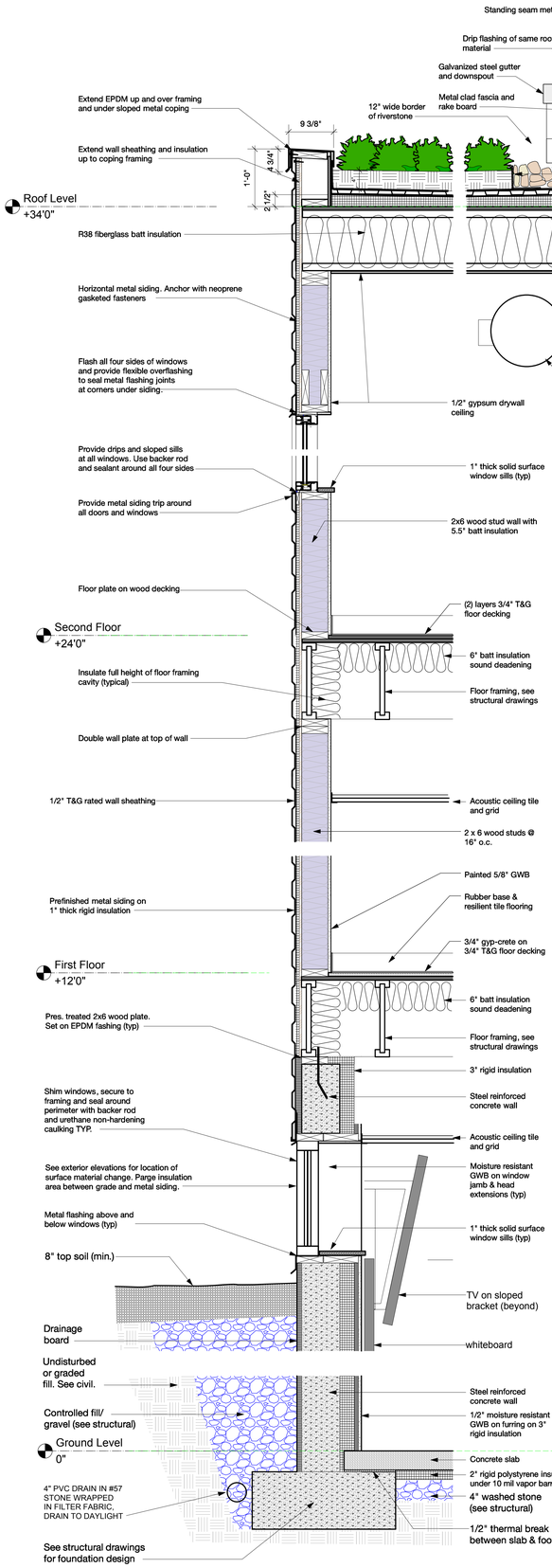
Date 8/5/19

Scale Noted

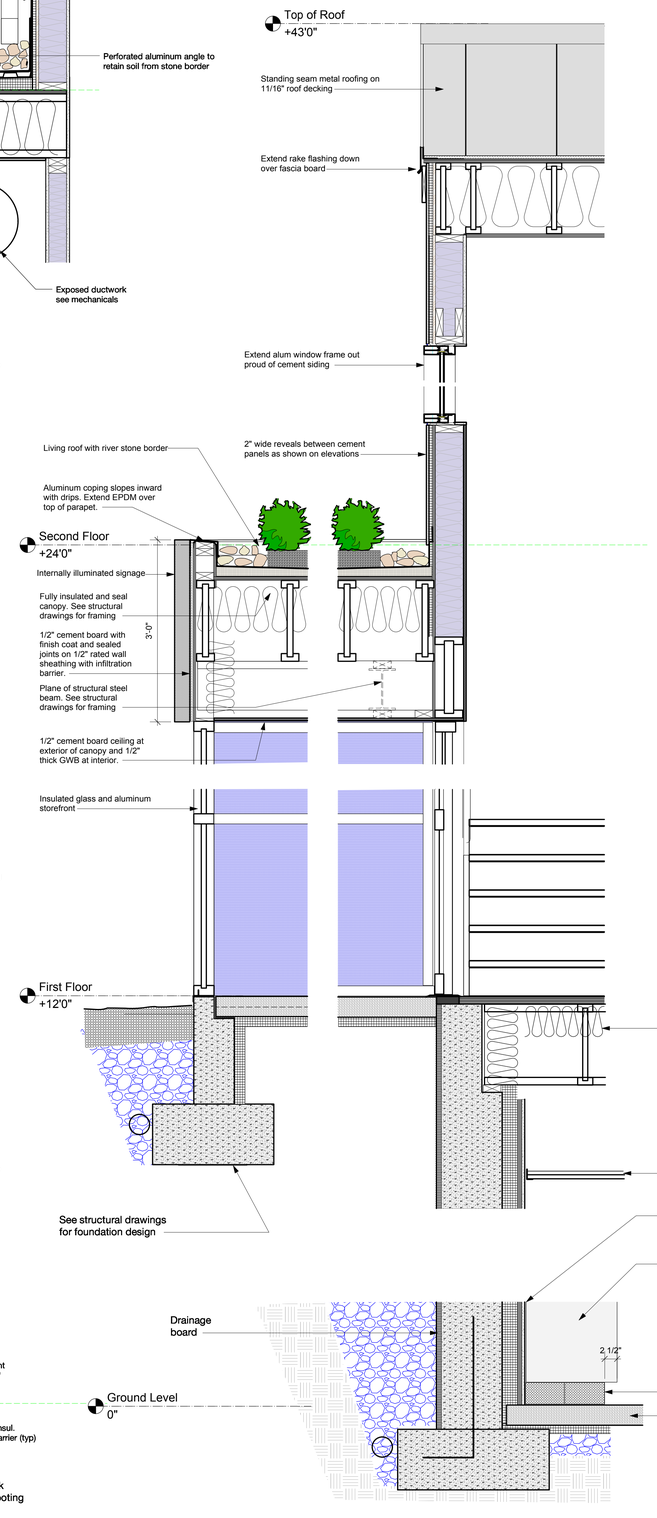
Project Number 18665

Drawing Number

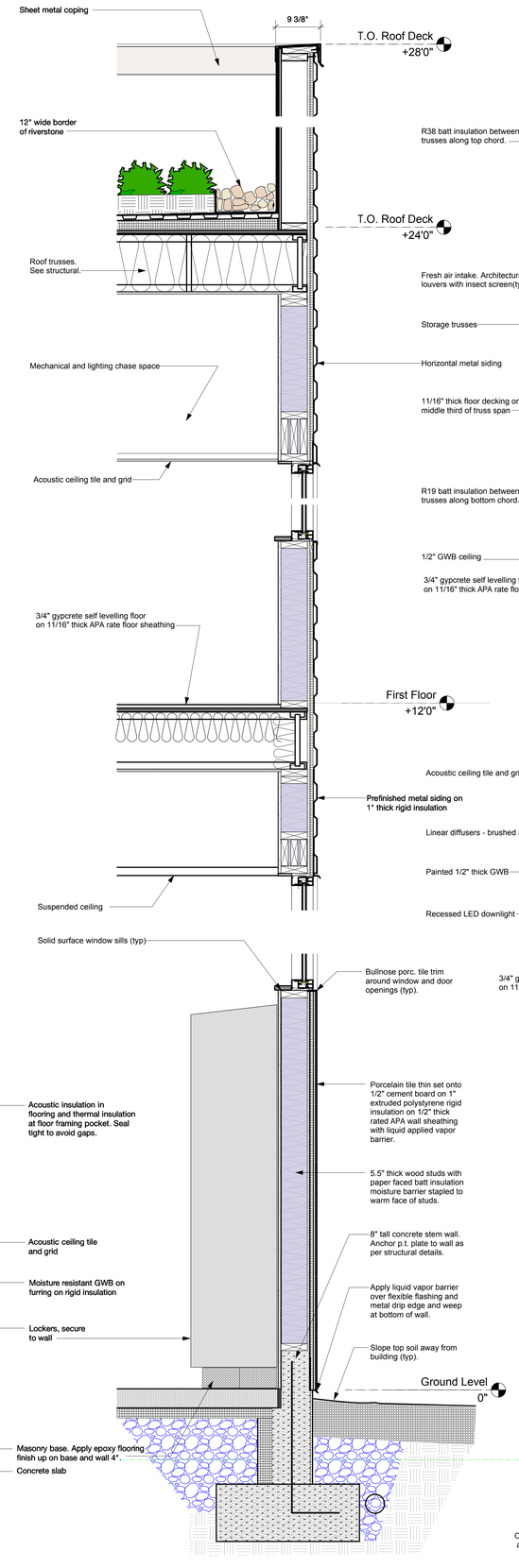
A4.2



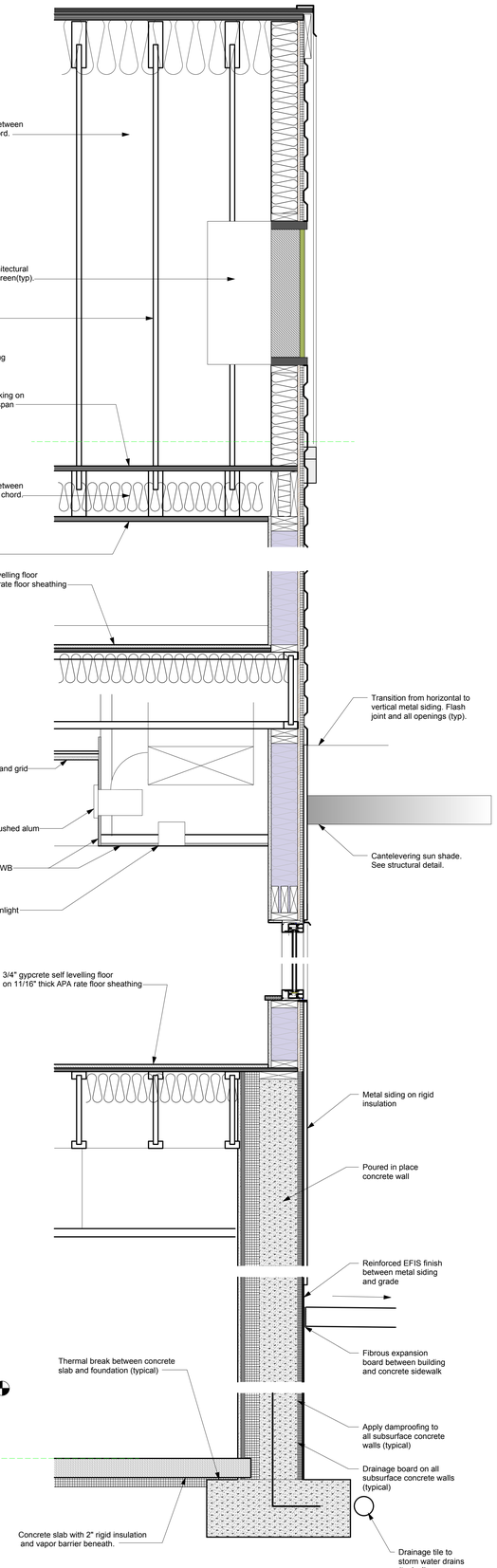
1 Wall Section
Scale: 1" = 1'-0"



2 Wall Section
Scale: 1" = 1'-0"



3 Wall Section
Scale: 1" = 1'-0"



4 Wall Section
Scale: 1" = 1'-0"

NORTH (building)

Winchester Virginia

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Issue / Revision

Seal

STATE OF VIRGINIA
Lisa Dallolio
NO. 014691
REGISTERED ARCHITECT

Drawing Title

Wall Sections

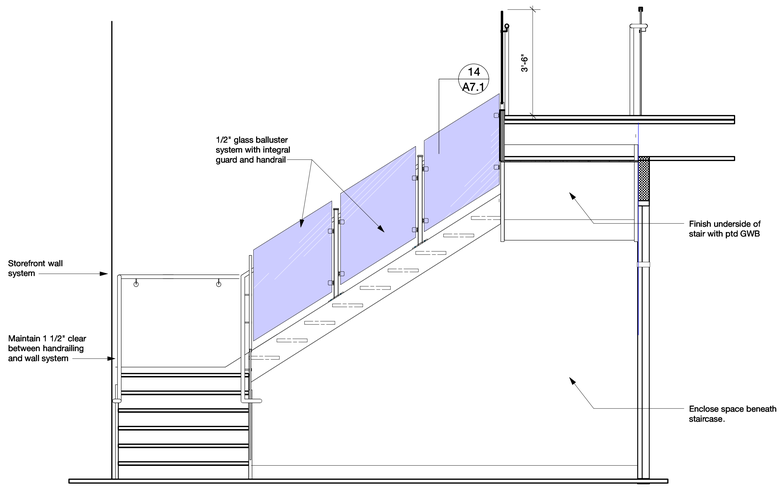
Date 8/5/19

Scale Noted

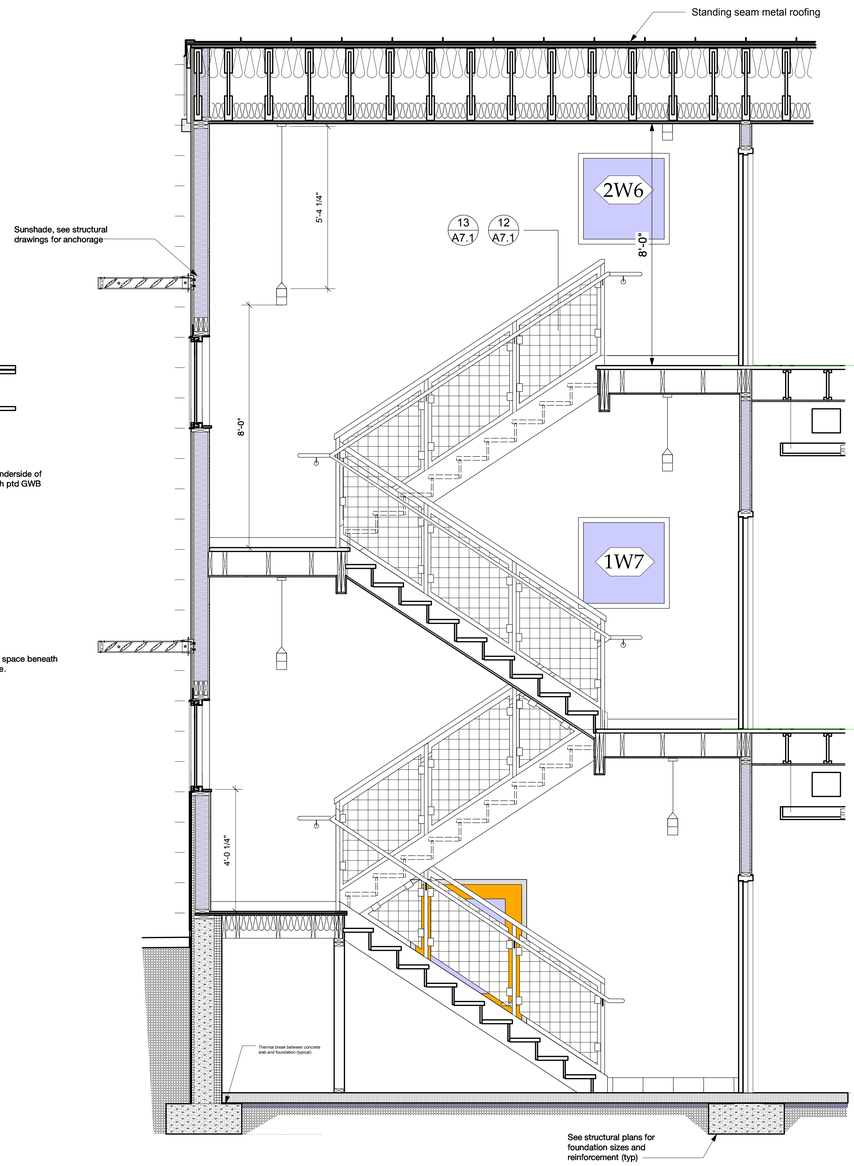
Project Number 18665

Drawing Number

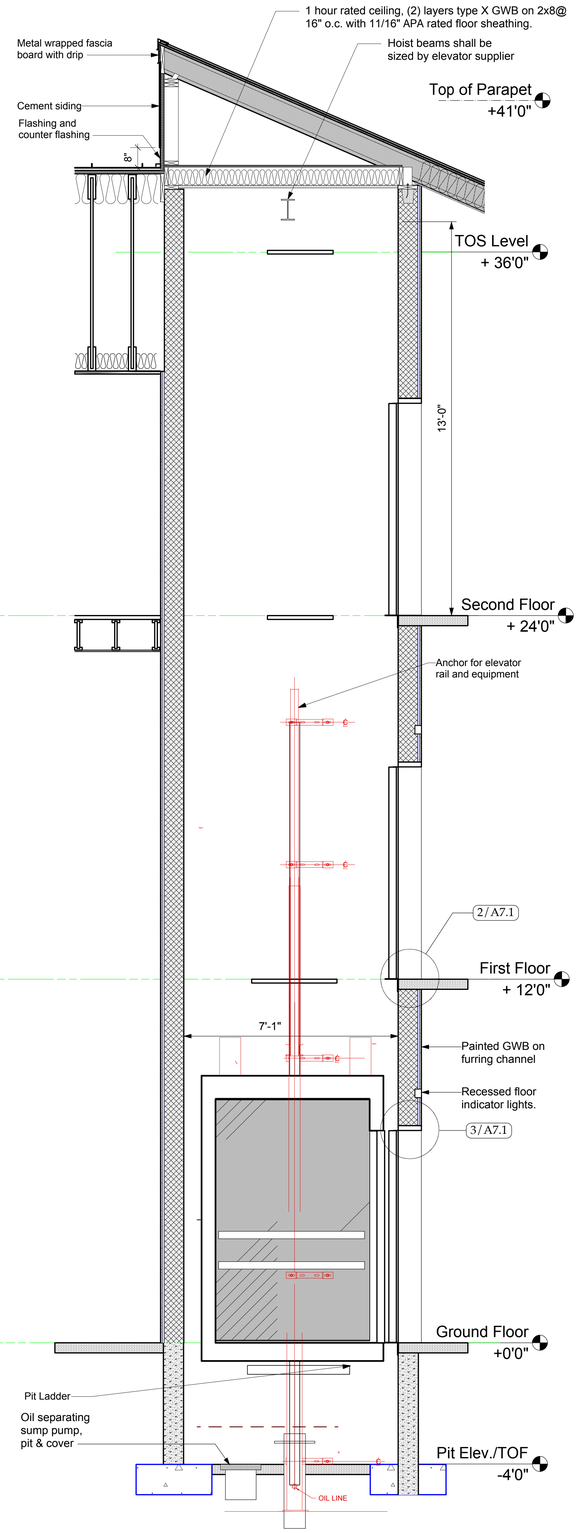
A5.1



1 Section Thru Stair A
Scale: 1/2" = 1'-0"



2 Section Thru Stair B
Scale: 1/2" = 1'-0"



3 Section Thru Elevator Shaft
Scale: 1/2" = 1'-0"

NORTH (building)

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Issue / Revision

Seal

STATE OF VIRGINIA
Lisa Dallolio
NO. 014691
REGISTERED ARCHITECT

Drawing Title

Vertical Circulation Sections

Date 8/5/19

Scale Noted

Project Number 18665

Drawing Number

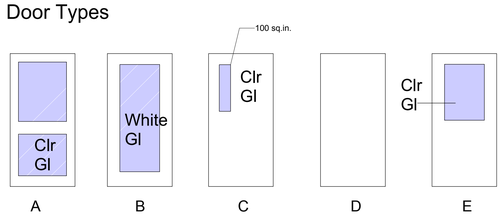
A5.2

Door Schedule

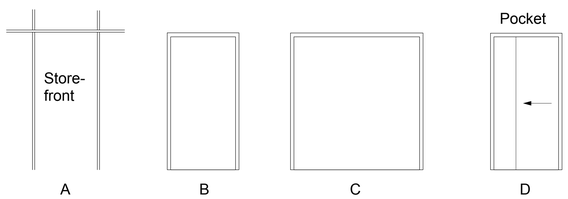
					Nominal Size				Door Style	Door Frame					Frame Details			Fire Rating			Openings		
Mark		Door Location	Type	Door Material	Width	Height	Thk	Operation	Shape	Style	Jamb Thk	Jamb Depth	Frame Type	Material	Head Detail	Jamb Detail	Sill Detail	Frame	Door Slab	HW Set	RO Width	RO Height	Comments
100	A	Main Entry	A	Alum/Gl	3'0"	7'0"	1 3/4"	Swing Simple	Square	Solid	2"	4 1/2"	A	Alum	D	D	1	-	-	1	9'4"	7'2"	
100	B	Vestibule-Lobby	A	Alum/Gl	3'0"	7'0"	1 3/4"	Swing Simple	Square	Solid	2"	4 1/2"	A	Alum	D	D	2	-	-	2	9'10"	7'2"	
101	A	Hall-Lobby	B	Plam/Wd/Gl	3'0"	7'0"	1 3/4"	Swing Simple	Square	Solid	2"	8"	A	Alum	D	D/E	-	-	-	1	6'6"	7'2"	
102	A	Training Room A	C	Plam/Wd/Gl	6'0"	7'0"	1 3/4"	Swing Bi-part	Square	Solid	2"	4 3/4"	C	HM	A	B	-	1 hr	1 hr	3	6'4"	7'2"	
102	B	Stair B Entry	C	Plam/Wd/Gl	3'0"	7'0"	1 3/4"	Swing Simple	Square	Solid	2"	4 3/4"	B	HM	A	B	2	1 hr	1 hr	4	3'4"	7'2"	
102	C	Storage Closet	D	Plam/Wd	6'0"	7'0"	1 3/4"	Swing Bi-part	Square	Solid	2"	4 3/4"	C	HM	A	B	-	1 hr	1 hr	5	6'4"	7'2"	
102	D	Men's Room	D	Plam/Wd	3'0"	7'0"	1 3/4"	Swing Simple	Square	Solid	2"	4 3/4"	B	HM	A	B	3	1 hr	1 hr	6	3'4 1/2"	7'2 1/4"	
102	E	Women's Room	D	Plam/Wd	3'0"	7'0"	1 3/4"	Swing Simple	Square	Solid	2"	4 3/4"	B	HM	A	B	3	1 hr	1 hr	6	3'4 1/2"	7'2 1/4"	
102	F	Janitor's Closet	D	HM	3'0"	7'0"	1 3/4"	Swing Simple	Square	Solid	2"	4 3/4"	B	HM	A	B	3	1 hr	1 hr	7	3'4 1/2"	7'2 1/4"	
102	G	ADA Toilet	D	Plam/Wd	3'0"	7'0"	1 3/4"	Swing Simple	Square	Solid	2"	8"	B	HM	A	B	3	1 hr	1 hr	8	3'4 1/2"	7'2 1/4"	
102	H	Comp Trng Room	C	Plam/Wd/Gl	3'0"	7'0"	1 3/4"	Swing Simple	Square	Solid	2"	8"	B	HM	A	B	-	1 hr	1 hr	9	3'4"	7'2"	
103	A	Storage Closet	D	Plam/Wd	6'0"	7'0"	1 3/4"	Bi-fold Bi-part	Square	Solid	2"	4 3/4"	C	HM	A	B	-	-	-	10	6'4"	7'2"	
103	B	Storage Closet	D	Plam/Wd	6'0"	7'0"	1 3/4"	Bi-fold Bi-part	Square	Solid	2"	4 3/4"	C	HM	A	B	-	-	-	10	6'4"	7'2"	
104	A	Training Room B	C	Plam/Wd/Gl	3'0"	7'0"	1 3/4"	Swing Simple	Square	Solid	2"	8"	B	HM	A	B	-	1 hr	1 hr	11	3'4"	7'2"	
104	B	Training Rm B Exit	D	HM	3'0"	7'0"	1 3/4"	Swing Simple	Square	Solid	2"	6"	B	HM	A	B	1	-	-	11A	3'4"	7'2"	
105	A	Training Room C	C	Plam/Wd/Gl	3'0"	7'0"	1 3/4"	Swing Simple	Square	Solid	2"	8"	B	HM	A	B	-	1 hr	1 hr	11	3'4"	7'2"	
105	B	Storage Closet	D	Plam/Wd	6'0"	7'0"	1 3/4"	Bi-fold Bi-part	Square	Solid	2"	4 3/4"	C	HM	A	B	-	-	-	10	6'4"	7'2"	
105	C	Storage Closet	D	Plam/Wd	6'0"	7'0"	1 3/4"	Bi-fold Bi-part	Square	Solid	2"	4 3/4"	C	HM	A	B	-	-	-	10	6'4"	7'2"	
106	A	Breakroom	C	Plam/Wd/Gl	3'0"	7'0"	1 3/4"	Swing Simple	Square	Solid	2"	8"	B	HM	A	B	-	1 hr	1 hr	12	3'4"	7'2"	
106	B	Pantry	D	Plam/Wd	3'0"	7'0"	1 3/4"	Swing Simple	Square	Solid	2"	4 3/4"	B	HM	A	B	-	-	-	13	3'4"	7'2"	
107	A	Back Hall Entry	C	Plam/Wd/Gl	6'0"	7'0"	1 3/4"	Double Acting	Square	Solid	2"	4 1/2"	C	HM	A	B	-	-	-	14	6'4"	7'2"	
107	B	Storage	C	Plam/Wd	2'6"	7'0"	1 3/4"	Swing Simple	Square	Solid	2"	4 3/4"	B	HM	A	B	-	1 hr	1 hr	9	2'10"	7'2"	
107	C	Back Hall Exit	C	Plam/Wd/Gl	6'0"	7'0"	1 3/4"	Swing Bi-part	Square	Solid	2"	4 1/2"	C	HM	A	B	-	-	-	14	6'4"	7'2"	
108	A	IT Room	D	Plam/Wd	3'0"	7'0"	1 3/4"	Swing Simple	Square	Solid	2"	4 3/4"	B	HM	A	B	-	1 hr	1 hr	12	3'4"	7'2"	
109	A	Inspector's Office	E	Plam/Wd/Gl	3'0"	7'0"	1 3/4"	Swing Simple	Square	Solid	2"	4 3/4"	B	HM	A	B	-	1 hr	1 hr	9	3'4"	7'2"	
110	A	Infrastructure Office	E	Plam/Wd/Gl	3'0"	7'0"	1 3/4"	Swing Simple	Square	Solid	2"	8"	B	HM	A	B	-	1 hr	1 hr	9	3'4"	7'2"	
111	A	Utilities Maint. Office	E	Plam/Wd/Gl	3'0"	7'0"	1 3/4"	Swing Simple	Square	Solid	2"	8"	B	HM	A	B	-	1 hr	1 hr	9	3'4"	7'2"	
112	A	Conference Room	E	Plam/Wd/Gl	3'0"	7'0"	1 3/4"	Swing Simple	Square	Solid	2"	4 3/4"	B	HM	A	B	-	1 hr	1 hr	9	3'4"	7'2"	
113	A	Extra Office	E	Plam/Wd/Gl	3'0"	7'0"	1 3/4"	Swing Simple	Square	Solid	2"	8"	B	HM	A	B	-	1 hr	1 hr	9	3'4"	7'2"	
114	A	Refuse Office	E	Plam/Wd/Gl	3'0"	7'0"	1 3/4"	Swing Simple	Square	Solid	2"	8"	B	HM	A	B	-	1 hr	1 hr	9	3'4"	7'2"	
115	A	Arborist Office	E	Plam/Wd/Gl	3'0"	7'0"	1 3/4"	Swing Simple	Square	Solid	2"	6"	B	HM	A	B	-	1 hr	1 hr	9	3'4"	7'2"	
116	A	Small Conference	E	Plam/Wd/Gl	3'0"	7'0"	1 3/4"	Swing Simple	Square	Solid	2"	4 3/4"	B	HM	A	B	-	1 hr	1 hr	9	3'4"	7'2"	
117	A	Public Works Office	E	Plam/Wd/Gl	3'0"	7'0"	1 3/4"	Swing Simple	Square	Solid	2"	4 3/4"	B	HM	A	B	-	1 hr	1 hr	9	3'4"	7'2"	
118	A	Exec. Admin. Office	E	Plam/Wd/Gl	3'0"	7'0"	1 3/4"	Swing Simple	Square	Solid	2"	4 3/4"	B	HM	A	B	-	1 hr	1 hr	12	3'4"	7'2"	
118	B	Closet	D	Plam/Wd	3'0"	7'0"	1 3/4"	Swing Simple	Square	Solid	2"	4 3/4"	B	HM	A	B	-	-	-	13	3'4"	7'2"	
119	A	Mail Room	D	Plam/Wd	3'0"	7'0"	1 3/4"	Swing Simple	Square	Solid	2"	4 3/4"	B	HM	A	B	-	1 hr	1 hr	9	3'4"	7'2"	
119	B	Storage Room	D	Plam/Wd	3'0"	7'0"	1 3/4"	Swing Simple	Square	Solid	2"	4 3/4"	B	HM	A	B	-	-	-	9	3'4"	7'2"	
120	A	Office Assistant	E	Plam/Wd/Gl	3'0"	7'0"	1 3/4"	Swing Simple	Square	Solid	2"	4 3/4"	B	HM	A	B	-	1 hr	1 hr	12	3'4"	7'2"	
200	A	Roof Access	E	HM/Glass	3'6"	7'0"	1 3/4"	Swing Simple	Square	Solid	2"	10 1/8"	B	HM	A	B	2	-	-	11A	3'10 1/2"	7'2 1/4"	
200	A	Radio Manager	C	Plam/Wd/Gl	3'0"	7'0"	1 3/4"	Swing Simple	Square	Solid	2"	4 3/4"	B	HM	A	B	4	1 hr	1 hr	12	3'4"	7'2"	
200	B	EM Conductor	C	Plam/Wd/Gl	3'0"	7'0"	1 3/4"	Swing Simple	Square	Solid	2"	4 3/4"	B	HM	A	B	4	1 hr	1 hr	12	3'4"	7'2"	
201	A	Storage Room	D	Plam/Wd	6'0"	7'0"	1 3/4"	Swing Bi-part	Square	Solid	2"	4 3/4"	C	HM	A	B	4	1 hr	1 hr	14	6'4 1/2"	7'2 1/4"	
201	B	Storage Rm/Stair B	C	Plam/Wd/Gl	3'0"	7'0"	1 3/4"	Swing Simple	Square	Solid	2"	4 3/4"	B	HM	A	B	4	1 hr	1 hr	15	3'4"	7'2"	
202	A	Storage Room	D	Plam/Wd	3'0"	7'0"	1 3/4"	Swing Simple	Square	Solid	2"	4 3/4"	B	HM	A	B	4	1 hr	1 hr	12	3'4"	7'2"	
203	A	Emerg. Oper. Center	C	Plam/Wd/Gl	3'0"	7'0"	1 3/4"	Swing Simple	Square	Solid	2"	8"	B	HM	A	B	4	1 hr	1 hr	12	3'4"	7'2"	
204	A	EOC Planning Rm	C	Plam/Wd/Gl	3'0"	7'0"	1 3/4"	Swing Simple	Square	Solid	2"	4 3/4"	B	HM	A	B	4	1 hr	1 hr	9	3'4"	7'2"	
G00	A	Elevator Mach. Room	D	HM	3'0"	7'0"	1 3/4"	Swing Simple	Square	Solid	2"	4 3/4"	B	HM	A	B	3	1 hr	1 hr	7	3'4"	7'2"	
G00	B	Storage Room	D	HM	3'0"	7'0"	1 3/4"	Swing Simple	Square	Solid	2"	4 3/4"	B	HM	A	B	-	1 hr	1 hr	7	3'4"	7'2"	
G00	C	Public Works Crew	C	Plam/Wd	3'0"	7'0"	1 3/4"	Swing Simple	Square	Solid	2"	4 3/4"	B	HM	A	B	-	1 hr	1 hr	12	3'4"	7'2"	
G01	A	Laundry Room	C	Plam/Wd/Gl	3'0"	7'0"	1 3/4"	Swing Simple	Square	Solid	2"	8"	B	HM	A	B	-	1 hr	1 hr	9	3'4"	7'2"	
G01	B	Janitor's Closet	D	HM	3'0"	7'0"	1 3/4"	Swing Simple	Square	Solid	2"	8"	B	HM	A	B	3	1 hr	1 hr	7	3'4"	7'2"	
G01	C	Lower Hall/Stair B	C	Plam/Wd/Gl	7'0"	7'0"	1 3/4"	Double Acting	Square	Solid	2"	4 3/4"	C	HM	A	B	-	1 hr	1 hr	16	7'4"	7'2"	
G01	D	Stair B Exit	E	HM/Glass	3'6"	6'10"	1 3/4"	Swing Simple	Square	Solid	2"	8 1/2"	B	HM	A	B	2	-	-	15	3'10"	7'0"	
G01	E	Vending Mach. Niche	-	-	11'4"	7'0"	1 3/4"	Cased Opening	Square	Solid	2"	8"	C	HM	A	B	-	-	-	-	11'4"	7'0"	
G01	F	Corridor Opening	-	-	5'0"	7'0"	1 3/4"	Cased Opening	Square	Solid	2"	8"	C	HM	A	B	-	-	-	-	5'4"	7'2"	
G01	G	North Exit	A	Alum/Gl	6'0"	7'0"	1 3/4"	Double Acting	Square	Solid	2"	8 1/2"	C	HM	A	B	1	-	-	17	6'4"	7'2"	
G02	A	Street Crew Entry	C	Plam/Gl	3'0"	7'0"	1 3/4"	Swing Simple	Square	Solid	2"	8"	B	HM	A	B	-	1 hr	1 hr	12	3'4"	7'2"	
G02	B	Men's Lockers	D	Plam	3'0"	7'0"	1 3/4"	Swing Simple	Square	Solid	2"	8"	B	HM	A	B	-	-	-	18	3'4"	7'2"	
G02	C	Women's Lockers	D	Plam	3'0"	7'0"	1 3/4"	Swing Simple	Square	Solid	2"	8"	B	HM	A	B	-	-	-	18	3'4"	7'2"	
G02	D	Office	D	Plam	3'0"	7'0"	1 3/4"	Swing Simple	Square	Solid	2"	4 3/4"	B	HM	A	B	-	-	-	9	3'4"	7'2"	
G03	A	Utility Crew 1 Entry	C	Plam/Gl	3'0"	7'0"	1 3/4"	Swing Simple	Square	Solid	2"	8"	B	HM	A	B	-	1 hr	1 hr	12	3'4"	7'2"	
G03	B	Vestibuile Opening	-	-	3'4"	7'0"	1 3/4"	Cased Opening	Square	Solid	2"	8"	B	HM	A	B	-	-	-	-	3'4"	7'0"	
G03	C	Women's Lockers	D	Plam	3'0"	7'0"	1 3/4"	Swing Simple	Square	Solid	2"	4 3/4"	B	HM	A	B	-	-	-	18	3'4"	7'2"	
G03	D	Storage	D	Plam	3'0"	7'0"	1 3/4"	Swing Simple	Square	Solid	2"	4 3/4"	B	HM	A	B	-	-	-	7	3'4"	7'2"	
G03	E	Men's Lockers	D	Plam	3'0"	7'0"	1 3/4"	Swing Simple	Square	Solid	2"	4 3/4"	B	HM	A	B	-	-	-	18	3'4"	7'2"	
G03	F	Office	D	Plam	3'0"	7'0"	1 3/4"	Swing Simple	Square	Solid	2"	4 3/4"	B	HM	A	B	-	-	-	9	3'4"	7'2"	
G04	A	Utility Crew 2 Entry	C	Plam/Gl	3'0"	7'0"	1 3/4"	Swing Simple	Square	Solid	2"	4 3/4"	B	HM	A	B	-	1 hr	1 hr	12	3'4"	7'2"	
G04	B	Office	D	Plam	3'0"	7'0"	1 3/4"	Swing Simple	Square	Solid	2"	4 3/4"	B	HM	A	B	-	-	-	9	3'4"	7'2"	
G04	C	Men's Lockers	D	Plam	3'0"	7'0"	1 3/4"	Swing Simple	Square	Solid	2"	8"	B	HM	A	B	-	-	-	18	3'4"	7'2"	
G04	D	Women's Lockers	D	Plam	3'0"	7'0"	1 3/4"	Swing Simple	Square	Solid	2"	8"	B	HM	A	B	-	-	-	18	3'4"	7'2"	
G05	A	Refuse & Recycling	C	Plam/Gl	3'0"	7'0"	1 3/4"	Swing Simple	Square	Solid	2"	4 3/4"	B	HM	A	B	-	1 hr	1 hr	12	3'4"	7'2"	
G05	B	Vestibule	-	-	3'0"	7'0"	1 3/4"	Cased Opening	Square	Solid	2"	8"	B	HM	A	B	-	-	-	-	3'4"	7'2"	
G05	C	Women's Lockers	D	Plam	3'0"	7'0"	1 3/4"	Swing Simple	Square	Solid	2"	4 3/4"	B	HM	A	B	-	-	-	18	3'4"	7'2"	
G05	D	Men's Lockers	D	Plam	3'0"	7'0"	1 3/4"	Swing Simple	Square	Solid	2"	4 3/4"	B	HM	A	B	-	-	-	18	3'4"	7'2"	
G05	E	Office	D	Plam	3'0"	7'0"	1 3/4"	Swing Simple	Square	Solid	2"	4 3/4"	B	HM	A	B	-	-	-	9	3'4"	7'2"	
G05	F	Plumbing Room	D	HM	3'0"	7'0"	1 3/4"	Swing Simple	Square	Solid	2"	4 3/4"	B	HM	A	B	3	-	-	7	3'4"	7'2"	
G06	A	Men's Bathroom	D	Plam	3'0"	7'0"	1 3/4"	Swing Simple	Square	Solid	2"	8"	B	HM	A	B	3	1 hr	1 hr	6	3'4 1/2"	7'2 1/4"	
G07	A	Women's Bathroom	D	Plam	3'0"	7'0"	1 3/4"	Swing Simple	Square	Solid	2"	8"	B	HM	A	B	3	1 hr	1 hr	6	3'4 1/2"	7'2 1/4"	
G08	A	Concrete Crew Entry	C	Plam/Gl	3'0"	7'0"	1 3/4"	Swing Simple	Square	Solid	2"	8"	B	HM	A	B	-	1 hr	1 hr	12	3'4"	7'2"	
G08	B	Men's Lockers	D	Plam	3'0"	7'0"	1 3/4"	Swing Simple	Square	Solid	2"	8"	B	HM	A	B	-	-	-	18	3'4"	7'2"	
G08	C	Office	D	Plam	3'0"	7'0"	1 3/4"	Swing Simple	Square	Solid	2"	8"	B	HM	A	B	-	-	-	9	3'4"	7'2"	
G09	A	Office	D	Plam	3'0"	7'0"	1 3/4"	Swing Simple	Square	Solid	2"	4 3/4"	B	HM	A	B	-	-	-	9	3'4"	7'2"	
G09	B	Men's Lockers	D	Plam	3'0"	7'0"	1 3/4"	Swing Simple	Square	Solid	2"	8"	B	HM	A	B	-	-	-	18	3'4"	7'2"	
G09	C	Storage Room	D	HM	3'0"	7'0"	1 3/4"	Swing Simple	Square	Solid	2"	4 3/4"	B	HM	A	B	-	-	-	7	3'4"	7'2"	
G09	D	Women's Lockers	D	Plam	3'0"	7'0"	1 3/4"	Swing Simple	Square	Solid	2"	4 3/4"	B	HM	A	B	-	-	-	18	3'4"	7'2"	
G10	A	Electrical Room	D	HM	3'0"	7'0"	1 3/4"	Swing Simple	Square	Solid	2"	8 1/2"	B	HM	A	B	1	-	-	19	3'4"	7'2"	

1. All exterior door glass shall be Type IG #2.

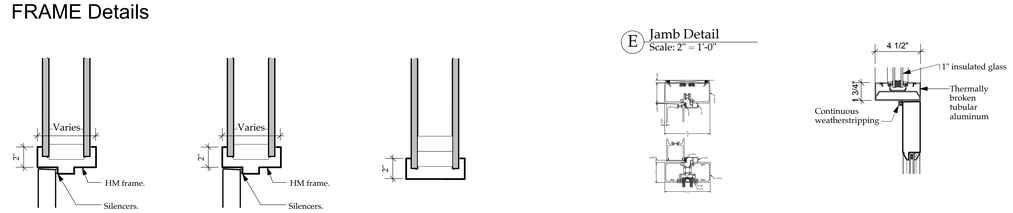
Door Types



Frame Types



FRAME Details



A Typ HM Head Scale: 2" = 1'-0"

B Typ HM Jamb Scale: 2" = 1'-0"

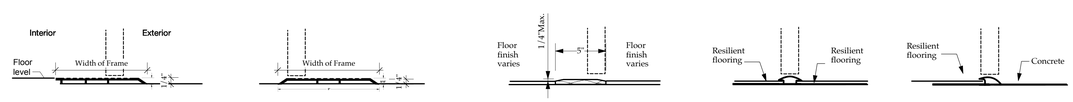
C HM Cased Opng Scale: 2" = 1'-0"

D Jamb/Head Detail Scale: 2" = 1'-0"

E Jamb Detail Scale: 2" = 1'-0"

F Typ Tubular Alum Scale: 2" = 1'-0"

SILL Details



1 Offset Aluminum Scale: 2" = 1'-0"

2 Level Aluminum Scale: 2" = 1'-0"

3 Marble Threshold Scale: 2" = 1'-0"

4 Resilient - Resilient Scale: 2" = 1'-0"

5 Resilient - Conc Scale: 2" = 1'-0"

NORTH (building)

Winchester Virginia

CITY YARDS MAINTENANCE FACILITY:
RENOVATION and ADDITIONS
301 East Cork St.
Winchester, Virginia 22601

Public Services Building

CITY OF WINCHESTER VIRGINIA

CIVIL and STRUCTURAL ENGINEERS:

PAINTER-LEWIS, P.L.C.
817 Cedar Creek GRADE, Suite 120
Winchester, Virginia 22601
(540) 662-5792

Mech / Elect Engineer

CDi
Comfort Designs Inc.
620 Pennsylvania Avenue
Winchester, VA 22604
540 665-2846

Architect

GDA Architecture Planning Interiors Landscape
Grove & Dall'Olio Architects plc AIA, LEED AP
GDAaia.com
18 West Boscawen Street
Winchester, VA 22601
540-773-2328

Issue/Revision

Seal

STATE OF VIRGINIA Lisa Dallolio NO. 014691 REGISTERED ARCHITECT

Drawing Title

Door Schedule & Details

Date 8/5/19

Scale Noted

Project Number 18665

Drawing Number

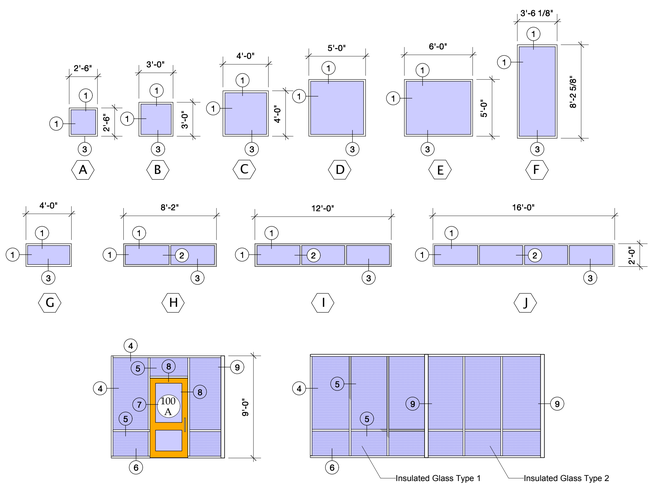
A6.1

Window Schedule

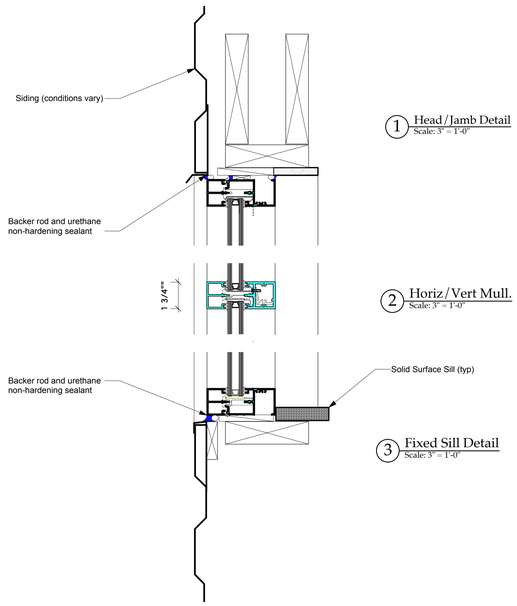
				Nominal Size		Window Style			Glass	Frame Details			Openin		Window Data			
	Mark		Window Type	O.A. Width	O.A. Height	Sash Operation	Shape	Top Shape		Head Detail	Mullion Detail	Sill Detail	RO Width	RO Height	Mfr	Model No.	Accessories	Comments
1	E	1	J	16'0"	2'0"	Custom	Rectangle	Square	Temp./Insul./LowE/ IG #2	1	-	3	16'0"	2'0"	Tubelite	T14000		
1	E	2	D	5'0"	5'0"	Fixed Glass	Rectangle	Square	Temp./Insul./LowE/ IG #2	1	-	3	5'0"	5'0"	Tubelite	T14000		
1	N	1	D	5'0"	5'0"	Fixed Glass	Rectangle	Square	Temp./Insul./LowE/ IG #1	1	-	3	5'0"	5'0"	Tubelite	T14000		
1	N	2	D	5'0"	5'0"	Fixed Glass	Rectangle	Square	Temp./Insul./LowE/ IG #1	1	-	3	5'0"	5'0"	Tubelite	T14000		
1	N	3	D	5'0"	5'0"	Fixed Glass	Rectangle	Square	Temp./Insul./LowE/ IG #1	1	-	3	5'0"	5'0"	Tubelite	T14000		
1	N	4	D	5'0"	5'0"	Fixed Glass	Rectangle	Square	Temp./Insul./LowE/ IG #1	1	-	3	5'0"	5'0"	Tubelite	T14000		
1	N	5	D	5'0"	5'0"	Fixed Glass	Rectangle	Square	Temp./Insul./LowE/ IG #1	1	-	3	5'0"	5'0"	Tubelite	T14000		
1	S	1	E	6'0"	5'0"	Fixed Glass	Rectangle	Square	Temp./Insul./LowE/ IG #1	1	-	3	6'0"	5'0"	Tubelite	T14000		
1	S	2	E	6'0"	5'0"	Fixed Glass	Rectangle	Square	Temp./Insul./LowE/ IG #1	1	-	3	6'0"	5'0"	Tubelite	T14000		
1	S	3	E	6'0"	5'0"	Fixed Glass	Rectangle	Square	Temp./Insul./LowE/ IG #1	1	-	3	6'0"	5'0"	Tubelite	T14000		
1	S	4	B	3'0"	3'0"	Fixed Glass	Rectangle	Square	Temp./Insul./LowE/ IG #1	1	-	3	3'0"	3'0"	Tubelite	T14000		
1	S	5	C	4'0"	4'0"	Fixed Glass	Rectangle	Square	Temp./Insul./LowE/ IG #1	1	-	3	4'0"	4'0"	Tubelite	T14000		
1	S	6	C	4'0"	4'0"	Fixed Glass	Rectangle	Square	Temp./Insul./LowE/ IG #1	1	-	3	4'0"	4'0"	Tubelite	T14000		
1	S	7	C	4'0"	4'0"	Fixed Glass	Rectangle	Square	Temp./Insul./LowE/ IG #1	1	-	3	4'0"	4'0"	Tubelite	T14000		
1	S	8	C	4'0"	4'0"	Fixed Glass	Rectangle	Square	Temp./Insul./LowE/ IG #1	1	-	3	4'0"	4'0"	Tubelite	T14000		
1	W	1	D	5'0"	5'0"	Fixed Glass	Rectangle	Square	Temp./Insul./LowE/ IG #2	1	-	3	5'0"	5'0"	Tubelite	T14000		
1	W	2	D	5'0"	5'0"	Fixed Glass	Rectangle	Square	Temp./Insul./LowE/ IG #2	1	-	3	5'0"	5'0"	Tubelite	T14000		
1	W	3	D	5'0"	5'0"	Fixed Glass	Rectangle	Square	Temp./Insul./LowE/ IG #2	1	-	3	5'0"	5'0"	Tubelite	T14000		
1	W	4	E	6'0"	5'0"	Fixed Glass	Rectangle	Square	Temp./Insul./LowE/ IG #2	1	-	3	6'0"	5'0"	Tubelite	T14000		
1	W	5	E	6'0"	5'0"	Fixed Glass	Rectangle	Square	Temp./Insul./LowE/ IG #2	1	-	3	6'0"	5'0"	Tubelite	T14000		
1	W	6	E	6'0"	5'0"	Fixed Glass	Rectangle	Square	Temp./Insul./LowE/ IG #2	1	-	3	6'0"	5'0"	Tubelite	T14000		
1	W	7	B	3'0"	3'0"	Fixed Glass	Rectangle	Square	Temp./Insul./LowE/ IG #2	1	-	3	3'0"	3'0"	Tubelite	T14000		
2	E	1	A	2'6"	2'6"	Fixed Glass	Rectangle	Square	Temp./Insul./LowE/ IG #2	1	-	3	2'6"	2'6"	Tubelite	T14000		
2	E	2	A	2'6"	2'6"	Fixed Glass	Rectangle	Square	Temp./Insul./LowE/ IG #2	1	-	3	2'6"	2'6"	Tubelite	T14000		
2	E	3	A	2'6"	2'6"	Fixed Glass	Rectangle	Square	Temp./Insul./LowE/ IG #2	1	-	3	2'6"	2'6"	Tubelite	T14000		
2	E	4	A	2'6"	2'6"	Fixed Glass	Rectangle	Square	Temp./Insul./LowE/ IG #2	1	-	3	2'6"	2'6"	Tubelite	T14000		
2	E	5	A	2'6"	2'6"	Fixed Glass	Rectangle	Square	Temp./Insul./LowE/ IG #2	1	-	3	2'6"	2'6"	Tubelite	T14000		
2	E	6	D	5'0"	5'0"	Fixed Glass	Rectangle	Square	Temp./Insul./LowE/ IG #2	1	-	3	5'0"	5'0"	Tubelite	T14000		
2	E	7	F	3'6"	8'2"	Fixed Glass	Rectangle	Square	Temp./Insul./LowE/ IG #2	1	-	3	3'6"	8'2"	Tubelite	T14000		
2	E	8	D	5'0"	5'0"	Fixed Glass	Rectangle	Square	Temp./Insul./LowE/ IG #2	1	-	3	5'0"	5'0"	Tubelite	T14000		
2	N	1	D	5'0"	5'0"	Fixed Glass	Rectangle	Square	Temp./Insul./LowE/ IG #1	1	-	3	5'0"	5'0"	Tubelite	T14000		
2	N	2	D	5'0"	5'0"	Fixed Glass	Rectangle	Square	Temp./Insul./LowE/ IG #1	1	-	3	5'0"	5'0"	Tubelite	T14000		
2	N	3	D	5'0"	5'0"	Fixed Glass	Rectangle	Square	Temp./Insul./LowE/ IG #1	1	-	3	5'0"	5'0"	Tubelite	T14000		
2	S	1	B	3'0"	3'0"	Fixed Glass	Rectangle	Square	Temp./Insul./LowE/ IG #1	1	-	3	3'0"	3'0"	Tubelite	T14000		
2	W	1	D	5'0"	5'0"	Fixed Glass	Rectangle	Square	Temp./Insul./LowE/ IG #2	1	-	3	5'0"	5'0"	Tubelite	T14000		
2	W	2	D	5'0"	5'0"	Fixed Glass	Rectangle	Square	Temp./Insul./LowE/ IG #2	1	-	3	5'0"	5'0"	Tubelite	T14000		
2	W	3	A	2'6"	2'6"	Fixed Glass	Rectangle	Square	Temp./Insul./LowE/ IG #2	1	-	3	2'6"	2'6"	Tubelite	T14000		
2	W	4	A	2'6"	2'6"	Fixed Glass	Rectangle	Square	Temp./Insul./LowE/ IG #2	1	-	3	2'6"	2'6"	Tubelite	T14000		
2	W	5	A	2'6"	2'6"	Fixed Glass	Rectangle	Square	Temp./Insul./LowE/ IG #2	1	-	3	2'6"	2'6"	Tubelite	T14000		
2	W	6	B	3'0"	3'0"	Fixed Glass	Rectangle	Square	Temp./Insul./LowE/ IG #2	1	-	3	3'0"	3'0"	Tubelite	T14000		
G	N	1	H	8'0"	2'0"	Fixed Glass	Rectangle	Square	Temp./Insul./LowE/ IG #1	1	-	3	8'0"	2'0"	Tubelite	T14000		
G	N	2	G	4'0"	4'0"	Fixed Glass	Rectangle	Square	Temp./Insul./LowE/ IG #1	1	-	3	4'0"	4'0"	Tubelite	T14000		
G	N	3	C	4'0"	4'0"	Fixed Glass	Rectangle	Square	Temp./Insul./LowE/ IG #1	1	-	3	4'0"	4'0"	Tubelite	T14000		
G	N	4	C	4'0"	4'0"	Fixed Glass	Rectangle	Square	Temp./Insul./LowE/ IG #1	1	-	3	4'0"	4'0"	Tubelite	T14000		
G	N	5	C	4'0"	4'0"	Fixed Glass	Rectangle	Square	Temp./Insul./LowE/ IG #1	1	-	3	4'0"	4'0"	Tubelite	T14000		
G	S	1	H	8'0"	2'0"	Fixed Glass	Rectangle	Square	Temp./Insul./LowE/ IG #2	1	-	3	8'0"	2'0"	Tubelite	T14000		
G	S	2	G	4'0"	4'0"	Fixed Glass	Rectangle	Square	Temp./Insul./LowE/ IG #1	1	-	3	4'0"	4'0"	Tubelite	T14000		
G	S	3	G	4'0"	4'0"	Fixed Glass	Rectangle	Square	Temp./Insul./LowE/ IG #1	1	-	3	4'0"	4'0"	Tubelite	T14000		
G	S	4	G	4'0"	4'0"	Fixed Glass	Rectangle	Square	Temp./Insul./LowE/ IG #1	1	-	3	4'0"	4'0"	Tubelite	T14000		
G	W	1	G	4'0"	4'0"	Fixed Glass	Rectangle	Square	Temp./Insul./LowE/ IG #2	1	-	3	4'0"	4'0"	Tubelite	T14000		
G	W	1	H	8'0"	2'0"	Fixed Glass	Rectangle	Square	Temp./Insul./LowE/ IG #2	1	2	3	8'0"	2'0"	Tubelite	T14000		
G	W	2	I	12'0"	2'0"	Fixed Glass	Rectangle	Square	Temp./Insul./LowE/ IG #2	1	2	3	12'0"	2'0"	Tubelite	T14000		
G	W	3	J	16'0"	2'0"	Fixed Glass	Rectangle	Square	Temp./Insul./LowE/ IG #2	1	2	3	16'0"	2'0"	Tubelite	T14000		
G	W	5	H	8'0"	2'0"	Fixed Glass	Rectangle	Square	Temp./Insul./LowE/ IG #2	1	2	3	8'0"	2'0"	Tubelite	T14000		

Window Notes

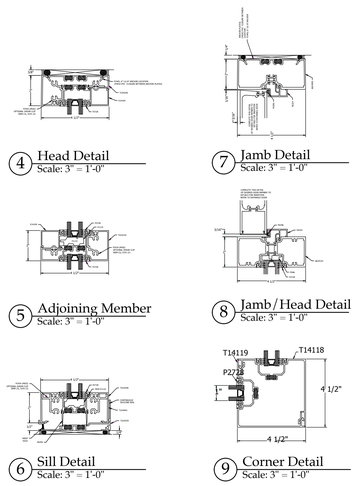
1. All East and West oriented translucent window glass shall have silk screened dots allowing 75% light transmittance except for storefront beneath entry canopy.



Window Types



Typical Window Section



Typical Storefront Sections

NORTH (building)

Winchester Virginia

CITY YARDS
MAINTENANCE FACILITY:
RENOVATION and ADDITIONS
301 East Cork St.
Winchester, Virginia 22601

Public Services Building

CIVIL and STRUCTURAL ENGINEERS:

PAINTER-LEWIS, P.L.C.
817 Cedar Creek GRADE, Suite 120
Winchester, Virginia 22601
(540) 662-5792

Mech / Elect Engineer

Comfort Designs Inc.
620 Pennsylvania Avenue
Winchester, VA 22604
540 665-2846

Architect

GDA Grove & Dall'Olio Architects plc
Architecture Planning Interiors Landscape
AIA, LEED AP
GDAaia.com
18 West Boscawen Street
Winchester, VA 22601
540-773-2328

Issue / Revision

Seal

STATE OF VIRGINIA
Lisa Dallolio
NO. 014691
REGISTERED
ARCHITECT

Drawing Title

Window Schedule & Details

Date 8/5/19

Scale Noted

Project Number 18665

Drawing Number

A6.2

Finish Schedule

Room No.	Name	Floor Material		Base Material	North Wall Finish code	Finish	East Wall Finish code	Finish	South Wall Finish code	Finish	West Wall Finish code	Finish	Ceiling Material	Finish	Height	Remarks
G00	Elevator Vestibule	Epoxy	-	Epoxy	GWB2	Paint	GWB2	Paint	GWB2	Paint	GWB2	Paint	ACT1/GWB1	PT	9'0" & 10'5"	
G00A	Elevator Mach. Room	Concrete	-	Epoxy	GWB2	Paint	GWB2	Paint	GWB2	Paint	CMU	Paint	GWB1	PT	10'5"	
G00B	Storage	Epoxy	-	Epoxy	GWB2	Paint	GWB2	Paint	GWB2	Paint	GWB2	Paint	GWB1	PT	10'5"	
G01	Lower Hall	Epoxy	-	Epoxy	GWB2	Paint	GWB2	Paint	GWB2	Paint	GWB2	Paint	ACT1/GWB1	PT	9'0" & 10'5"	Ceiling at North end at 8'0" AFF
G01A	Laundry Room	Epoxy	-	Epoxy	GWB2	Paint	GWB2	Paint	GWB2	Paint	GWB2	Paint	ACT 2	-	9'0"	
G01B	Janitor's Closet	Epoxy	-	Epoxy	GWB2	Paint	GWB2	Paint	GWB2	Paint	GWB2	Paint	GWB1	PT	10'5"	
	Stair B	Rubber/Epoxy	-	Epoxy	GWB2	Paint	GWB2	Paint	GWB2	Paint	GWB2	Paint	GWB1	PT	Varies	
G01C	Vending Niche	Epoxy	-	Epoxy	GWB2	Paint	GWB2	Paint	GWB2	Paint	GWB2	Paint	GWB1	PT	10'5"	
G01D	Corridor	Epoxy	-	Epoxy	GWB2	Paint	GWB2	Paint	GWB2	Paint	GWB2	Paint	ACT 2	-	9'0"	
G02	Street Crews Room	Epoxy	-	Epoxy	GWB2	Paint	GWB2	Paint	GWB2	Paint	GWB2	Paint	ACT 2	-	9'0"	
G02A	Men's Lockers	Epoxy	-	Epoxy	GWB2	Paint	GWB2	Paint	GWB2	Paint	GWB2	Paint	ACT 2	-	8'0"	
G02B	Women's Lockers	Epoxy	-	Epoxy	GWB2	Paint	GWB2	Paint	GWB2	Paint	GWB2	Paint	ACT 2	-	8'0"	
G02C	Office	Epoxy	-	Epoxy	GWB2	Paint	GWB2	Paint	GWB2	Paint	GWB2	Paint	ACT 2	-	8'0"	
G03	Utility Crew 1	Epoxy	-	Epoxy	GWB2	Paint	GWB2	Paint	GWB2	Paint	GWB2	Paint	ACT 2	-	9'0"	
G03A	Women's Lockers	Epoxy	-	Epoxy	GWB2	Paint	GWB2	Paint	GWB2	Paint	GWB2	Paint	ACT 2	-	8'0"	
G03B	Storage	Epoxy	-	Epoxy	GWB2	Paint	GWB2	Paint	GWB2	Paint	GWB2	Paint	GWB1	PT	10'5"	
G03C	Men's Lockers	Epoxy	-	Epoxy	GWB2	Paint	GWB2	Paint	GWB2	Paint	GWB2	Paint	ACT 2	-	8'0"	
G03D	Office	Epoxy	-	Epoxy	GWB2	Paint	GWB2	Paint	GWB2	Paint	GWB2	Paint	ACT 2	-	8'0"	
G04	Utility Crew 2	Epoxy	-	Epoxy	GWB2	Paint	GWB2	Paint	GWB2	Paint	GWB2	Paint	ACT 2	-	9'0"	
G04A	Office	Epoxy	-	Epoxy	GWB2	Paint	GWB2	Paint	GWB2	Paint	GWB2	Paint	ACT 2	-	8'0"	
G04B	Men's Lockers	Epoxy	-	Epoxy	GWB2	Paint	GWB2	Paint	GWB2	Paint	GWB2	Paint	ACT 2	-	9'0"	
G04C	Women's Lockers	Epoxy	-	Epoxy	GWB2	Paint	GWB2	Paint	GWB2	Paint	GWB2	Paint	ACT 2	-	9'0"	
G05	Refuse & Recycling	Epoxy	-	Epoxy	GWB2	Paint	GWB2	Paint	GWB2	Paint	GWB2	Paint	ACT 2	-	9'0"	
G05A	Ante Room	Epoxy	-	Epoxy	GWB2	Paint	GWB2	Paint	GWB2	Paint	GWB2	Paint	ACT 2	-	8'0"	
G05B	Women's Lockers	Epoxy	-	Epoxy	GWB2	Paint	GWB2	Paint	GWB2	Paint	GWB2	Paint	ACT 2	-	8'0"	
G05C	Men's Lockers	Epoxy	-	Epoxy	GWB2	Paint	GWB2	Paint	GWB2	Paint	GWB2	Paint	ACT 2	-	9'0"	
G05D	Office	Epoxy	-	Epoxy	GWB2	Paint	GWB2	Paint	GWB2	Paint	GWB2	Paint	ACT 2	-	8'0"	
G05E	Plumbing Room	Epoxy	-	Epoxy	GWB2	Paint	GWB2	Paint	GWB2	Paint	GWB2	Paint	GWB1	PT	10'5"	
G06	Men's Bathrooms	Epoxy	-	Epoxy	GWB2/Tile1	Paint	GWB2/Tile1	Paint	GWB2/Tile1	Paint	GWB2/Tile1	Paint	GWB2	PT	9'0" & 8'0"	
G07	Women's Bathrooms	Epoxy	-	Epoxy	GWB2/Tile1	Paint	GWB2/Tile1	Paint	GWB2/Tile1	Paint	GWB2/Tile1	Paint	GWB2	PT	9'0" & 8'0"	
G08	Concrete Crew	Epoxy	-	Epoxy	GWB2	Paint	GWB2	Paint	GWB2	Paint	GWB2	Paint	ACT 2	-	9'0"	
G08A	Men's Lockers	Epoxy	-	Epoxy	GWB2	Paint	GWB2	Paint	GWB2	Paint	GWB2	Paint	ACT 2	-	9'0"	
G08B	Office	Epoxy	-	Epoxy	GWB2	Paint	GWB2	Paint	GWB2	Paint	GWB2	Paint	ACT 2	-	9'0"	
G09	Public Works Crew	Epoxy	-	Epoxy	GWB2	Paint	GWB2	Paint	GWB2	Paint	GWB2	Paint	ACT 2	-	9'0"	
G09A	Office	Epoxy	-	Epoxy	GWB2	Paint	GWB2	Paint	GWB2	Paint	GWB2	Paint	ACT 2	-	8'0"	
G09B	Men's Lockers	Epoxy	-	Epoxy	GWB2	Paint	GWB2	Paint	GWB2	Paint	GWB2	Paint	ACT 2	-	8'0"	
G09C	Women's Lockers	Epoxy	-	Epoxy	GWB2	Paint	GWB2	Paint	GWB2	Paint	GWB2	Paint	ACT 2	-	8'0"	
G09D	Storage Room	Epoxy	-	Epoxy	GWB2	Paint	GWB2	Paint	GWB2	Paint	GWB2	Paint	GWB1	PT	10'5"	
G10	Electrical Room	Concrete	Stain x 2	Tile 2	GWB2	Paint	GWB2	Paint	GWB2	Paint	GWB2	Paint	GWB1	PT	10'5"	
100	Vestibule	Concrete	Stain x 2	Tile 2	GWB1*	Paint	Glass/Alum	-	GWB1	Paint	GWB1	Paint	GWB1	PT	9'0"	*Install wall covering
101	Main Lobby/Stair A	Rubber	-	Rubber	GWB1	Paint	Glass/Alum	-	GWB1	Paint	GWB1	Paint	GWB1	PT	10'8" or max	
102	Main Hall	Rubber	-	Rubber	GWB1	Paint	GWB1	Paint	GWB1	Paint	GWB1	Paint	ACT1/GWB1	PT	9'0" & 10'5"	
102A	Closet	Rubber	-	Rubber	GWB1	Paint	GWB1	Paint	GWB1	Paint	GWB1	Paint	GWB1	PT	10'5"	
102B	Men's Room	Tile 1	-	Tile 2	GWB2/Tile1	Paint	GWB2/Tile1	Paint	GWB2/Tile1	Paint	GWB2/Tile1	Paint	ACT 2	-	9'0"	
102C	Women's Room	Tile 1	-	Tile 2	GWB2/Tile1	Paint	GWB2/Tile1	Paint	GWB2/Tile1	Paint	GWB2/Tile1	Paint	ACT 2	-	9'0"	
102D	Janitor's Closet	Tile 1	-	Tile 2	GWB2/Tile1	Paint	GWB2/Tile1	Paint	GWB2/Tile1	Paint	GWB2/Tile1	Paint	GWB1	PT	10'5"	
102E	ADA Toilet	Tile 1	-	Tile 2	GWB2/Tile1	Paint	GWB2/Tile1	Paint	GWB2/Tile1	Paint	GWB2/Tile1	Paint	ACT 2	-	9'0"	
102F	Small Training Room	Rubber	-	Rubber	GWB1	Paint	GWB1	Paint	GWB1	Paint	GWB1	Paint	ACT 2	-	9'0"	
103	Training Room A	Rubber	-	Rubber	GWB1	Paint	GWB1	Paint	GWB1	Paint	GWB1	Paint	ACT1/GWB1	PT	10'0" & 8'6"	
103A	Storage	Rubber	-	Rubber	GWB1	Paint	GWB1	Paint	GWB1	Paint	GWB1	Paint	GWB1	PT	8'0"	
104	Training Room B	Rubber	-	Rubber	GWB1	Paint	GWB1	Paint	GWB1	Paint	GWB1	Paint	ACT1/GWB1	PT	10'0" & 8'6"	
105	Training Room C	Rubber	-	Rubber	GWB1	Paint	GWB1	Paint	GWB1	Paint	GWB1	Paint	ACT1/GWB1	PT	10'0" & 8'6"	
105A	Storage	Rubber	-	Rubber	GWB1	Paint	GWB1	Paint	GWB1	Paint	GWB1	Paint	GWB1	PT	8'0"	
106	Breakroom	Rubber	-	Rubber	GWB1	Paint	GWB1	Paint	GWB1	Paint	GWB1	Paint	ACT 2	-	9'0"	
	Stair B	Rubber	-	Rubber	GWB1	Paint	GWB1	Paint	GWB1	Paint	GWB1	Paint	GWB1	PT	Varies	
106A	Pantry	Rubber	-	Rubber	GWB1	Paint	GWB1	Paint	GWB1	Paint	GWB1	Paint	ACT 2	-	8'0"	
107	Back Hall	Rubber	-	Rubber	GWB1	Paint	GWB1	Paint	GWB1	Paint	GWB1	Paint	ACT 2	-	8'0"	
107A	Storage Room	Rubber	-	Rubber	GWB1	Paint	GWB1	Paint	GWB1	Paint	GWB1	Paint	GWB1	PT	8'0"	
108	IT Room	Rubber	-	Rubber	GWB1	Paint	GWB1	Paint	GWB1	Paint	GWB1	Paint	GWB1	PT	10'5"	
109	Inspector's Office	Rubber	-	Rubber	GWB1	Paint	GWB1	Paint	GWB1	Paint	GWB1	Paint	ACT 2	-	9'0"	
110	Infrastr. & Cap. Office	Rubber	-	Rubber	GWB1	Paint	GWB1	Paint	GWB1	Paint	GWB1	Paint	ACT 2	-	9'0"	
111	Utilities Maint. Supervisor	Rubber	-	Rubber	GWB1	Paint	GWB1	Paint	GWB1	Paint	GWB1	Paint	ACT 2	-	9'0"	
112	Conference Room	Rubber	-	Rubber	GWB1	Paint	GWB1	Paint	GWB1	Paint	GWB1	Paint	ACT 2	-	9'0"	
113	Extra Office	Rubber	-	Rubber	GWB1	Paint	GWB1	Paint	GWB1	Paint	GWB1	Paint	ACT 2	-	9'0"	
114	Refuse/Recyc. Coordinator	Rubber	-	Rubber	GWB1	Paint	GWB1	Paint	GWB1	Paint	GWB1	Paint	ACT 2	-	9'0"	
115	Arborist Office	Rubber	-	Rubber	GWB1	Paint	GWB1	Paint	GWB1	Paint	GWB1	Paint	ACT 2	-	9'0"	
116	Extra Office	Rubber	-	Rubber	GWB1	Paint	GWB1	Paint	GWB1	Paint	GWB1	Paint	ACT 2	-	9'0"	
117	Public Works Manager	Rubber	-	Rubber	GWB1	Paint	GWB1	Paint	GWB1	Paint	GWB1	Paint	ACT 2	-	9'0"	
118	Exec. Admin. Asst.	Rubber	-	Rubber	GWB1	Paint	GWB1	Paint	GWB1	Paint	GWB1	Paint	ACT 2	-	9'0"	
118A	Closet	Rubber	-	Rubber	GWB1	Paint	GWB1	Paint	GWB1	Paint	GWB1	Paint	GWB1	PT	8'0"	
119	Mail Room	Rubber	-	Rubber	GWB1	Paint	GWB1	Paint	GWB1	Paint	GWB1	Paint	ACT 2	-	9'0"	
119A	Storage	Rubber	-	Rubber	GWB1	Paint	GWB1	Paint	GWB1	Paint	GWB1	Paint	GWB1	PT	8'0"	
120	Reception Office	Rubber	-	Rubber	GWB1	Paint	GWB1	Paint	GWB1	Paint	GWB1	Paint	ACT 2	-	9'0"	
	Stair A	Rubber	-	Rubber	GWB1	Paint	GWB1	Paint	GWB1	Paint	GWB1	Paint	GWB1	PT	Varies	
200	Corridor	Rubber	-	Rubber	GWB1	Paint	GWB1	Paint	GWB1	Paint	GWB1	Paint	GWB1	PT	Varies	
200A	Radio Manager	Rubber	-	Rubber	GWB1	Paint	GWB1	Paint	GWB1	Paint	GWB1	Paint	GWB1	PT	8'0"	
200B	EM Conduct	Rubber	-	Rubber	GWB1	Paint	GWB1	Paint	GWB1	Paint	GWB1	Paint	GWB1	PT	8'0"	
201	Large Storage Room	Rubber	-	Rubber	GWB1	Paint	GWB1	Paint	GWB1	Paint	GWB1	Paint	GWB1	PT	8'0"	
	Stair B	Rubber	-	Rubber	GWB1	Paint	GWB1	Paint	GWB1	Paint	GWB1	Paint	GWB1	PT	8'0"	
202	Storage Rm	Rubber	-	Rubber	GWB1	Paint	GWB1	Paint	GWB1	Paint	GWB1	Paint	GWB1	PT	8'0"	
203	Emerg. Oper. Center	Rubber	-	Rubber	GWB1	Paint	GWB1	Paint	GWB1	Paint	GWB1	Paint	GWB1	PT	9'0"	
204	IC & Planning Room	Rubber	-	Rubber	GWB1	Paint	GWB1	Paint	GWB1	Paint	GWB1	Paint	GWB1	PT	9'0"	

Key:

GWB 1	Type X Gypsum Wallboard taped and finished, primed, 2 finish coats of paint	Tile 1	12" x 24" porcelain ceramic tile w/trim	ATC 1	Acoustical Tile Ceiling - floating with 4" tall edge trim
GWB 2	Water resistant Type X Gypsum Wallboard taped and finished, primed, 2 finish coats of paint	Tile 2	6" x 12" x 1/4" porcelain ceramic tile base	ATC 2	Acoustical Tile Ceiling - wall to wall

NORTH (building)

Winchester Virginia

CITY YARDS
MAINTENANCE FACILITY:
RENOVATION and ADDITIONS
301 East Cork St.
Winchester, Virginia 22601

Public Services Building

CITY OF WINCHESTER VIRGINIA FARE FAC 31744 E

CIVIL and STRUCTURAL ENGINEERS:

PAINTER-LEWIS, P.L.C.
817 Cedar Creek GRADE, Suite 120
Winchester, Virginia 22601
(540) 662-5792

Mech/Elect Engineer

Comfort Designs Inc.
620 Pennsylvania Avenue
Winchester, VA 22604
540 665-2846

Architect

GDA Grove & Dall'Olio Architects pllc
Architecture Planning Interiors Landscape
AIA, LEED AP
GDAaia.com
18 West Boscawen Street
Winchester, VA 22601
540-773-2328

Issue/Revision

Seal

STATE OF VIRGINIA
Lisa Dallolio
NO. 014691
REGISTERED
ARCHITECT

Drawing Title

Finish Schedule & Details

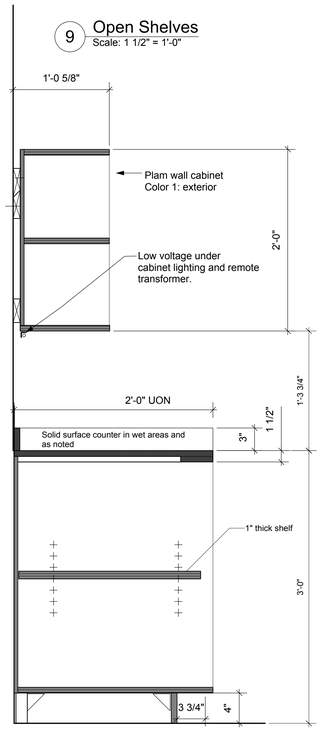
Date 8/5/19

Scale Noted

Project Number 18665

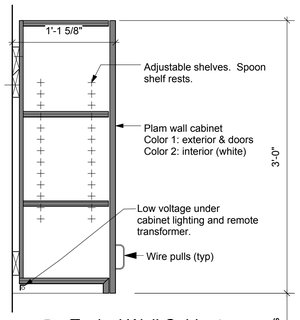
Drawing Number

A6.3

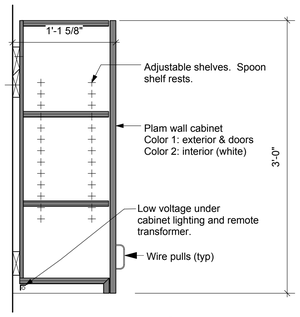


9 Open Shelves
Scale: 1 1/2" = 1'-0"

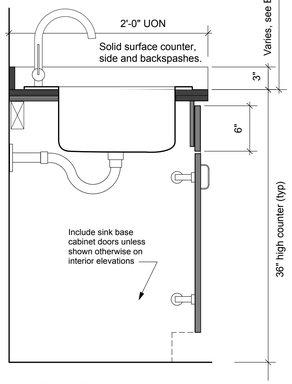
10 Open Base Cabs
Scale: 1 1/2" = 1'-0"



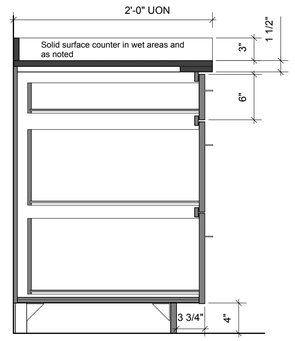
7 Typical Wall Cabinet
Scale: 1 1/2" = 1'-0"



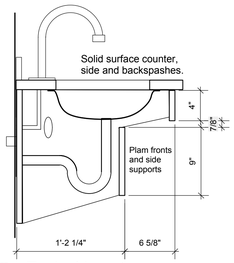
5 Typical Wall Cabinet
Scale: 1 1/2" = 1'-0"



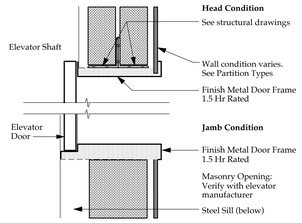
8 Sink Base Cabinet
Scale: 1 1/2" = 1'-0"



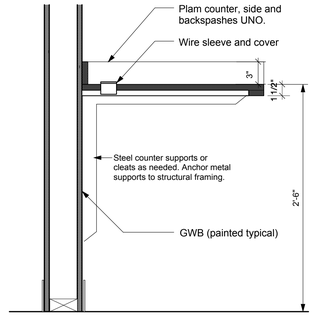
6 Drawer Base Cabs
Scale: 1 1/2" = 1'-0"



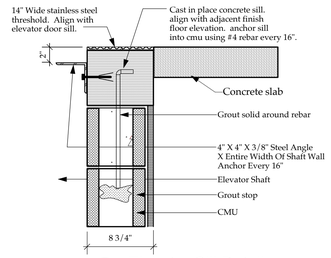
4 Typical Lavatory
Scale: 1 1/2" = 1'-0"



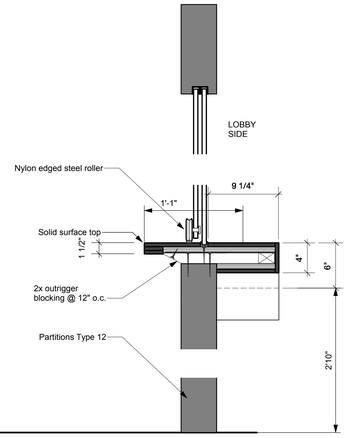
3 Elevator Jamb Detail
Scale: 1 1/2" = 1'-0"



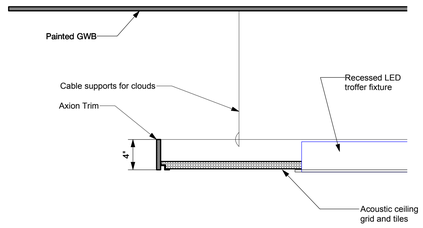
1 Work Counter
Scale: 1 1/2" = 1'-0"



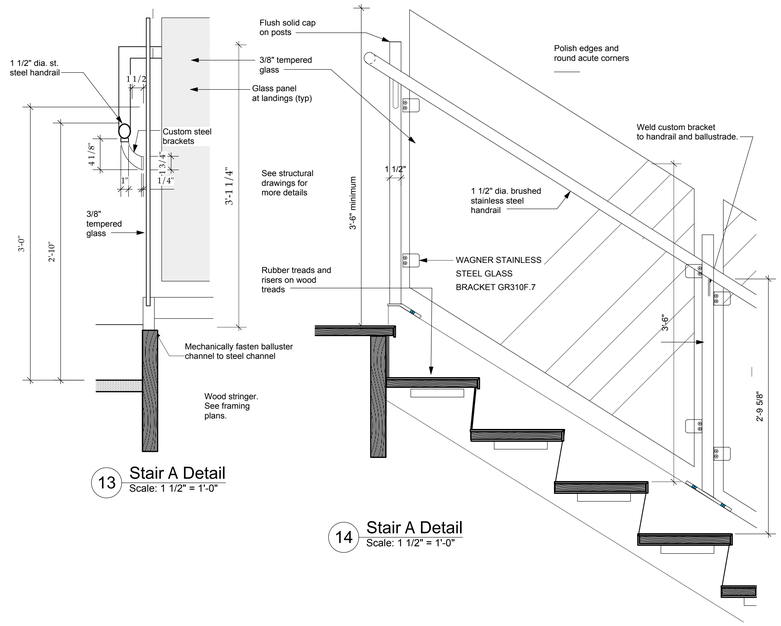
2 Elevator Sill Detail
Scale: 1 1/2" = 1'-0"



11 Reception Window
Scale: 1 1/2" = 1'-0"

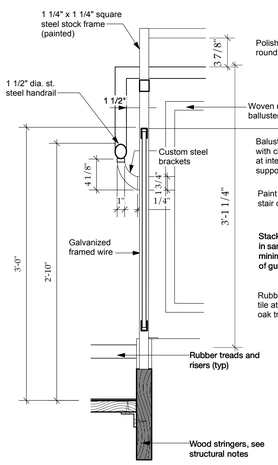


12 Cloud Ceiling Detail
Scale: 1 1/2" = 1'-0"

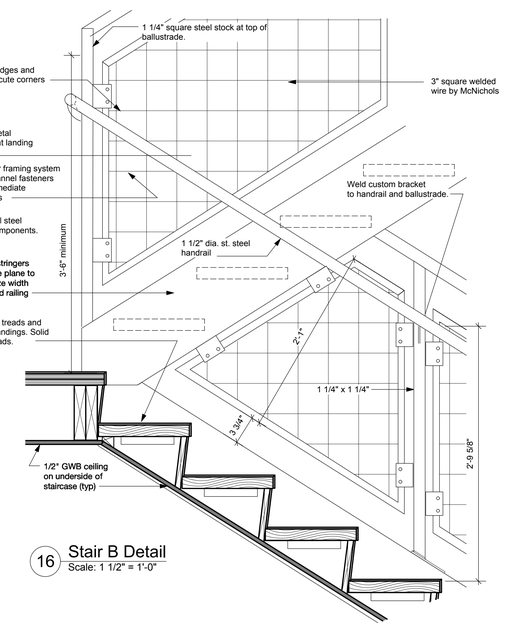


13 Stair A Detail
Scale: 1 1/2" = 1'-0"

14 Stair A Detail
Scale: 1 1/2" = 1'-0"



15 Stair B Detail
Scale: 1 1/2" = 1'-0"



16 Stair B Detail
Scale: 1 1/2" = 1'-0"

NORTH (building)

Winchester Virginia

CITY YARDS
MAINTENANCE FACILITY:
RENOVATION and ADDITIONS
301 East Cork St.
Winchester, Virginia 22601

Public Services Building

CIVIL and STRUCTURAL ENGINEERS:

PAINTER-LEWIS, P.L.C.
817 Cedar Creek GRADE, Suite 120
Winchester, Virginia 22601
(540) 662-5792

Mech / Elect Engineer

Comfort Designs Inc.
620 Pennsylvania Avenue
Winchester, VA 22604
540 665-2846

Architect

GDA Architecture Planning Interiors Landscape
Grove & Dall'Olio Architects plc
AIA, LEED AP
GDAaia.com
18 West Boscawen Street
Winchester, VA 22601
540-773-2328

Issue / Revision

Seal

STATE OF VIRGINIA
Lisa Dallolio
NO. 014691
REGISTERED ARCHITECT

Drawing Title

Interior Details

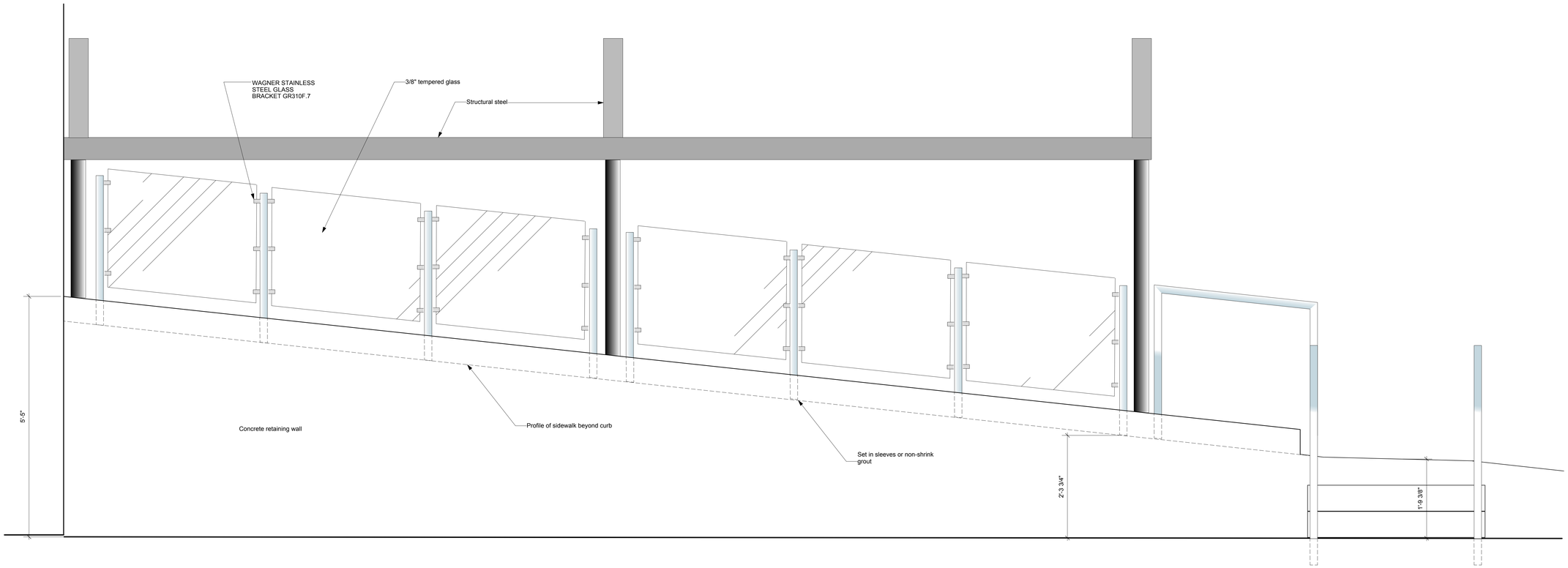
Date 8/5/19

Scale Noted

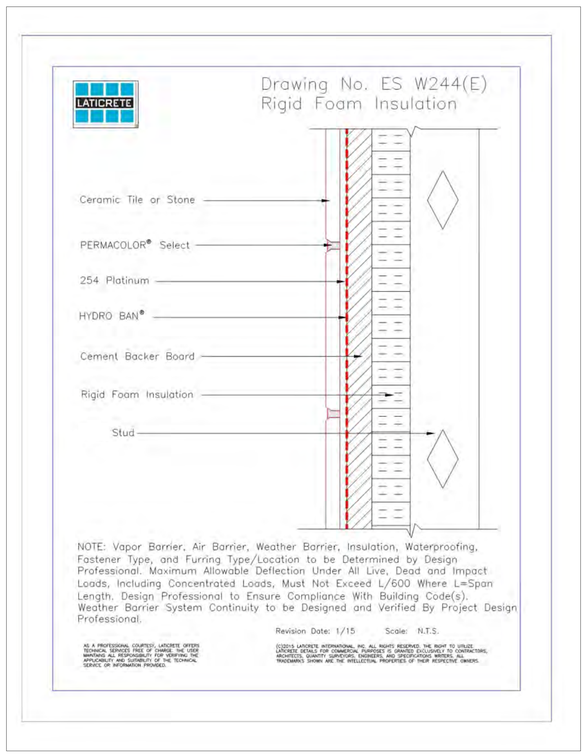
Project Number 18665

Drawing Number

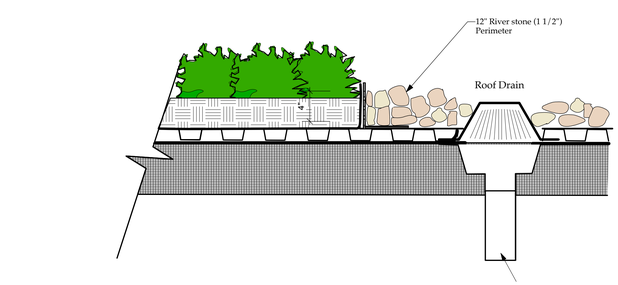
A7.1



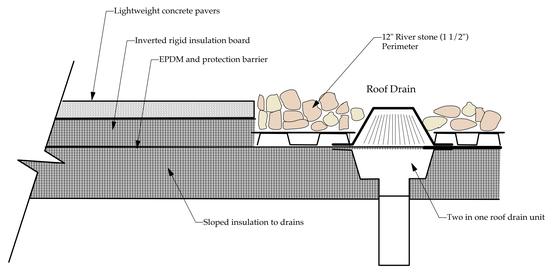
1 Retaining Wall and Plaza Stair Detail
Scale: 1" = 1'-0"



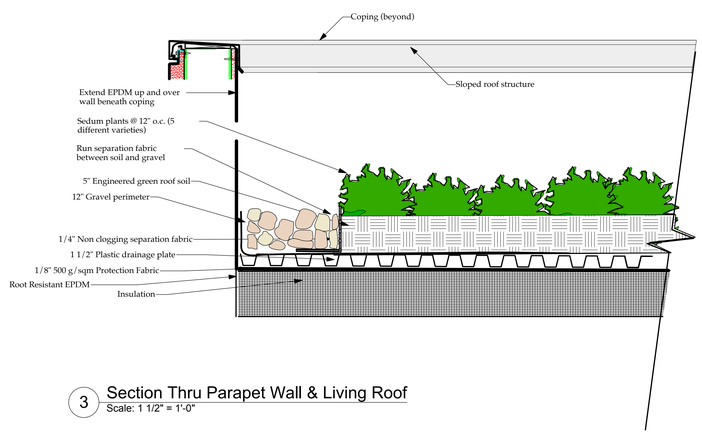
2 Porcelain Tile Detail
Scale: 1" = 1'-0"



4 Section Thru Roof Drain & Living Roof
Scale: 1 1/2" = 1'-0"



5 Section Thru Roof Drain & Pavers
Scale: 1 1/2" = 1'-0"



3 Section Thru Parapet Wall & Living Roof
Scale: 1 1/2" = 1'-0"

NORTH (building)

Winchester Virginia

CITY YARDS
MAINTENANCE FACILITY:
RENOVATION and ADDITIONS
301 East Cork St.
Winchester, Virginia 22601

Public Services Building

CITY OF WINCHESTER VIRGINIA

CIVIL and STRUCTURAL ENGINEERS:

PAINTER-LEWIS, P.L.C.
817 Cedar Creek GRADE, Suite 120
Winchester, Virginia 22601
(540) 662-5792

Mech / Elect Engineer

Comfort Designs Inc.
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Architect

GDA Architecture Planning Interiors Landscape
Grove & Dall'Olio Architects plc AIA, LEED AP
GDAaia.com
18 West Boscawen Street
Winchester, VA 22601
540-773-2328

Issue / Revision

Seal

STATE OF VIRGINIA
Lisa Dallolio
NO. 014691
REGISTERED
ARCHITECT

Drawing Title

Exterior Details

Date 8/5/19

Scale Noted

Project Number 18665

Drawing Number

A7.2

MECHANICAL SYMBOLS

PLAN SYMBOLS

- AHU 1 — MECHANICAL EQUIPMENT IDENTIFICATION
- DETAIL IDENTIFICATION / DETAIL NUMBER AND DRAWING NUMBER AS INDICATED.
- NEW WORK NOTE IDENTIFICATION

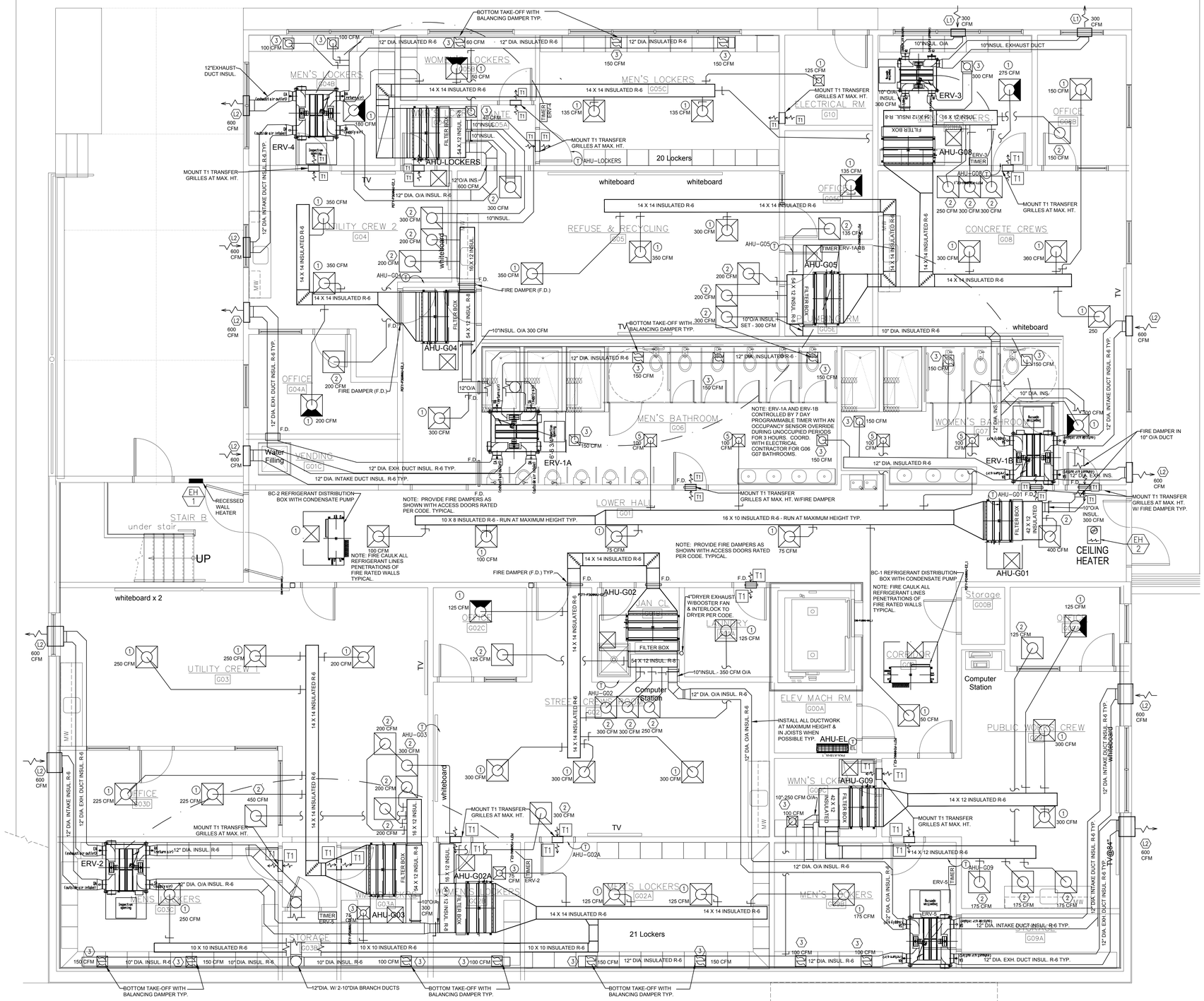
MECHANICAL SYMBOLS

- 100 — SUPPLY DIFFUSER/TYPE IDENTIFICATION CFM
- RETURN REGISTER/TYPE IDENTIFICATION
- EXHAUST REGISTER/TYPE IDENTIFICATION
- AIR FLOW DIRECTION
- SUPPLY AIR DUCTWORK
- RETURN AIR DUCTWORK
- EXHAUST AIR DUCTWORK
- MAKE-UP/OUTSIDE AIR DUCTWORK
- FLEXIBLE DUCTWORK-PROVIDE VOLUME DAMPER ON ALL FLEX DUCT WITH LOCKING QUADRANTS
- DUCTWORK TURNED UP OR TOWARDS
- DUCTWORK TURNED DOWN OR AWAY
- DUCTWORK TRANSITION
- AD — ACCESS DOOR, SIZED AS INDICATED
- FD — 1-1/2 or 3 HR FIRE DAMPER WITH ACCESS DOOR SEE ARCHITECTURAL FOR WALL FIRE RATING
- SD — SMOKE DAMPER WITH ACCESS DOOR
- VOLUME DAMPER WITH LOCKING QUADRANTS
- M — MODULATING MOTORIZED DAMPER
- T — DUCT MOUNTED TEMPERATURE SENSOR
- AHU-# T — WALL THERMOSTAT
- AHU-# H — WALL HUMIDISTAT
- SD — DUCT SMOKE DETECTOR
- U — 3/4" DOOR UNDERCUT
- D — CONDENSATE DRAIN
- PIPE TURNED DOWN
- PIPE TURNED UP

MECHANICAL SYMBOLS

ABBREVIATIONS

ABV	ABOVE
ACU	AIR CONDITIONING UNIT
AD	ACCESS DOOR
AFF	ABOVE FINISHED FLOOR
AHU	AIR HANDLING UNIT
AI	ANALOG INPUT CONTROL SIGNAL
AO	ANALOG OUTPUT CONTROL SIGNAL
BAS	BUILDING AUTOMATION SYSTEM
BHP	BRAKE HORSEPOWER
BOD	BOTTOM OF DUCT
BDD	BACK DRAFT DAMPER
C-#	OUTSIDE CONDENSER OR HEAT PUMP UNIT
CLG	CEILING
CP	CONDENSATE PUMP
CW	COLD WATER
D	CONDENSATE DRAIN
DI	DIGITAL INPUT CONTROL SIGNAL
DO	DIGITAL OUTPUT CONTROL SIGNAL
DPS	DIFFERENTIAL PRESSURE SENSOR
DN	DOWN
(E)	EXISTING
EA	EXHAUST AIR
EHC	ELECTRIC HEATING COIL
EF	EXHAUST FAN
EG	ETHYLENE GLYCOL
(ER)	EXISTING RELOCATED
F	FAN
FC	FLEXIBLE CONNECTION
FPB	FAN POWERED BOX
MOD	MOTORIZED DAMPER
MHP	MOTOR HORSEPOWER
(N)	NEW
NC	NORMALLY CLOSED
NO	NORMALLY OPEN
O/A	OUTSIDE AIR
RA	RETURN AIR
RTU	ROOFTOP UNIT
SA	SUPPLY AIR
SL	SOUND LINED DUCT
SS	STAINLESS STEEL
TR	TRANSFER AIR
TOD	TOP OF DUCT
VRF	VARIABLE REFRIGERANT FLOW



1 Ground Floor Mechanical HVAC Plan

M1.1 Scale: 1/4" = 1'-0"

NORTH (building)

CITY YARDS MAINTENANCE FACILITY: RENOVATION AND ADDITIONS

301 EAST CORK ST.
WINCHESTER, VIRGINIA
22601

ARCHITECT:

Seal

CIVIL and STRUCTURAL ENGINEERS:

CONSULTING ENGINEERS

JASON S. MARSHALL
Lic. No. 047220
COMMONWEALTH OF VIRGINIA
PROFESSIONAL ENGINEER

PAINTER-LEWIS, P.L.C.
817 CEDAR CREEK GRADE, Suite 120
WINCHESTER, VIRGINIA 22601
(540) 662-5792

MECHANICAL, ELECTRICAL, and PLUMBING ENGINEERS:

CDi
Comfort Designs Inc.
620 Pennsylvania Avenue
Winchester, VA 22604
540 665-2846

Seal

COMMONWEALTH OF VIRGINIA
ROGER L. CATLETT
Lic. No. 010537
8/5/2019
PROFESSIONAL ENGINEER

ISSUE/REVISIONS:

DRAWING TITLE:

PHASE I BUILDING #1
PUBLIC SERVICES
BUILDING

SHEET TITLE:

MECHANICAL GROUND FLOOR HVAC PLAN

DATE: AUGUST 5, 2019
SCALE: AS NOTED
PROJECT NUMBER: 1801014
SHEET:

M1.1

NOT ALL DIFFUSERS, REGISTERS & GRILLES ARE USED–SELECT FROM TABLE AS SHOWN ON PLAN

SELECT FROM DIFFUSER, REGISTER AND GRILLE SCHEDULE

TYPE	SERVICE	CFM RANGE	FACE DIMENSION	NECK DIMENSION	FINISH	BASIS OF DESIGN MANUFACTURER OR EQUAL	NOTES
1	ALUMINUM SUPPLY AIR DIFFUSER	0 – 125	24"x24"	6"ø	WHITE	TUTTLE & BAILEY: A1300A ALL ALUMINUM	1,2,3,4,5
		126 – 225		8"ø			
		226 – 300		10"ø			
		301 – 600		12"ø			
2	SUPPLY AIR DIFFUSER	0 – 125	24"x24"	6"ø	WHITE	TUTTLE & BAILEY: 1300A	1,2,3,4
		126 – 225		8"ø			
		226 – 300		10"ø			
		301 – 600		12"ø			
3	SUPPLY AIR DIFFUSER	220 – 500	12"x10"	D.O.	WHITE	TUTTLE & BAILEY: T54	1,2,4
		175 – 215	12"x8"	D.O.	WHITE	TUTTLE & BAILEY: T54	1,2,4
4	SUPPLY AIR DIFFUSER	0 – 175	12"x 12"	8"ø	WHITE	TUTTLE & BAILEY: T54	1,2
5	SUPPLY AIR DIFFUSER	175–350	14" x 14"	10"ø	WHITE	TUTTLE & BAILEY: T54	1,2
6	LINEAR SPIRAL DUCT DIFFUSER	100 – 320	12" LONG	6 – 12	WHITE	TUTTLE & BAILEY: MTRJ–U W/DMPX EXTRACTOR	1,2,4,5
		330 – 500	18" LONG	6 – 18			
		510 – 800	24" LONG	6 – 24			
7	SUPPLY AIR DIFFUSER	200–500	12"x10"	D.O.	WHITE	TUTTLE & BAILEY: T54	1,2,4
8	SUPPLY AIR DIFFUSER	0 – 125	12"x 12"	6"ø	WHITE	TITUS TMSA (FR) FIRE RATED–ADJUSTABLE	1,2,8
		126–225	12" x 12"	8"ø			
1	AL. RETURN AIR GRILLE	0 – 550	24"x24"	14"	WHITE	TUTTLE & BAILEY: APA	1,2,6
2	RETURN AIR GRILLE OR EXHAUST GRILLE	0 – 125	24"x24"	6"ø	WHITE	TUTTLE & BAILEY: PR	1,2,7
		126 – 225		8"ø			
		226 – 300		10"ø			
		301 – 600		12"ø			
		601 – 800		14"ø			
3	RETURN AIR GRILLE FOR SPIRAL DUCT	0 – 125	12" LONG	6 – 12	WHITE	TUTTLE & BAILEY: STRJ–U	1,2,4
		126 – 225	18" LONG	6 – 18			
		400 – 800	24" LONG	6 – 24			
4	RETURN AIR GRILLE	130 – 700	22"X10"	D.O.	WHITE	TUTTLE & BAILEY: T70D	1,2
5	AL. RETURN AIR GRILLE	350 – 450	14"x14"	12"	WHITE	TUTTLE & BAILEY: A70	1,2,5
6	RETURN AIR GRILLE	0 – 125	12"x 12"	6"ø	WHITE	TITUS PAR (FR) FIRE RATED–ADJUSTABLE	1,2,8
L1	AL. WALL GRILLE	200–300	15"x16"	D.O.	ALUMINUM	GREENHECK: EDD–601	
L2	AL. WALL GRILLE	400–600	22"x16"	D.O.	ALUMINUM	GREENHECK: EDD–601	
T1	TRANSFER AIR GRILLE	100–400	12"X12"	D.O.	WHITE	TUTTLE & BAILEY: A70	1,2,5

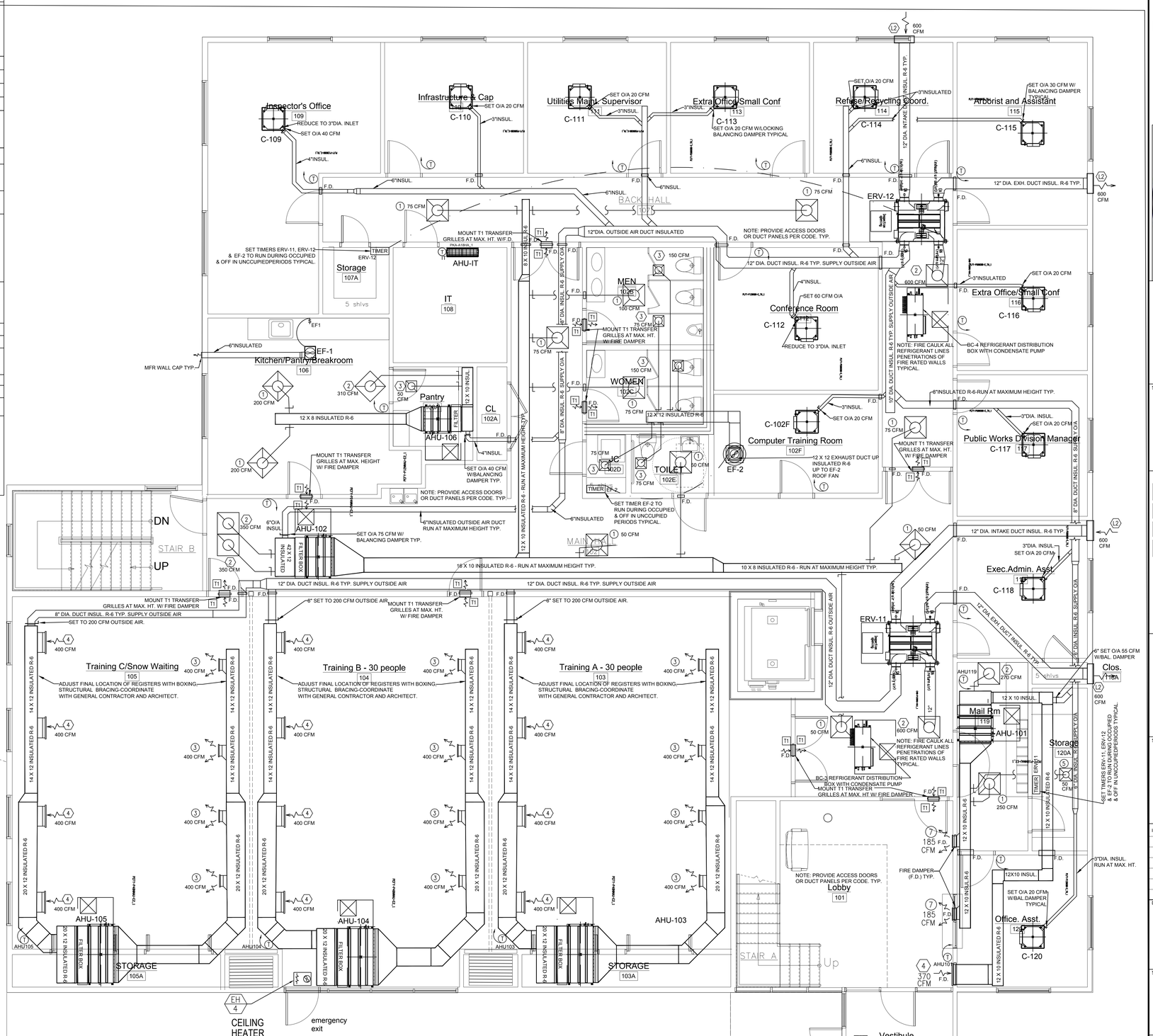
NOTES:
1. COORDINATE WITH OWNER COLOR & FINISH.
2. CONTRACTOR SHALL CONFIRM ACTUAL FINAL DIFFUSER DIMENSIONS WITH VENDOR, AND COORDINATE WITH CEILING/DOOR/WALL TYPE AS NECESSARY.
3. 2 WAY, 3 WAY OR 4 WAY THROW PATTERN AS SHOWN ON DRAWINGS.
4. PROVIDE WITH OPPOSED BLADE DAMPER OR DAMPER EXTRACTOR ADJUSTABLE AS SPECIFIED.
5. ALL ALUMINUM DIFFUSER WITH ALUMINUM ADJUSTMENT SCREWS, DUCTWORK & FITTINGS.
6. SPECIAL ORDER ALL ALUMINUM DIFFUSER WITH ALUMINUM ADJUSTMENT SCREWS, DUCTWORK & FITTINGS.
7. PERFORATED PATTERN

2 WAY THROW PATTERN AS SHOWN ON DRAWINGS. 3 WAY THROW PATTERN AS SHOWN ON DRAWINGS. 4 WAY THROW PATTERN AS SHOWN.

ELECTRIC HEATER SCHEDULE

MARK	AREA / SERVICE	CFM	CONSTRUCTION DATA: TYPE	ELECTRICAL DATA: KW	VOLT	PH	AMPS	MANUFACTURER OR EQUAL	NOTES
EH 1	STAIR B	100	SEMI–RECESSED WAI MOUNTED	3	208	1	14.4	MARKEL HF3326TD–RP	1,2,3
EH 2	LOWER HALL G01	100	RECESSED CEILING MOUNTED	3	208	1	14.4	QMARK EFF–4004	1,2,3
EH 3	VESTIBULE 100	100	RECESSED CEILING MOUNTED	3	208	1	14.4	QMARK EFF–4004	1,2,3
EH 4	TRAINING B 104	100	RECESSED CEILING MOUNTED	3	208	1	14.4	QMARK EFF–4004	1,2,3

NOTES:
1. ELECTRICAL SHALL BE CONCEALED W/ CASING.
2. BUILT IN TAMPER PROOF CONTROLLABLE THERMOSTAT
3. DISCONNECT SWITCH.



1 / M1.2 First Floor Mechanical HVAC Plan
Scale: 1/4" = 1'–0"

NORTH (building)

CITY YARDS MAINTENANCE FACILITY: RENOVATION AND ADDITIONS
301 EAST CORK ST.
WINCHESTER, VIRGINIA
22601

ARCHITECT:

Seal

CIVIL and STRUCTURAL ENGINEERS:
CONSULTING ENGINEERS
JASON S. MARSHALL
Lic. No. 047220
PROFESSIONAL ENGINEER
COMMONWEALTH OF VIRGINIA

PAINTER–LEWIS, P.L.C.
817 CEDAR CREEK GRADE, Suite 120
WINCHESTER, VIRGINIA 22601
(540) 662–5792

MECHANICAL, ELECTRICAL, and PLUMBING ENGINEERS:
Comfort Designs Inc.
620 Pennsylvania Avenue
Winchester, VA 22604
540 665–2846

Seal
ROGER L CAILETT
Lic. No. 010537
8/5/2019
PROFESSIONAL ENGINEER
COMMONWEALTH OF VIRGINIA

ISSUE/REVISIONS:

DRAWING TITLE:
PHASE I BUILDING #1
PUBLIC SERVICES
BUILDING

SHEET TITLE:
MECHANICAL FIRST
FLOOR HVAC PLAN

DATE: AUGUST 5, 2019
SCALE: AS NOTED
PROJECT NUMBER: 1801014
SHEET:
M1.2

GREENHECK
Building Value in Air.

Printed Date: 02/08/2019
Job: City Yard Admin
Mark: L-1
Model: EDD-601

EDD-601 6 in. Frame, Dual Blade

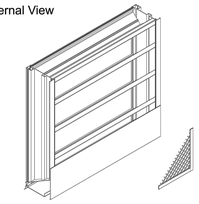
APPLICATION & DESIGN

EDD-601 is a weather louver designed to protect air intake and exhaust openings in building exterior walls. Design incorporates a drainable head member and stationary horizontal blades to channel water to the jambs which guides the water through vertical downspouts for escape at the sill. The EDD-601 is an extremely efficient louver with AMCA LICENSED PERFORMANCE DATA enabling designers to select and apply with confidence.

PRODUCT DETAILS

Frame: 6 in. x 0.081 in. Frame Thickness
Frame Type: Channel
Blades: 0.081 in. Fixed Blade Thickness
Material: Aluminum
Sizing: Nominal
Shape: Rectangular
Construction: Mechanically Fastened

Internal View



Width and Height furnished approximately 0.250 in. under size.

OPTIONS & ACCESSORIES

Finish: Mill
Bird Screen: 0.75 in. x 0.05 in., Flat Expanded Aluminum, Internal, Mill Finish
Sills: Aluminum, No End Dams
Warranty: 1 Yr (Standard) Product Warranty

SUMMARY

ID #	TAG	QTY.	W (in.)	H (in.)	EXT. SILL DIM. (in.)	FREE AREA (ft2)	FREE AREA (%)	SECT. WIDE	SECT. HIGH	SHIP SECT.
1-1		1	15	16	4.5	0.58	34.8	1	1	1

PERFORMANCE

ID #	TAG	APPLICATION	VOLUME (CFM)	PRESSURE DROP (in. wg)	FREE AREA VELOCITY (ft/min)	BPWP (ft/min)
1-1		Intake	300	0.045	518	1,107

**Calculated pressure drop does not include the effects of screens, filters or other accessories

Total Louver Qty: 1 **Total Weight (lb):** 6 **Louver Area (ft2):** 2
Total Ship Sect.: 1

**Weight shown is an estimate only based on the default base product configuration without options or accessories.
Larger openings may require field assembly of multiple louver panels to make up the overall opening size. Individual louver panels are designed to withstand windloads up to a maximum of 25 PSF (size and configuration dependent). Design, materials and installation of structural reinforcement required to adequately support large sections or multiple section assemblies within a large opening are not provided by Greenheck. Options and accessories including, but not limited to, screens, filter racks, louver doors, and blankoff panels are not subject to structural analysis unless indicated otherwise by Greenheck. Unless specifically indicated, the following are NOT included in the quote provided: structural steel, installation hardware (anchors, angle clips, continuous angles, shims, fasteners, inserts, backer rod and sealant), field measuring and/or installation, miscellaneous flashing, trim or enclosures, blank off panels, mullion covers or mullion hardware, hinged frames or removable subframes, custom birdbreed screen, 3-coat, metallic and/or exotic paint finishes, bituminous paints for unlike metals, any applicable taxes, stamped and sealed structural calculations seismic calculations or job specific engineered submittal drawings.

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CAPS 4.28.1595 Page 1 of 6

GREENHECK
Building Value in Air.

Printed Date: 02/08/2019
Job: City Yard Admin
Mark: L-2
Model: EDD-601

EDD-601 6 in. Frame, Dual Blade

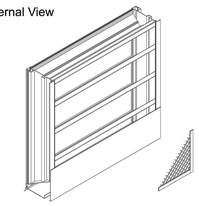
APPLICATION & DESIGN

EDD-601 is a weather louver designed to protect air intake and exhaust openings in building exterior walls. Design incorporates a drainable head member and stationary horizontal blades to channel water to the jambs which guides the water through vertical downspouts for escape at the sill. The EDD-601 is an extremely efficient louver with AMCA LICENSED PERFORMANCE DATA enabling designers to select and apply with confidence.

PRODUCT DETAILS

Frame: 6 in. x 0.081 in. Frame Thickness
Frame Type: Channel
Blades: 0.081 in. Fixed Blade Thickness
Material: Aluminum
Sizing: Nominal
Shape: Rectangular
Construction: Mechanically Fastened

Internal View



Width and Height furnished approximately 0.250 in. under size.

OPTIONS & ACCESSORIES

Finish: Mill
Bird Screen: 0.75 in. x 0.05 in., Flat Expanded Aluminum, Internal, Mill Finish
Sills: Aluminum, No End Dams
Warranty: 1 Yr (Standard) Product Warranty

SUMMARY

ID #	TAG	QTY.	W (in.)	H (in.)	EXT. SILL DIM. (in.)	FREE AREA (ft2)	FREE AREA (%)	SECT. WIDE	SECT. HIGH	SHIP SECT.
3-1		1	22	16	4.5	0.91	37.3	1	1	1

PERFORMANCE

ID #	TAG	APPLICATION	VOLUME (CFM)	PRESSURE DROP (in. wg)	FREE AREA VELOCITY (ft/min)	BPWP (ft/min)
3-1		Intake	600	0.072	659	1,107

**Calculated pressure drop does not include the effects of screens, filters or other accessories

Total Louver Qty: 1 **Total Weight (lb):** 9 **Louver Area (ft2):** 2
Total Ship Sect.: 1

**Weight shown is an estimate only based on the default base product configuration without options or accessories.
Larger openings may require field assembly of multiple louver panels to make up the overall opening size. Individual louver panels are designed to withstand windloads up to a maximum of 25 PSF (size and configuration dependent). Design, materials and installation of structural reinforcement required to adequately support large sections or multiple section assemblies within a large opening are not provided by Greenheck. Options and accessories including, but not limited to, screens, filter racks, louver doors, and blankoff panels are not subject to structural analysis unless indicated otherwise by Greenheck. Unless specifically indicated, the following are NOT included in the quote provided: structural steel, installation hardware (anchors, angle clips, continuous angles, shims, fasteners, inserts, backer rod and sealant), field measuring and/or installation, miscellaneous flashing, trim or enclosures, blank off panels, mullion covers or mullion hardware, hinged frames or removable subframes, custom birdbreed screen, 3-coat, metallic and/or exotic paint finishes, bituminous paints for unlike metals, any applicable taxes, stamped and sealed structural calculations seismic calculations or job specific engineered submittal drawings.

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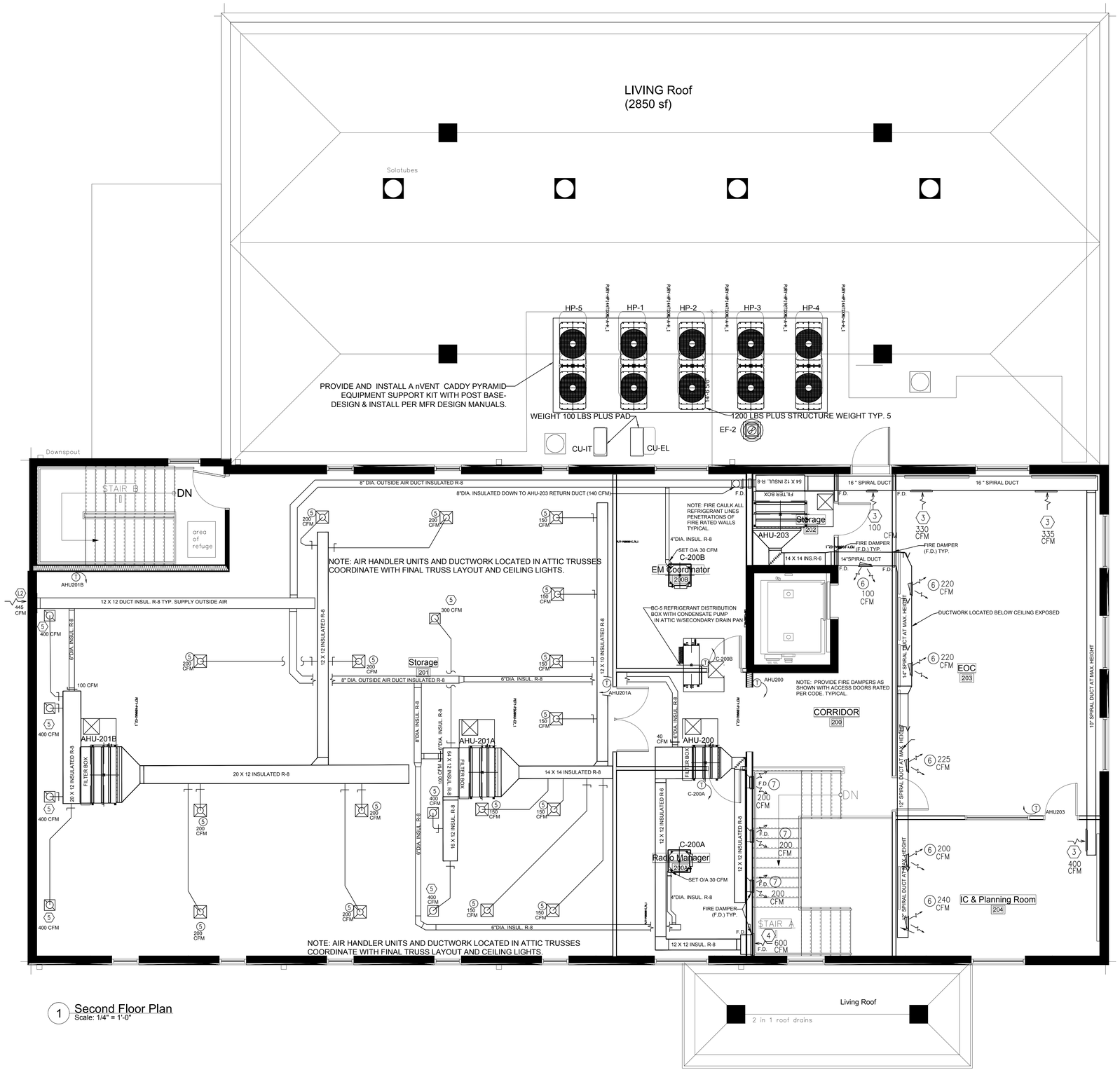
CAPS 4.28.1595 Page 4 of 6



1 Second Floor Plan
Scale: 1/4" = 1'-0"

1 / M1.3 Second Floor Mechanical HVAC Plan
Scale: 1/4" = 1'-0"

NORTH (building)

CITY YARDS MAINTENANCE FACILITY:
RENOVATION AND ADDITIONS
301 East Cork St.
Winchester, Virginia
22601

ARCHITECT:

Seal

CIVIL and STRUCTURAL ENGINEERS:
CONSULTING ENGINEERS
COMMONWEALTH OF VIRGINIA
JASON S. MARSHALL
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COMMONWEALTH OF VIRGINIA
ROGER L. CATLETT
Lic. No. 010537
6/5/2019
PROFESSIONAL ENGINEER

ISSUE/REVISIONS:

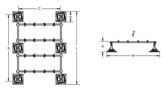
DRAWING TITLE:
PHASE I BUILDING #1
PUBLIC SERVICES BUILDING

SHEET TITLE:
MECHANICAL SECOND FLOOR HVAC PLAN

DATE: AUGUST 5, 2019
SCALE: AS NOTED PROJECT NUMBER: 1801014
SHEET:
M1.3

nVent CADDY Pyramid Equipment Support Kit, 6 Post Base

- Kit includes post-base assemblies, frame and equipment-support clamps
- Assembles and adjusts to size and height in minutes by one person with one tool
- Innovative crossbar and equipment-support clamps enable quick assembly
- Integral foam pad provides gentle interface for all roof types
- Hot-dip galvanized and UV stabilized for long lasting performance
- Assembled support can be lifted as one unit and easily relocated
- Supports green building requirements; thermoplastic bases are made from recycled material and can contribute to earning LEED credits



Material: Steel, Polypropylene, Polyethylene
Finish: Hot-Dip Galvanized
Temperature: -30 to 130 °F
Height: 12" - 18"
Length: 85 1/2"

Part Number	Post Base A	Square Tube B	Cross Bar Assembly C	Width W	Surface Area	Unit Weight	Ultimate Static Load F
PEKkB	12" x 6 pc	78" x 2 pc	48 1/2" x 4 pc	62 1/2"	862 in^2	123 lb	2,240 lb

Static load must be stable and uniformly distributed across frame.

WARNING
nVent products shall be installed and used only as indicated in nVent's product instruction sheets and training materials. Instruction sheets are available at www.erico.com and from your nVent customer service representative. Improper installation, misuse, misapplication or other failure to completely follow nVent's instructions and warnings may cause product malfunction, property damage, serious bodily injury and death and/or void your warranty.

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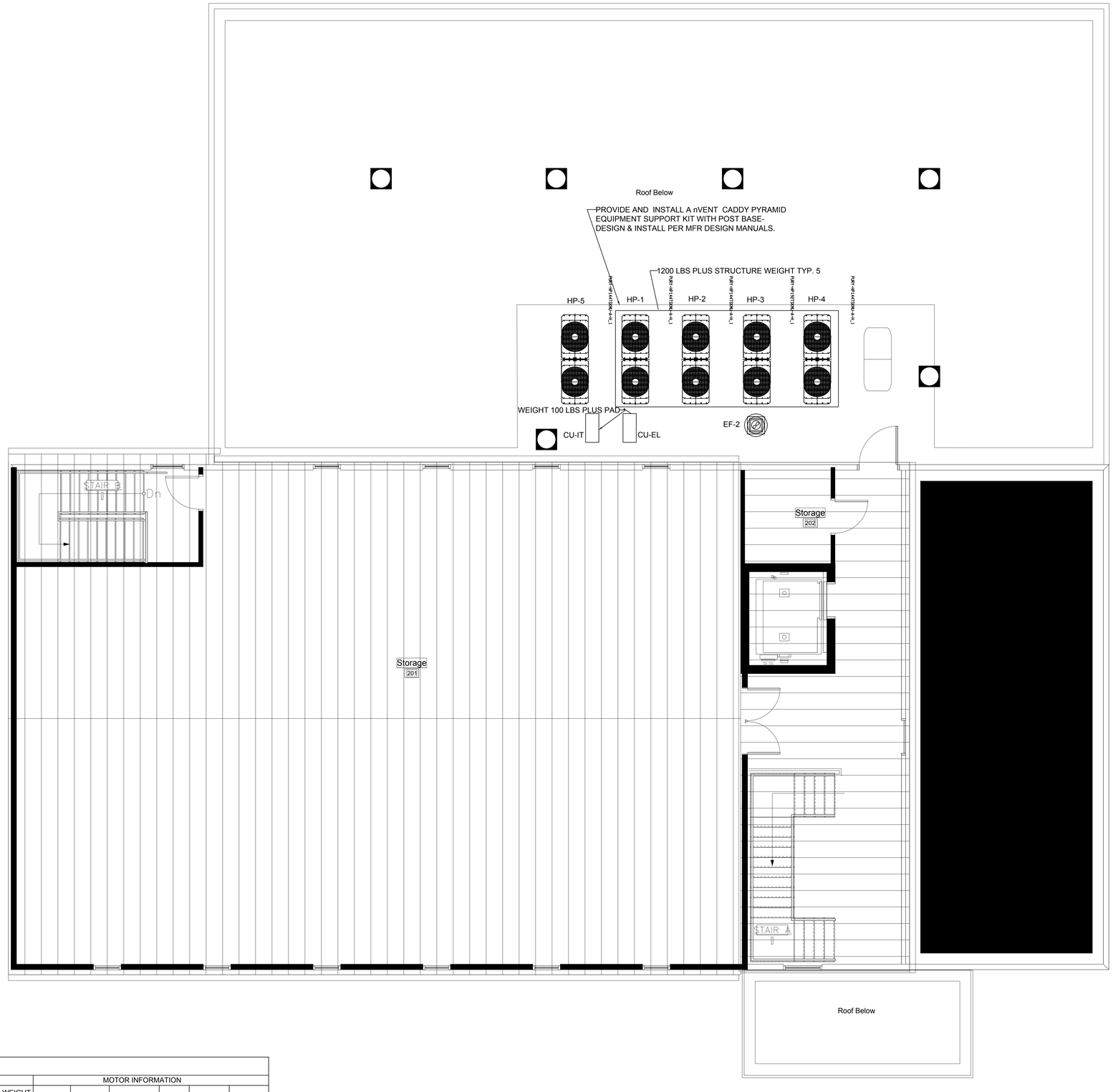


EQUIPMENT SCHEDULE-GREENHECK OR EQUAL												
Ceiling Fan												MARK: EF-1
Qty	Greenheck Model	Volume (CFM)	External SP / Total SP (in wg)	FRPM	Operating Power	Weight (LB.)	Motor Information					
							Size (watts)	V/C/P	Encl.	Motor RPM		
1	SP-B150	150	0.5 / 0.5	1050	128 watts	88	128	115/60/1	OP	1050		

OPTIONS AND ACCESSORIES
No UL Listing
Switch, NEMA-1, Toggle, Shipped with Unit
Isolators & Brackets, Spring Hanging (1 Kit(s): Qty 4, PN: 850344) (Shipped Loose)
Provide 7-day Timer.
Aluminum Grille with White Enamel Finish
Wall Louvered Discharge, (PN: WL-18X6) Shipped Loose

EF-2 Belt Drive Upblast Centrifugal Roof Exhaust Fan - Greenheck or Equal

MARK INFORMATION		FAN INFORMATION						MOTOR INFORMATION					
QTY	MARK	MODEL	VOLUME (CFM)	TOTAL EXTERNAL SP (IN WG)	FAN RPM	OPERATING POWER (HP)	WEIGHT (LB.)	SIZE (HP)	V/C/P	ENCLOSURE	MOTOR RPM	WINDINGS	NEC FLA*
1	EF-2	CUBE-099-4	600	0.75	1,468	0.17	76	0.25	115/60/1	OP	1725	1	5.8

*NEC FLA - Based on tables 150 or 148 of National Electrical Code 2002. Actual motor FLA may vary, for sizing thermal overload, consult factory.

EF-2 : SELECTED OPTIONS AND ACCESSORIES
No UL Listing
Switch, NEMA-1, Toggle, Shipped with Unit
Roof Curb-Galv., GPI-19-12-G12, Under Sized 1.5 in. Total, Tray, Liner, 1 in. Insulation
Damper Shipped Loose, BD-100-PB-12X12, Gravity Operated, Not Coated
Provide 7-day Timer with override.

1 / M1.4 Roof Mechanical HVAC Plan
Scale: 1/4" = 1'-0"

NORTH (building)

CITY YARDS MAINTENANCE FACILITY:
RENOVATION AND ADDITIONS
301 East Cork St.
Winchester, Virginia
22601

ARCHITECT:

Seal

CIVIL and STRUCTURAL ENGINEERS:

CONSULTING ENGINEERS

JASON S. MARSHALL
Lic. No. 047220
COMMONWEALTH OF VIRGINIA
PROFESSIONAL ENGINEER

PAINTER–LEWIS, P.L.C.
817 CEDAR CREEK GRADE, Suite 120
WINCHESTER, VIRGINIA 22601
(540) 662–5792

MECHANICAL, ELECTRICAL, and PLUMBING ENGINEERS:

Comfort Designs Inc.
620 Pennsylvania Avenue
Winchester, VA 22604
540 665–2846

Seal

ROGER L. CATLETT
Lic. No. 010537
8/5/2019
COMMONWEALTH OF VIRGINIA
PROFESSIONAL ENGINEER

ISSUE/REVISIONS:

DRAWING TITLE:
PHASE I BUILDING #1
PUBLIC SERVICES BUILDING

SHEET TITLE:
MECHANICAL ROOF HVAC PLAN

DATE: AUGUST 5, 2019
SCALE: AS NOTED
PROJECT NUMBER: 1801014
SHEET:
M1.4

MECHANICAL SPECIFICATIONS:

A. GENERAL

1. THE DRAWINGS PREPARED FOR THIS PROJECT ARE AN OUTLINE TO SHOW WHERE PIPES, DUCTS AND APPARATUSES MUST GO IN ORDER TO HARMONIZE WITH THE BUILDING AND INSTALLATION OF THE VARIOUS TRADES. WORK MUST BE INSTALLED IN ACCORDANCE WITH THE DRAWINGS AS MUCH AS POSSIBLE. DRAWINGS SHALL BE CAREFULLY CHECKED DURING THE COURSE OF CONSTRUCTION. IF DISCREPANCIES, ERRORS OR OMISSIONS ARE DISCOVERED PRIOR TO OR DURING CONSTRUCTION PHASE, NOTIFY THE ENGINEER IMMEDIATELY FOR INTERPRETATION OR CORRECTION. TAKE NECESSARY MEASUREMENTS AND RESPONSIBLE FOR SAME, INCLUDING CLEARANCES FOR EQUIPMENT THAT ARE TO BE FURNISHED. THE ARCHITECT /ENGINEER RESERVE THE RIGHT TO MAKE MINOR LOCATION CHANGES OF PIPING AND EQUIPMENT WHERE SUCH ADJUSTMENTS ARE DEEMED DESIRABLE FROM AN APPEARANCE OR OPERATIONAL STANDPOINT. SUCH CHANGES WILL BE ANTICIPATED SUFFICIENTLY IN ADVANCE TO AVOID EXTRA WORK OR DELAY THE PROGRESS OF THE PROJECT.

2. CONTRACTOR SHALL BE RESPONSIBLE FOR VISITING THE SITE AND VERIFYING EXISTING FIELD CONDITIONS PRIOR TO INSTALLATION. THE CONTRACT DOCUMENTS INDICATE APPROXIMATE LOCATIONS OF DUCTWORK AND PIPING AND ARE DIAGRAMMATIC IN NATURE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE ACTUAL LOCATION AND ROUTING OF THE EXISTING PIPING AND NEW DUCTWORK.

3. CONTRACTOR IS RESPONSIBLE FOR COORDINATING HIS WORK WITH THE WORK OF ALL TRADES AND MAKING ANY NECESSARY MODIFICATIONS TO HIS WORK, INCLUDING OFFSETS, AT NO ADDITIONAL COST TO THE OWNER.

4. ALL WORK SHALL BE DONE IN ACCORDANCE WITH LOCAL CODES. THESE CODES SHALL BE FOLLOWED AS MINIMUM PROVIDING HIGHER GRADES OF MATERIAL AND WORKMANSHIP. WHERE REQUIRED BY THESE DOCUMENTS, PROVIDE ALL TESTS REQUIRED BY FEDERAL, STATE AND LOCAL CODES.

5. ALL PERMITS, FEES, LICENSES, APPROVALS, AND OTHER ARRANGEMENTS FOR THE WORK SHALL BE OBTAINED BY THE CONTRACTOR AT HIS OWN EXPENSE.

6. CONTRACTOR SHALL GUARANTEE ALL WORK AND MATERIAL FOR ONE YEAR AFTER FINAL ACCEPTANCE AGAINST ALL DEFECTS OF MATERIAL, EQUIPMENT AND WORKMANSHIP. PROVIDE AN ADDITIONAL FOUR (4) YEAR WARRANTY (TOTAL OF 5 YEARS) ON ALL REFRIGERATION COMPRESSORS. DELIVER ALL WARRANTY CERTIFICATES TO THE OWNER PRIOR TO FINAL ACCEPTANCE AND BUILDING TURNOVER.

7. PROVIDE ASSEMBLED PRINTED INSTRUCTIONS FOR THE OPERATION AND MAINTENANCE OF EACH ITEM INSTALLED ALONG WITH THE EQUIPMENT CUTS AND CONTROL WIRING DIAGRAMS.

8. THE MECHANICAL DRAWINGS INDICATE THE GENERAL ROUTING AND LOCATION OF DUCTWORK, PIPING, EQUIPMENT, FIXTURES, TERMINAL DEVICES, ETC. CONTRACTOR SHALL DETERMINE THE EXACT LOCATION FROM ACTUAL FIELD MEASUREMENTS AT THE JOB SITE. ALL DUCTWORK AND PIPING SHALL BE COORDINATED WITH LIGHT FIXTURES, STRUCTURAL SYSTEM, CEILING GRID, SUPPORTS, SPRINKLER PIPING AND ARCHITECTURAL FEATURES OF THE BUILDING PRIOR TO FABRICATION OR INSTALLATION. NO EXTRAS WILL BE ALLOWED FOR DUCTWORK OR PIPING WHICH IS FABRICATED AND THEN FOUND UNABLE TO FIT IN THE INTENDED SPACE. ALL EQUIPMENT SHALL BE LOCATED TO ALLOW FOR CLEANING, INSPECTION AND SERVICE.

9. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING CEILING TYPE AND DIFFUSER & GRILLE LOCATIONS WITH ARCHITECT'S REFLECTED CEILING PLANS. DIFFUSER AND GRILLE LOCATION ON SHOP DRAWINGS ARE SUBJECT TO APPROVAL BY ARCHITECT.

10. PROVIDE ACCESS PANELS FOR ANY PIECE OF EQUIPMENT LOCATED ABOVE NON-ACCESSIBLE CEILINGS. NO EQUIPMENT SHALL BE LOCATED ABOVE WALLS.

11. WHEREVER DUCTWORK OR OTHER ITEMS PASS THROUGH FIRE-RATED WALLS AND FLOORS, THE CONTRACTOR SHALL ADEQUATELY FIRE STOP THE SPACE BETWEEN ITEMS AND THE MASONRY OR THE SPACE BETWEEN THE ITEM AND THE SLEEVE. FIRE STOP SHALL BE NON-COMBUSTIBLE, NON-MELTING, APPROVED MATERIAL.

12. THE DRAWINGS INDICATE GENERAL CHARACTER AND LOCATION OF WORK INCLUDED, BUT MAY HAVE MINOR SPECIALTIES OMITTED THAT SHALL BE PROVIDED WITHOUT EXTRA COST.

13. CONTRACTOR SHALL PROVIDE ALL OPENINGS REQUIRED TO INSTALL IN THE NEW SYSTEMS AND EQUIPMENT. PROVIDE CUTTING AND PATCHING OF WALLS, PARTITIONS, CEILINGS AND FLOORS, AS REQUIRED. PATCH TO MATCH ADJACENT SURFACES UNLESS OTHERWISE NOTED. REFER TO ARCHITECTURAL PLANS FOR FINISHES. SLEEVE ALL PIPE PENETRATIONS AND SEAL ALL OPENINGS. REFER TO ARCHITECTURAL PLANS FOR ADDITIONAL REQUIREMENTS.

14. CONTRACTOR IS RESPONSIBLE FOR SEALING ALL PENETRATIONS TO THE INTERIOR OR EXTERIOR OF THE BUILDING AS A RESULT OF HIS WORK, IN SUCH A MANNER THAT THE DESIGN FIRE RATING IS MAINTAINED. CONTRACTOR SHALL COORDINATE WITH ALL OTHER TRADES AS REQUIRED FOR NECESSARY PENETRATIONS. IN THE ABSENCE OF ARCHITECTURAL SPECIFICATIONS, USE TWO (2) HOUR FIRE RATING.

15. CONTRACTOR SHALL FURNISH ALL PIPING, VALVES AND FITTINGS AT A PRESSURE RATING OF NO LESS THAN 125 PSI, OR AS REQUIRED BY LOCAL CODES AND REGULATIONS. WHERE LOCAL JURISDICTIONS ALLOW FOR A LOWER PRESSURE RATING THAN THAT SPECIFIED ABOVE, THE ABOVE SPECIFIED PRESSURE RATING SHALL DICTATE.

16. IN CASES WHERE MANUFACTURER PROVIDES INTERNAL MAXIMUM OVERCURRENT PROTECTION (MOCP) DEVICES INTERNALLY TO THE EQUIPMENT, THE MANUFACTURER SHALL SUPPLY LABELING STATING SUCH ON THE EQUIPMENT SERVED. OTHERWISE CONTRACTOR TO SUPPLY EXTERNAL FUSED DISCONNECT SIZED TO PROVIDE MOCP.

17. CONDENSATE PIPING SHALL BE TYPE "L" COPPER OR SCHEDULE 40 PVC. CONDENSATE PUMP WITH FLEX TUBING TO ROOF DRAIN SYSTEM PER DRAWINGS OR EXTERIOR ACCEPTABLE – AS REQUIRED BY SITE CONDITIONS.

B. INSULATION

1. DUCTWORK
   a. SIZES INDICATED ARE FREE INSIDE AREA, I.E. SIZES DO NOT INCLUDE INSULATION OR LINING THICKNESS.
   b. INSULATION SHALL BE WRAPPED ON DUCTS WITH 1/2" OUTWARD CLINCHING STAPLES ON 4" CENTERS. STAPLES AND SEAMS SHALL BE SEALED WITH A BRUSH COAT OF VAPOR BARRIER MASTIC.
   c. INSULATION SHALL BE FACED WITH FIRE RESISTANT VAPOR BARRIER JACKET WITH A 2" TAB ON ONE EDGE.
   d. SUPPLY, RELIEF AND EXHAUST DUCTWORK INSULATION SHALL BE R-6 INTERIOR TO BUILDING & R-8 IN ATTIC OR UNCONDITIONED SPACE AND BE ALUMINUM FACED FLEXIBLE FIBERGLASS BLANKET OR AP ARMAFLEX BLACK INSULATION OR EQUAL.
   e. OUTDOOR AIR DUCTWORK AND SUPPLY, RETURN AND OUTDOOR AIR PLENUM INSULATION SHALL BE A R-8 RIGID FIBERGLASS BOARD WITH EXTERIOR WEATHER-PROOF COVERING.
   f. EXHAUST AND RELIEF DUCTWORK SHALL BE INSULATED FROM POINT OF EXHAUST FROM THE BUILDING TO THE BACKDRAFT DAMPER OR SHUT-OFF DAMPER CLOSEST TO THE EXIT FROM THE BUILDING.
   g. EXPOSED DUCTWORK SHALL BE EITHER INTERNALLY LINED OR COVERED W/ RIGID FIBERGLASS INSULATION OF SIMILAR THICKNESS AND PERFORMANCE. INTERIOR EXPOSED DUCT WRAPPED WTIH AP ARMAFLEX.
   h. INTERNAL LINING OF SIMILAR THICKNESS AND PERFORMANCE MAY BE USED IN LIEU OF WRAPPING THE DUCTWORK WITH INSULATION.
   i. ALL DUCTWORK LOCATED IN UNCONDITIONED SPACES SHALL BE INSULATED WITH A MINIMUM OF R-8 INSULATION. ALL DUCTWORK LOCATED OUTSIDE OF THE BUILDING ENVELOPE SHALL HAVE A MINIMUM OF R-8 INSULATION.
2. INSULATION OF DUCTWORK AND PIPE PASSING THROUGH NON-RATED WALLS SHALL BE CONTINUOUS THROUGH THE WALL PENETRATION.

3. INSULATION OF CONDENSATE PIPING SHALL BE 1" AP ARMAFLEX IF EXPOSED OR FIBERGLASS INSULATION WITH VAPOR BARRIER.

4. PROVIDE 2" THICK 3/4 LB. DENSITY ACOUSTICAL INTERIOR LINER WHERE INDICATED. ADJUST SHEET METAL SIZE AS REQUIRED TO PROVIDE CLEAR INSIDE DIMENSION INDICATED.

C. DUCTWORK

1. ALL NEW DUCT TURNS, ELBOWS, ETC. SHALL BE INSTALLED WITH TURNING VANES OR MINIMUM 1-1/2 RADIUS ELBOWS.

2. PROVIDE VOLUME DAMPERS AT ALL BRANCH TAKE-OFFS.

3. CONSTRUCT ALL HIGH PRESSURE VAV DUCTWORK AND ACCESSORIES IN ACCORDANCE WITH THE LATEST EDITION OF SMACNA STANDARDS FOR 2" PRESSURE CLASS AND SEAL CLASS A.

4. CONSTRUCT ALL LOW PRESSURE DUCTWORK AND ACCESSORIES IN ACCORDANCE WITH THE LATEST EDITION OF SMACNA STANDARDS FOR 1" PRESSURE CLASS AND SEAL CLASS A.

5. METAL DUCTWORK: FABRICATE ALL DUCTWORK, HOUSINGS, DAMPERS, AND ALL OTHER DUCT RELATED ACCESSORIES FROM GALVANIZED STEEL SHEETS.

6. INSTALL ALL DUCTWORK ABOVE CEILING AND TIGHT TO UNDERSIDE OF STRUCTURE ABOVE UNLESS OTHERWISE INDICATED.

7. CHANGES TO DUCTWORK DUE TO FIELD CONDITIONS SHALL BE MADE PROVIDED THAT THE DUCT FREE AREA IS MAINTAINED AND SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.

8. FLEXIBLE DUCTWORK: PROVIDE INSULATED U.L. LISTED CLASS 1 DUCT COMPLYING WITH NFPA 90A. THERMAFLEX G-KM OR APPROVED EQUAL. MAXIMUM LENGTH SHALL BE 8 LINEAR FEET.

9. LEAKAGE:
   a. ALL NEW DUCT JOINTS SHALL BE SEALED WITH HARDCAST 601 OR APPROVED EQUAL MASTIC.
   b. LEAKAGE TESTING FOR ALL NEW DUCTWORK SHALL BE PER SMACNA.
   c. PERFORM ALL TESTING AFTER THE SEALS HAVE CURED COMPLETELY AND BEFORE COVERING WITH INSULATION OR CONCEALING IN MASONRY OR OTHER PARTITION MATERIAL.

D. TESTING AND BALANCING

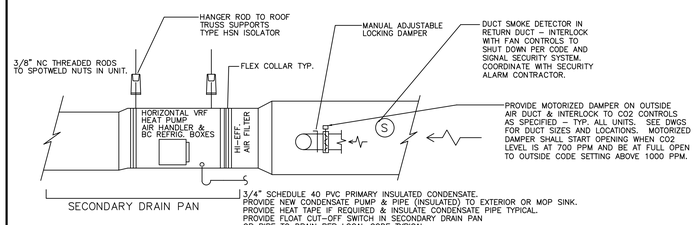
1. SCOPE
   a. AN INDEPENDENT CONTRACTOR NEBB OR AABC CERTIFICATION SHALL PROVIDE ALL LABOR, MATERIALS, AND EQUIPMENT TO PERFORM ALL OPERATIONS REQUIRED FOR COMPLETE BALANCING OF THE AIR SYSTEMS AND RELATED WORK AS INDICATED ON DRAWINGS AND SPECIFIED HEREIN.
   b. BALANCING SHALL NOT BE PERFORMED UNTIL ALL MECHANICAL EQUIPMENT IS PROPERLY INSTALLED AND IS 100% OPERATIONAL, ALL TEMPERATURE CONTROLS ARE INSTALLED AND CALIBRATED, AND ALL SYSTEMS ARE CLEANED, PIPES, AND STRAINERS FLUSHED, AND CLEAN FILTERS INSTALLED.
   c. BALANCING SHALL BE within +/- 10% OF THE TOTAL INDICATED VALUES.
   d. IT IS THE INTENT OF THIS SPECIFICATION TO ENSURE THAT THE ENTIRE PROJECT IS SUBSTANTIALLY COMPLETE SO THAT ALL COMPONENTS OF ALL MECHANICAL SYSTEMS CAN BE PUT INTO NORMAL OPERATION WITH ALL WINDOWS AND DOORS CLOSED AND BALANCED IN THAT CONDITION. IN NO CASE IS THE CONTRACTOR TO PERFORM HIS WORK IN A PIECEMEAL FASHION. PROVIDE 3 COPIES TO APPROVAL.

2. BELTS AND SHEAVE CHANGES REQUIRED TO MEET SPECIFIED AIR VOLUMES SHALL BE MADE AT NO ADDITIONAL EXPENSE TO THE OWNER.

3. CERTIFIED BALANCING REPORT – AFTER FINAL ADJUSTMENTS ARE COMPLETED, THE HVAC SYSTEM SHALL BE TESTED, AND THE FOLLOWING INFORMATION RECORDED AND INCLUDED IN THE BALANCING REPORT.
   a. EACH PIECE OF EQUIPMENT SHALL BE IDENTIFIED AS TO LOCATION, SERVICE MANUFACTURER, AND MODEL NUMBER.
   b. ELECTRICAL DATA, AND MEASURED STATIC PRESSURES (EXTERNAL AND TOTAL).
   c. TRAVERSE MAIN SUPPLY DUCT AND INDICATE SIZE. NOTE: TRAVERSE SHALL BE DONE IN A LOCATION NEAR THE FAN BUT AVOIDING TURBULENCE.
   d. EACH AIR DEVICE (NEW AND EXISTING) SHALL BE IDENTIFIED AS TO LOCATION AND SERVICE, TYPE, AND SIZE.
   e. BALANCE REPORT SHALL INDICATE REQUIRED CFM AND RESULTANT CFM FOR EACH AIR DEVICE.

4. SHOULD TOTAL INDICATED AIRFLOWS NOT BE ACHIEVABLE, CONTRACTOR SHALL STOP WORK, NOTIFY OWNER, BUILDING ENGINEER AND ARCHITECT. PROPORTIONAL BALANCING IS NOT PERMITTED. WORK SHALL NOT RESUME UNTIL CORRECTIVE MEASURES HAVE BEEN COMPLETED.

E. MECHANICAL SPECIAL CONDITIONS AND SCOPE OF WORK FOR THE PROJECT.
1. CONTRACTOR SHALL VISIT THE SITE PRIOR TO BID AND CONFIRM CONDITIONS. INSTALLATION OF THE VARIABLE REFRIGERANT FLOW (VRF) SYSTEMS SHALL INCLUDE ALL CONTROLS, REFRIGERANT LINES WITH FREON, STRUCTURAL SUPPORTS, CONTROLS, WIRING AND DAMPERS. ALL NEW DUCTWORK SHALL COMPLY WITH SMACNA STANDARDS FOR LOW PRESSURE DUCTWORK AND SEAMS SHALL BE MASTIC SEALED AND INSULATION SHALL BE APPLIED PER THE DRAWINGS, MANUFACTURER AND CODE. NEW PROGRAMMABLE THERMOSTATS SHALL BE PROVIDED WITH PROGRAMMABLE FAN CYCLE. PROVIDE NEW ENERGY RECOVERY VENTILATORS (ERV) SHALL BE PROVIDED WITH INSULATED DUCTWORK, MOTORIZED OUTSIDE AIR DAMPERS. COORDINATE WITH GENERAL CONTRACTOR (G.C.) AND SUBCONTRACTORS. AIR FLOWS SHALL BE SET PER OUTSIDE AIR VENTILATION SCHEDULES PER CODE AND SUBMIT THREE (3) COPIES FOR APPROVAL.
2. ALL NEW INSULATED DUCTWORK SHALL BE PROVIDED AS SHOWN AND MAINTAINED AT MAXIMUM HEIGHT AND OFFSETS AND TRANSITIONS SHALL BE PROVIDED TO MAINTAIN HEIGHT AND AVOID INTERFERENCE WITH LIGHTS AND CEILING FINISHES, STRUCTURAL, PLUMBING AND ACCESSORIES.
3. PROVIDE NEW CEILING BATHROOM EXHAUST FANS WITH NEW INSULATED EXHAUST DUCTWORK AND NEW EXTERIOR EXHAUST LOUVERS. COORDINATE WITH ELECTRICAL SUB-CONTRACTOR ON POWER AND FAN CONTROLS. COORDINATE WITH G.C. ON INSTALLATION ON THE NEW WALL EXHAUST LOUVERS.
4. AIR BALANCE AIR FLOWS BY A NEBB CERTIFIED OR EQUAL AIR BALANCE CONTRACTOR. PROVIDE 3 SETS.
5. CONTRACTOR SHALL OBTAIN AND PAY FOR ALL PERMITS AND INSPECTIONS AND COMPLY WITH THE 2015 VIRGINIA MECHANICAL AND PLUMBING CODES AND THE NATIONAL ELECTRICAL CODE.
6. PROVIDE ROOF STRUCTURAL SUPPORTS FOR ALL CONDENSERS ON THE ROOF AND COORDINATE WITH GENERAL CONTRACTOR AND ROOFING CONTRACTOR ON INSTALLATION.



NOTE: PROVIDE SMOKE DETECTOR IN RETURN DUCT IF GREATER THAN 2000 CFM

TYPICAL HORIZONTAL VRF HEAT PUMP FAN COIL SUSPENSION DETAIL
NOT TO SCALE

CITYMULTI® Model: PLFY-P08NCMU-ER4 MITSUBISHI ELECTRIC

Job Name: City Yards Public Service Building
System Reference: First Floor Offices C-102F, 110, 111, 113, 114,116, 117,118, 200A & 200B Date: 7/3/2019

GENERAL FEATURES
- Dual set point functionality
- Lightweight, low-profile compact design
- 2' x 2' size matches size of many ceiling tiles
- Three-speed fan settings
- Corner-pocket design for simplified installation
- Built-in condensate lift mechanism; lifts to 19-11/16 in.
- Ventilation air intake supported

OPTIONS
□ External Heater Adapter.....CN24RELAY-KIT-CM3

** PLFY-P-NCMU-ER4 should be used with the SLP-15AAUW.

Service Access Note: If the PLFY-NCMU-ER4 indoor unit is to be installed in a non-accessible location, such as a gypsum ceiling, an access panel meeting the minimum size requirements shown on the dimension page shall be required for service and maintenance.

SPECIFICATIONS

Capacity*
Cooling.....8,000 Btu/h
Heating.....9,000 Btu/h

Power
PowerSource.....208/230V, 1-phase, 60Hz

Power Consumption
Cooling.....0.05 kW
Heating.....0.05 kW

Current
Cooling.....0.23 A
Heating.....0.23 A
Minimum Circuit Ampacity (MCA).....0.29 A
Maximum Overcurrent Protection (MOCP) Fuse.....15 A

External Finish...Grille (White; Munsell No. 6.4Y 8.9 / 0.4)

External Dimensions
Inches.....8-3/16 H x 22-7/16 W x 22-7/16 D
mm.....208 H x 570 W x 570 D
Grille
Inches.....25/32 H x 25-19/32 W x 25-19/32 D
mm.....20 H x 650 W x 650 D

Net Weight
Unit.....34 lbs. / 15.5 kg
Grille.....7 lbs. / 3 kg

Coil Type.....Cross Fin (Aluminum Plate Fin and Copper Tube)

Fan
Type x Quantity.....Turbo Fan x 1
Airflow Rate (Low - Med - High).....280 - 320 - 350 cfm
Motor Type.....Single-phase Induction

Air Filter.....Polypropylene Honeycomb

Refrigerant Piping Dimensions
Liquid (High Pressure).....1/4" / 6.35 mm Flare
Gas (Low Pressure).....1/2" / 12.7 mm Flare

Drainpipe Dimension.....O.D. 1-1/4" / 32 mm

Sound Pressure Level
(Low - Med - High).....29 - 32 - 38 dB(A)

* Cooling / Heating capacity indicated at the maximum value at operation under the following conditions:
Cooling | Indoor: 80° F (27° C) DB / 67° F (19° C) WB, Outdoor 95° F (35° C) DB
Heating | Indoor: 70° F (21° C) DB, Outdoor 47° F (8° C) DB / 43° F (6° C) WB

Specifications are subject to change without notice.

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CITY MULTI® Model: PLFY-P12NCMU-E MITSUBISHI ELECTRIC

Job Name: City Yards Administrative Building Location: First Floor Offices
Drawing Reference: M1.2 Schedule No.
System No.: C-112 and C-115 Date: 2/12/2019

GENERAL FEATURES
- R410A or R22 refrigerant-compatible
- Lightweight, low-profile compact design
- 2' x 2' size matches size of many ceiling tiles
- Four-speed fan settings and auto fan speed adjustment mode
- Corner-pocket design for simplified installation
- Built-in condensate lift mechanism; lifts to 19-11/16 in.
- Three-speed fan settings
- Outside air capability
- Quiet operation: 29-40 dB(A)

SPECIFICATIONS

Capacity*
Cooling.....12,000 Btu/h
Heating.....13,500 Btu/h

Power
Power Source.....208 / 230V, 1-phase, 60Hz
Power Consumption
Cooling.....0.06 kW
Heating.....0.06 kW
Current
Cooling.....0.28 A
Heating.....0.28 A
Minimum Circuit Ampacity (MCA).....0.35 A
Maximum Overcurrent Protection (MOCP) Fuse.....15 A

External Finish...Grille (White; Munsell No. 6.4Y 8.9 / 0.4)

External Dimensions
Inches.....9-1/4 H x 22-7/16 W x 22-7/16 D
mm.....235 H x 570 W x 570 D

Grille
Inches.....13/16 H x 25-5/8 W x 25-5/8 D
mm.....20 H x 650 W x 650 D

* **Service Access Note:** If the PLFY-NCMU-E indoor unit is to be installed in a non-accessible location, such as a gypsum ceiling, an access panel meeting the minimum size requirements shown on the dimension page shall be required for service and maintenance.

Net Weight
Unit.....37 lbs. / 17 kg
Grille.....7 lbs. / 3 kg

Coil Type.....Cross Fin (Aluminum Plate Fin and Copper Tube)

Fan
Type x Quantity.....Turbo Fan x 1
Airflow Rate
(Low - Med - High).....320 - 350 - 390 cfm
Motor
Type.....Single-phase Induction
Output.....0.020 kW

Air Filter.....Polypropylene Honeycomb

Refrigerant Piping Dimensions
R410A or R22
Liquid (High Pressure).....1/4" / 6.35 mm Flare
Gas (Low Pressure).....1/2" / 12.7 mm Flare

Drainpipe Dimension.....O.D. 1-1/4" / 32 mm

Sound Pressure Level
(Low - Med - High).....30 - 34 - 39 dB(A)

* Cooling / Heating capacity indicated at the maximum value at operation under the following conditions:
Cooling: Indoor 80°F (27°C) DB / 67°F (19°C) WB, Outdoor 95°F (35°C) DB
Heating: Indoor 70°F (21°C) DB, Outdoor 47°F (8°C) DB / 43°F (6°C) WB

** PLFY-P-NCMU-E should be used with the SLP-15AAUW.

Note: Ventilation air: Providing sufficient ventilation air is an important part of every building design. ASHRAE Standard 62 provides the minimum ventilation air requirement. Also, check local codes.

CITYMULTI® Model: PLFY-P15NCMU-ER4 MITSUBISHI ELECTRIC

Job Name: City Yards Administration Building
System Reference: First Floor C-109 Inspector's Office Date: 2/12/2019

GENERAL FEATURES
- Dual set point functionality
- Lightweight, low-profile compact design
- 2' x 2' size matches size of many ceiling tiles
- Three-speed fan settings
- Corner-pocket design for simplified installation
- Built-in condensate lift mechanism; lifts to 19-11/16 in.
- Ventilation air intake supported

OPTIONS
□ External Heater Adapter.....CN24RELAY-KIT-CM3

** PLFY-P-NCMU-ER4 should be used with the SLP-15AAUW.

Service Access Note: If the PLFY-NCMU-ER4 indoor unit is to be installed in a non-accessible location, such as a gypsum ceiling, an access panel meeting the minimum size requirements shown on the dimension page shall be required for service and maintenance.

SPECIFICATIONS

Capacity*
Cooling.....15,000 Btu/h
Heating.....17,000 Btu/h

Power
PowerSource.....208/230V, 1-phase, 60Hz

Power Consumption
Cooling.....0.06 kW
Heating.....0.06 kW

Current
Cooling.....0.28 A
Heating.....0.28 A
Minimum Circuit Ampacity (MCA).....0.35 A
Maximum Overcurrent Protection (MOCP) Fuse.....15 A

External Finish...Grille (White; Munsell No. 6.4Y 8.9 / 0.4)

External Dimensions
Inches.....8-3/16 H x 22-7/16 W x 22-7/16 D
mm.....208 H x 570 W x 570 D
Grille
Inches.....25/32 H x 25-19/32 W x 25-19/32 D
mm.....20 H x 650 W x 650 D

Net Weight
Unit.....37 lbs. / 17 kg
Grille.....7 lbs. / 3 kg

Coil Type.....Cross Fin (Aluminum Plate Fin and Copper Tube)

Fan
Type x Quantity.....Turbo Fan x 1
Airflow Rate (Low-Med-High).....320-350-390 CFM
Motor Type.....Single-phase Induction

Air Filter.....Polypropylene Honeycomb

Refrigerant Piping Dimensions
R410A
Liquid (High Pressure).....1/4" / 6.35 mm Flare
Gas (Low Pressure).....1/2" / 12.7 mm Flare

Drainpipe Dimension.....O.D. 1-1/4" / 32 mm

Sound Pressure Level
(Low - Med - High).....31 - 35 - 40 dB(A)

* Cooling / Heating capacity indicated at the maximum value at operation under the following conditions:
Cooling | Indoor: 80° F (27° C) DB / 67° F (19° C) WB, Outdoor 95° F (35° C) DB
Heating | Indoor: 70° F (21° C) DB, Outdoor 47° F (8° C) DB / 43° F (6° C) WB

Specifications are subject to change without notice.

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MITSUBISHI ELECTRIC
HVAC Advanced Products Division

Mr.SLIM. Split-ductless A/C and Heat Pumps

SUBMITTAL DATA: PKA-A18HAL & PUY-A18NHA3 18,000 BTU/H WALL-MOUNTED AIR-CONDITIONING SYSTEM

Job Name: City Yard Admin Bldg Location: Winchester,Va Date: 2/2/19
Purchaser: Engineer: Comfort Design, Inc.
Submitted to: For ■ Reference □ Approval □ Construction
Unit Designation: AHU/CU-EL & AHU/CU-IT Schedule No.:

GENERAL FEATURES
- Wall-mounted indoor unit for residential and commercial applications
- Shiny-white-exterior plastic; compact design
- Quiet operation—both indoor and outdoor units
- Wireless remote controller is included
- Self-check function—integrated diagnostics
- Limited warranty: five years on parts and defects and seven years on compressors

OPTIONAL ACCESSORIES

Indoor Unit
- Remote Temperature Sensor (PAC-SE41TS-E)

Outdoor Unit
- M-NET Adapter (PAC-SF81MA-E)
- Air Outlet Guide (PAC-SG58SG-E)
- Wind Baffle (WB-PA1)

Cooling*
Rated Capacity.....18,000 Btu/h
Minimum Capacity.....8,000 Btu/h
SEER.....15.3 Btu/h/W
Total Input.....2,240 W
* Rating Conditions (Cooling) : Indoor: 80°F (27°C) DB / 67°F (19°C) WB. Outdoor: 95°F (35°C) DB / 75°F (24°C) WB.

Electrical Requirements
Power Supply.....208 / 230V, 1-Phase, 60 Hz
Breaker Size.....15 A

Voltage
Indoor - Outdoor S1-S2.....AC 208 / 230V
Indoor - Outdoor S2-S3.....DC 24V
Wireless Remote Controller.....DC

OPERATING RANGE

		Indoor Intake Air Temp.	Outdoor Intake Air Temp.
Cooling	Maximum	90°F (32°C) DB, 71°F (22°C) WB	115°F (46°C) DB
	Minimum	67°F (19°C) DB, 57°F (14°C) WB	0°F** (-18°C) DB

** With optional wind baffle accessory installed. If not installed, the minimum temperature will be 23°F (-5°C) DB.

Indoor Unit
MCA.....1 A
Fan Motor.....0.33 F.L.A.
Fan Motor Output.....30 W
Airflow (Lo - Mid - Hi).....320 - 370 - 425 Dry CFM
290 - 335 - 380 Wet CFM
Air Filter.....Polypropylene Honeycomb
Sound Pressure Level (Lo - Mid - Hi).....36 - 40 - 43 dB(A)

DIMENSIONS	UNIT INCHES / MM
W	35-3/8 / 898
D	9-13/16 / 249
H	11-5/8 / 295

Weight.....29 lbs. / 13 kg
External Finish.....Munsell No. 1.0Y 9.2 / 0.2
Field Drainpipe Size O.D.....5/8" / 16 mm
Remote Controller.....Wireless

Outdoor Unit
Compressor.....DC Inverter-driven Twin Rotary
MCA.....13 A
Fan Motor.....0.35 F.L.A.
Sound Pressure Level
Cooling.....46 dB(A)

DIMENSIONS	INCHES / MM
W	31-1/2 / 800
D	13 + 7/8 / 330 + 23
H	23-5/8 / 600

Weight.....97 lbs. / 44 kg
External Finish.....Munsell No. 3Y 7.8 / 1.1
Refrigerant Type.....R410A
Refrigerant Pipe Size O.D.
Gas Side.....1/2" / 12.7 mm
Liquid Side.....1/4" / 6.35 mm
Max. Refrigerant Pipe Length.....100' / 30 m
Max. Refrigerant Pipe Height Difference.....100' / 30 m
Connection Method.....Flared

R410A INVERTER

NORTH (building)

CITY YARDS MAINTENANCE FACILITY:
RENOVATION AND ADDITIONS
301 EAST CORK ST.
WINCHESTER, VIRGINIA
22601

ARCHITECT:

CIVIL and STRUCTURAL ENGINEERS:

CONSULTING ENGINEERS
COMMONWEALTH OF VIRGINIA
JASON S. MARSHALL
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PROFESSIONAL ENGINEER

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(540) 662-5792

MECHANICAL, ELECTRICAL, and PLUMBING ENGINEERS:

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Comfort Designs Inc.
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Seal

COMMONWEALTH OF VIRGINIA
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8/5/2019
PROFESSIONAL ENGINEER

ISSUE/REVISIONS:

DRAWING TITLE:
PHASE I BUILDING #1
PUBLIC SERVICES
BUILDING

SHEET TITLE:
MECHANICAL SCOPE
& DETAILS

DATE: AUGUST 5, 2019
SCALE: AS NOTED PROJECT NUMBER: 1801014
SHEET:
M2.1

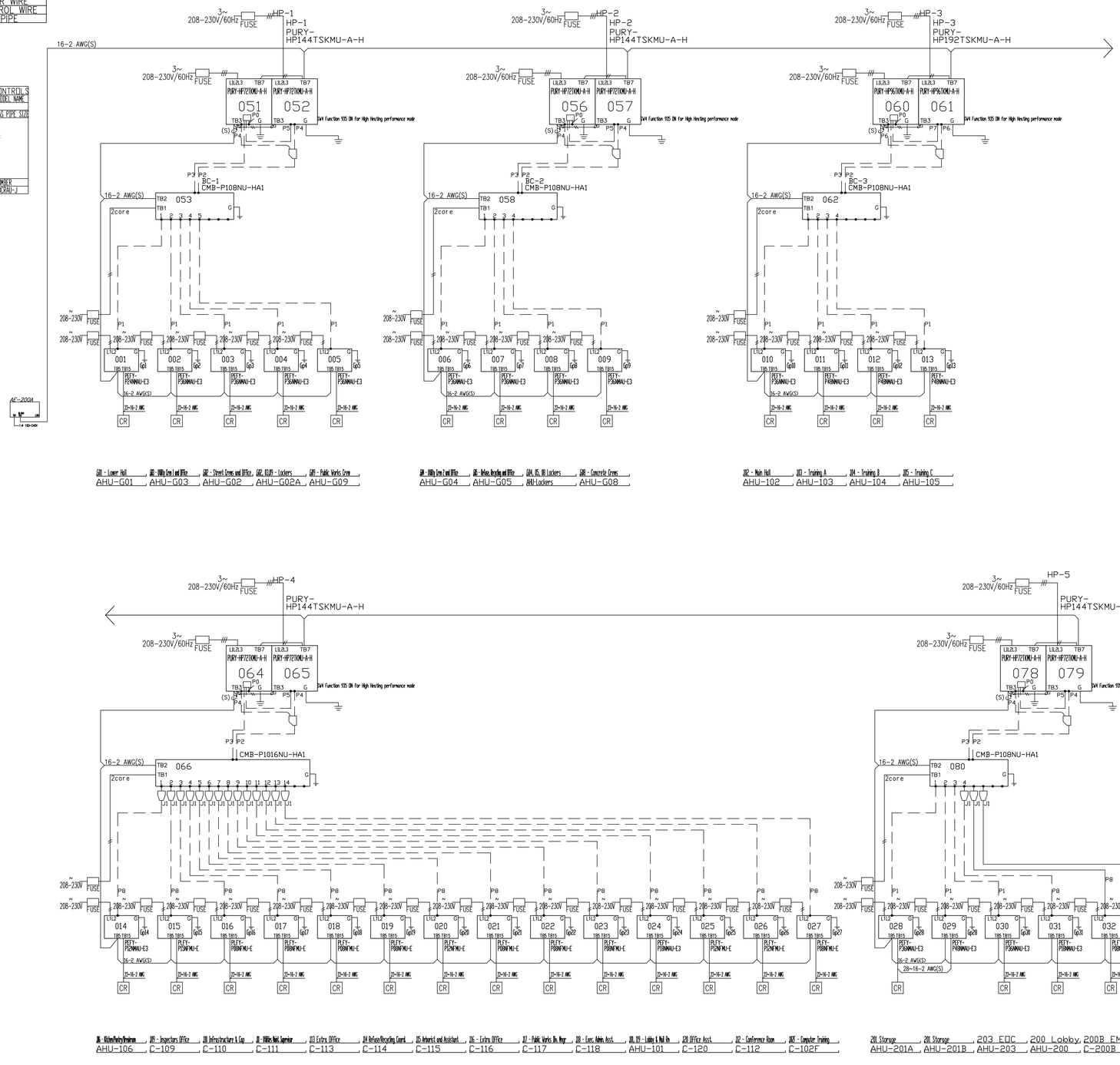
DIAGRAM SYMBOL LEGEND	
DISPLAY	DESCRIPTION
——#——	POWER WIRE
————	CONTROL WIRE
————	REF. PIPE

CONT.No	PAGE

CITY MULTI
SYSTEM SCHEMATIC DWG.

Additional refrigerant charge is needed depending on the size and length of extended piping. Please refer the amount of pre-charge and the formula of calculation which is mentioned on the data book.
1.25mm(16 AWG) : 1.25mm(16 AWG) or more. 0.75mm(20 AWG) : between 0.5mm(24 AWG) and 0.75mm(20 AWG).

PIPING AND CONTROLS	
SYMBOL	BRANCH PIPE MODEL NAME
JJ	Reducer
SYMBOL	LIQUID PIPE/GAS PIPE SIZE
P1	3/8 / 5/8
P2	7/8 /
P3	/ 1-1/8
P4	5/8 /
P5	/ 3/4
P6	3/4 /
P7	/ 7/8
P8	1/4 / 1/2
SYMBOL	MODEL NUMBER
DC	PAC-TY530KAU-J



G01 - Lower Hall AHU-G01 | G03 - Utility Crew Lounge and Office AHU-G03 | G02 - Street Crew, and Office AHU-G02 | G02, G2.01 - Lockers AHU-G02A | G09 - Public Works Crew AHU-G09

G04 - Utility Crew 2 and Office AHU-G04 | G05 - Refuse, Recycling and Office AHU-G05 | G04, G5, 10 Lockers AHU-Lockers | G08 - Concrete Crews AHU-G08

102 - Main Hall AHU-102 | 103 - Training A AHU-103 | 104 - Training B AHU-104 | 105 - Training C AHU-105

A - Kitchenette/Breakroom C-106 | 109 - Inspectors Office C-109 | 110 Infrastructure & Cap C-110 | A - Utilities Mech. Engineer C-111 | 113 Extra Office C-113 | 114 Refuse/Recycling Coord. C-114 | 115 Arborist and Assistant C-115 | 116 - Extra Office C-116 | 117 - Public Works Div. Mngr C-117 | 118 - Exec. Admin. Asst. C-118 | 101, 119 - Lobby & Mail Rm AHU-101 | 120 Office Asst. C-120 | 112 - Conference Room C-112 | 102F - Computer Training C-102F

201 Storage AHU-201A | 201 Storage AHU-201B | 203 EOC AHU-203 | 200 Lobby AHU-200 | 200B EM Coord. C-200B | 200A Radio Manager C-200A

NORTH (building)

CITY YARDS MAINTENANCE FACILITY:
RENOVATION AND ADDITIONS
301 East Cork St.
Winchester, Virginia
22601

ARCHITECT:

Seal

CIVIL and STRUCTURAL ENGINEERS:

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ISSUE/REVISIONS:

DRAWING TITLE:
PHASE I BUILDING #1
PUBLIC SERVICES
BUILDING

SHEET TITLE:
MECHANICAL VRF WIRING DIAGRAM

DATE: AUGUST 5, 2019
SCALE: AS NOTED
PROJECT NUMBER: 1801014
SHEET:
M2.2

CITYMULTI® Model: PEFY-P12NMAU-E3 MITSUBISHI ELECTRIC

Job Name: City Yards Administration Building
System Reference: AHU-106 | Date: 2/12/19

GENERAL FEATURES

- Dual set point functionality
- Multiple fan speed settings
- Auto fan mode
- 9-7/8" (250mm) high for low ceiling heights
- Built-in condensate lift; lifts to 27-9/16" (700 mm)
- Ducted fan coil supporting multiple configurations for flexible installation

OPTIONS

□ External Heater Adapter.....CN24RELAY-KIT-CM3
□ Filter Box (Includes 2" MERV 13 filter).....FBM2-1

SPECIFICATIONS

Capacity*
Cooling.....12,000 Btu/h
Heating.....13,500 Btu/h

Power
Power Source.....208 / 230V, 1-phase, 60Hz

Power Consumption
Cooling.....0.09 kW
Heating.....0.07 kW

Current
Cooling.....0.66 / 0.62 A
Heating.....0.55 / 0.51 A
Minimum Circuit Ampacity (MCA).....1.20 A
Maximum Overcurrent Protection (MOCP) Fuse.....15 A

External Finish.....Galvanized-steel Sheet

External Dimensions
Inches.....9-7/8 H x 27-9/16 W x 28-7/8 D
mm.....250 H x 700 W x 732 D

Net Weight.....49 lbs. / 22 kg

Coil Type.....Cross Fin (Aluminum Plate Fin and Copper Tube)

Fan
Type x Quantity.....Sirocco Fan x 1
Airflow Rate (Low-Mid-High).....265- 318 - 371 CFM
External Static Pressure.....0.14 - 0.20 - 0.28 - 0.40 - 0.60"WG
Motor Type.....DC Motor

Air Filter.....Polypropylene Honeycomb

Refrigerant Piping Dimensions
Liquid (High Pressure).....1/4" / 6.35 mm (Brazed)
Gas (Low Pressure).....1/2" / 12.7 mm (Brazed)

Drainpipe Dimension.....O.D. 1-1/4" / 32 mm

Sound Pressure Levels
Low-Mid-High.....28 - 30 - 34 dB(A)

* Cooling / Heating capacity indicated at the maximum value at operation under the following conditions:
Cooling | Indoor: 80° F (27° C) DB / 67° F (19° C) WB,
Cooling | Indoor: Outdoor 95° F (35° C) DB
Heating | Indoor: 70° F (21° C) DB,
Heating | Outdoor 47° F (8° C) DB / 43° F (6° C) WB

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Lossnay Model: LGH-F300RX5-E1 MITSUBISHI ELECTRIC

Job Name: City Yards Administrative Building, Winchester, VA
System Reference: ERV-3 | Date: 2/9/2019

ENERGY RECOVERY VENTILATOR

GENERAL FEATURES

- Lossnay® cross-flow energy recovery core
- Minimal cross contamination (<1% overall) between entering and leaving air streams
- Stand-alone control
- M-NET
- External input bypass damper control
- Stand alone or interlocks with all Mitsubishi product

SPECIFICATIONS

Capacity.....300 CFM / 8.5 m^3/min

Power
Power Source.....208 - 230V, 1-Phase, 60 Hz
Power Consumption.....0.067 - 0.300 kW
Current.....0.32 - 1.35 A
Starting Current.....2.5 A
Minimum Circuit Ampacity (MCA).....1.8 A
Maximum Overcurrent Protection (MOCP).....15 A

Controllers
PZ-60DR Lossnay® Controller: Controls 1-15 Lossnay® units, ON/OFF, Fan Speed, and Vent Mode

Operation Mode
- Heat Recovery
- Bypass
- Auto

Air Volume
(fan speed: extra low - low - high - extra high)
@ 208V.....91 - 203 - 260 - 300 CFM
@ 230V.....112 - 235 - 300 - 300 CFM

Temperature recovery efficiency
(fan speed: extra low - low - high - extra high)
@ 208V.....81- 71 - 67.5 - 65.5%
@ 230V.....79 - 69 - 65.5 - 65.5%

Enthalphy recovery efficiency
(fan speed: extra low - low - high - extra high)
Heating
@ 208V.....79 - 68 - 65 - 63 %
@ 230V.....77 - 66 - 63 - 63 %

Cooling
@ 208V.....63 - 55 - 52 - 50%
@ 230V.....61 - 53 - 50 - 50%

External static pressure (In. W.G.)
(fan speed: extra low - low - high - extra high)
@ 208V.....0.06 - 0.28 - 0.46 - 0.60
@ 230V.....0.08 - 0.33 - 0.54 - 0.78

External Finish.....Galvanized steel sheet

Dimensions
inches.....12-3/8 H x 40 W x 34-15/16 D
mm.....315 H x 1016 W x 888 D

Net Weight.....73 lb / 33 kg

Energy Transfer.....Lossnay® core

Heat Exchange System.....Air-to-air total heat (sensible heat + latent heat) exchange, no moving parts

Heat Exchange Material.....Partition, spacing plate-cellulose fiber membrane

Blower.....9.625 in. dia. centrigugal fan

Motor.....Totally enclosed capacitor permanent split-phase induction motor, 4 poles, 2 unit

Filter.....Washable fiber (2)

Entering Air Temperature Operation Range
14° F to 104° F (-10° C to 40° C), RH 80% or less

Sound Pressure Level
(fan speed: extra low - low - high - extra high)
@ 208V.....18 - 25.5 - 30.5 - 34 dB (A)
@ 230V.....18 - 27.5 - 33 - 37 dB (A)

Specifications are subject to change without notice.
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Lossnay Model: LGH-F600RX5-E1 MITSUBISHI ELECTRIC

Job Name: City Yards Administrative Building
System Reference: ERV-1A, ERV-1B, ERV-2, ERV-4, ERV-5, ERV-11 AND ERV-12 | Date: 2/9/2019

ENERGY RECOVERY VENTILATOR

GENERAL FEATURES

- Lossnay® cross-flow energy recovery core
- Minimal cross contamination (<1% overall) between entering and leaving air streams
- Stand-alone control
- M-NET
- External input bypass damper control
- Stand alone or interlocks with all Mitsubishi product

SPECIFICATIONS

Capacity.....600 CFM / 17 m^3/min

Power
Power Source.....208 - 230V, 1-Phase, 60 Hz
Power Consumption.....0.146 - 0.637 kW
Current.....0.72 - 2.90 A
Starting Current.....5.0 A
Minimum Circuit Ampacity (MCA).....3.6 A
Maximum Overcurrent Protection (MOCP).....15 A

Controllers
PZ-60DR Lossnay® Controller: Controls 1-15 Lossnay® units, ON/OFF, Fan Speed, and Vent Mode

Operation Mode
- Heat Recovery
- Bypass
- Auto

Air Volume
(fan speed: extra low - low - high - extra high)
@ 208V.....200 - 370 - 520 - 600 CFM
@ 230V.....235 - 430 - 600 - 600 CFM

Temperature recovery efficiency
(fan speed: extra low - low - high - extra high)
@ 208V.....80 - 75 - 68 - 67%
@ 230V.....78 - 73 - 67 - 67%

Enthalphy recovery efficiency
(fan speed: extra low - low - high - extra high)
Heating
@ 208V.....79 - 71 - 65 - 64%
@ 230V.....77 - 68 - 64 - 64%

Cooling
@ 208V.....68 - 59 - 53 - 50%
@ 230V.....67 - 56 - 50 - 50%

External static pressure (In. W.G.)
(fan speed: extra low - low - high - extra high)
@ 208V.....0.07 - 0.24 - 0.48 - 0.56
@ 230V.....0.07 - 0.24 - 0.48 - 0.80

External Finish.....Galvanized steel sheet

Dimensions
inches.....15-3/4 H x 48-1/2 W x 45-1/16 D
mm.....399 H x 1231 W x 1144 D

Net Weight.....132 lb / 60 kg

Energy Transfer.....Lossnay® core

Heat Exchange System.....Air-to-air total heat (sensible heat + latent heat) exchange, no moving parts

Heat Exchange Material.....Partition, spacing plate-cellulose fiber membrane

Blower.....9.625 in. dia. centrigugal fan

Motor.....Totally enclosed capacitor permanent split-phase induction motor, 4 poles, 2 unit

Filter.....Washable fiber (2)

Entering Air Temperature Operation Range
14° F to 104° F (-10° C to 40° C), RH 80% or less

Sound Pressure Level
(fan speed: extra low - low - high - extra high)
@ 208V.....19 - 26.5 - 34 - 36 dB (A)
@ 230V.....21 - 29 - 36.5 - 38 dB (A)

Specifications are subject to change without notice.
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CITYMULTI® Model: PEFY-P18NMAU-E3 MITSUBISHI ELECTRIC

Job Name: City Yards Administration Building
System Reference: AHU-101 AND AHU-200 | Date: 2/12/19

GENERAL FEATURES

- Dual set point functionality
- Multiple fan speed settings
- Auto fan mode
- 9-7/8" (250mm) high for low ceiling heights
- Built-in condensate lift; lifts to 27-9/16" (700 mm)
- Ducted fan coil supporting multiple configurations for flexible installation

OPTIONS

□ External Heater Adapter.....CN24RELAY-KIT-CM3
□ Filter Box (Includes 2" MERV 13 filter).....FBM2-2

SPECIFICATIONS

Capacity*
Cooling.....18,000 Btu/h
Heating.....20,000 Btu/h

Power
Power Source.....208 / 230V, 1-phase, 60Hz

Power Consumption
Cooling.....0.11 kW
Heating.....0.09 kW

Current
Cooling.....0.77 / 0.73 A
Heating.....0.66 / 0.62 A
Minimum Circuit Ampacity (MCA).....1.56 A
Maximum Overcurrent Protection (MOCP) Fuse.....15 A

External Finish.....Galvanized-steel Sheet

External Dimensions
Inches.....9-7/8 H x 35-7/16 W x 28-7/8 D
mm.....250 H x 900 W x 732 D

Net Weight.....58 lbs. / 26 kg

Coil Type.....Cross Fin (Aluminum Plate Fin and Copper Tube)

Fan
Type x Quantity.....Sirocco Fan x 1
Airflow Rate (Low-Mid-High).....424 - 512 - 600 CFM
External Static Pressure.....0.14 - 0.20 - 0.28 - 0.40 - 0.60"WG
(External static pressure is factory set to 0.20"WG)
Motor Type.....DC Motor

Air Filter.....Polypropylene Honeycomb

Refrigerant Piping Dimensions
Liquid (High Pressure).....1/4" / 6.35 mm (Brazed)
Gas (Low Pressure).....1/2" / 12.7 mm (Brazed)

Drainpipe Dimension.....O.D. 1-1/4" / 32 mm

Sound Pressure Levels
Low-Mid-High.....28 - 32 - 35 dB(A)

* Cooling / Heating capacity indicated at the maximum value at operation under the following conditions:
Cooling | Indoor: 80° F (27° C) DB / 67° F (19° C) WB,
Cooling | Indoor: Outdoor 95° F (35° C) DB
Heating | Indoor: 70° F (21° C) DB,
Heating | Outdoor 47° F (8° C) DB / 43° F (6° C) WB

Specifications are subject to change without notice.
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CITYMULTI® Model: PEFY-P24NMAU-E3 MITSUBISHI ELECTRIC

Job Name: City Yards Administration Building
Schedule Reference: AHU-G01, G09 and AHU-102 | Date: 2/12/19

GENERAL FEATURES

- Dual set point functionality
- Multiple fan speed settings
- Auto fan mode
- 9-7/8" (250mm) high for low ceiling heights
- Built-in condensate lift; lifts to 27-9/16" (700 mm)
- Ducted fan coil supporting multiple configurations for flexible installation

OPTIONS

□ External Heater Adapter.....CN24RELAY-KIT-CM3
□ Filter Box (Includes 2" MERV 13 filter).....FBM2-3

SPECIFICATIONS

Capacity*
Cooling.....24,000 Btu/h
Heating.....27,000 Btu/h

Power
Power Source.....208 / 230V, 1-phase, 60Hz

Power Consumption
Cooling.....0.17 kW
Heating.....0.15 kW

Current
Cooling.....1.31 A
Heating.....1.20 A
Minimum Circuit Ampacity (MCA).....2.73 A
Maximum Overcurrent Protection (MOCP) Fuse.....15 A

External Finish.....Galvanized-steel Sheet

External Dimensions
Inches.....9-7/8 H x 43-5/16 W x 28-7/8 D
mm.....250 H x 1,100 W x 732 D

Net Weight.....67 lbs. / 30 kg

Coil Type.....Cross Fin (Aluminum Plate Fin and Copper Tube)

Fan
Type x Quantity.....Sirocco Fan x 2
Airflow Rate (Low-Mid-High).....618 - 742 - 883 CFM
External Static Pressure.....0.14 - 0.20 - 0.28 - 0.40 - 0.60"WG
Motor Type.....DC Motor

Air Filter.....Polypropylene Honeycomb

Refrigerant Piping Dimensions
Liquid (High Pressure).....3/8" / 9.52 mm (Brazed)
Gas (Low Pressure).....5/8" / 15.88 mm (Brazed)

Drainpipe Dimension.....O.D. 1-1/4" / 32 mm

Sound Pressure Levels
Low-Mid-High.....30 - 34 - 39 dB(A)

* Cooling / Heating capacity indicated at the maximum value at operation under the following conditions:
Cooling | Indoor: 80° F (27° C) DB / 67° F (19° C) WB,
Cooling | Indoor: Outdoor 95° F (35° C) DB
Heating | Indoor: 70° F (21° C) DB,
Heating | Outdoor 47° F (8° C) DB / 43° F (6° C) WB

Notes:

R410A

Specifications are subject to change without notice.
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CITYMULTI® Model: PEFY-P36NMAU-E3 MITSUBISHI ELECTRIC

Job Name: City Yards Administration Building
System Reference: AHU-G02, G02A, G03, G04, G05, G08, AHU-LOCKERS, AHU-201A & AHU-203 | Date: 7/2/19

GENERAL FEATURES

- Dual set point functionality
- Multiple fan speed settings
- Auto fan mode
- 9-7/8" (250mm) high for low ceiling heights
- Built-in condensate lift; lifts to 27-9/16" (700 mm)
- Ducted fan coil supporting multiple configurations for flexible installation

OPTIONS

□ External Heater Adapter.....CN24RELAY-KIT-CM3
□ Filter Box (Includes 2" MERV 13 filter).....FBM2-4

SPECIFICATIONS

Capacity*
Cooling.....36,000 Btu/h
Heating.....40,000 Btu/h

Power
Power Source.....208 / 230V, 1-phase, 60Hz

Power Consumption
Cooling.....0.24 kW
Heating.....0.22 kW

Current
Cooling.....1.50 / 1.46 A
Heating.....1.39 / 1.35 A
Minimum Circuit Ampacity (MCA).....3.32 A
Maximum Overcurrent Protection (MOCP) Fuse.....15 A

External Finish.....Galvanized-steel Sheet

External Dimensions
Inches.....9-7/8 H x 55-1/8 W x 28-7/8 D
mm.....250 H x 1,400 W x 732 D

Net Weight.....86 lbs. / 39 kg

Coil Type.....Cross Fin (Aluminum Plate Fin and Copper Tube)

Fan
Type x Quantity.....Sirocco Fan x 2
Airflow Rate (Low-Mid-High).....812 - 989 - 1,165 CFM
External Static Pressure.....0.14 - 0.20 - 0.28 - 0.40 - 0.60"WG
Motor Type.....DC Motor

Air Filter.....Polypropylene Honeycomb

Refrigerant Piping Dimensions
Liquid (High Pressure).....3/8" / 9.52 mm (Brazed)
Gas (Low Pressure).....5/8" / 15.88 mm (Brazed)

Drainpipe Dimension.....O.D. 1-1/4" / 32 mm

Sound Pressure Levels
Low-Mid-High.....32 - 37 - 41 dB(A)

* Cooling / Heating capacity indicated at the maximum value at operation under the following conditions:
Cooling | Indoor: 80° F (27° C) DB / 67° F (19° C) WB,
Cooling | Indoor: Outdoor 95° F (35° C) DB
Heating | Indoor: 70° F (21° C) DB,
Heating | Outdoor 47° F (8° C) DB / 43° F (6° C) WB

Specifications are subject to change without notice.
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CITYMULTI® Model: PEFY-P48NMAU-E3 MITSUBISHI ELECTRIC

Job Name: City Yards Administration Building
System Reference: AHU-103, 104 and105 and AHU-201B | Date: 2/12/19

GENERAL FEATURES

- Dual set point functionality
- Multiple fan speed settings
- Auto fan mode
- 9-7/8" (250mm) high for low ceiling heights
- Built-in condensate lift; lifts to 27-9/16" (700 mm)
- Ducted fan coil supporting multiple configurations for flexible installation

OPTIONS

□ External Heater Adapter.....CN24RELAY-KIT-CM3
□ Filter Box (Includes 2" MERV 13 filter).....FBM2-4

SPECIFICATIONS

Capacity*
Cooling.....48,000 Btu/h
Heating.....54,000 Btu/h

Power
Power Source.....208 / 230V, 1-phase, 60Hz

Power Consumption
Cooling.....0.34 kW
Heating.....0.32 kW

Current
Cooling.....2.08 / 2.04 A
Heating.....1.97 / 1.93 A
Minimum Circuit Ampacity (MCA).....3.41 A
Maximum Overcurrent Protection (MOCP) Fuse.....15 A

External Finish.....Galvanized-steel Sheet

External Dimensions
Inches.....9-7/8 H x 55-1/8 W x 28-7/8 D
mm.....250 H x 1,400 W x 732 D

Net Weight.....86 lbs. / 39 kg

Coil Type.....Cross Fin (Aluminum Plate Fin and Copper Tube)

Fan
Type x Quantity.....Sirocco Fan x 2
Airflow Rate (Low-Mid-High).....989 - 1,201 - 1,412 CFM
External Static Pressure.....0.14 - 0.20 - 0.28 - 0.40 - 0.60"WG
Motor Type.....DC Motor

Air Filter.....Polypropylene Honeycomb

Refrigerant Piping Dimensions
Liquid (High Pressure).....3/8" / 9.52 mm (Brazed)
Gas (Low Pressure).....5/8" / 15.88 mm (Brazed)

Drainpipe Dimension.....O.D. 1-1/4" / 32 mm

Sound Pressure Levels
Low-Mid-High.....35 - 40 - 44 dB(A)

* Cooling / Heating capacity indicated at the maximum value at operation under the following conditions:
Cooling | Indoor: 80° F (27° C) DB / 67° F (19° C) WB,
Cooling | Indoor: Outdoor 95° F (35° C) DB
Heating | Indoor: 70° F (21° C) DB,
Heating | Outdoor 47° F (8° C) DB / 43° F (6° C) WB

Specifications are subject to change without notice.
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NORTH (building)

CITY YARDS MAINTENANCE FACILITY:
RENOVATION AND ADDITIONS
301 EAST CORK ST.
WINCHESTER, VIRGINIA
22601

CITY OF WINCHESTER VIRGINIA FARE FAC 1744

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Seal

CIVIL and STRUCTURAL ENGINEERS:

CONSULTING ENGINEERS

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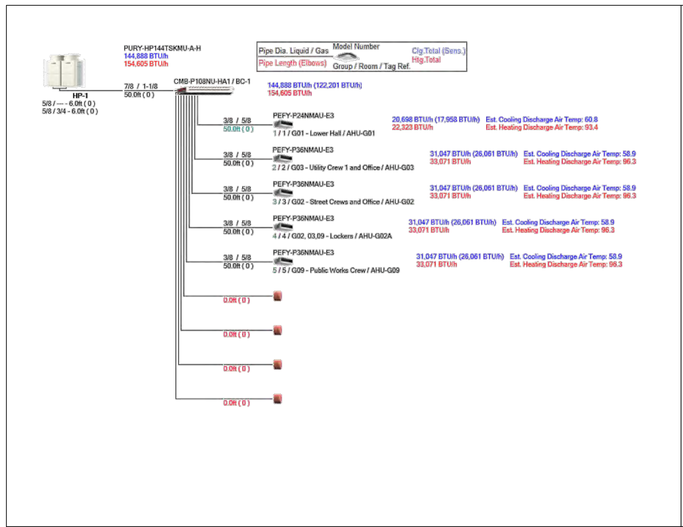
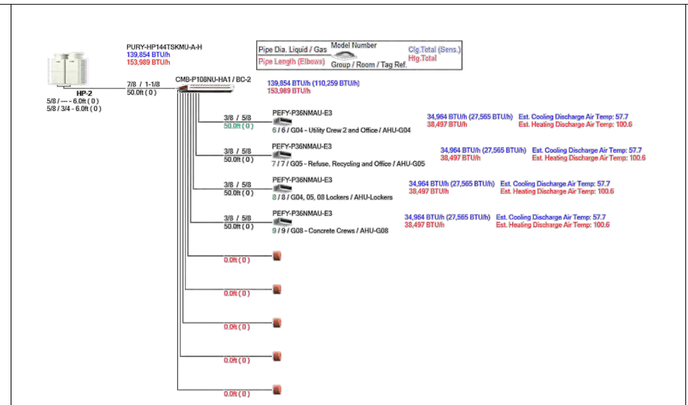
ISSUE/REVISIONS:

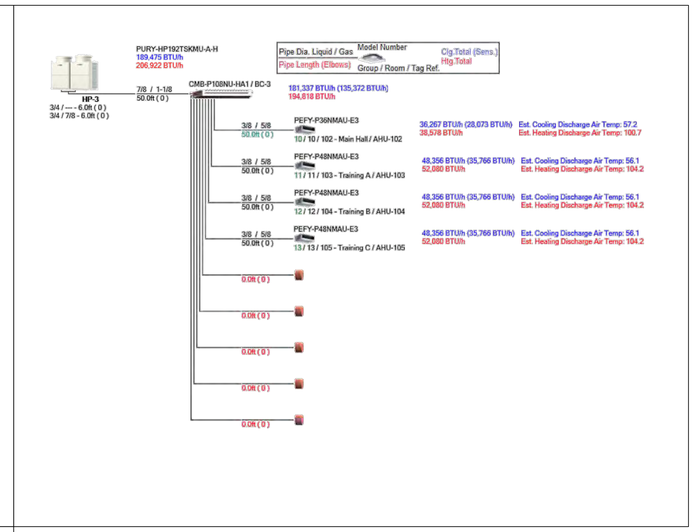
DRAWING TITLE:
PHASE I BUILDING #1
PUBLIC SERVICES
BUILDING

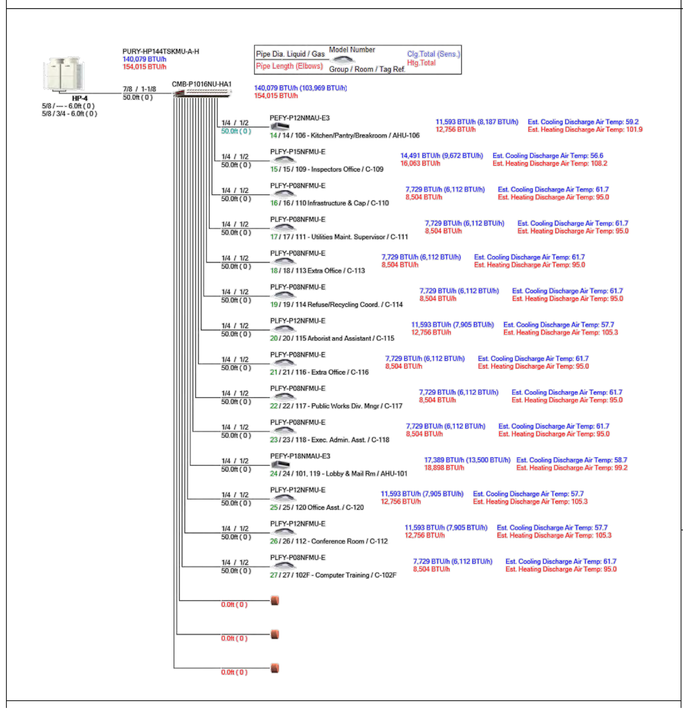
SHEET TITLE:
MECHANICAL EQUIPMENT
& DETAILS

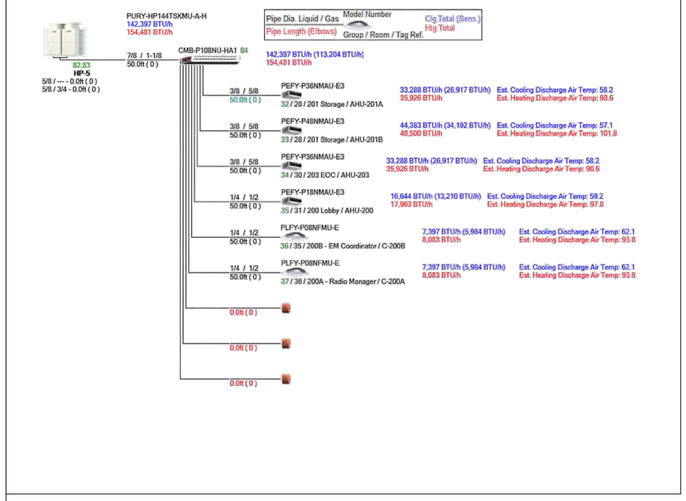
DATE: AUGUST 5, 2019
SCALE: AS NOTED | PROJECT NUMBER: 1801014
SHEET:
M2.3











MITSUBISHI CITY MULTI VRF OUTDOOR UNIT SCHEDULE - CITY YARDS ADMINISTRATION BUILDING

System Tag	Tag Reference	M-Net Address	Model Number	Modules	Nominal Cooling Capacity (BTU/h)	Nominal Heating Capacity (BTU/h)	Cooling Efficiency IEER/EER [SEER]	Heating COP @ 47°F [HSPF]	Nom System Connected Capacity (% of NOM)	Design Cooling Outdoor Temp DB (°F)	Design Heating Outdoor Temp WB (°F)	Max Pipe Length from BC or 1st Joint (feet)	Refrig Pipe Dim High/Low Pressure (inch) (See Note 4)	Corrected Cooling Total Capacity (BTU/h)	Corrected Heating Capacity (BTU/h)	Sound Pressure (dBA)	Inverter Driven Compressor Type / Quantity	Preliminary Added Field Charge (See Note 5)	Electrical-Per Module 208/230 or [460V] Voltage / Phase	MCA 208/230 or [460V]	RFS	MOCP	Notes / Options
HP-1	HP-1	51, 52	PURY-HP144TSKMU-A-H	HP72, HP72	144,000.0	160,000.0	17.1 / 12.6	3.41	116.7%	95.0	7.9	50.0	7/8 / 1 1/8	144,887.7	154,604.6	61	SCROLL/2	44.7	208/230V / 3-phase 3-wire	44/40, 44/40	50, 50	60/60, 60/60	1, 2, 3, 4, 5
HP-2	HP-2	56, 57	PURY-HP144TSKMU-A-H	HP72, HP72	144,000.0	160,000.0	17.1 / 12.6	3.41	100.0%	95.0	7.9	50.0	7/8 / 1 1/8	139,854.5	153,988.7	61	SCROLL/2	40.7	208/230V / 3-phase 3-wire	44/40, 44/40	50, 50	60/60, 60/60	1, 2, 3, 4, 5
HP-3	HP-3	60, 61	PURY-HP192TSKMU-A-H	HP96, HP96	192,000.0	215,000.0	16.6 / 12.1	3.31	93.8%	95.0	7.9	50.0	7/8 / 1 1/8	189,475.2	206,922.3	61	SCROLL/2	47.6	208/230V / 3-phase 3-wire	60/54, 60/54	65, 65	80/80, 80/80	1, 2, 3, 4, 5
HP-4	HP-4	64, 65	PURY-HP144TSKMU-A-H	HP72, HP72	144,000.0	160,000.0	17.1 / 12.6	3.41	100.7%	95.0	7.9	50.0	7/8 / 1 1/8	140,079.3	154,014.9	61	SCROLL/2	45.6	208/230V / 3-phase 3-wire	44/40, 44/40	50, 50	60/60, 60/60	1, 2, 3, 4, 5
HP-5	HP-5	78, 79	PURY-HP144TSKMU-A-H	HP72, HP72	144,000.0	160,000.0	17.1 / 12.6	3.41	95.8%	95.0	7.9	50.0	7/8 / 1 1/8	142,325.2	154,192.2	61	SCROLL/2	38.7	208/230V / 3-phase 3-wire	44/40, 44/40	50, 50	60/60, 60/60	1, 2, 3, 4, 5

Notes & Options:

1 Nominal cooling capacities are based on indoor coil EAT of 80/67°F (DB/WB), outdoor of 95°F (DB)
2 Nominal heating capacities are based on indoor coil EAT of 70°F (DB), outdoor of 43°F (WB)
3 Efficiency values for EER, IEER, COP are based on AHRI 1230 test method for mixture of ducted & non-ducted indoor units.
4 For systems with multiple modules, refrigerant pipe dimensions indicate total system combined piping downstream of module
5 Added field charge listed is in addition to factory charge, this must be updated based upon final as-built piping layout.
6 Include low ambient hood kit with associated wind baffles for 100% low ambient cooling down to minus (-) 10°F.

NORTH (building)

CITY YARDS MAINTENANCE FACILITY: RENOVATION AND ADDITIONS

301 East Cork St.
Winchester, Virginia
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Seal

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COMMONWEALTH OF VIRGINIA
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ISSUE/REVISIONS:

DRAWING TITLE:

PHASE I BUILDING #1
PUBLIC SERVICES BUILDING

SHEET TITLE:

MECHANICAL REFRIGERANT PIPING & SCHEDULE

DATE: AUGUST 5, 2019
SCALE: AS NOTED
PROJECT NUMBER: 1801014
SHEET:

M2.4

CITYMULTI® Outdoor Unit: 12-TON PURY-HP144TSKMU-A-H — MITSUBISHI ELECTRIC

(Consists of Two PURY-HP72TKMU-A-H and One CMY-R100CBK2 Twinning Kit)

Job Name: CITY YARDS ADMINISTRATION BUILDING

Schedule Reference: HP-1, HP-2 AND HP-4 AND HP-5 — Date: 2/2/19

OUTDOOR VRF HEAT PUMP WITH HEAT RECOVERY SYSTEM FEATURES

- Innovative flash injection technology for tremendous heating capacity at lower outdoor temperatures
- Built-in base pan heater to prevent ice in drain pan
- Air-source, simultaneous cooling and heating
- INVERTER-driven compressor
- Connects to CITY MULTI indoor units
- Controlled via CITY MULTI Controls Network

OPTIONAL PARTS

- ■ Twinning Kit (required).....CMY-R100CBK2
- □ Joint Kit.....for details see Pipe Accesories Submittal
- □ BC Controller.....for details see BC Controller Submittals
- □ Low Ambient Kit.....for details see Low Ambient Kit Submittal
- □ Snow/Hail Guards Kit.....for details see Snow/Hail Guards Kit Submittal
- □ Base Pan Heater Kit.....for details see Base Pan Heater Kit Submittal

HP-1, 2, 4 & 5

Specifications		Model Name	Module 1	Module 2
Unit Type		PURY-HP144TSKMU-A-H	PURY-HP72TKMU-A-H	PURY-HP72TKMU-A-H
Nominal Cooling Capacity (208/230V)	Btu/h	144,000	72,000	72,000
Nominal Heating Capacity (208/230V)	Btu/h	160,000	80,000	80,000
Operating Temperature Range *1	Cooling (Outdoor) *2	Refer to Module Data	23 ~ 115° F (-5 ~ +46° C) DB	
	Heating (Outdoor)		-13 ~ +60°F (-25 ~ +15.5° C) WB	
External Dimensions (H x W x D)	In. / mm	Refer to Module Data	64-31/32 x 48-1/16 x 29-5/32 / 1,650 x 1,220 x 740	64-31/32 x 48-1/16 x 29-5/32 / 1,650 x 1,220 x 740
Net Weight	Lbs. / kg	1104 / 500	552 / 250	552 / 250
External finish		Refer to Module Data	Pre-coated galvanized steel sheet	
Electrical Power Requirements	Voltage, Phase, Hertz	Refer to Module Data**	208 / 230V, 3 phase, 60Hz	
Minimum Circuit Ampacity (MCA)	A	Refer to Module Data**	44 / 40**	44 / 40**
Maximum Fuse Size	A	Refer to Module Data**	60**	60**
Piping Diameter				
Piping Diameter (Brazed) (In. / mm)	Liquid (High Pressure)	7/8 / 22.2	Refer to System Data	
	Gas (Low Pressure)	1-1/8 / 28.58		
From Modules to Twinning Kit (Brazed) (In. / mm)	Liquid (High Pressure)	Refer to Module Data	5/8 / 15.88	5/8 / 15.88
	Gas (Low Pressure)		3/4 / 19.05	3/4 / 19.05
Indoor Unit	Total Capacity	50 to 150% of ODUs	Refer to System Data	
	Model / Quantity	P06 ~ P96 / 1 to 36		
Sound Pressure Levels	dB(A)	61	58	58
Fan				
Type x Quantity		Refer to Module Data	Propeller Fan x 1	Propeller Fan x 1
Airflow Rate	CFM		6200	6200
Compressor Operating Range		Cooling: 15% to 100%; Heating: 7% to 100%	Refer to System Data	
Compressor Type x Quantity		Refer to Module Data	Inverter-driven Scroll Hermetic x 1	Inverter-driven Scroll Hermetic x 1
Refrigerant		Refer to Module Data	R410A x 29 lbs + 1 oz (11.8 kg)	
Lubricant			MEL32	
Protection Devices	High-pressure	Refer to Module Data	High pressure sensor, High pressure switch at 4.15 MPa (601 psi)	High pressure sensor, High pressure switch at 4.15 MPa (601 psi)
	Inverter circuit (COMP/FAN)		Over-current protection	Over-current protection
	Fan motor		Thermal switch	Thermal switch
AHRI Ratings (Ducted/Non-Ducted)	EER	12.5 / 12.6	Refer to System Data	
	IEER	16.7 / 17.9		
	COP	3.47 / 3.41		
Simultaneous Rating (Ducted/Non-Ducted)	SCHE *3	22.1 / 22.0		

NOTES:

*1. Harsh weather environments may demand performance enhancing equipment. Ask your Mitsubishi Electric representative for more details about your region.
*2. For details on extended cooling operation range down to -10° F DB, see Low Ambient Kit Submittal.
*3. Simultaneous Cooling and Heating Efficiency
** Each individual module requires a separate electrical connection. Refer to electrical data for each individual module.

Specifications are subject to change without notice.
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CITYMULTI® Outdoor Unit: 16-TON PURY-HP192TSKMU-A-H — MITSUBISHI ELECTRIC

(Consists of Two PURY-HP96TKMU-A-H and One CMY-R100CBK2 Twinning Kit)

Job Name: CITY YARDS ADMINISTRATON BUILDING

Schedule Reference: HP-3 OUTDOOR UNIT — Date: 2/2/19

OUTDOOR VRF HEAT PUMP WITH HEAT RECOVERY SYSTEM FEATURES

- Innovative flash injection technology for tremendous heating capacity at lower outdoor temperatures
- Built-in base pan heater to prevent ice in drain pan
- Air-source, simultaneous cooling and heating
- INVERTER-driven compressor
- Connects to CITY MULTI indoor units
- Controlled via CITY MULTI Controls Network

OPTIONAL PARTS

- ■ Twinning Kit (required).....CMY-R100CBK2
- □ Joint Kit.....for details see Pipe Accesories Submittal
- □ BC Controller.....for details see BC Controller Submittals
- □ Low Ambient Kit.....for details see Low Ambient Kit Submittal
- □ Snow/Hail Guards Kit.....for details see Snow/Hail Guards Kit Submittal
- □ Base Pan Heater Kit.....for details see Base Pan Heater Kit Submittal

HP-3

Specifications		Model Name	Module 1	Module 2
Unit Type		PURY-HP192TSKMU-A-H	PURY-HP96TKMU-A-H	PURY-HP96TKMU-A-H
Nominal Cooling Capacity (208/230V)	Btu/h	192,000	96,000	96,000
Nominal Heating Capacity (208/230V)	Btu/h	215,000	108,000	108,000
Operating Temperature Range *1	Cooling (Outdoor) *2	Refer to Module Data	23 ~ 115° F (-5 ~ +46° C) DB	
	Heating (Outdoor)		-13 ~ +60°F (-25 ~ +15.5° C) WB	
External Dimensions (H x W x D)	In. / mm	Refer to Module Data	64-31/32 x 48-1/16 x 29-5/32 / 1,650 x 1,220 x 740	64-31/32 x 48-1/16 x 29-5/32 / 1,650 x 1,220 x 740
Net Weight	Lbs. / kg	1104 / 500	552 / 250	552 / 250
External finish		Refer to Module Data	Pre-coated galvanized steel sheet	
Electrical Power Requirements	Voltage, Phase, Hertz	Refer to Module Data**	208 / 230V, 3 phase, 60Hz	
Minimum Circuit Ampacity (MCA)	A	Refer to Module Data**	60 / 54**	60 / 54**
Maximum Fuse Size	A	Refer to Module Data**	80**	80**
Piping Diameter				
Piping Diameter (Brazed) (In. / mm)	Liquid (High Pressure)	7/8 / 22.2	Refer to System Data	
	Gas (Low Pressure)	1-1/8 / 28.58		
From Modules to Twinning Kit (Brazed) (In. / mm)	Liquid (High Pressure)	Refer to Module Data	3/4 / 19.05	3/4 / 19.05
	Gas (Low Pressure)		7/8 / 22.2	7/8 / 22.2
Indoor Unit	Total Capacity	50 to 150% of ODUs	Refer to System Data	
	Model / Quantity	P06 ~ P96 / 1 to 48		
Sound Pressure Levels	dB(A)	61	58	58
Fan				
Type x Quantity		Refer to Module Data	Propeller Fan x 1	Propeller Fan x 1
Airflow Rate	CFM		6200	6200
Compressor Operating Range		Cooling: 12% to 100%; Heating: 6% to 100%	Refer to System Data	
Compressor Type x Quantity		Refer to Module Data	Inverter-driven Scroll Hermetic x 1	Inverter-driven Scroll Hermetic x 1
Refrigerant		Refer to Module Data	R410A x 26 lbs + 1 oz (11.8 kg)	
Lubricant			MEL32	
Protection Devices	High-pressure	Refer to Module Data	High pressure sensor, High pressure switch at 4.15 MPa (601 psi)	High pressure sensor, High pressure switch at 4.15 MPa (601 psi)
	Inverter circuit (COMP/FAN)		Over-current protection	Over-current protection
	Fan motor		Thermal switch	Thermal switch
AHRI Ratings (Ducted/Non-Ducted)	EER	11.1 / 12.1	Refer to System Data	
	IEER	16.1 / 16.6		
	COP	3.32 / 3.31		
Simultaneous Rating (Ducted/Non-Ducted)	SCHE *3	16.9 / 21.4		

NOTES:

*1. Harsh weather environments may demand performance enhancing equipment. Ask your Mitsubishi Electric representative for more details about your region.
*2. For details on extended cooling operation range down to -10° F DB, see Low Ambient Kit Submittal.
*3. Simultaneous Cooling and Heating Efficiency
** Each individual module requires a separate electrical connection. Refer to electrical data for each individual module.

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CITYMULTI® Model: AE-200A — MITSUBISHI ELECTRIC

Job Name:

System Reference: — Date:

AE-200A

- AE-200A is the Master Controller
- Master Controller can operate and monitor up to 50 indoor units
- Expansion Controllers can expand an AE-200A to operate and monitor up to 50 additional indoor units through the touchscreen or web browser
- Network up to three AE-50A or EW-50A to one AE-200A to allow the AE-200A to manage up to 200 indoor units.

OPTIONAL LICENSES

- SW-BACnet Master: BACnet Function
  - Connected air conditioning units can be monitored and operated not only from the existing web browser or the AE-200/AE-50's LCD, but also from the building management system using the BACnet® communication protocol. See SW-BACnet Data Sheet for more information.
- SW-Charge Master: Energy Allocation
  - The apportioned electricity billing function is an electric energy apportionment system that apportions electric energy using input from electricity meters with a pulse generator function. The respective amounts of electric energy can be apportioned based on the operating status and capacity of each tenant. See SW-Charge Data Sheet for more information.
- SW-PWeb Master: Online Personal Browser
  - Allows tenant managers and general users to control their respective zone conditions via a networked PC, tablet, or mobile phone with or without local remote controllers installed in the space. See SW-PWeb Data Sheet for more information.

SPECIFICATIONS

- Supports dual set point functionality (connected equipment dependent)
- Displays:
  - CITY MULTI® compressor speed and hi/low pressure
  - AdvancedHVAC Controller (DC-A2IO) input/output status
  - Indoor unit free contact input/output status
  - Space temperature and humidity (from Smart ME or AI controller)
  - Error code (Can be emailed automatically to specified recipients)
  - Unoccupied setback up temperature range
- Functions
  - Hold function (temporarily disables schedules indoor unit model dependent)
  - Initial setting
  - Operation data back-up
- Permits or prohibits remote controller functions:
  - On/Off
  - Change Operation Mode
  - Change Set Point Temperature
  - Filter Status
  - Change Fan Speed
  - Change Air Direction
- External input/output signals can be used for batch operations such as Start/Stop and Emergency Stop (requires PAC-YG10HA)
- Pulse signal input can obtain watt-hour meter, billing data and energy management data based on the cumulative number of pulse signal pulse signals directly input from a metering device
- Temperature set point range limits can be set for local remote controllers
- User defined indoor unit functions:
  - On/Off
  - Monitoring and Operation
  - Operation mode:
    - ○ Auto* (Dual or Single set point)
    - ○ Heat
    - ○ Fan
    - ○ Drying
    - ○ Setback*
    - Note: *R2 Series only (connected equipment dependent)
  - Temperature Setting
  - Fan Speed
  - Airflow Direction
- Monitoring and Control:
  - CITY MULTI® indoor units
  - M & P Series units (requires M-Net adapter)
  - Lossnay® units
  - PWFY hydronic heat pump units
  - DIDO controllers
  - CITY MULTI® DOAS
  - Interlock setting enables integration of general equipment inputs/outputs and indoor units
- Scheduling
  - Daily
  - Annually
  - Five pattern of weekly seasonal schedule
- Twenty four scheduled events per day, indoor unit model dependent:
  - ON/OFF
  - Mode
  - Temperature Setting
  - Vane Direction
  - Fan
  - Speed
  - Operation Prohibits
- Trend data:
  - Fan operation time
  - Thermo-on time
  - Set temperature
  - Room temperature
  - AI Controller temperature and humidity (requires PAC-YG63-MCA, 2 inputs total for each controller)
- Memory back up via USB (universal serial bus)
- Memory back up via LAN (local area network) port

Specifications are subject to change without notice.
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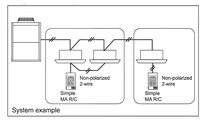
CITYMULTI® Model: PAC-YT53CRAU — MITSUBISHI ELECTRIC

Job Name:

Schedule Reference: — Date:

SIMPLE MA REMOTE CONTROLLER (PAC-YT53CRAU) SPECIFICATIONS

- Controls group operation for up to 16 indoor units in a single group
- Supports both Fahrenheit and Celsius
- User defined functions:
  - ON/OFF
  - Operation mode: AUTO (R2-Series only), COOL, HEAT, FAN, DRYING, or SETBACK
  - Set temperature
  - Fan speed setting
  - Air flow direction
  - Set temperature range: 40°F - 95°F depending on operation mode and indoor unit connected.
- Set temperature range limit: Simple MA allowable set temperature range can be reduced for cool and heat modes.
- LOSSNAY: Simple MA for interlocked system can set high/low/Stop on LOSSNAY.
- Room temperature can be sensed either at the indoor unit (default) or at the remote controller.
- Diagnostics: Displays four-digit error code and error unit address.
- Grouping: Same group use only with other PAC-YT53CRAU Simple MA Controllers, PAR-21MAAU Deluxe MA Remote Controllers, and PAR-FL/A32MA Wireless MA Remote Controllers with up to two remote controllers per group.
- Addressing: No addressing required.
- Wiring: Uses two-wire, stranded, non-polar control wire for connecting TB15 connection terminal on the indoor unit. Requires crossover wiring for grouping across indoor units.
- Dimensions: 2-3/4 x 9/16 x 4-3/4" (70 x 14.5 x 120mm).



System example

Notes:

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CITYMULTI® Main BC Controller: CMB-P108NU-HA1 — MITSUBISHI ELECTRIC

Job Name: City Yards Administration Building

System Reference: BC-1, BC-2, BC-3 AND BC-5 — Date: 2/15/2019

SAMPLE IMAGE FOR REFERENCE

ACCESSORIES:

- □ Joint Kit.....CMY-R160-J1
- □ Branch Joint (T-Branch).....CMY-Y102SS-G2
- □ Condensate Pump (BlueDiamond).....X87-721
- □ Condensate Pump (Sauermann).....SS100-230
- □ Ball Valve (3/8" SAE Brazed).....BV38BBSI
- □ Ball Valve (5/8" SAE Brazed).....BV58BBSI
- □ Sub BC Controller.....CMB-1016NU-HB1*
- □ Sub BC Controller.....CMB-104NU-GB1*
- □ Sub BC Controller.....CMB-108NU-GB1*

*See Submittal for information on each option.

SPECIFICATIONS:

Indoor Unit Capacity Connectable To 1 Branch	Btu/h	54,000
Number Of Branches	8	
Electrical Requirements		
Electrical Power Requirements	208 / 230V, 1 phase, 60Hz	
Minimum Circuit Ampacity (MCA)	A	1.45 / 1.70
Power Input (208 / 230V)		
Cooling	kW	0.152 / 0.196
Heating		0.076 / 0.098
Current Input (208 / 230V)		
Cooling	A	0.074 / 0.086
Heating		0.37 / 0.43
External Dimensions	In.(mm)	11-7/16 x 43-3/4 x 20-1/2 (289 x 1,110 x 520)
Net Weight	Lbs.(kg)	124 (56)
External Finish	Galvanized steel plate	

Refrigerant Piping Diameter to Indoor Unit (Brazed)

		Liquid	Gas
less than 18,000 Btu/h	In.(mm)	1/4 (6.35)	1/2 (12.7)
18,000 to 54,000 Btu/h	In.(mm)	3/8 (9.52)	5/8 (15.88)
54,000 to 72,000 Btu/h	In.(mm)	3/8 (9.52)	3/4 (19.05)
greater than 72,000 Btu/h	In.(mm)	3/8 (9.52)	7/8 (22.2)

Refrigerant Piping Diameter to Air-source Outdoor Units (Brazed)

		High Pressure	Low Pressure
to 72,000 Btu/h	In.(mm)	5/8 (15.88)	3/4 (19.05)
73,000 to 108,000 Btu/h	In.(mm)	3/4 (19.05)	7/8 (22.2)
109,000 to 126,000 Btu/h	In.(mm)	3/4 (19.05)	1-1/8 (28.58)
127,000 to 192,000 Btu/h	In.(mm)	7/8 (22.2)	1-1/8 (28.58)
193,000 to 216,000 Btu/h	In.(mm)	1-1/8 (28.58)	1-1/8 (28.58)
217,000 to 288,000 Btu/h	In.(mm)	1-1/8 (28.58)	1-3/8 (34.93)
289,000 to 336,000 Btu/h	In.(mm)	1-1/8 (28.58)	1-5/8 (41.28)

Refrigerant Piping Diameter to Water-source Units (Brazed)

		High Pressure	Low Pressure
to 72,000 Btu/h	In.(mm)	5/8 (15.88)	3/4 (19.05)
73,000 to 108,000 Btu/h	In.(mm)	3/4 (19.05)	7/8 (22.2)
109,000 to 126,000 Btu/h	In.(mm)	3/4 (19.05)	1-1/8 (28.58)
127,000 to 192,000 Btu/h	In.(mm)	7/8 (22.2)	1-1/8 (28.58)
193,000 to 240,000 Btu/h	In.(mm)	1-1/8 (28.58)	1-1/8 (28.58)

Refrigerant Piping Diameter to Sub BC Controller (Brazed)

		Liquid	High Pressure	Low Pressure
to 72,000 Btu/h	In.(mm)	3/8 (9.52)	5/8 (15.88)	3/4 (19.05)
73,000 to 108,000 Btu/h	In.(mm)	3/8 (9.52)	3/4 (19.05)	7/8 (22.2)
109,000 to 126,000 Btu/h	In.(mm)	1/2 (12.7)	3/4 (19.05)	1-1/8 (28.58)
127,000 to 144,000 Btu/h	In.(mm)	1/2 (12.7)	7/8 (22.2)	1-1/8 (28.58)
145,000 to 168,000 Btu/h	In.(mm)	5/8 (15.88)	7/8 (22.2)	1-1/8 (28.58)

Field Drain Pipe Size	In.(mm)	1-1/4 (32)
Refrigerant	R410A	
Connectable Outdoor Unit	PURY-P-T(S)K/LMU PURY-P-Y(S)K/LMU PURY-HP-T(S)KMU PURY-HP-Y(S)KMU PQRY-P-T(S)H/LMU PQRY-P-Y(S)H/LMU	

NOTES:
1. Use Single BC Controller when R2-Series unit capacity is 120,000 Btu/h or less.
2. Use the Reducer (standard accessory) when the indoor unit capacity is 18,000 Btu/h or less.
3. Use Ball Valves to isolate individual branches (recommended).
4. Use Joint Pipe to combine branches when connected indoor unit capacity on a single branch exceeds 54,000 Btu/h.

Specifications are subject to change without notice.
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CITYMULTI® Main BC Controller: CMB-P1016NU-HA1 — MITSUBISHI ELECTRIC

Job Name: City Yards Administration Building

System Reference: BC-4 — Date: 2/15/2019

SAMPLE IMAGE FOR REFERENCE

ACCESSORIES:

- □ Joint Kit.....CMY-R160-J1
- □ Branch Joint (T-Branch).....CMY-Y102SS-G2
- □ Condensate Pump (BlueDiamond).....X87-721
- □ Condensate Pump (Sauermann).....SS100-230
- □ Ball Valve (3/8" SAE Brazed).....BV38BBSI
- □ Ball Valve (5/8" SAE Brazed).....BV58BBSI
- □ Sub BC Controller.....CMB-1016NU-HB1*
- □ Sub BC Controller.....CMB-104NU-GB1*
- □ Sub BC Controller.....CMB-108NU-GB1*

*See Submittal for information on each option.

SPECIFICATIONS:

Indoor Unit Capacity Connectable To 1 Branch	Btu/h	54,000
Number Of Branches	16	
Electrical Requirements		
Electrical Power Requirements	208 / 230V, 1 phase, 60Hz	
Minimum Circuit Ampacity (MCA)	A	1.65 / 1.93
Power Input (208 / 230V)		
Cooling	kW	0.274 / 0.353
Heating		0.137 / 0.177
Current Input (208 / 230V)		
Cooling	A	1.32 / 1.54
Heating		0.66 / 0.77
External Dimensions	In.(mm)	11-7/16 x 43-3/4 x 20-1/2 (289 x 1,110 x 520)
Net Weight	Lbs.(kg)	172 (78)
External Finish	Galvanized steel plate	

Refrigerant Piping Diameter to Indoor Unit (Brazed)

		Liquid	Gas
less than 18,000 Btu/h	In.(mm)	1/4 (6.35)	1/2 (12.7)
18,000 to 54,000 Btu/h	In.(mm)	3/8 (9.52)	5/8 (15.88)
54,000 to 72,000 Btu/h	In.(mm)	3/8 (9.52)	3/4 (19.05)
greater than 72,000 Btu/h	In.(mm)	3/8 (9.52)	7/8 (22.2)

Refrigerant Piping Diameter to Air-source Outdoor Units (Brazed)

		High Pressure	Low Pressure
to 72,000 Btu/h	In.(mm)	5/8 (15.88)	3/4 (19.05)
73,000 to 108,000 Btu/h	In.(mm)	3/4 (19.05)	7/8 (22.2)
109,000 to 126,000 Btu/h	In.(mm)	3/4 (19.05)	1-1/8 (28.58)
127,000 to 192,000 Btu/h	In.(mm)	7/8 (22.2)	1-1/8 (28.58)
193,000 to 216,000 Btu/h	In.(mm)	1-1/8 (28.58)	1-1/8 (28.58)
217,000 to 288,000 Btu/h	In.(mm)	1-1/8 (28.58)	1-3/8 (34.93)
289,000 to 336,000 Btu/h	In.(mm)	1-1/8 (28.58)	1-5/8 (41.28)

Refrigerant Piping Diameter to Water-source Units (Brazed)

		High Pressure	Low Pressure
to 72,000 Btu/h	In.(mm)	5/8 (15.88)	3/4 (19.05)
73,000 to 108,000 Btu/h	In.(mm)	3/4 (19.05)	7/8 (22.2)
109,000 to 126,000 Btu/h	In.(mm)	3/4 (19.05)	1-1/8 (28.58)
127,000 to 192,000 Btu/h	In.(mm)	7/8 (22.2)	1-1/8 (28.58)
193,000 to 240,000 Btu/h	In.(mm)	1-1/8 (28.58)	1-1/8 (28.58)
193,000 to 216,000 Btu/h	In.(mm)	7/8 (22.2) Brazed [1-1/8 (28.58) Brazed if distance between OU and BC exceeds 65 m]	
217,000 to 240,000 Btu/h	In.(mm)		
241,000 to 312,000 Btu/h	In.(mm)	1-1/8 (28.58)	1-3/8 (34.93)
313,000 to 336,000 Btu/h	In.(mm)	1-1/8 (28.58)	1-5/8 (41.28)

Refrigerant Piping Diameter to Sub BC Controller (Brazed)

		Liquid	High Pressure	Low Pressure
to 72,000 Btu/h	In.(mm)	3/8 (9.52)	5/8 (15.88)	3/4 (19.05)
73,000 to 108,000 Btu/h	In.(mm)	3/8 (9.52)	3/4 (19.05)	7/8 (22.2)
109,000 to 126,000 Btu/h	In.(mm)	1/2 (12.7)	3/4 (19.05)	1-1/8 (28.58)
127,000 to 144,000 Btu/h	In.(mm)	1/2 (12.7)	7/8 (22.2)	1-1/8 (28.58)
145,000 to 168,000 Btu/h	In.(mm)	5/8 (15.88)	7/8 (22.2)	1-1/8 (28.58)

Field Drain Pipe Size	In.(mm)	1-1/4 (32)
Refrigerant	R410A	
Connectable Outdoor Unit	PURY-P-T(S)K/LMU PURY-P-Y(S)K/LMU PURY-HP-T(S)KMU PURY-HP-Y(S)KMU PQRY-P-T(S)H/LMU PQRY-P-Y(S)H/LMU	

NOTES:
1. Use Single BC Controller when R2-Series unit capacity is 120,000 Btu/h or less.
2. Use the Reducer (standard accessory) when the indoor unit capacity is 18,000 Btu/h or less.
3. Use Ball Valves to isolate individual branches (recommended).
4. Use Joint Pipe to combine branches when connected indoor unit capacity on a single branch exceeds 54,000 Btu/h.

Specifications are subject to change without notice.
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FBM Series Filter Boxes

Designed for CITY MULTI® PEFY-P-NMAU-E Medium-Static Indoor Units

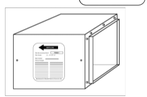
Job Name: City Yards Administration Building

Drawing Reference: All VRF AHU Units — Schedule No.

GENERAL FEATURES

Meets LEED requirement of MERV 13

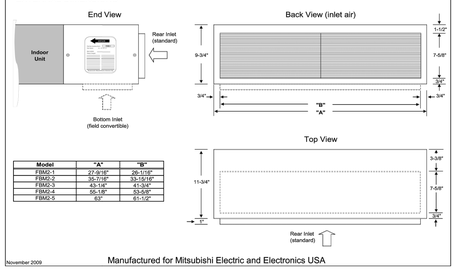
- All filter boxes include 2" thick pleated MERV 13 filter(s) installed
  Rated MERV 13 when tested in accordance with ANSI/ASHRAE 52.2 Standard
  Rated Class 2 under U.L. Standard 900
- Cabinet is constructed of 20 gauge G-60 galvanized steel
- Knurled thumb screws on access door allow easy filter replacement
- Foam gasket provides air-tight connection to indoor unit and access door
- Gasket material complies with UL 723 requirements
- Screw-through cabinet design for secure attachment to indoor unit
- Return connection in back easily field converted to bottom
- Filter access door includes area to record maintenance schedule



SPECIFICATIONS

Part Number	Used on CITY MULTI Models	Filters Included	Ship Weight lbs.	Net Weight lbs.
FBM2-1	PEFY-P06, P08, P12-NMAU-E	(1) - 14" x 25" x 2"	22	20
FBM2-2	PEFY-P15, P18-NMAU-E	(1) - 14" x 20" x 2", (1) - 14" x 14" x 2"	28	26
FBM2-3	PEFY-P24, P27, P30-NMAU-E	(2) - 14" x 20" x 2"	35	32
FBM2-4	PEFY-P36, P48-NMAU-E	(2) - 14" x 20" x 2", (1) - 14" x 14" x 2"	44	41
FBM2-5	PEFY-P54-NMAU-E	(3) - 14" x 20" x 2"	50	46

EXTERNAL DIMENSIONS



Model	"A"	"B"
FBM2-1	27-8/16"	26-11/16"
FBM2-2	35-7/16"	33-10/16"
FBM2-3	43-1/4"	41-3/4"
FBM2-4	55-1/8"	53-5/8"
FBM2-5	63"	61-1/2"

November 2009

Manufactured for Mitsubishi Electric and Electronics USA

NORTH (building)

CITY YARDS MAINTENANCE FACILITY:

RENOVATION AND ADDITIONS

301 EAST CORK ST.
WINCHESTER, VIRGINIA
22601

ARCHITECT:

Seal

CIVIL and STRUCTURAL ENGINEERS:

CONSULTING ENGINEERS
JASON S. MARSHALL
Lic. No. 047220
COMMONWEALTH OF VIRGINIA
PROFESSIONAL ENGINEER

PAINTER–LEWIS, P.L.C.
817 CEDAR CREEK GRADE, Suite 120
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(540) 662–5792

MECHANICAL, ELECTRICAL, and PLUMBING ENGINEERS:

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540 665–2846

Seal

COMMONWEALTH OF VIRGINIA
ROGER L. CALLETT
Lic. No. 010537
8/5/2019
PROFESSIONAL ENGINEER

ISSUE/REVISIONS:

DRAWING TITLE:

PHASE I BUILDING #1
PUBLIC SERVICES
BUILDING

SHEET TITLE:

MECHANICAL EQUIPMENT
& DETAILS

DATE: AUGUST 5, 2019

SCALE: AS NOTED — PROJECT NUMBER: 1801014

SHEET:

M2.5

Project Name: City Yards Admin. Bldg.	Unit Total Supply Air: 2935 CFM
Date: 2/14/2019 AHU-G01, G04, G05	Unit Total Outdoor Air: 600 CFM
Unit Designation: ERV-1A & ERV1-1B	

A Room Number	B Description	C Area (ft²) (Az)	D Area Outdoor Air Rate per VMC Table 403.3 (Ra)	E Area Outdoor Air (RaAz)	F Occupant Load Rate per VMC Table 403.3 (People/ 1000 ft2)	G Occupancy C x F1000 (Pz)	H Occupant Outdoor Air Rate per VMC Table 403.3 (Rp)	I Occupant Outdoor Air (RpPz)	J Breathing Zone Outdoor Air (Vbz = RpPz + RaAz)	K Zone Air Distribution Effectiveness (Ez)	L Zone Outdoor Air (Voz = Vbz / Ez)	M Supply Air Design (Vpz)	N Secondary Recirculated Air	O Outdoor Air Fraction (Zp = Voz / Vpz)
G05 REFUSE/REC	Breakout Room	450	0.06	27	30	14	7.5	105	132	0.8	165	1000	0	0.165
G05D OFFICE	Office	80	0.06	5	5	1	5	5	10	0.8	13	135		0.096
G00/G01 HALL	Corridor	950	0.06	57	0	0	0	0	57	0.8	72	400		0.180
G04A OFFICE	Office	110	0.06	7	5	1	5	5	12	0.8	15	200		0.075
G04 UTIL CREW	Breakout Room	270	0.06	16	30	9	7.5	67.5	83.5	0.8	105	700		0.150
G07 WOMEN RR	TRANSFER AIR	250	0	0	0	0	0	0	0	0.8	0	200		0.000
G06 MEN RR	TRANSFER AIR	420		0		0		0	0	0.8	0	200		0.000
			0	0			0	0	0	0.8	0	0	0	0.000
Totals		2530		112		25		182.5	294.5		370	2835	0	0.180

PER IMC 403.3.2.1 SINGLE ZONE UNIT = 370 CFM

Project Name: City Yards Admin. Bldg.	Unit Total Supply Air: 4250 CFM
Date: 2/14/2019 AHU-G02, G02A, G09	Unit Total Outdoor Air: 1200 CFM
Unit Designation: ERV-2 & ERV-5	

A Room Number	B Description	C Area (ft²) (Az)	D Area Outdoor Air Rate per VMC Table 403.3 (Ra)	E Area Outdoor Air (RaAz)	F Occupant Load Rate per VMC Table 403.3 (People/ 1000 ft2)	G Occupancy C x F1000 (Pz)	H Occupant Outdoor Air Rate per VMC Table 403.3 (Rp)	I Occupant Outdoor Air (RpPz)	J Breathing Zone Outdoor Air (Vbz = RpPz + RaAz)	K Zone Air Distribution Effectiveness (Ez)	L Zone Outdoor Air (Voz = Vbz / Ez)	M Supply Air Design (Vpz)	N Secondary Recirculated Air	O Outdoor Air Fraction (Zp = Voz / Vpz)
G03 UTIL CREW S	Breakout Room	610	0.06	37	30	19	7.5	142.5	179.5	0.8	225	700	0	0.321
G03D OFFICE	Office	160	0.06	10	5	1	5	5	15	0.8	19	450		0.042
G09A OFFICE	Office	75	0.06	5	5	1	5	5	10	0.8	13	125		0.104
G09 PUBLIC WKS	Breakout Room	380	0.06	23	30	12	7.5	90	113	0.8	142	600		0.237
G02 ST CREWS	Breakout Room	490	0.06	29	30	15	7.5	112.5	141.5	0.8	177	900		0.197
G02C OFFICE	Office	75	0.06	5	5	1	5	5	10	0.8	13	125		0.104
G01B JAN. CL.	Warehouse	55	0.06	3	0	0	0	0	3	0.8	4		20	0.200
G09 STORAGE	Warehouse	70	0.06	4	0	0	0	0	4	0.8	5		20	0.250
G07 WOMEN RR	TRANSFER AIR	250	0	0	0	0	0	0	0	0.8	0	200		0.000
G06 MEN RR	TRANSFER AIR	420		0		0		0	0	0.8	0	200		0.000
G03C MEN LOCK	LOCKER ROOM	235	0.48	113		0		0	113	0.8	142	250		0.568
G02B/G03A W LK	LOCKER ROOM	190	0.48	91		0		0	91	0.8	114	150		0.760
G03A MEN LCKRS	LOCKER ROOM	255	0.48	122		0		0	122	0.8	153	250		0.612
G09B MEN LCKRS	LOCKER ROOM	195	0.48	94		0		0	94	0.8	118	175		0.674
G09C W LCKRS	LOCKER ROOM	70	0.48	34		0		0	34	0.8	43		100	0.430
G01A LAUNDRY	LAUNDRY	65	0.06	4	8	1	20	20	24	0.8	30	125		0.240
			0	0		0	0	0	0	0.8	0	0	0	0.000
Totals		3595		574		50		390	954		1198	4250	140	0.760

PER IMC 403.3.2.1 SINGLE ZONE UNIT = 1200 CFM

Project Name: City Yards Admin. Bldg.	Unit Total Supply Air: 900 CFM
Date: 2/14/2019 AHU-G08 & LOCKERS	Unit Total Outdoor Air: 900 CFM
Unit Designation: ERV-3 & ERV-4	

A Room Number	B Description	C Area (ft²) (Az)	D Area Outdoor Air Rate per VMC Table 403.3 (Ra)	E Area Outdoor Air (RaAz)	F Occupant Load Rate per VMC Table 403.3 (People/ 1000 ft2)	G Occupancy C x F1000 (Pz)	H Occupant Outdoor Air Rate per VMC Table 403.3 (Rp)	I Occupant Outdoor Air (RpPz)	J Breathing Zone Outdoor Air (Vbz = RpPz + RaAz)	K Zone Air Distribution Effectiveness (Ez)	L Zone Outdoor Air (Voz = Vbz / Ez)	M Supply Air Design (Vpz)	N Secondary Recirculated Air	O Outdoor Air Fraction (Zp = Voz / Vpz)
G10 ELEC. RM	Warehouse	70	0.06	4	0	0	0	0	4	0.8	5	125	0	0.040
G04B MEN LCKR	LOCKER ROOM	165	0.48	79		0		0	79	0.8	99	180		0.550
G04C W LKRS	LOCKER ROOM	40	0.48	19		0		0	19	0.8	24	0	40	0.600
G05B W. LKRS	LOCKER ROOM	75	0.48	36		0		0	36	0.8	45	50		0.900
G05C MEN LOCK	LOCKER ROOM	265	0.48	127		0		0	127	0.8	159	270		0.589
G08A MEN LOCK	LOCKER ROOM	170	0.06	10	8	2	20	40	50	0.8	63	275		0.229
			0	0			0	0	0	0.8	0	0	0	0.000
Totals		785		275		2		40	315		395	900	40	0.900

PER IMC 403.3.2.1 SINGLE ZONE UNIT = 395 CFM

Project Name: City Yards Admin Bldg.	Unit Total Supply Air: 4200 CFM
Date: 2/13/2019, AHU-103, 104 & 105	Unit Total Outdoor Air: 600 CFM
Unit Designation: ERV-11	

A Room Number	B Description	C Area (ft²) (Az)	D Area Outdoor Air Rate per VMC Table 403.3 (Ra)	E Area Outdoor Air (RaAz)	F Occupant Load Rate per VMC Table 403.3 (People/ 1000 ft2)	G Occupancy C x F1000 (Pz)	H Occupant Outdoor Air Rate per VMC Table 403.3 (Rp)	I Occupant Outdoor Air (RpPz)	J Breathing Zone Outdoor Air (Vbz = RpPz + RaAz)	K Zone Air Distribution Effectiveness (Ez)	L Zone Outdoor Air (Voz = Vbz / Ez)	M Supply Air Design (Vpz)	N Secondary Recirculated Air	O Outdoor Air Fraction (Zp = Voz / Vpz)
Training A	Breakout Room	500	0.06	30	30	15	7.5	112.5	142.5	0.8	179	1350	0	0.133
Training B	Breakout Room	500	0.06	30	30	15	7.5	112.5	142.5	0.8	179	1350		0.133
Training C	Breakout Room	500	0.06	30	30	15	7.5	112.5	142.5	0.8	179	1350		0.133
Training A Aisle	Corridor	210	0.06	13	0	0	0	0	13	0.8	17	50		0.340
Training B Aisle	Corridor	210	0.06	13	0	0	0	0	13	0.8	17	50		0.340
Training C Aisle	Corridor	210	0.06	13	0	0	0	0	13	0.8	17	50	50	0.170
			0	0			0	0	0	0.8	0	0	0	0.000
Totals		2130		129		45		337.5	466.5		588	4150	50	0.340

PER IMC 403.3.2.1 SINGLE ZONE UNIT = 588 CFM

Project Name: City Yards Admin. Bldg.	Unit Total Supply Air: 6985 CFM
Date: 2/13/2019, AHU-C-102F THRU C-118	Unit Total Outdoor Air: 600 CFM
Unit Designation: ERV-12	

A Room Number	B Description	C Area (ft²) (Az)	D Area Outdoor Air Rate per VMC Table 403.3 (Ra)	E Area Outdoor Air (RaAz)	F Occupant Load Rate per VMC Table 403.3 (People/ 1000 ft2)	G Occupancy C x F1000 (Pz)	H Occupant Outdoor Air Rate per VMC Table 403.3 (Rp)	I Occupant Outdoor Air (RpPz)	J Breathing Zone Outdoor Air (Vbz = RpPz + RaAz)	K Zone Air Distribution Effectiveness (Ez)	L Zone Outdoor Air (Voz = Vbz / Ez)	M Supply Air Design (Vpz)	N Secondary Recirculated Air	O Outdoor Air Fraction (Zp = Voz / Vpz)
109 Inspector Ofc.	Office	325	0.06	20	5	2	5	10	30	0.8	38	390	0	0.097
110 Infrastruc/Cap.	Office	153	0.06	9	5	1	5	5	14	0.8	18	350		0.051
111 Util. Maint.Sup	Office	153	0.06	9	5	1	5	5	14	0.8	18	350		0.051
113 Extra Ofc/C.R.	Office	153	0.06	9	5	1	5	5	14	0.8	18	350		0.051
114 Refuse/Recyc.	Office	156	0.06	9	5	1	5	5	14	0.8	18	350		0.051
115 Arborist	Office	204	0.06	12	5	2	5	10	22	0.8	28	390		0.072
116 Extra Office	Office	156	0.06	9	5	1	5	5	14	0.8	18	350	0	0.051
117 P.W. Div. Mgr	Office	156	0.06	9	5	1	5	5	14	0.8	18	350		0.051
118 Exec. Admin	Office	156	0.06	9	5	1	5	5	14	0.8	18	350		0.051
119 Mail Rm	Office	115	0.06	7	5	1	5	5	12	0.8	15	250		0.060
120 Ofc.Asst.	Office	144	0.06	9	5	1	5	5	14	0.8	18	390		0.046
120A Storage	Warehouse	75	0.06	5	0	0	0	0	5	0.8	7	50		0.140
101 Lobby Stairs	Corridor	340	0.06	20	0	0	0	0	20	0.8	25	370		0.068
102 Main Hall	Corridor	1000	0.06	60	0	0	0	0	60	0.8	75	800		0.094
108 Kitchen Pantry	Galley	340	0.06	20	5	2	5	10	30	0.8	38	370		0.103
108 IT	Computer	110	0.06	7	4	1	5	5	12	0.8	15	400		0.038
107 Back Hall	Corridor	480	0.06	29	0	0	0	0	29	0.8	37	150		0.247
112 Conf Rm	Team Room	140	0.06	8	50	7	5	35	43	0.8	54	350		0.154
112 Conf Aisle	Corridor	60	0.06	4	0	0	0	0	4	0.8	5	50		0.100
102F Computer	Office	140	0.06	8	5	1	5	5	13	0.8	17	350		0.049
102B/C/DE T./J.C.	TRANSFER AIR	250	0	0	0	0	0	0	0	0.8	0	225		0.000
			0	0			0	0	0	0.8	0	0	0	0.000
Totals		4806		272		24		120	392		498	6985	0	0.247

PER IMC 403.3.2.1 SINGLE ZONE UNIT = 498 CFM

Project Name: City Yards Admin. Bldg.	Unit Total Supply Air: 600 CFM
Date: 2/13/2019	Unit Total Outdoor Air: 40 CFM
Unit Designation: AHU-200	

A Room Number	B Description	C Area (ft²) (Az)	D Area Outdoor Air Rate per VMC Table 403.3 (Ra)	E Area Outdoor Air (RaAz)	F Occupant Load Rate per VMC Table 403.3 (People/ 1000 ft2)	G Occupancy C x F1000 (Pz)	H Occupant Outdoor Air Rate per VMC Table 403.3 (Rp)	I Occupant Outdoor Air (RpPz)	J Breathing Zone Outdoor Air (Vbz = RpPz + RaAz)	K Zone Air Distribution Effectiveness (Ez)	L Zone Outdoor Air (Voz = Vbz / Ez)	M Supply Air Design (Vpz)	N Secondary Recirculated Air	O Outdoor Air Fraction (Zp = Voz / Vpz)
200 Corridor	Corridor	375	0.06	23	0	0	0	0	23	0.8	29	550	0	0.053
201 Corridor	Corridor	110	0.06	7	0	0	0	0	7	0.8	9	50	0	0.180
Totals		485		30		0		0	30		38	600	0	0.180

PER IMC 403.3.2.1 SINGLE ZONE UNIT = 40 CFM

Project Name: City Yards Admin. Bldg.	Unit Total Supply Air: 2565 CFM
Date: 2/13/2019	Unit Total Outdoor Air: 200 CFM
Unit Designation: AHU-201A & 201B	

A Room Number	B Description	C Area (ft²) (Az)	D Area Outdoor Air Rate per VMC Table 403.3 (Ra)	E Area Outdoor Air (RaAz)	F Occupant Load Rate per VMC Table 403.3 (People/ 1000 ft2)	G Occupancy C x F1000 (Pz)	H Occupant Outdoor Air Rate per VMC Table 403.3 (Rp)	I Occupant Outdoor Air (RpPz)	J Breathing Zone Outdoor Air (Vbz = RpPz + RaAz)	K Zone Air Distribution Effectiveness (Ez)	L Zone Outdoor Air (Voz = Vbz / Ez)	M Supply Air Design (Vpz)	N Secondary Recirculated Air	O Outdoor Air Fraction (Zp = Voz / Vpz)
201 STORAGE	Warehouse	2250	0.06	135	0	0	0	0	135	0.8	169	2565	0	0.066
Totals		2250		135		0		0	135		169	2565	0	0.066

PER IMC 403.3.2.1 SINGLE ZONE UNIT = 200 CFM

Project Name: City Yards Admin. Bldg.	Unit Total Supply Air: 1165 CFM
Date: 2/13/2019	Unit Total Outdoor Air: 140 CFM
Unit Designation: AHU-203	

A Room Number	B Description	C Area (ft²) (Az)	D Area Outdoor Air Rate per VMC Table 403.3 (Ra)	E Area Outdoor Air (RaAz)	F Occupant Load Rate per VMC Table 403.3 (People/ 1000 ft2)	G Occupancy C x F1000 (Pz)	H Occupant Outdoor Air Rate per VMC Table 403.3 (Rp)	I Occupant Outdoor Air (RpPz)	J Breathing Zone Outdoor Air (Vbz = RpPz + RaAz)	K Zone Air Distribution Effectiveness (Ez)	L Zone Outdoor Air (Voz = Vbz / Ez)	M Supply Air Design (Vpz)	N Secondary Recirculated Air	O Outdoor Air Fraction (Zp = Voz / Vpz)
203 EOC	Office	825	0.06	50	5	5	5	25	75	0.8	94	665	0	0.141
204 IC PLANNING	Office	240	0.06	14	5	2	5	10	24	0.8	30	400		0.075
200 REAR CORR.	Corridor	110	0.06	7	0	0	0	0	7	0.8	9	100		0.090
Totals		1175		71		7		35	106		133	1165	0	0.141

PER IMC 403.3.2.1 SINGLE ZONE UNIT = 140 CFM

NORTH (building)

CITY YARDS MAINTENANCE FACILITY:
RENOVATION AND ADDITIONS
301 EAST CORK ST.
WINCHESTER, VIRGINIA
22601

ARCHITECT:

Seal

CIVIL and STRUCTURAL ENGINEERS:

CONSULTING ENGINEERS

JASON S. MARSHALL
Lic. No. 047220
COMMONWEALTH OF VIRGINIA
PROFESSIONAL ENGINEER

PAINTER–LEWIS, P.L.C.
817 CEDAR CREEK GRADE, Suite 120
WINCHESTER, VIRGINIA 22601
(540) 662–5792

MECHANICAL, ELECTRICAL, and PLUMBING ENGINEERS:

Comfort Designs Inc.
620 Pennsylvania Avenue
Winchester, VA 22604
540 665–2846

Seal

ROGER L CATLETT
Lic. No. 010537
8/5/2019
COMMONWEALTH OF VIRGINIA
PROFESSIONAL ENGINEER

ISSUE/REVISIONS:

DRAWING TITLE:
PHASE I BUILDING #1
PUBLIC SERVICES
BUILDING

SHEET TITLE:
MECHANICAL VENTILATION
OUTSIDE AIR
CODE TABLES

DATE: AUGUST 5, 2019
SCALE: AS NOTED
PROJECT NUMBER: 1801014
SHEET:
M3.1

PLUMBING FIXTURE SCHEDULE

MARK	DESCRIPTION	MINIMUM CONNECTIONS INCHES COLD	HOT	WASTE	VENT	REMARKS	MANUFACTURER OR EQUAL
P-1	WATER CLOSET – HANDICAP	1	--	3	1 1/2	ELONGATED BOWL A.D.A. COMPLIANT	AMERICAN STANDARD 2856.016 WALL HUNG W/ SLOAN 111-ESS CHROME PLATED, AC POWERED FLUSH VALVE (1.6 GPF), 5905.110 SEAT, AND ZURN WALL CARRIER 1202-A4 OR EQUAL. A.D.A. COMPLIANT
P-2	WALL HUNG LAVATORY – H.C.	1/2	1/2	2	1 1/2	A.D.A. COMPLIANT W/ TEMPERING VALVE	AMERICAN STANDARD 9024.001(.8) W/ WALL CARRIER, SLOAN ETF-80 AC POWERED FAUCET W/ INFRARED SENSOR, MOQUIME 1554 GRID STRAINER, 8902 P-TRAP, TEMPERING VALVE, & 2165 LOOSE KEY SUPPLIES. A.D.A. COMPLIANT W/ TRUEBRO LAVGUARD INSULATION
P-3	UNDERMOUNT LAVATORY – H.C.	1/2	1/2	2	1 1/2	A.D.A. COMPLIANT W/ TEMPERING VALVE	KOHLER K-2210 UNDER-MOUNT SINK W/ SLOAN ETF-80 AC POWERED FAUCET W/ INFRARED SENSOR, MOQUIME 1554 GRID STRAINER, P-TRAP, TEMPERING VALVE, & 2165 LOOSE KEY SUPPLIES. A.D.A. COMPLIANT W/ TRUEBRO LAVGUARD INSULATION
P-4	WATER CLOSET – STANDARD	1	--	3	1 1/2		AMERICAN STANDARD 2959.016 WALL HUNG W/ SLOAN 111-ESS CHROME PLATED, AC POWERED FLUSH VALVE (1.6 GPF), 5905.110 SEAT, AND ZURN WALL CARRIER 21202-A4 OR EQUAL. MOUNT AT STANDARD HEIGHT.
P-5	S.S. SINGLE BOWL SINK	1/2	1/2	1 1/2	1 1/4		ELKAY LRAD2319-65-3 6 1/2" DEEP SINK, T&S BRASS B-2867-04FC FAUCET (1.4 GPM), CP 12335 2 PIECE BASKET STRAINER, P-TRAP, & CHROME KEY SUPPLIES.
P-6	60 GALLON GAS WATER HEATER	1 1/2	1 1/2	--	--	W/ POWER VENT AND P-7 EXPANSION TANK	A.O. SMITH BTH-100 GAS WATER HEATER W/ COMBUSTION AIR/EXHAUST VENTING PER MANUFACTURER, T&P RELIEF, POWER BURNER, 138 GPH @ 100 F RISE, 120,000 BTUH INPUT, & ELECTRIC IGNITION. SET WATER TEMPERATURE AT 120 F.
P-7	HOT WATER EXPANSION TANK	3/4	--	--	--	INSTALL ON CW LINE	AMTROL ST-12 EXPANSION TANK, 6.4 GALLON, W/ DRAIN COCK, SHUTOFF VALVES, AND ALL PIPING AND FITTINGS.
P-8	HOT WATER CIRCULATOR PUMP	--	3/4	--	--		B&G MODEL PL-20B, 2 GPM @ 23 FT HEAD, BRONZE BODY, 1/12 HP, 115/1/60, 175 PSI MAXIMUM WORKING PRESSURE AND 225 F MAX. OPERATING TEMPERATURE.
P-9	REFRIGERATOR ICE BOX/VALVE	1/2	--	--	--	A.D.A. COMPLIANT	OATEY ICE MAKER RECESSED WALL BOX 38952 W/ VALVE AND COLD WATER PIPING AND FITTINGS.
P-10	BI-LEVEL DRINKING FOUNTAIN	1/2	--	2	1 1/2		ELKAY LZWS-LRPM8JBK W/ STAINLESS STEEL FINISH, BOTTLE FILLING STATION, 120V, 5.0 FLA, 8.0 GPH, MOUNTING HARDWARE, MOQUIME 8902 P-TRAP, 2165-LK LOOSE KEY SUPPLY. MOUNT PER A.D.A.
P-11A	SHOWER – HANDICAP	1/2	1/2	--	--	A.D.A. COMPLIANT W/ PRESSURE BALANCING THERMOSTATIC MIXING VALVE	G.C. FURNISHED TILE SURROUND W/ DELTA 142793-I MIXING VALVE, TRIM, AND HANDSHOWER, GRAB BARS, CURTAIN, AND SEAT. A.D.A. COMPLIANT. P-119 SHOWER TRENCH DRAIN TO PROVIDE DRAINAGE.
P-11B	SHOWER TRENCH DRAIN	--	--	3	1 1/2		ZURN MODEL Z-886 PRE-SLOPED TRENCH DRAIN W/ END OUTLET.
P-12	HI/LO THERMOSTATIC MIXING VALVE	1 1/4	1 1/2	--	--		SYMMONS MODEL 7-900-102-PRV W/ SURFACE MOUNTED CABINET, DESIGN FLOW RATE = 52 GPM AT 8 PSI ACTUAL PRESSURE DROP, WALL MOUNTING BRACKETS, AND ALL ACCESSORIES.
P-13	URINAL – HANDICAP	3/4	--	2	1 1/2	A.D.A. COMPLIANT	AMERICAN STANDARD 6501.511 W/ WALL CARRIER SLOAN 190-1 ESS CHROME PLATED, AC POWERED FLUSH VALVE (1.0 GPF). MOUNT AT A.D.A. HEIGHT.
P-14	URINAL – STANDARD	3/4	--	2	1 1/2		AMERICAN STANDARD 6501.511 W/ WALL CARRIER SLOAN 190-1 ESS CHROME PLATED, AC POWERED FLUSH VALVE (1.0 GPF). MOUNT AT STANDARD HEIGHT.
P-15	WALL MOUNT INTERIOR HOSE BIBB	3/4	--	--	--	W/ VACUUM BREAKER	WOODFORD OR EQUAL HOSE BIBB WITH VACUUM BREAKER. COORDINATE EXACT LOCATIONS W/ OWNER AND ARCHITECT.
P-16	FROST-PROOF ROOF HYDRANT	1	--	--	--	W/ VACUUM BREAKER	WOODFORD MODEL RHY2 FROST-PROOF ROOF HYDRANT W/ CUSTOM LENGTH FROM MFR TO PROVIDE 30"HT ABOVE ROOF, TEE FITTING W/ VACUUM BREAKER FITTING, & DRAIN. *SEE DETAIL ON THIS DRAWING.
P-17	WASHER CONNECTIONS	3/4	3/4	3	1 1/2	W/ INTERNAL W.H.A.S. & LINT INTERCEPTOR	NIBCO FAUCET VALVES & CUT GRAY FR-13 WAGO WASHER BOX W/ DRAIN/VENT, DRAIN THRU FITTING, 160 WASHING MACHINE FILTER, HOT & COLD WATER PIPING, BOXT-COLL, & INTERNAL WATER HAMMER ARRESTORS ON HOT & COLD LINES.
P-18	MOP SERVICE SINK	3/4	3/4	3	1 1/2	W/ VACUUM BREAKER	FIAT/IRONE 24 X 24 BASIN NO. MSB 2424, BASIN STRAINER 1453-BR, 3" DIA. P-TRAP, & WALL BRACE. MOUNT 10" A.F.F. WITH WALL BRACE.
P-19	FLOOR DRAIN W/ INLINE TRAP SEALER	--	--	3	1 1/2		JOSAM 30603-A-50-FLOOR DRAIN W/ ADJUSTABLE STRAINER AND TRAP AND SURE SEAL MODEL 53200W INLINE FLOOR DRAIN TRAP SEALER.
P-20	ICE MAKER WATER & FLOOR SINK	1/2	--	3	1 1/2		PROBIE COLD WATER W/ WATER FILTER, BACKFLOW PREVENTER, VALVES, AND INDIRECT DRAIN TO JONESPEC FD-2378-WAL 8" X 8" A.R.C. FLOOR SINK (8"DIAM DEPTH WITH STRAINER).
P-21	WATER FILLING FIXTURE	1/2		2	1 1/2		KOHLER K-7309-5A SERVICE SINK FAUCET, MOUNT 30" A.F.F. WITH WALL BRACE, KOHLER SHOWER BASE K-8644, WITH GRID DRAIN. COORDINATE WITH G.C. ON INSTALLING WALL BLOCKING/BRACE FOR FAUCET.
P-22	FROST-PROOF HOSE BIB	3/4	--	--	--	W/ VACUUM BREAKER	WOODFORD MODEL B-65-R BOX HYDRANT OR APPROVED EQUAL, LOSE KEY STOP, W/ INTEGRAL VACUUM BREAKER.
P-23	ELEVATOR SUMP PUMP	--	--	2	--		ZOELLER 940-0017 PACKAGED SUMP PUMP SYSTEM W/ OIL GUARD SYSTEM, 2"DISCHARGE, 50 GPM AT 22 FT HEAD PRESSURE, 115/1/60, AND 0.5 HP PUMP MOTOR. PROVIDE OIL SMART ALARM SYSTEM W/LIGHTS, AUDIBLE ALARM, AND DRY CONTACTS.
P-24	DISHWASHER AND DISPOSAL CONNECTIONS	--	1/2	1 1/2	--		PROVIDE DISHWASHER HW CONNECTION W/ SHUT-OFF VALVE AND DISPOSAL ON SINK W/ WASTE CONNECTION FROM DISHWASHER.
P-25	COMBINATION ROOF/OVERFLOW DRAIN	--	--	3	--		JOSAM SERIES 22032-28 W/ CLAMPS, COLLARS, FITTINGS, PERFORATED S.S. GRAVEL GUARD AND ASSEMBLY PER MANUFACTURER AND CODE.
P-26	DOWNSPOUT NOZZLE	--	--	3	--		JOSAM MODEL 25013-51-85 BRONZE SECONDARY ROOF DRAIN DOWNSPOUT NOZZLE W/ BIRDSCREEN.
P-27	DOWNSPOUT NOZZLE	--	--	4	--		JOSAM MODEL 25014-51-85 BRONZE SECONDARY ROOF DRAIN DOWNSPOUT NOZZLE W/ BIRDSCREEN.
P-28	PRIMARY ROOF DRAIN	--	--	4	--		JOSAM SERIES 21004-19 W/ CLAMPS, COLLARS, FITTINGS, PERFORATED S.S. GRAVEL GUARD AND ASSEMBLY PER MANUFACTURER AND CODE.
P-29	OVERFLOW ROOF DRAIN	--	--	4	--		JOSAM SERIES 21004-19 W/ CLAMPS, COLLARS, FITTINGS, PERFORATED GRAVEL GUARD AND ASSEMBLY PER MFR AND CODE. MOUNT W/ INLET 2"ABOVE PRIMARY DRAIN INLET.

PLUMBING NOTES:

1. ALL FIXTURES SHALL BE WHITE UNLESS NOTED OTHERWISE.
2. ALL WORK SHALL COMPLY W/ THE 2015 INTERNATIONAL MECHANICAL AND PLUMBING CODES, NATIONAL ELECTRICAL CODE, AND LOCAL GOVERNING CODES AND PERMITS. CONTRACTOR SHALL OBTAIN AND PAY FOR ALL PERMITS.
3. ALL INTERIOR HOT & COLD WATER LINES SHALL BE INSULATED. HOT WATER LINES & EXPOSED DRAINS SHALL BE INSULATED W/ WHITE PLASTIC JACKET INSULATION TO PREVENT TOUCH BY HANDICAP (TRUEBRO LAV GUARD OR EQUAL). PIPE INSULATION SHALL BE 1"THICK (1/2" FOR COLD WATER) IN WALLS AND CEILINGS.
4. CONTRACTOR SHALL PROVIDE ALL NECESSARY FITTINGS, FIXTURES, & VALVES TO MAKE A COMPLETE AND OPERATING SYSTEM. ALL PIPING SHALL BE RUN INSIDE WALLS ABOVE CEILING, OR EXPOSED AT MAXIMUM HEIGHT UNLESS SHOWN OTHERWISE. ALL PIPE PENETRATIONS OF FIRE-RATED CEILINGS AND WALLS SHALL HAVE FIRE SEALANT/CAULKING PER MANUFACTURER AND CODE.
5. CONTRACTOR SHALL COORDINATE CONNECTION OF WATER, GAS, STORM, & SEWER SYSTEMS W/ SITE CONTRACTOR, OWNER, & G.C. CONTRACTOR SHALL COORDINATE SHUTDOWN OF UTILITY SYSTEMS W/ LOCAL UTILITY CO. & OWNER PRIOR TO MAKING FINAL CONNECTIONS TO WATER, GAS, STORM, & SEWER MAINS.
6. CONTRACTOR SHALL PROVIDE ALL MOUNTING HARDWARE AND ACCESSORIES TO INSTALL ALL FIXTURES. INSTALL HANDICAP FIXTURES IN COMPLIANCE W/ ADA.
7. PLUMBER/INSTALLER SHALL ENSURE THAT PIPES ARE ADEQUATELY INSULATED TO PREVENT FREEZING. PLUMBER SHALL USE FIBERGLASS INSULATION W/ VAPOR BARRIER (OWENS CORNING OR EQUAL).
8. PLUMBING CONTRACTOR SHALL PROVIDE AND INSTALL NEW NATURAL GAS PIPING TO ALL APPLIANCES AS SHOWN. PROVIDE DIRT LEGS, MEDIUM PRESSURE REGULATORS, AND DIRT LEGS AS REQUIRED AND LABEL ALL GAS PIPING PER CODE.
9. PLUMBING CONTRACTOR SHALL FIELD COORDINATE FINAL LOCATION OF WATER, NATURAL GAS, STORM, SANITARY SEWER, AND VENT PIPING W/ G.C., STRUCTURAL, MECHANICAL, SPRINKLER, AND ELECTRICAL CONTRACTORS AND ADJUST FINAL LOCATIONS BASED ON FINAL FIELD CONDITIONS TO AVOID INTERFERENCES.
10. PERFORM A WATER ANALYSIS. IF HARDNESS EXCEEDS 7 GRAINS PER GALLON, PROPOSE A WATER SOFTENING SYSTEM TO PROVIDE WATER W/ HARDNESS NO MORE THAN 7 GRAINS PER GALLON BASED ON THE WATER ANALYSIS RESULTS AND 90 GPM PEAK FLOW.

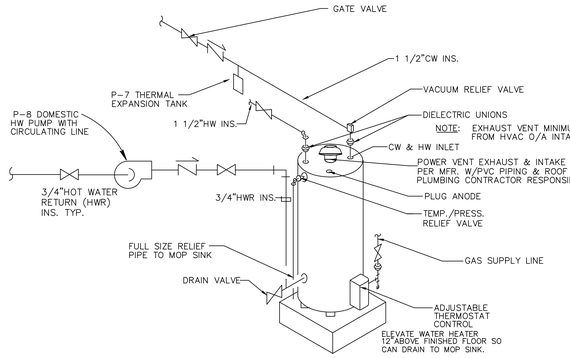
FIRE PROTECTON SCOPE OF WORK TO DESIGN AND INSTALL SPRINKLER SYSTEM:
OBTAIN THE SERVICES OF A STATE QUALIFIED AND LICENSED SPRINKLER CONTRACTOR TO DESIGN, OBTAIN NECESSARY STATE AND LOCAL APPROVALS OF DESIGN AND PROVIDE A COMPLETE FIRE PROTECTION SPRINKLER SYSTEM PER CODE AND NFPA 13 CODE. FIRE PROTECTION CONTRACTOR SHALL SUBMIT 3 COPIES OF THE DESIGN CALCULATIONS, FLOW TESTS, ETC. FOR ARCHITECT/ENGINEER APPROVAL AND SUBMIT REQUIRED COPIES TO LOCAL FIRE AUTHORITIES FOR APPROVAL PRIOR TO INSTALLATION OF SYSTEM. FIRE PROTECTION CONTRACTOR SHALL COORDINATE WITH GENERAL CONTRACTOR, MECHANICAL, PLUMBING AND ELECTRICAL CONTRACTOR TO ADJUST FOR INTERFERENCES AND ADJUST SPRINKLER DESIGN AND LAYOUT ACCORDINGLY. FIRE PROTECTION CONTRACTOR SHALL FIELD TEST THE SPRINKLER SYSTEM PER STATE AND LOCAL CODE AND NFPA 13 STANDARDS. SPRINKLER SYSTEM SHALL BE DRY-PIPE TYPE IN ANY FREEZING CONDITIONS. SPRINKLERS SHALL BE CONCEALED TYPE – IF INSTALLED IN SUSPENDED CEILING, & CENTER IN CEILING GRID. PROVIDE AND INSTALL ON INCOMING SPRINKLER LINE HAS AN ASSE 1048 DOUBLE CHECK VALVE BACKFLOR PREVENTER OR AS REQUIRED BY WATER DEPARTMENT & FIRE MARSHALL.

HANDICAP ACCESSIBILITY NOTES:

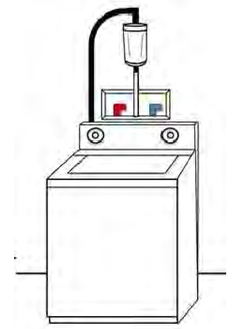
WATER CLOSETS: 17"–19" A.F.F. TO RIM
18" FROM SIDEWALL TO CENTER (IN PLAN)
42" FROM LAVATORY EDGE TO CENTER (IN PLAN)

LAVATORIES 34" MAX. AF.F. TO TOP OF RIM
29" MIN. CLEAR A.F.F. @ APRON
17" MIN. PROJECTION
30" CLEAR CENTERED (IN PLAN)

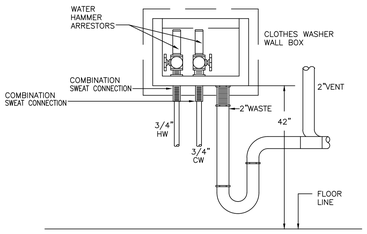
WATER COOLERS: 36" MAX. A.F.F.
27" MIN. CLEAR A.F.F. @ APRON
17"–19" PROJECTION



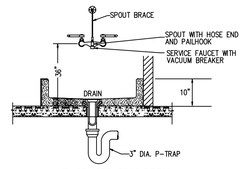
P-6 GAS WATER HEATER PIPING DETAIL
NOT TO SCALE



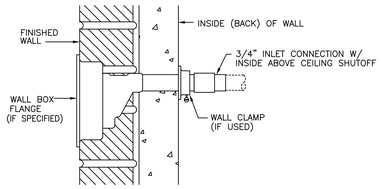
P-17 WASHER LINT FILTER
NOT-TO-SCALE



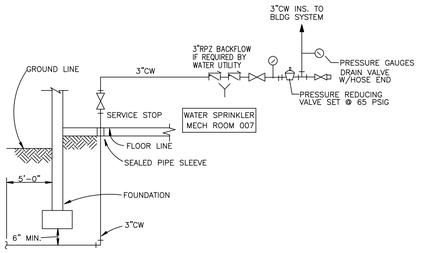
P-17 UTILITY WALL BOX FOR CLOTHES WASHER
NOT TO SCALE



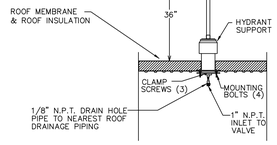
P-18 MOP SINK DETAIL
NOT TO SCALE



P-22 FREEZEPROOF WALL HYDRANT DETAIL
NOT TO SCALE



WATER SERVICE ENTRANCE DETAIL
NOT TO SCALE



P-16 FREEZEPROOF ROOF HYDRANT DETAIL
NOT TO SCALE

P-16 FREEZEPROOF ROOF HYDRANT DETAIL

The patented Woodford RHY2-MS is intended for irrigation purposes and to provide water availability on commercial building roofs. Applications include window washing, cleaning of condenser coils, cooling towers and other types of roof equipment. The RHY2 is backflow protected with an ASSE 1052 double check backflow preventer that is field testable. The backflow device does not require removal for drain down. The RHY2 has a built in vent that allows drainage. Valve body of hydrant is drilled and tapped with ¼" drain hole which must be piped to a drain location.

The RHY2-MS allows for installation flexibility since it is not necessary to install hydrant when the patented Mounting System is bolted to the roof. The Mounting System utilizes a 3"opening that allows the hydrant to be installed later if desired. All necessary mounting hardware for proper installation on a commercial roof is supplied, including a 2 degree shim for pitch adjustment.

Hydrant Features:

- Rod guide eliminates side pull on rod, reduces wear on packing, packing nut & stem.
- Adjustable link for easy adjustment and positive lever lock tension.
- One piece variable flow plunger with large cushion type seal for longer life is not easily damaged and assures shut-off even when foreign particles are present.
- Hydrant automatically drains when shut off even with hose attached.
- All hydrant repairs can be made from top of unit without removing hydrant. Parts are readily available.

Specifications:

- Hose Connection Backflow Preventer:
  - Model 50HF with ¾" hose connection
  - ASSE 1052 Listed
  - Field Testable Dual Check holds against 125 psi backflow pressure
- 1" NPT female inlet connection
- 1 ¼" U.S. made galvanized pipe casing
- **Maximum Working Pressure:** 100 p.s.i.
- **Maximum Temperature:** 120° F
- ¼" NPT Drain hole *(Must be piped to a drain location)*

Mounting System: *(Can be ordered Separately)*

- Cast iron Hydrant Support
- Cast iron Under Deck Flange
  - 4 bolts draw tight against the roof decking and the hydrant support.
  - 3 clamp screws tighten against the hydrant pipe to secure the hydrant's vertical position through the roof.
- Well Seal seals tight between the hydrant support and hydrant pipe.
- EPDM Boot covers well seal and top of hydrant support.
- 2" Shim is supplied, if needed, for installation on pitched roofs.

Manufactured under U.S. patent 7,472,718; 7,730,901 and patents pending.

For Installation / Troubleshooting Instructions go to www.woodfordmfg.com or call 1-800-621-6032

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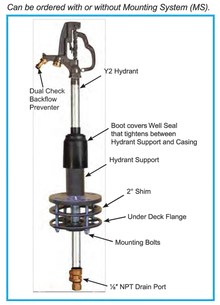
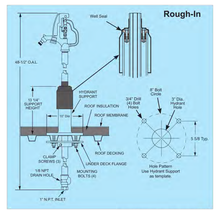
WOODFORD

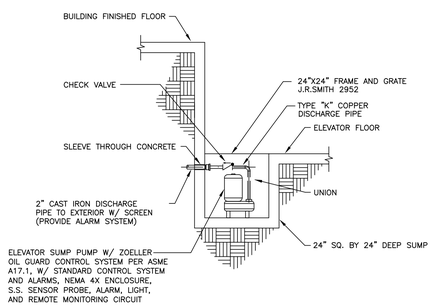
Freezeless
Roof Hydrant
Model RHY2-MS

Can be ordered with or without Mounting System (MS).

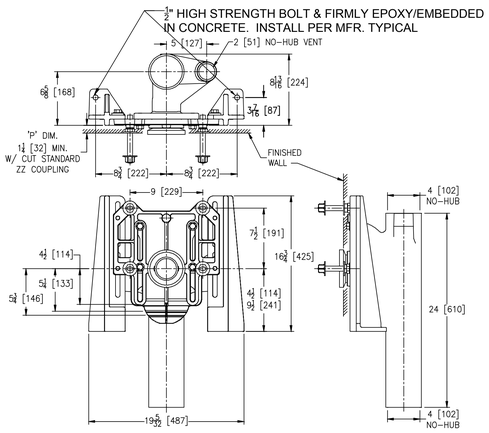




Rev. 02/12 Form No. RHY2.105



P-23 ELEVATOR SUMP PUMP DETAIL
NOT TO SCALE



ZURN ZN1202-N4 TOILET CARRIER OR EQUAL
NOT TO SCALE

ENGINEERING SPECIFICATION: ZURN ZN1202-N4

NORTH (building)

City of Winchester Public Services Building

Winchester, VA 22601

Structural and Civil Engineer
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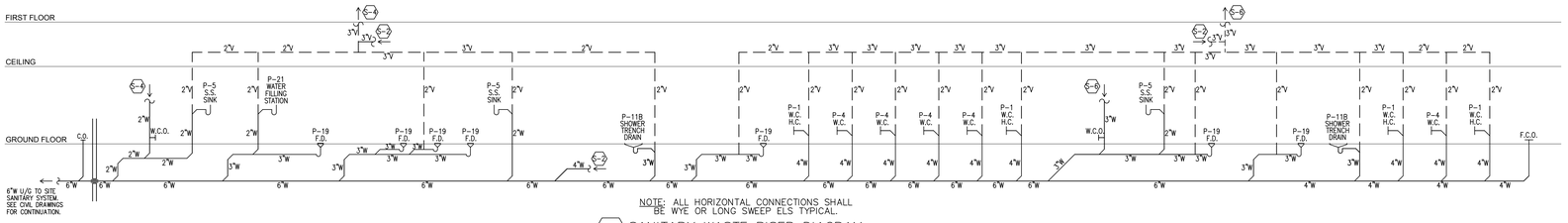
325 Migration Lane, Gerrardstown, WV 25420, 304-267-2120
18 West Boscawen Street, Winchester, VA 22601, 540-773-2328

Issue/Revision	Seal
100% SUBMISSION	

Drawing Title
PLUMBING SCHEDULES AND DETAILS

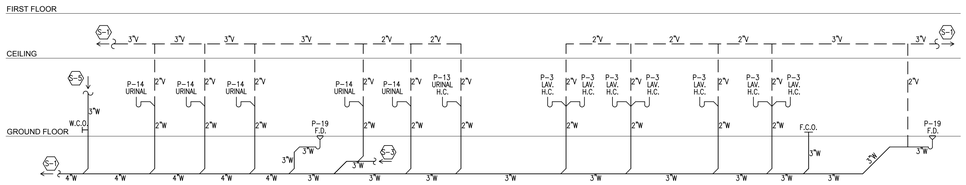
Date 6/28/19
Scale Noted Project Number 18665
Drawing Number
P1.1

COMMONWEALTH OF VIRGINIA
ROGER L. CATLETT
Lic. No. 010537
6/28/19
PROFESSIONAL ENGINEER



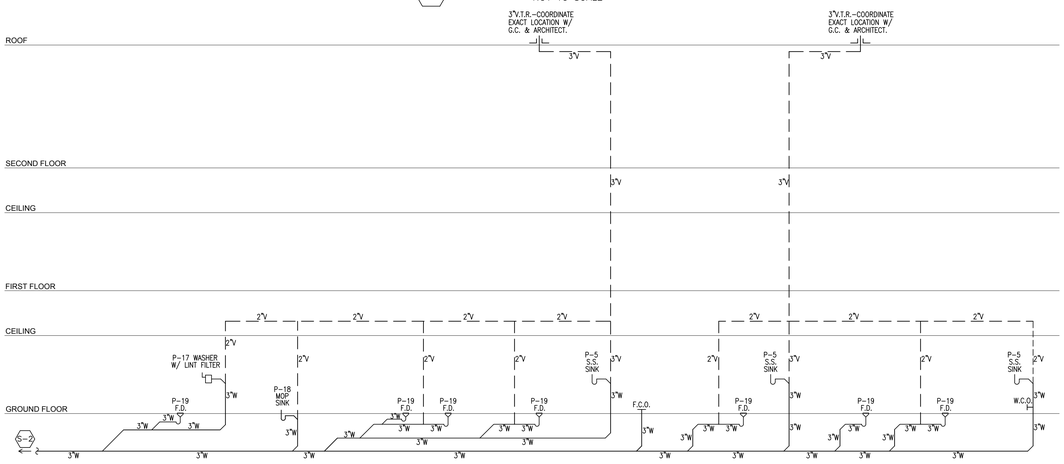
NOTE: ALL HORIZONTAL CONNECTIONS SHALL BE WYE OR LONG SWEEP ELS TYPICAL.

S-1 SANITARY WASTE RISER DIAGRAM
NOT TO SCALE



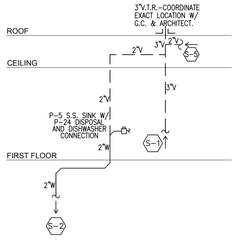
NOTE: ALL HORIZONTAL CONNECTIONS SHALL BE WYE OR LONG SWEEP ELS TYPICAL.

S-2 SANITARY WASTE RISER DIAGRAM
NOT TO SCALE



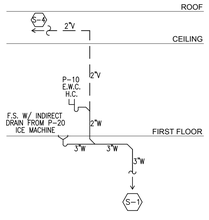
NOTE: ALL HORIZONTAL CONNECTIONS SHALL BE WYE OR LONG SWEEP ELS TYPICAL.

S-3 SANITARY WASTE RISER DIAGRAM
NOT TO SCALE



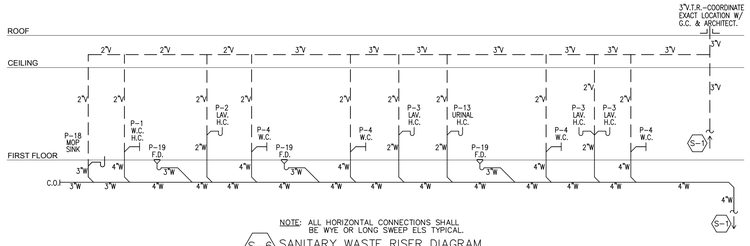
NOTE: ALL HORIZONTAL CONNECTIONS SHALL BE WYE OR LONG SWEEP ELS TYPICAL.

S-4 SANITARY WASTE RISER DIAGRAM
NOT TO SCALE



NOTE: ALL HORIZONTAL CONNECTIONS SHALL BE WYE OR LONG SWEEP ELS TYPICAL.

S-5 SANITARY WASTE RISER DIAGRAM
NOT TO SCALE



NOTE: ALL HORIZONTAL CONNECTIONS SHALL BE WYE OR LONG SWEEP ELS TYPICAL.

S-6 SANITARY WASTE RISER DIAGRAM
NOT TO SCALE

NORTH (building)

City of Winchester Public Services Building

Winchester, VA
22601

Structural and Civil Engineer

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540-773-2328

Issue/Revision | Seal

100% SUBMISSION

Drawing Title

SANITARY WASTE RISER DIAGRAMS

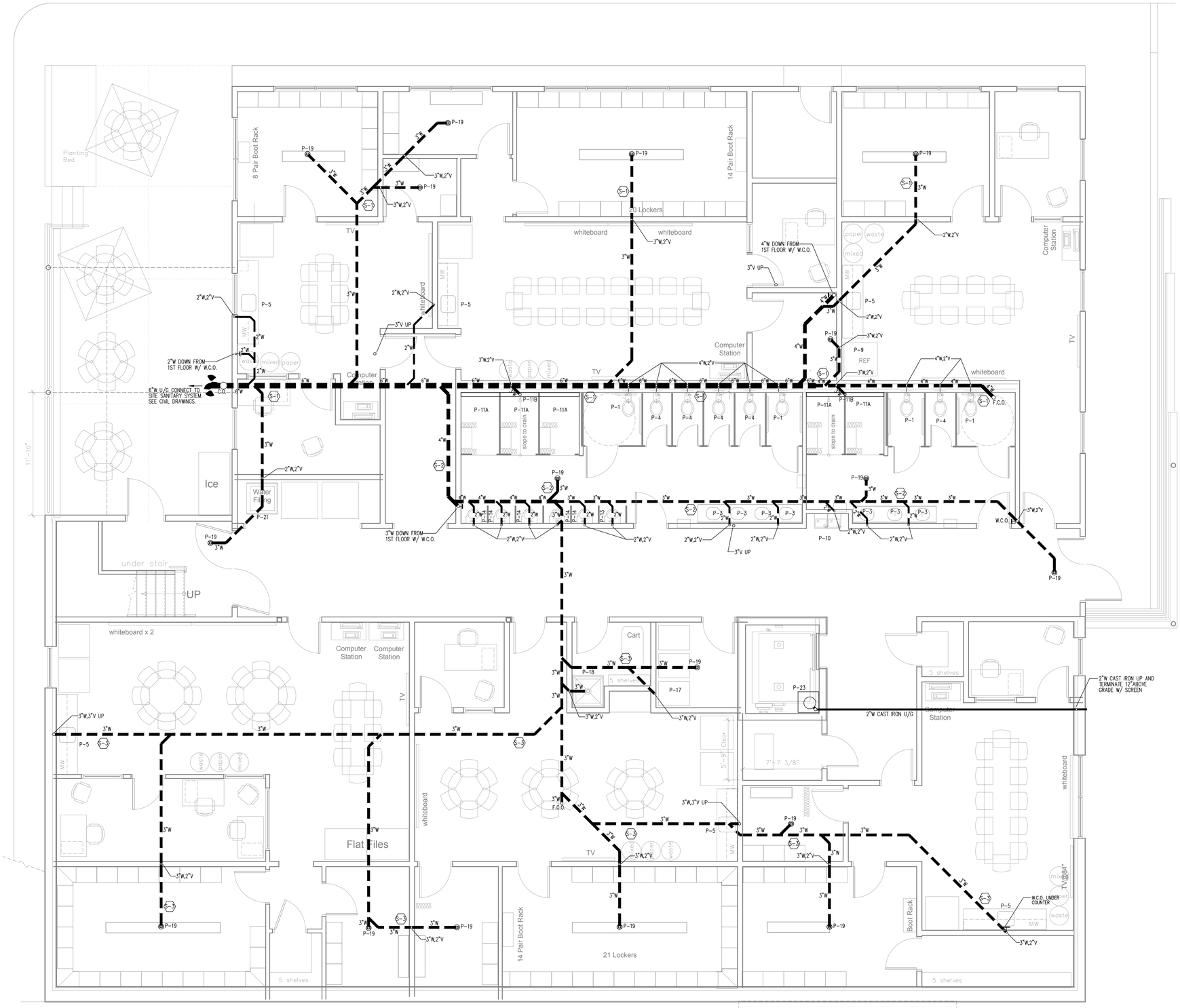
Date 6/28/19
Scale Noted | Project Number 18665
Drawing Number

P1.2

COMMONWEALTH OF VIRGINIA
ROGER L. CATLETT
Lic. No. 010537
6/28/19
PROFESSIONAL ENGINEER

PLUMBING LEGEND

S	SANITARY SEWER U/G (WASTE)
S	SANITARY SEWER (WASTE)
V	VENT (V)
CW	COLD WATER (CW)
HW	DOMESTIC HOT WATER SUPPLY (HW)
HWR	DOMESTIC HOT WATER RETURN (HWR)
CWE	NEW COLD WATER ENTERING (CWE) UNDERGROUND (U/G) PIPING
RD	PRIMARY/SECONDARY ROOF DRAIN UNDERGROUND (RD/SRD)
RD	PRIMARY/SECONDARY ROOF DRAIN ABOVE GRADE (RD/SRD)
W.H.A.	WATER HAMMER ARRESTOR (SHOCK ABSORBER) JOSAM MFR MODEL 75000 SERIES OR EQUAL.
P-#	FIXTURE NUMBER – SEE PLUMBING SCHEDULE
C.O.	CLEAN OUT
F.C.O.	FLOOR CLEAN-OUT W/ BRASS COVER
W.C.O.	WALL CLEAN-OUT W/ CHROME COVER
V.T.R.	VENT THRU ROOF
F.P.H.B.	FREEZE PROOF HOSE BIBB
F.D.	FLOOR DRAIN (SEE SCHEDULE FOR TRAP PRIMER).
U/G	UNDERGROUND INSTALLATION.
	PIPE UP – INSULATED
	PIPE DOWN – INSULATED
S-#	SANITARY RISER REFERENCE NUMBER



1 Ground Floor PLan
Scale: 1/4" = 1'-0"

1 / P2.1 Ground Floor Sanitary Plan
Scale: 1/4" = 1'-0"

NORTH (building)

City of Winchester Public Services Building

Winchester, VA 22601

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Issue/Revision	Seal
100% SUBMISSION	

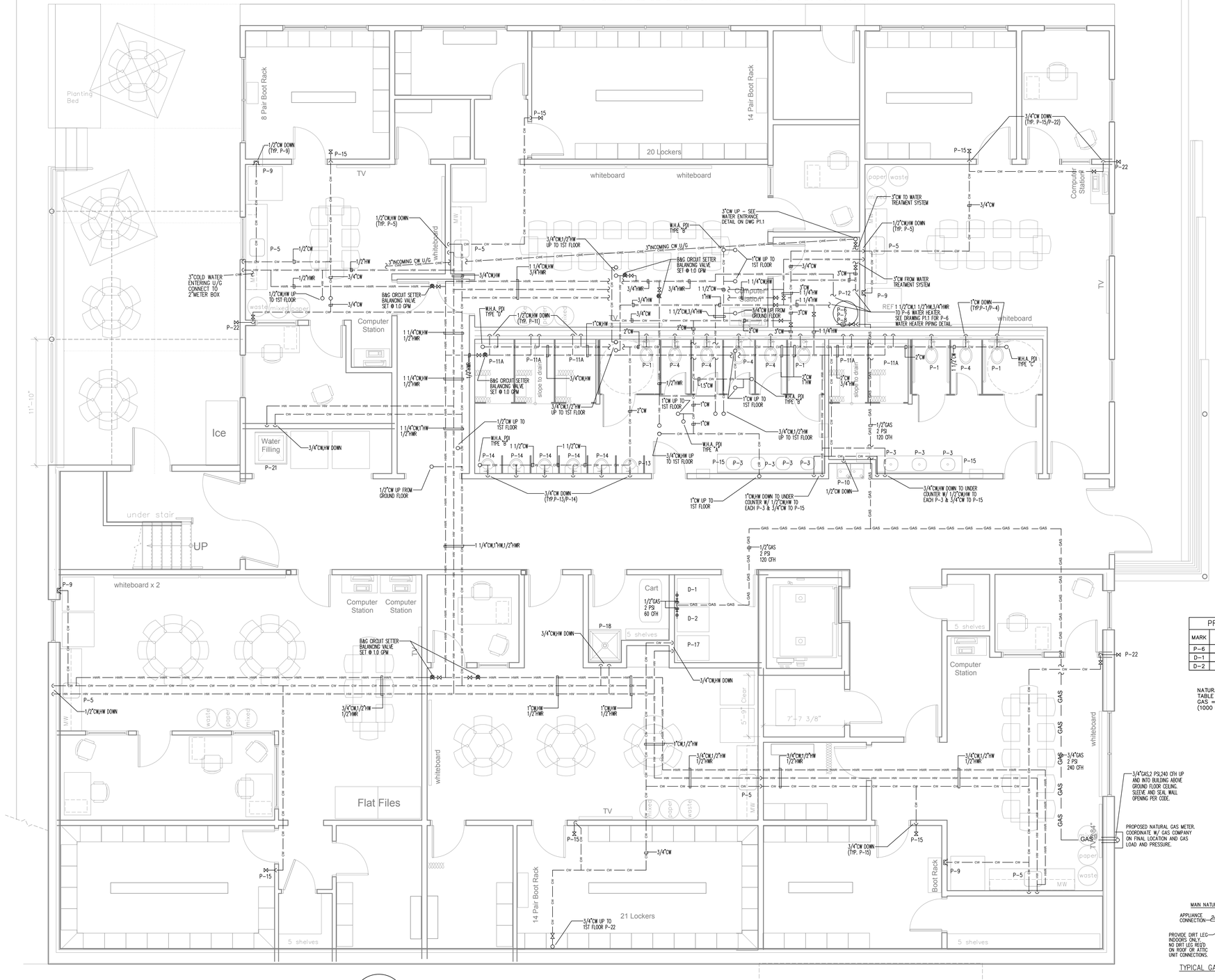
Drawing Title
GROUND FLOOR SANITARY PLAN

Date 6/28/19
Scale Noted
Project Number 18665
Drawing Number
P2.1

COMMONWEALTH OF VIRGINIA
ROGER L. CATLETT
Lic. No. 010537
6/28/19
PROFESSIONAL ENGINEER

WATER TREATMENT SYSTEM:

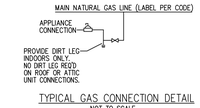
CONTRACTOR SHALL OBTAIN THE SERVICES OF A LICENSED AND CERTIFIED WATER TREATMENT CONTRACTOR TO TEST THE WATER AND INSTALL A COMPLETE AND OPERATIONAL WATER TREATMENT SYSTEM. THE TREATMENT SYSTEM SHALL BE BASED ON A MAXIMUM PEAK FLOW OF 90 GPM.



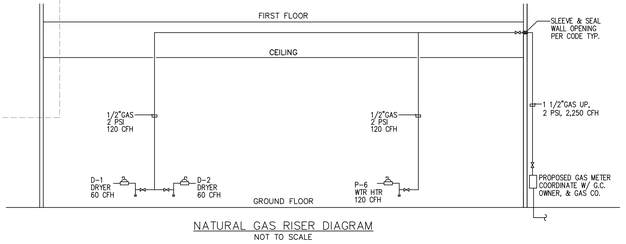
PROPOSED NATURAL GAS CONNECTED LOAD				
MARK	UNIT DESCRIPTION	MFR OR EQUAL	MODEL	INPUT BTUH
P-6	WATER HEATER	A.O. SMITH	BTH-120	120,000
D-1	CLOTHES DRYER	N/A	ESTIMATED	60,000
D-2	CLOTHES DRYER	N/A	ESTIMATED	60,000

TOTAL ESTIMATED CONNECTED GAS LOAD = 180,000 BTUH
TOTAL ESTIMATED CONNECTED GAS LOAD = 180 CFH

NATURAL GAS PIPE SIZING BASED ON 2015 VIRGINIA FUEL GAS CODE, TABLE 402.4(5), 2.0 PSI PRESSURE W/ 1.0 PSI PRESSURE DROP, GAS = 0.60 SPECIFIC GRAVITY, SCHEDULE 40 PIPE, AND 150 FT. (1000 BTUH = 1 CFH)



TYPICAL GAS CONNECTION DETAIL
NOT TO SCALE



NATURAL GAS RISER DIAGRAM
NOT TO SCALE

1 Ground Floor PLan
Scale: 1/4" = 1'-0"

1 / P2.2 Ground Floor Water & Natural Gas Plan
Scale: 1/4" = 1'-0"

NORTH (building)

City of Winchester Public Services Building

Winchester, VA 22601

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Issue/Revision
100% SUBMISSION

Seal
COMMONWEALTH OF VIRGINIA
ROGER L. CATLETT
Lic. No. 010537
6/28/19
PROFESSIONAL ENGINEER

Drawing Title
GROUND FLOOR WATER & NATURAL GAS PLAN

Date 6/28/19
Scale Noted
Project Number 18665
Drawing Number
P2.2

1 P2.3 First Floor Sanitary Plan
Scale: 1/4" = 1'-0"

NORTH (building)

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Issue/Revision Seal
100% SUBMISSION

Drawing Title
FIRST FLOOR SANITARY PLAN

Date 6/28/19
Scale Noted Project Number 18665
Drawing Number
P2.3

COMMONWEALTH OF VIRGINIA
ROGER L. CATLETT
Lic. No. 010537
6/28/19
PROFESSIONAL ENGINEER

1 First Floor Water Plan
P2.4 Scale: 1/4" = 1'-0"

NORTH (building)

City of Winchester Public Services Building

Winchester, VA
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Issue/Revision	Seal
100% SUBMISSION	

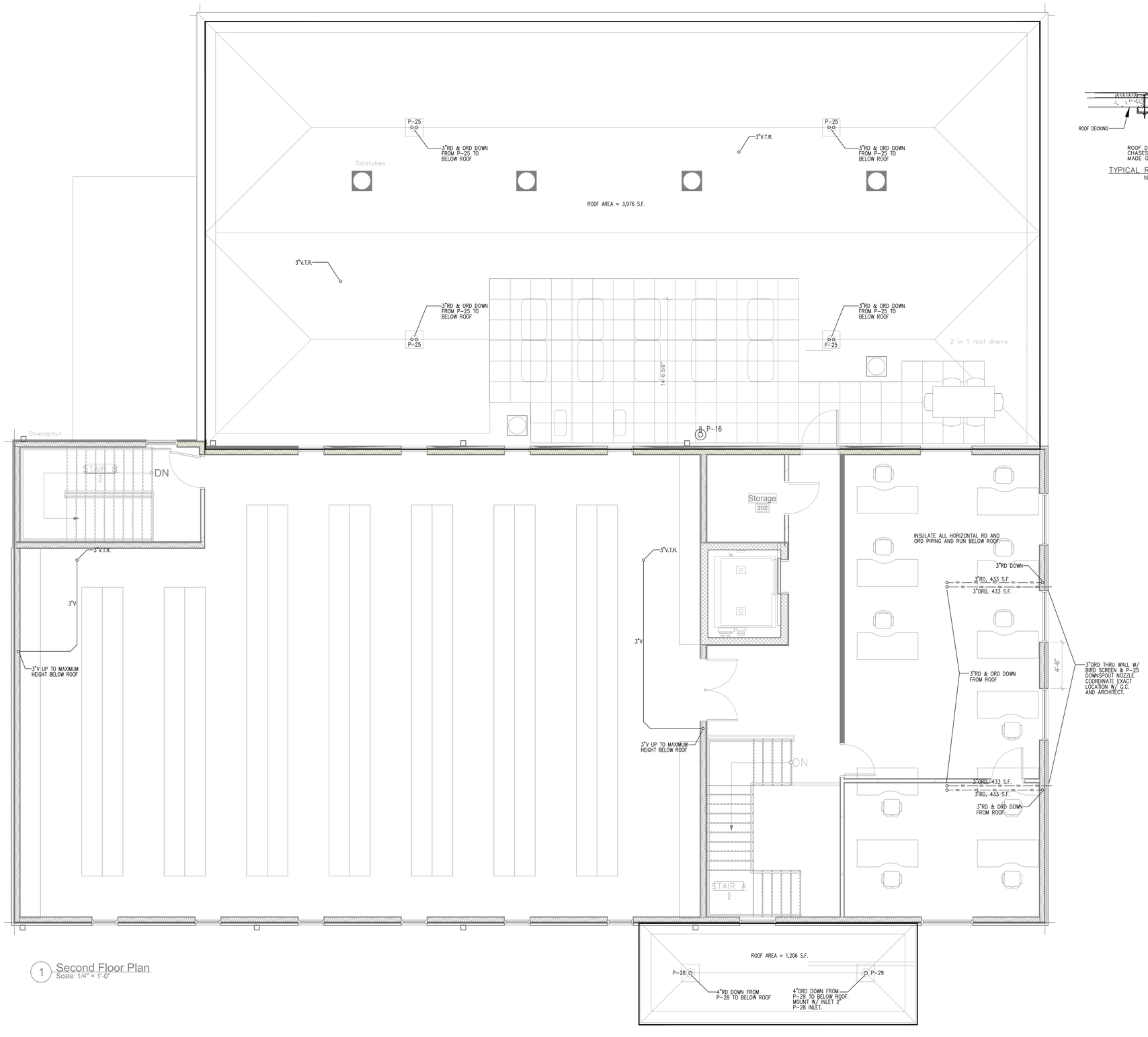
Drawing Title
FIRST FLOOR WATER PLAN

Date	6/28/19
Scale Noted	Project Number 18665

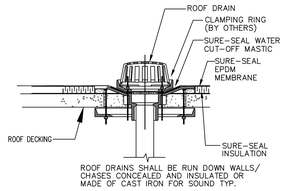
Drawing Number
P2.4

COMMONWEALTH OF VIRGINIA
ROGER L. CATLETT
Lic. No. 010537
6/28/19
PROFESSIONAL ENGINEER

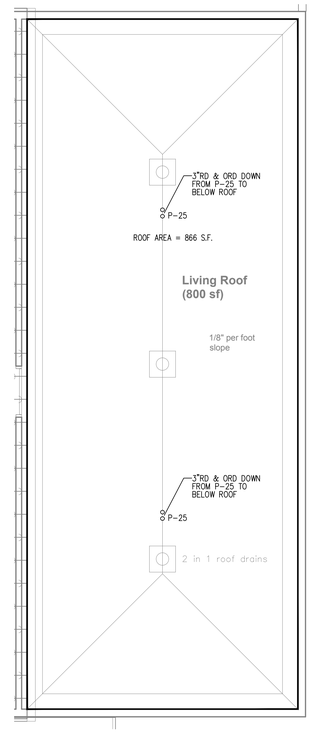
BASED ON 3" PER HOUR RAINFALL RATE:
PER 2015 INTERNATIONAL PLUMBING CODE TABLE 1106.3, 3" HORIZONTAL PIPING AT 1/8" SLOPE PER 12 UNITS = 1,096 S.F. MAXIMUM ROOF AREA. A 3" HORIZONTAL PIPE HAS CAPACITY FOR 994 S.F. DRAINAGE AREA.
PER 2012 VIRGINIA PLUMBING CODE TABLE 1106.3, 4" HORIZONTAL PIPING AT 1/8" SLOPE PER 12 UNITS = 2,506 S.F. MAXIMUM ROOF AREA. A 4" HORIZONTAL PIPE HAS CAPACITY FOR 1,998 S.F. DRAINAGE AREA.
SECONDARY ROOF DRAINAGE PROVIDED BY SECONDARY OVERFLOW ROOF DRAINS.



1 Second Floor Plan
Scale: 1/4" = 1'-0"



TYPICAL ROOF DRAIN DETAIL
NOT TO SCALE



1 Upper Roof Plumbing Plan
P2.5 Scale: 1/4" = 1'-0"

1 Second Floor/Lower Roofs Plumbing Plan
P2.5 Scale: 1/4" = 1'-0"

NORTH (building)

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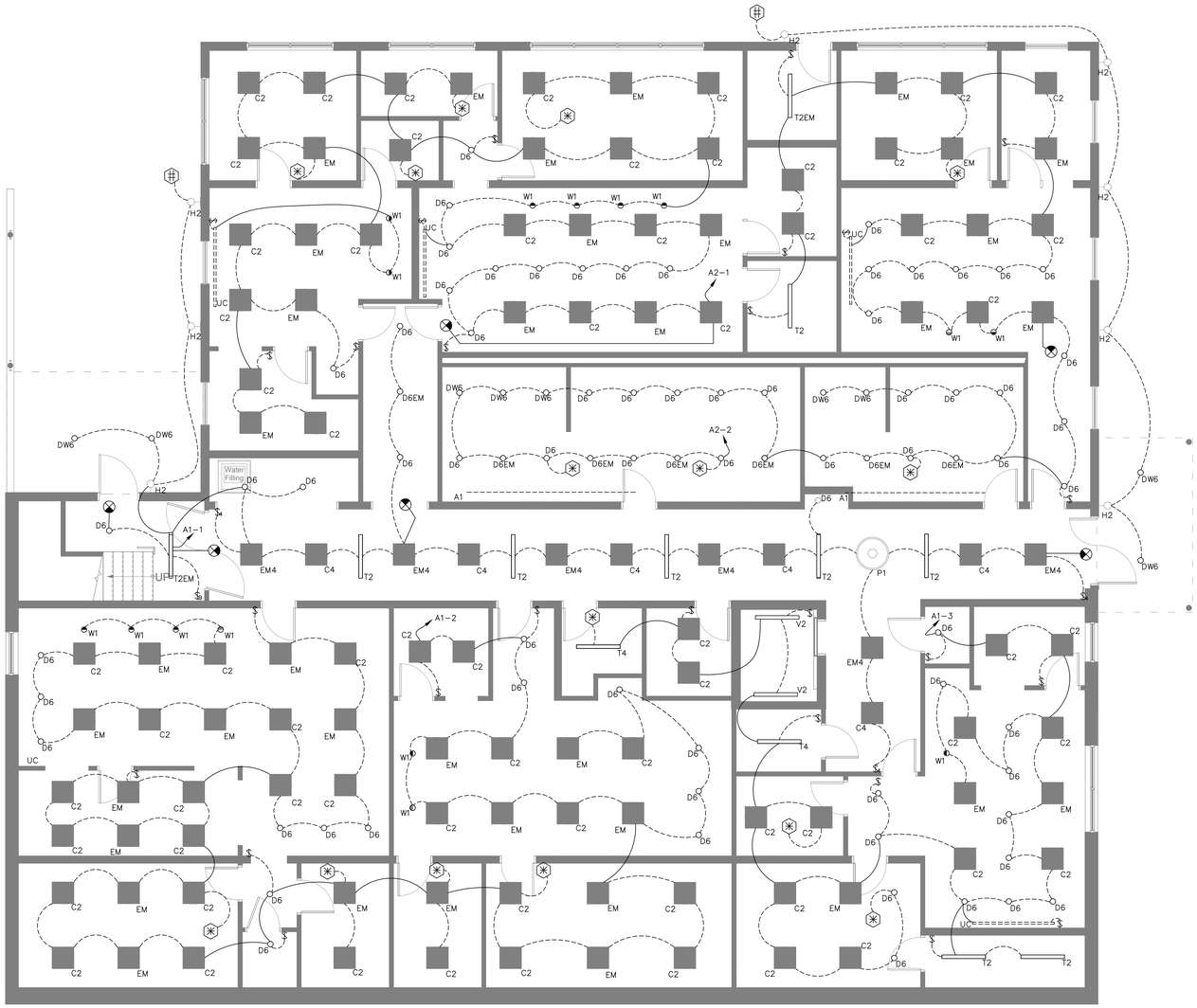
Issue/Revision
100% SUBMISSION

Seal
COMMONWEALTH OF VIRGINIA
ROGER L. CATLETT
Lic. No. 010537
6/28/19
PROFESSIONAL ENGINEER

Drawing Title
SECOND FLOOR/ ROOF PLUMBING PLANS

Date 6/28/19
Scale Noted
Project Number 18665
Drawing Number
P2.5



NOTE: POWER SUPPLY FOR A1 TAPE LIGHTS LOCATED ABOVE CEILING THROUGH ACCESS PANEL. COORDINATE LOCATION OF ACCESS PANEL WITH OWNER.

NOTE: POWER SUPPLY FOR UC TAPE LIGHTS LOCATED ABOVE CEILING THROUGH ACCESS PANEL. COORDINATE LOCATION OF ACCESS PANEL WITH OWNER.

1 / E1.1 GROUND FLOOR LIGHTING PLAN
3/16" = 1'-0"

FIXTURE SCHEDULE		
SYMBOL	TYPE	DESCRIPTION/MODEL
--------	A1	LED TAPE LIGHT, ADJUST TO FOLLOW COVE,3000K,300L/FT. LUMILUM PRO OR SIMILAR. PROVIDE LV POWER SUPPLIES AS NEEDED. CONNECT TO NEAREST RECEPTACLE CIRCUIT.
○	D6	6" LED SHALLOW PLENUM DOWNLIGHT–ROUND. BASIS OF DESIGN: HE WILLIAMS: 6PR–TL–L20/835–DIM–UNV–LW–WT–N–F1
○	D6EM	6" SHALLOW PLENUM DOWNLIGHT– ROUND, BASIS OF DESIGN: HE WILLIAMS 6PR–TL–L20/835–EM/10W (DENOTES 10W EMERGENCY BATTERY)–DIM–UNV–LW–WT–N–F1
○	DW6	6" LED SHALLOW PLENUM DOWNLIGHT–ROUND. BASIS OF DESIGN: HE WILLIAMS 6PR–TL–L20/835–DIM–UNV–LW–OF–WH–"WET/CC" DENOTES WET LOCATION–N–F1
□	C2	RECESSED 2X2 DIRECT/INDIRECT LED. BASIS OF DESIGN: HE WILLIAMS DI–G–S22–L32/835–AD–DIM–UNV
□	C4	RECESSED 2X2 DIRECT/INDIRECT LED. BASIS OF DESIGN: HE WILLIAMS AT3–22–L40/835–D–DIM–UNV
□	EM	RECESSED 2X2 DIRECT/INDIRECT LED. BASIS OF DESIGN: HE WILLIAMS DI–G–S22–L32/835–AD–EM/10W (DENOTES 10W EMERGENCY DRIVER)–DIM–UNV
□	EM4	RECESSED 2X2 DIRECT/INDIRECT LED. BASIS OF DESIGN: HE WILLIAMS AT3–22–L40/835–D–EM/10W (DENOTES 10W EMERGENCY LED BATTERY)–DIM–UNV
♀	H2	DECORATIVE LED EMERGENCY LIGHT. BASIS OF DESIGN EMER/DECO–DBR–NKL–D
⊙	P1	DECORATIVE 23" PENDANT, LED LAMPS, BASIS OF DESIGN: FORECAST 3–LIGHT SATIN NICKEL SHADE HOLDER (F43036) WITH 32" DIAMETER A LA CARTE WHITE GRASS CLOTH SHADE WITH ETCHED WHITE GLASS DIFFUSER (F670). EQUIP WITH LED BULBS.
—	T4	UP/DOWN SUSPENDED 4' LED LIGHT– HE WILLIAMS: MX4UD–4'00–L12/835U/L8/835D–AF–AC/D48–DIM–UNV. COORDINATE MOUNTING HEIGHT AND CABLE LENGTH PRIOR TO INSTALLATION.
—•	T4EM	UP/DOWN SUSPENDED 4' LED LIGHT– HE WILLIAMS: MX4UD–4'00–L12/835U/L8/835D–AF–AC/D48–EM/10WRM–DIM–UNV. COORDINATE MOUNTING HEIGHT AND CABLE LENGTH PRIOR TO INSTALLATION.
—	T2	SURFACE MOUNTED 4' LED LIGHT– HE WILLIAMS: MX4S–4'00–L12/835–F–DRV–UNV
—	T2EM	SURFACE MOUNTED 4' LED LIGHT– HE WILLIAMS: MX4S–4'00–L12/835–F–EM/10W–DRV–UNV
⌒	T6	TECH LIGHTING MONORAIL SYSTEM WITH LED BRIM HEADS, 700 BRM MO9274005C
⟸⟹	UC	LED TAPE LIGHT, UNDER COUNTER MOUNTING, 3000K,300L/FT. LUMILUM PRO OR SIMILIAR. PROVIDE LV POWER SUPPLIES AS NEEDED.
•	W1	LED WALL WASH, BASIS OF DESIGN: H.E. WILLIAMS 4AR L20/930–DIM–9UNV–LM–OF–WH
♂	V1	WALL MOUNT BATH FIXTURE. BASIS OF DESIGN: MOBERN MFLB24LED29MVSN30
—	V2	LITHONIA–LED ENCLOSED AND GASKETED DMW2 L24 3000LM PCL WD MVOLT GZ10 50K 80CRI PS1050 WLFEND2
•		LED EXIT SIGN. BASIS OF DESIGN: HE WILLIAMS EXIT/EL/RECESSED–SF–R–CP–AN–AC–SDT–D

LIGHTING SYMBOL LIST	
SYMBOL	DESCRIPTION
$	WALL SWITCH, 3 DENOTES 3–WAY OPERATION, 4 DENOTES 4–WAY OPERATION, D DENOTES FIXTURE COMPATIBLE DIMMER SWITCH, FAN DENOTES FAN COMPATIBLE SWITCH. ADA MOUNTING HEIGHT.
⊗	WALL SWITCH DUAL TECHNOLOGY OCCUPANCY SENSOR WITH PROGRAMMABLE DELAY. ADA MOUNTING HEIGHT.
⊠	WALL SWITCH MOUNTED DUAL TECHNOLOGY VACANCY SENSOR WITH PROGRAMMABLE DELAY. ADA MOUNTING HEIGHT
⊙	CEILING MOUNTED (LOW VOLTAGE) OCCUPANCY SENSOR
⊕	CEILING MOUNTED LOW VOLTAGE PHOTOCELL (DAYLIGHT HARVESTING)
LP	LIGHTING CONTROL POWER PACK
⊕	PHOTOCELL SENSOR
- - -	DASHED LINE REPRESENTS SWITCHED WIRING BETWEEN FIXTURES IN A SWITCHED GROUP. CONTAINS SWITCHED CONDUCTORS AND MAY CONTAIN UN–SWITCHED CONDUCTORS FOR CIRCUIT CONTINUATION OR EMERGENCY LIGHTING.
⌒	UN–SWITCHED WIRING.

NORTH (building)

CITY YARDS MAINTENANCE FACILITY:
RENOVATION AND ADDITIONS
301 EAST CORK ST.
WINCHESTER, VIRGINIA
22601

ARCHITECT:

CIVIL

CIVIL and STRUCTURAL ENGINEERS:

CONSULTING ENGINEERS
COMMONWEALTH OF VIRGINIA
JASON S. MARSHALL
Lic. No. 047220
PROFESSIONAL ENGINEER
PAINTER–LEWIS, P.L.C.
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(540) 662–5792

MECHANICAL, ELECTRICAL, and PLUMBING ENGINEERS:

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Comfort Designs Inc.
620 Pennsylvania Avenue
Winchester, VA 22604
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ENGI

COMMONWEALTH OF VIRGINIA
M. Howell
MICHAEL F. HOWELL
No.008875
5 AUG 2019
PROFESSIONAL ENGINEER

ISSUE/REVISIONS:

DRAWING TITLE:

PHASE I
PUBLIC WORKS
ADMIN BUILDING

SHEET TITLE:

GROUND FLOOR LIGHTING

DATE: AUGUST 5, 2019
SCALE: AS NOTED
PROJECT NUMBER: 1801014
SHEET:

E1.1

1 E1.2 FIRST LIGHTING PLAN
3/16" = 1'-0"

FIXTURE SCHEDULE		
SYMBOL	TYPE	DESCRIPTION/MODEL
--------	A1	LED TAPE LIGHT, ADJUST TO FOLLOW COVE,3000K,300L/FT. LUMILUM PRO OR SIMILAR. PROVIDE LV POWER SUPPLIES AS NEEDED. CONNECT TO NEAREST RECEPTACLE CIRCUIT.
○	D6	6" LED SHALLOW PLENUM DOWNLIGHT-ROUND. BASIS OF DESIGN: HE WILLIAMS: 6PR-TL-L20/835-DIM-UNV-LW-WT-N-F1
○	D6EM	6" SHALLOW PLENUM DOWNLIGHT- ROUND, BASIS OF DESIGN: HE WILLIAMS 6PR-TL-L20/835-EM/10W (DENOTES 10W EMERGENCY BATTERY)-DIM-UNV-LW-WT-N-F1
○	DW6	6" LED SHALLOW PLENUM DOWNLIGHT-ROUND. BASIS OF DESIGN: HE WILLIAMS 6PR-TL-L20/835-DIM-UNV-LW-OF-WH-"WET/CC" DENOTES WET LOCATION-N-F1
□	C2	RECESSED 2X2 DIRECT/INDIRECT LED. BASIS OF DESIGN: HE WILLIAMS DI-G-S22-L32/835-AD-DIM-UNV
□	C4	RECESSED 2X2 DIRECT/INDIRECT LED. BASIS OF DESIGN: HE WILLIAMS AT3-22-L40/835-D-DIM-UNV
□	EM	RECESSED 2X2 DIRECT/INDIRECT LED. BASIS OF DESIGN: HE WILLIAMS DI-G-S22-L32/835-AD-EM/10W (DENOTES 10W EMERGENCY DRIVER)-DIM-UNV
□	EM4	RECESSED 2X2 DIRECT/INDIRECT LED. BASIS OF DESIGN: HE WILLIAMS AT3-22-L40/835-D-EM/10W (DENOTES 10W EMERGENCY LED BATTERY)-DIM-UNV
♀	H2	DECORATIVE LED EMERGENCY LIGHT. BASIS OF DESIGN EMER/DECO-DBR-NKL-D
⊙	P1	DECORATIVE 23" PENDANT, LED LAMPS, BASIS OF DESIGN: FORECAST 3-LIGHT SATIN NICKEL SHADE HOLDER (F43036) WITH 32" DIAMETER A LA CARTE WHITE GRASS CLOTH SHADE WITH ETCHED WHITE GLASS DIFFUSER (F670). EQUIP WITH LED BULBS.
▬	T4	UP/DOWN SUSPENDED 4' LED LIGHT- HE WILLIAMS: MX4UD-4'00-L12/835U/L8/835D-AF-AC/D48-DIM-UNV. COORDINATE MOUNTING HEIGHT AND CABLE LENGTH PRIOR TO INSTALLATION.
▬ •	T4EM	UP/DOWN SUSPENDED 4' LED LIGHT- HE WILLIAMS: MX4UD-4'00-L12/835U/L8/835D-AF-AC/D48-EM/10WRM-DIM-UNV. COORDINATE MOUNTING HEIGHT AND CABLE LENGTH PRIOR TO INSTALLATION.
▬	T2	SURFACE MOUNTED 4' LED LIGHT- HE WILLIAMS: MX4S-4'00-L12/835-F-DRV-UNV
▬	T2EM	SURFACE MOUNTED 4' LED LIGHT- HE WILLIAMS: MX4S-4'00-L12/835-F-EM/10W-DRV-UNV
◠	T6	TECH LIGHTING MONORAIL SYSTEM WITH LED BRIM HEADS, 700 BRM M09274005C
====	UC	LED TAPE LIGHT, UNDER COUNTER MOUNTING, 3000K,300L/FT. LUMILUM PRO OR SIMILIAR. PROVIDE LV POWER SUPPLIES AS NEEDED.
•	W1	LED WALL WASH, BASIS OF DESIGN: H.E. WILLIAMS 4AR L20/930-DIM-9UNV-LM-OF-WH
♁	V1	WALL MOUNT BATH FIXTURE. BASIS OF DESIGN: MOBERN MFLB24LED29MVSN30
▬	V2	LITHONIA-LED ENCLOSED AND GASKETED DMW2 L24 3000LM PCL WD MVOLT GZ10 50K 80CRI PS1050 WLFEND2
•		LED EXIT SIGN. BASIS OF DESIGN: HE WILLIAMS EXIT/EL/RECESSED-SF-R-CP-AN-AC-SDT-D

LIGHTING SYMBOL LIST	
SYMBOL	DESCRIPTION
$	WALL SWITCH, 3 DENOTES 3-WAY OPERATION, 4 DENOTES 4-WAY OPERATION, D DENOTES FIXTURE COMPATIBLE DIMMER SWITCH, FAN DENOTES FAN COMPATIBLE SWITCH. ADA MOUNTING HEIGHT.
⊗	WALL SWITCH DUAL TECHNOLOGY OCCUPANCY SENSOR WITH PROGRAMMABLE DELAY. ADA MOUNTING HEIGHT.
⊠	WALL SWITCH MOUNTED DUAL TECHNOLOGY VACANCY SENSOR WITH PROGRAMMABLE DELAY. ADA MOUNTING HEIGHT
⊙	CEILING MOUNTED (LOW VOLTAGE) OCCUPANCY SENSOR
⊕	CEILING MOUNTED LOW VOLTAGE PHOTOCELL (DAYLIGHT HARVESTING)
PP	LIGHTING CONTROL POWER PACK
⊕	PHOTOCELL SENSOR
- - -	DASHED LINE REPRESENTS SWITCHED WIRING BETWEEN FIXTURES IN A SWITCHED GROUP. CONTAINS SWITCHED CONDUCTORS AND MAY CONTAIN UN-SWITCHED CONDUCTORS FOR CIRCUIT CONTINUATION OR EMERGENCY LIGHTING.
⌒	UN-SWITCHED WIRING.

NORTH (building)

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WINCHESTER, VIRGINIA
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ARCHITECT:

Seal:

CIVIL and STRUCTURAL ENGINEERS:

CONSULTING ENGINEERS

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ISSUE/REVISIONS:

DRAWING TITLE:

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PUBLIC WORKS
ADMIN BUILDING

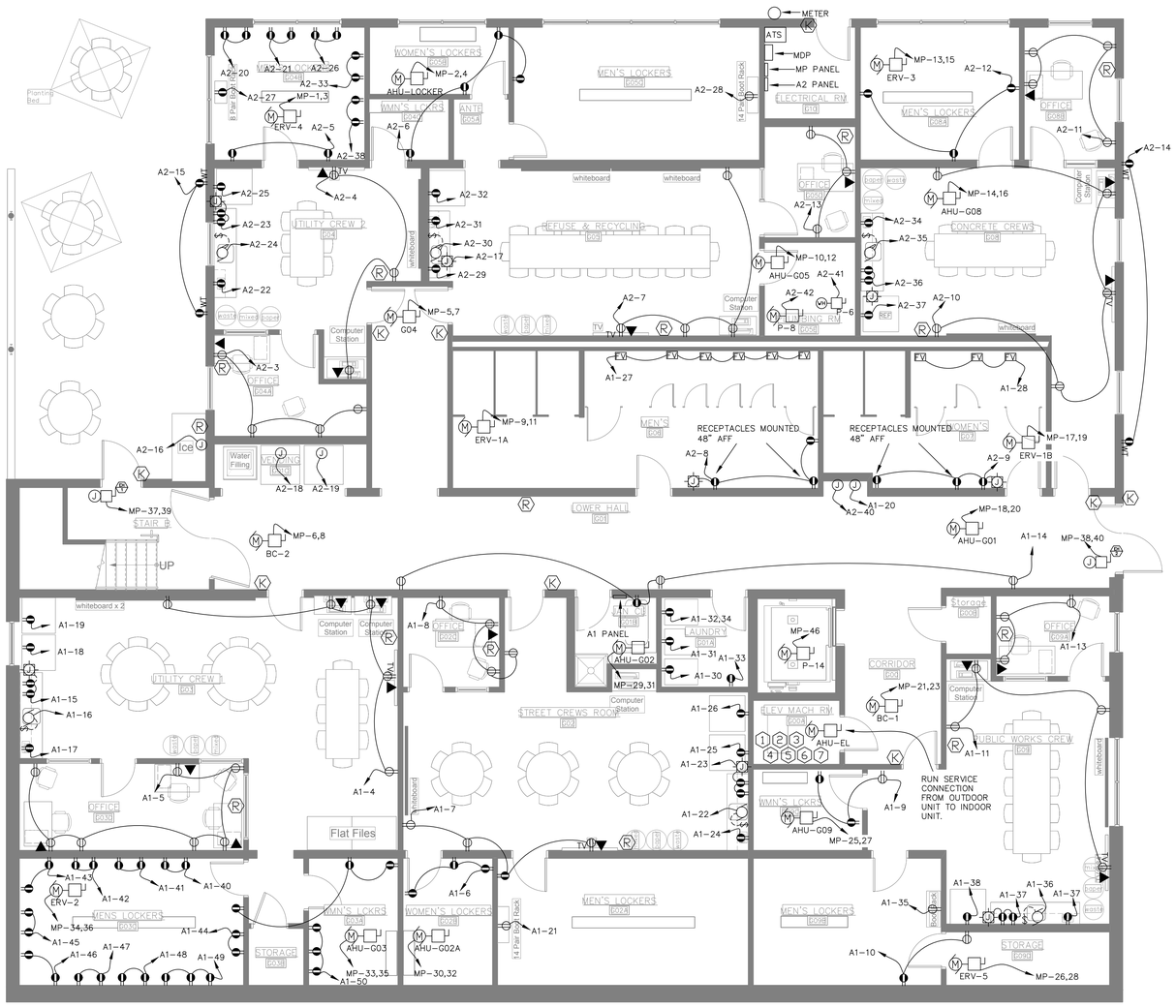
SHEET TITLE:

FIRST LIGHTING PLAN

DATE: AUGUST 5, 2019
SCALE: AS NOTED
PROJECT NUMBER: 1801014

SHEET:

E1.2

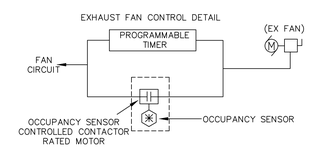


1 GROUND FLOOR POWER PLAN
E2.1 3.16" = 1'-0"

POWER SYMBOL LIST	
SYMBOL	DESCRIPTION
	DUPLEX RECEPTACLE
	GFCI RECEPTACLE. WP DENOTES WEATHERPROOF COVER. COORDINATE MOUNTING HEIGHT AT COUNTERS AND CASEWORK
	QUAD RECEPTACLE
	FLOOR RECEPTACLE. RECESSED DUAL COMPARTMENT BOX (POWER/DATA) WITH CAT 6 WIRING BACK TO ROOM 108 AND COVERPLATE TO MATCH FLOOR. REFER TO ARCHITECTURAL PLANS.
	CEILING MOUNTED RECEPTACLE.
	JUNCTION BOX EQUIPMENT CONNECTION
	CEILING MOUNTED POWER SUPPLY FOR UC AND A1 TAPE LIGHTS. COORDINATE ACCESS PANEL AND POWER SUPPLY LOCATION WITH OWNER.
	JUNCTION BOX WITH NFSS DISCONNECT FOR EQUIPMENT CONNECTION.
	NFSS DISCONNECT SWITCH AND MOTOR CONNECTION.
	NFSS DISCONNECT AND WATER HEATER CONNECTION.
	MOTOR CONNECTION (EXHAUST FAN, DISPOSER, ETC.)
	FLUSH VALVE HARD WIRED. COORDINATE WITH PLUMBING FOR INSTALLATION
TV	MOUNT OUTLET 84" AFF
	PROJECTION SCREEN SWITCH
MW	COORDINATE MOUNTING HEIGHT WITH CABINET INSTALLER
DW	COORDINATE LOCATION OF DISHWASHER OUTLET WITH OWNER
	DUAL COMPARTMENT RECESSED FLOOR BOXES WILL INCLUDE 2 POWER RECEPTACLES, 2 HDMI CABLES, AND 2-RJ45 JACKS

LOW VOLTAGE SYMBOL LIST	
SYMBOL	DESCRIPTION
	COMBINATION VOICE/DATA OUTLET, 4X4 BOX WITH CAT 6 VOICE CABLE BACK TO BOARD IN ROOM #108 AND CAT 6 CABLE BACK TO RACK IN ROOM #108. TEST AND LABEL EACH END 3' SLACK EACH, COMBINATION RJ-11 AND RF-45 COVERPLATE.
	CEILING MOUNTED DATA OUTLET, 4X4 BOX WITH CAT 6 CABLE BACK TO RACK IN ROOM #108. TEST AND LABEL EACH END 3' SLACK EACH, COMBINATION RF-45 COVERPLATE.,
	RADIO JUNCTION BOX LOCATED IN CEILING WITH PULL THRU WIRE TO SINGLE GANG BOX IN WALL. COORDINATE WITH OWNER FOR MOUNTING HEIGHT. (FOR RADIO IINSTALLATION.)
	ELECTRONIC LOCKSET (CARD READER/PUSH BUTTON) SYSTEM. JUNCTION BOX LOCATED IN CEILING WITH PULL THRU WIRE TO SINGLE GANG BOX IN WALL. COORDINATE WITH OWNER FOR MOUNTING HEIGHT. (FOR EQUIPMENT INSTALLATION.)
HDMI	INSTALL SINGLE GANG BOX WITH HDMI FEMALE JACK AND HDMI CABLE TO 14" A.F.F. BOX WITH HDMI FEMALE JACK.

ELEVATOR SYSTEM NOTES		
CIRCUIT	TAG	NOTE
MP-41,43,45,47	1	ELEVATOR SHUNT TRIP, CURRENT LIMITING CIRCUIT BREAKER DISCONNECT.
MP-42	2	ELEVATOR CAB LIGHTS AND FAN DISCONNECT.
MP-44	3	GFCI DEDICATED SERVICE OUTLET
	4	ELEVATOR CAB PHONE CONNECTION. PROVIDE SINGLE GANG BOX WITH RACEWAY AND PULL WIRE FROM BOX TO NEAREST ACCESSIBLE CEILING SPACE. PHONE LINE BY OTHERS.
MP-46	5	ELEVATOR PIT SUMP PUMP. CONFIRM LOCATION.
	6	COORDINATE ELEVATOR SYSTEM SMOKE AND HEAT DETECTOR CONFIGURATION WITH ELEVATOR INSTALLER PRIOR TO ROUGH IN.
MP-22,24	7	ELEVATOR EQUIPMENT ROOM COOLING. COORDINATE WITH MECHANICAL
		ALL WIRING WITHIN ELEVATOR EQUIPMENT ROOM: RUN IN EMT CONDUIT, COPPER CONDUCTORS, WITH SEPARATE EQUIPMENT GROUNDING CONDUCTOR.
		COORDINATE LOCATION OF ELEVATOR PIT LIGHTING FIXTURE(S) AND SWIITCH WITH ELEVATOR INSATLLER TO AVOID SPACE CONFLICTS.



NORTH (building)

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ISSUE/REVISIONS:

DRAWING TITLE:

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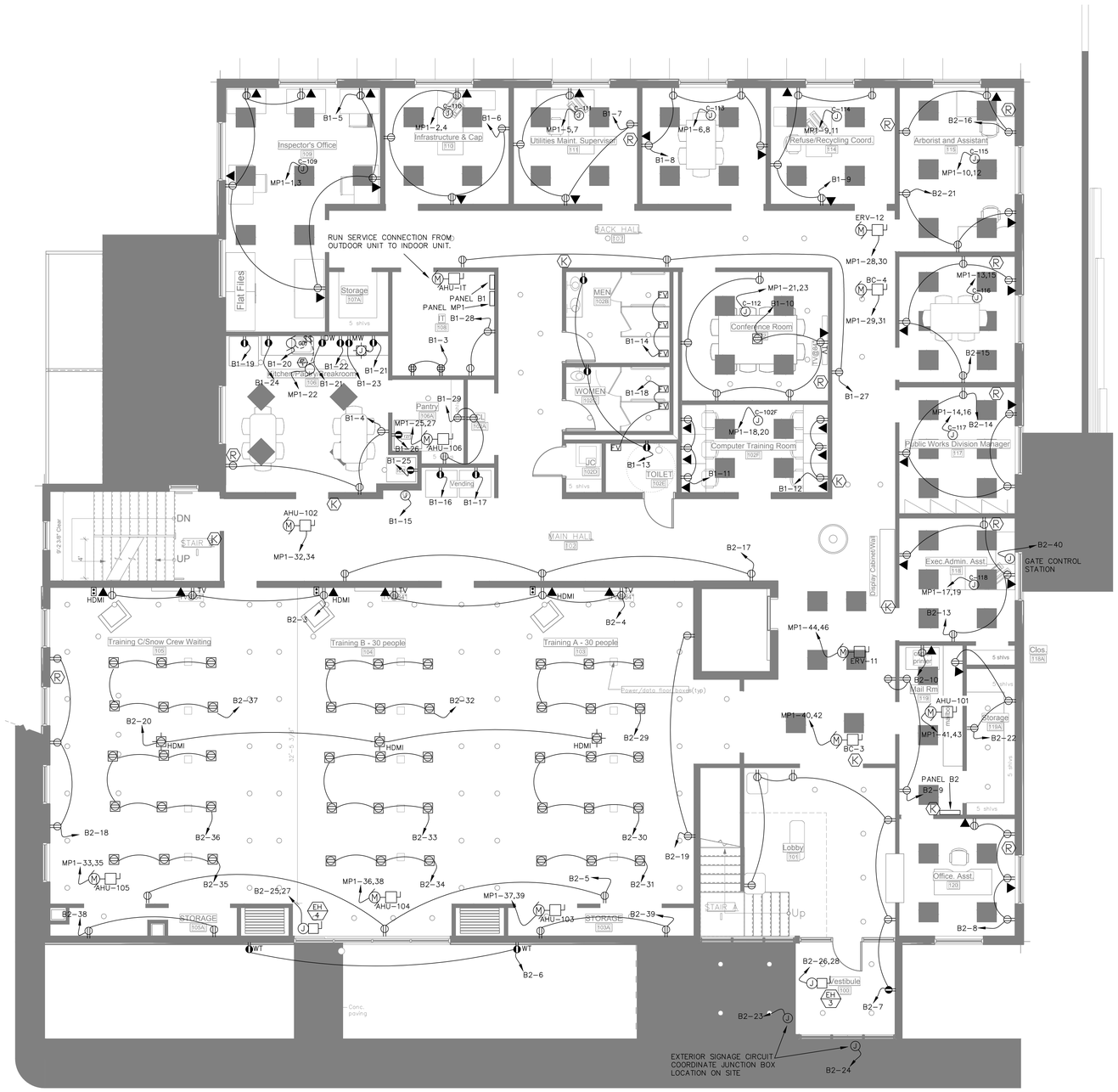
PUBLIC WORKS
ADMIN BUILDING

SHEET TITLE:

GROUND FLOOR

DATE: AUGUST 5, 2019
SCALE: AS NOTED
PROJECT NUMBER: 1801014
SHEET:

E2.1



1 E2.2 FIRST FLOOR POWER PLAN
3/16" = 1'-0"

POWER SYMBOL LIST	
SYMBOL	DESCRIPTION
	DUPLEX RECEPTACLE
	GFCI RECEPTACLE. WP DENOTES WEATHERPROOF COVER. COORDINATE MOUNTING HEIGHT AT COUNTERS AND CASEWORK
	QUAD RECEPTACLE
	FLOOR RECEPTACLE. RECESSED DUAL COMPARTMENT BOX (POWER/DATA) WITH CAT 6 WIRING BACK TO ROOM 108 AND COVERPLATE TO MATCH FLOOR. REFER TO ARCHITECTURAL PLANS.
	CEILING MOUNTED RECEPTACLE.
	JUNCTION BOX EQUIPMENT CONNECTION
	CEILING MOUNTED POWER SUPPLY FOR UC AND A1 TAPE LIGHTS. COORDINATE ACCESS PANEL AND POWER SUPPLY LOCATION WITH OWNER.
	JUNCTION BOX WITH NFSS DISCONNECT FOR EQUIPMENT CONNECTION.
	NFSS DISCONNECT SWITCH AND MOTOR CONNECTION.
	NFSS DISCONNECT AND WATER HEATER CONNECTION.
	MOTOR CONNECTION (EXHAUST FAN, DISPOSER, ETC.)
EV	FLUSH VALVE HARD WIRED. COORDINATE WITH PLUMBING FOR INSTALLATION
TV	MOUNT OUTLET 84" AFF
	PROJECTION SCREEN SWITCH
MW	COORDINATE MOUNTING HEIGHT WITH CABINET INSTALLER
DW	COORDINATE LOCATION OF DISHWASHER OUTLET WITH OWNER
	DUAL COMPARTMENT RECESSED FLOOR BOXES WILL INCLUDE 2 POWER RECEPTACLES, 2 HDMI CABLES, AND 2-RJ45 JACKS

LOW VOLTAGE SYMBOL LIST	
SYMBOL	DESCRIPTION
◄	COMBINATION VOICE/DATA OUTLET, 4X4 BOX WITH CAT 6 VOICE CABLE BACK TO BOARD IN ROOM #108 AND CAT 6 CABLE BACK TO RACK IN ROOM #108. TEST AND LABEL EACH END 3' SLACK EACH, COMBINATION RJ-11 AND RF-45 COVERPLATE.
	CEILING MOUNTED DATA OUTLET, 4X4 BOX WITH CAT 6 CABLE BACK TO RACK IN ROOM #108. TEST AND LABEL EACH END 3' SLACK EACH, COMBINATION RF-45 COVERPLATE.,
Ⓡ	RADIO JUNCTION BOX LOCATED IN CEILING WITH PULL THRU WIRE TO SINGLE GANG BOX IN WALL. COORDINATE WITH OWNER FOR MOUNTING HEIGHT. (FOR RADIO IINSTALLATION.)
Ⓚ	ELECTRONIC LOCKSET (CARD READER/PUSH BUTTON) SYSTEM. JUNCTION BOX LOCATED IN CEILING WITH PULL THRU WIRE TO SINGLE GANG BOX IN WALL. COORDINATE WITH OWNER FOR MOUNTING HEIGHT. (FOR EQUIPMENT INSTALLATION.)
HDMI	INSTALL SINGLE GANG BOX WITH HDMI FEMALE JACK AND HDMI CABLE TO 14" A.F.F. BOX WITH HDMI FEMALE JACK.

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seal

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No.008875
5 AUG 2019
PROFESSIONAL ENGINEER

ISSUE/REVISIONS:

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ADMIN BUILDING

SHEET TITLE:

FIRST FLOOR POWER PLAN

DATE: AUGUST 5, 2019
SCALE: AS NOTED
PROJECT NUMBER: 1801014
SHEET:

E2.2

1 E2.3 SECOND FLOOR POWER PLAN
3/16" = 1'-0"

POWER SYMBOL LIST	
SYMBOL	DESCRIPTION
	DUPLEX RECEPTACLE
	GFCI RECEPTACLE. WP DENOTES WEATHERPROOF COVER. COORDINATE MOUNTING HEIGHT AT COUNTERS AND CASEWORK
	QUAD RECEPTACLE
	FLOOR RECEPTACLE. RECESSED DUAL COMPARTMENT BOX (POWER/DATA) WITH CAT 6 WIRING BACK TO ROOM 108 AND COVERPLATE TO MATCH FLOOR. REFER TO ARCHITECTURAL PLANS.
	CEILING MOUNTED RECEPTACLE.
	JUNCTION BOX EQUIPMENT CONNECTION
	CEILING MOUNTED POWER SUPPLY FOR UC AND A1 TAPE LIGHTS. COORDINATE ACCESS PANEL AND POWER SUPPLY LOCATION WITH OWNER.
	JUNCTION BOX WITH NFSS DISCONNECT FOR EQUIPMENT CONNECTION.
	NFSS DISCONNECT SWITCH AND MOTOR CONNECTION.
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	MOTOR CONNECTION (EXHAUST FAN, DISPOSER, ETC.)
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TV	MOUNT OUTLET 84" AFF
	PROJECTION SCREEN SWITCH
MW	COORDINATE MOUNTING HEIGHT WITH CABINET INSTALLER
DW	COORDINATE LOCATION OF DISHWASHER OUTLET WITH OWNER
	DUAL COMPARTMENT RECESSED FLOOR BOXES WILL INCLUDE 2 POWER RECEPTACLES, 2 HDMI CABLES, AND 2-RJ45 JACKS

LOW VOLTAGE SYMBOL LIST	
SYMBOL	DESCRIPTION
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	CEILING MOUNTED DATA OUTLET, 4X4 BOX WITH CAT 6 CABLE BACK TO RACK IN ROOM #108. TEST AND LABEL EACH END 3' SLACK EACH, COMBINATION RF-45 COVERPLATE.,
R	RADIO JUNCTION BOX LOCATED IN CEILING WITH PULL THRU WIRE TO SINGLE GANG BOX IN WALL. COORDINATE WITH OWNER FOR MOUNTING HEIGHT. (FOR RADIO IINSTALLATION.)
K	ELECTRONIC LOCKSET (CARD READER/PUSH BUTTON) SYSTEM. JUNCTION BOX LOCATED IN CEILING WITH PULL THRU WIRE TO SINGLE GANG BOX IN WALL. COORDINATE WITH OWNER FOR MOUNTING HEIGHT. (FOR EQUIPMENT INSTALLATION.)
HDMI	INSTALL SINGLE GANG BOX WITH HDMI FEMALE JACK AND HDMI CABLE TO 14" A.F.F. BOX WITH HDMI FEMALE JACK.

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ARCHITECT:

Seal

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5 AUG 2019
PROFESSIONAL ENGINEER

ISSUE/REVISIONS:

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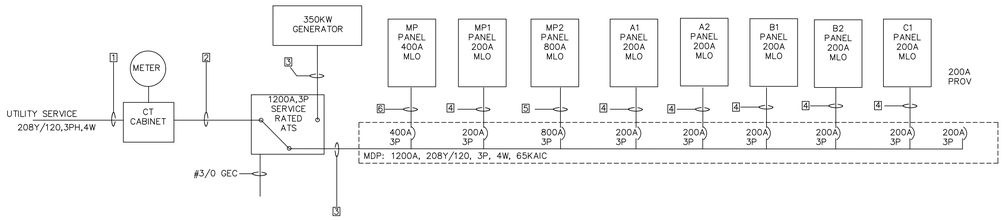
PUBLIC WORKS
ADMIN BUILDING

SHEET TITLE:

SECOND FLOOR POWER PLAN

DATE: AUGUST 5, 2019
SCALE: AS NOTED
PROJECT NUMBER: 1801014
SHEET:

E2.3



1 1200A, 3PH 4W SERVICE FROM UTILITY
(4) SETS OF 4 X 350 CU XHHW, EACH IN 3" PVC

2 1200A, 3PH 4W SERVICE ENTRANCE
(4) SETS OF 4 X 350 CU THHN IN 3" EMT

3 1200A, 3PH 4W FEEDER
(4) SETS OF 4 X 350 CU THHN & #3/0 CU EGC EACH IN 3" EMT

4 200A, 3PH 4W FEEDER
4 X 3/0 CU THHN & #6 CU EGC EACH IN 2" EMT

5 800A, 3PH 4W FEEDER
(3) SETS OF 4 X 300 CU THHN & #1/0 CU EGC EACH IN 2-1/2" EMT

6 400A, 3PH 4W FEEDER
(2) SETS OF 4 X 3/0 CU THHN & #3 CU EGC EACH IN 2" EMT

Note: Require a coordination study.

1 / E3.1 ONE LINE DIAGRAM
N.T.S.

A1 — 200 A FRAME 3 PH 4 W 208Y/120 VOLT — MLO PANELBOARD — AIR: 65KA

Ckt	DESCRIPTION	CB	POLE	PH	NEU	EGG	COND	VA	PH	VA	COND	EGC	NEU	PH	POLE	CB	DESCRIPTION	Ckt
1	RM G01 LIGHTS	15	1	14	14	14	MC	949	A	1722	MC	12	12	12	1	20	UTLY/STRT CRW LTS	2
3	PUBLIC WORK LTS	15	1	14	14	14	MC	951	B	900	MC	14	14	14	1	15	RM G03 REC	4
5	RM G03D REC	15	1	14	14	14	MC	1260	C	540	MC	14	14	14	1	15	LOCKER RM REC	6
7	RM G02 REC	15	1	14	14	14	MC	720	A	720	MC	14	14	14	1	15	RM G020 REC	8
9	RM G090 REC	15	1	14	14	14	MC	540	B	360	MC	14	14	14	1	15	LOCKER RM REC	10
11	RM G09 REC	15	1	14	14	14	MC	720	C	540	MC	14	14	14	1	15	RM G09A REC	12
13	RM G09A REC	15	1	14	14	14	MC	540	A	720	MC	14	14	14	1	15	LOWER HALL REC	14
15	RM G03 CNTR REC	15	1	14	14	14	MC	540	B	1176	MC	12	12	12	1	20	RM G03 DISPOSAL	16
17	RM G03 MWAVE	20	1	12	12	12	MC	1600	C	720	MC	14	14	14	1	15	RMG03 FRIG	18
19	RMG03 FRIG	15	1	14	14	14	MC	720	A	600	MC	14	14	14	1	15	WATER COOLER	20
21	RM G02A 14P BDYEE	20	1	12	12	12	MC	1980	B	1176	MC	12	12	12	1	20	RM G02 DISPOSAL	22
23	RM G02 CNTR REC	15	1	14	14	14	MC	540	C	1600	MC	12	12	12	1	20	RM G02 MWAVE	24
25	RM G02 FRIG	15	1	14	14	14	MC	720	A	720	MC	14	14	14	1	15	RM G02 FRIG	26
27	RM G06 FV	15	1	14	14	14	MC	720	B	360	MC	14	14	14	1	15	RM G07 FV	28
29	GO3A. C REC	15	1	14	14	14	MC	540	C	600	MC	14	14	14	1	15	WASHER	30
31	DRYER (1)	20	1	12	12	12	MC	720	A	720	MC	12	12	12	1	20	DRYER (2)	32
33	GO1A REC	15	1	14	14	14	MC	180	B								SPARE	34
35	RM G06B BDYER	20	1	12	12	12	MC	1980	C	1176	MC	12	12	12	1	20	RM G09 DISPOSAL	36
37	RM G09 CNTR REC	15	1	14	14	14	MC	540	A	1600	MC	12	12	12	1	20	RM G09 MWAVE	38
39	RM G09 FRIG	15	1	14	14	14	MC	720	B	1080	MC	14	14	14	1	15	GO3C LCK BD	40
41	GO3C LCK BD	15	1	14	14	14	MC	1080	C	1080	MC	14	14	14	1	15	GO3C LCK BD	42
43	GO3C LCK BD	15	1	14	14	14	MC	1080	A	1080	MC	14	14	14	1	15	GO3C LCK BD	44
45	GO3C LCK BD	15	1	14	14	14	MC	1080	B	1080	MC	14	14	14	1	15	GO3C LCK BD	46
47	GO3C LCK BD	15	1	14	14	14	MC	1080	C	1080	MC	14	14	14	1	15	GO3C LCK BD	48
49	GO3C LCK BD	20	1	12	12	12	MC	1620	A	1620	MC	12	12	12	1	20	GO3A LCK BD	50
51	SPARE								B								SPARE	52
53	SPARE								C								SPARE	54

CONNECTED VA	17,111	A	143	CONNECTED AMPS	WIRES BASED ON 75° C RATED CU
CONNECTED VA	12,843	B	107	CONNECTED AMPS	WITH 75° C RATED TERMINALS
CONNECTED VA	16,136	C	134	CONNECTED AMPS	
TOTAL CONNECTED VA	46,090		128	AVERAGE CONNECTED AMPS	
DEMAND VA	46,999		130	NEC DEMAND AMPS	

\\MYCLOUDEX2ULTRA\Public\DATA\Projects\cdi19\E1907 City Yard\ELEC\[A1 - CITY YARDS PANEL.xlsx]3ph54 7/9/2019 15:39

B1 — 200 A FRAME 3 PH 4 W 208Y/120 VOLT — MLO PANELBOARD — AIR: 22KA

Ckt	DESCRIPTION	CB	POLE	PH	NEU	EGG	COND	VA	PH	VA	COND	EGC	NEU	PH	POLE	CB	DESCRIPTION	Ckt
1	HALL LTS	20	1	12	12	12	MC	1865	A	1346	MC	14	14	14	1	15	OFF/KITCH LTS	2
3	IT RACK REC	15	1	14	14	14	MC	720	B	540	MC	14	14	14	1	15	RM 106 REC	4
5	RM 109 REC	15	1	14	14	14	MC	1080	C	720	MC	14	14	14	1	15	RM 110 REC	6
7	RM 111 REC	15	1	14	14	14	MC	720	A	720	MC	14	14	14	1	15	RM 113 REC	8
9	RM 114 REC	15	1	14	14	14	MC	720	B	1080	MC	14	14	14	1	15	RM 112 REC	10
11	RM 102F REC	15	1	14	14	14	MC	540	C	540	MC	14	14	14	1	15	RM 102F REC	12
13	RESTROOM REC	15	1	14	14	14	MC	540	A	360	MC	14	14	14	1	15	RM 102B FV	14
15	WATER COOLER	15	1	14	14	14	MC	600	B	864	MC	14	14	14	1	15	RM 102 VENDING (1)	16
17	RM 102 VENDING (2)	15	1	14	14	14	MC	864	C	360	MC	14	14	14	1	15	RM102C FV	18
19	RM 106 FRIG	15	1	14	14	14	MC	720	A	1176	MC	12	12	12	1	20	RM106 DISPOSAL	20
21	RM 106 CNTR REC	15	1	14	14	14	MC	540	B	600	MC	12	12	12	1	20	RM 106 RANGE	22
23	RM 106 MWAVE	20	1	12	12	12	MC	1600	C	1080	MC	12	12	12	1	20	RM 106 DISHWASHE	24
25	ICE MACHINE	20	1	12	12	12	MC	1800	A	720	MC	12	12	12	1	20	PANTRY FREEZER	26
27	BACK HALL REC	15	1	14	14	14	MC	540	B	360	MC	14	14	14	1	15	IT RM REC	28
29	RM 106 REC	15	1	14	14	14	MC	540	C								SPARE	30
31	SPARE								A								SPARE	32
33	SPARE								B								SPARE	34
35	SPARE								C								SPARE	36
37	SPARE								A								SPARE	38
39	SPARE								B								SPARE	40
41	SPARE								C								SPARE	42

CONNECTED VA	9,967	A	83	CONNECTED AMPS	WIRES BASED ON 75° C RATED CU
CONNECTED VA	6,564	B	55	CONNECTED AMPS	WITH 75° C RATED TERMINALS
CONNECTED VA	7,324	C	61	CONNECTED AMPS	
TOTAL CONNECTED VA	23,855		66	AVERAGE CONNECTED AMPS	
DEMAND VA	24,658		68	NEC DEMAND AMPS	

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C1 — 200 A FRAME 3 PH 4 W 208Y/120 VOLT — MLO PANELBOARD — AIR: 10KA

Ckt	DESCRIPTION	CB	POLE	PH	NEU	EGG	COND	VA	PH	VA	COND	EGC	NEU	PH	POLE	CB	DESCRIPTION	Ckt
1	RM 200A,B,1 LTS	15	1	14	14	14	MC	1376	A	1272	MC	14	14	14	1	15	RM 200,2,3,4 LTS	2
3	RM 201 REC	20	1	12	12	12	MC	360	B	540	MC	12	12	12	1	20	RM 201 RC	4
5	RM 200A REC	20	1	12	12	12	MC	720	C	720	MC	12	12	12	1	20	RM 200B REC	6
7	CORRIDOR REC	20	1	12	12	12	MC	540	A	720	MC	12	12	12	1	20	RM 203 TV REC	8
9	RM 203 FLR BX REC	20	1	12	12	12	MC	1080	B	720	MC	12	12	12	1	20	RM 203 WALL REC	10
11	RM 204 FLR BOX REC	20	1	12	12	12	MC	720	C	540	MC	12	12	12	1	20	RM 204 WALL REC	12
13	C-200B	15	2	14		14	MC	35	A	35	MC	14		14	2	15	C-200A	14
15	"	15		14				35	B	35				14			"	16
17	SPARE								C								SPARE	18
19	SPARE								A								SPARE	20
21	SPARE								B								SPARE	22
23	SPARE								C								SPARE	24
25	SPARE								A								SPARE	26
27	SPARE								B								SPARE	28
29	SPARE								C								SPARE	30
31									A									32
33									B									34
35									C									36
37									A									38
39									B									40
41									C									42

CONNECTED VA	3,978	A	33	CONNECTED AMPS	WIRES BASED ON 75° C RATED CU
CONNECTED VA	2,770	B	23	CONNECTED AMPS	WITH 75° C RATED TERMINALS
CONNECTED VA	2,700	C	23	CONNECTED AMPS	
TOTAL CONNECTED VA	9,448		26	AVERAGE CONNECTED AMPS	
DEMAND VA	10,145		28	NEC DEMAND AMPS	

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A2 — 200 A FRAME 3 PH 4 W 208Y/120 VOLT — MLO PANELBOARD — AIR: 65KA

Ckt	DESCRIPTION	CB	POLE	PH	NEU	EGG	COND	VA	PH	VA	COND	EGC	NEU	PH	POLE	CB	DESCRIPTION	Ckt
1	UTLY/OFF LIGHTS	15	1	14	14	14	MC	1241	A	1409	MC	14	14	14	1	15	CONC OFF/IL LTS	2
3	RM GO4A REC	15	1	14	14	14	MC	720	B	540	MC	14	14	14	1	15	RM GO4 REC	4
5	RM GO4B REC	15	1	14	14	14	MC	360	C	720	MC	14	14	14	1	15	LOCKER RM REC	6
7	RM G05 REC	15	1	14	14	14	MC	720	A	720	MC	14	14	14	1	15	RM G06 REC	8
9	RM G07 REC	15	1	14	14	14	MC	720	B	900	MC	14	14	14	1	15	RM G08 REC	10
11	RM G08B REC	15	1	14	14	14	MC	540	C	540	MC	14	14	14	1	15	RM G08A REC	12
13	RM G05D REC	15	1	14	14	14	MC	540	A	360	MC	14	14	14	1	15	EXT REC	14
15	EXT REC	15	1	14	14	14	MC	360	B	864	MC	14	14	14	1	15	EXT ICE CHEST	16
17	UC LIGHT RM GO5	15	1	14	14	14	MC	180	C	864	MC	14	14	14	1	15	GO1C VENDING (1)	18
19	GO1C VENDING (2)	15	1	14	14	14	MC	864	A	1080	MC	14	14	14	1	15	GO4B LCKER REC	20
21	GO4B LCKER REC	15	1	14	14	14	MC	1060	B	1600	MC	12	12	12	1	20	RM G04 MWAVE	22
23	RM G04 CNTR REC	15	1	14	14	14	MC	540	C	1176	MC	12	12	12	1	20	RM GO4 DISPOSAL	24
25	RM G04 FRIG	15	1	14	14	14	MC	720	A	1080	MC	14	14	14	1	15	G04B LCKER REC	26
27	8P B DRYER	20	1	12	12	12	MC	1440	B	1980	MC	12	12	12	1	20	14P B DRYER	28
29	RM G05 CNTR REC	15	1	14	14	14	MC	180	C	1176	MC	12	12	12	1	20	RM G06 DISPOSAL	30
31	RM G05 MWAVE	20	1	12	12	12	MC	1600	A	720	MC	14	14	14	1	15	RM G05 FRIG	32
33	GO4B LCKER REC	15	1	14	14	14	MC	1080	B	1600	MC	12	12	12	1	20	RM G08 MWAVE	34
35	RM G08 DISPOSAL	20	1	12	12	12	MC	1176	C	360	MC	14	14	14	1	15	RM G06 CNTR REC	36
37	RM G06 FRIG	15	1	14	14	14	MC	720	A	1080	MC	14	14	14	1	15	G04B LCKER REC	38
39	SPARE								B	900	MC	14	14	14	1	15	WATER COOLER	40
41	P-6 (GAS HWH)	15	1	14	14	14	MC	528	C	696	MC	14	14	14	1	15	P-8 (CIRC PUMP)	42
43	SPARE								A								SPARE	44
45	SPARE								B								SPARE	46
47	SPARE								C								SPARE	48
49	SPARE								A								SPARE	50
51	SPARE								B								SPARE	52
53	SPARE								C								SPARE	54

CONNECTED VA	12,854	A	107	CONNECTED AMPS	WIRES BASED ON 75° C RATED CU
CONNECTED VA	13,484	B	112	CONNECTED AMPS	WITH 75° C RATED TERMINALS
CONNECTED VA	9,036	C	75	CONNECTED AMPS	
TOTAL CONNECTED VA	35,374		98	AVERAGE CONNECTED AMPS	
DEMAND VA	33,969		94	NEC DEMAND AMPS	

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B2 — 200 A FRAME 3 PH 4 W 208Y/120 VOLT — MLO PANELBOARD — AIR: 14KA

Ckt	DESCRIPTION	CB	POLE	PH	NEU	EGG	COND	VA	PH	VA	COND	EGC	NEU	PH	POLE	CB	DESCRIPTION	Ckt
1	TRAINING RM C LTS	25	1	10	10	10	MC	928	A	1136	MC	14	14	14	1	15	OFF. LOBBY LTS	2
3	RM 104 REC	15	1	14	14	14	MC	540	B	540	MC	14	14	14	1	15	RM 103 REC	4
5	TRAINING RM REC	15	1	14	14	14	MC	540	C	360	MC	14	14	14	1	15	EXTERIOR REC	6
7	LOBBY REC	15	1	14	14	14	MC	1080	A	720	MC	14	14	14	1	15	RM 120 REC	8
9	RM 119 REC	15	1	14	14	14	MC	540	B	720	MC	14	14	14	1	15	MAILRM COPIER	10
11	TRAINING RM B LTS	15	1	14	14	14	MC	930	C	973	MC	14	14	14	1	15	TRAINING RM A LTS	12
13	RM 116 REC	15	1	14	14	14	MC	720	A	720	MC	14	14	14	1	15	RM 117 REC	14
15	RM 116 REC	15	1	14	14	14	MC	720	B	540	MC	14	14	14	1	15	RM 115 REC	16
17	MAIN HALL REC	15	1	14	14	14	MC	540	C	540	MC	14	14	14	1	15	RM 105 REC	18
19	RM 103 REC	15	1	14	14	14	MC	360	A	540	MC	14	14	14	1	15	PROJECTOR REC	20
21	RM 115 REC	15	1	14	14	14	MC	540	B	540	MC	14	14	14	1	15	RM 120A REC	22
23	EXTERIOR SIGN	20	1	12	12	12	MC	2300	C	2300	MC	12	12	12	1	20	EXTERIOR SIGN	24
25	EH-4	20	2	12		12	MC	1498	A	1498	MC	12		12	2	20	EH-3	26
27	"			12				1498	B	1498				12			"	28
29	TRAIN RM C FL REC	15	1	14	14	14	MC	1080	C	1080	MC	14	14	14	1	15	TRAIN RM C FL REC	30
31	TRAIN RM C FL REC	15	1	14	14	14	MC	540	A	1080	MC	14	14	14	1	15	TRAIN RM B FL REC	32
33	TRAIN RM B FL REC	15	1	14	14	14	MC	1080	B	540	MC	14	14	14	1	15	TRAIN RM B FL REC	34
35	TRAIN RM A FL REC	15	1	14	14	14	MC	540	C	1080	MC	14	14	14	1	15	TRAIN RM A FL REC	36
37	TRAIN RM A FL REC	15	1	14	14	14	MC	1080	A	360	MC	14	14	14	1	15	RM 105A REC	38
39	RM 100A REC	15	1	14	14	14	MC	360	B	480	MC	12	12	12	1	20	GATE CONTROL	40
41	SPARE								C								SPARE	42
43	SPARE								A								SPARE	44
45	SPARE								B								SPARE	46
47	SPARE								C								SPARE	48
49	SPARE								A								SPARE	50
51	SPARE								B								SPARE	52
53	SPARE								C								SPARE	54

CONNECTED VA	12,260	A	102	CONNECTED AMPS	WIRES BASED ON 75° C RATED CU
CONNECTED VA	10,136	B	84	CONNECTED AMPS	WITH 75° C RATED TERMINALS
CONNECTED VA	12,263	C	102	CONNECTED AMPS	
TOTAL CONNECTED VA	34,659		96	AVERAGE CONNECTED AMPS	
DEMAND VA	33,849		94	NEC DEMAND AMPS	

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NORTH (building)

CITY YARDS MAINTENANCE FACILITY:
RENOVATION AND ADDITIONS
301 EAST CORK ST.
WINCHESTER, VIRGINIA
22601

ARCHITECT:

Seal

CIVIL and STRUCTURAL ENGINEERS:

CONSULTING ENGINEERS

COMMONWEALTH OF VIRGINIA
JASON S. MARSHALL
Lic. No. 047220
PROFESSIONAL ENGINEER

PAINTER–LEWIS, P.L.C.
817 CEDAR CREEK GRADE, Suite 120
WINCHESTER, VIRGINIA 22601
(540) 662–5792

MECHANICAL, ELECTRICAL, and PLUMBING ENGINEERS:

Comfort Designs Inc.
620 Pennsylvania Avenue
Winchester, VA 22604
540 665–2846

Seal:

COMMONWEALTH OF VIRGINIA
MICHAEL F. HOVELL
No.008875
5 AUG 2019
PROFESSIONAL ENGINEER

ISSUE/REVISIONS:

DRAWING TITLE:

PHASE I
PUBLIC WORKS
ADMIN BUILDING

SHEET TITLE:

ELECTRICAL DETAILS

DATE: AUGUST 5, 2019
SCALE: AS NOTED
PROJECT NUMBER: 1801014
SHEET:

E3.1

MP		400	A	FRAME	3 PH	4 W	208Y/120	VOLT			MLO	PANELBOARD				AIR:	65KA	
Ckt	DESCRIPTION	CB	POLE	PH	NEU	EGC	COND	VA	PH	VA	COND	EGC	NEU	PH	POLE	CB	DESCRIPTION	Ckt
1	ERV-4	15	2	14		14	MC	432	A	398	MC	14		14	2	15	AHU-LOCKER	2
3	"			14				432	B	398				14			"	4
5	AHU-G04	15	2	14		14	MC	398	C	174	MC	14		14	2	15	BC-2	6
7	"			14				398	A	174				14			"	8
9	ERV-1A	15	2	14		14	MC	432	B	398	MC	14		14	2	15	AHU-G05	10
11	"			14				432	C	398				14			"	12
13	ERV-3	15	2	14		14	MC	187	A	345	MC	14		14	2	15	AHU-G08	14
15	"			14				187	B	345				14			"	16
17	ERV-1B	15	2	14		14	MC	432	C	328	MC	14		14	2	15	AHU-G01	18
19	"			14				432	A	328				14			"	20
21	BC-1	15	2	14		14	MC	174	B								SPARE	22
23	"			14				174	C								SPARE	24
25	AHU-G09	15	2	14		14	MC	328	A	432	MC	14		14	2	15	ERV-5	26
27	"			14				328	B	432				14			"	28
29	AHU-G02	15	2	14		14	MC	345	C	345	MC	14		14	2	15	AHU-G02A	30
31	"			14				345	A	345				14			"	32
33	AHU-G03	15	2	14		14	MC	384	B	432	MC	14		14	2	15	ERV-2	34
35	"			14				384	C	432				14			"	36
37	EH-1	20	2	12		12	MC	1498	A	1498	MC	12		12	2	20	EH-2	38
39	"			12				1498	B	1498				12			EH-2	40
41	HYDRO ELEV	300	3	4		3	2-1/2	14400	C	1725	MC	12	12	12	1	20	ELEV LTS AND FAN	42
43	"			4				14400	A	180	MC	14	14	14	1	15	ELEV SERV REC	44
45	"			4				14400	B	1176	1/2	14	14	14	1	15	ELEV SUMP PUMP	46
47	SHUNT TRIP								C								SPARE	48
49	SPARE								A								SPARE	50
51	SPARE								B								SPARE	52
53	SPARE								C								SPARE	54

CONNECTED VA	21 720	A	181	CONNECTED AMPS	WIRES BASED ON 75° C RATED CU
CONNECTED VA	22,514	B	188	CONNECTED AMPS	WITH 75° C RATED TERMINALS
CONNECTED VA	19 967	C	166	CONNECTED AMPS	
TOTAL CONNECTED VA	64 202		178	AVERAGE CONNECTED AMPS	
DEMAND VA	69 300		192	NEC DEMAND AMPS	

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MP1		200	A	FRAME	3 PH	4 W	208Y/120	VOLT			MLO	PANELBOARD				AIR:	42KA	
Ckt	DESCRIPTION	CB	POLE	PH	NEU	EGC	COND	VA	PH	VA	COND	EGC	NEU	PH	POLE	CB	DESCRIPTION	Ckt
1	C-109	15	2	14		14	MC	44	A	35	MC	14		14	2	15	C-110	2
3	"			14				44	B	35				14			"	4
5	C-111	15	2	14		14	MC	35	C	35	MC	14		14	2	15	C-113	6
7	"			14				35	A	35				14			"	8
9	C-114	15	2	14		14	MC	35	B	42	MC	14		14	2	15	C-115	10
11	"	15		14				35	C	42				14			"	12
13	C-116	15	2	14		14	MC	35	A	35	MC	14		14	2	15	C-117	14
15	"			14				35	B	35				14			"	16
17	C-118	15	2	14		14	MC	35	C	35	MC	14		14	2	15	C-102F	18
19	"			14				35	A	35				14			"	20
21	C-112	15	2	14		14	MC	42	B	120	MC	14	14	14	1	15	RM 106 EF-1	22
23	"			14				42	C								SPARE	24
25	AHU-106	15	2	14		14	MC	144	A								SPARE	26
27	"			14				144	B	432	MC	14		14	2	15	ERV-12	28
29	BC-4	15	2	14		14	MC	198	C	432				14			"	30
31	"			14				198	A	328	MC	14		14	2	15	AHU-102	32
33	AHU-105	15	2	14		14	MC	409	B	328				14			"	34
35	"			14				409	C	409	MC	14		14	2	15	AHU-104	36
37	AHU-103	15	2	14		14	MC	409	A	409				14			"	38
39	"			14				409	B	174	MC	14		14	2	15	BC-3	40
41	AHU-101	15	2	14		14	MC	187	C	174				14			"	42
43	"			14				187	A	432	MC	14		14	2	15	ERV-11	44
45									B	432				14			"	46
47									C									48
49									A									50
51									B									52
53									C									54

CONNECTED VA	2,395	A	20	CONNECTED AMPS	WIRES BASED ON 75° C RATED CU
CONNECTED VA	2,715	B	23	CONNECTED AMPS	WITH 75° C RATED TERMINALS
CONNECTED VA	2,068	C	17	CONNECTED AMPS	
TOTAL CONNECTED VA	7,177		20	AVERAGE CONNECTED AMPS	
DEMAND VA	7,285		20	NEC DEMAND AMPS	

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MP2		800	A	FRAME	3 PH	4 W	208Y/120	VOLT			MLO	PANELBOARD				AIR:	65KA	
Ckt	DESCRIPTION	CB	POLE	PH	NEU	EGC	COND	VA	PH	VA	COND	EGC	NEU	PH	POLE	CB	DESCRIPTION	Ckt
1	HP-1 (CIRC #1)	60	3	8		10	1	5280	A	5280	1	10		8	3	60	HP-2 (CIRC #2)	2
3	"			8				5280	B	5280				8			"	4
5	"			8				5280	C	5280				8			"	6
7	HP-1 (CIRC #2)	60	3	8		10	1	5280	A	5280	1	10		8	3	60	HP-2 (CIRC #2)	8
9	"			8				5280	B	5280				8			"	10
11	"			8				5290	C	5280				8			"	12
13	HP-3 (CIRC #1)	80	3	4		8	1-1/4	7200	A	5280	1	10		8	3	60	HP-4 (CIRC #1)	14
15	"			4				7200	B	5280				8			"	16
17	"			4				7200	C	5280				8			"	18
19	HP-3 (CIRC #2)	80	3	4		8	1-1/4	7200	A	5280	1	10		8	3	60	HP-4 (CIRC #2)	20
21	"			4				7200	B	5280				8			"	22
23	"			4				7200	C	5280				8			"	24
25	HP-5 (CIRC #1)	60	3	8		10	1	5280	A	180	MC	12	12	12	1	20	RTU SERV GF/S	26
27	"	60		8				5280	B	696	MC	12	12	12	1	20	EF-2	28
29	"			8				5280	C	162	MC	14		14	2	15	AHU-200	30
31	HP-5 (CIRC #2)	60	3	8		10	1	5280	A	162				14			"	32
33	"			8				5280	B	408	MC	14		14	2	15	AHU-201A	34
35	"			8				5280	C	408				14			"	36
37	AHU-201B	15	2	14		14	MC	408	A	328	MC	14		14	2	15	AHU-203	38
39	"			14				408	B	328				14			"	40
41	AHU/CU-IT	15	2	14		14	MC	1560	C	1560	MC	14		14	2	15	AHU/CU-EL	42
43	"	15		14				1560	A	1560					2		"	44
45	BC-5	15	2	14		14	MC	174	B								"	46
47	"			14				174	C	1200	MC	12	12	12	1	20	POLE SITE LTS	48
49									A								"	50
51									B								"	52
53									C								"	54

CONNECTED VA	59,278	A	494	CONNECTED AMPS	WIRES BASED ON 75° C RATED CU
CONNECTED VA	58,654	B	489	CONNECTED AMPS	WITH 75° C RATED TERMINALS
CONNECTED VA	61,704	C	514	CONNECTED AMPS	
TOTAL CONNECTED VA	179,635		499	AVERAGE CONNECTED AMPS	
DEMAND VA	223,242		620	NEC DEMAND AMPS	

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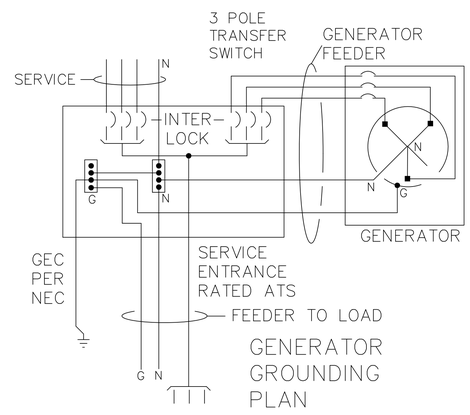
ENGINE-GENERATOR SET REQUIREMENTS

GENERAL	
APPLICATION	STAND-BY
RATING	350KW
VOLTAGE	208/120
FREQUENCY	60 HZ
CONFIGURATION	3PH 4 WIRE
ENVIRONMENT	500 FT ALTITUDE
BASE	STEEL FRAME WITH PAD VIBRATION ISOLATION
LISTING	UL, NEMA
ENGINE	
STARTING	ELECTRIC
FUEL	DIESEL
COOLING	RADIATOR AIR COOLED CLOSED SYSTEM
LUBRICATION	GEAR PUMP
LUBE OIL FILTER	FULL FLOW WITH BYPASS VALVE
GOVERNOR	ELECTRONIC ISOCHRONOUS 0.25 PERCENT
SPEED	1800 RPM
BATTERY	LEAD ACID
BATTERY CHARGER	AUTOMATIC HEAVY DUTY INDUSTRIAL TYPE
BLOCK HEATER	THERMOSTATIC CONTROL, 120 VOLT INPUT
GENERATOR	
RATING	SEE ABOVE
MAIN LINE BREAKER	1200A
CONSTRUCTION	SALIENT POLE SYNCHRONOUS TYPE
EXCITER	BRUSHLESS
HARMONIC DISTORTION	LESS THAN 5 PERCENT
INSULATION	CLASS H
REGULATOR	DIGITAL SOLID STATE, 1 PERCENT
CONTROL PANEL	
INDICATING METERS	VOLTMETER, AMMETER, FREQUENCY METER
SELECTING SWITCH	VOLTAGE, CURRENT
ENGINE SHUT-DOWN	HIGH WATER TEMP, LOW OIL PRESSURE, OVERSPEED OVERCRANK, LOW WATER LEVEL
ENGINE GAUGE	BATTERY VOLTAGE, WATER TEMP, OIL PRESSURE, RUN-TIME
ENGINE CONTROL	LOCAL MANUAL, REMOTE FROM AUTOMATIC TRANSFER SWITCH
REMOTE ALARMS	LOW COOLANT LEVEL, HIGH TEMP, LOW OIL PRESSURE OVER-CRANK, OVER-SPEED, EMERGENCY STOP LOW BATTERY
HOUSING	
RATING	WEATHERPROOF
ACCESS	LOCKABLE ACCESS DOORS FOR ALL MAINTENANCE
MUFFLER	CRITICAL RATING
FUEL STORAGE	48 HRS
COMMISSIONING	
DOCUMENTATION	MANUFACTURER'S SUBMITTAL DATA, FULL O&M MANUAL (2 COPIES)
TESTS	FACTORY TEST WITH DOCUMENTATION
START-UP	FACTORY AUTHORIZED TECHNICIAN TO SUPERVISE
TRAINING	FACTORY AUTHORIZED TECHNICIAN TO TRAIN OWNER REP
WARRANTY	TWO YEARS (1500 HR LIMIT)
AUTOMATIC TRANSFER SWITCH	
RATING	1200A, 208/120V
POLES	THREE
EXERCISER	PROGRAMMABLE AUTOMATIC EXERCISING OF GENSET
LISTINGS	UL, NEMA
OPERATION	AUTOMITIC GENERATOR START UPON LOSS OF NORMAL POWER
CONTROL	PROGRAMMABLE TRANSFER/RE-TRANSFER DELAYS
SERVICE ENTRANCE RATED	YES
ENCLOSURE	NEMA 1
DOCUMENTATION	FACTORY SUBMITTAL DATA, O&M MANUAL (2 COPIES)
BASIS OF DESIGN	KOHLER MODEL: 350RZEOZJB ALTERNATOR: 4M4019



GENERATOR
GROUNDING
PLAN

NORTH (building)

CITY YARDS MAINTENANCE FACILITY:
RENOVATION AND ADDITIONS
301 EAST CORK ST.
WINCHESTER, VIRGINIA
22601

CITY OF WINCHESTER
FARE FAC
#1744
VIRGINIA

ARCHITECT:

Seal:

CIVIL and STRUCTURAL ENGINEERS:

CONSULTING ENGINEERS

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5 AUG 2019
PROFESSIONAL ENGINEER

ISSUE/REVISIONS:

DRAWING TITLE:

PHASE I
PUBLIC WORKS
ADMIN BUILDING

SHEET TITLE:

ELECTRICAL DETAILS

DATE: AUGUST 5, 2019
SCALE: AS NOTED
PROJECT NUMBER: 1801014
SHEET:

E3.2

ELECTRICAL NOTES:

BASIC METHODS AND REQUIREMENTS:

1. The Electrical Contractor shall provide all labor, material, equipment, tools and services required to construct, install, complete, test, and commission the operation of the electrical systems identified within the construction documents. It is the intent of these contract documents to call for finished work, tested, and ready for operation.
2. Wherever the work "provide" is used it shall mean to furnish and install complete and ready for use.
   a. Provide all materials, bracing, hangers, connectors, and components as required to provide a complete operational electrical system.
   b. All items not specifically shown in the design documents, but which are necessary for a complete working installation in compliance with code requirements shall be provided at no additional cost.
3. The installation shall comply with applicable requirements of the International Building Code (IBC), NFPA 70 (NEC), NFPA 101 (Life Safety Code), ADA, and all local codes in effect at the project location at the time of contract award.
4. The drawings indicate the extent, general location and arrangement of equipment, components, and wiring. The contractor shall review all project requirements and coordinate the electrical installation with all trades.
   a. The Contractor shall become familiar with the work and verify all dimensions and locations so that the outlets, devices, raceways and equipment will be properly located and accessible. Actual field measurements shall prevail over any scaled measurements taken from these drawings.
   b. The Contractor shall confirm the location of all equipment that requires electrical connections with the trade installing the equipment prior to rough in of the associated electrical devices, disconnects, raceways, and wiring.
   c. The contractor shall confirm the electrical requirements and configuration (including overcurrent protective device ratings and conductor sizing) of circuits required for all equipment that requires electrical connection with the installer of such equipment prior to rough-in or installation of related electrical items.
   d. Rework required that results from failure to coordinate shall be done at the contractor's expense.
5. The drawings are diagrammatic only, intending to show general location of circuits, equipment, fixtures, and devices; and do not show all required details. All work shall be accurately laid out with reference to the drawings and in cooperation with other trades to avoid conflicts and to obtain a neat and workable installation which will afford maximum accessibility for operation, maintenance, and headroom. The electrical contractor is responsible for determining optimal routing of circuits and field investigations required to complete the installation in a professional workmanship manner. Refer to architectural drawings for exact dimensions and to mechanical drawings for locations of mechanical equipment.
6. The drawings are not intended to be rigid in specific details. In the event they are in conflict with requirements of other drawings, codes, or recommendations of the manufacturers of equipment furnished, the Electrical Contractor shall inform the General Contractor and make recommendations as required to insure that equipment is installed and connected in conformance with codes and manufacturer's recommendations for safe, proper, and efficient operation. The General Contractor shall issue a Request for Information with the proposed recommendation to the Architect.
7. The contractor, by accepting the work, represents that it is qualified to successfully accomplish the work without additional direction by the design engineer. The design engineer is not responsible for means, methods, techniques, or procedures used by the contractor during construction.
8. By submitting a proposal, contractor agrees it is satisfied from its own investigation of the conditions and requirements to be met, that it fully understands its obligation, and that it will not make any claim for or have the right to cancellation of or relief from the Contract because of any misunderstanding or lack of information.
9. In the event of conflict between various parts of the contract documents, including but not limited to drawings and general conditions, the more stringent (more costly) of the conditions shall apply for bidding purposes. The contractor shall request clarification for all conflicts prior to construction. The contractor shall make a thorough examination of the site and the contract documents. No claim for extra compensation will be recognized if difficulties are encountered which an examination of site conditions and contract documents prior to executing the contract would have revealed. Failure to request clarification shall not relieve the contractor of the requirement to provide the more costly implementation. If any conflicts occur necessitating departures from the drawings, details of and reasons for departures shall be submitted and approved prior to implementing any change.
10. All wiring not furnished and installed by others but which is required to provide a complete and operational system for equipment indicated on the drawings shall be furnished and installed by the electrical contractor. Except as otherwise noted, automatic control wiring, signaling, and protective devices for mechanical equipment shall be furnished and installed by the mechanical contractor. Each motor or group of motors requiring a single control shall be provided by others with a suitable controller. The electrical contractor shall install and connect the motor controllers furnished by others. Low voltage control devices (thermostats, limit switches, etc.) and wiring (24 Volts max.) will be installed by others. Control devices and wiring above 24 Volts shall be installed by the electrical contractor. Each motor shall be provided with a disconnecting means where required by NFPA 70, even if not shown on the drawings.
11. Procure and pay for all permits and certificates necessary to construct and place in operation all electrical work. Pay for all legally imposed charges made by the local authorities for full inspection and approval services of the bureaus administering applicable codes and regulations. This shall include the cost and back charge of installing any portion of the work where performed by utility departments, and utility companies such as for trenching and installation on conduit. Capital improvement costs that may be imposed by the utility for new or upgraded service (such as extending primary wiring to transformers or upgrading transformers) shall be paid by the owner.

MATERIALS

1. Material and equipment shall be new and shall be the standard specification grade products of established manufacturers. Materials, equipment, and installation shall conform to the requirements of ANSI, IEEE, NEMA, and UL as applicable
2. Submit for approval catalog information for: Lighting Fixtures, Lighting Controls, Panelboards, and Fire Alarm System (when shown on drawings).
3. Equipment and material shall be protected during shipment and storage against physical damage, dirt, moisture, cold and rain.
4. Unless otherwise indicated, wiring shall consist of insulated conductors installed in conduit or tubing. Unless shown otherwise, minimum conduit size shall be 3/4". All conductors shall be copper with type THWN/THHN insulation rated 90C. Conductor sizing is based upon use of terminals rated 75C. Aluminum conductors of equivalent ampacity may be used for circuits 100 Amps or larger. The Contractor shall make all required changes to conduit sizes, terminals, and sizing for voltage drop for conductor substitutions at no additional cost. Conductors shall be color coded: Black (A), Red (B), Blue (C) , White (neutral), for 208/120 and Brown (A), Orange (B), Yellow(C), Gray (Neutral) for 480/277. Ground (EGC) conductors shall be Green or Green/Yellow striped.
5. Where wiring type is shown as MC, NEC compliant installation of MC cable will be permitted. For projects that include patient care areas, exam rooms, and medical equipment circuits, cable shown as MC for these areas shall be type HCF-MC-AP. Installation shall comply with NEC 517.
6. Where wiring type is shown as NM, NEC compliant installation of type NM cable will be permitted.
7. Wire sizes, including equipment grounding conductors, shall be adjusted for voltage drop based upon actual circuit lengths of installed wiring to achieve 3% voltage drop for branch circuits and 2% voltage drop for feeders. Raceway sizes shall be revised as needed for upsized conductors.
8. Nonmetallic conduit and tubing shall be used in damp, wet, or corrosive locations. EMT may be installed only within buildings. EMT may be installed in concrete and grout in dry locations. EMT shall not be installed in damp or wet locations, or in the air space of exterior masonry cavity walls. Aluminum conduit may be used only where installed exposed in dry locations. Non-aluminum sleeves shall be used where aluminum conduit passes through concrete floors and fire walls. Conduit used in areas subject to damage shall be rigid steel up to a height of 10 ft. above finished floor. Flexible metallic cable (Type MC) may be used where allowed by NFPA 70. Non-metallic cable (Type NM-B) may only be used where allowed by NFPA 70 and when wiring type is shown as NM in panel schedules Bushings shall be of the insulating type
9. Panelboards shall be completely factory assembled with molded case circuit breakers. Short circuit interrupting ratings (AIR) of all provided components shall be coordinated with the ratings of all new and any existing electrical gear. Series rated assemblies are not permitted.
10. Lighting controls shall be provided in accordance with IECC or ASHRAE requirements as enforced by state building codes. Control schemes shown on the drawings are diagrammatical only and the contractor shall finalize design details and component selection to achieve the required operational performance. Refer to functional testing requirements later in these notes.
11. Receptacles and switches shall be specification grade. Standard duplex receptacles shall be single phase, 15 Ampere, 120 volts, 2 pole, 3 wire, and conform to the NEMA 5 20R configuration Devices and cover-plates shall be of the color and material determined by the architect. Outlets shall be hospital grade in patient bed areas of health care facilities per NEC. Dimmer switches shall be specification grade and be matched to the load being served (incandescent, fluorescent, or LED)

INSTALLATION

1. The work shall be laid out in advance, and where cutting, channeling, chasing, or drilling of floors, walls, partitions, ceilings, or other surfaces is necessary for the proper installation, support, or anchorage of the conduit, raceways, or other electrical work, this work shall be done and any damage to building, piping, or equipment shall be repaired by skilled tradesmen of the trades involved at no additional cost to the owner.
2. During installation, enclosures, equipment, controls, controllers, circuit protective devices, and other like items, shall be protected against entry of foreign matter; and be vacuum cleaned both inside and outside before testing, operating and painting.
   a. Damaged equipment shall be placed in first class operating condition or be returned to the source of supply for repair or replacement
   b. Painted surfaces shall be protected with factory installed removable heavy protective paper, sheet vinyl, or equivalent covering.
   c. Damaged paint on equipment and materials shall be refinished with the same quality of paint and workmanship as used by the manufacturer so that repaired areas are not obvious.
3. The contractor shall perform all temporary work necessary to maintain continuity of electrical service when connection is made to existing systems and facilities. Existing services shall not be interrupted without prior consent of the owner's authorized representative and may be interrupted only at and for the specified time designated by the owner's representative.
4. Electrical service entrance equipment, including arrangements for temporary power, shall conform to the serving power company's requirements. Coordinate routing, trenching, and conduit requirements with the power company.
5. The electrical contractor shall obtain available short circuit information from the supplying utility and perform a short circuit analysis of the available short circuit at the service equipment using the information obtained from the utility. The analysis shall include the impact of the service entrance conductors (size, material, distance) either installed by the utility or installed as part of the project. Based upon this information, the electrical contractor shall install a NEC compliant label on the service equipment stating:
   a. The available fault current at the service equipment.
   b. The nominal system voltage of the service equipment.
   c. The clearing time of the service protection device (based upon manufacrturer's date for the actual equipment installed).
   d. Date that the label was installed.
6. The contractor shall provide product finishes and constructions compatible with wall and ceiling types based upon the contractor's review of all project requirements.
7. Penetrations of above grade floor slabs, time-rated partitions, and fire walls shall be fire stopped. Penetrations of fire rated floors, walls, and ceilings shall be installed in accordance with listed UL applications. See architectural drawings for location of fire rated assemblies. Materials and equipment shall be installed in accordance with recommendations of the manufacturer. At floor, exterior wall, and roof conduit penetrations, completely seal clearances around the conduit and make watertight
8. Raceways shall be kept 6 inches away from parallel runs of flues and hot-water pipes. Raceways shall be concealed within finished walls, ceilings, and floors of finished areas. Raceways may be run exposed in non-finished areas, such as utility rooms. Install conduit in complete runs before pulling in cables or wires. Independently support conduit. Do not use other supports i.e., (suspended ceilings, suspended ceiling supporting members, lighting fixtures, mechanical piping, or mechanical ducts).
9. All electrical wiring below slab on grade shall be protected by a PVC conduit system. Raceways crossing structural expansion joints shall have expansion fittings. Changes in direction of runs shall be made with symmetrical bends or fittings. Crushed or deformed raceways shall not be installed. Trapped raceways in damp and wet locations shall not be installed. Clogged raceways shall be entirely free of obstructions or shall be replaced.
10. Panelboards shall be flush when installed on finished wall surfaces. Panelboards shall be surface mount when installed in unfinished rooms. Where designated on panel schedule as "space" or "spare", include all necessary bussing, device support and connections. Provide blank cover for each space.
11. Placement of lighting fixtures, outlets, panelboards, transformers, disconnect switches and other items shall be located to avoid interference with mechanical or structural features.
12. Lighting fixtures shall be symmetrically placed in rooms.
   a. Lighting fixtures that are non-IC rated shall be installed such that no insulation is within 3 inches of the fixture and none on top so as to trap heat. Non-IC lighting fixtures shall not be installed within 1/2 inch of combustible material.
   b. Lighting fixtures installed in fire rated ceilings shall be rated for equivalent fire resistance, or equipped with a boot or box-out to maintain the ceiling system fire rating.
   c. The contractor shall field confirm all new and existing ceiling types to identify mounting requirements prior to order of lighting fixtures. All accessories and options required to successfully install the fixtures in the ceilings shall be provided, including those needed for fire rated applications.
   d. Connect recessed lighting fixtures to conduit runs with maximum six feet of flexible metal conduit extending from a junction box to the fixture.
   e. At completion of project, re-lamp/re-ballast fixtures which have failed lamps/ballasts. Clean fixtures, lenses, diffusers and louvers that have accumulated dust/dirt/fingerprints during construction. Replace damaged lenses, diffusers and louvers with new.
12. Where light switches are shown grouped together they shall be mounted under a multi-gang cover-plate. Where dimmer switched are used, the mounting box size shall be based upon thermal de-rating requirements of the dimmers.
13. Outlets shall be mounted not less than 15" above finished floor per ADA guidelines. Switches shall be mounted not more than 48" above finished floor per ADA guidelines. Outlets and switches at counter top locations shall be mounted not more than 44"-46" above finished floor per ADA guidelines. Field coordinate location of counter mounted devises with counter installer.
14. The Electrical contractor shall coordinate with the Mechanical contractor for the installation of electrical components required to serve mechanical equipment. The contractor shall confirm equipment circuit requirements with the Mechanical contractor prior to rough-in of electrical circuits. Any re-work required to provide the electrical installation needed for compliance with actual nameplate requirements for equipment shall be accomplished at no additional cost. Nameplate data of actual equipment supplied shall be used for final circuit configurations. Adjustments from values shown on panel schedules shall be made as part of the contract.
15. The electrical contractor shall review the hardware schedule and coordinate with the door hardware installer and provide 120V electrical power at locations required for proper operation of door openers, power supplies, and controls. Low voltage wiring by door installers.
16. Make final connections to equipment supplied by others. Controls and starters related to mechanical equipment shall be supplied by the mechanical contractor. Controls and starters for owner furnished equipment shall be supplied by others. Electrical contractor shall make electrical connections to equipment from point of electrical circuit shown on drawings for equipment. Electrical contractor shall make connections to owner furnished equipment serviced by either hard wiring or service cord drops. Electrical contractor shall provide means of disconnection of equipment from electrical circuit if starter or controller supplied with equipment does not meet NEC requirements for disconnect.
17. Install green grounding conductors with feeders and branch circuits as indicated in panel schedules and one line diagram. Bond the grounding wires to each pullbox, junction box, outlet box, cabinets, and other enclosures through which the ground wires pass. Bond all conductive piping systems in the building to the electrical system ground. Bonding connections shall be made as close as practical to the water pipe ground or service equipment ground bus.
18. Major pieces of electrical equipment shall be permanently marked with an identification nameplate. All panelboards shall have removable typewritten panel directories inserted into plastic sleeves mounted on the inside face of the panelboard door. The directory shall describe the as-built circuit configurations of the panel per NEC requirements. Marking directly on the panelboard is not permitted.
19. Duct smoke detector requirements shall be installed per local code requirements. The Electrical contractor shall coordinate with the Mechanical contractor for control interface requirements.
20. After the electrical installation is completed, the Electrical Contractor shall conduct a safety and an operating test of the electrical system. The electrical contractor shall furnish all instruments and personnel required for the tests. No part of the electrical distribution system shall be energized prior to the testing of the grounding system. Resistance tests shall be made for service entrances and feeders installed as part of this project. Proper phase rotation shall be confirmed for all 3 phase motors.
21. Functional testing or lighting controls shall be performed in accordance with IECC or ASHRAE requirements locally enforced. The testing shall demonstrate controls are calibrated, adjusted, programmed and in proper working condition. Testing shall confirm proper operation of occupancy sensors, photo sensors, and time switches. The contractor shall instruct the client as to the proper operation and programming requirements of the system. The functional testing must be made by an independent party, such as a representative of the lighting control manufacturer, who is not part of the building design engineering firm or a member of the construction contractor's team. The testing party shall provide documentation certifying operational compliance with energy code requirements.
22. All work shall pass inspection by proper authorities prior to acceptance by the owner. Costs for permits, certificates, and inspections required for completion of the work shall be paid by the Electrical Contractor.
23. The contractor shall warrant the complete electrical installation at the time of completion for a period of one year. During the warranty period the contractor shall replace or repair any components or work which develop defects beyond normal wear and tear. The electrical contractor shall be responsible for, and shall incur financial responsibility for any damages caused by or resulting from defects in his work.
24. The contractor shall provide as-built and record drawings indicating all changes in equipment, devices, and conduit locations to the general contractor for delivery to the owner as part of the project close-out

END OF NOTES

NORTH (building)

CITY YARDS MAINTENANCE FACILITY:
RENOVATION AND ADDITIONS
301 East Cork St.
Winchester, Virginia
22601

ARCHITECT:

Seal

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ISSUE/REVISIONS:

DRAWING TITLE:

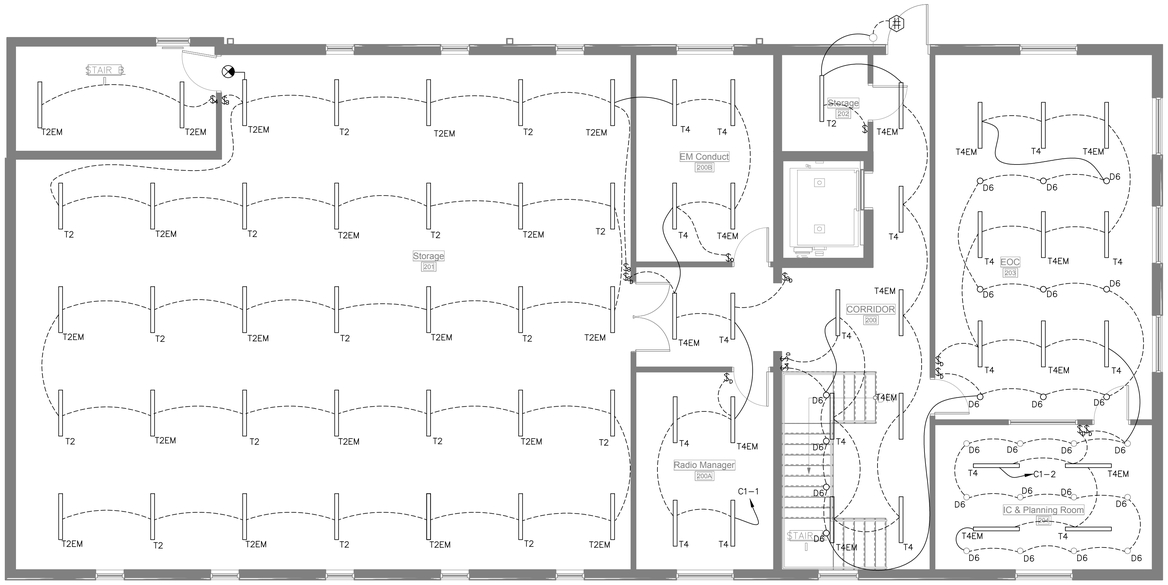
PHASE I
PUBLIC WORKS
ADMIN BUILDING

SHEET TITLE:

ELECTRICAL NOTES

DATE: AUGUST 5, 2019
SCALE: AS NOTED
PROJECT NUMBER: 1801014
SHEET:

E4.1



1 SECOND FLOOR LIGHTING PLAN
E1.3 3/16" = 1'-0"

FIXTURE SCHEDULE		
SYMBOL	TYPE	DESCRIPTION/MODEL
--------	A1	LED TAPE LIGHT, ADJUST TO FOLLOW COVE,3000K,300L/FT. LUMILUM PRO OR SIMILAR. PROVIDE LV POWER SUPPLIES AS NEEDED. CONNECT TO NEAREST RECEPTACLE CIRCUIT.
○	D6	6" LED SHALLOW PLENUM DOWNLIGHT–ROUND. BASIS OF DESIGN: HE WILLIAMS: 6PR–TL–L20/835–DIM–UNV–LW–WT–N–F1
○	D6EM	6" SHALLOW PLENUM DOWNLIGHT– ROUND, BASIS OF DESIGN: HE WILLIAMS 6PR–TL–L20/835–EM/10W (DENOTES 10W EMERGENCY BATTERY)–DIM–UNV–LW–WT–N–F1
○	DW6	6" LED SHALLOW PLENUM DOWNLIGHT–ROUND. BASIS OF DESIGN: HE WILLIAMS 6PR–TL–L20/835–DIM–UNV–LW–OF–WH–"WET/CC" DENOTES WET LOCATION–N–F1
□	C2	RECESSED 2X2 DIRECT/INDIRECT LED. BASIS OF DESIGN: HE WILLIAMS DI–G–S22–L32/835–AD–DIM–UNV
□	C4	RECESSED 2X2 DIRECT/INDIRECT LED. BASIS OF DESIGN: HE WILLIAMS AT3–22–L40/835–D–DIM–UNV
□	EM	RECESSED 2X2 DIRECT/INDIRECT LED. BASIS OF DESIGN: HE WILLIAMS DI–G–S22–L32/835–AD–EM/10W (DENOTES 10W EMERGENCY DRIVER)–DIM–UNV
□	EM4	RECESSED 2X2 DIRECT/INDIRECT LED. BASIS OF DESIGN: HE WILLIAMS AT3–22–L40/835–D–EM/10W (DENOTES 10W EMERGENCY LED BATTERY)–DIM–UNV
♀	H2	DECORATIVE LED EMERGENCY LIGHT. BASIS OF DESIGN EMER/DECO–DBR–NKL–D
⊙	P1	DECORATIVE 23" PENDANT, LED LAMPS, BASIS OF DESIGN: FORECAST 3–LIGHT SATIN NICKEL SHADE HOLDER (F43036) WITH 32" DIAMETER A LA CARTE WHITE GRASS CLOTH SHADE WITH ETCHED WHITE GLASS DIFFUSER (F670). EQUIP WITH LED BULBS.
═══	T4	UP/DOWN SUSPENDED 4' LED LIGHT– HE WILLIAMS: MX4UD–4'00–L12/835U/L8/835D–AF–AC/D48–DIM–UNV. COORDINATE MOUNTING HEIGHT AND CABLE LENGTH PRIOR TO INSTALLATION.
═══ •	T4EM	UP/DOWN SUSPENDED 4' LED LIGHT– HE WILLIAMS: MX4UD–4'00–L12/835U/L8/835D–AF–AC/D48–EM/10WRM–DIM–UNV. COORDINATE MOUNTING HEIGHT AND CABLE LENGTH PRIOR TO INSTALLATION.
═══	T2	SURFACE MOUNTED 4' LED LIGHT– HE WILLIAMS: MX4S–4'00–L12/835–F–DRV–UNV
═══	T2EM	SURFACE MOUNTED 4' LED LIGHT– HE WILLIAMS: MX4S–4'00–L12/835–F–EM/10W–DRV–UNV
⌒	T6	TECH LIGHTING MONORAIL SYSTEM WITH LED BRIM HEADS, 700 BRM MO9274005C
⇐⇐⇐⇒	UC	LED TAPE LIGHT, UNDER COUNTER MOUNTING, 3000K,300L/FT. LUMILUM PRO OR SIMILIAR. PROVIDE LV POWER SUPPLIES AS NEEDED.
•	W1	LED WALL WASH, BASIS OF DESIGN: H.E. WILLIAMS 4AR L20/930–DIM–9UNV–LM–OF–WH
♂	V1	WALL MOUNT BATH FIXTURE. BASIS OF DESIGN: MOBERN MFLB24LED29MVSN30
═══	V2	LITHONIA–LED ENCLOSED AND GASKETED DMW2 L24 3000LM PCL WD MVOLT GZ10 50K 80CRI PS1050 WLFEND2
•		LED EXIT SIGN. BASIS OF DESIGN: HE WILLIAMS EXIT/EL/RECESSED–SF–R–CP–AN–AC–SDT–D

COMcheck Software Version 4.1.0.0

Interior Lighting Compliance Certificate

Project Information

Energy Code: 90.1 (2010) Standard
Project Title: CITY YARDS
Project Type: New Construction

Construction Site:
WINCHESTER PUBLIC WORKS
ADMIN. BUILDING
WINCHESTER, VA 22601

Owner/Agent:

Designer/Contractor:

Allowed Interior Lighting Power

A Area Category	B Floor Area (ft2)	C Allowed Watts / ft2	D Allowed Watts (B X C)
1-Office	19000	0.90	17100
		Total Allowed Watts =	17100

Proposed Interior Lighting Power

A Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast	B Lamps/ Fixture	C # of Fixtures	D Fixture Watt.	E (C X D)
1-Office				
LED 1: Other:	1	176	23	3995
LED 2: Other:	1	22	23	499
LED 3: Other:	1	132	30	3960
LED 4: Other:	1	75	30	2250
LED 5: Other:	1	15	42	630
LED 6: Other:	1	16	42	672
LED 7: Other:	1	9	3	24
LED 8: Other:	1	2	18	36
LED 9: Other:	1	9	24	216
LED 10: Other:	1	38	32	1216
LED 11: Other:	1	42	32	1344
LED 12: Other:	1	1	48	48
LED 13: Other:	1	20	24	480
LED 14: Other:	1	4	29	116
LED 15: Other:	1	22	11	238
		Total Proposed Watts =		15724

Interior Lighting PASSES: Design 8% better than code

Interior Lighting Compliance Statement

Compliance Statement: The proposed interior lighting design represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed interior lighting systems have been designed to meet the 90.1 (2010) Standard requirements in COM*check* Version 4.1.0.0 and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

Heather Bowers — Name - Title
Heather Bowers — Signature
8-13-19 — Date

Project Title: CITY YARDS — Report date: 08/13/19

LIGHTING SYMBOL LIST	
SYMBOL	DESCRIPTION
$	WALL SWITCH, 3 DENOTES 3–WAY OPERATION, 4 DENOTES 4–WAY OPERATION, D DENOTES FIXTURE COMPATIBLE DIMMER SWITCH, FAN DENOTES FAN COMPATIBLE SWITCH. ADA MOUNTING HEIGHT.
	WALL SWITCH DUAL TECHNOLOGY OCCUPANCY SENSOR WITH PROGRAMMABLE DELAY. ADA MOUNTING HEIGHT.
	WALL SWITCH MOUNTED DUAL TECHNOLOGY VACANCY SENSOR WITH PROGRAMMABLE DELAY. ADA MOUNTING HEIGHT
	CEILING MOUNTED (LOW VOLTAGE) OCCUPANCY SENSOR
	CEILING MOUNTED LOW VOLTAGE PHOTOCELL (DAYLIGHT HARVESTING)
	LIGHTING CONTROL POWER PACK
	PHOTOCELL SENSOR
	DASHED LINE REPRESENTS SWITCHED WIRING BETWEEN FIXTURES IN A SWITCHED GROUP. CONTAINS SWITCHED CONDUCTORS AND MAY CONTAIN UN–SWITCHED CONDUCTORS FOR CIRCUIT CONTINUATION OR EMERGENCY LIGHTING.
	UN–SWITCHED WIRING.

NORTH (building)

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8 AUG 2019
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ISSUE/REVISIONS:

DRAWING TITLE:

PHASE I
PUBLIC WORKS
ADMIN BUILDING

SHEET TITLE:

SECOND FLOOR LIGHTING

DATE: AUGUST 5, 2019
SCALE: AS NOTED
PROJECT NUMBER: 1801014
SHEET:

E1.3