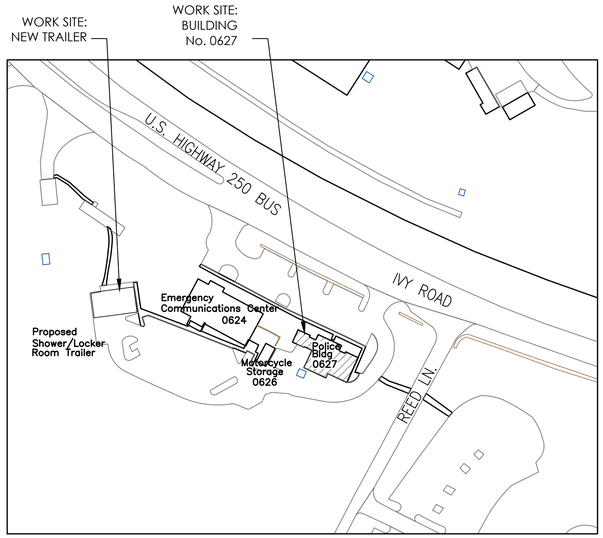
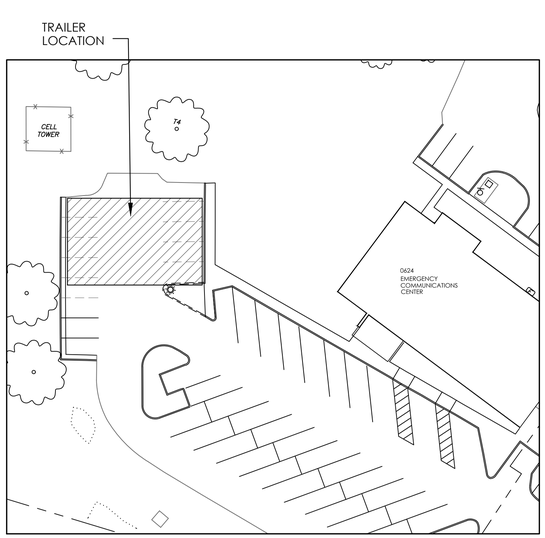
POLICE BUILDING (0627) RENOVATION & MODULAR UNIT MODULAR UNIT INSTALL

W.O. # 2880913 P05374

BUILDING PROFILE AND CODE ANALYSIS		
BLDG NAME: POLICE BLDG TRAILER		CODE REFERENCE
EXISTING CONSTRUCTION		INDUSTRIAL BUILDING SAFETY REGULATIONS
NEW CONSTRUCTION		2015 VUSBC
USE GROUP	B-BUSINESS	
CONSTRUCTION CLASSIFICATION	VB	
FIRE SUPPRESSION	NOT SPRINKLERED	
ADA	2010 ADA STANDARDS	
OCCUPANT LOAD IN PROJECT AREA	27	
GSF PROJECT AREA	2,100 GSF	
GSF BUILDING	2,100 GSF	
# OF STORIES/BUILDING HEIGHT	1	
FIRE RATING OF PROJECT AREA	___	
NUMBER OF EXITS IN PROJECT AREA	1	



1 T1 T1 SITE PLAN
NOT TO SCALE



2 T1 T1 LOCATION PLAN
1/32" = 1'-0"

GENERAL NOTES

1. CONDUCT ANY DEMOLITION AND CONSTRUCTION TO MINIMIZE INTERFERENCE WITH ADJACENT AND OCCUPIED BUILDING AREAS. SPECIAL ATTENTION TO NOT IMPEDE EGRESS SHOULD ALSO BE EMPLOYED, BY NOT ALLOWING ANY DECONSTRUCTION AND CONSTRUCTION IN THE EGRESS PATH AND/OR CONDUCTING WORK AT OFF HOURS.
2. ANY CONSTRUCTION BARRIER USED DURING RENOVATION WORK SHALL BE NON-COMBUSTIBLE CONSTRUCTION IN ACCORDANCE WITH FACILITY DESIGN GUIDELINES.
3. PROTECT EXISTING MATERIALS WHICH ARE NOT TO BE DEMOLISHED.
4. WHERE NEW WORK ABUTS OR ALIGNS WITH EXISTING, PERFORM A SMOOTH AND EVEN TRANSITION. PATCH WORK TO MATCH EXISTING ADJACENT WORK, IN TEXTURE AND APPEARANCE.
5. ALL EXISTING FIRE PROTECTION SYSTEMS SHALL REMAIN OPERATIONAL DURING CONSTRUCTION. IF TEMPORARY SHUTDOWN IS NECESSARY, SYSTEM SHALL BE RETURNED TO OPERATIONAL CONDITION AS SOON AS POSSIBLE AND NO LATER THAN THE END OF EACH WORKING DAY PRIOR TO THE CONTRACTOR LEAVING THE JOB SITE. CONTRACTOR IS TO NOTIFY THE UNIVERSITY FIRE MARSHAL PRIOR TO ANY NECESSARY SHUTDOWNS. SHUTDOWN SHALL NOT AFFECT OTHER AREAS NOT INVOLVED WITH THIS CONSTRUCTION PROJECT. ALL OPERATIONAL STANDPIPES ARE TO BE MAINTAINED AT ALL TIMES. SPRINKLER SYSTEMS IN AREAS BEING RENOVATED SHALL BE FULLY OPERATIONAL WHEN THE CONTRACTOR LEAVES THE SITE EACH DAY. A FIRE WATCH SHALL BE PROVIDED AT ALL TIMES THAT A SPRINKLER SYSTEM IS INACTIVE.
6. FIRE EXTINGUISHERS WILL BE ON SITE AT ALL TIMES DURING CONSTRUCTION
7. ASBESTOS HAS BEEN IDENTIFIED AND ABATED PRIOR TO CONSTRUCTION AS A PART OF THIS SCOPE OF WORK. IF ASBESTOS OR LEAD CONTAINING MATERIALS ARE DISCOVERED DURING ANY POINT OF DEMOLITION OR CONSTRUCTION, STOP WORK IMMEDIATELY AND CONTACT THE CONSTRUCTION PROJECT MANAGER
8. ALL WORK WILL BE DONE BY "IN-HOUSE" FORCES. (PROJECT SERVICES)
9. ALL WORK SHOWN SHALL BE COORDINATED WITH ALL OTHER TRADES AS OVERSEEN BY THE GENERAL CONTRACTOR.
10. CONTRACTOR TO FIELD VERIFY ALL CONDITIONS AND DIMENSIONS BEFORE PROCEEDING WITH ANY WORK. CONTRACTOR TO NOTIFY ARCHITECT/ENGINEER IMMEDIATELY IF ANY DISCREPANCIES ARE FOUND.
11. THE CONTRACTOR SHALL ENSURE THAT ALL MATERIALS ARE IN COMPLIANCE WITH THE PLANS AND SPECIFICATIONS.
12. CONTRACTOR SHALL NOT SCALE DRAWINGS WITHOUT WRITTEN APPROVAL OF ARCHITECT.
13. WHERE A DETAIL IS SHOWN FOR ONE CONDITION, IT SHALL APPLY FOR ALL LIKE OR SIMILAR CONDITIONS EVEN THOUGH NOT SPECIFICALLY MARKED ON THE CONTRACT DOCUMENTS.
14. INTERIOR BLOCKING SHALL BE NON-COMBUSTIBLE OR FIRE-RETARDANT-TREATED WOOD.
15. ALL INTERIOR FLOORING AND WALL BASE (MAXIMUM 6") ARE TO BE MINIMUM CLASS II, 0.22 W/CM². ALL INTERIOR FINISHES (WALL AND CEILING) ARE TO BE MAXIMUM 25 FLAME SPREAD INDEX, AND MAXIMUM 450 SMOKE DEVELOPED INDEX UNLESS OTHERWISE NOTED. NO FOAM AND/OR FOAM PLASTIC INTERIOR FINISHES ARE PERMITTED UNLESS PRE-APPROVED BY UBO. ALL INTERIOR TRIM SHALL BE CLASS C FLAME SPREAD AND SMOKE DEVELOPED INDEX WHEN TESTED IN ACCORDANCE WITH ASTM E84 OR UL 723.

UTILITIES

1. ANY DAMAGE TO EXISTING UTILITIES CAUSED BY CONTRACTOR OR ITS SUBCONTRACTORS SHALL BE CONTRACTOR'S SOLE RESPONSIBILITY AND REPAIRED AT CONTRACTOR'S EXPENSE.
2. THE CONTRACT DOCUMENTS DO NOT GUARANTEE THE EXISTENCE, NON-EXISTENCE OR LOCATION OF UTILITIES. CONTRACTOR SHALL VERIFY THE EXISTENCE AND LOCATION OR THE NON-EXISTENCE OF UTILITIES. AT LEASE 48 HOURS PRIOR TO ANY EXCAVATION OR CONSTRUCTION, CONTRACTOR SHALL NOTIFY MISS UTILITY (1-800-552-7001) AND/OR THE RESPECTIVE UTILITY COMPANIES FOR GAS, WATER, SEWER, POWER, PHONE AND CABLE. CONTRACTOR SHALL TIMELY ARRANGE TO HAVE THE VARIOUS UTILITIES LOCATED, AND TO HAVE THEM REMOVED OR RELOCATED, OR TO DETERMINE THE METHOD OF PROTECTION ACCEPTABLE TO THE RESPECTIVE OWNER, IF THE METHOD OF PROTECTION IS NOT OTHERWISE SPECIFIED. CONTRACTOR SHALL CONDUCT ITS WORK IN THE VICINITY OF EXISTING UTILITIES IN ACCORDANCE WITH THE RESPECTIVE UTILITY'S RULES AND REGULATIONS. ANY COST INCURRED FOR REMOVING, RELOCATING OR PROTECTION UTILITIES SHALL BE BORNE BY CONTRACTOR UNLESS INDICATED OTHERWISE. CONTRACTOR SHALL EXCAVATE TO LOCATE BURIED UTILITIES FAR ENOUGH IN ADVANCE OF ITS WORK TO ALLOW FOR HORIZONTAL AND /OR VERTICAL ADJUSTMENTS TO ITS WORK AND/OR THE UTILITIES. NO ADJUSTMENT IN COMPENSATION OR SCHEDULE WILL BE ALLOWED FOR DELAYS RESULTING FROM CONTRACTOR'S FAILURE TO CONTACT AND COORDINATE WITH UTILITIES.
3. WHEN THE WORK CROSSES EXISTING UTILITIES, THE EXISTING UTILITIES SHALL BE ADEQUATELY SUPPORTED AND PROTECTED FROM DAMAGE DUE TO THE WORK. ALL METHODS FOR SUPPORTING AND MAINTAINING THE EXISTING UTILITIES SHALL BE APPROVED BY THE RESPECTIVE UTILITY COMPANY AND/OR THE ENGINEER. CONTRACTOR SHALL EXERCISE CARE TO INSURE THAT THE GRADE AND ALIGNMENT OF EXISTING UTILITIES ARE MAINTAINED AND THAT NO JOINTS OR CONNECTIONS ARE DISPLACED. BACKFILL SHALL BE CAREFULLY PLACED AND COMPACTED TO PREVENT FUTURE DAMAGE OR SETTLEMENT TO EXISTING UTILITIES. ANY UTILITIES REMOVED AS PART OF THE WORK, AND NOT INDICATED TO BE REMOVED OR ABANDONED, SHALL BE RESTORED USING MATERIALS AND INSTALLATION EQUAL TO THE UTILITY'S STANDARD.
4. CONTRACTOR SHALL NOTIFY LANDOWNERS, TENANTS AND THE ENGINEER PRIOR TO THE INTERRUPTION OF ANY SERVICES. SERVICE INTERRUPTIONS SHALL BE KEPT TO A MINIMUM.
5. ALL RECTANGULAR WATER METER BOXES LOCATED IN SIDEWALKS SHALL BE REPLACED WITH ROUND ONES. THE ADJUSTMENT OF ALL MANHOLE TOPS, WATER VALVE BOXES, GAS VALVE BOXES AND WATER METER BOXES SHALL BE RESPONSIBILITY OF CONTRACTOR.
6. THE CONTRACTOR SHALL NOTIFY THE CITY UTILITIES DIVISION AT LEAST TWO FULL WORKING DAYS IN ADVANCE TO ARRANGE GAS SERVICE LINE ADJUSTMENTS TO BE PERFORMED BY THE CITY.
7. ALL WATER METER, VALVES AND FIRE HYDRANT ADJUSTMENTS/RELOCATIONS SHALL BE PERFORMED BY THE CONTRACTOR.

EARTHWORK AND SITE CONDITIONS

1. CONTRACTOR SHALL KEEP ALL SURROUNDING PUBLIC ROADWAYS AND DRAINAGE SYSTEMS FREE FROM DIRT, MUD, AND CONSTRUCTION DEBRIS AT ALL TIMES.
2. ALL IMPROVEMENTS ARE TO BE CONFINED TO THE PROJECT AREA UNLESS OTHERWISE INDICATED.
3. ALL MATERIALS AND INSTALLATION DETAILS SHALL CONFORM TO THE CITY OF CHARLOTTESVILLE ENGINEERING DIVISION STANDARDS AND ALL OTHER APPLICABLE CITY ORDINANCES.
4. ANY UNUSUAL OR UNANTICIPATED SUBSURFACE CONDITIONS SHALL BE IMMEDIATELY REPORTED TO THE ENGINEER.
5. CONTRACTOR SHALL VERIFY ALL DIMENSIONS, ELEVATIONS AND LOCATIONS PRIOR TO BEGINNING WORK, AND IMMEDIATELY NOTIFY THE ENGINEER IN THE EVENT THERE ARE ANY DISCREPANCIES BETWEEN SUCH CONDITIONS AND THOSE SHOWN ONT HE PLANS AND SPECIFICATIONS.

ABBREVIATIONS

ACT	ACOUSTIC TILE
AFF	ABOVE FINISHED FLOOR
CLG HT	CEILING HEIGHT
CMU	CONCRETE MASONRY UNIT
CPT	CARPET
ELEC	ELECTRICAL
EXIST	EXISTING
FT	FIRE TREATED
FV	FIELD VERIFY
GYP BD	GYPSUM BOARD
HT	HEIGHT
HM	HOLLOW METAL
OC	ON CENTER
PLYWD	PLYWOOD
SIM	SIMILAR
SPEC	SPECIFICATIONS
TH	THICKNESS
UNO	UNLESS NOTED OTHERWISE
VB	VINYL BASE
VCT	VINYL COMPOSITION TILE
W/	WITH

LIST OF DRAWINGS

UNIVERSITY of VIRGINIA
PROJECT SERVICES DEPARTMENT
Facilities Management
575 Alderman Road
PO Box 400726
Charlottesville, VA 22904

POLICE BUILDING (0627)
RENO, W.PROOFING & MOD. UNIT
GENERAL NOTES AND TITLE

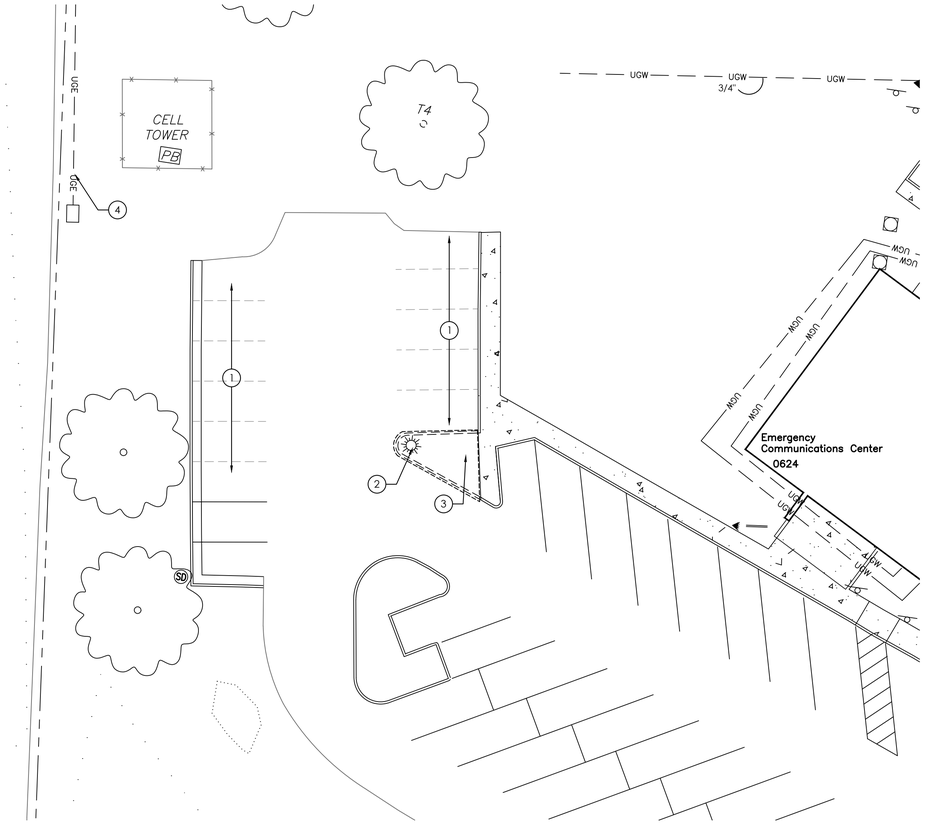
DATE: 12/13/2019
DRAWN BY: EHB
CHECKED BY: JWG

REVISIONS

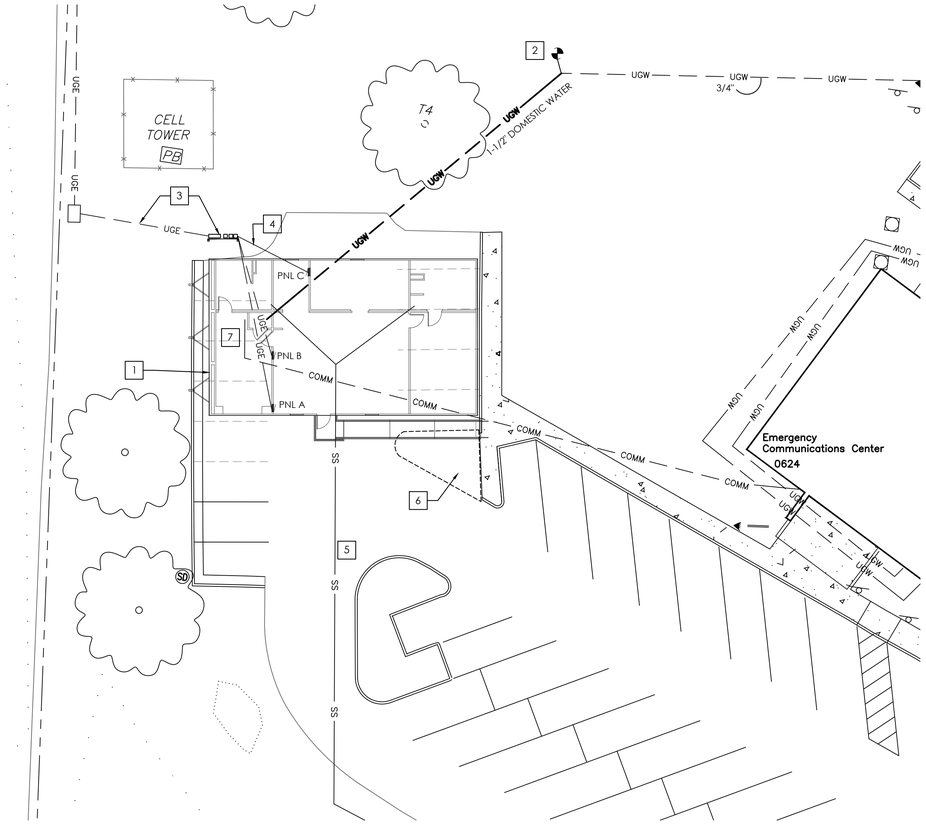
University of Virginia
University Building Official
☐ Approved for general conformance to the 2015 VUSBC
✔ Approved with exceptions. See list of remaining issues noted on page 2 of the building permit and/or plan review documents dated: 12/17/2019
Date: 12/17/2019

WORK ORDER NUMBER
2880913

T1
SHEET



1 C1 | C1 DEMO SITE WORK
1/16" = 1'-0"



2 C2 | C1 NEW SITE WORK & TRAILER
1/16" = 1'-0"

DEMOLITION NOTES

1. REMOVE TEN (10) PARKING SPACES
2. REMOVE LIGHT POLE
3. REMOVE CURB AND LANDSCAPING
4. EXISTING 4" CONDUIT FROM TRANSFORMER ON POWER POLE (AT ROAD)

GENERAL NEW WORK NOTES

A) NEARBY BATHROOMS IN ADJACENT BUILDINGS WILL BE UTILIZED UNTIL NEW MUSCULOSKELETAL PUMP STATION IS OPERATIONAL. ALL ADJACENT BATHROOMS ARE LESS THAN 600' FROM NEW TRAILER.

B) ALL LABELS ON THE MODULAR UNIT WILL MATCH USE GROUP B AND VB CONSTRUCTION TYPE.

C) A FIRE ALARM SYSTEM WILL BE INSTALLED IN THE NEW TRAILER.

LEGEND

- COMM — TELEPHONE
- UGW — UNDERGROUND WATER
- UGE — UNDERGROUND ELECTRIC
- SS — SANITARY SEWER

NEW WORK PLAN NOTES

1. NEW MODULAR LOCKER ROOMS, BATHROOM FACILITIES, BREAK ROOM AND OFFICES FOR UNIVERSITY POLICE DEPARTMENT.
2. DOMESTIC WATER CONNECTION, INCLUDING A WATER METER AND BACKFLOW PREVENTER (BY THE CITY OR UNDER DIRECTION OF THE CITY)
3. NEW CONDUIT AND POWER CONNECTION FROM JUNCTION BOX TO DISCONNECTS. SEE ONE LINE ON SHEET E1.
4. PROVIDE INDIVIDUAL FEEDERS TO EACH ELECTRICAL PANEL (TYP OF 3)
5. INSTALL NEW SANITARY SEWER LINE TO EXISTING MANHOLE ON SITE. SERVICE OF TRAILER WILL BE CONNECTED TO NEW PUMP STATION AT NEW MUSCULOSKELETAL CENTER. LINE WILL BE ACTIVATED WHEN PUMP STATION BECOMES OPERATIONAL.
6. PATCH ASPHALT
7. CONNECT TO DATA

N
PLAN NORTH
0 8' 16' 32'
SCALE: 1/16" = 1'-0"

UNIVERSITY of VIRGINIA
PROJECT SERVICES DEPARTMENT
Facilities Management
575 Alderman Road
PO Box 400726
Charlottesville, VA 22904

POLICE BUILDING (0627)
NEW TRAILER
SITE PLAN

DATE: 12/13/2019
DRAWN BY: EHB
CHECKED BY: JWG

REVISIONS

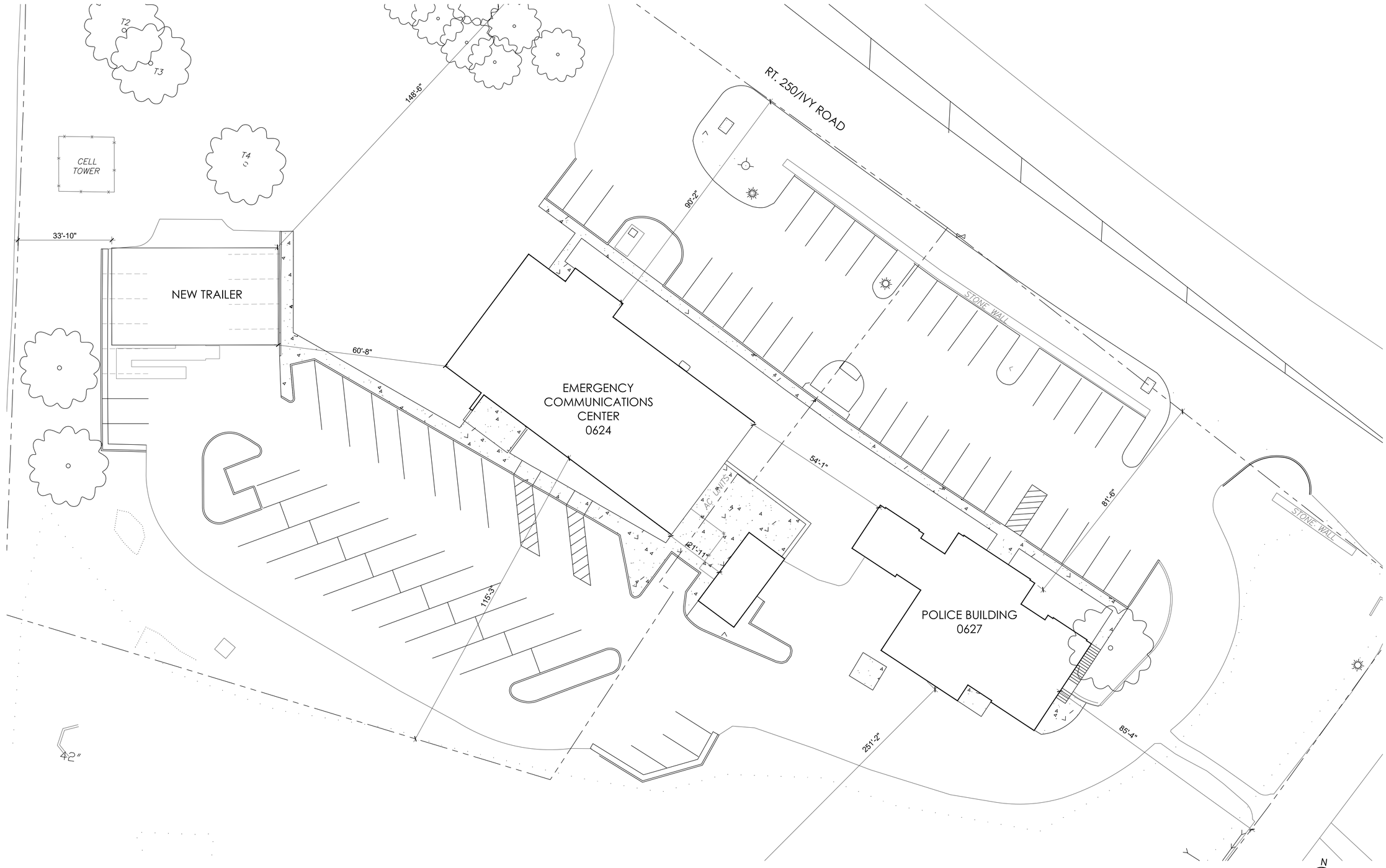
University of Virginia
University Building Official
- Approved for general conformance to the 2015 VUSBC
- ✔ Approved with exceptions. See list of remaining issues noted on page 2 of the building permit and/or plan review documents dated: 12/17/2019

Date: 12/17/2019

WORK ORDER NUMBER
2880913

C1

SHEET



1 C2 | C2 NEW OVERALL SITE PLAN
1/16" = 1'-0"

UNIVERSITY of VIRGINIA
PROJECT SERVICES DEPARTMENT
Facilities Management
575 Alderman Road
PO Box 400726
Charlottesville, VA 22904

POLICE BUILDING (0627)
NEW TRAILER
OVERALL SITE PLAN

DATE: 12/13/2019
DRAWN BY: EHB
CHECKED BY: JWG

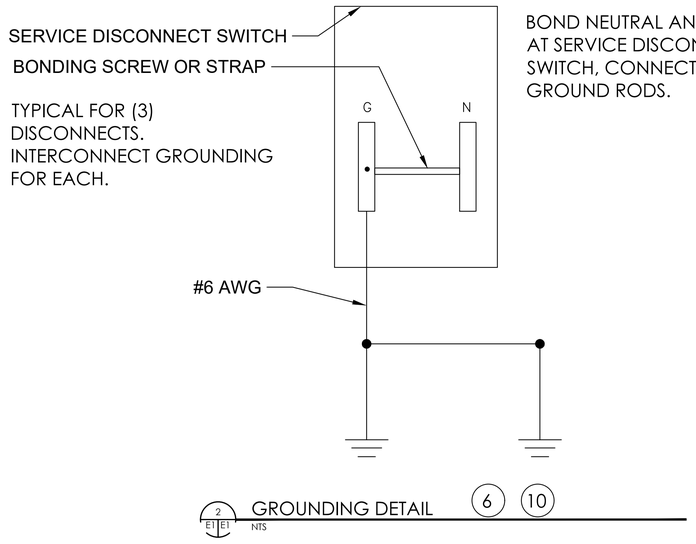
REVISIONS

University of Virginia
University Building Official
- Approved for general conformance to the 2015 VUSBC
- ✔ Approved with exceptions. See list of remaining issues noted on page 2 of the building permit and/or plan review documents dated: 12/17/2019

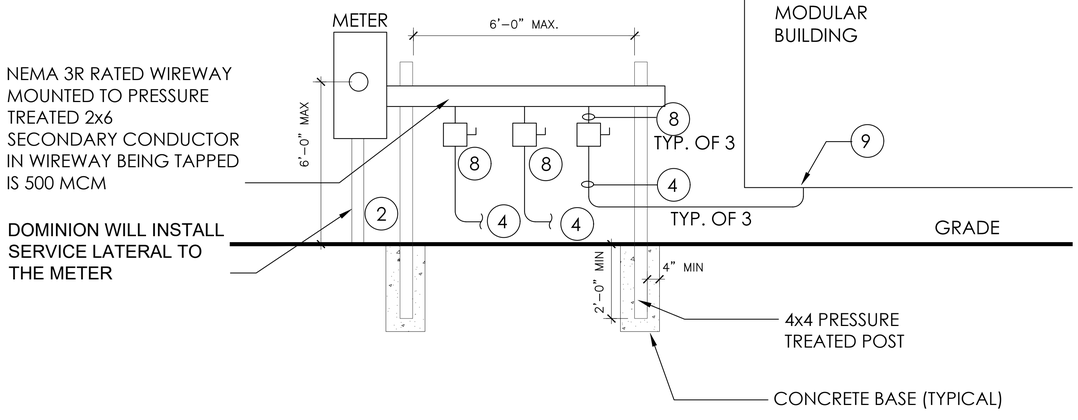
Date: 12/17/2019

WORK ORDER NUMBER
2880913

C2
SHEET



2 E1 E1 GROUNDING DETAIL NTS



1 E1 E1 ELECTRICAL LINE DIAGRAM NTS

GENERAL NEW WORK NOTES

1. PROVIDE PRESSURE TREATED POSTS AS REQUIRED

(X) NEW WORK PLAN NOTES

1. FAULT CURRENT AT THE TRANSFORMER SECONDARY=8,33a (10KAIC) EQUIPMENT.
2. DOMINION WILL INSTALL SERVICE LATERAL TO THE METER.
3. 120/240V SINGLE PHASE.
4. (3) #1/0, COPPER (1) #4 GND COPPER WIRE IN 2" PVC CONDUIT. COORDINATE WITH CONDITION AT MODULAR UNIT.
5. TAP FEEDERS IN WIREWAY, MATCH CONDUCTOR SIZE OF SECONDARY OF SWITCH. TAPS SHALL NOT EXCEED 10 FEET.
6. PROVIDE (2) 3/4" X 8' COPPER CLAD GROUND RODS. NO LESS THAN 6' APART. CONNECTED WITH ONE RUN OF #1/0 COPPER.
7. CONDUIT STUB-OUT AT BOTTOM OF TRAILER.
8. SERVICE DISCONNECTS - NEMA 3R RATED FUSED DISCONNECT SWITCH 200A FRAME/150A FUSE (TYPICAL).
9. PVC CONDUIT UNDERGROUND TO TRAILER, CONNECT TO CONDUIT STUBBED-OUT AT BOTTOM OF TRAILER.
10. BUILDING STEEL TO BE BONDED AT SERVICE WITH 1/0 COPPER.

UNIVERSITY of VIRGINIA
PROJECT SERVICES DEPARTMENT
Facilities Management
575 Alderman Road
PO Box 400726
Charlottesville, VA 22904

POLICE BUILDING (0627)
NEW TRAILER
3-PANEL MOUNTING DIAGRAM

DATE: 12/13/1209
DRAWN BY: EHB
CHECKED BY: JWG

REVISIONS

University of Virginia
University Building Official
☐ Approved for general conformance to the 2015 VUSBC
✔ Approved with exceptions. See list of remaining issues noted on page 2 of the building permit and/or plan review documents dated: 12/17/2019
Date: 12/17/2019

WORK ORDER NUMBER
2880913

E1
SHEET

PLUMBING NOTES:

1. TOILETS SHALL BE ELONGATED WITH NONABSORBENT OPEN FRONT SEATS.
2. REST ROOM WALLS SHALL BE COVERED WITH NONABSORBENT MATERIAL TO A MINIMUM HEIGHT OF 48 INCHES A.F.F. FLOORS SHALL HAVEA SMOOTH, HARD, NONABSORBENT SURFACE THAT EXTENDS UPWARD ONTO THE WALLS AT LEAST 6 INCHES.
3. CUSTOMER ASSUMES ALL RESPONSIBILITY FOR REQUIRED PLUMBING FIXTURES WHEN NOT SHOWN ON PLAN.
4. ALL PLUMBING FIXTURES SHALL HAVE SEPARATE SHUTOFF VALVES.
5. WATER HEATER SHALL HAVE SAFETY PAN WITH 1 INCH DRAIN TO EXTERIOR, T & P RELIEF VALVE WITH DRAIN TO EXTERIOR, AND A SHUT OFF VALVE WITHIN 3 FEET ON A COLD WATER SUPPLY LINE.
6. DWV SYSTEM SHALL BE EITHER ABS OR PVC – DWV.
7. WATER SUPPLY LINES SHALL BE CPVC, OR COPPER, AND SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURERS LIMITATIONS AND INSTRUCTIONS.
8. WATER CLOSETS ARE TANK TYPE AND URINALS ARE FLUSH TANK TYPE UNLESS OTHERWISE SPECIFIED.
9. BUILDING DRAIN AND CLEANOUTS ARE DESIGNED AND SITE INSTALLED BY OTHERS, SUBJECT TO LOCAL JURISDICTION APPROVAL.
10. SHOWERS SHALL BE CONTROLLED BY AN APPROVED MIXING VALVE WITH A MAXIMUM WATER OUTLET TEMPERATURE OF 120°F (48.8°C).
11. THERMAL EXPANSION DEVICE, IF REQUIRED BY WATER HEATER INSTALLED, AND IF NOT SHOWN ON PLUMBING PLAN, IS DESIGNED AND SITE INSTALLED BY OTHERS, SUBJECT TO LOCAL APPROVAL.
12. WATER PIPES INSTALLED IN A WALL EXPOSED TO THE EXTERIOR SHALL BE LOCATED ON THE HEATED SIDE OF THE WALL INSULATION.
13. WATER SUPPLY AND WASTE PIPES IN UNCONDITIONED SPACES SHALL BE INSULATED AND PROTECTED FROM FREEZING.
14. TEMPERED WATER SHALL BE SUPPLIED THROUGH A WATER TEMP LIMITING DEVICE THAT CONFORMS TO ASSE 1070 AND SHALL LIMIT THE TEMPERED WATER TO A MAX OF 110°F(43°C)
15. TEMPERATURE ACTUATED MIXING VALVES WHICH ARE INSTALLED TO REDUCE WATER TEMPERATURE TO DEFINE LIMITS SHALL COMPLY WITH ASSE 1017
16. WHEN RESTROOM FACILITIES AND/OR PLUMBING FIXTURES REQUIRED PER IPC SECTION 403 ARE NOT PROVIDED WITHIN THE BUILDING, A HANDICAPPED ACCESSIBLE FACILITY MUST BE PROVIDED ON SITE WITHIN THE ALLOWABLE DISTANCE PER CODE. THE REQUIRED FACILITY SHALL BE THE RESPONSIBILITY OF THE BUILDING OWNER AND IS SUBJECT TO THE REVIEW AND APPROVAL OF THE LOCAL JURISDICTION HAVING AUTHORITY. THIS NOTE SHALL BE INDICATED ON THE DATA PLATE

GENERAL NOTES:

1. ACCESS TO BUILDING FOR PERSONS IN WHEELCHAIRS IS DESIGNED BY AND FIELD BUILT BY OTHERS AND SUBJECT TO LOCAL JURISDICTION APPROVAL. THE PRIMARY ENTRANCE MUST BE ACCESSIBLE.
2. ALL DOORS SHALL BE OPENABLE FROM THE EGRESS SIDE WITHOUT THE USE OF A KEY, TOOL, SPECIAL KNOWLEDGE OR EFFORT. MANUALLY OPERATED FLUSH BOLTS OR SURFACE BOLTS SHALL NOT BE USED.
3. ALL GLAZING WITHIN A 24 INCH ARC OF DOORS, WHOSE BOTTOM EDGE IS LESS THAN 60 INCHES ABOVE THE FLOOR, AND ALL GLAZING IN DOORS SHALL BE SAFETY, TEMPERED OR ACRYLIC PLASTIC SHEET.
4. ALL STEEL STRAPS REFERENCED ON FLOOR PLAN SHALL BE 1.5 INCH x 26 GA. WITH 7 – 15 GA. x 7/16 INCH CROWN x 1 INCH STAPLES EACH END OF STRAP OR EQUIVALENT FROM RIDGE BEAM TO COLUMN, AND COLUMN TO FLOOR.
5. PORTABLE FIRE EXTINGUISHER PER N.F.P.A. – 10 INSTALLED BY OTHERS ON SITE, AND SUBJECT TO LOCAL JURISDICTION.
6. PROVISIONS FOR EXIT DISCHARGE LIGHTING ARE THE RESPONSIBILITY OF THE BUILDING OWNER AND SUBJECT TO LOCAL JURISDICTION APPROVAL WHEN NOT SHOWN ON THE FLOOR PLAN (INCLUDING EMERGENCY LIGHTING, WHEN REQUIRED).
7. WHEN LOW SIDES OF ROOF PROVIDE LESS THAN 6" OF OVERHANG, GUTTERS AND DOWN SPOUTS SHALL BE SITE INSTALLED, DESIGNED BY OTHERS, SUBJECT TO LOCAL JURISDICTION APPROVAL.
8. IN WIND–BORNE DEBRIS REGIONS, EXTERIOR GLAZING SHALL BE IMPACT RESISTANT OR PROTECTED WITH AN IMPACT RESISTANT COVERING MEETING THE REQUIRMENTS OF AN APPROVED IMPACT RESISTANT STANDARD, OR ASTM E1996. WIND–BORNE DEBRIS REGIONS ARE DESIGNATED IN SECTION 1609 OF THE IBC.
9. WINDOWS AND DOORS MUST BE CERTIFIED FOR COMPLIANCE WITH THE WIND DESIGN PRESSURE FOR COMPONENTS AND CLADDING.

ELECTRICAL NOTES:

1. ALL CIRCUITS AND EQUIPMENT SHALL BE GROUNDED IN ACCORDANCE WITH THE APPROPRIATE ARTICLES OF THE NATIONAL ELECTRICAL CODE (NEC).
2. WHEN LIGHT FIXTURES ARE INSTALLED IN CLOSETS THEY SHALL BE SURFACE MOUNTED OR RECESSED. INCANDESCENT FIXTURES SHALL HAVE COMPLETELY ENCLOSED LAMPS. SURFACE MOUNTED INCANDESCENT FIXTURES SHALL HAVE A MINIMUM CLEARANCE OF 12 INCHES AND ALL OTHER FIXTURES SHALL HAVE A MINIMUM CLEARANCE OF 6 INCHES FROM "CLOSET STORAGE SPACE" AS DEFINED BY NEC ARTICLE 410.2.
3. WHEN WATER HEATERS ARE INSTALLED THEY SHALL BE PROVIDED WITH READILY ACCESSIBLE DISCONNECTS ADJACENT TO THE WATER HEATERS SERVED. THE BRANCH CIRCUIT SWITCH OR CIRCUIT BREAKER SHALL BE PERMITTED TO SERVE AS THE DISCONNECTING MEANS ONLY WHERE THE SWITCH OR CIRCUIT BREAKER IS WITHIN SIGHT FROM THE WATER HEATER OR IS CAPABLE OF BEING LOCKED IN THE OPEN POSITION.
4. HVAC EQUIPMENT SHALL BE PROVIDED WITH READILY ACCESSIBLE DISCONNECTS ADJACENT TO THE EQUIPMENT SERVED. A UNIT SWITCH WITH A MARKED "OFF" POSITION THAT IS A PART OF THE HVAC EQUIPMENT AND DISCONNECTS ALL UNGROUNDED CONDUCTORS SHALL BE PERMITTED AS THE DISCONNECTING MEANS WHERE OTHER DISCONNECTING MEANS ARE ALSO PROVIDED BY A READILY ACCESSIBLE CIRCUIT BREAKER.
5. PRIOR TO ENERGIZING THE ELECTRICAL SYSTEM THE INTERRUPTING RATING OF THE MAIN BREAKER MUST BE DESIGNED AND VERIFIED AS BEING IN COMPLI– ANCE W/ARTICLES 110.9 & 110.10 OF THE NEC BY LOCAL ELECTRICAL CONSULTANT.
6. THE MAIN ELECTRICAL PANEL AND FEEDERS ARE DESIGNED BY OTHERS, SITE INSTALLED AND SUBJECT TO LOCAL JURISDICTION APPROVAL.
7. ALL CIRCUITS CROSSING OVER MODULE MATING LINE(S) SHALL BE SITE CONNECTED WITH APPROVED ACCESSIBLE JUNCTION BOXES, OR CABLE CONNECTORS.
8. ALL RECEPTACLES INSTALLED IN WET LOCATIONS (EXTERIOR) SHALL BE IN WEATHER PROOF (WP) ENCLOSURES. THE INTEGRITY OF WHICH IS NOT AFFECTED WHEN AN ATTACHMENT PLUG CAP IS INSERTED OR REMOVED. THE RECEPT ITSELF SHALL ALSO BE LISTED FOR DAMP AND WET LOCATIONS AS PER NEC.
9. EXTERIOR LIGHTS NOT INTENDED FOR 24 HOUR USE SHALL BE CONNECTED TO A PHOTOCELL OR TIMER.

STRUCTURAL LOAD LIMITATIONS

BUILDING RISK CATEGORY: II

FLOOR LIVE LOAD:
A. 50 PSF
B. 2000 LB. CONCENTRATED LOAD OVER 30 INCH x 30 INCH AREA LOCATED ANYWHERE ON FLOOR

ROOF LIVE LOAD:
A. 20 PSF

SNOW LOAD:

A. Pg =	25	PSF	GROUND SNOW LOAD
B. Pf =	20	PSF	FLAT ROOF SNOW LOAD
C. Ce =	1.0		SNOW EXPOSURE FACTOR
D. Is =	1.0		SNOW IMPORTANCE FACTOR
E. Ct =	1.1		SNOW THERMAL FACTOR

WIND LOAD: ASCE 7–10

A1 Vult =	120 MPH	WIND SPEED
A2 Vasd =	93 MPH	WIND SPEED
B. Iw =	1.0	WIND IMPORTANCE FACTOR
C. C		WIND EXPOSURE CATEGORY
D. GCpi=	0.18	INTERNAL PRESSURE COEFFICIENT

E. Pr: ZONE 1: 18.8 PSF Pw: ZONE 4: 20.4 PSF
ZONE 2: 31.6 PSF ZONE 5: 25.2 PSF
ZONE 3: 47.5 PSF

F. THIS BUILDING IS NOT DESIGNED FOR PLACEMENT ON THE UPPER HALF OF A HILL OR ESCARPMENT EXCEEDING 15 FEET IN HEIGHT.

SEISMIC LOAD:

A. Ie =	1.0	SEISMIC IMPORTANCE FACTOR
B. D		SITE CLASS
C. A15		SEISMIC FORCE RESISTING SYSTEM.
D. C		SEISMIC DESIGN CATEGORY
E.		EQUIVALENT LATERAL FORCE ANALYSIS PROCEDURE
F. Ss = ≤ .537		MAPPED SPECTRAL RESPONSE COEF.
G. S1 = ≤ .086		MAPPED SPECTRAL RESPONSE COEF.
H. Sds = ≤ .49		SPECTRAL RESPONSE COEFFICIENT
I. Sd1 = ≤ .34		SPECTRAL RESPONSE COEFFICIENT
J. V = 5224 LB		DESIGN BASE SHEAR
K. R = 6.5		RESPONSE MODIFICATION COEFFICIENT
L. Cs = 0.08		SEISMIC RESPONSE COEFFICIENT

FLOOD LOAD:
THIS BUILDING IS NOT DESIGNED TO BE LOCATED IN A FLOOD HAZARD AREA.

ACCESSIBILITY NOTES:

1. THE INTERNATIONAL SYMBOL OF ACCESSIBILITY SIGN SHALL BE DISPLAYED AT ALL ACCESSIBLE RESTROOM FACILITIES AND AT ACCESSIBLE BUILDING ENTRANCES UNLESS ALL ENTRANCES ARE ACCESSIBLE. INACCESSIBLE ENTRANCES SHALL HAVE DIRECTIONAL SIGNS INDICATING THE ROUTE TO THE NEAREST ACCESSIBLE ENTRANCE.
2. ACCESSIBLE DRINKING FOUNTAINS SHALL HAVE A SPOUT HEIGHT NO HIGHER THAN 36 INCHES ABOVE THE FLOOR AND EDGE OF BASIN NO HIGHER THAN 34 INCHES ABOVE THE FLOOR FOR INDIVIDUALS IN WHEELCHAIRS. ADDITIONALLY, DRINKING WATER PROVISIONS SHALL BE MADE FOR INDIVDUALS WHO HAVE DIFFICULTY BENDING.
3. WHERE STORAGE FACILITIES SUCH AS CABINETS, SHELVES, CLOSETS AND DRAWERS ARE PROVIDED AT LEAST ONE TYPE PROVIDED SHALL CONTAIN STORAGE SPACE COMPLYING WITH THE FOLLOWING: DOORS ETC. TO SUCH SPACES SHALL BE ACCESSIBLE (I.E. TOUCH LATCHES, U–SHAPED PULLS); SPACES SHALL BE 15 INCHES MINIMUM AND 48 INCHES MAXIMUM ABOVE THE FLOOR FOR FORWARD REACH OR SIDE REACH; CLOTHES RODS OR COAT HOOKS SHALL BE A MAXIMUM OF 48 INCHES ABOVE THE FLOOR (46 INCHES MAXIMUM WHEN DISTANCE FROM WHEEL CHAIR TO ROD EXCEEDS 10 INCHES). SHELVES IN KITCHENS OR TOILET ROOMS SHALL BE 40 INCHES MINIMUM AND 48 INCHES MAXIMUM ABOVE IN FLOOR.
4. CONTROLS, DISPENSERS, RECEPTACLES AND OTHER OPERABLE EQUIPMENT SHALL BE NO HIGHER THAN 48 INCHES ABOVE THE FLOOR. RECEPTACLES ON WALLS SHALL BE MOUNTED NO LESS THAN 15 INCHES ABOVE THE FLOOR. EXCEPTION; HEIGHT LIMITATIONS DO NOT APPLY WHERE THE USE OF SPECIAL EQUIPMENT DICTATES OTHERWISE OR WHERE ELECTRICAL RECEPTACLES ARE NOT NORMALLY INTENDED FOR USE BY BUILDING OCCUPANTS.
5. WHERE EMERGENCY WARNING SYSTEMS ARE PROVIED, THEY SHALL INCLUDE BOTH AUDIBLE AND VISUAL ALARMS. THE VISUAL ALARMS SHALL BE LOCATED THROUGHOUT, INCLUDING RESTROOM, AND PLACED 80 INCHES ABOVE THE FLOOR OR 6 INCHES BELOW CEILING,WHICH–EVER IS LOWER.
6. ALL DOORS SHALL BE OPENABLE BY A SINGLE EFFORT. DOOR CLOSERS SHALL BE ADJUSTED SO THAT FROM AN OPEN POSITION OF 90 DEGREES, THE TIME REQUIRED TO MOVE THE DOOR TO AN OPEN POSITION OF 12 DEGREES SHALL BE 5 SECONDS MINIMUM. THE MAXIMUM FORCE REQUIRED FOR PUSHING OR PULLING OPEN DOORS OTHER THAN FIRE DOORS SHALL NOT EXCEED 5 LBS. FOR ALL SLIDING, FOLDING, AND INTERIOR HINGED DOORS.
7. FLOOR SURFACES SHALL BE STABLE, FIRM, AND SLIP–RESISTANT. CHANGES IN LEVEL BET–WEEN 0.25 INCH AND 0.5 INCH SHALL BE BEVELED WITH A SLOPE NO GREATER THAN 1:2 CHANGES IN LEVEL GREATER THAN 0.5 INCH REQUIRE RAMPS. CARPET PILE THICKNESS SHALL BE 0.5 MAX. GRATINGS IN FLOOR SHALL HAVE SPACES NO GREATER THAN 0.5 INCH WIDE IN ONE DIRECTION. DOORWAY THRESHOLDS SHALL NOT EXCEED 0.5 INCH IN HEIGHT.
8. ACCESSIBLE WATER CLOSETS SHALL BE 17 INCHES TO 19 INCHES, MEASURED FROM THE FLOOR TO THE TOP OF THE SEAT. GRAB BARS SHALL BE 36 INCHES LONG MINIMUM WHEN LOCATED BEHIND WATER CLOSET AND 42 INCHES MINIMUM WHEN LOCATED ALONG SIDE OF WATER CLOSET, AND SHALL BE MOUNTED 33 INCHES TO 36 INCHES ABOVE THE FLOOR.
9. ACCESSIBLE URINALS SHALL BE STALL–TYPE OR WALL HUNG WITH ELONGATED RIMS AT A MAXIMUM OF 17 INCHES ABOVE THE FLOOR.
10. ACCESSIBLE LAVATORIES AND SINKS SHALL BE MOUNTED WITH THE RIM NO HIGHER THAN 34 INCHES ABOVE THE FLOOR. KNEE CLEARANCE OF AT LEAST 27 INCHES HIGH MUST BE PROVIDED WITH A MINIMUM DEPTH OF 8 INCHES BENEATH THE FIXTURE, AND 9 INCHES HIGH MINIMUM WITH A MINIMUM DEPTH OF 11 INCHES BENEATH THE FIXTURE. THE KNEE SPACE MUST BE AT LEAST 30 INCHES WIDE.
11. HOT WATER AND DRAIN PIPES UNDER ACCESSIBLE LAVATORIES AND SINKS SHALL BE INSULATED OR OTHERWISE CONFIGURED TO PROTECT AGAINST CONTACT. INSULATION OR PROTECTION MATERIALS MAY BE SITE INSTALLED. THERE SHALL BE NO SHARP OR ABRASIVE SURFACES UNDER ACCESSIBLE LAVATORIES AND SINKS.
12. ACCESSIBLE LAVATORIES AND SINKS SHALL HAVE ACCESIBLE FAUCETS (I.E. LEVER–OPERATED, PUSH TYPE, ELECTRONICALLY CONTROLLED).
13. MIRRORS LOCATED ABOVE LAVATORIES, SINKS OR COUNTERS SHALL BE MOUNTED WITH THE BOTTOM EDGE OF THE REFLECTING SURFACE A MAXIMUM OF 40 INCHES ABOVE THE FLOOR. OTHER MIRRORS IN TOILET ROOMS SHALL BE MOUNTED WITH THE BOTTOM EDGE OF THE REFLECTING SURFACE 35 INCHES MAXIMUM ABOVE THE FLOOR.
14. GRAB BARS HAVING A CIRCULAR CROSS SECTION SHALL HAVE AN OUTSIDE DIAMETER OF 1.25 INCHES MINIMUM AND 2.0 INCHES MAXIMUM. THE SPACE BETWEEN THE GRAB BAR AND THE WALL SHALL BE 1.5 INCHES.
15. WATER CLOSET FLUSH CONTROL SHALL BE INSTALLED A MAXIMUM OF 36 INCHES ABOVE THE FLOOR AND SHALL BE LOCATED ON THE OPEN SIDE OF THE WATER CLOSET.
16. DOORS TO ALL ACCESSIBLE SPACES SHALL HAVE ACCESSIBLE HARDWARE (I.E. LEVER – OPERRATED, PUSHTYPE, U–SHAPED) MOUNTED WITH OPERABLE PARTS BETWEEN 34 INCHES MINIMUM AND 48 INCHES MAXIMUM ABOVE THE FLOOR.
17. TOILET STALL DOORS SHALL BE THE SELF–CLOSING TYPE.
18. A TOWEL DISPENSER SHALL BE LOCATED ADJACENT TO ALL ACCESSIBLE LAVTORIES.

MECHANICAL NOTES:

1. ALL SUPPLY AIR REGISTERS SHALL BE 24 INCHES x 24 INCHES ADJUSTABLE WITH 8 INCHES x 18 INCHES (INSIDE) OVERHEAD FIBERGLASS DUCT, UNLESS OTHERWISE SPECIFIED. DUCTS SHALL BE INSULATED PER THE REQUIRMENTS OF THE APPLICABLE ENERGY CODES
2. INTERIOR DOORS SHALL BE UNDERCUT 1.5 INCHES ABOVE FINISHED FLOOR FOR AIR RETURN AND/OR AS NOTED ON FLOOR PLAN (FOR UNRATED DOORS)
3. HVAC EQUIPMENT SHALL BE EQUIPPED W/OUTSIDE FRESH AIR INTAKES PROVIDING 5 CFM PER PERSON & 0.06 CFM PER S.F. BLDG. AREA PER SECTION 403.3 OF THE IMC.
4. VENT FANS SHALL BE DUCTED TO THE EXTERIOR AND TERMINATE AT AN APPROVED VENT CAP.
5. EXHAUST FANS SHALL PROVIDE A MINIMUM OF 75 CFM FOR EACH WATER CLOSET AND URINAL.
6. THERMOSTATS MUST BE PROGRAMMABLE

WINDOW & DOOR SPECIFICATIONS

1. DBL. PANE WINDOWS ARE REQUIRED FOR ALL CLIMATE ZONES. SEE THE COMCHECK ENERGY CALCULATIONS FOR THE MAXIMUM ALLOWED U–FACTOR AND SHGC.
2. THE MAXIMUM ALLOWABLE AIR LEAKAGE RATE FOR WINDOWS IS 0.3 CFM PER SQUARE FEET OF WINDOW AREA.
3. THE MAXIMUM ALLOWABLE AIR LEAKAGE RATE FOR EXTERIOR DOORS IS 0.3 CFM PER SQUARE FEET OF DOOR AREA.

ATTENTION LOCAL INSPECTIONS DEPARTMENT

SITE INSTALLED ITEMS

THE FOLLOWING ITEMS HAVE NOT BEEN COMPLETED BY THE MANUFACTURER, HAVE NOT BEEN INSPECTED BY EMC AND ARE NOT CERTIFIED BY THE STATE MODULAR LABEL. NOTE THAT THIS LIST DOES NOT NECESSARILY LIMIT THE ITEMS OF WORK AND MATERIAL THAT MAY BE REQUIRED FOR A COMPLETE INSTALLATION. ALL SITE RELATED ITEMS ARE SUBJECT TO LOCAL JURISDICTION APPROVAL. CODE COMPLIANCE MUST BE DETERMINED AT THE LOCAL LEVEL.

1. THE COMPLETE FOUNDATION SUPPORT AND TIE DOWN SYSTEM.
2. RAMPS, STAIRS AND GENERAL ACCESS TO THE BUILDING.
3. PORTABLE FIRE EXTINGUISHER(S).
4. BUILDING DRAINS, CLEANOUTS, AND HOOK–UP TO PLUMBING SYSTEM.
5. ELECTRICAL SERVICE HOOK–UP (INCLUDING FEEDERS) TO THE BUILDING.
6. THE MAIN ELECTRICAL PANEL AND SUB–FEEDERS
7. CONNECTION OF ELECTRICAL CIRCUITS CROSSING OVER MODULE MATELINE(S) – (MULTI–UNITS ONLY).
8. STRUCTURAL AND AESTHETIC INTERCONNECTIONS BETWEEN MODULES (MULTI–UNITS ONLY).
9. FIRE INSPECTION

BUILDING DESIGN PARAMETERS

1.	USE/OCCUPANCY:	BUSINESS
2.	CONSTRUCTION TYPE:	VB
3.	SPRINKLER SYSTEM:	NO
4.	BUILDING AREA:	2100 S.F.
5.	BUILDING HEIGHT:	≤ 15 FEET
6.	NUMBER OF STORIES:	1
7.	NUMBER OF MODULES:	3
8.	OCCUPANT LOAD 21 BASED ON 100 NET SF/PERSON	
9.	EXTERIOR WALL FIRE RATING:	SEE FLOOR PLAN

10. THIS BUILDING MUST BE INSTALLED WITH THE FIRE SEPARATION DISTANCES REQUIRED BY IBC 602 AND SECTION 705.3
11. ENGERGY CODE COMPLIANCE: SEE ATTACHED ENERGY CALCULATIONS.
12. MANUFACTURERS DATA PLATE, STATE LABELS AND EMC LABELS ARE TO BE LOCATED ADJACENT TO ELECTRICAL PANEL.

EMC APPROVED
11 01 2019

University of Virginia
University Building Official

- ☐ Approved for general conformance to the 2015 VUSBC
- ☑ Approved with exceptions. See list of remaining issues noted on page 2 of the building permit and/or plan review documents dated: 12/17/2019

Date: 12/17/2019

CODE SUMMARY:

STATE	BUILDING	ELECTRICAL	MECHANICAL	PLUMBING	ACCESSIBILTY	ENERGY CODE
VIRGINIA	2015 VA. UNIFORM STATEWIDE BLDG. CD. 2015 IBC 2015 VA. STATEWIDE FIRE PREVENTION CODE 2015 IFC W/VA. AMENDS	2014 NEC	2015 IMC.	2015 IPC	ICC/ANSI A117.1–2009	2015 IECC

CONSULTING ENGINEER–SOLE PROPRIETORSHIP | JAMES BRADLEY, P.E. – 799 HALLECK CANYON ROAD – WHEATLAND, WY. 82201

VALID
COMMONWEALTH OF VIRGINIA
JAMES E. BRADLEY
Lic. No. 006835
PROFESSIONAL ENGINEER
November 01, 2019

DIAMOND BUILDERS INC.
P.O. BOX 2200 440 THOMPSON DR.
DOUGLASS, GEORGIA 31534 (912) 384–7080

DATE: 9–4–19	REVISIONS: ADD WATERHEATER EXPANSION TANK IN MODULAR 'B' AND EEMAX W/H IN MODULAR 'C'
SCALE : NO SCALE	1 11–1–19
CODES: SEE NOTES	
STATES: VA.	BY: J.B.
DESTINATION: CHARLOTTESVILLE	
DBI8359 A–C REV–1 35'–0" x 60'–0" BUSINESS	SHEET 1 OF 4
COVER SHEET	

ELECTRICAL SCHEDULE 'A'

CIRCUIT	NOMENCLATURE	BREAKER (AMPS)	WIRE (CU.)
1, 3	HVAC	60 A (2P) HACR	4-3 #6 GRND.
4, 6	RECEPTACLES	20 A	12-2 NM
2	LIGHTING	20 A	12-2 MC

ELECTRICAL PANEL SIZING:

DESCRIPTION	PANEL 'A'	KVA
.0035 KW/SF X 700 SF X 1.25=		3.1
8 RECEPTS AT 180VA/1000=		1.5
WATER HEATER 4.5 KW =		–
– FANS @ .3 KW X 1.25=		–
HVAC		15.9
TOTAL 20.5 KW		
TOTAL/240 X 1000= 86 AMPS		
INSTALL 150 AMP PANEL		
120/240 V 1Ø		

ELECTRICAL SCHEDULE 'C'

CIRCUIT	NOMENCLATURE	BREAKER (AMPS)	WIRE (CU.)
1, 3	HVAC	60 A (2P) HACR	4-3 #6 GRND.
7, 9	WATER HEATER	30 A(2P)	10-3 NM
5	DED. CKT. 1.8kW 120V.,1Ø	30 A(1P)	12-2 NM
4, 6	RECEPTACLES	20 A	12-2 NM
2	LIGHTING/FAN	20 A	12-2 MC

ELECTRICAL PANEL SIZING:

DESCRIPTION	PANEL 'C'	KVA
.0035 KW/SF X 700 SF X 1.25=		3.1
9 RECEPTS AT 180VA/1000=		1.6
DED. CKT. 1.9 KW x 1.25 =		2.4
2 FANS @ .3 KW X 1.25=		.8
HVAC		15.9
WATER HEATER 6.5 KW =		6.5
TOTAL 30.3 KW		
TOTAL/240 X 1000= 127 AMPS		
INSTALL 150 AMP PANEL		
120/240 V 1Ø		

ELECTRICAL SCHEDULE 'B'

CIRCUIT	NOMENCLATURE	BREAKER (AMPS)	WIRE (CU.)
1, 3	HVAC	60 A (2P) HACR	4-3 #6 GRND.
7, 9	WATER HEATER	30 A(2P)	10-2 NM
5	DED. CKT. 1.8kW 120V.,1Ø	30 A(1P)	12-2 NM
4, 6	RECEPTACLES	20 A	12-2 NM
2	LIGHTING	20 A	12-2 MC

ELECTRICAL PANEL SIZING:

DESCRIPTION	PANEL 'B'	KVA
.0035 KW/SF X 700 SF X 1.25=		3.1
8 RECEPTS AT 180VA/1000=		1.5
WATER HEATER 7.5 KW x 1.25 =		9.4
– FANS @ .3 KW X 1.25=		–
HVAC		15.9
DED. CKT. 1.9 KW x 1.25 =		2.4
TOTAL 32.3 KW		
TOTAL/240 X 1000= 135 AMPS		
INSTALL 150 AMP PANEL		
120/240 V 1Ø		

SUPPLY LINE SIZING IS BASED ON AN ASSUMED AVAILABLE PRESSURE OF 46 TO 60 PSI AT MAIN INLET AND SHOULD BE VERIFIED PRIOR TO CONSTRUCTION.

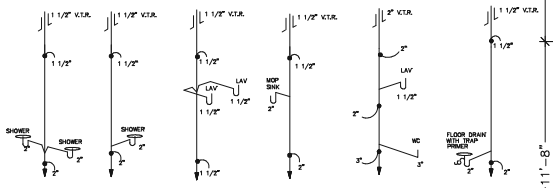
——— COLD
– – – – HOT

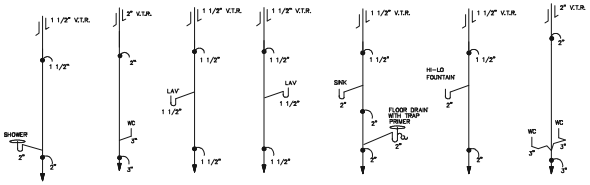
ALL SUPPLY LINES SHALL BE 3/4". ALL STUB-UPS SHALL BE 1/2" UNLESS OTHERWISE SPECIFIED.

SYMBOLS

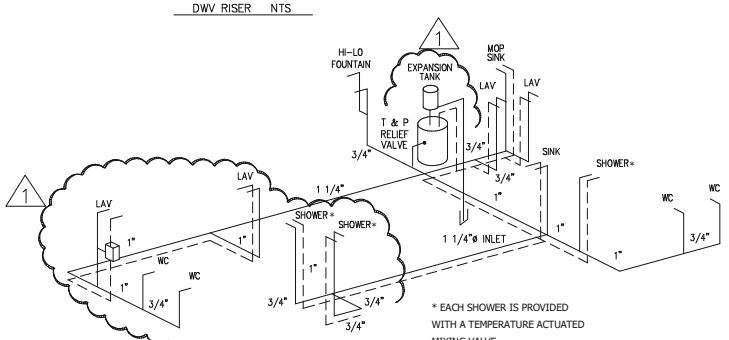
J-BOXES ONLY

- FIRE ALARM PULL STATION
- FIRE ALARM HORN/STROBE
- FIRE ALARM STROBE LIGHT
- JUNCTION BOX (NOW POWERED UNLESS CIRCUIT NO. IS SHOWN)
- SMOKE DETECTOR
- DUPLEX RECEPTACLE 120 V.
- SINGLE RECEPTACLE 240 V.
- INCANDESCENT LIGHT WITH 1– 60 W. BULB
- COMPACT FLOURESENT LIGHT 1–60 W. BULB
- HIGH PRESSURE SODIUM LIGHT
- METAL HALIDE WALL PACK
- VENT FAN
- COMB. VENT FAN & LIGHT
- SUPPLY AIR REGISTER
- RETURN AIR REGISTER
- FLOOD LIGHT 2–150W BULBS
- THERMOSTAT
- FLUORESCENT FIXTURE WITH 2–32W TUBES
- EXIT/EMERGENCY COMBO W/BATTERY BACKUP
- EXIT/EMERGENCY COMBO W/REMOTE HEAD W/BATTERY BACKUP
- EXIT/EMERGENCY COMBO W/BATTERY BACKUP
- EXIT SIGN W/BATTERY BACKUP
- EMERGENCY LIGHT WITH BATTERY BACKUP
- TELEPHONE JACK
- SWITCH & 3 WAY SWITCH
- OCCUPANCY SENSOR SWITCH COOPER CONTROLS MODEL NO. VAC-DT-1000-R
- FIRE EXTINGUISHER



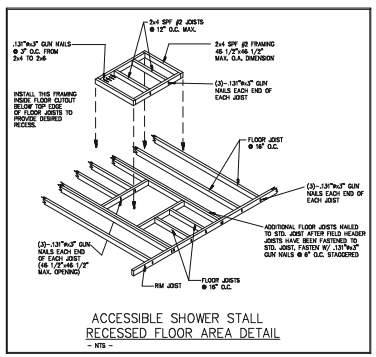


DWV RISER NTS

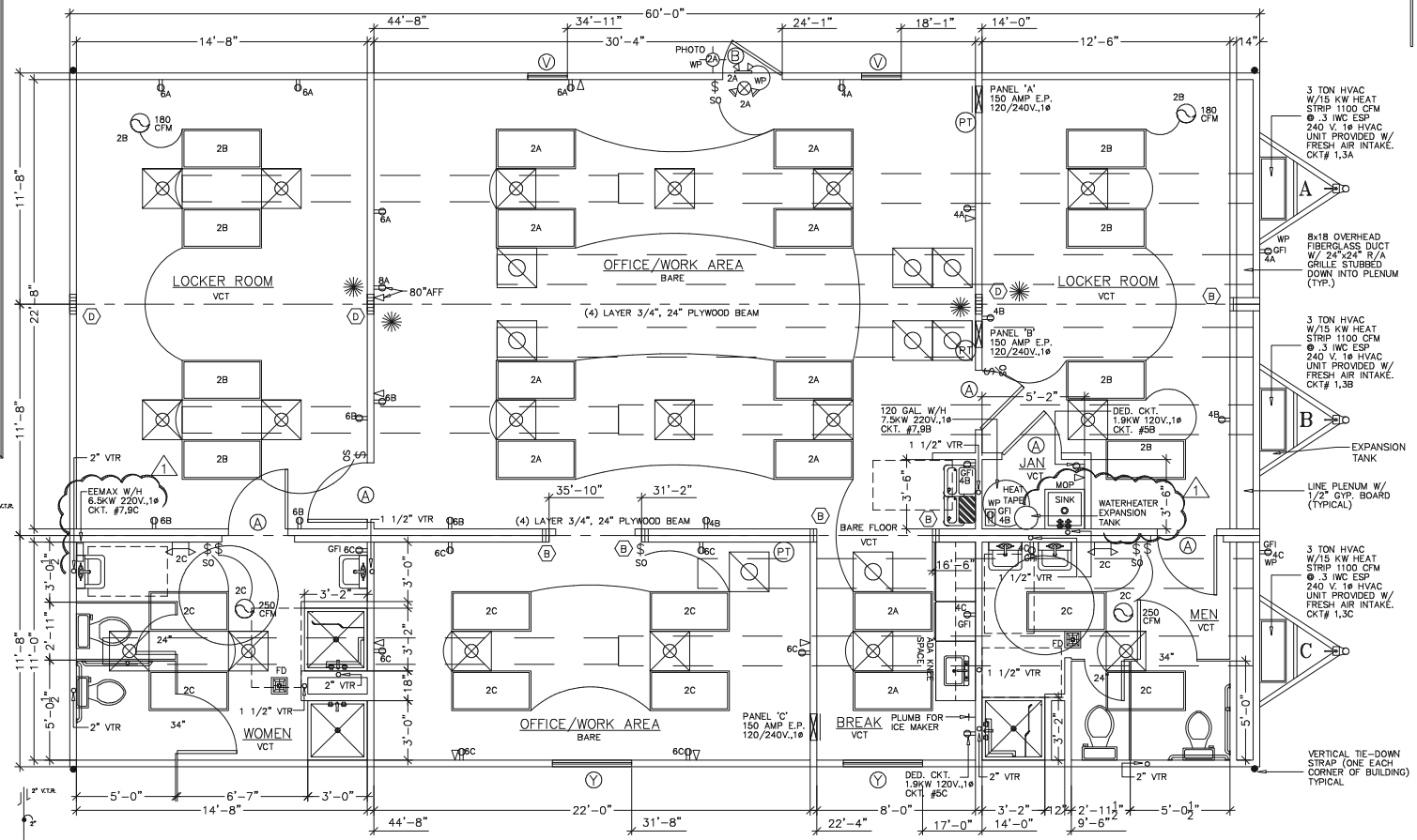


* EACH SHOWER IS PROVIDED WITH A TEMPERATURE ACTUATED MIXING VALVE

SUPPLY RISER –NTS–



ACCESSIBLE SHOWER STALL
RECESSED FLOOR AREA DETAIL
– NTS –



COLUMN STRAPPING SCHEDULE:

- (A) (2) 2x4 SPF #2 THIS HALF.
- (B) (2) 2x4 SPF #2 EACH HALF
- (C) (3) 2x4 SPF #2 THIS HALF.
- (D) (3) 2x4 SPF #2 EACH HALF.
- (E) (4) 2x4 SPF #2 THIS HALF.
- (F) (4) 2x4 SPF #2 EACH HALF.
- (G) (5) 2x4 SPF #2 THIS HALF.
- (H) (2) 2x6 SPF #2 EACH HALF.
- WITH RIDGE BEAM BEARING STIFFENER

NOTES:
1. ALL COLUMN STUDS SHALL BE GLUE/NAILED TOGETHER. PVA GLUE WITH 100% COVERAGE SHALL BE USED.
2. INSTALL TWO STEEL STRAPS AT EACH STUD OF EACH COLUMN.
3. COLUMN STUDS SHALL NOT BE NOTCHED OR BORED.

University of Virginia
University Building Official

- Approved for general conformance to the 2015 VUSBC
- ✔ Approved with exceptions. See list of remaining issues noted on page 2 of the building permit and/or plan review documents dated: 12/17/2019

Date: 12/17/2019

SYMBOLE	DOOR SCHEDULE	TOTAL
A	36"X80" SOLID CORE IMPERIAL OAK W/REDIFRAME	5
B	36"X80" STEEL/STEEL W/4"X24" VIEW PANEL	1

SYMBOLE	WINDOW SCHEDULE	TOTAL
V	24"X54" VERTICAL SLIDE, INSULATED BRONZE/TINTED	2
Y	48"X54" VERTICAL SLIDE, INSULATED BRONZE/TINTED	2

EMC APPROVED 11 01 2019

CONSULTING ENGINEER–SOLE PROPRIETORSHIP | JAMES BRADLEY, P.E. – 799 HALLECK CANYON ROAD – WHEATLAND, WY. 82201

VALID
COMMONWEALTH OF VIRGINIA
JAMES E. BRADLEY
Lic. No. 006836
PROFESSIONAL ENGINEER
November 01, 2019

DIAMOND BUILDERS INC.
P.O. BOX 2200, DOUGLASS, GEORGIA 31534
440 THOMPSON DR. (912) 384–7080

DATE: 9–4–19	REVISIONS: ADD WATERHEATER EXPANSION TANK IN MODULAR 'B' AND EEMAX W/H IN MODULAR 'C'
SCALE : 1/4"=1'–0"	1 11–1–19
CODES: SEE NOTES	BY: J.B.
STATES: VA.	
DESTINATION: CHARLOTTESVILLE	

DBI8359 A–C REV–1
35'–0" x 60'–0" BUSINESS

FLOOR PLAN

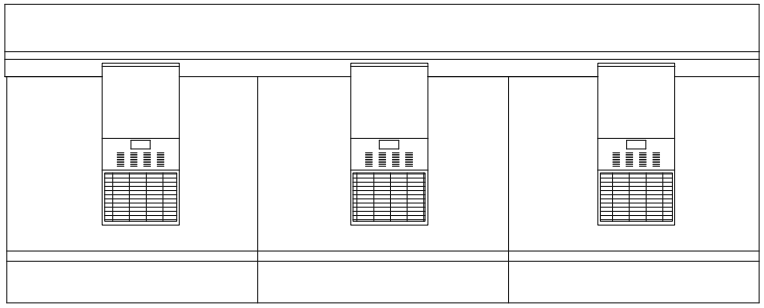
SHEET 2 OF 4

ELEVATION NOTES: TYPICAL

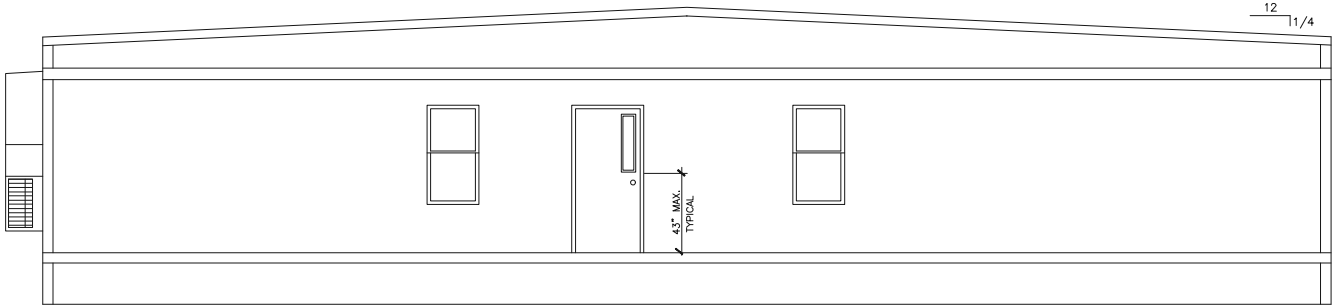
SEE–CROSS SECTION FOR METHOD OF ROOF VENTILATION

ACCESSIBLE RAMP(S), STAIR(S), AND HANDRAILS ARE SITE INSTALLED, DESIGNED BY OTHERS, AND SUBJECT TO LOCAL JURISDICTION.

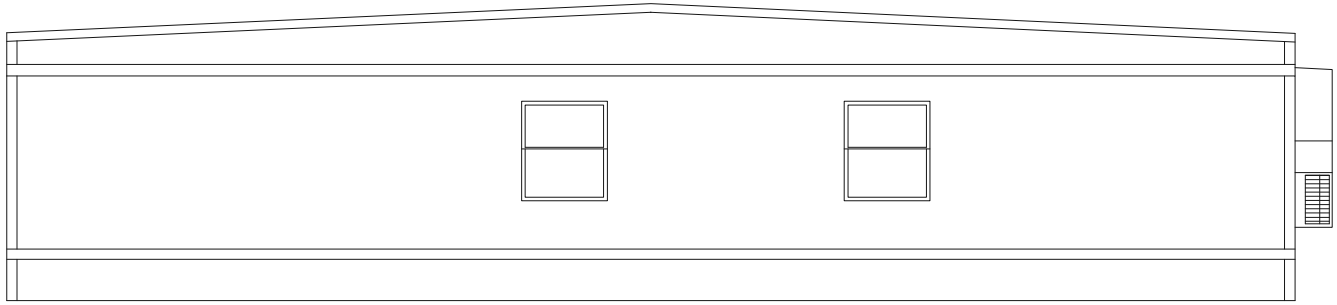
FOUNDATION ENCLOSURE (WHEN PROVIDED) MUST HAVE 1 SQUARE FOOT NET VENT AREA PER 1/150TH OF THE FLOOR AREA, AND AN 18" X 24" MINIMUM CRAWL SPACE ACCESS, SITE INSTALLED BY OTHERS SUBJECT TO LOCAL JURISDICTION.



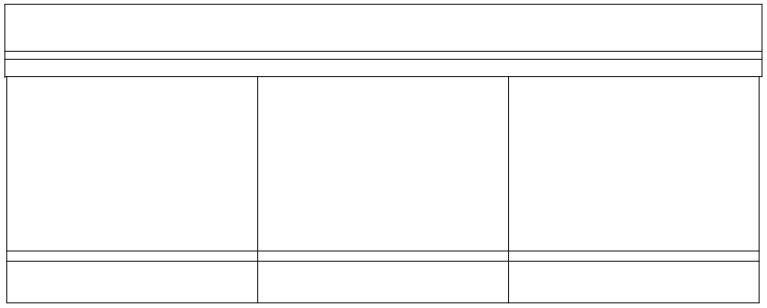
LEFT ELEVATION



FRONT ELEVATION



REAR ELEVATION



RIGHT ELEVATION

University of Virginia
University Building Official

☐ Approved for general conformance to the 2015 VUSBC

☑ Approved with exceptions. See list of remaining issues noted on page 2 of the building permit and/or plan review documents dated: 12/17/2019

Date: 12/17/2019

EMC **APPROVED**
11 01 2019

CONSULTING ENGINEER–SOLE PROPRIETORSHIP | JAMES BRADLEY, P.E. – 799 HALLECK CANYON ROAD – WHEATLAND, WY. 82201

VALID
November 1, 2019
COMMONWEALTH OF VIRGINIA
JAMES E. BRADLEY
Lic. No. 006836
PROFESSIONAL ENGINEER

DIAMOND BUILDERS INC.
P.O. BOX 2200, DOUGLASS, GEORGIA 31534
440 THOMPSON DR. (912) 384–7080

DATE: 9–4–19	REVISIONS:	ADD WATERHEATER EXPANSION TANK IN MODULAR 'B' AND EEMAX W/H IN MODULAR 'C'
SCALE : 1/4"=1'–0"	1 11–1–19	
CODES: SEE NOTES		BY: J.B.
STATES: VA.		
DESTINATION: CHARLOTTESVILLE		
DBI8359 A–C REV–1 35'–0" x 60'–0" BUSINESS		SHEET 3 OF 4
ELEVATIONS		

INTERIOR FINISH MATERIAL:

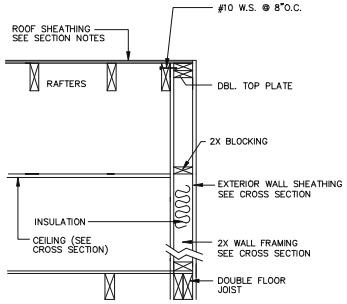
CEILING	–	T–GRID CEILING INSTALLED PER MANUFACTURER'S SPECIFICATIONS
WALL	–	1/2" GYP. BOARD (VCG THROUGHOUT) INSTALLED PER MANUFACTURERS SPECIFICATIONS
RESTROOM,	–	FRP OVER 1/2" GYP. BOARD (FULL HEIGHT) INSTALLED PER MANUFACTURERS SPECIFICATIONS
FLOOR	–	AS NOTED ON PLAN

NOTE:
INTERIOR WALL AND CEILING FINISH SHALL BE CLASS B OR BETTER IN CORRIDORS AND CLASS C OR BETTER IN ROOMS AND ENCLOSED SPACES. FLOOR FINISHES SHALL BE CLASS II OR BETTER.

EXTERIOR FINISH MATERIAL:

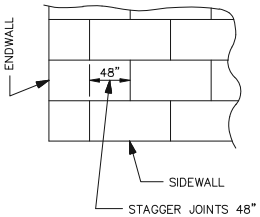
ROOF – MULE–HIDE 45 MIL (BLACK) EPDM FULLY ADHERED IN ACCORDANCE WITH ESR–1776 OVER 7/16" FR DECK PANEL C PLYWOOD SHEATHING INSTALLED PER MANUFACTURERS SPECIFICATIONS.

WALL – 26 GAUGE HI–RIB STEEL SIDING OVER APPROVED MOISTURE BARRIER INSTALLED PER MANUFACTURERS SPECIFICATIONS



BALLOON END WALL DETAIL

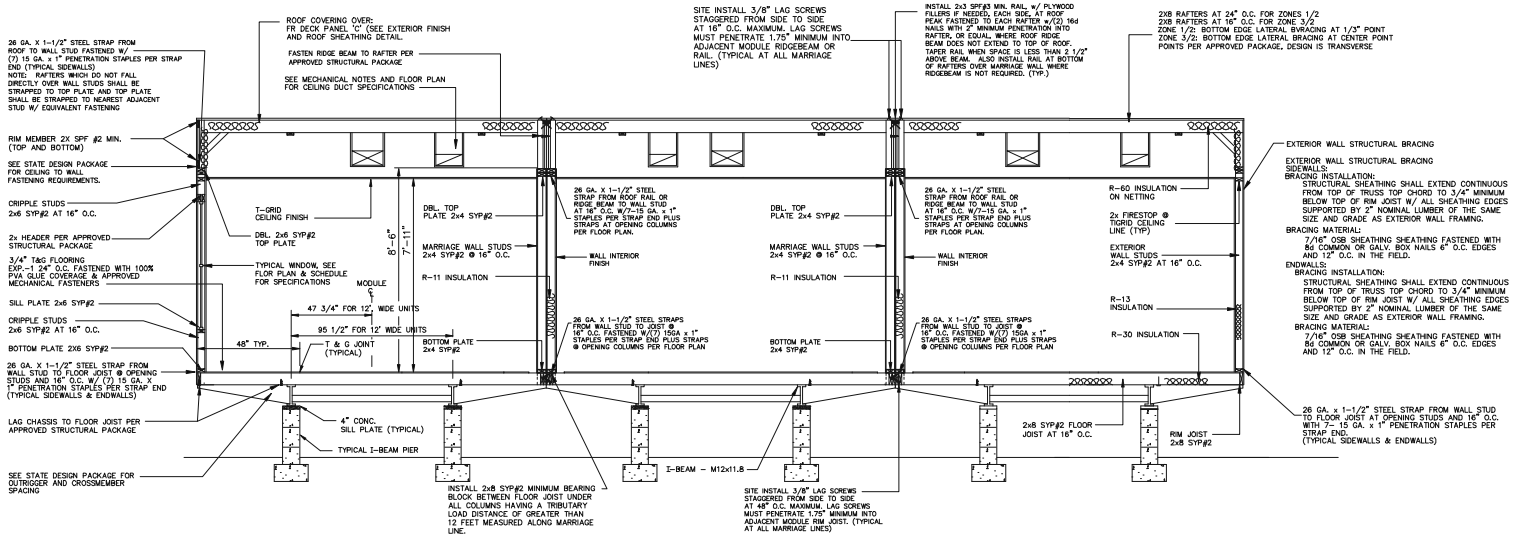
NTS



MULEHIDE:
FR DECK PANEL 'C' TO BE FASTENED TO TRUSSES PER APPROVED STRUCTURAL PACKAGE

ROOF SHEATHING DETAIL

SEE DBI DESIGN PACKAGE PAGES C35.0–35.3 FOR DIAGONAL BRACING AND ROOF JOIST GUSSET DETAILS.



University of Virginia
University Building Official

- ☐ Approved for general conformance to the 2015 VUSBC
- ☑ Approved with exceptions. See list of remaining issues noted on page 2 of the building permit and/or plan review documents dated: 12/17/2019

Date: 12/17/2019

EMC APPROVED 11 01 2019

GENERAL CROSS–SECTION NOTES:

1. UNLESS OTHERWISE SPECIFIED, ALL STEEL MUST COMPLY W/ ASTM A36, YIELD STRENGTH = 36 KSI.
2. ALL LAG SCREWS MUST COMPLY W/ ANSI/ ASME B18.2.1. F_{ytgt} 60 KSI MINIMUM.
3. SEE FOUNDATION PLAN FOR PIER AND TIE–DOWN STRAPPING LOCATIONS, ORIENTATIONS, AND SPECIFICATIONS.

RIDGE BEAM CONSTRUCTION:

(SEE FLOOR PLAN) 3/4" PLYWOOD, RATED SHEATHING, EXP.–1, STRUCT.–1, 5 PLY/5 LAYER, 48/24 EACH HALF CONTINUOUS ENTIRE LENGTH OF CLEARSPAN.

NOTES:

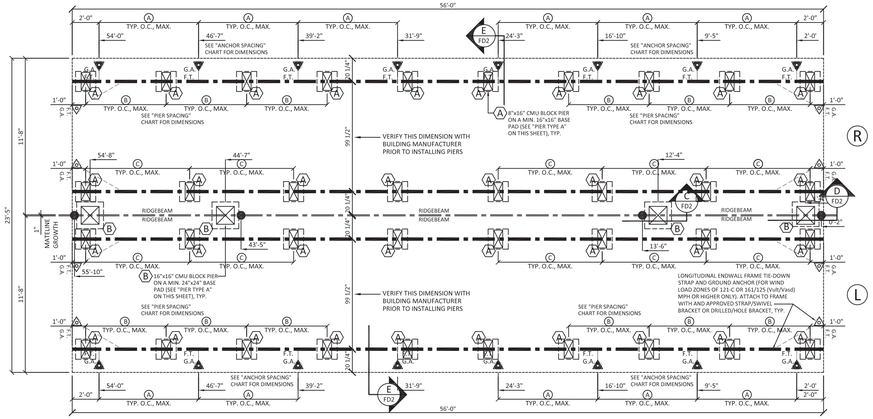
1. PLYWOOD FACE GRAIN MUST BE PARALLEL TO THE RIDGE BEAM SPAN.
2. ALL PLYWOOD BUTT JOINTS MUST BE STAGGERED 24" MINIMUM.
3. ALL RIDGE BEAM PLYWOOD LAMINATIONS MUST BE THE SAME DEPTH, THICKNESS, AND GRADE OF PLYWOOD. NO LUMBER OR PLYWOOD FLANGES ARE PERMITTED.
4. PLYWOOD MUST BE MANUFACTURED IN ACCORDANCE W/ PS 1–95.
5. PLYWOOD LAMINATIONS IN EACH HALF OF THE UNITS MUST BE GLUE NAILED TO ADJACENT LAYERS IN ACCORDANCE W/ PDS SUPPLEMENT #5, W/ AN ADHESIVE COMPLYING W/ ASTM D2559, OR CA25–4.
6. PLYWOOD MUST NOT BE TREATED W/ A FIRE RETARDANT PROCESS.
7. MOISTURE CONTENT MUST BE LESS THAN 16%.
8. BEAMS SUPPORTED BY ENDWALL COLUMNS MUST EXTEND CONTINUOUS OVER COLUMNS TO EXTERIOR FACE OF ENDWALL.
9. INSTALL (2X4) X 20" SPF#3 RIDGE BEAM BEARING STIFFENER OVER SUPPORT COLUMNS, WHEN SPECIFIED ON FLOOR PLAN; FASTEN THE FACE OF THE STIFFENER TO THE RIDGE BEAM W/ 100% GLUE COVERAGE AND (6) 16 GA. X 2–1/2" STAPLES.

CONSULTING ENGINEER–SOLE PROPRIETORSHIP | JAMES BRADLEY, P.E. – 799 HALLECK CANYON ROAD – WHEATLAND, WY. 82201

VALID
November 01, 2019
COMMONWEALTH OF VIRGINIA
JAMES E. BRADLEY
Lic. No. 006836
PROFESSIONAL ENGINEER

DIAMOND BUILDERS INC.
P.O. BOX 2200 DOUGLASS, GEORGIA 31534
440 THOMPSON DR. (912) 384–7080

DATE: 9–4–19	REVISIONS: ADD WATERHEATER EXPANSION TANK IN MODULAR 'B' AND EEMAX W/H IN MODULAR 'C'
SCALE : NO SCALE	1 11–1–19
CODES: SEE NOTES	
STATES: VA.	BY: J.B.
DESTINATION: CHARLOTTESVILLE	
DBI8359 A–C REV–1 35'–0" x 60'–0" BUSINESS	SHEET 4 OF 4
CROSS SECTION	



FOUNDATION PLAN - (2-PLEX)

SCALE: 3/16"=1'-0"

WIND: 90 to 140 MPH - EXP. C
115/89 to 160/124 (Vult/Vasd) MPH - EXP. C

SOIL: 2000 P.S.F. (SHOWN) ; 3000 PSF (SEE CHART)

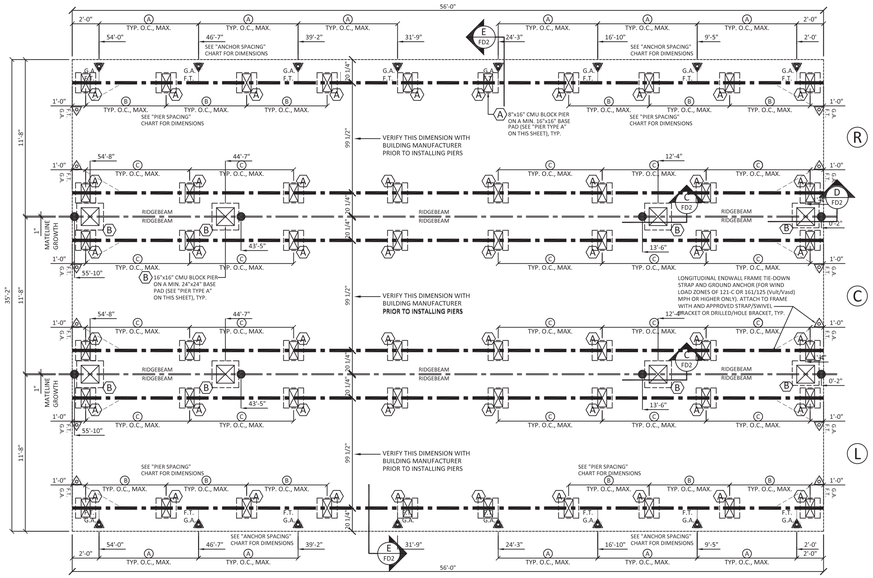
NOTE: ALL MATELINE WALL MODULES AND ALL RIDGEBEAM SPAN MODULES NEED TO BE PROPERLY IDENTIFIED AND THE PROPER PIER SPACING NEEDS TO BE DETERMINED AND PLACED PRIOR TO FOUNDATION INSTALLATION.

NOTE: THIS FOUNDATION PLAN SHOWS ALL PIER AND ANCHOR LOCATIONS FOR THE WIND ZONE 120 or 150/116 MPH (EXP.C). IF THE BUILDING IS TO BE LOCATED IN A WIND ZONE AREA OTHER THAN 150-C PLEASE REFERENCE THE CHART ON THIS PAGE FOR THE PROPER PLACEMENT OF BOTH THE PIERS AND THE ANCHORS.

NOTE: SEE PIER SPACING CHART THIS SHEET FOR DIFFERENT SIZE PAD OPTIONS AND THE REQUIRED SPACING. (16"x16" PAD SHOWN)

OCCUPANCY: BUSINESS
FLOOR DESIGN LIVE LOAD: 50/100 PSF
ROOF LIVE LOAD: 20 PSF.
GROUND SNOW LOAD: 20/40 PSF.
CONSTRUCTION: TYPE V-B

NOTE: NOTE: FRAME TIES ONLY, NO OVER-THE-ROOF STRAPS REQUIRED. SEE DETAIL THIS SHEET
NOTE: NOTE: FIRST STRAP FROM END WALLS NOT TO EXCEED 2'-0".



FOUNDATION PLAN - (3-PLEX)

SCALE: 3/16"=1'-0"

WIND: 90 to 140 MPH - EXP. C
115/89 to 160/124 (Vult/Vasd) MPH - EXP. C

SOIL: 2000 P.S.F. (SHOWN) ; 3000 PSF (SEE CHART)

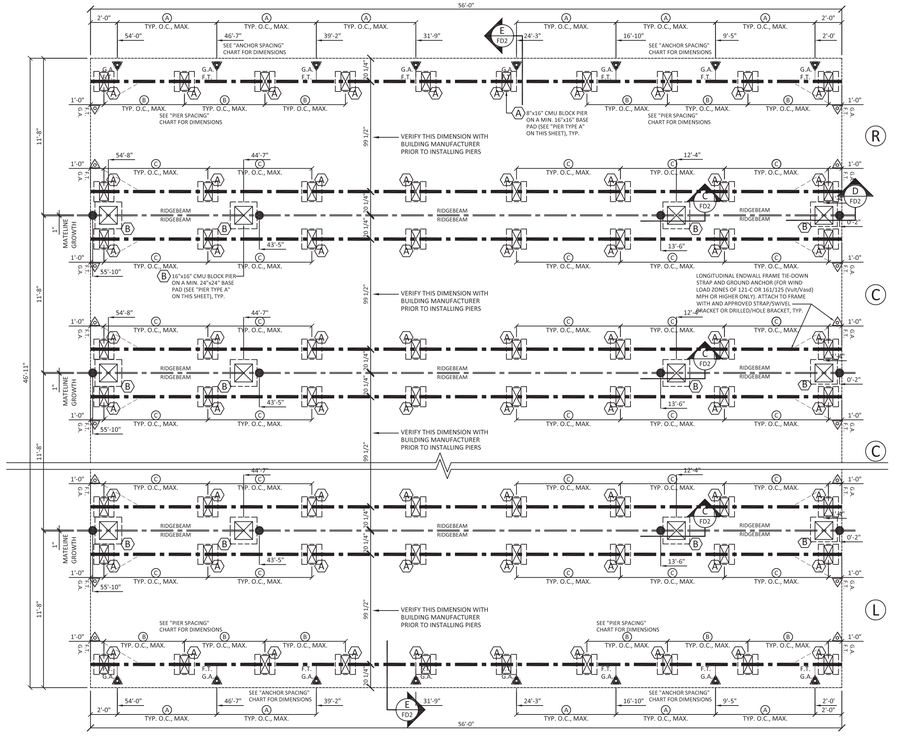
NOTE: ALL MATELINE WALL MODULES AND ALL RIDGEBEAM SPAN MODULES NEED TO BE PROPERLY IDENTIFIED AND THE PROPER PIER SPACING NEEDS TO BE DETERMINED AND PLACED PRIOR TO FOUNDATION INSTALLATION.

NOTE: THIS FOUNDATION PLAN SHOWS ALL PIER AND ANCHOR LOCATIONS FOR THE WIND ZONE 120 or 150/116 MPH (EXP.C). IF THE BUILDING IS TO BE LOCATED IN A WIND ZONE AREA OTHER THAN 150-C PLEASE REFERENCE THE CHART ON THIS PAGE FOR THE PROPER PLACEMENT OF BOTH THE PIERS AND THE ANCHORS.

NOTE: SEE PIER SPACING CHART THIS SHEET FOR DIFFERENT SIZE PAD OPTIONS AND THE REQUIRED SPACING. (16"x16" PAD SHOWN)

OCCUPANCY: BUSINESS
FLOOR DESIGN LIVE LOAD: 50/100 PSF
ROOF LIVE LOAD: 20 PSF.
GROUND SNOW LOAD: 20/40 PSF.
CONSTRUCTION: TYPE V-B

NOTE: NOTE: FRAME TIES ONLY, NO OVER-THE-ROOF STRAPS REQUIRED. SEE DETAIL THIS SHEET
NOTE: NOTE: FIRST STRAP FROM END WALLS NOT TO EXCEED 2'-0".



FOUNDATION PLAN - (4-PLEX +)

SCALE: 3/16"=1'-0"

WIND: 90 to 140 MPH - EXP. C
115/89 to 160/124 (Vult/Vasd) MPH - EXP. C

SOIL: 2000 P.S.F. (SHOWN) ; 3000 PSF (SEE CHART)

NOTE: ALL MATELINE WALL MODULES AND ALL RIDGEBEAM SPAN MODULES NEED TO BE PROPERLY IDENTIFIED AND THE PROPER PIER SPACING NEEDS TO BE DETERMINED AND PLACED PRIOR TO FOUNDATION INSTALLATION.

NOTE: THIS FOUNDATION PLAN SHOWS ALL PIER AND ANCHOR LOCATIONS FOR THE WIND ZONE 120 or 150/116 MPH (EXP.C). IF THE BUILDING IS TO BE LOCATED IN A WIND ZONE AREA OTHER THAN 150-C PLEASE REFERENCE THE CHART ON THIS PAGE FOR THE PROPER PLACEMENT OF BOTH THE PIERS AND THE ANCHORS.

NOTE: SEE PIER SPACING CHART THIS SHEET FOR DIFFERENT SIZE PAD OPTIONS AND THE REQUIRED SPACING. (16"x16" PAD SHOWN)

NOTE: ANY NUMBER OF UNITS FROM (4) TO (13) CAN BE LOCATED SIDE-BY-SIDE AS SHOWN.

OCCUPANCY: BUSINESS
FLOOR DESIGN LIVE LOAD: 50/100 PSF
ROOF LIVE LOAD: 20 PSF.
GROUND SNOW LOAD: 20/40 PSF.
CONSTRUCTION: TYPE V-B

NOTE: NOTE: FRAME TIES ONLY, NO OVER-THE-ROOF STRAPS REQUIRED. SEE DETAIL THIS SHEET
NOTE: NOTE: FIRST STRAP FROM END WALLS NOT TO EXCEED 2'-0".

NOTE: FOUNDATION PLAN AS SHOWN IS DESIGNED FOR 20# G.S.L. IF THE GROUND SNOW LOAD IS 40# G.S.L. PLEASE REFER TO CHART ON THIS PAGE FOR ADJUSTED PIER SPACING.

SYMBOLS:

F.T. - G.A. FRAME TIE-DOWN FASTENED TO GROUND ANCHOR

HURRICANE STRAP FASTENED TO GROUND ANCHOR

CMU BLOCK PIER AND PAD BELOW

ANCHOR SPACING

MPH	EXP.	A	# OF ANCHORS	
120/93	C	10'-5"	6	(@ EA. SIDEWALL)
130/101	C	10'-5"	6	(@ EA. SIDEWALL)
140/108	C	8'-8"	7	(@ EA. SIDEWALL)
150/116	C	7'-5"	8	(@ EA. SIDEWALL)
160/124	C	6'-9"	9	(@ EA. SIDEWALL)
161/125	C	6'-9"	9	(@ EA. SIDEWALL) w/ENDWALL
170/132	C	5'-7"	10	(@ EA. SIDEWALL) w/ENDWALL

ANCHOR SPACING

MPH	EXP.	A	# OF ANCHORS	
90	C	10'-5"	6	(@ EA. SIDEWALL)
100	C	10'-5"	6	(@ EA. SIDEWALL)
110	C	8'-8"	7	(@ EA. SIDEWALL)
120	C	7'-5"	8	(@ EA. SIDEWALL)
130	C	6'-9"	9	(@ EA. SIDEWALL) w/ENDWALL
140	C	5'-7"	10	(@ EA. SIDEWALL) w/ENDWALL

PIER SPACING @ 20# G.S.L.

1500 P.S.F. SOIL BEARING CAPACITY

PAD SIZE	B	C	# OF PIERS	
16"x16"	4'-0"		14	(UNDER OUTSIDE I-BEAM)
		4'-9"	12	(UNDER INSIDE I-BEAM)
18"x18"	4'-6"		13	(UNDER OUTSIDE I-BEAM)
		5'-5"	11	(UNDER INSIDE I-BEAM)
20"x20"	4'-9"		12	(UNDER OUTSIDE I-BEAM)
		6'-0"	10	(UNDER INSIDE I-BEAM)
24"x24"	7'-9"		8	(UNDER OUTSIDE I-BEAM)
		10'-10"	6	(UNDER INSIDE I-BEAM)

NOTE: ANY PIER THAT IS ON A 24"x24" PAD OR LARGER AND SPACED GREATER THAN 10'-10" O.C. MUST BE ON A 16"x16" CMU PIER

PIER SPACING @ 20# G.S.L.

2000 P.S.F. SOIL BEARING CAPACITY

PAD SIZE	B	C	# OF PIERS	
16"x16"	5'-5"		11	(UNDER OUTSIDE I-BEAM)
		6'-9"	9	(UNDER INSIDE I-BEAM)
16"x18"/18"x18"	6'-0"		10	(UNDER OUTSIDE I-BEAM)
		7'-9"	8	(UNDER INSIDE I-BEAM)
20"x20"	6'-9"		9	(UNDER OUTSIDE I-BEAM)
		9'-0"	7	(UNDER INSIDE I-BEAM)
24"x24"	10'-10"		6	(UNDER OUTSIDE I-BEAM)
		13'-6"	5	(UNDER INSIDE I-BEAM)

NOTE: ANY PIER THAT IS ON A 24"x24" PAD OR LARGER AND SPACED GREATER THAN 10'-10" O.C. MUST BE ON A 16"x16" CMU PIER

PIER SPACING @ 20# G.S.L.

3000 P.S.F. SOIL BEARING CAPACITY

PAD SIZE	B	C	# OF PIERS	
16"x16"	6'-0"		10	(UNDER OUTSIDE I-BEAM)
		7'-9"	8	(UNDER INSIDE I-BEAM)
16"x18"/18"x18"	6'-9"		9	(UNDER OUTSIDE I-BEAM)
		9'-0"	7	(UNDER INSIDE I-BEAM)
20"x20"	7'-9"		8	(UNDER OUTSIDE I-BEAM)
		10'-10"	6	(UNDER INSIDE I-BEAM)
24"x24"	13'-6"		5	(UNDER OUTSIDE I-BEAM)
		13'-6"	5	(UNDER INSIDE I-BEAM)

NOTE: ANY PIER THAT IS ON A 24"x24" PAD OR LARGER AND SPACED GREATER THAN 10'-10" O.C. MUST BE ON A 16"x16" CMU PIER

PIER SPACING @ 40# G.S.L.

1500 P.S.F. SOIL BEARING CAPACITY

PAD SIZE	B	C	# OF PIERS	
16"x18"/18"x18"	4'-2"		14	(UNDER OUTSIDE I-BEAM)
		4'-9"	12	(UNDER INSIDE I-BEAM)
20"x20"	4'-6"		13	(UNDER OUTSIDE I-BEAM)
		5'-5"	11	(UNDER INSIDE I-BEAM)
24"x24"	6'-9"		9	(UNDER OUTSIDE I-BEAM)
		9'-0"	7	(UNDER INSIDE I-BEAM)

NOTE: ANY PIER THAT IS ON A 24"x24" PAD OR LARGER AND SPACED GREATER THAN 10'-10" O.C. MUST BE ON A 16"x16" CMU PIER

PIER SPACING @ 40# G.S.L.

2000 P.S.F. SOIL BEARING CAPACITY

PAD SIZE	B	C	# OF PIERS	
16"x16"	4'-6"		13	(UNDER OUTSIDE I-BEAM)
		5'-5"	11	(UNDER INSIDE I-BEAM)
16"x18"/18"x18"	4'-9"		12	(UNDER OUTSIDE I-BEAM)
		6'-0"	10	(UNDER INSIDE I-BEAM)
20"x20"	5'-5"		11	(UNDER OUTSIDE I-BEAM)
		6'-9"	9	(UNDER INSIDE I-BEAM)
24"x24"	7'-9"		8	(UNDER OUTSIDE I-BEAM)
		10'-10"	6	(UNDER INSIDE I-BEAM)

NOTE: ANY PIER THAT IS ON A 24"x24" PAD OR LARGER AND SPACED GREATER THAN 10'-10" O.C. MUST BE ON A 16"x16" CMU PIER

PIER SPACING @ 40# G.S.L.

3000 P.S.F. SOIL BEARING CAPACITY

PAD SIZE	B	C	# OF PIERS	
16"x16"	5'-5"		11	(UNDER OUTSIDE I-BEAM)
		6'-9"	9	(UNDER INSIDE I-BEAM)
16"x18"/18"x18"	6'-0"		10	(UNDER OUTSIDE I-BEAM)
		7'-9"	8	(UNDER INSIDE I-BEAM)
20"x20"	6'-9"		9	(UNDER OUTSIDE I-BEAM)
		9'-0"	7	(UNDER INSIDE I-BEAM)
24"x24"	10'-10"		6	(UNDER OUTSIDE I-BEAM)
		13'-6"	5	(UNDER INSIDE I-BEAM)

NOTE: ANY PIER THAT IS ON A 24"x24" PAD OR LARGER AND SPACED GREATER THAN 10'-10" O.C. MUST BE ON A 16"x16" CMU PIER

STATE(S):

DELAWARE

BUILDING:	2012/2015 IBC
LIFE SAFETY:	2012 NFPA 101
PLUMBING:	2012/2015 IPC
MECHANICAL:	2012/2015 IMC
ELECTRICAL:	2014 NEC
ENERGY:	2012/2015 IECC
ACCESSIBILITY:	2009 IAC

VIRGINIA

BUILDING:	2012 VA UNIFORM STATE WIDE BUILDING CODE AND 2012 IBC AND 2012 IFC
PLUMBING:	2012 IPC
MECHANICAL:	2012 IMC
ELECTRICAL:	2011 NEC
ENERGY:	ASHRAE/IES 90.1 - 2010
ACCESSIBILITY:	ADA/ANSI 117.1-03

WEST VIRGINIA

BUILDING:	2012 IBC
PLUMBING:	2012 IPC
MECHANICAL:	2012 IMC
ELECTRICAL:	2014 NEC
ENERGY:	2009 IECC
ACCESSIBILITY:	ICC/ANSI 117.1-10

Vanguard Modular Building Systems
Corporate Office
3 Great Valley Parkway Suite 170
Malvern, PA 19355
877-438-8627
www.vanguardmodular.com

VANGUARD MODULAR BUILDING SYSTEMS

WALTER E. WOOD LICENSE No. 21600 DELAWARE PROFESSIONAL ENGINEER
VALID
November 14, 2018

COMMONWEALTH OF VIRGINIA
WALTER E. WOOD Lic. No. 57881 PROFESSIONAL ENGINEER
VALID
November 14, 2018

WALTER E. WOOD REGISTERED 22484 STATE OF WEST VIRGINIA PROFESSIONAL ENGINEER
VALID
November 14, 2018

University of Virginia University Building Official
- ☐ Approved for general conformance to the 2015 VUSBC
- ✔ Approved with exceptions. See list of remaining issues noted on page 2 of the building permit and/or plan review documents dated: 12/17/2019

Date: 12/17/2019

STATE(S): DE, VA, WV

DE PE LIC #: 21600
VA PE LIC #: 57881
WV PE LIC #: 22484

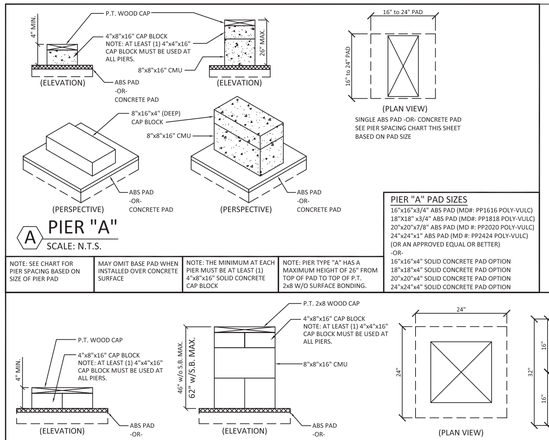
W.E.W.
WALTER E. WOOD, P.E.
CONSULTING ENGINEER
168 WEST LONGLEAF DR
SYLVESTER, GA 31791

REV	DATE	DESCRITION

Vanguard Modular

Foundation Plan

Date:	11/6/2018
Salesperson	B. Bieganski
Scale:	3/16"=1'-0"
Building Number:	
Drawn by:	J.L.B.
Sheet:	FD1



A SCALE: N.T.S.

PIER "A"

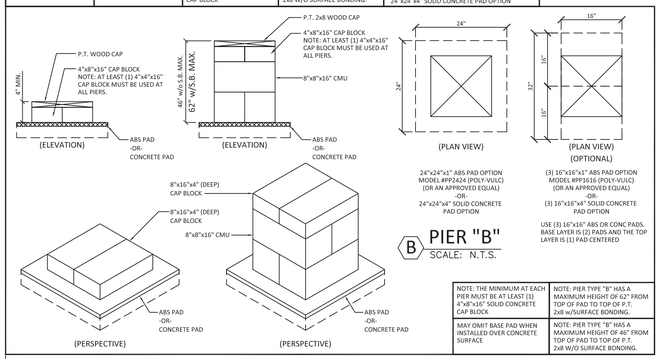
NOTE: SEE CHART FOR PIER SPACING BASED ON SIZE OF PIER PAD	MAY OMIT BASE PAD WHEN INSTALLED OVER CONCRETE SURFACE	NOTE: THE MINIMUM AT EACH PIER MUST BE AT LEAST (1) 4"x4"x16" SOLID CONCRETE CAP BLOCK	NOTE: PIER TYPE "A" HAS A MAXIMUM HEIGHT OF 26" FROM TOP OF PAD TO TOP OF P.T. 2x8 W/O SURFACE BONDING.

PIER "A" PAD SIZES

16"x16"x3/4" ABS PAD (MO#: PP1616 POLY-VULC)
18"X18" x3/4" ABS PAD (MO#: PP1818 POLY-VULC)
20"x20"x7/8" ABS PAD (MO #: PP2020 POLY-VULC)
24"x24"x1" ABS PAD (MO #: PP2424 POLY-VULC)
(OR AN APPROVED EQUAL OR BETTER)
-OR-
16"X16"x4" SOLID CONCRETE PAD OPTION
18"x18"x4" SOLID CONCRETE PAD OPTION
20"x20"x4" SOLID CONCRETE PAD OPTION
24"x24"x4" SOLID CONCRETE PAD OPTION

NOTE: MINIMUM SIZE OF BASE PAD FOR PIER "A" IS 16"x16" OR 1.78 SQUARE FEET. ANY BASE PAD (CONCRETE OR ABS) SIZE MAY BE USED THAT IS EQUAL TO OR GREATER THAN 1.78 SQUARE FEET. SEE CHART ON SHEET 1. THE LOCAL BUILDING DEPARTMENT IS TO BE CONSULTED AS TO WHICH PAD THEY WILL REQUIRE.

NOTE: MINIMUM SIZE OF BASE PAD FOR PIER "B" IS 24"x24" OR 4.00 SQUARE FEET. ANY BASE PAD (CONCRETE OR ABS) SIZE MAY BE USED THAT IS EQUAL TO OR GREATER THAN 4.00 SQUARE FEET. SEE "PIER B (ALT.)" ALSO.

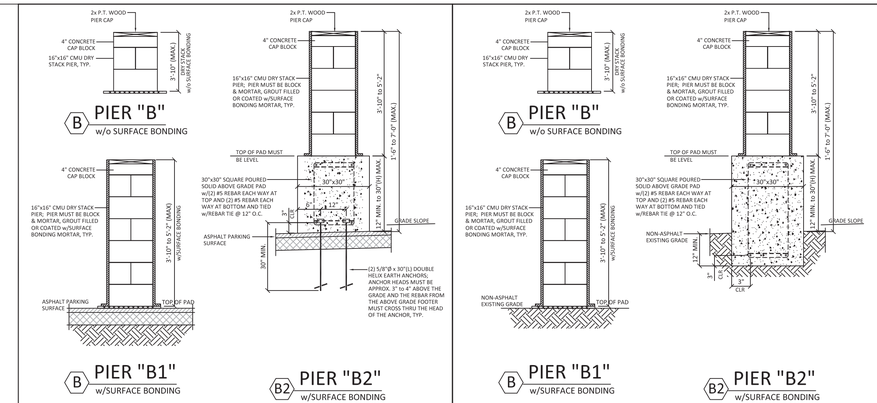


B SCALE: N.T.S.

PIER "B"

NOTE: THE MINIMUM AT EACH PIER MUST BE AT LEAST (1) 4"x8"x16" SOLID CONCRETE CAP BLOCK	NOTE: PIER TYPE "B" HAS A MAXIMUM HEIGHT OF 62" FROM TOP OF PAD TO TOP OF P.T. 2x8 w/SURFACE BONDING.
MAY OMIT BASE PAD WHEN INSTALLED OVER CONCRETE SURFACE	NOTE: PIER TYPE "B" HAS A MAXIMUM HEIGHT OF 46" FROM TOP OF PAD TO TOP OF P.T. 2x8 W/O SURFACE BONDING.

NOTE: ALL EXISTING COMPACTED SOIL AREAS AT THIS SITE IS AN ASSUMED SOIL BEARING CAPCITY OF 2000 PSF.
NOTE: ALL PAVED OR ASPHALT PARKING SURFACES AT THIS SITE IS AN ASSUMED SOIL BEARING CAPCITY OF 3000 PSF.
NOTE: PIER TYPE "A" (W/O SURFACE BONDING) IS TO BE USED ONLY WHERE THE PIER HEIGHT FROM TOP OF PAD TO TOP OF PIER RANGES FROM 4 INCHES TO 26 INCHES MAX.
NOTE: PIER TYPE "B" (W/O SURFACE BONDING) IS TO BE USED ONLY WHERE THE PIER HEIGHT FROM TOP OF PAD TO TOP OF PIER RANGES FROM 26 INCHES TO 46 INCHES MAX.
NOTE: PIER TYPE "B1" (W/SURFACE BONDING) IS TO BE USED ONLY WHERE THE PIER HEIGHT FROM TOP OF PAD TO TOP OF PIER RANGES FROM 46 INCHES TO 62 INCHES MAX. WITH SURFACE BONDING MORTAR APPLIED TO ALL SIDES OF THE CMU PIER FROM TOP OF PIER DOWN TO PAD ENTIRE TOP OF PAD.
NOTE: PIER TYPE "B2" IS TO BE USED ONLY WHERE THE PIER HEIGHT FROM TOP OF PAD TO TOP OF PIER RANGES FROM 62 INCHES TO 84 INCHES MAX. WITH SURFACE BONDING MORTAR APPLIED TO ALL SIDES OF THE CMU PIER FROM TOP OF PIER DOWN TO PAD ENTIRE TOP OF PAD.



STRUCTURAL LOAD LIMITATIONS: 2012/2015 IBC, 2010 FBC

BUILDING OCCUPANCY CATEGORY: II

A. 100 PSF (CORRIDORS)
50 PSF (OFFICES)
2000 LB. (CONCENTRATED)

ROOF LIVE LOAD:
A. 20 PSF.

ROOF SNOW LOAD:
A. Pg = 20/40 PSF GROUND SNOW LOAD
B. Pf = 20/30.80 PSF FLAT ROOF SNOW LOAD
(SEE CHART FOR PROPER PIER SPACING FOR SITE G.S.L.)
C. Ce = 1.1 SNOW EXPOSURE FACTOR
D. Is = 1.0 SNOW IMPORTANCE FACTOR
E. Ct = 1.0 SNOW THERMAL FACTOR

WIND LOAD:
1. 115 / 160 MPH (VULT) WIND SPEED
89 / 124 MPH (VASD) WIND SPEED
2. Iw = 1.0 WIND IMPORTANCE FACTOR.
BUILDING RISK CATEGORY: II (ASCE 7-10)
3. C WIND EXPOSURE CATEGORY.
4. ENCLOSURE CLASSIFICATION: ENCLOSED
GCpi = 0.18 INTERNAL PRESSURE COEFFICIENT.

5. COMPONENT & CLADDING LOAD:
(ROOFS)
Pr = 7.20 / -26.90 PSF ZONE 1
Pr = -34.30 / -66.40 PSF ZONE 2
Pr = -49.50 / -95.90 PSF ZONE 3

(WALLS / WINDOWS / DOORS):
Pw = -15.20 / -29.50 PSF ZONE 4
Pw = -29.10 / -56.30 PSF ZONE 5

6. THIS BUILDING IS NOT DESIGNED FOR PLACEMENT ON THE UPPER HALF OF A HILL OR ESCARPMENT EXCEEDING 15 FEET IN HEIGHT.

SEISMIC LOAD:
A. Ie = 1.0 SEISMIC IMPORTANCE FACTOR
B. D SITE CLASS
C. A13 SEISMIC FORCE RESISTING SYSTEM.
D. C SEISMIC DESIGN CATEGORY.
E. EQUIVALENT ANALYSIS PROCEDURE.
F. Ss =< .537 MAPPED SPECTRAL RESPONSE COEFFICIENT
G. S1 =< .285 MAPPED SPECTRAL RESPONSE COEFFICIENT
H. Sds =< .49 SPECTRAL RESPONSE COEFFICIENT.
I. Sd1 =< .19 SPECTRAL RESPONSE COEFFICIENT.
J. V = 7.45k DESIGN BASE SHEAR (PER MODULE)
K. R = 6.5 RESPONSE MODIFICATION COEFFICIENT
L. Cd = 0.08 SEISMIC RESPONSE COEFFICIENT

FLOOD LOAD:
THIS BUILDING IS NOT DESIGNED TO BE SUBMERGED OR SUBJECTED TO WAVE ACTION WHEN LOCATED IN A FLOOD PRONE OR ZONE AREA. THE FINISH FLOOR ELEVATION MUST BE LOCATED ABOVE THE BUILDING SITE FLOOD PLANE LEVEL FOR THIS BUILDING TO BE LOCATED IN A FLOOD PRONE OR ZONE AREA SUBJECT TO LOCAL JURISDICTION.

FOUNDATION NOTES:

NOTE: ALL REQUIRED BUILDING AND/OR CONSTRUCTION PERMITS MUST BE APPLIED FOR AND OBTAINED FROM THE LOCAL AUTHORITIES HAVING JURISDICTION PRIOR TO ANY WORKED BEING DONE ON THE ABOVE SHOWN FOUNDATION DESIGN.

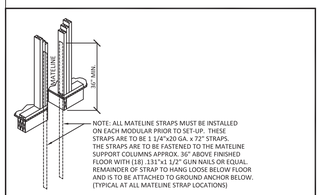
1. ALL FOUNDATION CONSTRUCTION, MATERIALS, AND INSTALLATION SHALL BE IN ACCORDANCE WITH ALL APPLICABLE STATE AND LOCAL CODES.
2. THE ABOVE FOUNDATION IS DESIGNED AS PER SECTION 104.11 OF THE 2006/2009/2012 IBC OR 2010 FBC USING ALTERNATIVE DESIGN OR METHOD OF CONSTRUCTION. THIS DESIGN MEETS OR EXCEEDS THE WIND LOAD AND SOIL BEARING REQUIREMENTS OF THESE CODES. THE APPROVAL OF THIS FOUNDATION IS SUBJECT TO THE LOCAL JURISDICTION HAVING AUTHORITY.
3. TIE-DOWN STRAPS TO BE 1-1/4" X .035 GALVANIZED STEEL FEDERAL SPECIFICATION QQS-781-H TYPE-1 FINISH-B GRADE-1. TIE-DOWN STRAPS AND CONNECTING HARDWARE TO HAVE A 4,725# MINIMUM ULTIMATE CAPACITY (3,150# x 1.5).
4. ALL TIE DOWN ANCHORS SHALL HAVE A 4,725# MINIMUM ULTIMATE CAPACITY (3,150# x 1.5) AND SHALL BE INSTALLED AS PER THEIR MANUFACTURER'S SPECIFICATIONS. THE TYPE OF GROUND ANCHOR, INCLUDING SHAFT LENGTH, NUMBER AND DIAMETER OF HELIXES, ETC. TO BE SPECIFIED BY THE GROUND ANCHOR MANUFACTURER FOR THE ACTUAL SOIL TYPE THAT IS ENCOUNTERED AT THE SITE.
5. SEE ABOVE FOUNDATION LAYOUT FOR TIE-DOWN STRAP SPACING.
6. ALL PIERS SHALL BE 8"x8"x16" MASONRY BLOCKS ON EITHER AN 16"x16"x3/4" (DEEP) ABS PADS, OR 16"x16"x4" SOLID CONCRETE PADS, MIN. EXCEPT AS OTHERWISE NOTED ON FOUNDATION PLAN. SEE PIER SPACING CHART FOR ADDITIONAL SIZE OPTIONS.
7. MINIMUM SOIL BEARING CAPACITY IS 2,000 PSF. TO BE VERIFIED BY BUILDING'S OWNER. SOIL BEARING CAPACITY SHOWN ON THIS PLAN IS ASSUMED. IF THE ACTUAL SOIL BEARING CAPACITY IS LESS THAN 2,000 PSF, THE ARCHITECT/ENGINEER MUST BE CONSULTED FOR REQUIRED ALTERNATE FOUNDATION DESIGN. FOOTINGS SHALL BE PLACED ON NON-EXPANSIVE SOILS ONLY. IF SOIL BEARING AT SITE IS 3000 PSF OR IF BUILDING IS PLACED ON TOP OF AN EXISTING ASPHALT OR CONCRETE PARKING SUIRFACE USE THE 3000 PSF CHART ON SHEET FD1.
8. IT WILL BE THE BUILDING OWNER'S RESPONSIBILITY TO INSURE THAT ALL LOOSE DEBRIS IS REMOVED FROM UNDER THE BUILDING AND THAT THE GROUND IS LEVELED AND FIRMLY COMPACTED.
9. WOOD SHIMS MAY BE INSTALLED WHEN NECESSARY, BETWEEN THE I-BEAM AND THE TOP OF THE PIER. SHIMS SHALL BE FREE OF KNOTS, CHECKS, SPLITS, AND SIMILAR IMPERFECTIONS. SHIMS SHALL BE OF P.T. LUMBER OR CEDAR AND BEARING AT ALL CONTACT POINTS.
10. MASONRY PIERS INSTALLED IN A DRY STACK SUBJECT TO LOCAL JURISDICTION AND APPROVAL.
11. OVERALL WIDTH DIMENSION IS NOMINAL AND IS BASED ON UNIT WIDTH x NUMBER OF UNITS. ACTUAL OVERALL WIDTH MAY INCREASE DUE TO SITE CONDITIONS, MATERIAL TOLERANCES. FAILURE TO REMOVE CLOSE-UP MATERIAL AND/OR OTHER FACTORS BEYOND THE CONTROL OF THE BUILDING MANUFACTURER.
12. ALL PIERS SHALL BE CAPPED WITH 4 INCHES OF SOILD MASONRY OR CONCRETE OR THE CAVITIES SHALL BE FILLED WITH CONCRETE OR GROUT. PIERS SHALL PROVIDE A TRUE AND EVEN BEARING SURFACE.
13. PIER A: FIELD CONDITIONS WITH DRY STACK PIERS GREATER THAN 26" SHALL REQUIRE THE PIER TO BE CHANGED TO A PIER TYPE "B" (SEE THIS SHEET FOR DETAILS)
PIER B: FIELD CONDITIONS WITH DRY STACK PIERS GREATER THAN 46" SHALL REQUIRE THE PIERS TO HAVE SURFACE BONDING TO A MAXIMUM OF 62" HIGH. (ANY PIERS OVER 62" HIGH WILL REQUIRE ENGINEERING BEYOND THE DESIGN OF THIS FOUNDATION.)
14. ALTHOUGH NOT SHOWN IN THIS DESIGN WHERE/WHEN REQUIRED BY LOCAL JURISDICTION ALL MASONRY PIERS MAY BE LAID IN TYPE "M" OR "S" MORTAR IN COMPLIANCE w/ASTM C887, OR SHALL HAVE SURFACE BONDING MORTAR IN COMPLIANCE w/ASTM C 946.
15. THE FOUNDATION DIMENSIONS SHOWN ARE NOMINAL. AN INCREASE IN MODULE WIDTH SHOULD BE EXPECTED DUE TO MODULE EXPANSION, SETTING TOLERANCES, ETC. THE FOUNDATION CONTRACTOR SHOULD CONSULT WITH THE MANUFACTURER OF THE MODULES PRIOR TO CONSTRUCTION OF THE FOUNDATION TO DETERMINE THE AMOUNT OF INCREASED WIDTH TO BE ADDED TO THE NOMINAL DIMENSIONS SHOWN ABOVE.
16. I-BEAM SUPPORT PIERS MAY BE INSTALLED LATERALLY (90° FROM THE ORIENTATION SHOWN ON THE FOUNDATION PLAN). CENTERLINE OF EACH PIER MUST BE LOCATED DIRECTLY BELOW THE I-BEAM CENTERLINE.
17. FOUNDATION REVIEW AND INSPECTION IS TO BE PERFORMED BY THE LOCAL OFFICIALS HAVING JURISDICTION.
18. PROVIDE POSITIVE DRAINAGE UNDER UNIT.
19. UNDERGROUND UTILITY LOCATIONS ARE THE RESPONSIBILITY OF OTHERS. ALL UNDERGROUND UTILITY LOCATIONS MUST BE VERIFIED PRIOR TO ANY EXCAVATION.

ALTERNATE POURED CONCRETE FOOTERS

1. MINIMUM CONCRETE FOOTING COMPRESSIVE STRENGTH 2,500 PSI AT 28 DAYS.

ALTERNATE PIER METAL STANDS

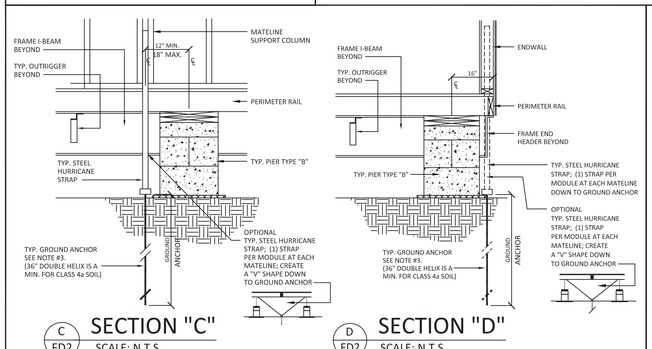
1. STEEL PIERS MAY BE SUBSTITUTED FOR CMU BLOCK PIERS. STEEL PIERS ARE TO INSTALLED PER THE MANUFACTURER'S WRITTEN INSTRUCTIONS OVER AN APPROVED ABS PAD AS INDICTATED ON THE FOUNDATION PLAN.
2. STEEL PIERS ARE TO BE MINUTE MAN MO#:MMP-12 OR AN APPROVED EQUAL.



NOTE: ALL MATELINE STRAPS MUST BE INSTALLED ON EACH MODULAR PRIOR TO SET-UP. THESE STRAPS ARE TO BE 1 1/4"x20 GA. x 72" STRAPS. THE STRAPS ARE TO BE FASTENED TO THE MATELINE SUPPORT COLUMNS APPROX. 36" ABOVE FINISHED FLOOR WITH (18) .131"x1 1/2" GUN NAILS OR EQUAL. REMAINDER OF STRAP TO HANG LOOSE BELOW FLOOR AND IS TO BE ATTACHED TO GROUND ANCHOR BELOW. (TYPICAL AT ALL MATELINE STRAP LOCATIONS)

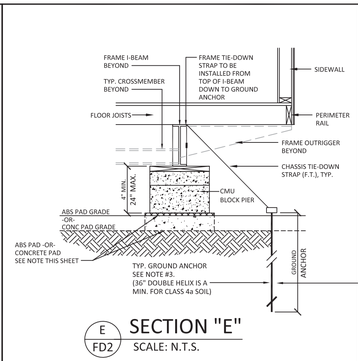
MATELINE SUPPORT COLUMN FOUNDATION STRAP

SCALE: N.T.S.



C FD2 SECTION "C" SCALE: N.T.S.

D FD2 SECTION "D" SCALE: N.T.S.



E FD2 SECTION "E" SCALE: N.T.S.

NOTE: STRAP MAY BE EITHER WRAPPED AROUND I-BEAM AND A DOUBLE CRIMP USED OR AN APPROVED J-HOOK MAY BE USED SUBJECT TO JURISDICTION APPROVAL. (NOTE: STRAP MUST BE PROTECTED FROM DIRECT CONTACT WITH ALL EDGES OF I-BEAM)

NOTE: IF MODULAR BUILDING IS LOCATED OVER A CLASS 1 (ROCK) SURFACE A CROSS DRIVE ANCHOR [MO#:36-XDH (MINUTE MAN PRODUCTS, INC.) OR AN APPROVED EQUAL CAN BE SUBSTITUTED

NOTE: IF MODULAR BUILDING IS LOCATED OVER AN ASPHALT PARKING SURFACE THEN AN ASPHALT ANCHOR [MO#59367 (TIE-DOWN ENG, INC.) OR AN APPROVED CROSS DRIVE ANCHOR OR EQUAL CAN BE SUBSTITUTED

NOTE: IF MODULAR BUILDING IS LOCATED OVER A MIN. 4" THICK 3000 P.S.I. CONCRETE SURFACE A TENSION HEAD w/SLEEVE ANCHOR [MO#:THDHLS (MINUTE MAN PRODUCTS, INC.) OR AN APPROVED EQUAL CAN BE SUBSTITUTED

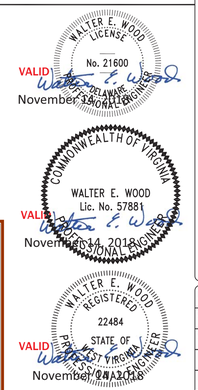
University of Virginia University Building Official

- ☐ Approved for general conformance to the 2015 VUSBC
- ✔ Approved with exceptions. See list of remaining issues noted on page 2 of the building permit and/or plan review documents dated: 12/17/2019

Date: 12/17/2019

ABS PADS / CMU PIERS

STATE(S): DE, VA, WV



W.E.W.
WALTER E. WOOD, P.E.
CONSULTING ENGINEER
168 WEST LONGLEAF DR
SYLVESTER, GA 31791

DE PE LIC #: 21600
VA PE LIC #: 57881
WV PE LIC #: 22484

REV	DATE	DESCRITION

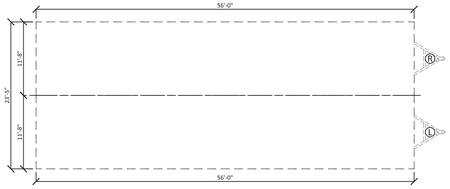
Vanguard Modular Building Systems
Corporate Office
3 Great Valley Parkway, Suite 170
Malvern, PA 19355
877-438-8627
www.vanguardmodular.com

VANGUARD MODULAR BUILDING SYSTEMS

Vanguard Modular

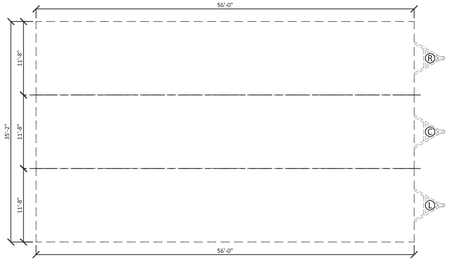
Foundation Plan Details

Date:	11/6/2018
Salesperson	B. Bieganski
Scale:	3/16"=1'-0"
Building Number:	
Drawn by:	J.L.B.
Sheet:	FD2



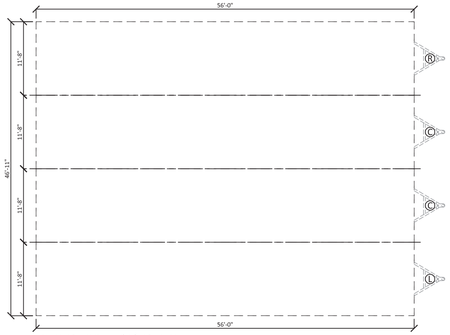
KEY PLAN - (2) PLEX

SCALE: N.T.S.



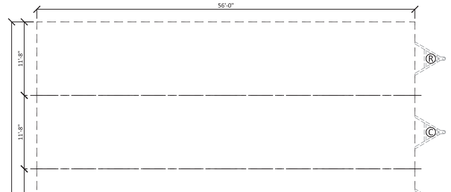
KEY PLAN - (3) PLEX

SCALE: N.T.S.



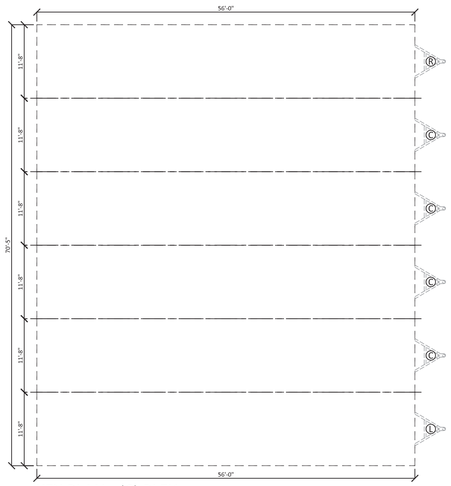
KEY PLAN - (4) PLEX

SCALE: N.T.S.



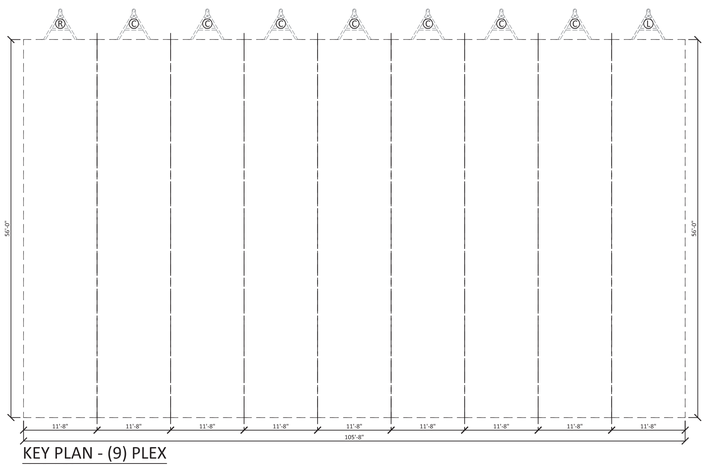
KEY PLAN - (5) PLEX

SCALE: N.T.S.



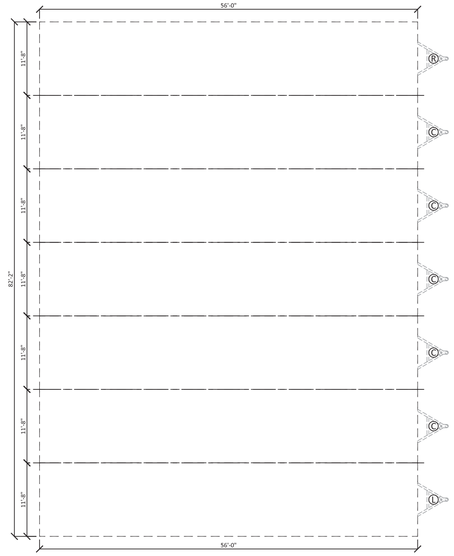
KEY PLAN - (6) PLEX

SCALE: N.T.S.



KEY PLAN - (9) PLEX

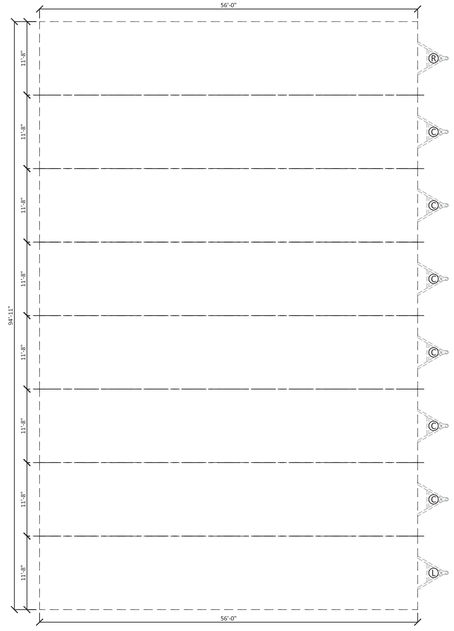
SCALE: N.T.S.



KEY PLAN - (7) PLEX

SCALE: N.T.S.

NOTE: ALL MATELINE WALL MODULES AND ALL RIDGEBEAM SPAN MODULES NEED TO BE PROPERLY IDENTIFIED AND THE PROPER PIER SPACING NEEDS TO BE DETERMINED AND PLACED PRIOR TO FOUNDATION INSTALLATION.



KEY PLAN - (8) PLEX

SCALE: N.T.S.

Vanguard Modular Building Systems
Corporate Office
3 Great Valley Parkway, Suite 170
Malvern, PA 19355
877-428-8827

www.vanguardmodular.com

VANGUARD
MODULAR BUILDING SYSTEMS

University of Virginia
University Building Official

- ☐ Approved for general conformance to the 2015 VUSBC
- ✔ Approved with exceptions. See list of remaining issues noted on page 2 of the building permit and/or plan review documents dated: 12/17/2019

Date: 12/17/2019

STATE(S): DE, VA, WV

WALTER E. WOOD LICENSE No. 21600 DELAWARE PROFESSIONAL ENGINEER
VALID
November 14, 2018

COMMONWEALTH OF VIRGINIA
WALTER E. WOOD
Lic. No. 57881
PROFESSIONAL ENGINEER
VALID
November 14, 2018

WALTER E. WOOD REGISTERED 22484 STATE OF WEST VIRGINIA PROFESSIONAL ENGINEER
VALID
November 14, 2018

DE PE LIC #: 21600
VA PE LIC #: 57881
WV PE LIC #: 22484

W.E.W.
WALTER E. WOOD, P.E.
CONSULTING ENGINEER
168 WEST LONGLEAF DR
SYLVESTER, GA 31791

REV	DATE	DESCRITION

Vanguard Modular

Key Plan (2-Plex to 9-plex)

Date:	11/6/2018
Salesperson	B. Bieganski
Scale:	3/16"=1'-0"
Building Number:	
Drawn by:	J.L.B.
Sheet:	K1

University of Virginia
University Building Official

- ☐ Approved for general conformance to the 2015 VUSBC
- ✔ Approved with exceptions. See list of remaining issues noted on page 2 of the building permit and/or plan review documents dated: 12/17/2019

Date: 12/17/2019

Kevin M. Finn, P.E., Inc.
Jeffrey R. Walton, Jr., P.E.
815 Waterbury Park Drive
Elkhart, IN 46517
VA PE Lic. # 0402-035409
VA Firm # 0407006548

SAPA FABRICATED PRODUCTS (REDD TEAM)
DELHI, LA

BY: Sapa Extrusions, llc. (REDD Team)
DELHI, LA
1-800-779-5509

RE: URS RAMP SYSTEMS WITH 42/34 VERTICAL PICKET RAILS

COMMONWEALTH OF VIRGINIA
JEFFREY R. WALTON, JR.
Lic. No. 0402 035409
PROFESSIONAL ENGINEER
JAN 17 2019

TABLE OF CONTENTS FOR A 42" VERTICAL PICKET RAMP & LANDING SYSTEM

GENERAL NOTES:

1. ALUMINUM RAMP, LANDING AND STAIR SECTIONS SHALL BE A RIGID, FREE-SPAN DESIGN.
2. DESIGN OF THE ALUMINUM STRUCTURES SHALL CONFORM TO THE 2005 EDITION OF **THE ALUMINUM ASSOCIATION SPECIFICATIONS AND GUIDELINES FOR ALUMINUM STRUCTURES.**
3. ALL ALUMINUM CONSTRUCTION USING 6000 SERIES ALUMINUM ALLOYS. STRUCTURAL MEMBERS TO BE 6061-T6, 6063-T6 AND 6005-T5 ALUMINUM ALLOY.
4. ALUMINUM WILL BE STANDARD MILL FINISH UNLESS OTHERWISE NOTED.
5. WELDING SHALL BE IN ACCORDANCE WITH ANSI/AWS D1.2/D1.2M-2014 GAS METAL ARC WELDING (GMAW) PROCESS BY EXPERIENCED OPERATORS.
6. ALL FASTENERS TO BE 18-8 (SERIES 304) STAINLESS STEEL UNLESS OTHERWISE NOTED.
7. LANDING, RAMP AND STAIR SECTIONS ARE TO BE ENGINEERED FOR A 100 PSF LIVE LOAD.
8. LANDING AND RAMP WALKING SURFACES SHALL BE DESIGNED FOR A MINIMUM CONCENTRATED VERTICAL LOAD OF 300 LBS APPLIED EVENLY OVER A 12" x 12" AREA. STAIR TREADS SHALL BE DESIGNED TO WITHSTAND A MINIMUM CONCENTRATED LOAD OF 300 LBS OVER A 4 SQUARE INCH AREA.
9. RAMP AND LANDING GUARDRAILS TO BE 42 INCH MINIMUM HEIGHT UNLESS OTHERWISE SPECIFIED.
10. HANDRAIL ASSEMBLIES AND GUARDRAILS SHALL BE DESIGNED TO RESIST A LOAD OF 50 PLF APPLIED IN ANY DIRECTION AT THE TOP OF THE RAIL.
11. HANDRAIL ASSEMBLIES AND GUARDRAILS SHALL BE ABLE TO RESIST A SINGLE CONCENTRATED LOAD OF 200 LBS, APPLIED IN ANY DIRECTION AT ANY POINT ALONG THE TOP OF THE RAIL. THIS LOAD NEED NOT BE ASSUMED TO ACT CONCURRENTLY WITH THE LOADS SPECIFIED IN THE PRECEDING PARAGRAPH.
12. INTERMEDIATE RAILS (ALL THOSE EXCEPT HANDRAILS), BALUSTERS AND PANEL FILLERS SHALL BE DESIGNED TO WITHSTAND A HORIZONTALLY APPLIED NORMAL LOAD OF 50 LBS ON AN AREA EQUAL TO 1 SQUARE FOOT, INCLUDING OPENINGS AND SPACE BETWEEN RAILS.
13. GUARDRAIL SYSTEMS SHALL BE DESIGNED SO THAT A 4 (FOUR) INCH SPHERE CANNOT PASS THROUGH ANY OPENING.
14. DECK SURFACE SHALL BE A SLIP RESISTANT, EXTRUDED ALUMINUM DECKING WITH A TRIPLE I-BEAM, SELF-MATING DESIGN.
15. ALL SURFACES, MEMBERS AND THEIR WELDED JOINTS SHALL BE SMOOTH AND FREE FROM SHARP OR JAGGED EDGES.

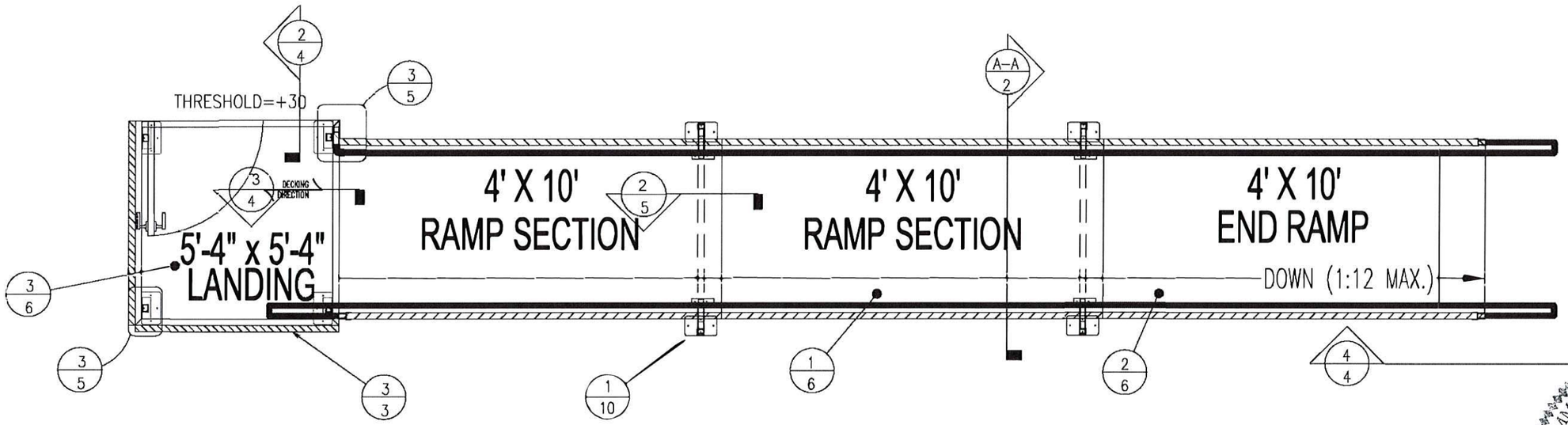
Sapa Extrusions, llc
125 Superior Drive
Delhi, LA 71232
Phone: 1(800)779-5509
Fax: 1(866)940-4566

sapa:

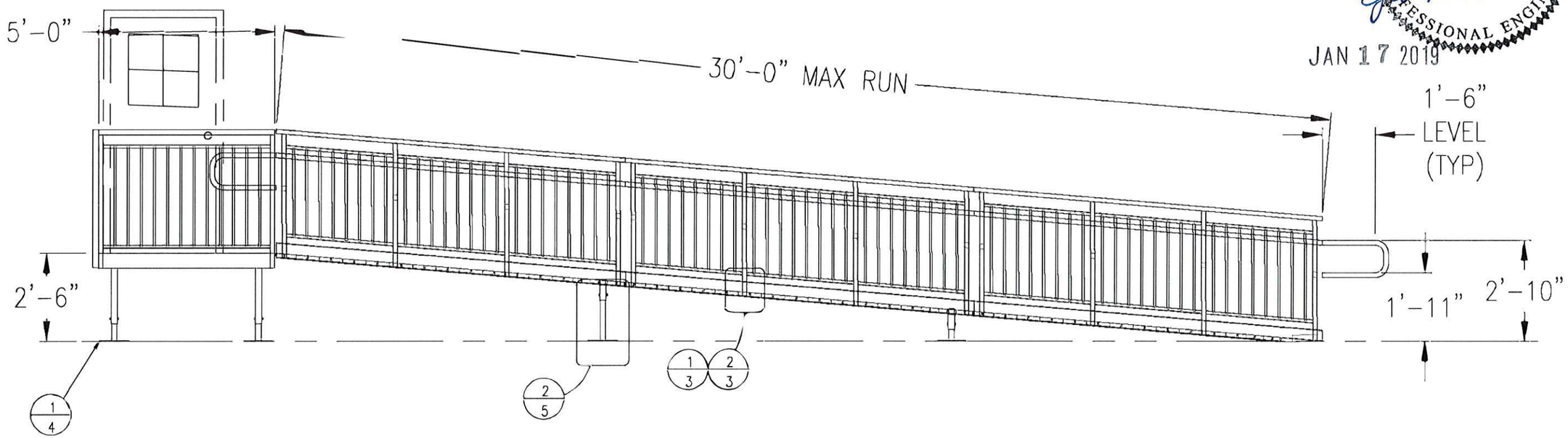
CUSTOMER SHOP DRAWINGS

SAPA FRABICATED PRODUCTS
DELHI, LA
ALUMINUM ACCESS RAMP SYSTEM
WITH 42" HIGH VERTICAL PICKET GUARDRAIL

DAT: 1/15/2019
JOB NO.: ------
FILENAME: 5-4 30FT Shop
REV: R - 0
DRAWN BY: TMB
APPROVED BY:
SHEET NUMBER: COVER



PLAN VIEW - 42/34 RAMP SYSTEM



ELEVATION VIEW: 42/34 VP ALUMINUM ACCESS RAMP SYSTEM

University of Virginia
University Building Official

- ☐ Approved for general conformance to the 2015 VUSBC
- ✔ Approved with exceptions. See list of remaining issues noted on page 2 of the building permit and/or plan review documents dated: 12/17/2019

Date: 12/17/2019

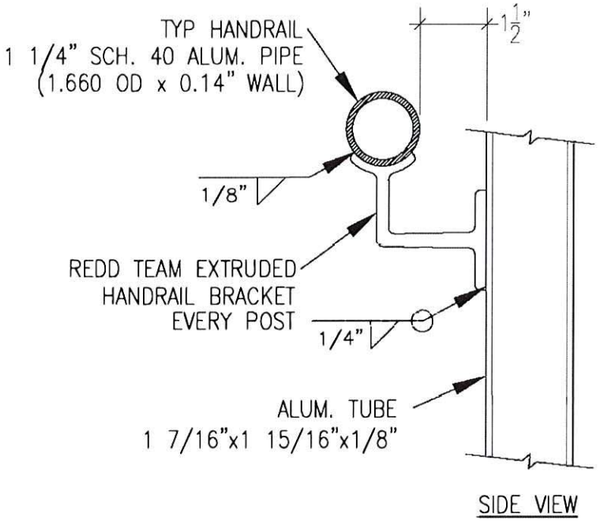
COMMONWEALTH OF VIRGINIA
JEFFREY R. WALTON, JR.
Lic. No. 0402 035409
PROFESSIONAL ENGINEER
JAN 17 2019

sapa:
Sapa Extrusions, llc
125 Superior Drive
Delhi, LA 71232
Phone: 1(800)779-5509
Fax: 1(866)940-4566

CUSTOMER SHOP DRAWINGS

SAPA FRABICATED PRODUCTS
DELHI, LA
ALUMINUM ACCESS RAMP SYSTEM
WITH 42" HIGH VERTICAL PICKET GUARDRAIL

DATE	1/15/2019
JOB NO.	----
FILENAME	5--4 30FT Shop
REV.	R - 0
DRAWN BY	TMB
APPROVED BY	
SHEET NUMBER	01



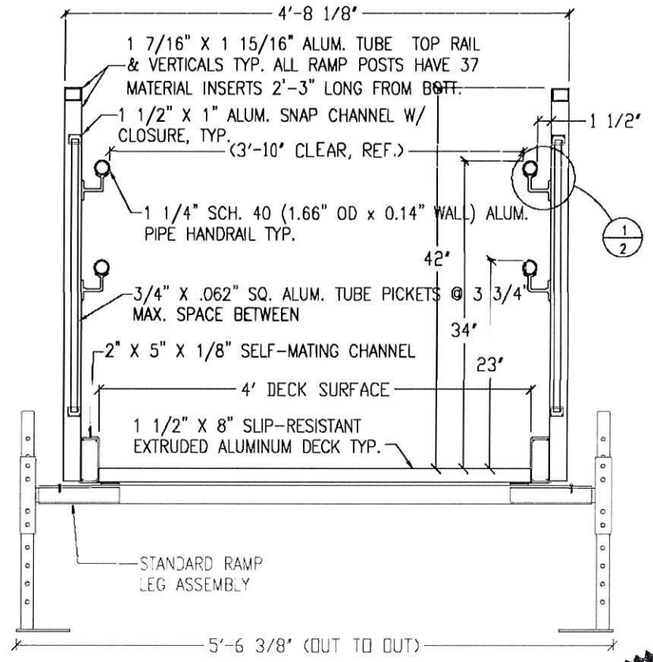
NOTE:
HANDRAIL SHALL BE SMOOTH WITH NO SHARP EDGES, AT CONNECTIONS

1/2 **DETAIL**
34" RAMP HANDRAIL
SCALE: 3"=1'-0"

University of Virginia
University Building Official

- ☐ Approved for general conformance to the 2015 VUSBC
- ✔ Approved with exceptions. See list of remaining issues noted on page 2 of the building permit and/or plan review documents dated: 12/17/2019

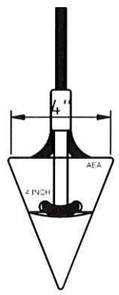
Date: 12/17/2019



A-A/2 **SECTION A-A**
RAMP CROSS SECTION
SCALE: 1 1/2"=1'-0"

COMMONWEALTH OF VIRGINIA
JEFFREY R. WALTON, JR.
Lic. No. 0402 035409
PROFESSIONAL ENGINEER
JAN 17 2019

ANCHOR



4" ALUMINUM ARROWHEAD EARTH ANCHOR

356 ALUMINUM ALLOY

HEAT-TREATED TO T6 SPECS

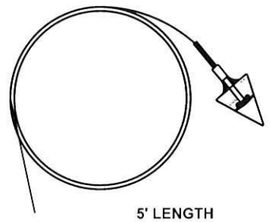
CABLE CLAMPS

MIN. 3 PER ANCHOR

GALVANIZED STEEL CABLE CLAMPS

USE AFTER LOOPING CABLE THROUGH DECK, STEP OR RAMP CROSS MEMBER

CABLE



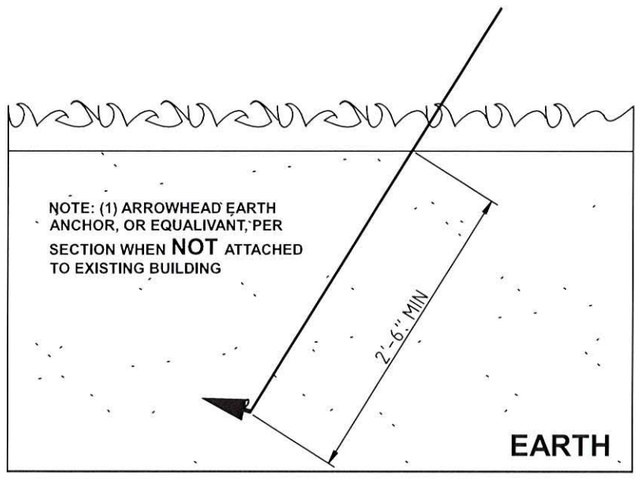
5' LENGTH

GALVANIZED STEEL AIRCRAFT CABLE

DIAMETER: 3/16"

LENGTH: 5'-0"

BREAKING STRENGTH: 4,200 LB



LOAD CAPACITY

PULLOUT STRENGTH AT MIN DEPT 2.5'

SOIL CLASS 1	SOIL CLASS 2	SOIL CLASS 3
HADPAN ASPHALT	SANDY GRAVEL	SILTY GRAVEL
3,500 LB 15.6 KN	2,200 LB 9.79 KN	1,900 LB 8.45 KN

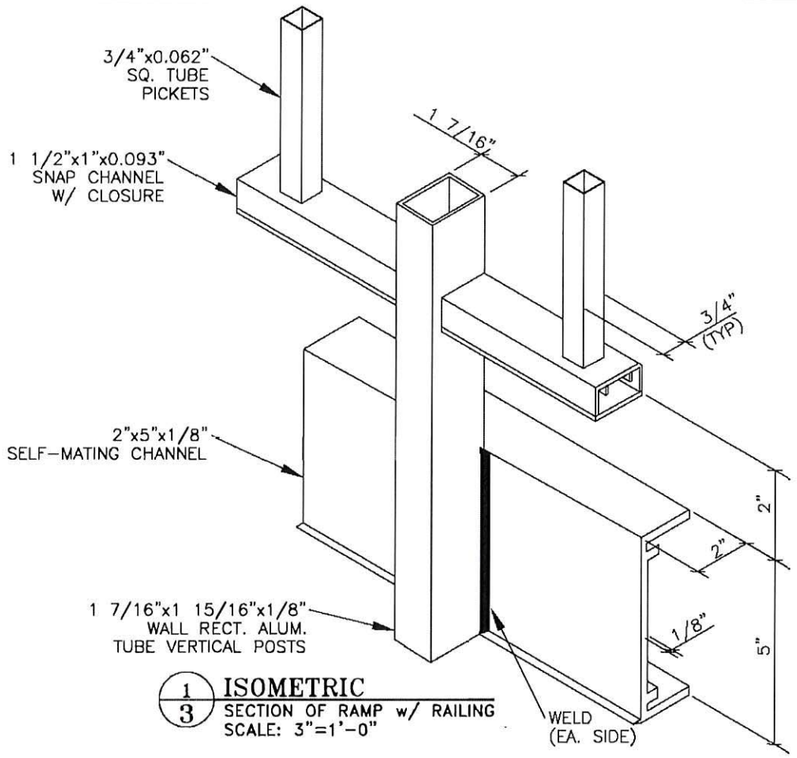
Sapa Extrusions, llc
125 Superior Drive
Delhi, LA 71232
Phone: 1(800)779-5509
Fax: 1(866)840-4566

sapa:

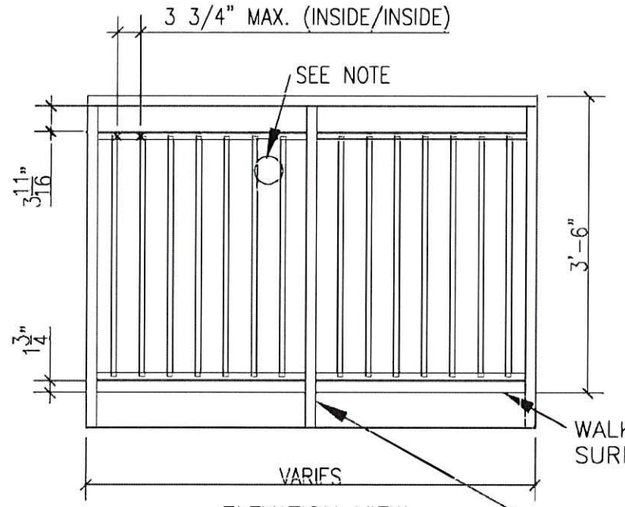
CUSTOMER SHOP DRAWINGS

SAPA FRABICATED PRODUCTS
DELHI, LA
ALUMINUM ACCESS RAMP SYSTEM
WITH 42" HIGH VERTICAL PICKET GUARDRAIL

DWG 1/15/2019
JOB NO. ----
FILENAME 5-4 30FT Shop
REV. R - 0
DRAWN BY TMB
APPROVED BY
SHEET NUMBER 02



1/3 **ISOMETRIC**
SECTION OF RAMP w/ RAILING
SCALE: 3"=1'-0"

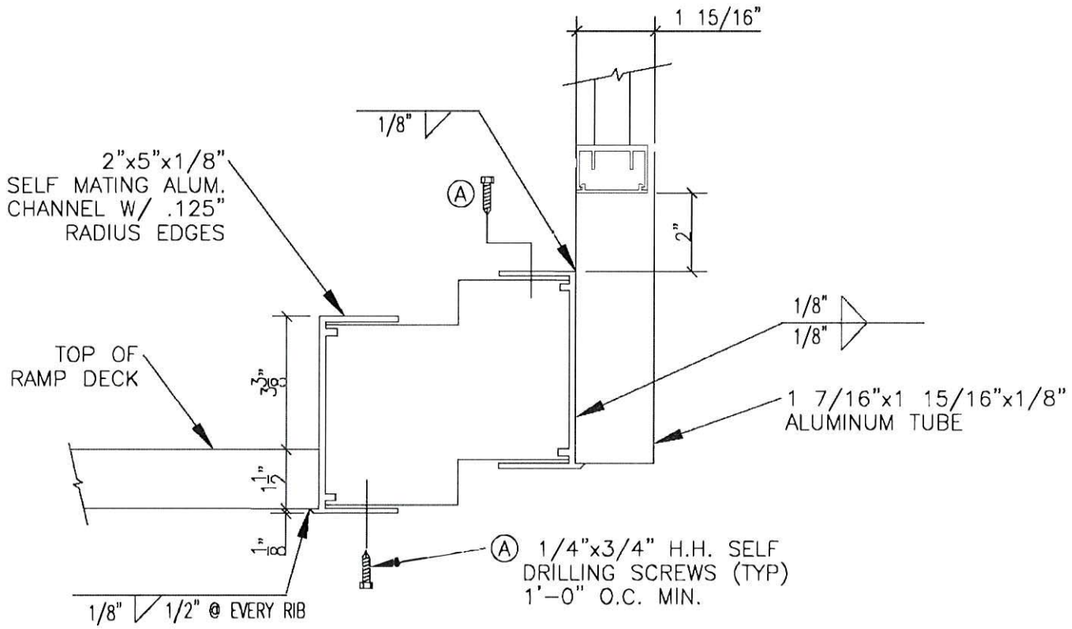


ELEVATION VIEW

3/3 **DETAIL**
LANDING RAIL
1/2"=1'-0"

NOTE:
NO OPENING WILL ALLOW A 4" SPHERE TO PASS THROUGH.

NOTE:
ALL OTHER LANDING RAILS SIMILAR



2/3 **DETAIL**
RAIL TO RAMP CONNECTION
SCALE: 1 1/2"=1'-0"

University of Virginia
University Building Official

- ☐ Approved for general conformance to the 2015 VUSBC
- ✔ Approved with exceptions. See list of remaining issues noted on page 2 of the building permit and/or plan review documents dated: 12/17/2019

Date: 12/17/2019

COMMONWEALTH OF VIRGINIA
JEFFREY R. WALTON, JR.
Lic. No. 0402 035409
PROFESSIONAL ENGINEER
JAN 17 2019

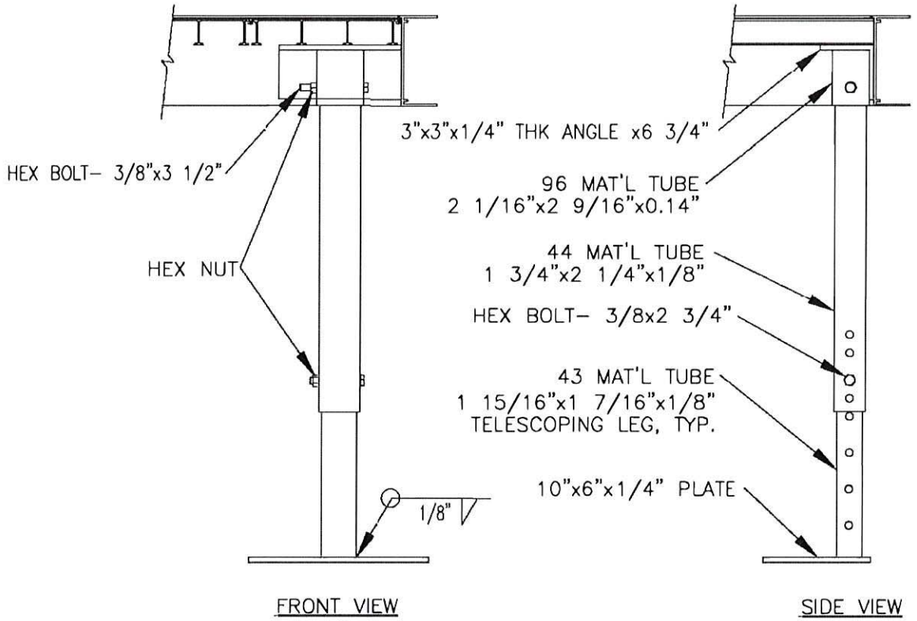
Sapa Extrusions, llc
125 Superior Drive
Delhi, LA 71232
Phone: 1(800)779-5599
Fax: 1(866)940-4566

sapa:

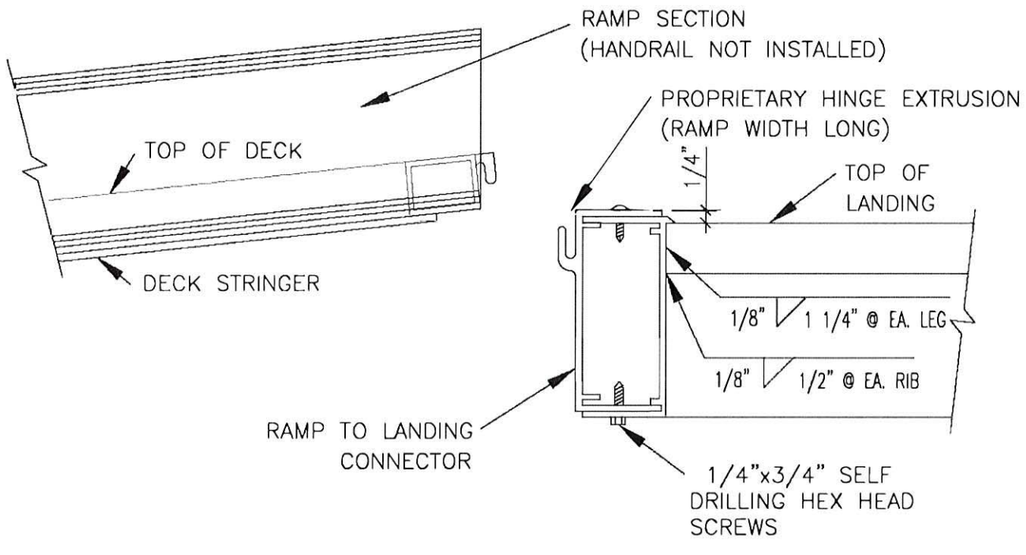
CUSTOMER SHOP DRAWINGS

SAPA FRABICATED PRODUCTS
DELHI, LA
ALUMINUM ACCESS RAMP SYSTEM
WITH 42" HIGH VERTICAL PICKET GUARDRAIL

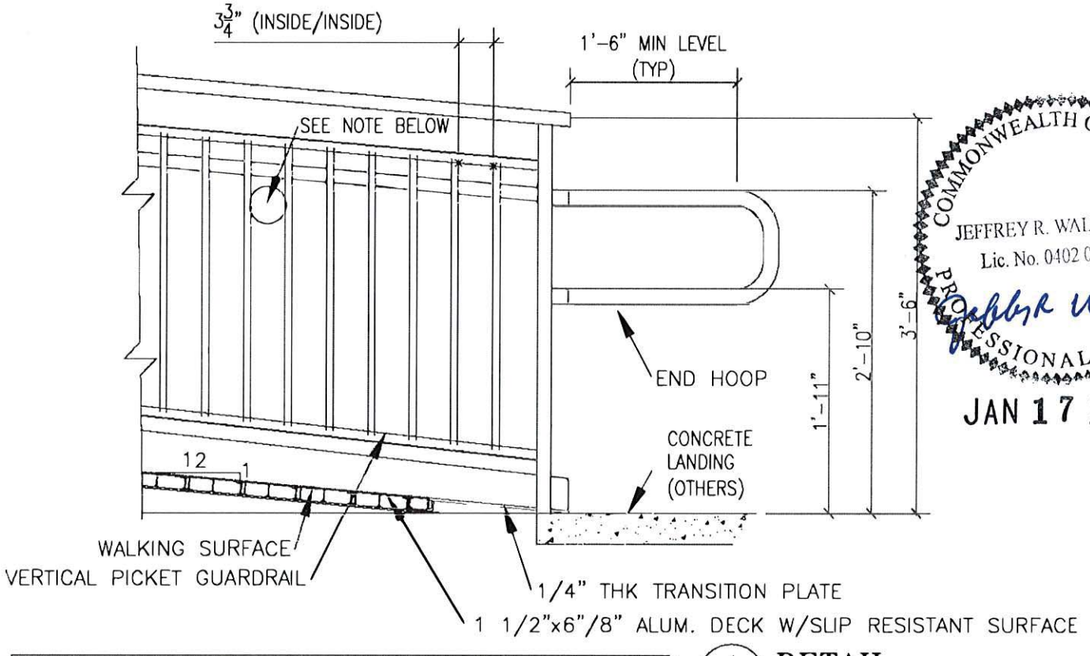
DAT 1/15/2019
JOB NO. ----
FILENAME 5-4 30FT Shop
REV. R - 0
DRAWN BY TMB
APPROVED BY
SHEET NUMBER 03



1/4 **DETAIL**
LANDING LEG ASSEMBLY
SCALE: 1 1/2=1'–0"



3/4 **SECTION**
RAMP TO LANDING CONNECTION
SCALE: 3"=1'–0"



NOTE:
NO OPENING WILL ALLOW A 4" SPHERE TO PASS THROUGH.

4/4 **DETAIL**
END RAMP (1:12 SLOPE)
SCALE: 3/4"=1'–0"

University of Virginia
University Building Official

- ☐ Approved for general conformance to the 2015 VUSBC
- ✔ Approved with exceptions. See list of remaining issues noted on page 2 of the building permit and/or plan review documents dated: 12/17/2019

Date: 12/17/2019

COMMONWEALTH OF VIRGINIA
JEFFREY R. WALTON, JR.
Lic. No. 0402 035409
PROFESSIONAL ENGINEER
JAN 17 2019

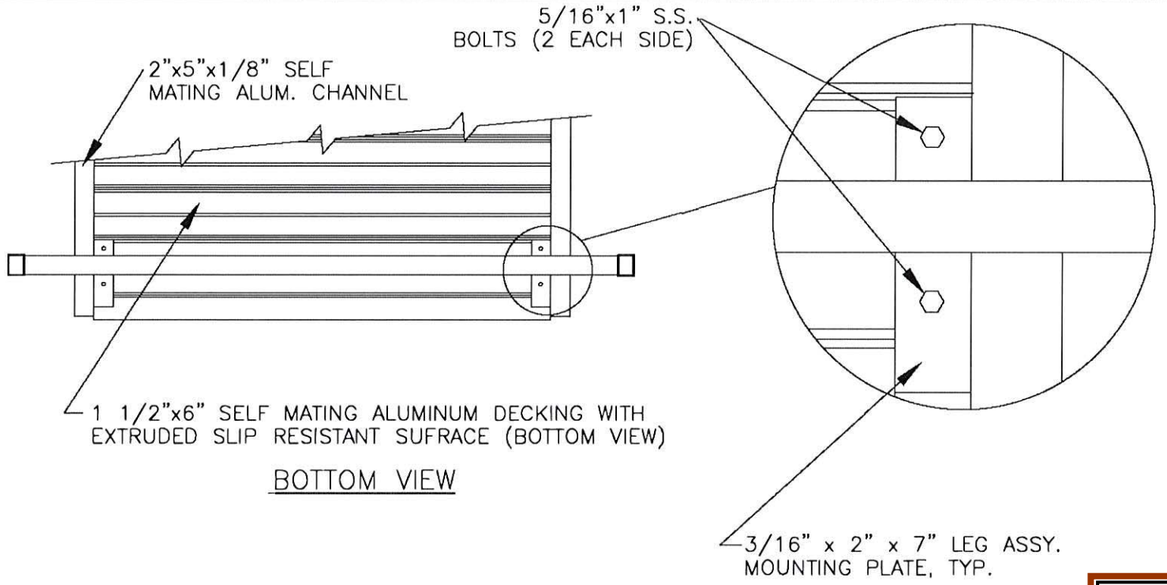
Sapa Extrusions, llc
125 Superior Drive
Delhi, LA 71232
Phone: 1(800)779-5509
Fax: 1(866)840-4566

sapa:

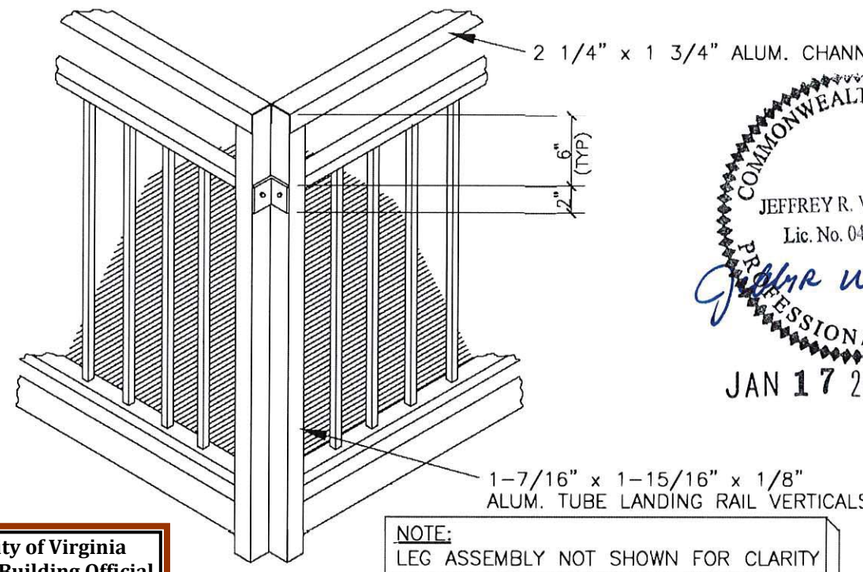
CUSTOMER SHOP DRAWINGS

SAPA FRABICATED PRODUCTS
DELHI, LA
ALUMINUM ACCESS RAMP SYSTEM
WITH 42" HIGH VERTICAL PICKET GUARDRAIL

DWG 1/15/2019
JOB NO
FILENAME 5-4 30FT Shop
REV. R – 0
DRAWN BY TMB
APPROVED BY
SHEET NUMBER 04



A-A / 5 **DETAIL VIEW**
RAMP, ADJUSTABLE LEG ASSEMBLY
SCALE: 3/4"=1'-0"



3 / 5 **DETAIL**
LANDING RAIL CORNER CLIP
SCALE: 1"=1'-0"

University of Virginia
University Building Official

- ☐ Approved for general conformance to the 2015 VUSBC
- ✔ Approved with exceptions. See list of remaining issues noted on page 2 of the building permit and/or plan review documents dated: 12/17/2019

Date: 12/17/2019

COMMONWEALTH OF VIRGINIA
JEFFREY R. WALTON, JR.
Lic. No. 0402 035409
PROFESSIONAL ENGINEER
JAN 17 2019

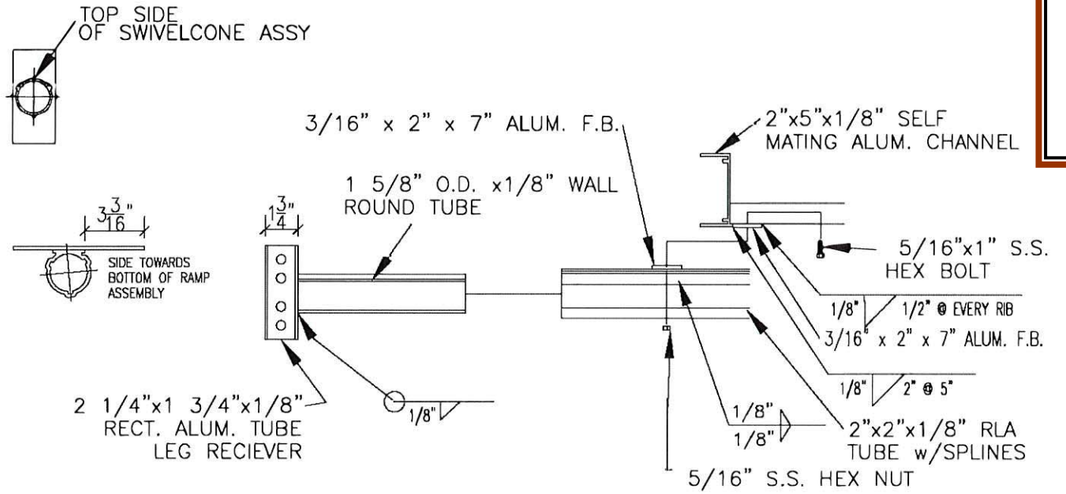
Sapa Extrusions, llc
125 Superior Drive
Delhi, LA 71232
Phone: 1(800)779-5509
Fax: 1(866)840-4566

sapa:

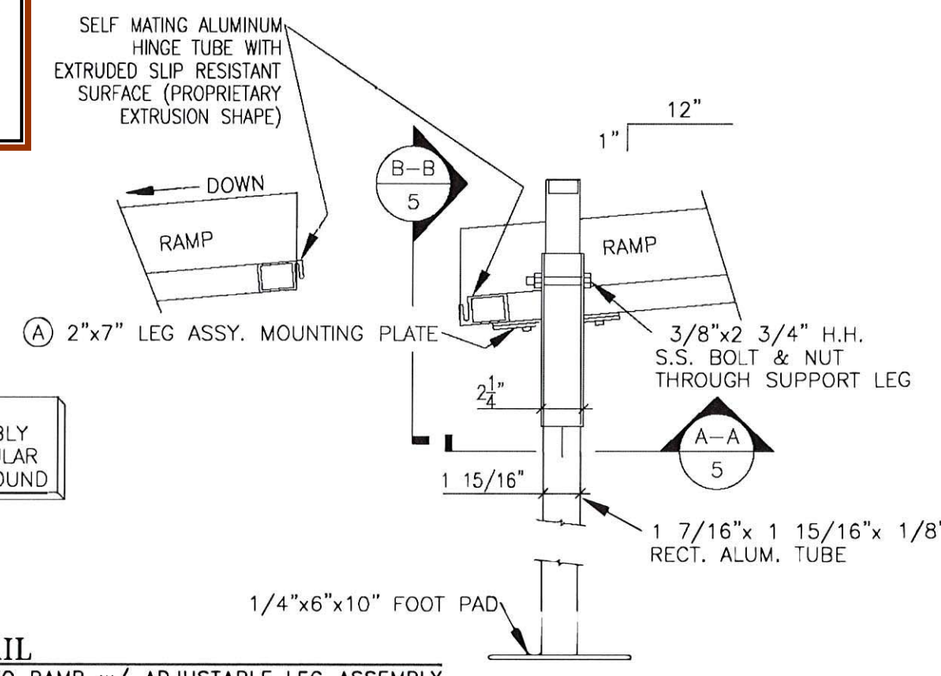
CUSTOMER SHOP DRAWINGS

SAPA FRABICATED PRODUCTS
DELHI, LA
ALUMINUM ACCESS RAMP SYSTEM
WITH 42" HIGH VERTICAL PICKET GUARDRAIL

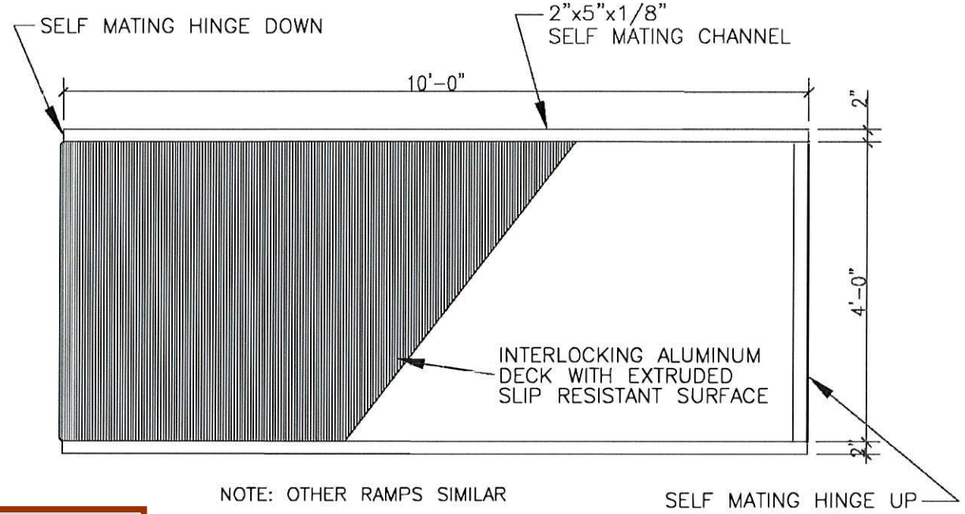
DATE/AT	1/15/2019
JOB NO	
FILENAME	5--4 30FT Shop
REV.	R - 0
DRAWN BY	TMB
APPROVED BY	
SHEET NUMBER	05



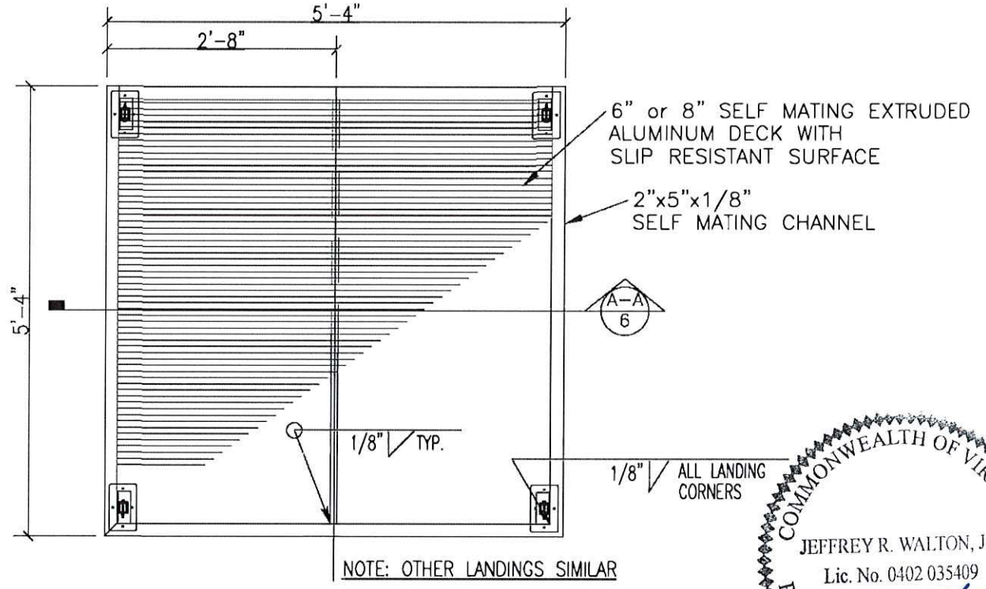
B-B / 5 **DETAIL VIEW**
RAMP, ADJUSTABLE LEG ASSEMBLY
SCALE: 1 1/2"=1'-0"



2 / 5 **DETAIL**
RAMP TO RAMP w/ ADJUSTABLE LEG ASSEMBLY
SCALE: 1 1/2"=1'-0"



1/6 DETAIL
4'x8' OR 10' RAMP DETAIL
SCALE: 1/2"=1'-0"

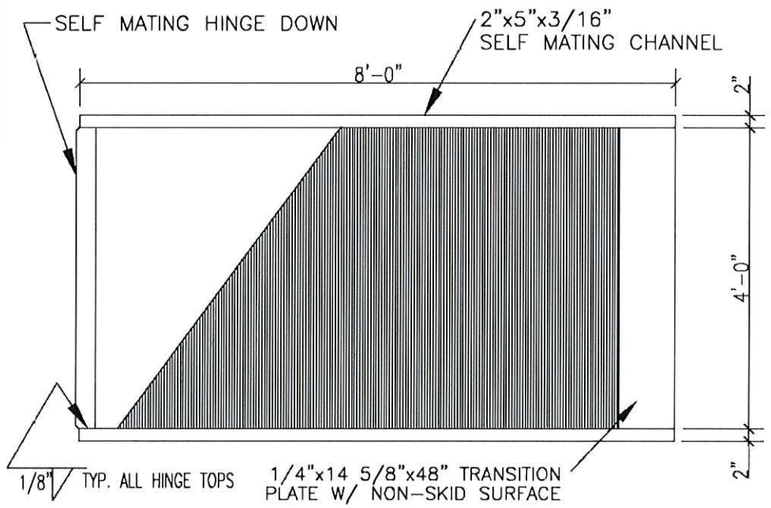


3/6 DETAIL
5'-4" x 5'-4" LANDING
SCALE: 1/2"=1'-0"

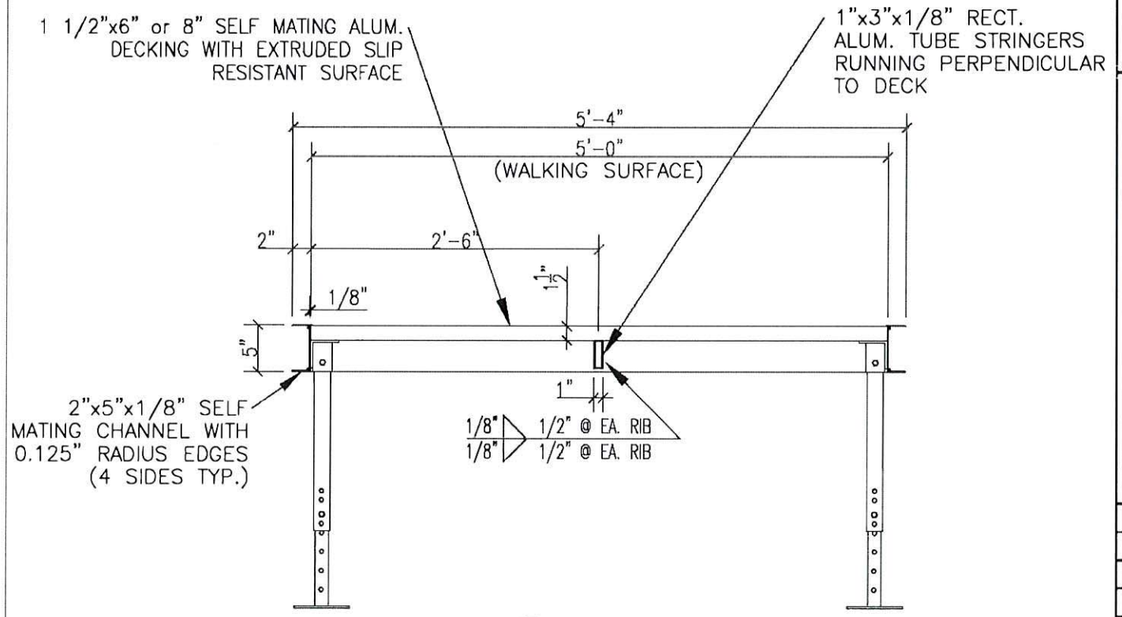
University of Virginia
University Building Official

- Approved for general conformance to the 2015 VUSBC
- ✔ Approved with exceptions. See list of remaining issues noted on page 2 of the building permit and/or plan review documents dated: 12/17/2019

Date: 12/17/2019



2/6 DETAIL
4'x8' END RAMP DETAIL
SCALE: 1/2"=1'-0"



A-A/6 SECTION VIEW
LANDING CROSS SECTION
SCALE: 3/4"=1'-0"

COMMONWEALTH OF VIRGINIA
JEFFREY R. WALTON, JR.
Lic. No. 0402 035409
PROFESSIONAL ENGINEER

JAN 17 2019

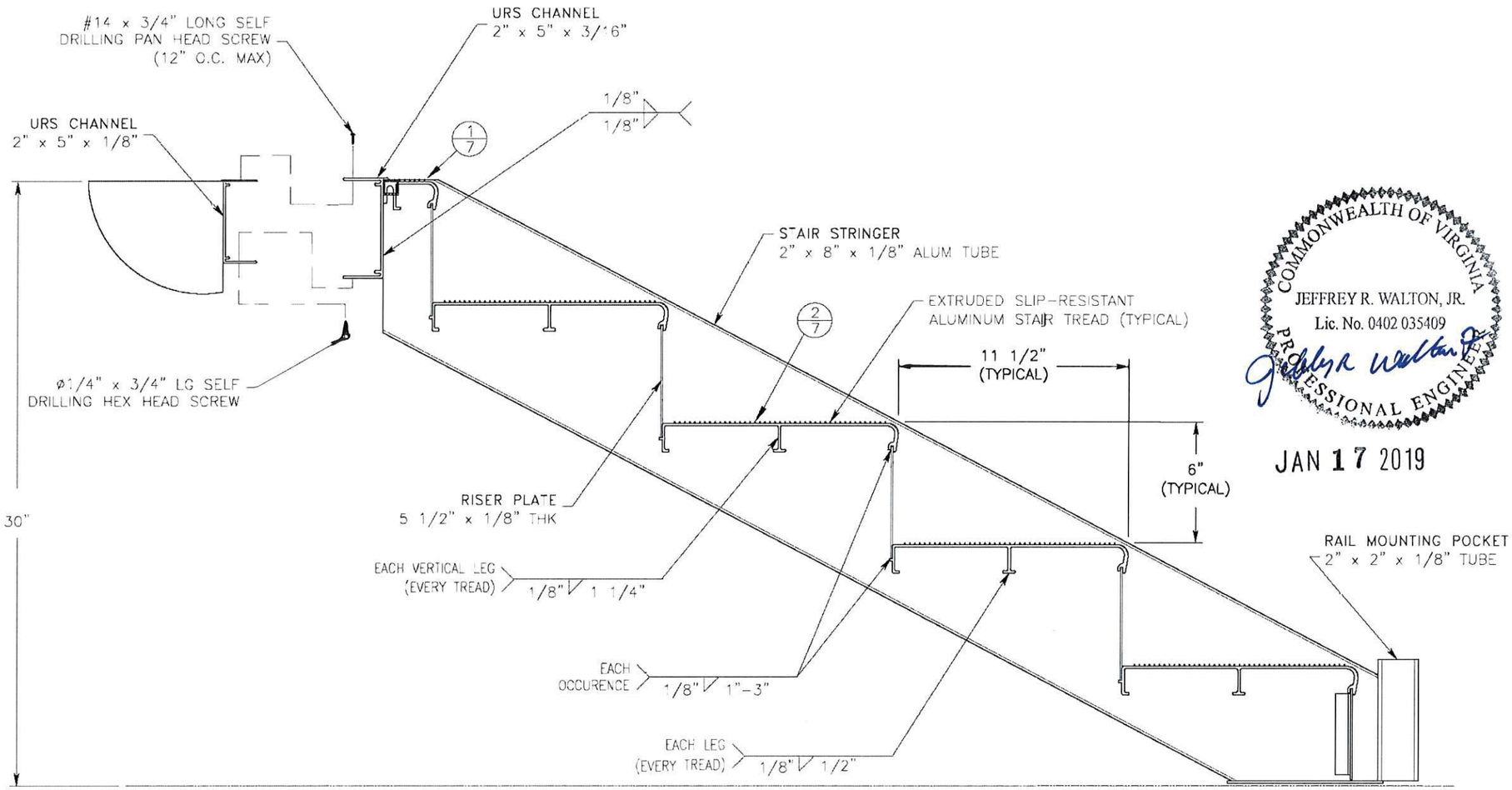
Sapa Extrusions, llc
125 Superior Drive
Delhi, LA 71232
Phone: 1(800)779-5509
Fax: 1(866)940-4566

sapa:

CUSTOMER SHOP DRAWINGS

SAPA FRABICATED PRODUCTS
DELHI, LA
ALUMINUM ACCESS RAMP SYSTEM
WITH 42" HIGH VERTICAL PICKET GUARDRAIL

DAT 1/15/2019
JOB NO -----
FILENAME 5-4 30FT Shop
REV R - 0
DRAWN BY TMB
APPROVED BY
SHEET NUMBER 06



SECTION C-C:
5R1006 STAIRWAY CROSS SECTION
(RAILINGS OMITTED FOR CLARITY)
SCALE: N.TS

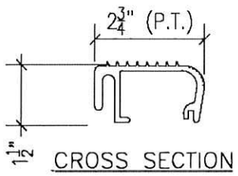
COMMONWEALTH OF VIRGINIA
JEFFREY R. WALTON, JR.
Lic. No. 0402 035409
PROFESSIONAL ENGINEER

JAN 17 2019

University of Virginia
University Building Official

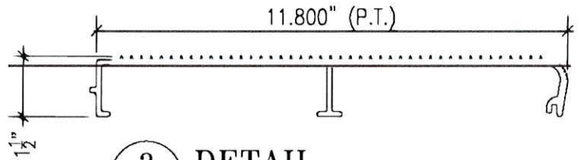
- ☐ Approved for general conformance to the 2015 VUSBC
- ✔ Approved with exceptions. See list of remaining issues noted on page 2 of the building permit and/or plan review documents dated: 12/17/2019

Date: 12/17/2019



CROSS SECTION

1/7 DETAIL
2 3/4"x1 1/2" UPPER STAIR HINGE
SCALE: NTS



2/7 DETAIL
SLIP-RESISTANT STAIR TREAD
SCALE: NTS

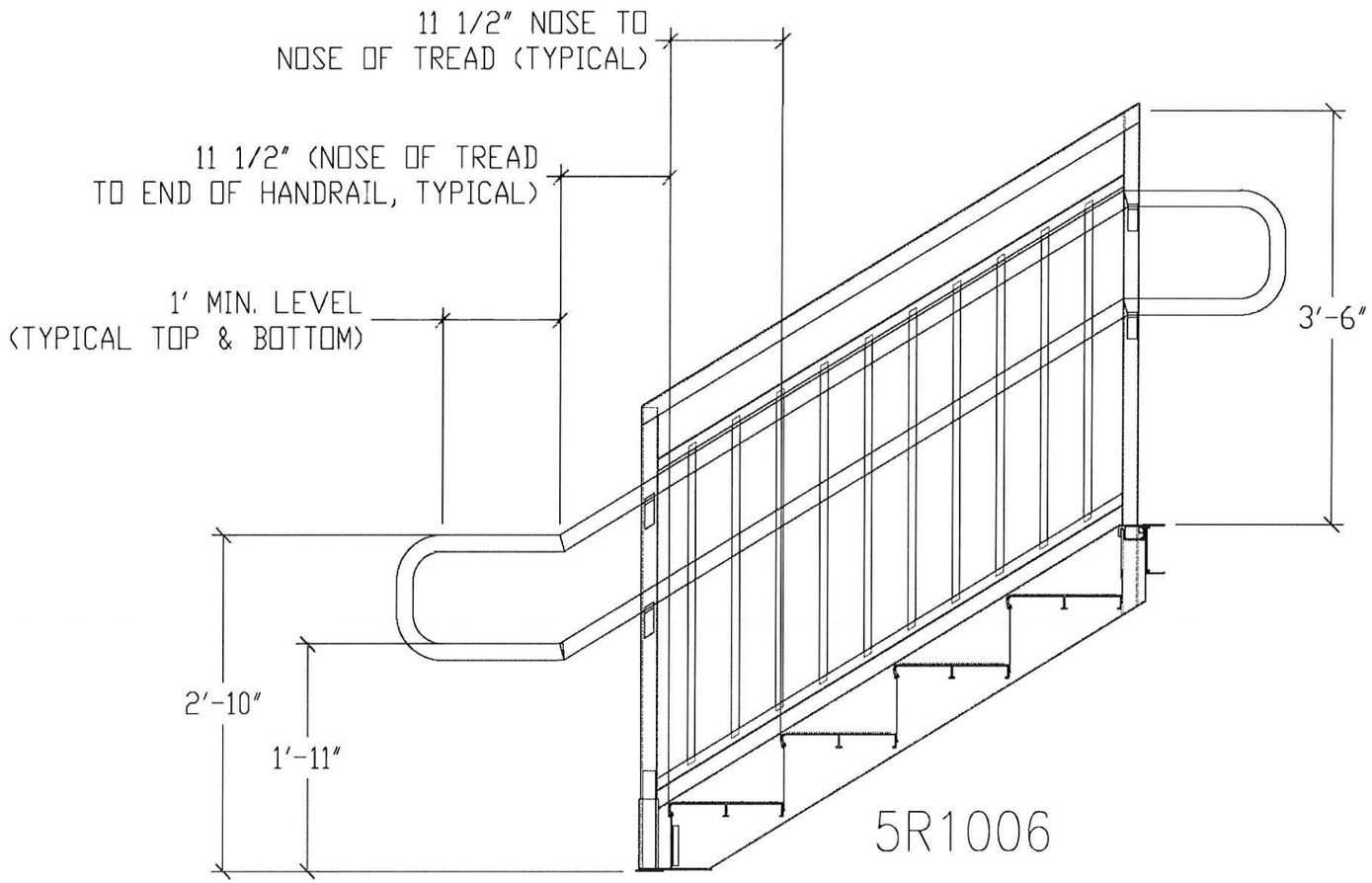
Sapa Extrusions, llc
125 Superior Drive
Delhi, LA 71232
Phone: 1(800)779-5509
Fax: 1(866)940-4566

sapa:

CUSTOMER SHOP DRAWINGS

SAPA FRABICATED PRODUCTS
DELHI, LA
ALUMINUM ACCESS RAMP SYSTEM
WITH 42" HIGH VERTICAL PICKET GUARDRAIL

DWG 1/15/2019
JOB NO. ----
FILENAME 5-4 30FT Shop
REV. R - 0
DRAWN BY TMB
APPROVED BY
SHEET NUMBER 07



1/8 ELEVATION VIEW
UPPER AND LOWER STAIR HOOP DETAILS
SCALE: 3/4"=1'-0"

University of Virginia
University Building Official

- ☐ Approved for general conformance to the 2015 VUSBC
- ✔ Approved with exceptions. See list of remaining issues noted on page 2 of the building permit and/or plan review documents dated: 12/17/2019

Date: 12/17/2019

COMMONWEALTH OF VIRGINIA
JEFFREY R. WALTON, JR.
Lic. No. 0402 035409
PROFESSIONAL ENGINEER

JAN 17 2019

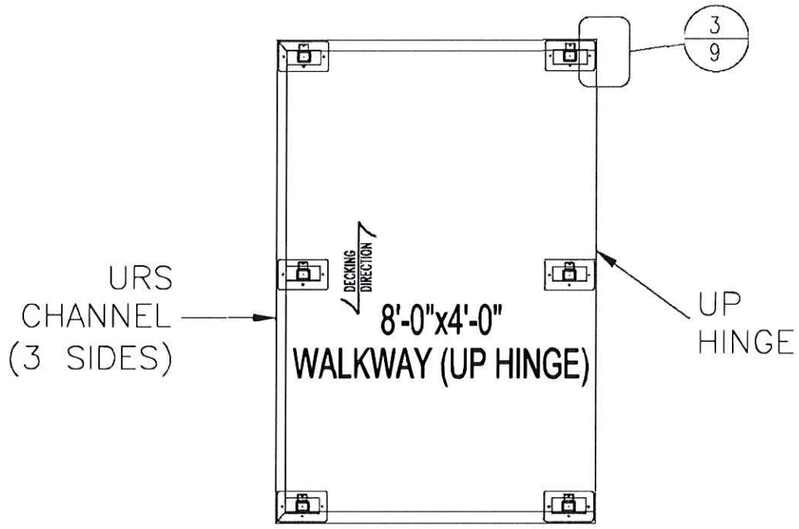
Sapa Extrusions, llc
125 Superior Drive
Delhi, LA 71232
Phone: 1(800)779-5509
Fax: 1(866)940-4566

sapa:

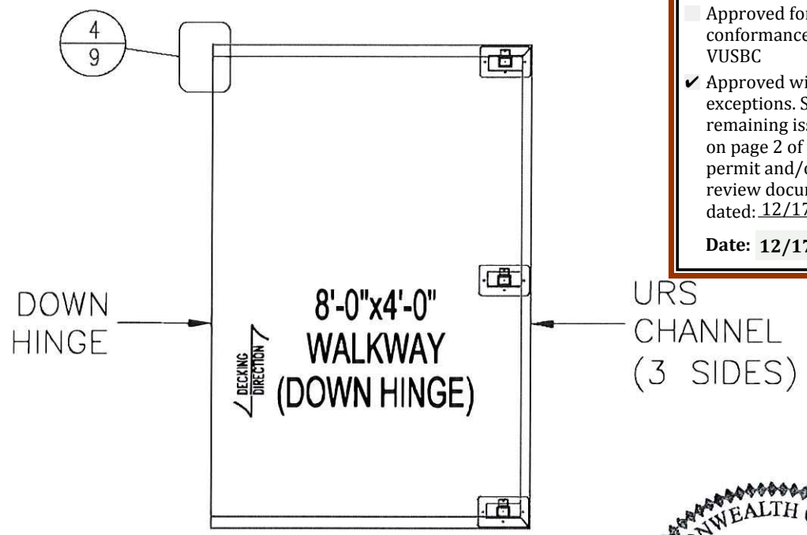
CUSTOMER SHOP DRAWINGS

SAPA FRABICATED PRODUCTS
DELHI, LA
ALUMINUM ACCESS RAMP SYSTEM
WITH 42" HIGH VERTICAL PICKET GUARDRAIL

DATE	6/10/2016
JOB NO.	----
FILENAME	5--4 30FT Shop
REV.	R - 0
DRAWN BY	TMB
APPROVED BY	
SHEET NUMBER	08



1/9 DETAIL VIEW
PLAN VIEW (WALKWAYS)
SCALE: NTS



2/9 DETAIL VIEW
PLAN VIEW (WALKWAYS)
SCALE: NTS

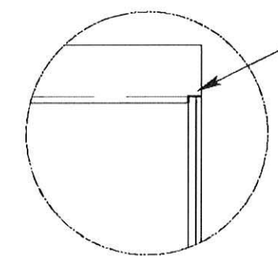
University of Virginia
University Building Official

- ☐ Approved for general conformance to the 2015 VUSBC
- ✔ Approved with exceptions. See list of remaining issues noted on page 2 of the building permit and/or plan review documents dated: 12/17/2019

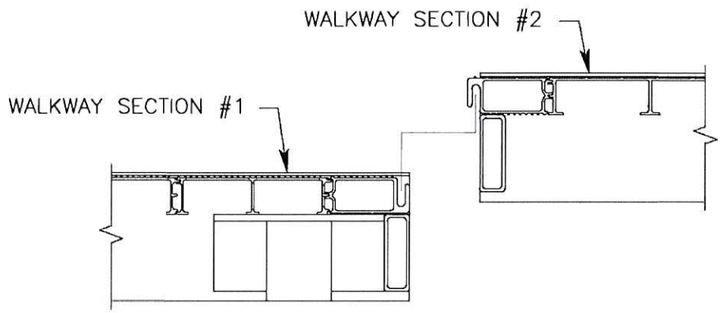
Date: 12/17/2019

COMMONWEALTH OF VIRGINIA
JEFFREY R. WALTON, JR.
Lic. No. 0402 035409
PROFESSIONAL ENGINEER

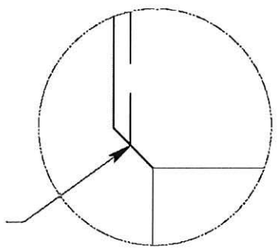
JAN 17 2019



3/9 DETAIL VIEW
UP HINGE NOTCH (TYP)
SCALE: NTS



C-C/9 SECTION VIEW
WALKWAY TO WALKWAY HINGE
CONNECTION
SCALE: NTS



4/9 DETAIL VIEW
DOWN HINGE CHAMFER (TYP)
SCALE: NTS

Sapa Extrusions, llc
125 Superior Drive
Delhi, LA 71232
Phone: 1(800)779-5509
Fax: 1(866)940-4566

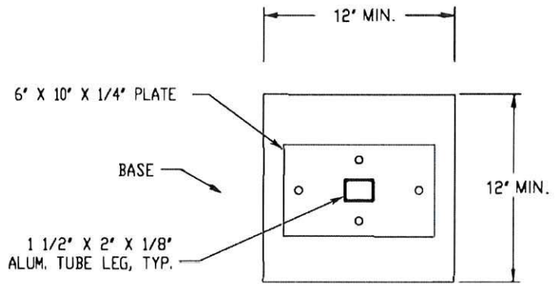
sapa:

CUSTOMER SHOP DRAWINGS

SAPA FRABICATED PRODUCTS
DELHI, LA
ALUMINUM ACCESS RAMP SYSTEM
WITH 42" HIGH VERTICAL PICKET GUARDRAIL

DATE 1/15/2019
JOB NO. ----
FILENAME 5-4 30FT Shop
REV. R - 0
DRAWN BY TMB
APPROVED BY
SHEET NUMBER 09

OPTIONAL BEARING METHODS
(WHEN SOIL CONDITIONS ARE FAVORABLE, OUR 6" X 10" LEG PAD IS ACCEPTABLE FOR BEARING DIRECTLY TO THE GROUND)



1/10 PLAN VIEW
LANDING LEG ATTACHMENT
SCALE: NTS

A-A / 10

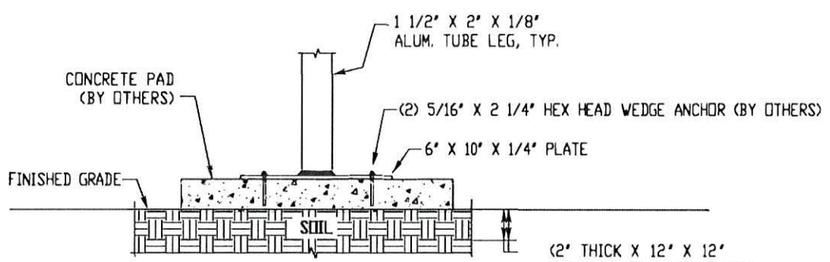
NOTE: WHEN RAMP & LANDING IS **NOT** ATTACHED TO THE BUILDING BELOW ARE ACCEPTABLE BEARING METHODS

University of Virginia
University Building Official
- ☐ Approved for general conformance to the 2015 VUSBC
- ✔ Approved with exceptions. See list of remaining issues noted on page 2 of the building permit and/or plan review documents dated: 12/17/2019

Date: 12/17/2019

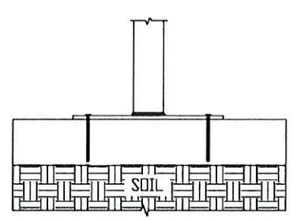
COMMONWEALTH OF VIRGINIA
JEFFREY R. WALTON, JR.
Lic. No. 0402 035409
PROFESSIONAL ENGINEER
JAN 17 2019

OPTION #1: CONCRETE BASE
LANDING LEG ATTACHMENT
SCALE: NTS



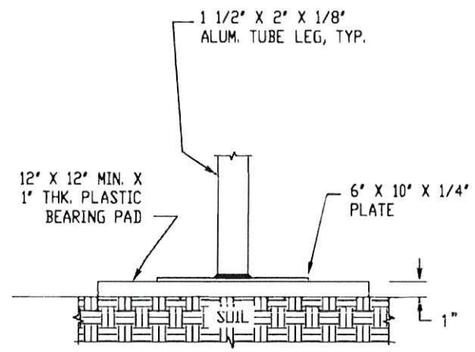
FRONT VIEW

OPTION #2: ASPHALT BASE
LANDING LEG ATTACHMENT
SCALE: NTS



SIDE VIEW

OPTION #3: PLASTIC BASE
LANDING LEG ATTACHMENT
SCALE: NTS



FRONT VIEW

Sapa Extrusions, llc
125 Superior Drive
Delhi, LA 71232
Phone: 1(800)779-5509
Fax: 1(866)840-4566

sapa:

CUSTOMER SHOP DRAWINGS

SAPA FRABICATED PRODUCTS
DELHI, LA
ALUMINUM ACCESS RAMP SYSTEM
WITH 42" HIGH VERTICAL PICKET GUARDRAIL

DATE 1/15/2019
JOB NO. ----
FILENAME 5-4 30FT Shop
REV. R - 0
DRAWN BY TMB
APPROVED BY
SHEET NUMBER 10