CONFORMED SET
OCTOBER 16, 2020

STRUCTURAL NOTES

BUILDING CODE: 2015 INTERNATIONAL BUILDING CODE AND ASCE 7-10

ANY REFERENCES TO VARIOUS TRADE CODES THROUGHOUT THESE NOTES ARE TO THE YEAR OF THE CODE CITED IN THE ABOVE REFERENCE BUILDING CODE.

DESIGN LIVE LOADS

ROOF STRUCTURAL ELEMENTS SHALL BE DESIGNED FOR THE MORE CRITICAL OF THE FOLLOWING LOAD CASES
- CASE 1 30 PSF MINIMUM (NOT REDUCIBLE)
- CASE 2 SNOW LOAD BASED ON 40 PSF GROUND SNOW LOAD WITH APPLICABLE DRIFT AND SLIDING LOADS

ROOF SNOW LOAD DESIGN DATA:
- RISK CATEGORY – III
- SNOW EXPOSURE FACTOR (Ce) – 1.0
- THERMAL FACTOR (Ct) – 1.0
- SNOW LOAD IMPORTANTANCE FACTOR (Is) – 1.1
- FLAT ROOF SNOW LOAD (Pf) – 30.8 PSF

FLOORS: THE FLOOR AREAS HAVE BEEN DESIGNED FOR THE FOLLOWING MINIMUM LIVE LOADS. LIVE LOAD REDUCTION HAS BEEN CONSIDERED IN FLOOR AND COLUMN DESIGN.

SLAB ON GRADE	150 PSF
EQUIPMENT SUPPORTS	DESIGNED FOR ACTUAL LOADS INDICATED ON THE DRAWINGS
FUTURE STAIRS	100 PSF / 300 LB. POINT LOAD
FUTURE ELEVATORS	DESIGNED FOR THE ACTUAL LOADS IMPOSED BY ELEVATORS INCREASED BY 100% FOR IMPACT
FUTURE SECOND FLOOR	SEE LOAD DIAGRAM PLAN ON S0.04

DESIGN DEAD LOADS

FLOOR	85 PSF (TOTAL)	
	CONC. SLAB	45 PSF
	METAL DECK	2 PSF
	STEEL FRAMING	5 PSF
	PONDING CONC.	8 PSF
	M / E / P	5 PSF
	CEILING/LIGHTS	5 PSF
	MISCELLANEOUS	5 PSF
	ROOF/INSULATION	10 PSF (REPLACED WITH FUTURE FLOORING)
ROOF		
	CLERESTORY	20 PSF
	MULTIPURPOSE	25 PSF
	CANOPIES	15 PSF
FUTURE ROOF TRUSSES	25 PSF (TOTAL INCLUDING SELF WEIGHT)	
	TOP CHORD	15 PSF
	BOTTOM CHORD	10 PSF

LATERAL LOADS

WIND LOAD ANALYSIS

RISK CATEGORY	III
ULTIMATE WIND SPEED (Vult)	120 MPH
NOMINAL WIND SPEED (Vasd)	93 MPH
WIND EXPOSURE	C
INTERNAL PRESSURE COEFFICIENT	+/- 0.18

NET WIND UPLIFT ON ROOF WITH RESPECT TO METAL DECK AND STEEL FRAMING TO BE PER THE LOADS IN THE COMPONENTS AND CLADDING WIND CHART ON THIS SHEET.

SEISMIC LOAD ANALYSIS

RISK CATEGORY	III
SEISMIC IMPORTANCE FACTOR (Ie)	1.25
MCE SPECTRAL RESPONSE ACCELERATION PARAMETER - SHORT (Ss)	0.128
MCE SPECTRAL RESPONSE ACCELERATION PARAMETER - 1 second (S1)	0.052
SITE CLASS	D
SOIL SITE COEFFICIENT (Fa / Fv)	1.6 / 2.4
DESIGN EQ SPECTRAL RESPONSE ACCEL. PARAMETER - SHORT (Sds)	0.136
DESIGN EQ SPECTRAL RESPONSE ACCEL. PARAMETER - 1 second (Sd1)	0.083
SEISMIC DESIGN CATEGORY	B
BASIC SEISMIC FORCE RESISTING SYSTEM	A9 per TABLE 12.2-1 ASCE7-10
RESPONSE MODIFICATION COEFFICIENT (R)	2.0
SYSTEM OVERSTRENGTH FACTOR (Ωo)	2.5
DEFLECTION AMPLIFICATION FACTOR (Cd)	1.75
SEISMIC RESPONSE COEFFICIENT (Cs)	0.085
BASE SHEAR (Fx)	MASS x Cs
ANALYSIS PROCEDURE UTILIZED	EQUIVALENT LATERAL FORCE

GENERAL NOTES

REFER TO THE ARCHITECTURAL, ELECTRICAL, MECHANICAL AND PLUMBING DRAWINGS FOR ADDITIONAL SLEEVES, ANCHORS, VENT OPENINGS, ETC. NOT SHOWN ON THE STRUCTURAL PLANS.

ALL MATERIALS SHALL BE IN CONFORMANCE WITH THE LATEST EDITION OF THE ASTM SPECIFICATIONS NOTED IN THE STRUCTURAL NOTES AND PROJECT SPECIFICATIONS BASED ON THE FINAL DATE NOTED ON THE CONSTRUCTION DOCUMENTS.

THIS PROJECT HAS BEEN DESIGNED FOR THE WEIGHTS OF THE MATERIALS INDICATED ON THE DRAWINGS AND FOR THE LIVE LOADS INDICATED IN THE DESIGN DATA ON THIS SHEET. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE ADDITIONAL SHORING AND BRACING FOR THE STRUCTURE IF ACTUAL CONSTRUCTION LOADS EXCEED THE DESIGN LOADS.

ALL DIMENSIONS AND NOTES SHALL SUPERSEDE ALL SCALE REFERENCES ON THE DRAWINGS.

ALL WORK SPECIFIED HEREIN SHALL BE INSPECTED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS, THE BUILDING CODE AND ALL LOCAL ORDINANCES. THE CONTRACTOR SHALL HIRE AN EXPERIENCED, QUALIFIED SPECIAL INSPECTOR TO PERFORM ALL THE REQUIRED INSPECTION WORK. ADTEK ENGINEERS WILL NOT PERFORM THE CONTINUOUS DAILY SPECIAL INSPECTIONS DURING CONSTRUCTION. ADTEK ENGINEERS MAY VISIT THE SITE TO ASCERTAIN GENERAL CONFORMANCE TO THE CONTRACT DOCUMENTS AND SUCH VISITS ARE NOT TO BE CONSTRUED AS MEETING THE DAILY SPECIAL INSPECTION REQUIREMENTS UNLESS THE ENGINEER SPECIFICALLY SO STATES IN WRITING.

CONTRACTOR RESPONSIBILITIES

THE FOLLOWING LIST IS NOT INTENDED TO BE ALL INCLUSIVE, BUT MERELY TO PLACE EMPHASIS ON PARTICULAR ITEMS OF JOB SCHEDULING AND SAFETY.

1. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS TO THE PROJECT ARCHITECT AND STRUCTURAL ENGINEER FOR REVIEW, ALLOWING A MINIMUM OF TWO WEEKS FOR REVIEW BY THE PROJECT ARCHITECT AND STRUCTURAL ENGINEER.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REDESIGN OF THE STRUCTURAL SUPPORTS OF EQUIPMENT WHEN THE OPERATING WEIGHT OF THE EQUIPMENT PROVIDED (INCLUDING CURBS AND ACCESSORIES) EXCEEDS THE MAXIMUM DESIGN WEIGHTS NOTED ON THE STRUCTURAL DRAWINGS. SUBMIT STRUCTURAL CALCULATIONS AND DETAILS FOR THE REVISED EQUIPMENT SUPPORT TO THE PROJECT ARCHITECT FOR REVIEW. THE SUBMITTAL SHALL BE STAMPED AND SIGNED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF MARYLAND.
3. THE CONTRACTOR SHALL NOTIFY THE PROJECT SPECIAL INSPECTOR IN ADVANCE OF WORK REQUIRING INSPECTIONS OR ON-SITE PERSONNEL. COORDINATE ADVANCE NOTIFICATION REQUIREMENTS WITH THE SPECIAL INSPECTOR.
4. IF THE CONTRACTOR ANTICIPATES A PROBLEM THAT WILL REQUIRE ASSISTANCE FROM THE PROJECT STRUCTURAL ENGINEER, THE CONTRACTOR SHALL MAKE EVERY EFFORT TO PROVIDE THE ENGINEER WITH MINIMUM 24 HOURS NOTICE.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT ALL CONSTRUCTION IS ACCORDING TO THE SIGNED AND SEALED CONSTRUCTION DOCUMENTS AND THE REVIEWED SHOP DRAWINGS.
6. THE CONTRACTOR SHALL ENGAGE A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF MARYLAND TO DESIGN AND DETAIL THE SUBMITTAL ITEMS NOTED IN THE STRUCTURAL NOTES (I.E. SHORING, FORMWORK, LIGHT GAGE STEEL, WOOD TRUSSES, JOISTS, PRE-ENGINEERED COMPONENTS, ETC.). THE ENGINEER MUST HAVE A MINIMUM OF THREE YEARS EXPERIENCE IN THE DESIGN OF THE TYPE OF STRUCTURAL COMPONENT REQUIRED FOR THE SUBMITTAL. THE ENGINEER SHALL PERFORM PERIODIC FIELD OBSERVATIONS AND ISSUE A FINAL CERTIFICATION FOR THE FINAL CONSTRUCTION OF THE STRUCTURE INCLUDED IN THEIR SUBMITTAL.
7. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING BETWEEN THE STRUCTURAL AND ARCHITECTURAL DRAWINGS. IT IS NOT INTENDED THAT THE STRUCTURAL DRAWINGS BE USED INDEPENDENTLY OF THE ARCHITECTURAL DRAWINGS. ANY DISCREPANCIES, INCLUDING DIMENSIONS, SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT AND ENGINEER BEFORE PROCEEDING WITH THE WORK.
8. THE CONTRACTOR IS RESPONSIBLE FOR METHODS TO ENSURE CONSTRUCTION SAFETY AT THE SITE THROUGHOUT THE COURSE OF THE PROJECT CONSTRUCTION. SEE O.S.H.A. & M.O.S.H. REGULATIONS FOR CONSTRUCTION.
9. UPON STRUCTURAL COMPLETION OF THE PROJECT, THE CONTRACTOR SHALL BE RESPONSIBLE FOR HAVING THE SPECIAL INSPECTOR SUBMIT A LETTER OF CERTIFICATION INDICATING THAT THE STRUCTURE IS IN COMPLIANCE WITH THE PLANS, SPECIFICATIONS, CONCRETE TEST REPORTS AND CODE REQUIREMENTS. THIS LETTER MUST BE REVIEWED BY THE ARCHITECT AND ENGINEER OF RECORD BEFORE SUBMITTAL.

SUBMITTALS NOTES

1. SUBMIT THE SHOP DRAWINGS NOTED BELOW TO THE PROJECT ARCHITECT AND STRUCTURAL ENGINEER FOR REVIEW.
2. SUBMITTALS (DRAWINGS AND CALCULATIONS) NOTED WITH * BELOW SHALL BE SIGNED AND SEALED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF MARYLAND. SEE "CONTRACTOR RESPONSIBILITIES" ABOVE FOR ADDITIONAL REQUIREMENTS.
3. REPRODUCTION OF ANY PORTION OF THE STRUCTURAL CONSTRUCTION DOCUMENTS FOR USE AS SHOP DRAWINGS IS PROHIBITED.
4. IF REQUIRED BY THE AUTHORITY HAVING JURISDICTION, PROVIDE THE REVIEWED SHOP DRAWINGS OF THE DEFERRED SUBMITTALS FOR THEIR REVIEW.

SUBMITTALS
- A. CONCRETE MIX DESIGN BY EITHER TRIAL BATCH OR FIELD EXPERIENCE METHODS. (EACH SUBMITTED MIX MUST IDENTIFY ITS INTENDED USE)
- B. CONCRETE REINFORCING
- C. MASONRY REINFORCING
- D. STRUCTURAL STEEL
- E. STEEL JOISTS
- F. METAL DECK (INCLUDING SECTION PROPERTIES OF DECK)
- G. CMU PARTITION SUPPORT

DEFERRED SUBMITTALS
- A. * BRACING OF MASONRY WALLS OVER 8'-0" PER OSHA (DRAWINGS AND CALCULATIONS-CALCULATIONS TO INCLUDE VERIFICATION OF CONCRETE SLAB ON GRADE TO SUPPORT SHORING LOADS, WHERE APPLICABLE)
- B. * STRUCTURAL STEEL CONNECTIONS WITH CALCULATIONS
- C. * COLD FORMED METAL FRAMING

SPECIAL INSPECTIONS

SPECIAL INSPECTIONS ARE REQUIRED DURING CONSTRUCTION IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS AND CHAPTER 17 OF THE INTERNATIONAL BUILDING CODE. THE TERM SPECIAL INSPECTOR REFERS TO THE SPECIAL INSPECTING ENGINEER OF RECORD HIRED BY THE CONTRACTOR IN COMPLIANCE WITH THE INTERNATIONAL BUILDING CODE. INSPECTIONS OF FOUNDATION SUBGRADES MUST BE CONDUCTED BY A LICENSED GEOTECHNICAL ENGINEER, REFERRED TO HEREIN AS THE GEOTECHNICAL INSPECTOR. SPECIAL INSPECTIONS SHALL BE PERFORMED FOR, BUT NOT LIMITED TO, THE FOLLOWING STRUCTURAL ITEMS:

1. FOUNDATION SUBGRADES
2. FOUNDATION REINFORCING
3. CONCRETE FORMWORK AND REINFORCING
4. CONCRETE MIX AND PLACEMENT
5. MASONRY REINFORCING
6. MASONRY GROUT
7. STRUCTURAL STEEL ERECTION
8. STEEL JOISTS
9. METAL DECKING
10. COLD FORMED METAL FRAMING

FOUNDATION

ASSUMED SOIL BEARING VALUE

3,000 POUNDS PER SQUARE FOOT FOR COLUMN AND WALL FOOTINGS.

SUBSURFACE INVESTIGATION

SUBSURFACE INVESTIGATION AND REPORT BY ECS MID-ATLANTIC, LLC
REPORT NO.: 13:8269 AND ADDENDUM #1 (13:8269-A)
REPORT DATE: SEPTEMBER 19, 2018 AND NOVEMBER 16, 2018 (ADDENDUM #1)

ALL FOUNDATION WORK AND SOIL COMPACTION SHALL BE IN STRICT ACCORDANCE WITH THE GEOTECHNICAL REPORT FOR THE PROJECT.

ALL SPREAD FOOTINGS SHALL EXTEND MINIMUM 1'-0" INTO UNDISTURBED SOIL OR SHALL BEAR ON COMPACTED STRUCTURAL FILL. PLACE THE FILL REQUIRED TO BRING THE SUBGRADE TO THE PROPER ELEVATION PRIOR TO INSTALLING THE FOUNDATION.

THE MINIMUM FOOTING EMBEDMEND DEPTH (BELOW SLAB OR FINISHED GRADE) SHALL BE:
- 1'-6" INTERIOR WALLS
- 2'-6" EXTERIOR WALLS
- 2'-6" ALL COLUMNS

THE ELEVATION AT THE TOP OF FOOTINGS SHALL NOT BE HIGHER THAN INDICATED ON THE FOUNDATION PLAN, NOTES AND SECTIONS. THE FOOTING ELEVATIONS SHOWN ON THE DRAWINGS ARE FOR ESTIMATION PURPOSES ONLY. LOWER THE FOOTING ELEVATIONS, IF REQUIRED, TO ACHIEVE THE REQUIRED DESIGN BEARING CAPACITY OR FOR COORDINATION WITH UTILITIES.

THE FINAL SOIL BEARING CAPACITY AND FOUNDATION SUBGRADES SHALL BE INSPECTED AND APPROVED BY THE GEOTECHNICAL INSPECTOR PRIOR TO THE CONCRETE FOOTING INSTALLATION. THE CONTRACTOR SHOULD TAKE NOTE OF ANY WATER CONDITIONS AT THE SITE. FOUNDATION SUBGRADES SHALL REMAIN DRY DURING CONSTRUCTION.

BACKFILL OF BELOW GRADE FOUNDATION WALLS

THE CONTRACTOR SHALL NOT OVERLOAD THE WALL WITH HEAVY EQUIPMENT DURING PLACEMENT OF BACKFILL ADJACENT TO THE WALL.

FOR BELOW GRADE WALLS, STAGGER BACK FILL FROM SIDE TO SIDE OF THE WALL SO THAT NO MORE THAN 2'-0" OF OFFSETTING GRADE IS PRESENT. ONLY LIGHTWEIGHT (A MAXIMUM OF THREE TON TOTAL WEIGHT) EQUIPMENT SHALL BE PERMITTED WITHIN THE CRITICAL ZONE DEFINED AS BEGINNING AT THE BASE OF THE WALL AND WIDENING UPWARD FROM THE BASE AT A 1:1 SLOPE.

STRUCTURAL COMPACTED FILL

STRUCTURAL COMPACTED FILL FOR FOUNDATIONS AND SLAB ON GRADE SHALL BE APPROVED BY THE PROJECT GEOTECHNICAL ENGINEER AND COMPACTED PER THE GEOTECHNICAL REPORT.

STRUCTURAL CONCRETE

REINFORCING STEEL SHALL CONFORM TO ASTM A615, GRADE 60. ALL WELDED WIRE REINFORCING SHALL CONFORM TO ASTM A185. DETAILING SHALL BE IN ACCORDANCE WITH ACI MANUAL 315 AND STANDARD 318.

CONCRETE SHALL BE NORMAL WEIGHT. CONCRETE MIX DESIGN TABLE ON THIS SHEET INDICATES DESIGN COMPRESSIVE STRENGTH AT 28 DAYS, WATER/CEMENT RATIOS, AND ENTRAINED AIR CONTENT REQUIRED.

MAXIMUM AGGREGATE SIZE FOR CONCRETE SHALL BE IN ACCORDANCE WITH THE MAXIMUM AGGREGATE SIZES IN ACI 318 AND AS FOLLOWS:

FOOTINGS	1-1/2"
CONCRETE PIERS, WALLS, SLABS	3/4"
CONCRETE SLABS ON GRADE	3/4"
ELEVATED SLABS ON METAL DECK	3/4"

ALL EXTERIOR CONCRETE AND CONCRETE EXPOSED TO WEATHER SHALL BE AIR-ENTRAINED.

CONCRETE SLUMP: 3" +/- 1"
8" AFTER ADDITION OF HRWR AT THE SITE

THE USE OF ADDITIVES SHALL NOT BE PERMITTED UNLESS SPECIFICALLY APPROVED BY THE STRUCTURAL ENGINEER OR NOTED IN THE PROJECT SPECIFICATIONS. THE USE OF ADDITIVES CONTAINING CALCIUM CHLORIDE SHALL NOT BE PERMITTED.

PROVIDE A HIGH RANGE WATER REDUCER (HRWR OR SUPERPLASTICIZER) FOR PUMPED CONCRETE AND AS REQUIRED FOR WORKABILITY.

ALL REINFORCING STEEL MARKED "CONTINUOUS" SHALL BE LAPPED AS REQUIRED WITH CLASS B TENSION SPLICES PER ACI 315. PROVIDE CLASS B TENSION SPLICES AT WALL CORNERS AND INTERSECTIONS WITH STANDARD 90 DEGREE BENT CORNER BARS, INCLUDING CORNERS OF WALL FOOTINGS AND BOND BEAMS. LAP WELDED WIRE MESH ONE FULL MESH AT SIDE AND END LAPS. PROVIDE CORNER LAP BARS AT ALL LONGITUDINAL FOOTING REINFORCING AS WELL AS AT ALL HORIZONTAL WALL REINFORCING.

ALL TENSION SPLICES IN THE REINFORCING STEEL, UNLESS NOTED OTHERWISE, SHALL HAVE A MINIMUM LAP DISTANCE AS SHOWN IN THE TENSION LAP SPLICE CHART IN THE GENERAL NOTES.

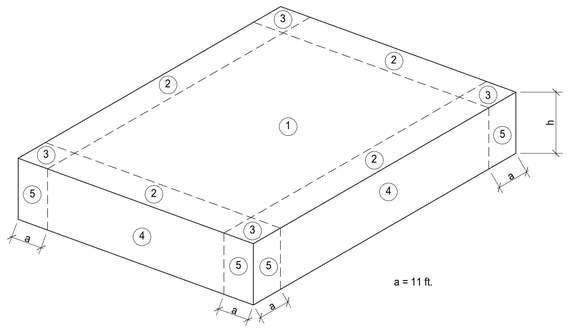
PROVIDE CONCRETE PROTECTION FOR REINFORCING AS FOLLOWS (UNLESS NOTED OTHERWISE):

FOOTINGS: 3"
INTERIOR SLABS: 3/4" PIERS: 1-1/2" TO THE TIES
EXTERIOR SLABS: 1-1/2" WALLS: OUTSIDE FACE - 2"
INSIDE FACE - 1"

CONCRETE MIX DESIGN TABLE

MEMBER	LOCATION	f'c	W/C	EXPOSURE CATEGORY				ENTRAINED AIR CONTENT	
				F	S	P	C	3/4" AGGREGATE	1" AGGREGATE
FOOTINGS	INTERIOR	3000 PSI	0.55	F0	S0	P0	C0	N/A	N/A
	EXTERIOR	4500 PSI	0.45	F2	S0	P0	C1	6 +/-1.5%	6 +/- 1.5%
FOUNDATION WALLS	INTERIOR	4500 PSI	0.45	F0	S0	P0	C0	N/A	N/A
PIERS	INTERIOR	4000 PSI	0.50	F0	S0	P0	C0	N/A	N/A
	EXTERIOR	4500 PSI	0.45	F1	S0	P0	C1	5 +/-1.5%	4.5 +/- 1.5%
SLABS-ON-GRADE	INTERIOR	4000 PSI	0.48	F0	S0	P0	C0	N/A	N/A
	EXTERIOR	4500 PSI	0.45	F2	S0	P0	C1	5 +/-1.5%	4.5 +/- 1.5%
NORMAL WEIGHT (145 PCF MAX.) ON STEEL DECKING	INTERIOR	3500 PSI	0.55	F0	S0	P0	C0	N/A	N/A

NOTES:
1. PROVIDE CONCRETE MIXES IN ACCORDANCE WITH ACI 301 FOR THE EXPOSURE CATEGORIES IDENTIFIED IN THE ABOVE TABLE.
2. "EXTERIOR" MEMBERS ARE THOSE FULLY OR PARTIALLY OUTSIDE A CONDITIONED BUILDING ENVELOPE AND FULLY OR PARTIALLY ABOVE THE FROST DEPTH. ALL OTHER MEMBERS SHALL BE CONSIDERED "INTERIOR".
3. SEE SHEAR WALL ELEVATIONS AND COLUMN SCHEDULES FOR DESIGN 28-DAY CONCRETE COMPRESSIVE STRENGTHS. ALL OTHER CONCRETE STRENGTHS SHALL CONFORM TO THE TABLE ABOVE (MINIMUM).
4. MAXIMUM WATER-CEMENT (W/C) RATIOS INDICATED IN THE TABLE SHALL INCLUDE WATER FROM ADMIXTURES IN W/C CALCULATIONS.
5. DO NOT AIR-ENTRAIN NORMAL WEIGHT CONCRETE DESIGNATED TO RECEIVE STEEL TROWEL FINISH.



a = 11 ft.

WIND COMPONENT & CLADDING LOAD SCHEDULE

	POSITIVE PRESSURE		NEGATIVE PRESSURE				
AREA (SQ. FT.)	ZONE 4 (PSF)	ZONE 5 (PSF)	ZONE 1 (PSF)	ZONE 2 (PSF)	ZONE 3 (PSF)	ZONE 4 (PSF)	ZONE 5 (PSF)
10	36.3	36.3	-36.3	-60.9	-91.6	-39.3	-48.6
20	34.6	34.6	-35.3	-54.3	-75.9	-37.7	-45.4
50	32.5	32.5	-34.2	-45.8	-55.0	-35.6	-41.0
100	30.8	30.8	-33.2	-39.3	-39.3	-33.9	-37.7

NOTES:
1. POSITIVE AND NEGATIVE SIGNS ON VALUES IN SCHEDULE INDICATE PRESSURES ACTING TOWARD AND AWAY FROM THE SURFACE, RESPECTIVELY.
2. ZONES 1, 2, AND 3 ARE FOR ROOFS. ZONES 4 AND 5 ARE FOR WALLS. SEE DIAGRAM ON THIS SHEET FOR THE GENERAL WIND PRESSURE ZONE DIAGRAM IDENTIFYING EXTENTS OF WIND PRESSURE ZONES.
3. VALUES GIVEN ARE FOR 700 YEAR MRI (MEAN RECURRANCE INTERVAL) AS REQUIRED FOR STRENGTH CALCULATIONS. ALTERNATE DESIGN VALUES MAY BE USED PROVIDED SUPPORTING CALCULATIONS, SIGNED AND SEALED BY AN ENGINEER REGISTERED IN THE PROJECT'S JURISDICTION, ARE SUBMITTED FOR REVIEW.

JOSEPH F. MARTINEZ
JOSEPH F. RODRIGUEZ
47042
PROFESSIONAL ENGINEER
7/1/2020

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland. License No. 47042 Expiration Date: 07/13/21

REVISIONS

#	MM-DD-YR	NAME	DESCRIPTION OF CHANGES

CRABTREE ROHRBAUGH & ASSOCIATES - ARCHITECTS
100 WEST ROAD, SUITE 402, TOWSON MD 21204 410-528-0272
MECHANICSBURG, PENNSYLVANIA CHARLOTTESVILLE, VIRGINIA WHITE SULPHUR SPRINGS, WEST VIRGINIA
www.cra-architects.com

PROPOSED NEW
WASHINGTON COUNTY PUBLIC SAFETY TRAINING CENTER
WASHINGTON COUNTY PROJECT NO. 28-266
18350 PUBLIC SAFETY PLACE
HAGERSTOWN, MD 21740

ADTEK
ADTEK ENGINEERS, INC.
150 South East Street
Suite 201
Frederick, Maryland 21701
301-662-4408
Fax: 301-662-7484
ADTEK PROJECT #: 1713.0001

STRUCTURAL NOTES

PLOT SCALE: 1/8" = 1'-0"

FILENAME:

DATE: December 18, 2019

PROJECT 3089

S0.01

STRUCTURAL CONCRETE (cont.)

ALL CONCRETE WORK, REINFORCING PLACEMENT FORMWORK AND SHORING SHALL BE INSPECTED UNDER THE SUPERVISION OF THE WASHINGTON COUNTY INSPECTOR AND THE SPECIAL INSPECTOR. CONCRETE QUALITY CONTROL, INSPECTION AND TESTING SHALL BE IN STRICT ACCORDANCE WITH THE PROJECT SPECIFICATIONS, ACI 301 AND THE LOCAL BUILDING CODE REQUIREMENTS.

CONSTRUCTION PRACTICES:

WET STICKING OF DOWELS INTO THE FOOTING WILL NOT BE ACCEPTED. DOWELS SHOULD BE PROPERLY PLACED AND TIED TO LONGITUDINAL FOOTING REINFORCING IN ACCORDANCE WITH CRSI.

THE SPECIAL INSPECTOR SHALL PERFORM CONCRETE TESTS PER SECTION 3.15 OF SPECIFICATION SECTION 03 30 00. THE SPECIAL INSPECTOR SHALL SUBMIT WRITTEN TEST REPORTS TO THE PROJECT ARCHITECT AND STRUCTURAL ENGINEER. THE ARCHITECT AND STRUCTURAL ENGINEER SHALL BE NOTIFIED OF ALL TESTS THAT DO NOT MEET THE PROJECT SPECIFICATIONS WITHIN 24 HOURS.

SLAB ON GRADE

PROVIDE A MINIMUM THICKNESS REINFORCED CONCRETE SLAB AS NOTED ON THE PLANS ON A CONTINUOUS VAPOR RETARDER/BARRIER OVER DRAINAGE FILL. THE WELDED WIRE REINFORCING SHALL BE PLACED AT 1/3 THE SLAB THICKNESS BELOW THE TOP SURFACE OF THE SLAB. THE DRAINAGE FILL SHALL BE ASTM C33, SIZE 57.

CONTRACTOR'S OPTION - PROVIDE SYNTHETIC POLYPROPYLENE REINFORCING FIBERS IN PLACE OF WELDED WIRE MESH IN THE SLAB ON GRADE. FIBERS SHALL BE ADDED AT THE CONCRETE PLANT PER THE FIBER MANUFACTURER'S RECOMMENDATIONS. CONCRETE WITH FIBER REINFORCING SHALL HAVE HIGH RANGE WATER REDUCER PER ASTM C494, TYPE F OR G.

STRUCTURAL MASONRY

ALL MASONRY CONSTRUCTION SHALL BE IN ACCORDANCE WITH FOLLOWING STANDARDS:

BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES - ACI 530/ASCE 5
SPECIFICATIONS FOR MASONRY STRUCTURES ACI 530.1/ASCE 6
SPECIFICATIONS FOR DESIGN AND CONSTRUCTION OF LOAD BEARING CONCRETE MASONRY PUBLISHED BY NATIONAL CONCRETE MASONRY ASSOCIATION.

ALL LOAD BEARING MASONRY WALLS SHALL BE INSPECTED IN ACCORDANCE WITH THE WASHINGTON COUNTY REQUIREMENTS.

THE MINIMUM NET AREA COMPRESSIVE STRENGTH OF MASONRY (F'm) SHALL BE 1500 PSI PER ACI 530.

THE MINIMUM NET AREA COMPRESSIVE STRENGTH OF CONCRETE MASONRY UNITS SHALL BE 1900 PSI PER ACI 530.

HOLLOW AND SOLID LOAD BEARING CONCRETE MASONRY UNITS SHALL CONFORM TO ASTM C90 AND ASTM C145.

MORTAR SHALL CONFORM TO THE REQUIREMENTS OF THE ASTM TENTATIVE SPECIFICATIONS FOR MORTAR FOR UNIT MASONRY, ASTM C270, TYPE S MORTAR. HOLLOW UNITS SHALL BE LAID WITH FULL MORTAR COVERAGE ON HORIZONTAL AND VERTICAL FACE SHELLS. SOLID UNITS SHALL BE LAID WITH FULL HEAD AND BED JOINTS. FIELD TESTED MORTAR IS REQUIRED TO ACHIEVE SPECIFIED DESIGN STRENGTHS.

MASONRY GROUT SHALL HAVE A 28 DAY COMPRESSIVE STRENGTH OF 2500 PSI, COMPLYING WITH ASTM C476.

REINFORCING STEEL SHALL CONFORM TO ASTM A615, GRADE 60. ALL VERTICAL MASONRY REINFORCING SHALL BE INSTALLED IN FULLY GROUTED CELLS AS SHOWN ON THE DRAWINGS. PROVIDE BAR SPLICES PER THE CMU BAR SPLICE CHART IN THE GENERAL NOTES.

PROVIDE JOINT REINFORCING, DUR-O-WALL OR EQUAL, EVERY BLOCK COURSE BELOW GRADE AND EVERY OTHER BLOCK COURSE ABOVE GRADE UNLESS OTHERWISE SHOWN ON ARCHITECTURAL WALL SECTIONS. JOINT REINFORCING SHALL BE CONTINUOUS AND SHALL BE PROVIDED IN ALL WALLS WITHOUT EXCEPTION. MASONRY JOINT REINFORCING SHALL BE LADDER TYPE COLD-DRAWN STEEL WIRE CONFORMING TO ASTM A82 AND SHALL BE HOT DIPPED GALVANIZED PER ASTM A153 AFTER FABRICATION. WHERE WALLS ABUT EACH OTHER, AND AT OUTSIDE CORNERS, PROVIDE PREFABRICATED TEE-TYPE AND CORNER TRUSS TIES. PROVIDE MINIMUM 6" LAP BETWEEN ADJACENT PIECES OF JOINT REINFORCING.

CONTROL JOINTS SHALL BE SPACED WITHIN **4'-0"** MAXIMUM OF THE VENEER JOINTS SHOWN ON THE ARCHITECTURAL DRAWINGS AND AT A **MAXIMUM SPACING OF 25' - 0" ON CENTER**. JOINTS MUST BE 24" FROM WALL OPENINGS TYPICAL.

DISCONTINUE JOINT REINFORCING AT CONTROL JOINTS.

PROVIDE TIES FOR MASONRY VENEER WALLS AS DETAILED ON ARCHITECTURAL DRAWINGS. SHEET METAL TIES FOR VENEER ARE NOT ACCEPTABLE. WIRE TIES MUST BE USED.

PROVIDE FLEXIBLE TIES ON STEEL BEAMS AND COLUMNS AT MASONRY WALLS TO PREVENT LATERAL MOVEMENT OF THE WALLS. THE TIES SHALL BE SPACED AT 16" ON CENTER.

ALL MASONRY WALLS SHALL BE TEMPORARILY BRACED IN AN APPROVED MANNER DURING CONSTRUCTION UNTIL MORTAR HAS ATTAINED THE DESIGN STRENGTH, AND UNTIL FLOOR AND ROOF MEMBERS HAVE BEEN PLACED AND ANCHORED THERETO. SUBMIT BRACING DRAWINGS IN ACCORDANCE WITH OSHA REQUIREMENTS; DRAWINGS AND CALCULATIONS ARE TO BE STAMPED AND SIGNED BY A PROFESSIONAL ENGINEER IN ACCORDANCE WITH SUBMITTALS NOTES.

CONSTRUCTION PRACTICES:

1. WET STICKING OF VERTICAL REINFORCING INTO GROUTED CELLS FOR LAPS IS UNACCEPTABLE. LAP AND TIE BARS PER ACI.
2. ALL BELOW GRADE WALLS ARE TO BE GROUTED SOLID.
3. GROUT TOP COURSE SOLID AT ALL TRANSITIONS IN WALL CONSTRUCTION FROM LARGER SIZE BLOCK TO SMALLER SIZE BLOCK. PROVIDE GROUT SCREEN AS REQUIRED.
4. USE VIBRATORS TO CONSOLIDATE GROUT IN MASONRY WALLS. RODDING WILL NOT BE PERMITTED.

BEARING ON MASONRY

UNLESS OTHERWISE NOTED, PROVIDE TWO COURSES OF SOLID GROUTED BLOCK EIGHT INCHES WIDE BY ONE FOOT FOUR INCHES MINIMUM LENGTH AT ALL BEAM BEARING POINTS. PROVIDE A BEARING PLATE 3/4"x6"x8" UNDER ALL STEEL BEAMS BEARING ON MASONRY UNLESS OTHERWISE SHOWN.

MASONRY WALL LINTELS

PROVIDE LINTELS FOR ALL OPENINGS IN LOAD-BEARING MASONRY WALLS AS SHOWN ON THE STRUCTURAL DRAWINGS ON SHEET **S5.01**

ALL OPENINGS EXCEEDING 1'-0" IN WIDTH IN NON-LOAD-BEARING MASONRY PARTITIONS MUST HAVE EITHER A PRECAST CONCRETE LINTEL OR A MASONRY BOND BEAM. NON-BEARING MASONRY PARTITIONS ARE NOT INDICATED ON THE STRUCTURAL DRAWINGS. REFER TO THE ARCHITECTURAL DRAWINGS FOR OPENING SIZE, OPENING LOCATION, AND LINTEL TYPE. REFER TO THE CMU LINTEL SCHEDULE IN THE DETAILS FOR LINTEL SIZE AND REINFORCING.

MECHANICAL OPENINGS HAVE NOT BEEN SHOWN ON THE STRUCTURAL DRAWINGS. PROVIDE LINTELS FOR ALL MECHANICAL OPENINGS PER THE LINTEL SCHEDULE. DUCT OPENINGS THROUGH BEARING WALLS ARE TO BE LOCATED BETWEEN THE BEAMS/JOISTS, PROVIDING 1'-0" MINIMUM CLEAR FROM EDGE OF MASONRY OPENING TO STEEL BEARING. DUCTS ARE NOT TO BE LOCATED DIRECTLY UNDER STEEL BEARING.

NOTES:

1. PROVIDE HORIZONTAL JOINT REINFORCING AT 8" O.C. FOR TWO COURSES ABOVE ALL LINTELS. EXTEND THE JOINT REINFORCING 12" BEYOND THE LINTELS AT EACH END OF THE LINTELS.
2. BOND BEAM LINTEL REINFORCING TO EXTEND MINIMUM 16" BEYOND END OF OPENING. GROUT BOND BEAM SOLID
3. PROVIDE BEARING AT EACH END OF MASONRY LINTELS AS SHOWN IN THE DETAILS OS S5.02.

STRUCTURAL STEEL

ALL STEEL SHALL BE IN ACCORDANCE WITH THE SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS, AISC 360-10, BY THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC).

ALL STEEL W SHAPES SHALL BE ASTM A992, GRADE 50. ALL ANGLES, CHANNELS, BENT PLATES, FLAT STOCK AND OTHER MISC. METAL SHAPES SHALL BE ASTM A36 UNLESS NOTED OTHERWISE. ALL CONNECTIONS SHALL BE WELDED OR BOLTED.

STRUCTURAL STEEL PIPE SHALL CONFORM TO ASTM A501 OR ASTM A53, TYPE E OR S.

HOLLOW STRUCTURAL SECTIONS (HSS) SHALL CONFORM TO ASTM A500, GRADE B.

ANCHOR BOLTS SHALL CONFORM TO ASTM F1554, GRADE 36

SHOP AND FIELD FASTENERS SHALL BE ASTM A325 HIGH STRENGTH BOLTS IN BEARING TYPE CONNECTIONS, UNLESS NOTED OTHERWISE.

NATURAL CAMBER OF STEEL BEAMS TO BE FABRICATED WITH CAMBER "UP". ANY ADDITIONAL CAMBER TO BE FABRICATED WITH CAMBER "UP". ERECTION OF ALL BEAMS TO BE CAMBER "UP".

PROVIDE ARCHITECTURALLY EXPOSED STRUCTURAL STEEL (AESS) AT THE STEEL EXPOSED TO PUBLIC VIEW, INCLUDING STEEL ROOF TRUSSES, CANOPY FRAMING, AND COLUMNS WHERE VISIBLE. SEE S4.10 FOR ADDITIONAL REQUIREMENTS.

HOLES SHALL NOT BE CUT THROUGH BEAMS AND COLUMNS UNLESS INDICATED OR APPROVED BY THE STRUCTURAL ENGINEER.

WELDING SHALL BE DONE ONLY BY AWS CERTIFIED WELDERS. WELD IN ACCORDANCE WITH THE AWS "STANDARD CODE" FOR ARC AND GAS WELDING IN BUILDING CONSTRUCTION. USE E70XX ELECTRODES.

STRUCTURAL STEEL SURFACES CAST INTO CONCRETE AND MASONRY AND STEEL TO RECEIVE FIREPROOFING SHALL BE UNPAINTED.

PROVIDE ADEQUATE BRACING AND GUY-WIRING FOR STEEL MEMBERS DURING STEEL ERECTION PRIOR TO FLOOR AND ROOF CONSTRUCTION. THE STEEL FRAME SHALL BE PLUMB WITHIN THE TOLERANCES IN THE AISC AND PROJECT SPECIFICATIONS. STEEL COLUMNS HAVE BEEN NOT BEEN DESIGNED AS SELF SUPPORTING, AND MUST BE ADEQUATELY BRACED DURING ERECTION.

MASONRY SUPPORTED BY STEEL MEMBERS SHALL NOT BE PLACED UNTIL PERMANENT ANCHORAGE AND BRACING SYSTEMS HAVE BEEN INSTALLED AND UNTIL THE CONCRETE ON THE FLOOR DECKS HAS ATTAINED ITS DESIGN STRENGTH.

THE FABRICATOR IS RESPONSIBLE FOR THE SELECTION, DESIGN AND DETAILING OF ALL CONNECTIONS NOT FULLY DETAILED ON THE CONTRACT DOCUMENTS. TYPICAL CONNECTION DETAILS ARE INDICATED ON THE DRAWINGS FOR DESIGN INTENT ONLY. THE FABRICATOR SHALL HAVE A REGISTERED PROFESSIONAL ENGINEER PREPARE THE CONNECTION DESIGNS, AND THE DESIGNS SHALL BE SUBMITTED FOR REVIEW WITH THE SHOP DRAWINGS.

G.C. OPTION AT COLUMN BASE PLATES-LEVELLING NUTS MAY BE USED IN LIEU OF LEVELLING PLATES SHOWN. USE 1" GROUT WITH LEVELING NUTS.

SEE THE "CONTRACTOR RESPONSIBILITES" AND "SUBMITTAL" NOTES FOR ADDITIONAL STEEL SHOP DRAWING REQUIREMENTS.

STRUCTURAL STEEL EXPOSED TO WEATHER

ALL EXPOSED STEEL SHALL BE HOT DIPPED GALVANIZED PER ASTM A123 AFTER FABRICATION. APPLY ZINC PRIMER TO BOLTED AND WELDED CONNECTIONS IN THE FIELD.

STEEL JOISTS

OPEN WEB STEEL JOISTS SHALL BE DESIGNED, FABRICATED AND ERECTED IN ACCORDANCE WITH THE SPECIFICATIONS OF THE STEEL JOIST INSTITUTE. ALL JOISTS SHALL BE ANCHORED TO STEEL BEAMS AND BEARING PLATES WITH A MINIMUM 1/8" FILLET WELD 2" LONG ON EACH SIDE OF THE JOIST.

ROOF JOISTS TO BE DESIGNED FOR A NET UPLIFT LOAD AS CALCULATED FROM THE COMPONENTS AND CLADDING CHARTS.

HORIZONTAL OR DIAGONAL BRIDGING SHALL BE USED IN COMPLIANCE WITH REQUIREMENTS OF THE STEEL JOIST INSTITUTE. BRIDGING ANGLE SIZES SHALL BE AS RECOMMENDED BY SJI, FOR THE SPACINGS INDICATED. THE CONTRACTOR SHALL COORDINATE BRIDGING LOCATIONS WITH MECHANICAL DUCTWORK AND MECHANICAL UNIT LOCATIONS. ANCHOR BRIDGING TO MASONRY WALLS AS SHOWN ON THE DRAWINGS AND PER THE STEEL JOIST MANUFACTURER. COORDINATE BRIDGING ATTACHMENT WITH INSTALLATION OF DECK SUPPORT ANGLES.

STRUCTURAL DRAWINGS ARE NOT INTENDED TO STAND ALONE, BUT WORK IN CONJUCTION WITH THE ARCHITECTURAL DRAWINGS. JOIST MANUFACTURER TO COORDINATE WITH BOTH THE ARCHITECTURAL AND STRUCTURAL DRAWINGS FOR DIMENSIONS, DETAILING, EDGE OF JOIST LOCATIONS, TOP CHORD EXTENSIONS, ETC. JOIST LOCATIONS ARE TO BE COORDINATED BY THE G.C. WITH DUCTWORK, CURTAIN WALL LOCATIONS, EXHAUST FANS AND OTHER ROOF PENETRATIONS, ROOF TOP UNITS, ETC. ADJUST JOIST LOCATIONS AS REQUIRED WITHIN THE MAXIMUM SPACING LIMITS PROVIDED. JOISTS ARE NOT TO BEAR ACROSS WALL CONTROL JOINTS. ADJUST JOIST LOCATIONS AS REQUIRED SO AS NOT TO STRADDLE THE JOINT WITH THE JOIST BEARING PLATE. THE CENTERLINE OF JOIST IS TO BE A MINIMUM OF 6" FROM THE CENTERLINE OF THE CONTROL JOINT. PROVIDE ADDITIONAL JOISTS AS REQUIRED TO COORDINATE WITH OTHER TRADES WHILE MAINTAINING MAXIMUM SPACINGS NOTED ON PLANS.

JOISTS INDICATED ON PLANS TO BE DESIGNED BY THE JOIST MANUFACTURER ARE TO BE SUBMITTED WITH CALCULATIONS, STAMPED AND SIGNED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE WHERE THE PROJECT IS LOCATED. JOIST MANUFACTURER IS RESPONSIBLE FOR COORDINATING SNOW BUILD UP LOADS, BASKETBALL BACKSTOP LOADS, MECHANICAL EQUIPMENT LOADS, AND ANY OTHER CONCENTRATED LOADS IDENTIFIED IN THE CONSTRUCTION DOCUMENTS. G.C. IS TO COORDINATE MAGNITUDE OF LOADS AND LOCATIONS WITH RESPECTIVE SUBCONTRACTORS AND MANUFACTURERS AND PROVIDE TO THE JOIST MANUFACTURER FOR USE IN DESIGN.

INDIVIDUAL PIPE HANGERS FOR PIPING SUPPORT ARE PERMITTED ON NEW OR EXISTING JOISTS AS FOLLOWS:

1. NO MORE THAN 300 POUNDS TO BE SUPPORTED ON ANY INDIVIDUAL JOIST. MULTIPLE HANGERS MAY BE LOCATED ON ONE JOIST AS LONG AS THE COMBINED SUPPORTED WEIGHT OF THOSE HANGERS DOES NOT EXCEED 300 POUNDS.
2. ADDITIONAL JOIST REINFORCING IS TO BE USED IF HANGER LOCATION IS FURTHER THAN 3" FROM THE JOIST PANEL POINT.

STEEL ROOF DECK

THE ROOF DECK SHALL BE IN ACCORDANCE WITH SPECIFICATIONS AND CODE OF RECOMMENDED STANDARD PRACTICE OF THE STEEL DECK INSTITUTE. SUBMIT SHOP DRAWINGS INDICATING THE ROOF DECK SECTION PROPERTIES MEET OR EXCEED THE FOLLOWING MINIMUM SPECIFICATIONS:

3-1/2" DEEP ACOUSTIC, 20 GAGE, Sp = 0.66 IN**3/FT.
Ip = 1.75 IN**4/FT., YIELD STRENGTH = 40,000 PSI (GALVANIZED) - DOVETAIL

CONNECT THE STEEL ROOF DECK TO THE SUPPORTS WITH MINIMUM 3/4" DIAMETER PUDDLE WELDS AT 36/4 PATTERN. SIDELAPS SHALL BE FASTENED WITH #12 SELF DRILLING SCREWS OR 1.5" FILLET WELDS AT 36" O.C

1-1/2" DEEP, 20 GAGE Sp = 0.227 IN**3/FT.
Ip = 0.205 IN**4/FT., YIELD STRENGTH = 33,000 PSI (GALVANIZED) - WIDE RIB B DECK

CONNECT THE STEEL ROOF DECK TO THE SUPPORTS WITH MINIMUM 3/4" DIAMETER PUDDLE WELDS AT 24/3 PATTERN. SIDELAPS SHALL BE FASTENED WITH #12 SELF DRILLING SCREWS OR 1.5" FILLET WELDS AT 36" O.C.

REFER TO THE ARCHITECTURAL, MECHANICAL, PLUMBING, AND ELECTRICAL DRAWINGS FOR SIZES AND LOCATIONS OF ALL ROOF OPENINGS.

STRUCTURAL DRAWINGS ARE NOT INTENDED TO STAND ALONE, BUT WORK IN CONJUCTION WITH THE ARCHITECTURAL DRAWINGS. DECK MANUFACTURER TO COORDINATE WITH BOTH THE ARCHITECTURAL AND STRUCTURAL DRAWINGS FOR DIMENSIONS, DETAILING, EDGE OF DECK LOCATIONS, ETC.

NO PIPING, CONDUIT, LIGHT FIXTURES, OR MECHANICAL DUCTWORK IS TO BE SUPPORTED FROM THE METAL ROOF DECK.

CONCRETE SLABS ON PERMANENT STEEL FORM

5 Addendum

THE FLOOR SLABS ON PERMANENT STEEL FORM SHALL BE 3" IN OVERALL DEPTH AND REINFORCED WITH 6X6-W2.1XW2.1 WELDED WIRE REINFORCING. SUBMIT SHOP DRAWINGS INDICATING THE FORM DECK SECTION PROPERTIES MEET OR EXCEED THE FOLLOWING MINIMUM SPECIFICATIONS:

9/16" DEEP, 26 GAGE, Sp = 0.043 IN**3/FT.
Ip = 0.015 IN**4/FT., YIELD STRENGTH = 60,000 PSI. (GALVANIZED)

CONNECT THE STEEL FLOOR DECK TO THE SUPPORTS AS NOTED IN PROJECT SPECIFICATIONS.

REFER TO THE ARCHITECTURAL, MECHANICAL, PLUMBING AND ELECTRICAL DRAWINGS FOR SIZES AND LOCATIONS OF ALL FLOOR SLAB OPENINGS. NO PIPING, CONDUIT, LIGHT FIXTURES, OR MECHANICAL DUCTWORK IS TO BE SUPPORTED FROM THE METAL FLOOR DECK.

GROUPS OF FLOOR PENETRATIONS IN THE SLAB, CREATED BY CORE DRILLING FOR UTILITIES, MUST BE CONSIDERED A FLOOR OPENING AND REINFORCED WITH ANGLE FRAMES PER THE TYPICAL DETAILS. THE FOLLOWING GUIDELINES SHOULD BE USED IN DETERMINING IF A GROUPING OF CORE DRILLED PENETRATIONS CONSTITUTES A FLOOR OPENING.

1. IF THERE IS LESS THAN 4" BETWEEN ADJACENT PENETRATIONS, AND THERE ARE FOUR OR MORE PENETRATIONS.
2. IF ANY GROUPING OF PENETRATIONS ENCOMPASSES AN AREA GREATER THAN 12" SQUARE, IN ANY DIRECTION, AND THERE IS NOT AT LEAST FOUR INCHES BETWEEN ADJACENT PENETRATIONS.

COLD FORMED METAL FRAMING (CFMF)

THE SUGGESTED COLD FORMED METAL FRAMING SHOWN ON THE ARCHITECTURAL AND STRUCTURAL DRAWINGS IS TO BE USED AS A GUIDELINE ONLY BY THE CFMF CONTRACTOR. BEFORE PROCEEDING WITH WORK, THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS AND DESIGN CALCULATIONS, STAMPED AND SIGNED BY A PROFESSIONAL ENGINEER, IN ACCORDANCE WITH THE "CONTRACTOR RESPONSIBILITIES" AND "SUBMITTAL" NOTES ABOVE AND THE REQUIREMENTS NOTED BELOW. SHOP DRAWINGS ARE TO INCLUDE ERECTION PLANS AND DETAILS, INCLUDING MEMBER SIZES, SPACING, BRIDGING, CONNECTION DETAILS, FASTENER REQUIREMENTS, AND ALL OTHER INFORMATION RELEVANT TO THE CONSTRUCTION OF THE COLD FORMED METAL FRAMING.

THE DESIGN, FABRICATION AND ERECTION OF ALL COLD FORMED METAL FRAMING SHALL CONFORM TO THE LATEST EDITION OF THE FOLLOWING STANDARD SPECIFICATIONS:

THE AMERICAN IRON AND STEEL INSTITUTE: "LIGHT GAGE COLD-FORMED STEEL DESIGN MANUAL".

ALL COLD FORMED METAL FRAMING SHALL CONFORM TO ASTM C955.

ALL COLD FORMED METAL FRAMING SUBJECT TO WIND LOADING (INCLUDING ROOF RAFTER OR ROOF TRUSS MEMBERS) SHALL BE DESIGNED IN COMPLIANCE WITH THE COMPONENTS AND CLADDING SECTION OF THE BUILDING CODE.

ALL COLD FORMED MEMBERS SHALL BE GALVANIZED PER ASTM A1003 WITH A MINIMUM G60 COATING.

THE MAXIMUM COLD FORMED MEMBER SPAN/DEFLECTION RATIO SHALL BE AS FOLLOWS:

WIND LOADS	BRICK VENEER	L/600
	CEMENT BOARD	L/360

WALL FRAMING IS TO BE MINIMUM 20 GAGE (33 MILS) AT A MAXIMUM SPACING OF 24" ON CENTER. WALL FRAMING AT BRICK VENEER IS TO BE MINIMUM 18 GAGE (43 MILS). MAXIMUM STUD SPACING AT BRICK VENEER IS TO BE 16" ON CENTER. WHERE HIGHER MINIMUM GAGES ARE SPECIFIED ON THE DRAWINGS, REDUCTION IN GAGE WILL NOT BE CONSIDERED.

THE COLD FORMED METAL FRAMING FABRICATOR SHALL FURNISH ALL COLD FORMED METAL FRAMING, BRIDGING, BRACING, ANCHORS, CONNECTORS, SHIMS, WELDING AND ATTACHMENTS.

SYMBOL LEGEND

BRICK
LVL
CONCRETE
PRECAST
CONCRETE MASONRY UNIT
RIGID INSULATION
CONCRETE MASONRY UNIT (GROUTED)
STEEL
EARTH
WOOD
EXISTING STRUCTURE
COMPOSITE FLOOR
POROUS FILL
NON-COMPOSITE FLOOR
GROUT
ROOF DECK
GLULAM

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REVISIONS

NO	MM-DD-YR	NAME	DESCRIPTION OF CHANGES
5	09-10-20	5	Addendum 5

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PROPOSED NEW
WASHINGTON COUNTY PUBLIC SAFETY TRAINING CENTER
WASHINGTON COUNTY PROJECT NO. 28-266
18350 PUBLIC SAFETY PLACE
HAGERSTOWN, MD 21740

STRUCTURAL NOTES

PLOT SCALE: As indicated
FILENAME:
DATE: December 18, 2019

PROJECT 3089

S0.02

CONCRETE TENSION LAP SPLICE LENGTH SCHEDULE

BAR SIZE	f'c=3,000 PSI				f'c=3,500 PSI				f'c=4,000 PSI				f'c=4,500 PSI			
	TOP BARS		OTHER BARS		TOP BARS		OTHER BARS		TOP BARS		OTHER BARS		TOP BARS		OTHER BARS	
	CASE 1	CASE 2	CASE 1	CASE 2	CASE 1	CASE 2	CASE 1	CASE 2	CASE 1	CASE 2	CASE 1	CASE 2	CASE 1	CASE 2	CASE 1	CASE 2
#3	1'-5"	1'-11"	1'-4"	1'-6"	1'-4"	1'-10"	1'-4"	1'-5"	1'-4"	1'-8"	1'-4"	1'-4"	1'-4"	1'-7"	1'-4"	1'-4"
#4	1'-11"	3'-2"	1'-6"	2'-5"	1'-9"	2'-11"	1'-4"	2'-3"	1'-8"	2'-9"	1'-4"	2'-1"	1'-7"	2'-7"	1'-4"	2'-0"
#5	2'-4"	4'-6"	1'-10"	3'-6'	2'-2"	4'-2"	1'-8"	3'-3"	2'-1"	3'-11"	1'-7"	3'-0"	1'-11"	3'-8"	1'-6"	2'-10"
#6	2'-10"	6'-0"	2'-2"	4'-7"	2'-7"	5'-7"	2'-0"	4'-3"	2'-5"	5'-2"	1'-11"	4'-0"	2'-4"	4'-11"	1'-9"	3'-9"

NOTES:
1. LAP SPLICE INFORMATION APPLIES TO BEAM, COLUMN, SLAB AND WALL REINFORCING BARS.
2. TOP BARS ARE HORIZONTAL BARS WITH MORE THAN 12 INCHES OF CONCRETE CAST BELOW THE BARS.
3. CASE 1&2, DEPENDS ON THE CONCRETE COVER, AND CLEAR SPACING OF BARS AS DEFINED BELOW:
   CASE 1 : COVER AT LEAST 1 1/2" AND CLEAR SPACING AT LEAST 3".
   CASE 2 : ALL OTHER CASES.
4. FOR LIGHTWEIGHT AGGREGATE, MULTIPLY ABOVE VALUES BY 1.3.
5. FOR EPOXY BARS, MULTIPLY ABOVE VALUES BY: 1.5 FOR OTHER BARS, 1.31 FOR "TOP BARS".
6. THIS SCHEDULE APPLIES TO 60ksi REINFORCING BARS. FOR 75ksi REINFORCING BARS, MULTIPLY ABOVE VALUES BY 1.25.
7. FOR BAR DEVELOPMENT LENGTHS, DIVIDE ABOVE VALUE BY 1.3.

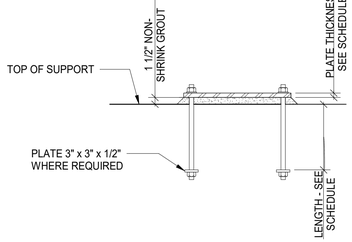
CMU WALL LAP SPLICE SCHEDULE

LONGITUDINAL BAR SIZE	MINIMUM LAP SPLICE LENGTH, in. FOR:			
	6-in. CMU	8-in. CMU	10-in. CMU	12-in. CMU
NO. 3	12	12	12	12
NO. 4	20	15	12	12
NO. 5	32	23	18	15
NO. 6	-	43	34	28

NOTES:
1. VALUES ARE BASED ON GRADE 60 REINFORCEMENT.

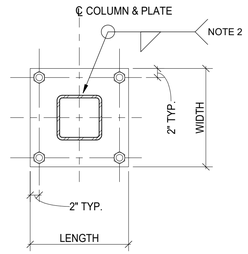
COLUMN SCHEDULE

MARK	COLUMN SIZE	BASE PLATE SIZE	ANCHOR RODS
C1	HSS8x8x3/8	18"x18"x1-1/2"	(4) 1" DIA.
C2	HSS6x6x3/16	14"x14"x1"	(4) 1" DIA.
C3	HSS6x6x1/2	14"x14"x1"	(4) 1" DIA.
C4	HSS6x6x1/4	14"x14"x1"	(4) 1" DIA.



NOTES:
1) SEE SCHEDULE FOR PLATE DIMENSIONS AND ANCHOR ROD SIZE.
2) LEVELING PLATE MAY BE USED AT CONTRACTORS OPTION WITH ENGINEERS APPROVAL.
3) HEAVY WASHERS OR PLATES REQUIRED AT ALL OVERSIZED HOLES. AT TYPE 'B' BASE PLATES, WELD WASHERS TO BASE PLATES AS REQUIRED TO DEVELOP ANCHOR RODS IN SHEAR.

1 / S0.03 BASE PLATE SETTING DETAIL
SCALE: NTS



NOTES:
1) SEE SCHEDULE FOR PLATE DIMENSIONS AND ANCHOR ROD SIZES.
2) PROVIDE MINIMUM FILLET WELD SIZE PER AISC SPECIFICATION.

2 / S0.03 GRAVITY COLUMN BASE PLATE DETAILS
SCALE: NTS

FOOTING SCHEDULE

MARK	FOOTING SIZE			BOTTOM REINF.	REMARKS
	WIDTH	LENGTH	DEPTH	E.W. - U.N.O.	
F3.0	3'-0"	3'-0"	12"	(4) #4	
F4.0	4'-0"	4'-0"	12"	(5) #4	
F5.0	5'-0"	5'-0"	12"	(7) #4	
F6.0	6'-0"	6'-0"	14"	(7) #5	
F7.0	7'-0"	7'-0"	18"	(6) #6	

PIER SCHEDULE

MARK	PIER SIZE		VERT. REINF.	TIES	T.O. PIER ELEV. (U.N.O.)	REMARKS
	WIDTH	LENGTH				
P1	22"	22"	(12) #6	#3 @10" O.C.	-0'-8"	

7/1/2020

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REVISIONS

#	MM-DD-YR	NAME	DESCRIPTION OF CHANGES

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SCHEDULES AND COLUMN DETAILS

PLOT SCALE: As indicated
FILENAME:
DATE: December 18, 2019

PROJECT 3089

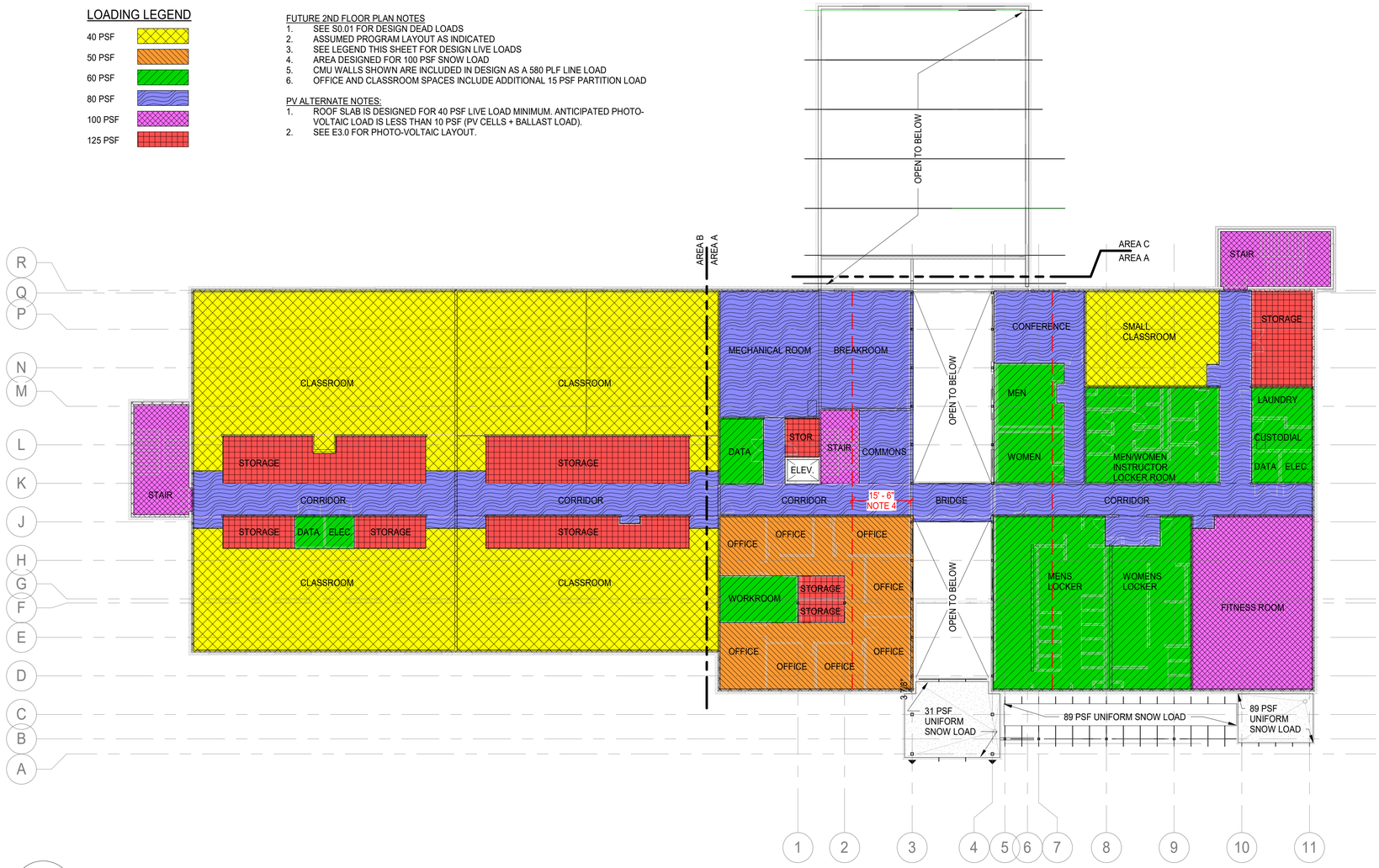
S0.03

LOADING LEGEND

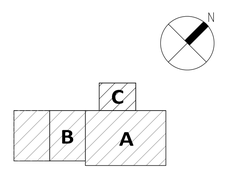
40 PSF	
50 PSF	
60 PSF	
80 PSF	
100 PSF	
125 PSF	

FUTURE 2ND FLOOR PLAN NOTES
1. SEE S0.01 FOR DESIGN DEAD LOADS
2. ASSUMED PROGRAM LAYOUT AS INDICATED
3. SEE LEGEND THIS SHEET FOR DESIGN LIVE LOADS
4. AREA DESIGNED FOR 100 PSF SNOW LOAD
5. CMU WALLS SHOWN ARE INCLUDED IN DESIGN AS A 580 PLF LINE LOAD
6. OFFICE AND CLASSROOM SPACES INCLUDE ADDITIONAL 15 PSF PARTITION LOAD

PV ALTERNATE NOTES:
1. ROOF SLAB IS DESIGNED FOR 40 PSF LIVE LOAD MINIMUM. ANTICIPATED PHOTO-VOLTAIC LOAD IS LESS THAN 10 PSF (PV CELLS + BALLAST LOAD).
2. SEE E3.0 FOR PHOTO-VOLTAIC LAYOUT.



1 / S0.04 FUTURE 2ND FLOOR LOADING DIAGRAM
SCALE: 1/16" = 1'-0"



KEY PLAN

7/1/2020

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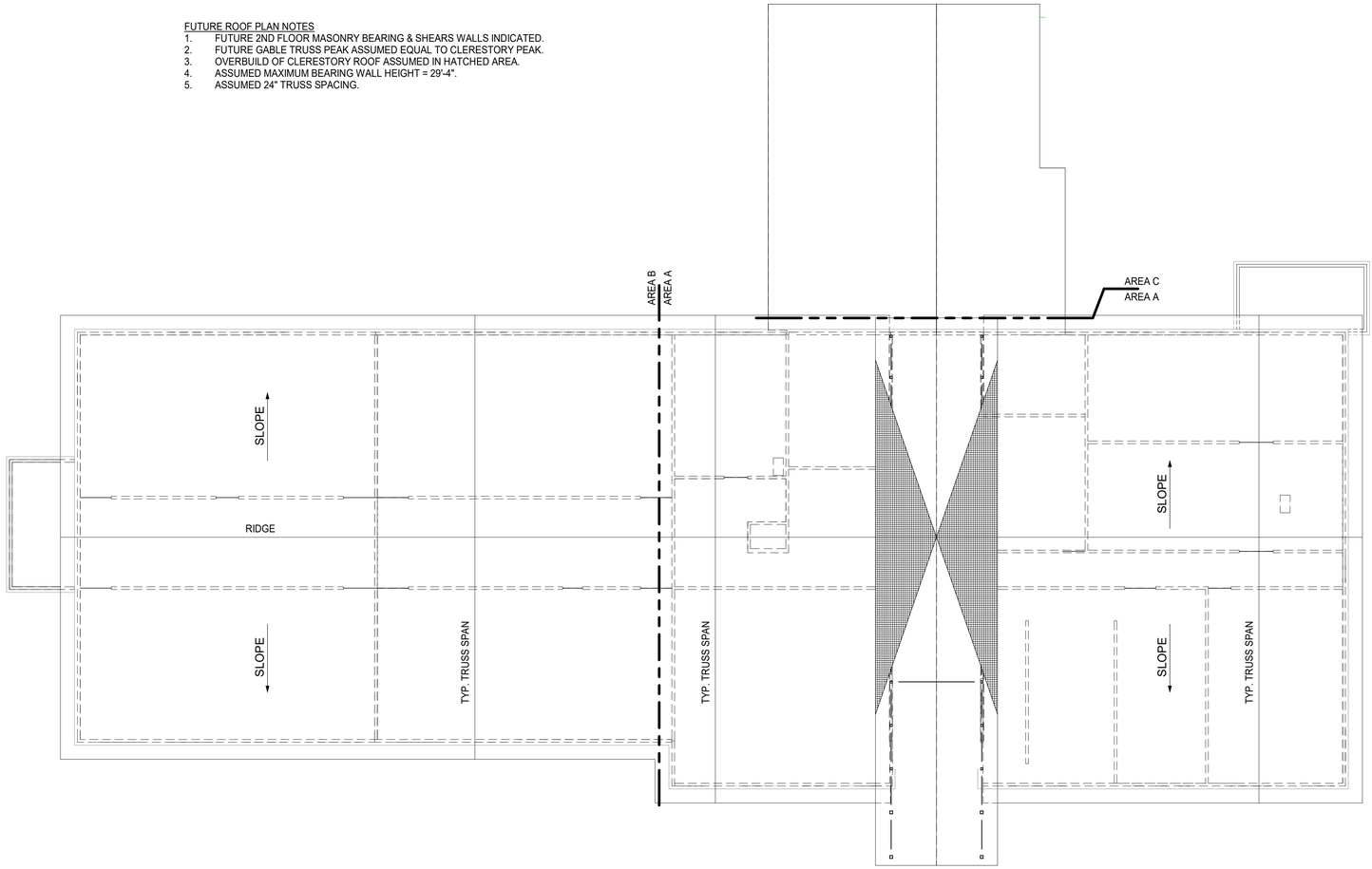
ADTEK PROJECT #: 1713.0001

FUTURE 2ND FLOOR LOADING DIAGRAM
PLOT SCALE: 1/16" = 1'-0"
FILENAME:
DATE: December 18, 2019

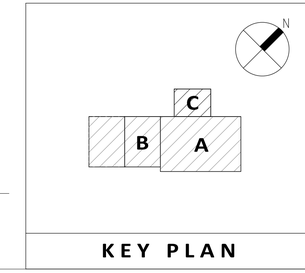
PROJECT 3089

S0.04

FUTURE ROOF PLAN NOTES
1. FUTURE 2ND FLOOR MASONRY BEARING & SHEARS WALLS INDICATED.
2. FUTURE GABLE TRUSS PEAK ASSUMED EQUAL TO CLERESTORY PEAK.
3. OVERBUILD OF CLERESTORY ROOF ASSUMED IN HATCHED AREA.
4. ASSUMED MAXIMUM BEARING WALL HEIGHT = 29'-4".
5. ASSUMED 24" TRUSS SPACING.



1 / S0.05 FUTURE ROOF PLAN
SCALE: 1/16" = 1'-0"



KEY PLAN

STATE OF MARYLAND
ROSE K. RODRIGUEZ
47042
PROFESSIONAL ENGINEER
7/1/2020

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland. License No. 47042 Expiration Date: 07/13/21

REVISIONS

#	MM-DD-YR	NAME	DESCRIPTION OF CHANGES

CRABTREE ROHRBAUGH & ASSOCIATES - ARCHITECTS
100 WEST ROAD, SUITE 402, TOWSON MD 21204 410-528-0272
www.cra-architects.com
MECHANICSBURG, PENNSYLVANIA CHARLOTTESVILLE, VIRGINIA WHITE SULPHUR SPRINGS, WEST VIRGINIA

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WASHINGTON COUNTY PROJECT NO. 28-266
18350 PUBLIC SAFETY PLACE
HAGERSTOWN, MD 21740

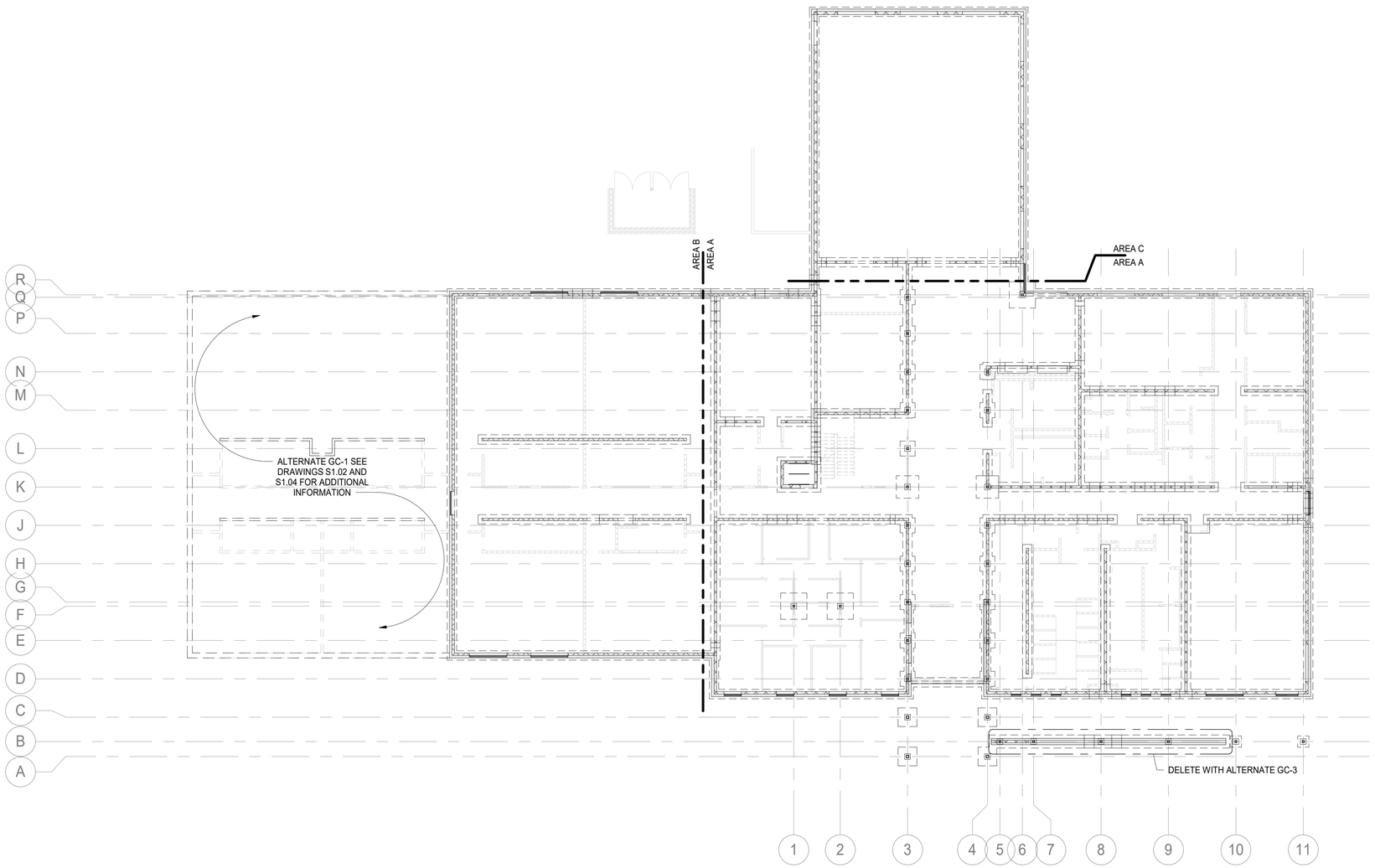
ADTEK
ADTEK ENGINEERS, INC.
150 South East Street
Suite 201
Frederick, Maryland 21701
301-662-4408
Fax: 301-662-7484
ADTEK PROJECT #: 1713.0001

FUTURE ROOF PLAN

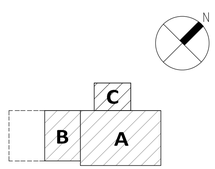
PLOT SCALE: 1/16" = 1'-0"
FILENAME:
DATE: December 18, 2019

PROJECT 3089

S0.05



1 / S1.01 OVERALL FOUNDATION PLAN
SCALE: 1/16" = 1'-0"



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ADTEK PROJECT #: 1713.0001

OVERALL FOUNDATION PLAN

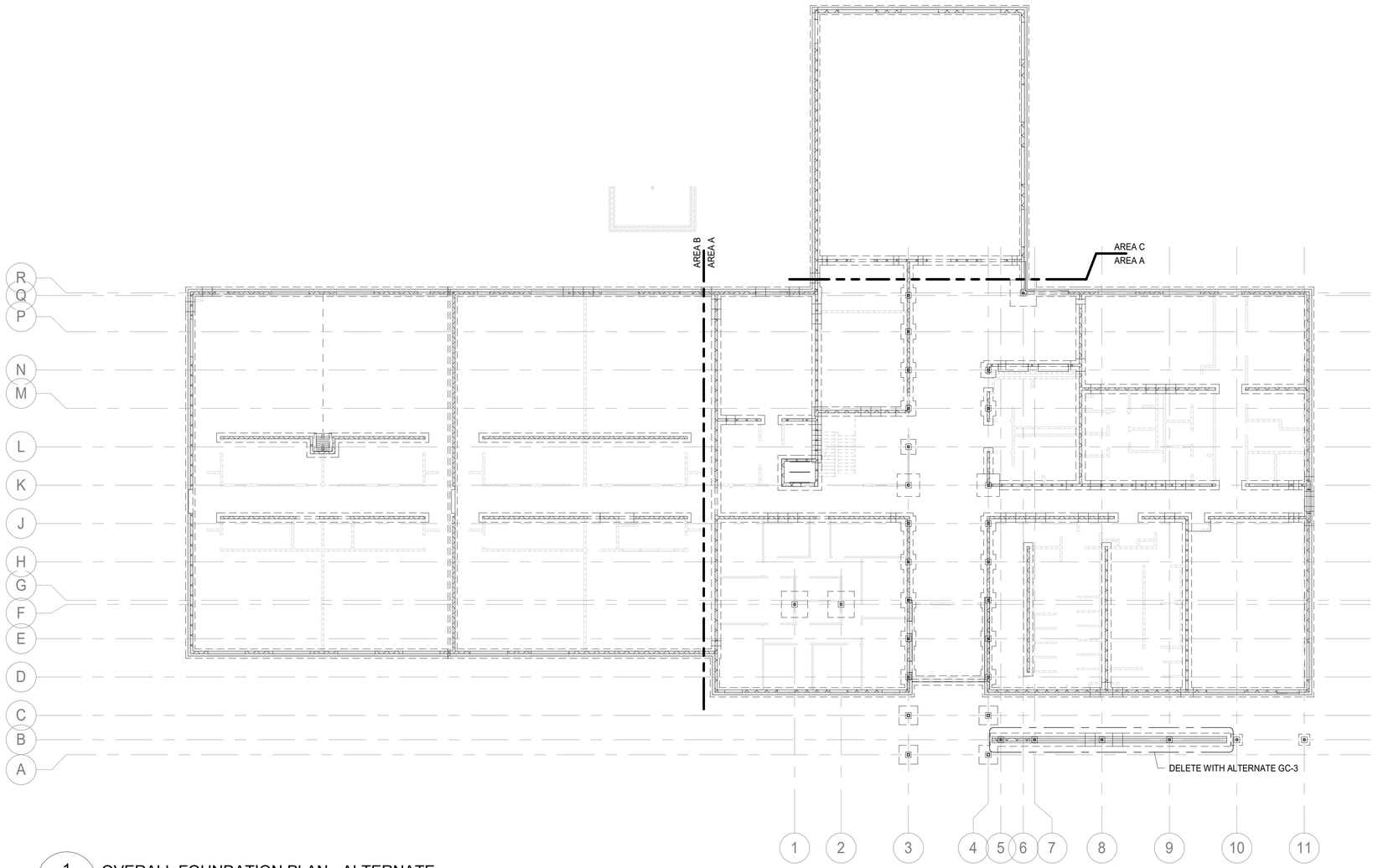
PLOT SCALE: 1/16" = 1'-0"

FILENAME:

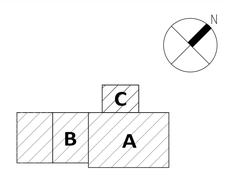
DATE: December 18, 2019

PROJECT 3089

S1.01



1 / S1.02 OVERALL FOUNDATION PLAN - ALTERNATE
SCALE: 1/16" = 1'-0"



KEY PLAN

STATE OF MARYLAND
CHARLES A. RODRIGUEZ
47042
PROFESSIONAL ENGINEER
7/1/2020

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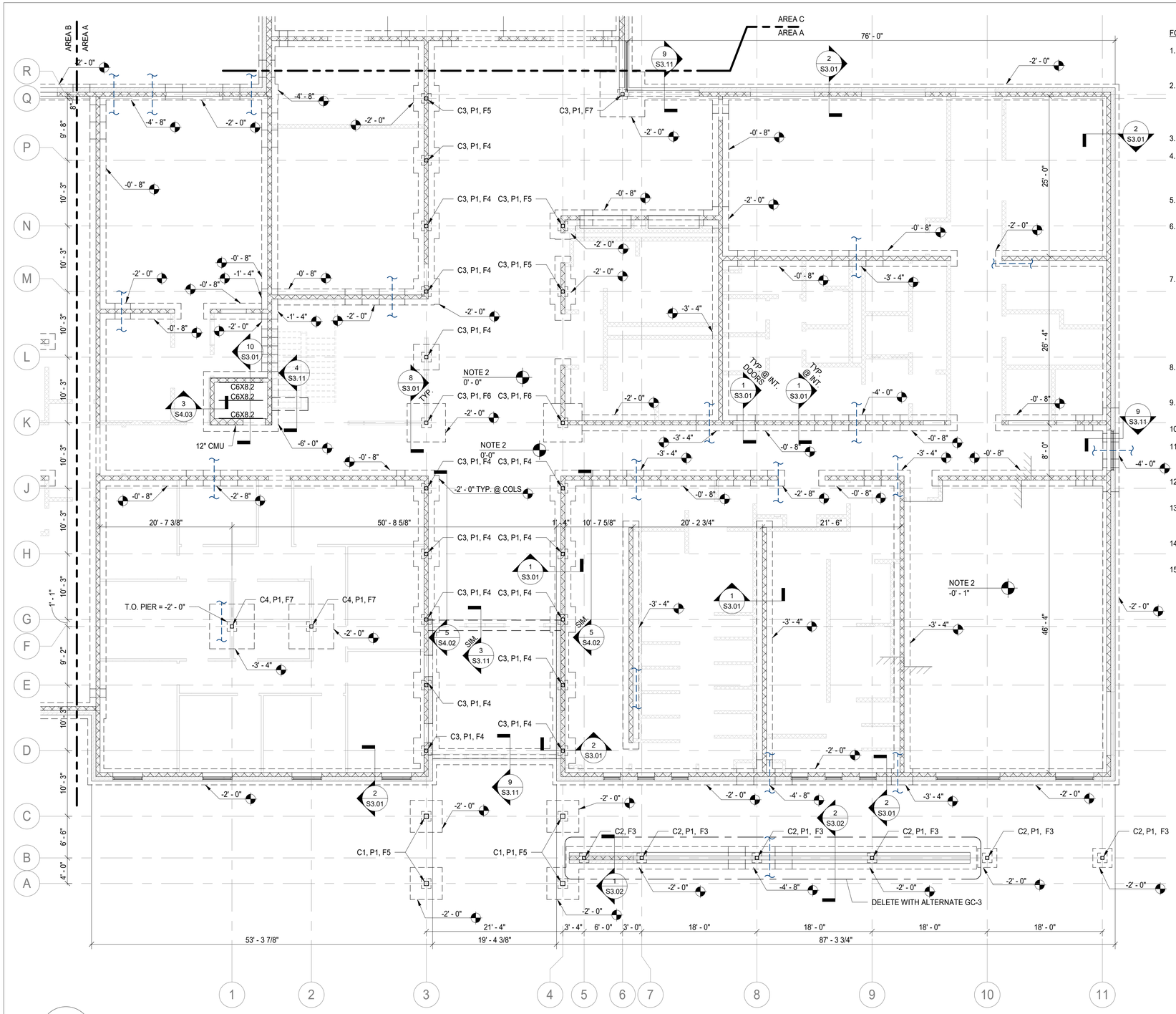
HAGERSTOWN, MD 21740

OVERALL FOUNDATION PLAN - ALTERNATE

PLOT SCALE: 1/16" = 1'-0"
FILENAME:
DATE: December 18, 2019

PROJECT 3089

S1.02



1 S1.03 AREA A - PARTIAL FOUNDATION PLAN
SCALE: 1/8" = 1'-0"

FOUNDATION PLAN NOTES

1. SEE SHEETS S0.01 THRU S0.02 FOR STRUCTURAL NOTES AND SHEETS S3.01 THRU S3.11 FOR TYPICAL DETAILS. THE TYPICAL DETAILS APPLY WHEREVER THE CONDITION EXISTS UNLESS DETAILED OTHERWISE.
2. PROVIDE A 4" CONCRETE SLAB ON GRADE WITH 6x6-W2.0xW2.0 WWR ON CONTINUOUS VAPOR RETARDER OVER 4" OF DRAINAGE FILL. SEE THE PLAN FOR THE TOP OF SLAB ELEVATION. THE TOP OF SLAB ELEVATION IS INDICATED ON THE PLAN THUS: -X'-X". ELEVATION 0'-0" CORRESPONDS TO AN APPROXIMATE ELEVATION OF 487.25'. COORDINATE FINAL ELEVATION WITH SITE/CIVIL DRAWINGS.
3. C.J. INDICATES A CONTROL JOINT IN THE GRADE SLAB. SEE DETAILS 1, 2/S3.11.
4. SEE THE PLAN FOR TOP OF WALL FOOTING AND COLUMN FOOTING ELEVATIONS. THE TOP OF FOOTING ELEVATIONS ARE INDICATED ON PLAN THUS: ◢ X' - X" ◣ REFERENCED FROM ELEVATION 0'-0". FOOTING ELEVATIONS ARE FOR BIDDING ◢◣ PURPOSES ONLY AND MAY HAVE TO BE ADJUSTED BASED ON FIELD CONDITIONS ENCOUNTERED DURING EXCAVATION.
5. TOP OF INTERIOR FOOTINGS SHALL BE 8" BELOW FINISHED FLOOR ELEVATION UNLESS NOTED OTHERWISE.
6. TOP OF EXTERIOR FOOTINGS SHALL BE 2'-0" BELOW FINISHED FLOOR ELEVATION UNLESS NOTED OTHERWISE. BOTTOM OF EXTERIOR FOOTINGS SHALL BE A MINIMUM OF 2'-6" BELOW FINISHED EXTERIOR GRADE. COORDINATE ELEVATIONS WITH THE APPROVED SITE PLAN. USE TOP OF FOOTING VALUE SHOWN OR 2'-6" TO BOTTOM OF FOOTING FROM EXTERIOR GRADE, WHICHEVER IS DEEPER.
7. SEE THE TYPICAL WALL FOOTING AT UTILITIES DETAILS 3-7 ON SHEET S3.01. STEP ALL WALL FOOTINGS AS INDICATED OR REQUIRED BELOW UNDERGROUND UTILITIES. THE CONTRACTOR SHALL VERIFY THE INVERT ELEVATIONS OF ALL UTILITIES WITH THE TOP OF FOOTING ELEVATIONS SHOWN. COORDINATE ALL UTILITY LOCATIONS WITH SITE, PLUMBING, ELECTRICAL, AND MECHANICAL DRAWINGS. THE SYMBOL S- - - - - - - - - S INDICATES A UTILITY CROSSING A FOUNDATION ON THE PLAN. UTILITIES ARE SHOWN AS AN EFFORT TO AID IN THE COORDINATION OF TRADES; IT IS NOT INTENDED TO BE A COMPLETE REPRESENTATION OF ALL UTILITIES. G.C. TO COORDINATE FOOTING STEPS WITH UTILITY CONTRACTOR AND CONCRETE CONTRACTOR PRIOR TO FOOTING POUR.
8. THE TOP OF PIER ELEVATION SHALL BE A MINIMUM OF 8" BELOW THE TOP OF FLOOR SLAB UNLESS NOTED OTHERWISE. PIERS SHALL NOT PROJECT BEYOND THE OUTSIDE FACE OF THE EXTERIOR WALL.
9. THE SYMBOLS C1, P1, AND F4.0 ON THE FOOTING REFER TO DESIGNATIONS IN THE COLUMN, PIER AND FOOTING SCHEDULES LOCATED ON SHEET S0.03.
10. REFER TO THE ARCHITECTURAL DRAWINGS FOR DIMENSIONS NOT SHOWN.
11. SEE THE ARCHITECTURAL DRAWINGS FOR THE SIZE AND LOCATION OF ALL NON-BEARING PARTITIONS. PROVIDE A THICKENED SLAB AT THE MASONRY PARTITIONS PER DETAIL 3/S3.11.
12. CONTRACTOR TO COORDINATE FINAL SLAB ELEVATION WITH ARCHITECTURAL FLOOR AND FINISH REQUIREMENTS. SEE DETAIL 12/S3.11 FOR DEPRESSION REQUIREMENTS.
13. ALL CMU WALLS SHOWN ON THE STRUCTURAL DRAWINGS SHALL BE 8" U.N.O. AND REINFORCED W/ #6 @ 24" O.C. PROVIDE DOWELS TO FOOTING TO MATCH. REBAR SHALL BE CENTERED IN CELL U.N.O. GROUT REINFORCED CELLS SOLID.
14. PROVIDE JAMB REINFORCING PER 8/S5.01 AT ALL MASONRY OPENINGS. JAMB REINFORCING TO BE FULL HEIGHT OF WALL WITH MATCHING DOWELS TO FOOTING.
15. SMP INDICATES A SOLID MASONRY PIER. SEE DETAIL 3/S5.01.

KEY PLAN
N
C
B
A

STATE OF MARYLAND
ROSE ANNE RODGERS
47042
PROFESSIONAL ENGINEER
7/1/2020

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 47042 Expiration Date: 07/13/21

REVISIONS

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150 South East Street
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Frederick, Maryland 21701
301-662-4408
Fax: 301-662-7484
ADTEK PROJECT #: 1713.0001

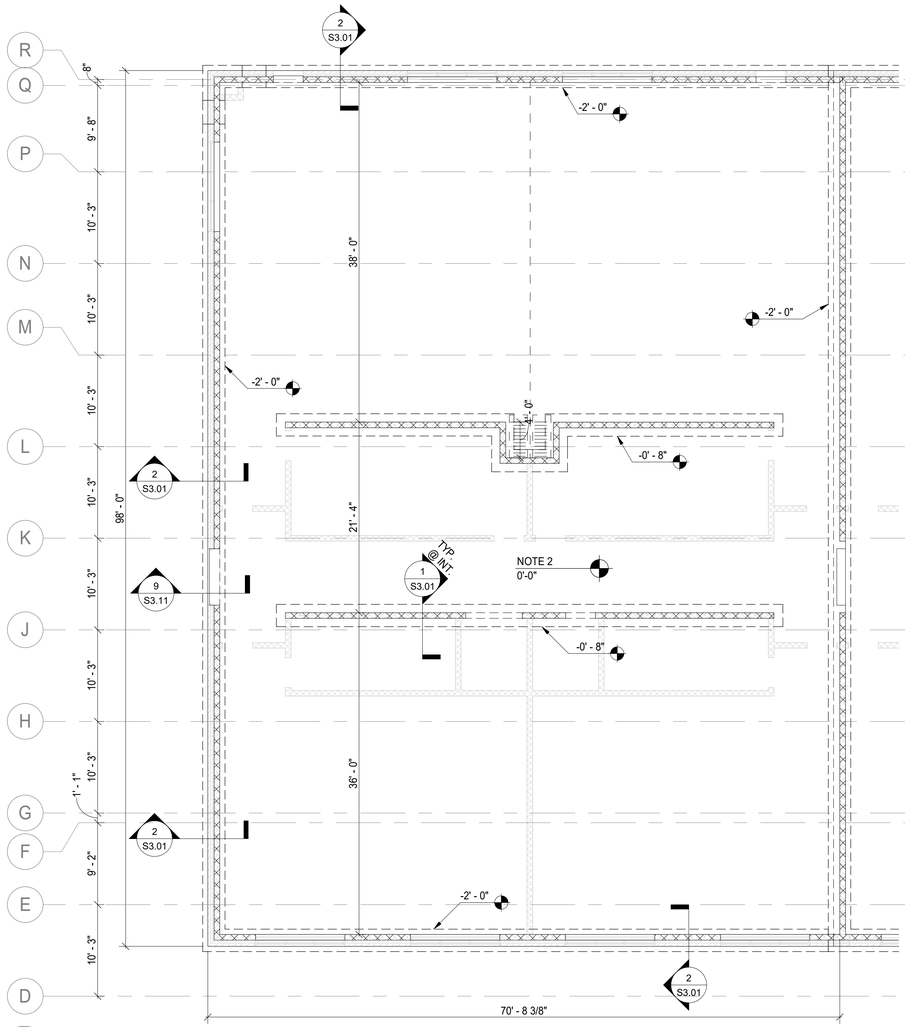
FOUNDATION PLAN - AREA A
PLOT SCALE: 1/8" = 1'-0"
FILENAME:
DATE: December 18, 2019

PROJECT 3089

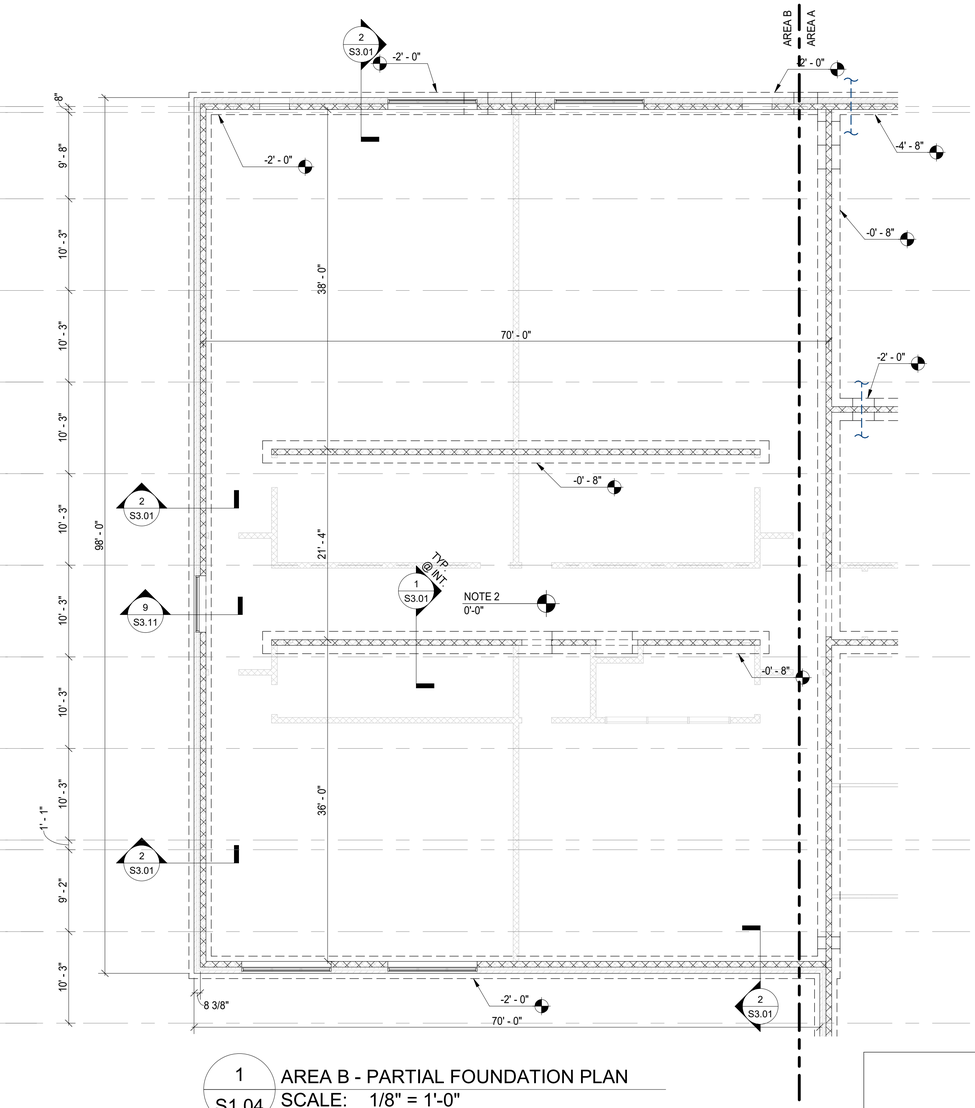
S1.03

FOUNDATION PLAN NOTES:

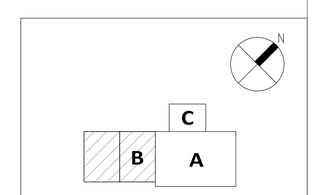
REFER TO SHEET S1.03.



2 S1.04 AREA B - PARTIAL FOUNDATION PLAN - ALTERNATE
SCALE: 1/8" = 1'-0"



1 S1.04 AREA B - PARTIAL FOUNDATION PLAN
SCALE: 1/8" = 1'-0"



KEY PLAN

7/1/2020

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REVISIONS

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Frederick, Maryland 21701
301-662-4408
Fax: 301-662-7484

ADTEK PROJECT #: 1713.0001

FOUNDATION PLAN - AREA B

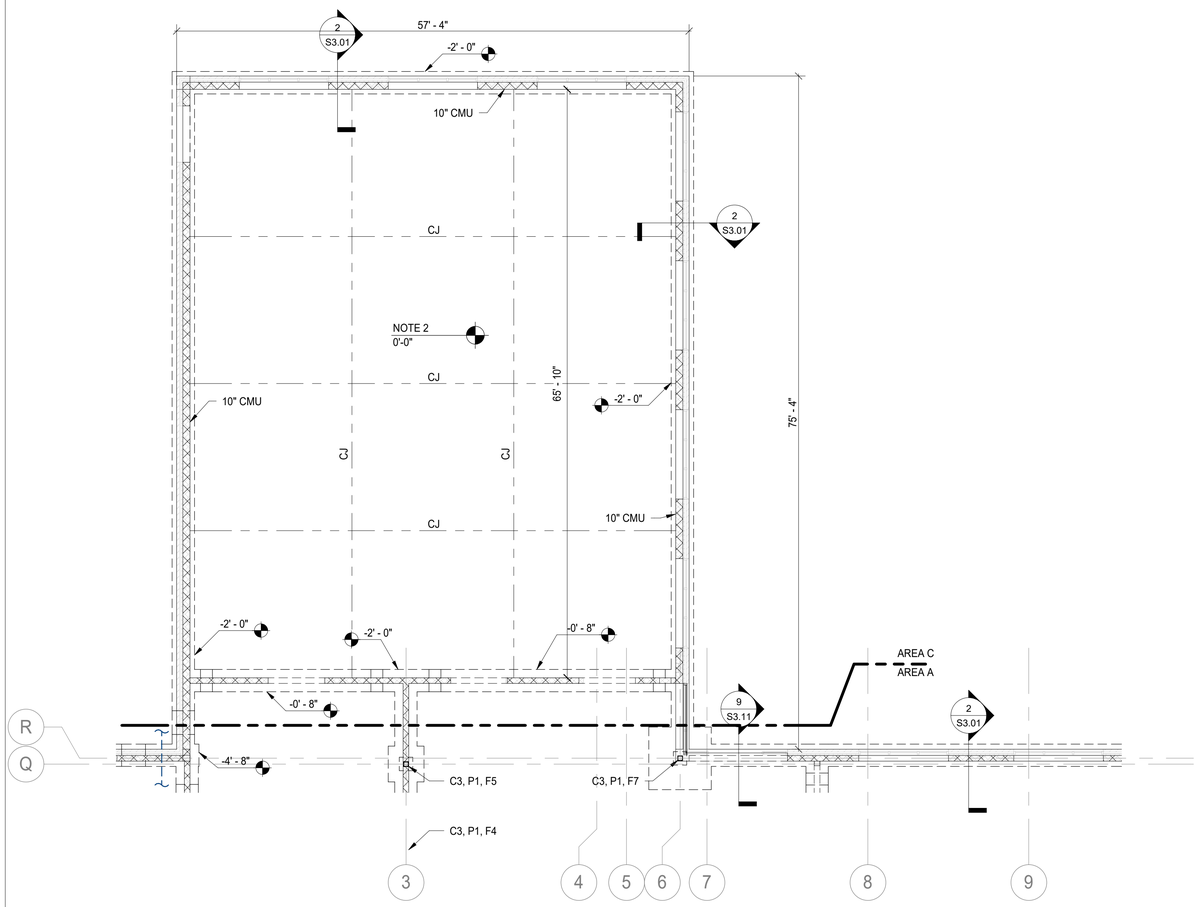
PLOT SCALE: 1/8" = 1'-0"

FILENAME:

DATE: December 18, 2019

PROJECT 3089

S1.04



1 / S1.05 AREA C - PARTIAL FOUNDATION PLAN
SCALE: 1/8" = 1'-0"

FOUNDATION PLAN NOTES

1. SEE SHEETS S0.01 THRU S0.02 FOR STRUCTURAL NOTES AND SHEETS S3.01 THRU S3.11 FOR TYPICAL DETAILS. THE TYPICAL DETAILS APPLY WHEREVER THE CONDITION EXISTS UNLESS DETAILED OTHERWISE.
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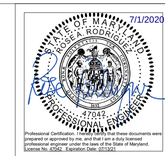
15. SMP INDICATES A SOLID MASONRY PIER. SEE DETAIL 3/S5.01.



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REVISIONS

#	MM-DD-YR	NAME	DESCRIPTION OF CHANGES

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100 WEST ROAD, SUITE 402, TOWSON MD 21204 410-528-0272 www.cra-architects.com
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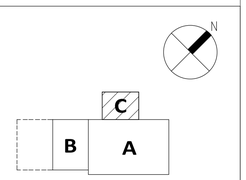
HAGERSTOWN, MD 21740



KEY PLAN

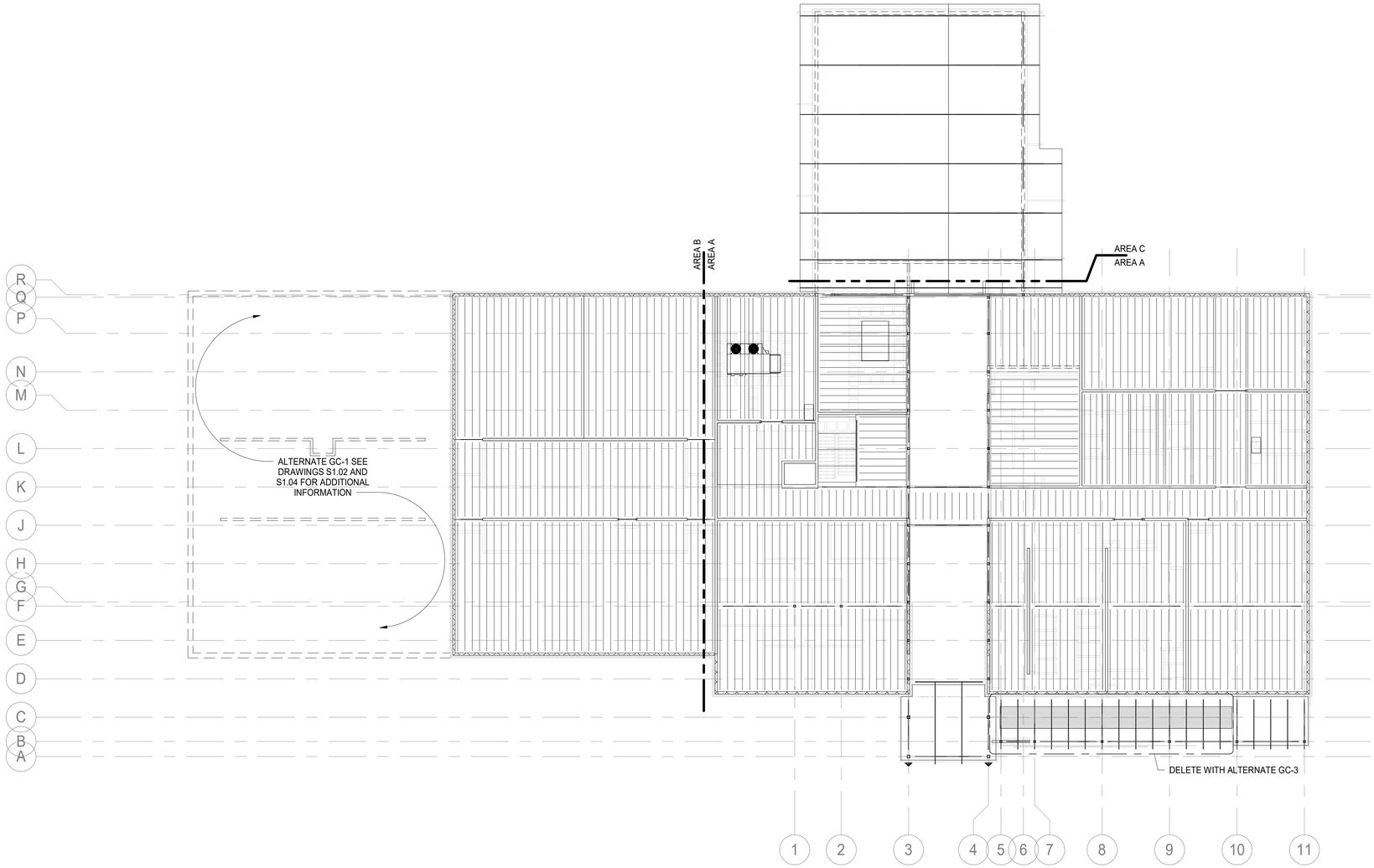
ADTEK
ADTEK ENGINEERS, INC.
150 South East Street
Suite 201
Frederick, Maryland 21701
301-662-4408
Fax: 301-662-7484
ADTEK PROJECT #: 1713.0001

FOUNDATION PLAN - AREA C

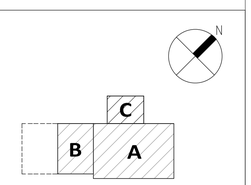
PLOT SCALE: 1/8" = 1'-0"
FILENAME:
DATE: December 18, 2019

PROJECT 3089

S1.05



1 / S1.11 OVERALL ROOF FRAMING PLAN
SCALE: 1/16" = 1'-0"



KEY PLAN

STATE OF MARYLAND
ROSSE G. RODRIGUEZ
47042
PROFESSIONAL ENGINEER
7/1/2020

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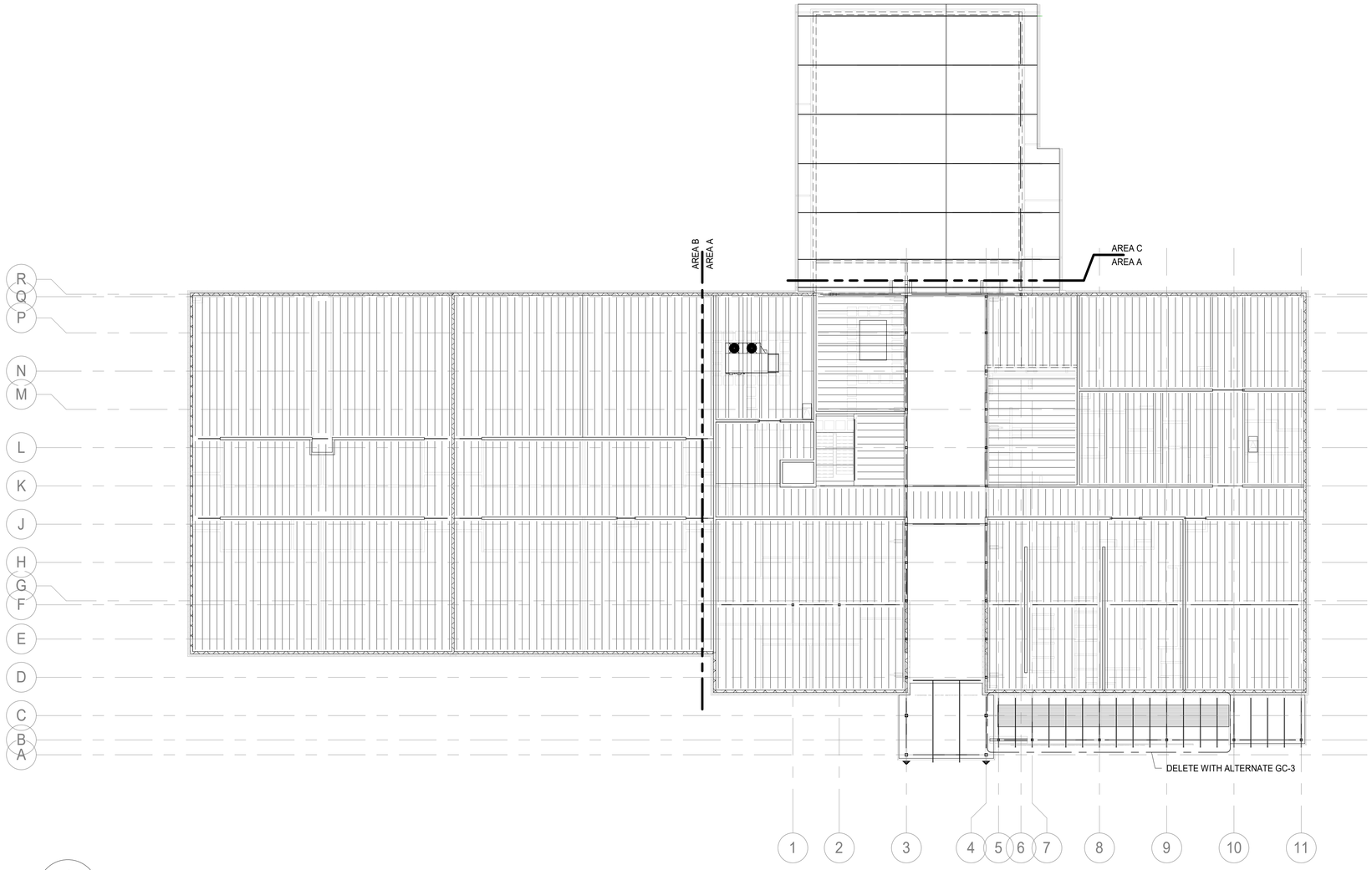
ADTEK PROJECT #: 1713.0001

OVERALL FUT. 2ND FLOOR / ROOF FRAMING PLAN

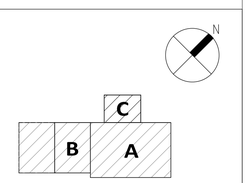
PLOT SCALE: 1/16" = 1'-0"
FILENAME:
DATE: December 18, 2019

PROJECT 3089

S1.11



1 / S1.12 OVERALL ROOF FRAMING PLAN - ALTERNATE
SCALE: 1/16" = 1'-0"



KEY PLAN

STATE OF MARYLAND
ROSE A. RODRIGUEZ
47042
PROFESSIONAL ENGINEER
7/1/2020

Professional Certification. I hereby certify that the plans, specifications, or these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland. License No. 47042 Expiration Date: 07/13/21

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OVERALL FUT. 2ND FLOOR / ROOF FRAMING PLAN - ALTERNATE

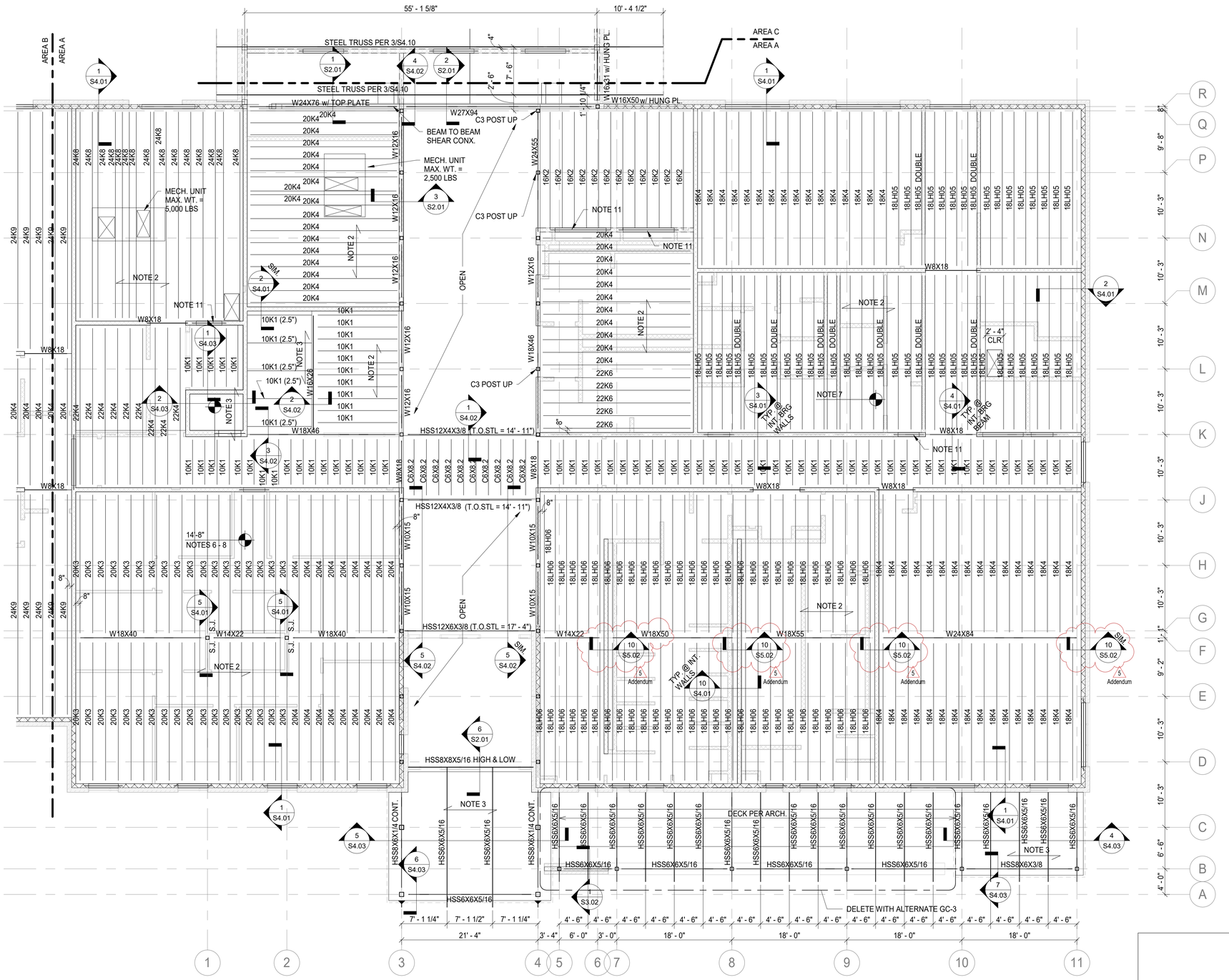
PLOT SCALE: 1/16" = 1'-0"
FILENAME:
DATE: December 18, 2019

PROJECT 3089

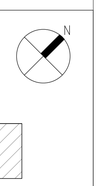
S1.12

FLOOR FRAMING PLAN NOTES:

REFER TO SHEET S1.14.



1 / S1.13 AREA A - PARTIAL ROOF FRAMING PLAN
SCALE: 1/8" = 1'-0"



KEY PLAN

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REVISIONS

	MM-DD-YR	NAME	DESCRIPTION OF CHANGES
5	09-10-20	5	Addendum 5

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100 WEST ROAD, SUITE 402, TOWSON MD 21204 410-528-0272
www.cra-architects.com
MECHANICSBURG, PENNSYLVANIA CHARLOTTESVILLE, VIRGINIA WHITE SULPHUR SPRINGS, WEST VIRGINIA

PROPOSED NEW
WASHINGTON COUNTY PUBLIC SAFETY TRAINING CENTER
WASHINGTON COUNTY PROJECT NO. 28-266
18350 PUBLIC SAFETY PLACE
HAGERSTOWN, MD 21740

ADTEK ENGINEERS, INC.
150 South East Street
Suite 201
Frederick, Maryland 21701
301-662-4408
Fax: 301-662-7484
ADTEK PROJECT #: 1713.0001

FUT. 2ND FLOOR / ROOF FRAMING PLAN - AREA A

PLOT SCALE: 1/8" = 1'-0"
FILENAME:
DATE: December 18, 2019

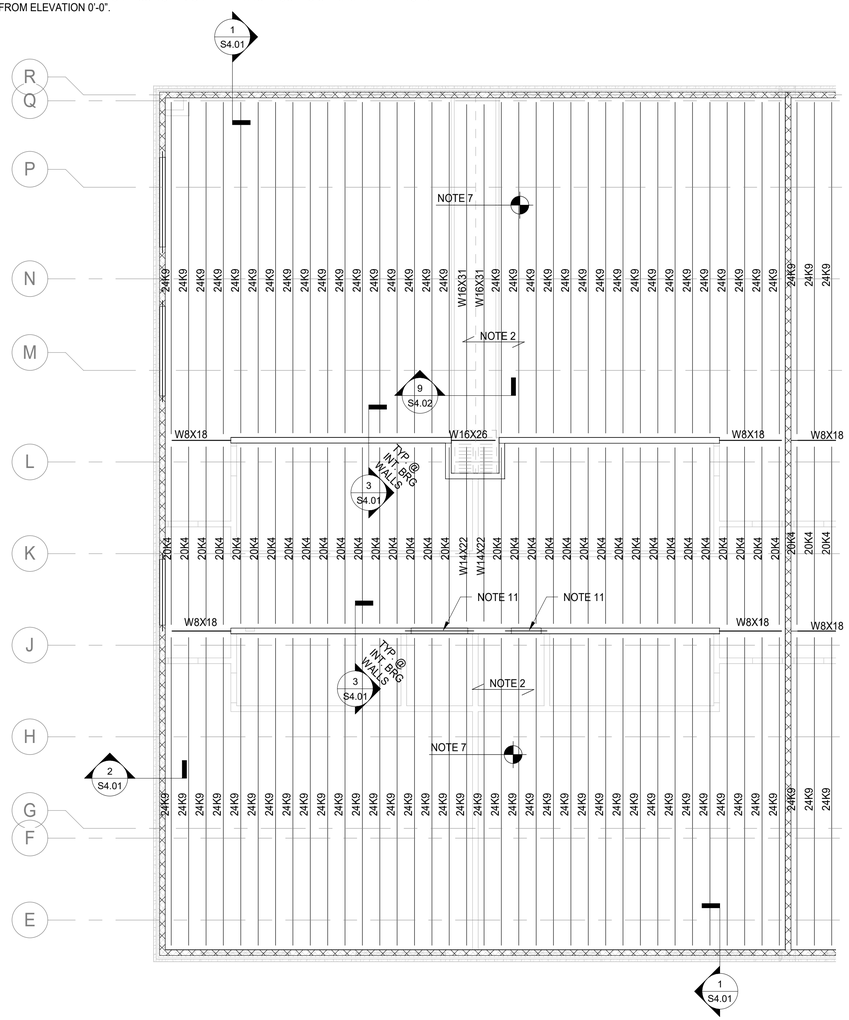
PROJECT 3089

S1.13

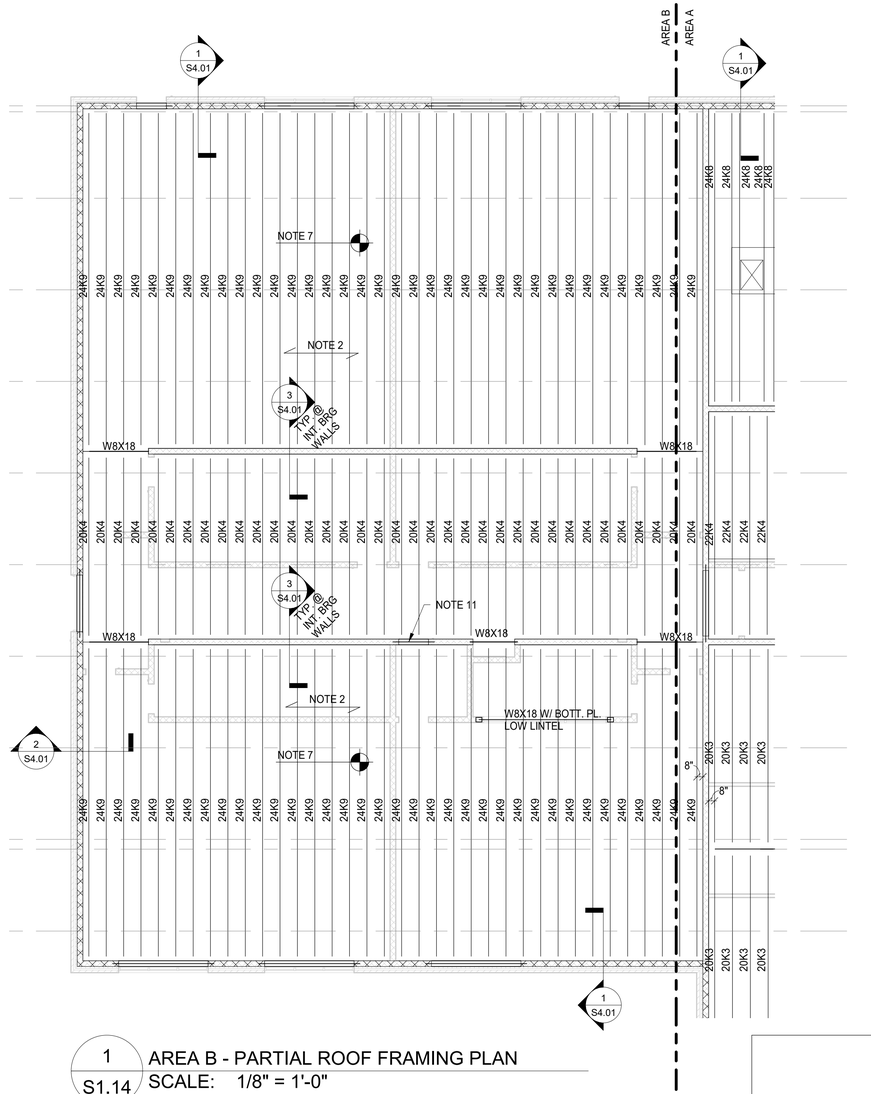
FLOOR FRAMING PLAN NOTES

1. SEE SHEETS S0.01 THRU S0.02 FOR STRUCTURAL NOTES AND SHEETS S4.01 THRU S5.03 FOR TYPICAL DETAILS. THE TYPICAL DETAILS APPLY WHEREVER THE CONDITION EXISTS UNLESS DETAILED OTHERWISE.
2. THE SLAB SYSTEM SHALL BE A 3" NORMAL WEIGHT CONCRETE SLAB ON 9/16" FORM DECK (3" TOTAL THICKNESS), THREE SPANS CONTINUOUS. SEE STRUCTURAL NOTES SHEETS FOR DECK PROPERTIES.
3. THE ROOF SYSTEM SHALL BE 1-1/2" STEEL ROOF DECK, CONTINUOUS. SEE STRUCTURAL NOTES SHEETS FOR DECK PROPERTIES.
4. THE SYMBOL C1 REFERS TO DESIGNATIONS IN THE COLUMN SCHEDULE LOCATED ON SHEET S0.3.
5. ALL CMU WALLS SHOWN ON THE STRUCTURAL DRAWINGS SHALL BE REINFORCED PER THE FOUNDATION PLAN. PROVIDE DOWELS TO SLAB OR STRUCTURE TO MATCH. REBAR SHALL BE CENTERED IN CELL U.N.O. GROUT REINFORCED CELLS SOLID.
6. ALL JOISTS SHALL HAVE 5" JOIST SEATS UNLESS NOTED. PROVIDE CEILING EXTENSIONS IN ALL AREAS. 5 Addendum
7. THE BOTTOM OF DECK ELEVATIONS SHALL BE TYPICALLY 3" BELOW FINISHED FLOOR UNLESS NOTED ON PLANS THUS: B.O. DECK = ±X'-X" REFERENCED FROM ELEVATION 0'-0".
8. THE TOP OF BEAM AND JOIST BEARING ELEVATIONS SHALL BE TYPICALLY 8" BELOW THE FINISHED FLOOR SLAB UNLESS NOTED ON THE PLANS THUS: T.O.S.=±X'-X" REFERENCED FROM ELEVATION 0'-0".
9. SJ (STRUT JOIST) INDICATES THAT THE BOTTOM CHORD OF THE STEEL JOIST SHALL BE EXTENDED TO THE COLUMN. SEE DETAIL 5/S4.01.
10. THE CONTRACTOR SHALL COORDINATE THE SIZE AND LOCATION OF ALL FLOOR OPENINGS AND EQUIPMENT SUPPORTS WITH THE ARCHITECTURAL, MECHANICAL, ELECTRICAL AND PLUMBING DRAWINGS AND SUB-CONTRACTORS. SEE DETAILS 7/S4.01. PROVIDE ADDITIONAL JOISTS AS REQUIRED AT OPENINGS OR MECH., ELEC., PLUMBING EQUIPMENT. THE MAXIMUM OPERATING WEIGHT FOR EQUIPMENT SHALL BE AS NOTED ON THE PLAN.
11. SEE THE LINTEL SCHEDULE IN THE STRUCTURAL NOTES ON S5.01 FOR ALL LINTELS IN MASONRY WALLS UNLESS NOTED OTHERWISE. SEE THE ARCHITECTURAL, MECHANICAL, PLUMBING AND ELECTRICAL DRAWINGS FOR THE SIZE, LOCATION, TYPE, AND FIRE RATING OF ALL MASONRY OPENINGS. SEE 5/S5.01 FOR LINTELS IN CAVITY WALLS.
12. ALL INTERIOR WALLS ON THIS PLAN ARE BELOW THE ROOF FRAMING, UNLESS NOTED OTHERWISE.
13. REFER TO THE ARCHITECTURAL DRAWINGS FOR DIMENSIONS AND ELEVATIONS NOT SHOWN. CONTRACTOR SHALL COORDINATE BETWEEN THE STRUCTURAL AND ARCHITECTURAL DRAWINGS.
14. SEE THE ARCHITECTURAL DRAWINGS FOR THE SIZE AND LOCATION OF ALL NON-BEARING PARTITIONS.
15. SMP INDICATES A SOLID MASONRY PIER. SEE DETAIL 3/S5.01.
16. PROVIDE JAMB REINFORCING PER 8/S5.01 AT ALL MASONRY OPENINGS. JAMB REINFORCING TO BE FULL HEIGHT OF WALL WITH MATCHING DOWELS TO SLAB OR STRUCTURE, AS REQUIRED.
17. UNLESS NOTED OTHERWISE ON PLAN, ASSUME THE FOLLOWING ULTIMATE (FACTOR) REACTIONS AT BEAM ENDS:

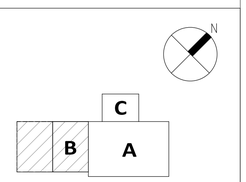
W8's AND W10's	USE R = 15 kips
W12's	USE R = 25 kips
W14's AND W16's	USE R = 40 kips
W18's AND W21's	USE R = 55 kips
W24's AND UP	USE R = 75 kips



2 / S1.14 AREA B - PARTIALROOF FRAMING PLAN - ALTERNATE
SCALE: 1/8" = 1'-0"



1 / S1.14 AREA B - PARTIAL ROOF FRAMING PLAN
SCALE: 1/8" = 1'-0"



KEY PLAN

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FUT. 2ND FLOOR / ROOF FRAMING PLAN - AREA B

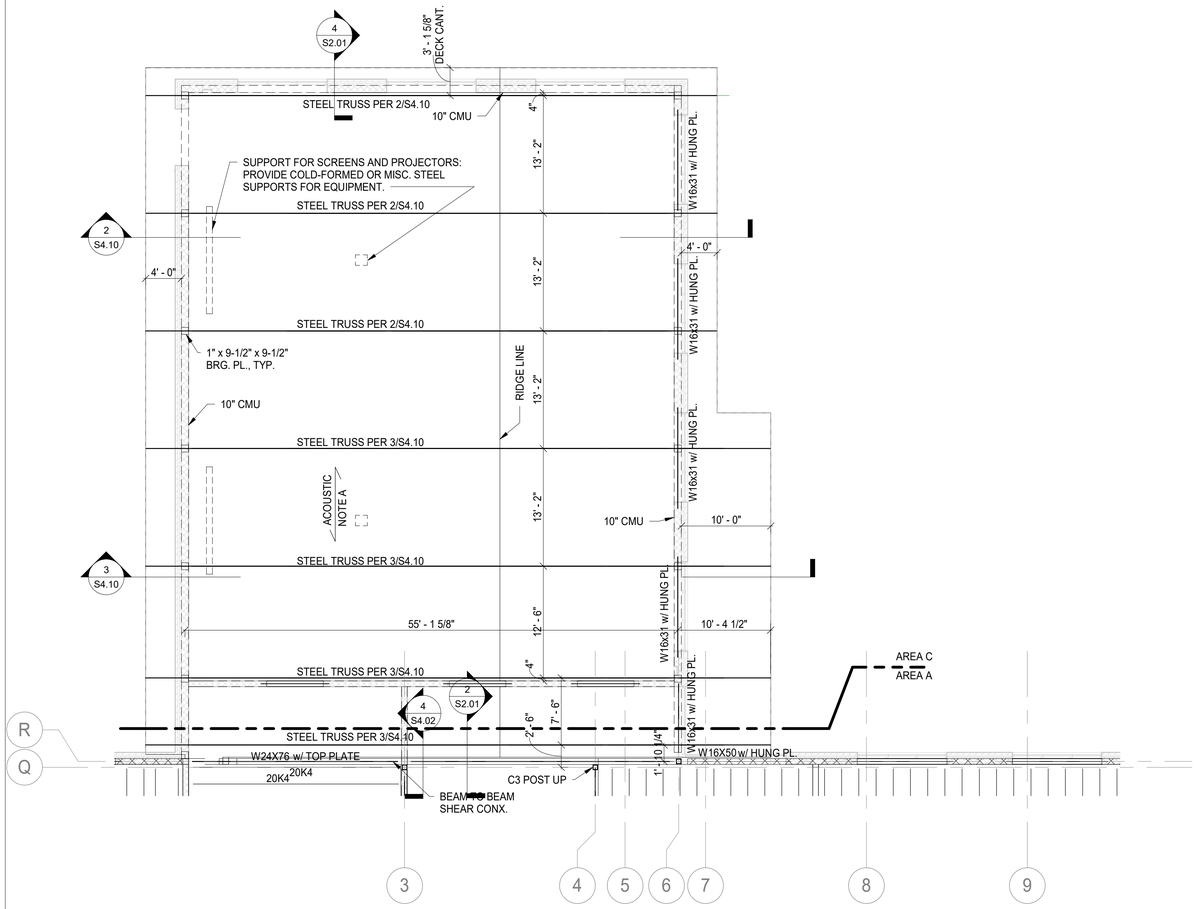
PLOT SCALE: 1/8" = 1'-0"

FILENAME:

DATE: December 18, 2019

PROJECT 3089

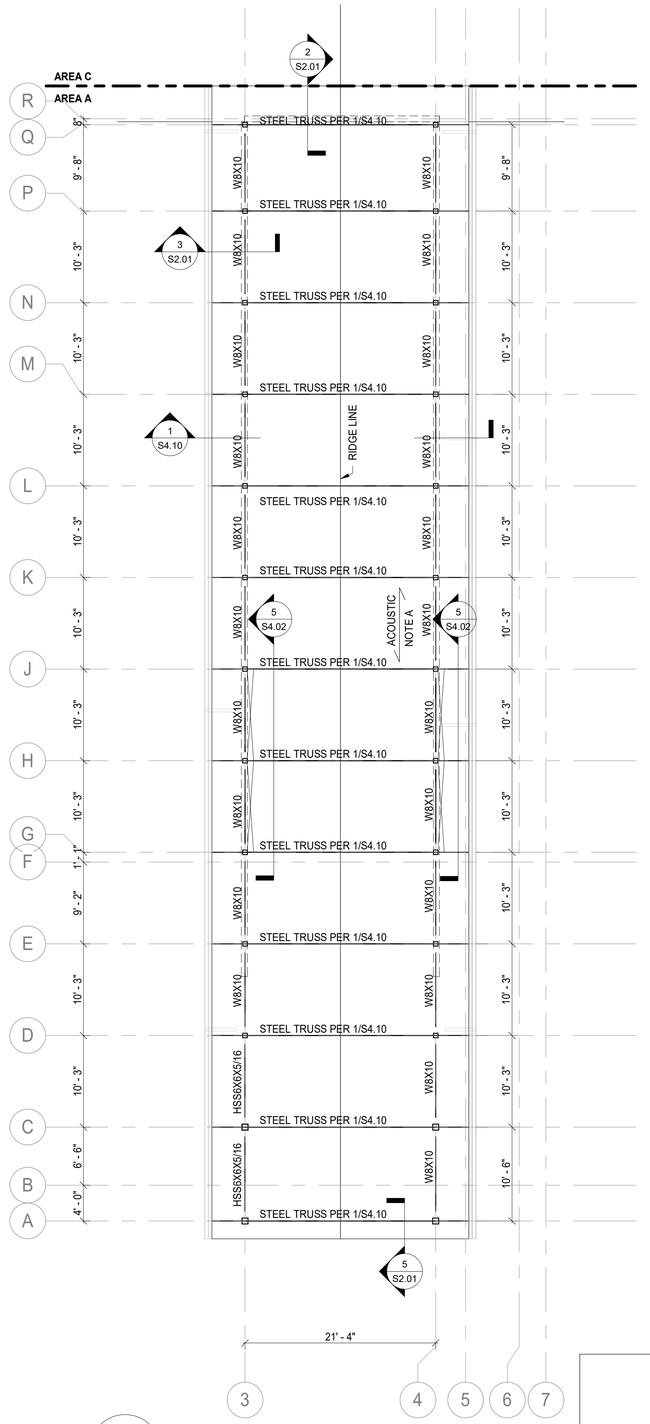
S1.14



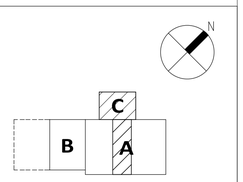
1 S1.15 AREA C - PARTIAL ROOF FRAMING PLAN
SCALE: 1/8" = 1'-0"

ROOF FRAMING PLAN NOTES
REFER TO SHEET S1.14

A. THE ROOF SYSTEM SHALL BE 3-1/2" ACOUSTIC DECK, CONTINUOUS. SEE STRUCTURAL NOTES SHEETS FOR DECK PROPERTIES.



2 S1.15 CLERESTORY ROOF FRAMING PLAN
SCALE: 1/8" = 1'-0"



KEY PLAN

STATE OF MARYLAND
ROBERT A. RODRIGUEZ
47042
PROFESSIONAL ENGINEER
7/1/2020

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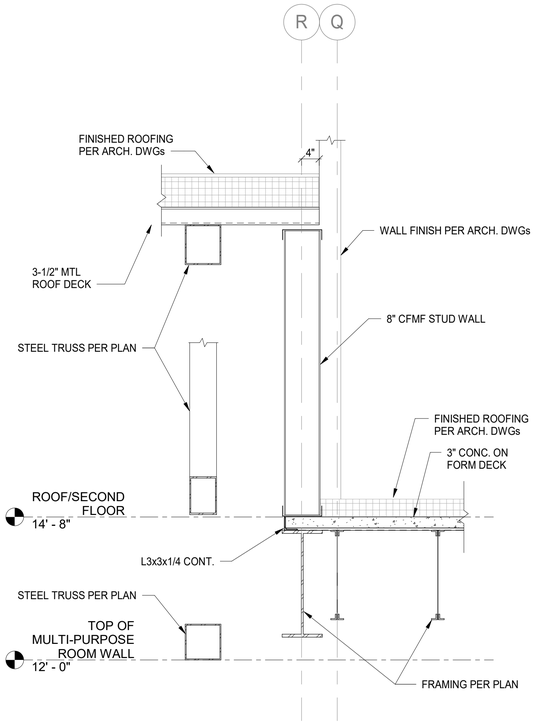
ROOF FRAMING PLANS - AREA A AND C

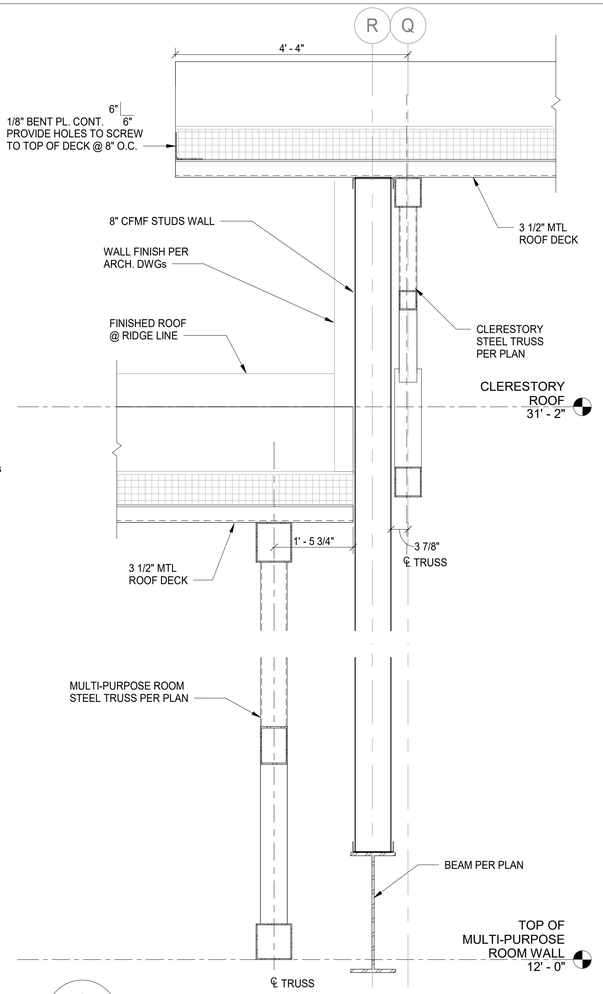
PLOT SCALE: 1/8" = 1'-0"
FILENAME:
DATE: December 18, 2019

PROJECT 3089

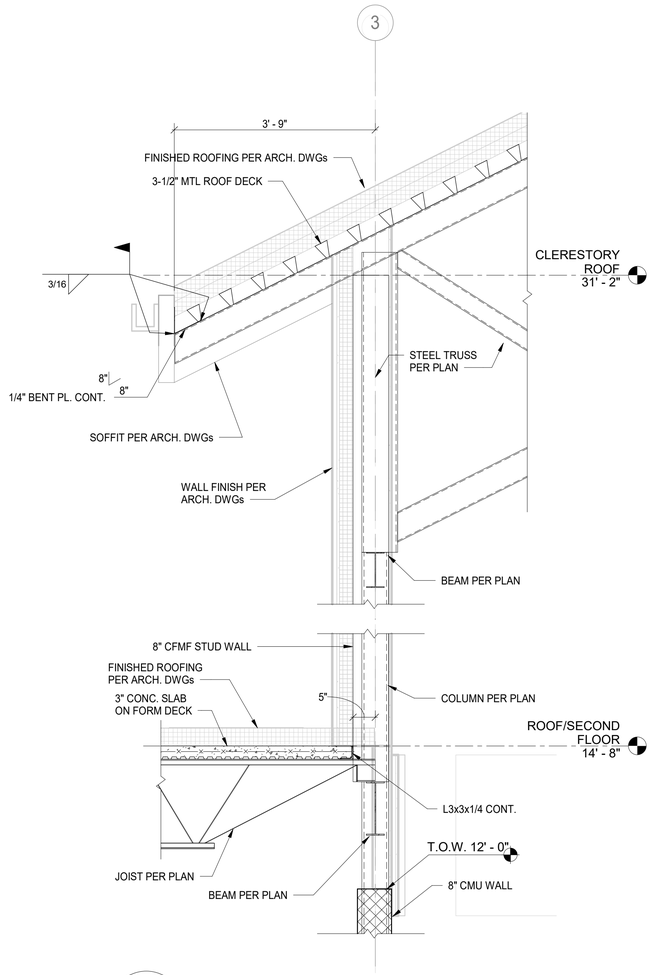
S1.15



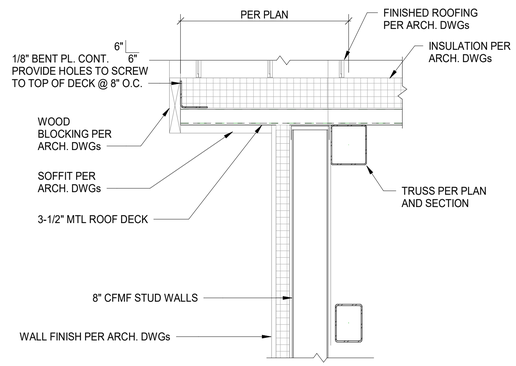
1 S2.01 CLERESTORY WALL SECTION
SCALE: 3/4" = 1'-0"



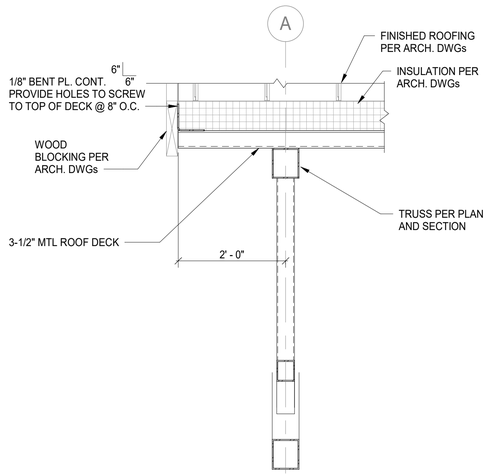
2 S2.01 MULTI PURPOSE / CLERESTORY TRANSITION
SCALE: 3/4" = 1'-0"



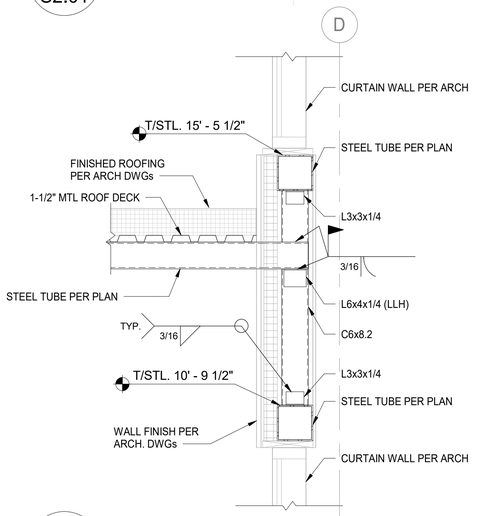
3 S2.01 CLERESTORY WALL SECTION
SCALE: 3/4" = 1'-0"



4 S2.01 EDGE OF MP ROOF DECK DETAIL
SCALE: 3/4" = 1'-0"



5 S2.01 EDGE OF FRONT CLERESTORY DECK
SCALE: 3/4" = 1'-0"



6 S2.01 ENTRANCE CURTAIN WALL SECTION
SCALE: 3/4" = 1'-0"

STATE OF MARYLAND
ROSE ANN RODRIGUEZ
47042
PROFESSIONAL ENGINEER
7/1/2020

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WALL SECTIONS

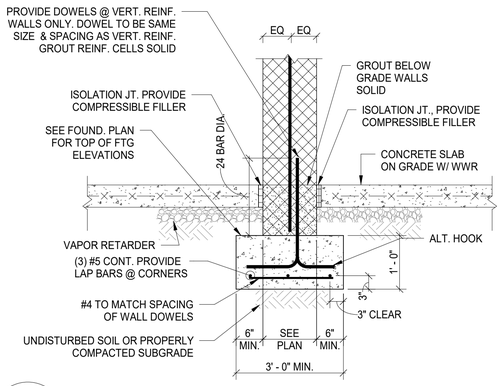
PLOT SCALE: 3/4" = 1'-0"

FILENAME:

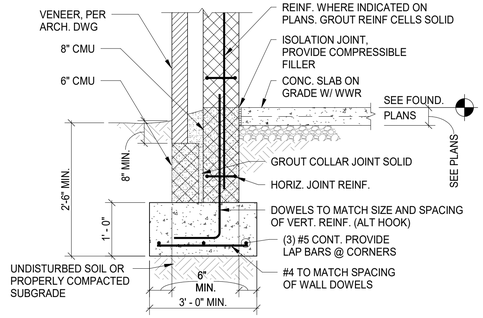
DATE: December 18, 2019

PROJECT 3089

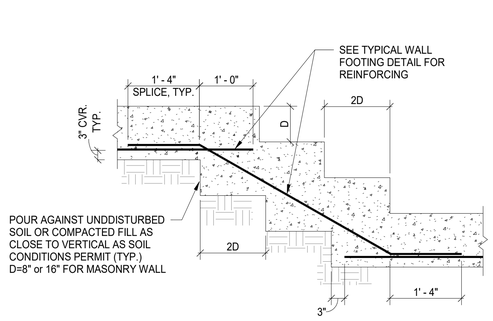
S2.01



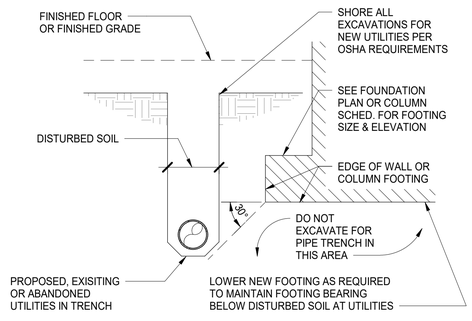
1 S3.01 INTERIOR WALL FOOTING
SCALE: NTS



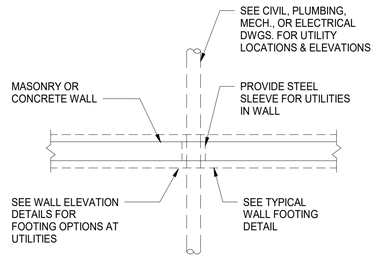
2 S3.01 EXTERIOR WALL SECTION
SCALE: NTS



3 S3.01 STEPPED WALL FOOTING
SCALE: NTS

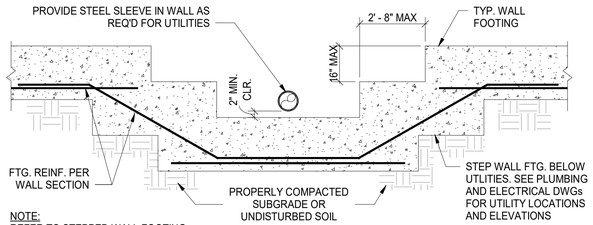


4 S3.01 PIPE TRENCH EXCAVATION
SCALE: NTS



TYPICAL PLAN

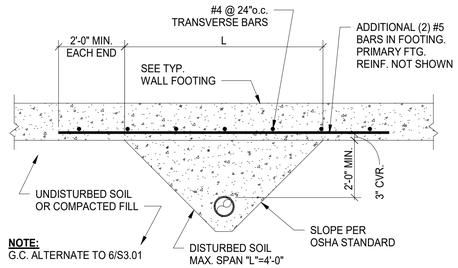
5 S3.01 WALL FOOTING AT UTILITIES
SCALE: NTS



NOTE:
REFER TO STEPPED WALL FOOTING DETAIL FOR ADDITIONAL INFORMATION

WALL ELEVATION

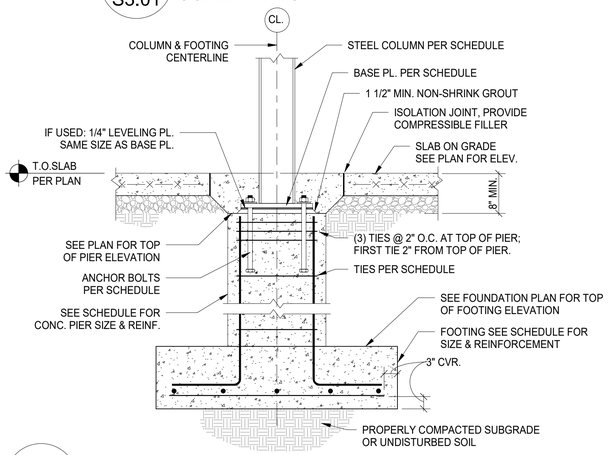
6 S3.01 WALL FOOTING AT UTILITY
SCALE: NTS



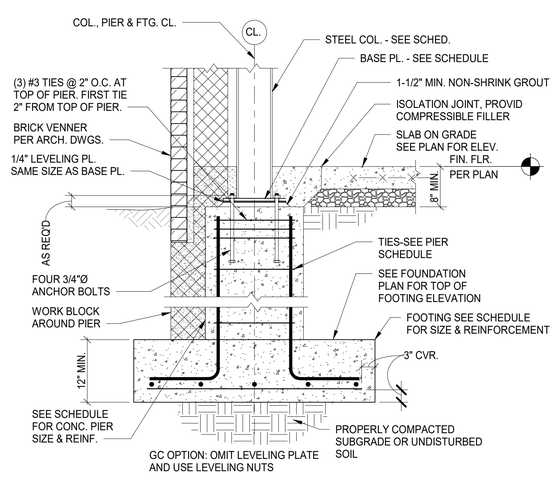
NOTE:
G.C. ALTERNATE TO 6/S3.01

WALL ELEVATION

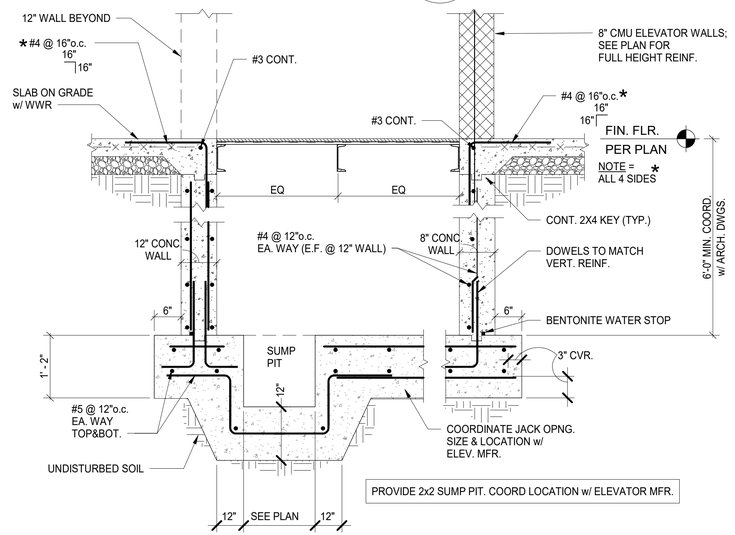
7 S3.01 WALL FOOTING AT UTILITIES-LEAN CONCRETE
SCALE: NTS



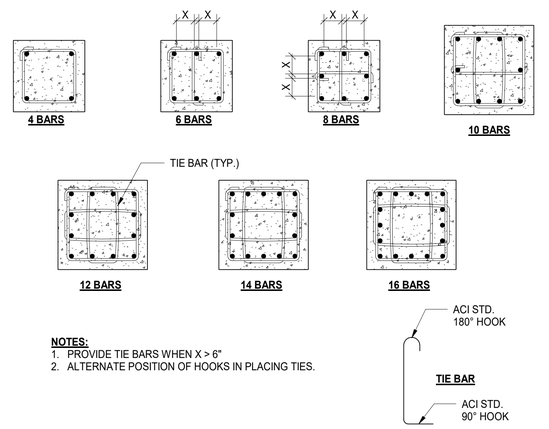
8 S3.01 INTERIOR STEEL COLUMN FTG WITH PIER
SCALE: 3/4" = 1'-0"



9 S3.01 EXTERIOR STEEL COLUMN FTG WITH PIER
SCALE: NTS



10 S3.01 ELEVATOR PIT SECTION
SCALE: NTS



NOTES:
1. PROVIDE TIE BARS WHEN X > 6"
2. ALTERNATE POSITION OF HOOKS IN PLACING TIES.

11 S3.01 COLUMN TIES DETAIL
SCALE: 3/4" = 1'-0"

STATE OF MARYLAND
BRADLEY S. RODGERS
47042
PROFESSIONAL ENGINEER
7/1/2020

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TYPICAL FOUNDATION DETAILS

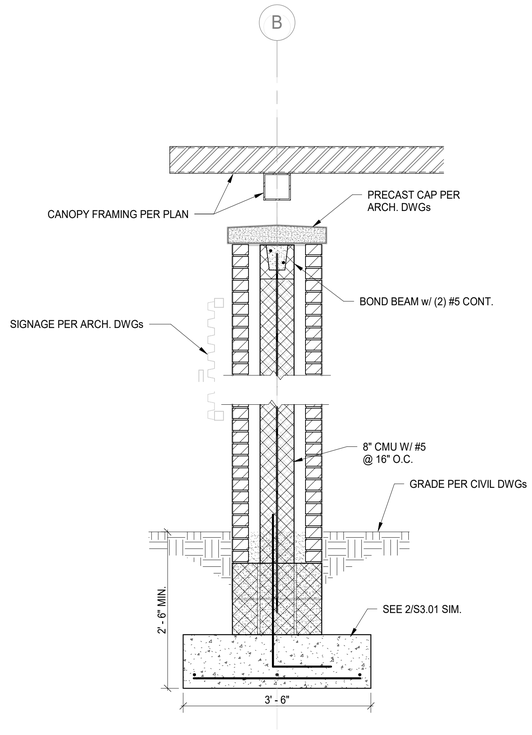
PLOT SCALE: 3/4" = 1'-0"

FILENAME:

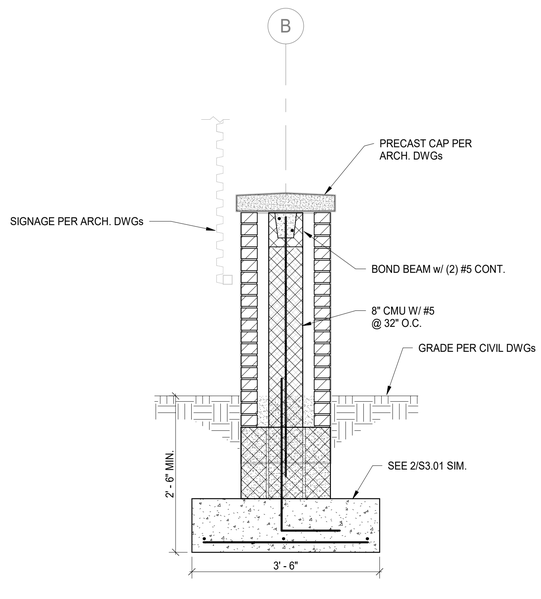
DATE: December 18, 2019

PROJECT 3089

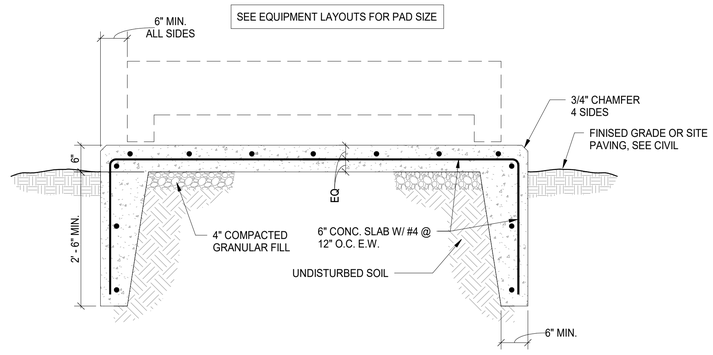
S3.01



1 S3.02 ENTRANCE SIGNAGE WALL SECTION
SCALE: 3/4" = 1'-0"

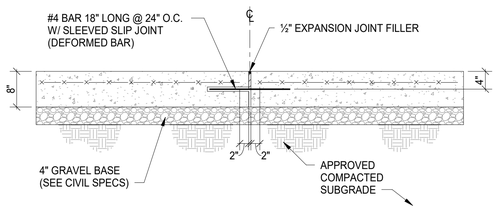


2 S3.02 ENTRANCE SIGNAGE WALL SECTION
SCALE: 3/4" = 1'-0"



3 S3.02 EXTERIOR HVAC AND PROPANE TANK EQUIPMENT PAD
SCALE: 3/4" = 1'-0"

TRASH DUMPSTER SLAB AND APRON



NOTES:
1. 8" CONC. SLAB REINFORCED W/ WWR 6x6-W6.5xW6.5 (OR #3 @ 10" O.C., E.W.) 2½" DOWN FROM TOP ON A 4" POROUS FILL MATERIAL OVER APPROVED COMPACTED SUBGRADE.
2. CONCRETE SHALL BE SHA MIX NO. 6 PER SHA STANDARDS AND SPECIFICATIONS

4 S3.02 HEAVY-DUTY CONCRETE PAVEMENT SECTION
SCALE: 3/4" = 1'-0"

STATE OF MARYLAND
RISSE C. RODRIGUEZ
47045
PROFESSIONAL ENGINEER
7/1/2020

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FOUNDATION SECTIONS

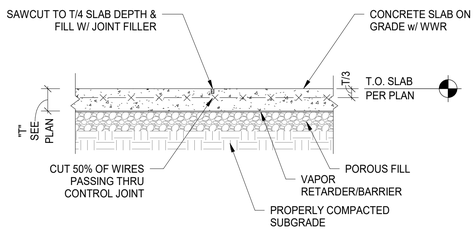
PLOT SCALE: 3/4" = 1'-0"

FILENAME:

DATE: December 18, 2019

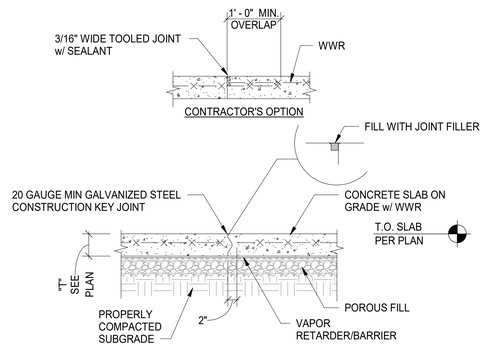
PROJECT 3089

S3.02



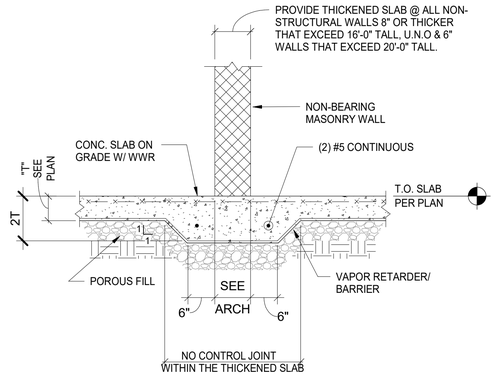
NOTE:
1. CONTRACTOR'S OPTION: ZIPCAP CONTROL JOINT FORMER IN LIEU OF SAWCUT.
2. COORDINATE JOINT SEALANT WITH ARCH AND SPECS.
3. DO NOT PLACE CJ PARALLEL TO WALL WITHIN 1'-0" FROM FACE OF INTERIOR MASONRY PARTITIONS

1 S3.11 SLAB ON GRADE CONTROL JOINT
SCALE: NTS



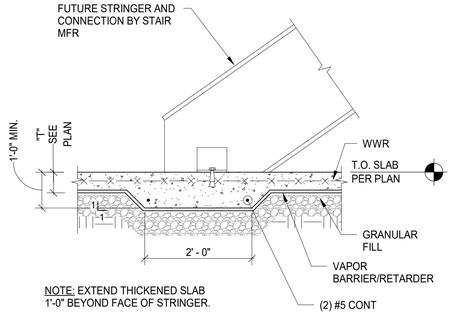
NOTE:
1. CONSTRUCTION JOINT MAY REPLACE CONTRACTION JOINTS (CJs); SEE PLAN FOR LOCATIONS OF CJs.
2. COORDINATE JOINT SEALANT WITH ARCH AND SPECS.
3. DO NOT PLACE CJ PARALLEL TO WALL WITHIN 1'-0" FROM FACE OF INTERIOR MASONRY PARTITIONS.

2 S3.11 SLAB ON GRADE CONSTRUCTION JOINT
SCALE: NTS



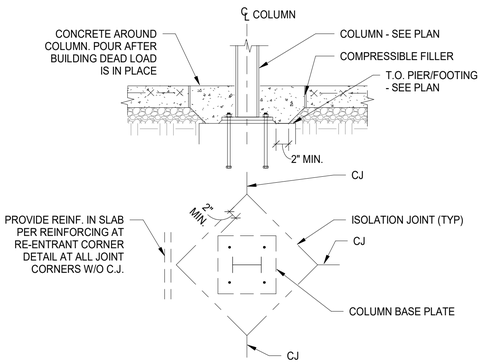
NOTE: COORDINATE LOCATION OF NON-BEARING PARTITIONS WITH AECH. DWGS.

3 S3.11 THICKENED SLAB AT NON-BEARING MASONRY WALL
SCALE: NTS

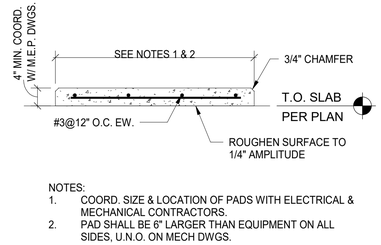


NOTE: EXTEND THICKENED SLAB 1'-0" BEYOND FACE OF STRINGER.

4 S3.11 THICKENED SLAB AT STAIRS
SCALE: NTS

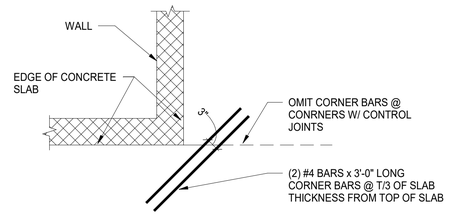


5 S3.11 ISOLATION JOINT AT STEEL COLUMN
SCALE: NTS

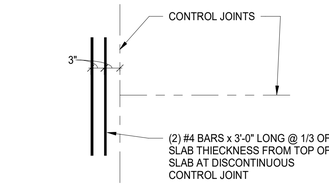


NOTES:
1. COORD. SIZE & LOCATION OF PADS WITH ELECTRICAL & MECHANICAL CONTRACTORS.
2. PAD SHALL BE 6" LARGER THAN EQUIPMENT ON ALL SIDES, U.N.O. ON MECH DWGS.

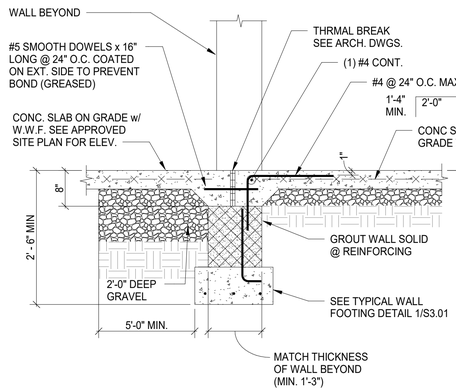
6 S3.11 TYPICAL INTERIOR CONCRETE PAD FOR M.E.P. EQUIPMENT
SCALE: NTS



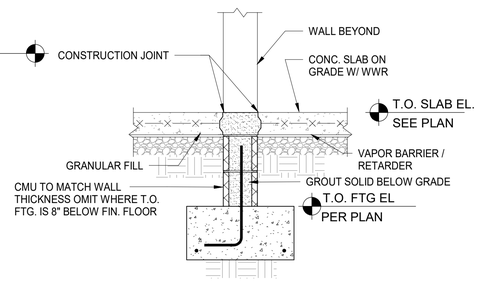
7 S3.11 SLAB REINF. AT RE-ENTRANT CORNER
SCALE: NTS



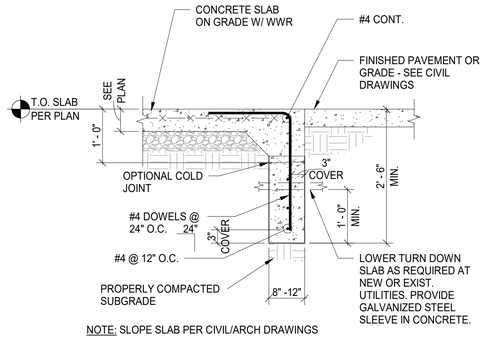
8 S3.11 SLAB REINFORCING AT DISCONTINUOUS C.J.
SCALE: NTS



9 S3.11 SLAB AT EXTERIOR DOORWAY
SCALE: NTS

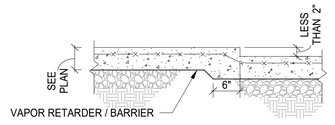


10 S3.11 SLAB ON GRADE AT INTERIOR DOOR
SCALE: NTS



NOTE: SLOPE SLAB PER CIVIL/ARCH DRAWINGS

11 S3.11 TURNED DOWN SLAB
SCALE: NTS



12 S3.11 DEPRESSED SLAB ON GRADE DETAIL
SCALE: NTS

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Fax: 301-662-7484
ADTEK PROJECT #: 1713.0001

TYPICAL SLAB ON GRADE DETAILS

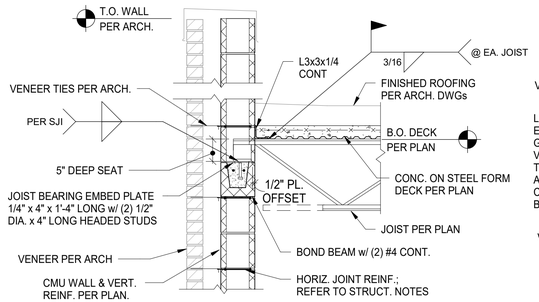
PLOT SCALE: 3/4" = 1'-0"

FILENAME:

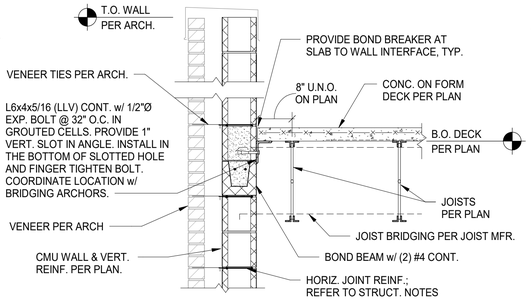
DATE: December 18, 2019

PROJECT 3089

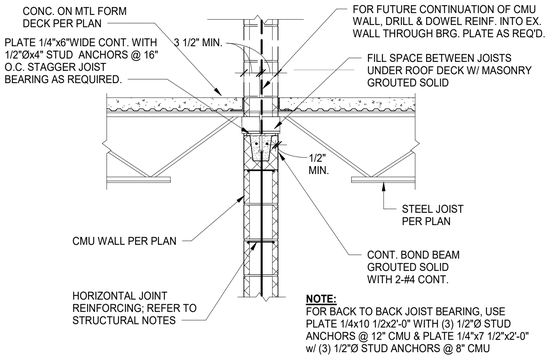
S3.11



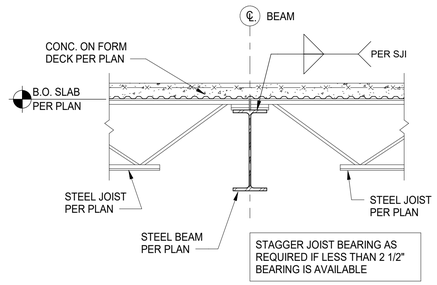
1 S4.01 FLOOR JOIST BEARING ON EXT. CMU WALL
SCALE: NTS



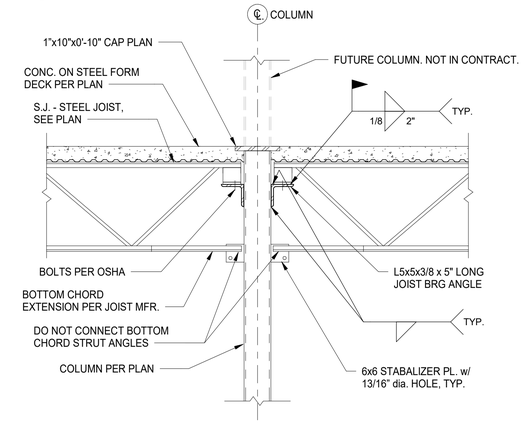
2 S4.01 FLOOR JOIST PARALLEL TO EXT. CMU WALL
SCALE: NTS



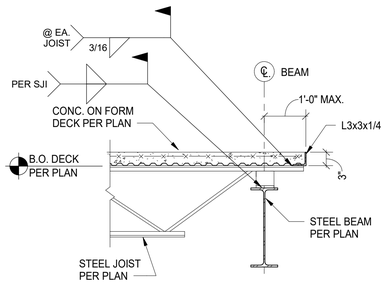
3 S4.01 JOIST BEARING ON INTERIOR CMU WALL
SCALE: NTS



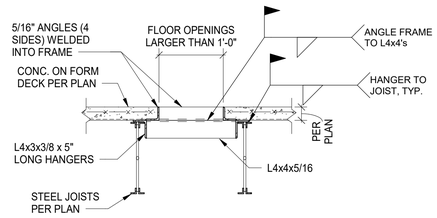
4 S4.01 FLOOR JOIST BEARING ON STEEL BEAM
SCALE: NTS



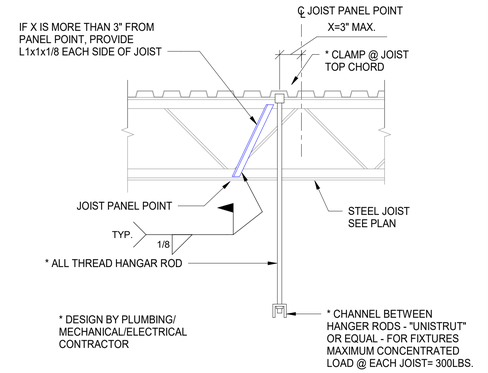
5 S4.01 STRUT JOIST CONNECTION TO COLUMN
SCALE: NTS



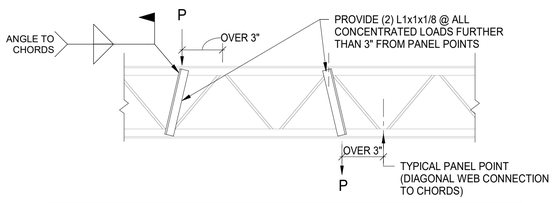
6 S4.01 EDGE OF SLAB ON FLOOR JOIST
SCALE: NTS



7 S4.01 ANGLE FRAMING AT FLOOR OPENINGS
SCALE: NTS



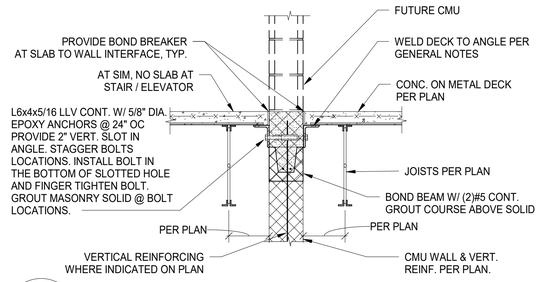
8 S4.01 LIGHT WEIGHT FIXTURE SUPPORT DETAIL
SCALE: NTS



P = LOADS OVER 100 lbs. MORE THAN 3" FROM A PANEL POINT
THIS DETAIL IS APPLICABLE TO ALL CONCENTRATED LOADS THAT ARE ATTACHED TO JOISTS, WHETHER INDICATED ON STRUCTURAL DWGs OR NOT. EXAMPLES OF THESE LOADS ARE:
1. ROOF TOP UNITS.
2. HANGING PLUMBING, MECH. STEEL PIPES, SPRINKLER PIPING
3. HANGING BASKETBALL GOALS
4. KITCHEN HOODS

SEE MECHANICAL, ELECTRICAL, PLUMBING, FIRE SAFETY, ARCHITECTURAL AND KITCHEN DRAWINGS FOR LOCATIONS

9 S4.01 JOIST REINF. AT LOADS BETWEEN PANEL POINTS
SCALE: NTS



10 S4.01 WALL-SLAB ANCHORAGE
SCALE: NTS

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ADTEK PROJECT #: 1713.0001

TYPICAL FRAMING DETAILS

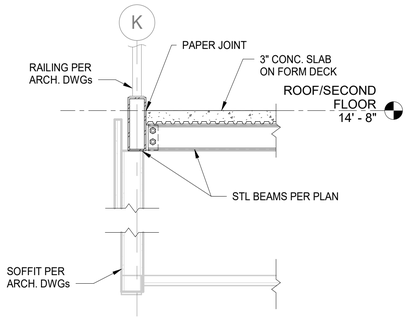
PLOT SCALE: 3/4" = 1'-0"

FILENAME:

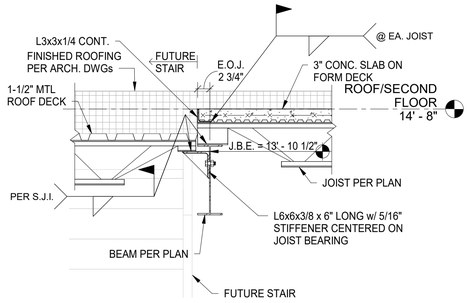
DATE: December 18, 2019

PROJECT 3089

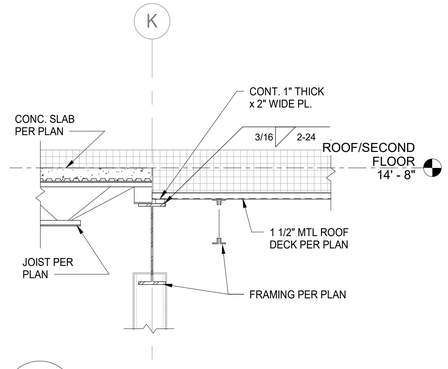
S4.01



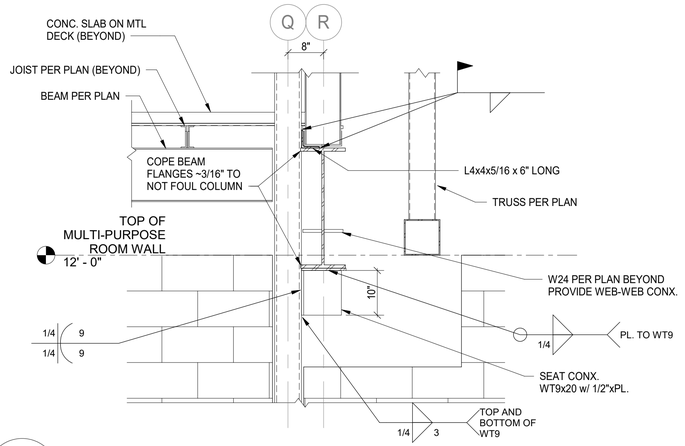
1 S4.02 BRIDGE SIDE RAIL SECTION
SCALE: 3/4" = 1'-0"



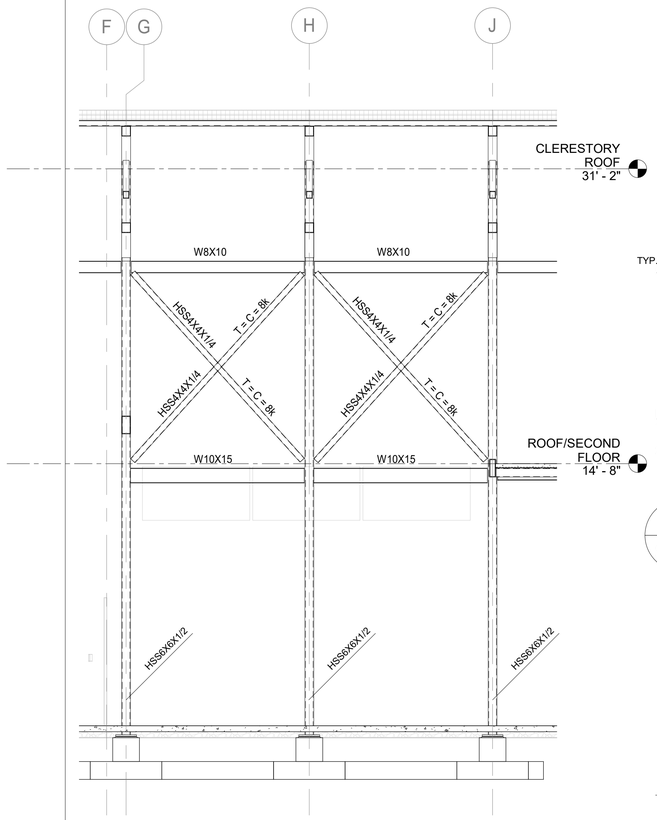
2 S4.02 FUTURE STAIR FRAMING
SCALE: 3/4" = 1'-0"



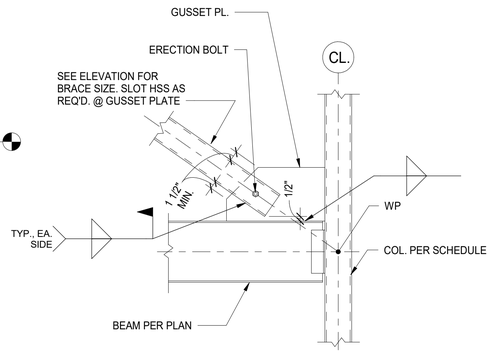
3 S4.02 FUTURE STAIR FRAMING
SCALE: 3/4" = 1'-0"



4 S4.02 OFFSET BEAM SEAT CONNECTION TO COLUMN
SCALE: 3/4" = 1'-0"

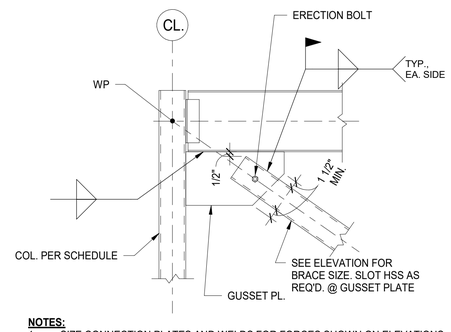


5 S4.02 BRACED FRAME ELEVATION
SCALE: 1/4" = 1'-0"



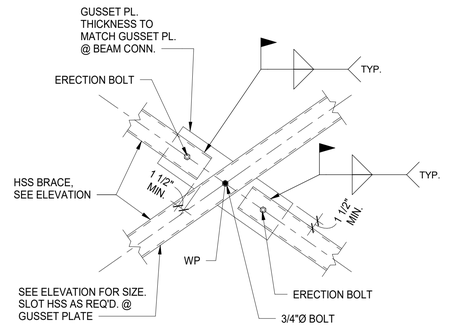
NOTES:
1. SIZE CONNECTION PLATES AND WELDS FOR FORCES SHOWN ON ELEVATIONS. DESIGNED CONNECTION ORIENTATION MAY VARY FROM WHAT IS SHOWN.
2. DETAILER TO DESIGN BEAM TO COLUMN CONNECTION FOR FORCES AS NOTED ON ELEVATIONS. IT IS ACCEPTABLE TO PROVIDE GUSSET TO COLUMN CONNECTIONS.

6 S4.02 BRACE FRAME @ FLOOR
SCALE: NTS



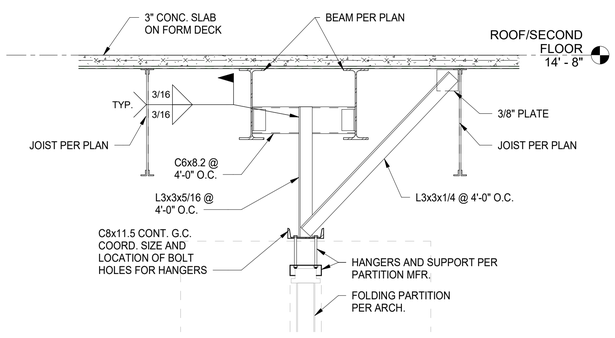
NOTES:
1. SIZE CONNECTION PLATES AND WELDS FOR FORCES SHOWN ON ELEVATIONS. DESIGNED CONNECTION ORIENTATION MAY VARY FROM WHAT IS SHOWN.
2. DETAILER TO DESIGN BEAM TO COLUMN CONNECTION FOR FORCES AS NOTED ON ELEVATIONS. IT IS ACCEPTABLE TO PROVIDE GUSSET TO COLUMN CONNECTIONS.

7 S4.02 BRACE FRAME @ ROOF
SCALE: NTS



NOTES:
1. SIZE CONNECTION PLATES AND WELDS FOR FORCES SHOWN ON ELEVATIONS. DESIGNED CONNECTION ORIENTATION MAY VARY FROM WHAT IS SHOWN.

8 S4.02 X-BRAME FRAME CONNECTION
SCALE: NTS



NOTE: AT STACK AREA REDUCE SPACING TO 2'-0" O.C.

9 S4.02 FOLDING PARTITION SUPPORT
SCALE: NTS

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7/1/2020

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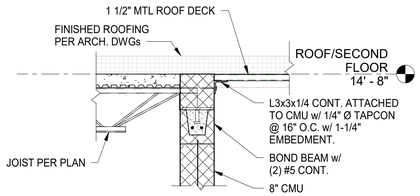
FRAMING DETAILS

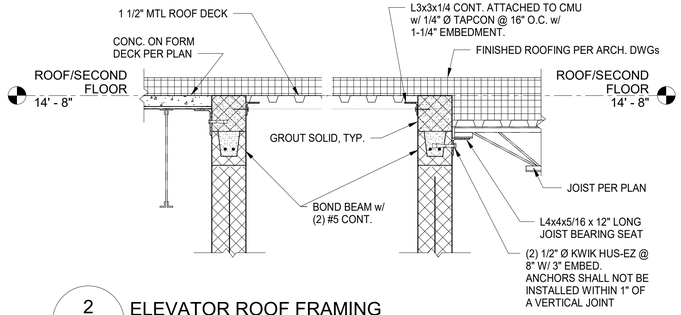
PLOT SCALE: As indicated
FILENAME:
DATE: December 18, 2019

PROJECT 3089

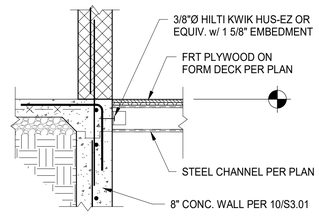
S4.02



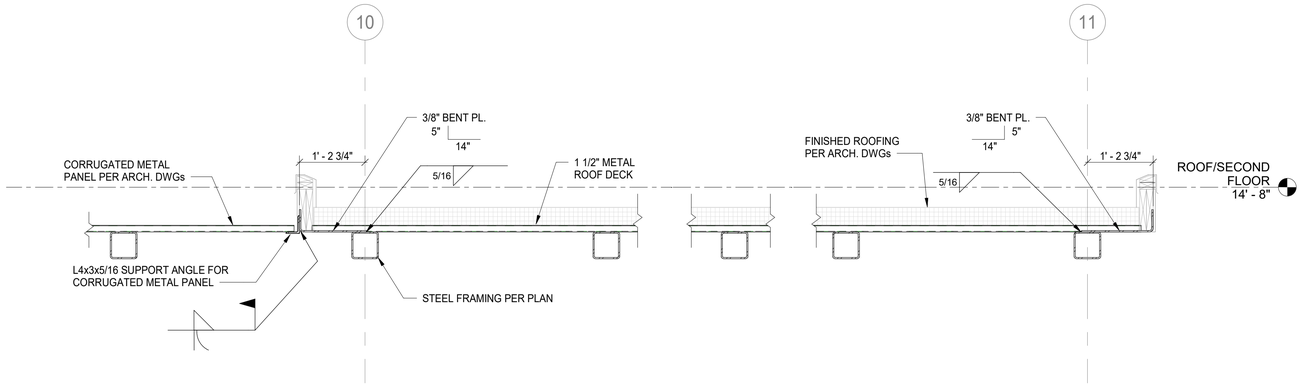
1 S4.03 ELEVATOR ROOF FRAMING
SCALE: NTS



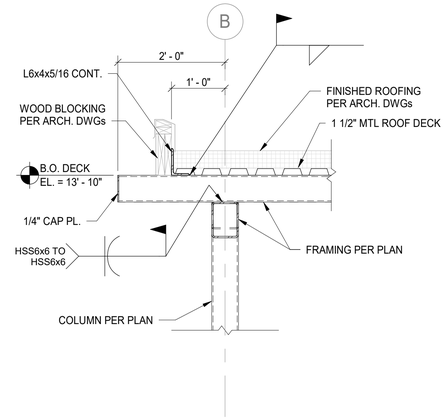
2 S4.03 ELEVATOR ROOF FRAMING
SCALE: NTS



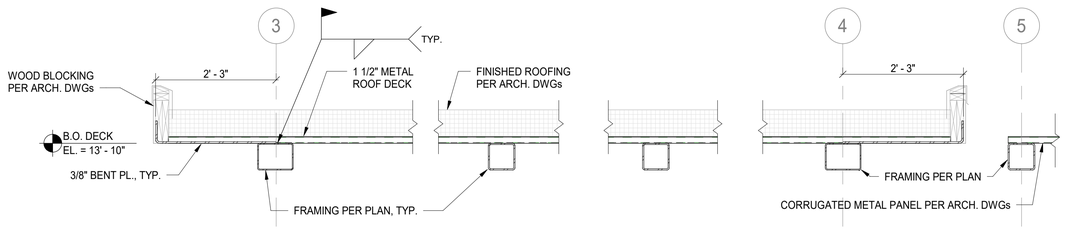
3 S4.03 ELEVATOR FLOOR FRAMING
SCALE: NTS



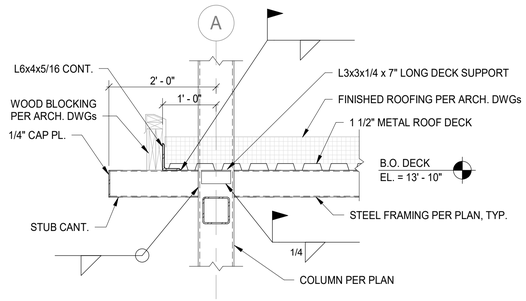
4 S4.03 WEIGHT ROOM CANOPY
SCALE: 3/4" = 1'-0"



7 S4.03 WEIGHT ROOM CANOPY SECTION
SCALE: 3/4" = 1'-0"



5 S4.03 MAIN CANOPY
SCALE: 3/4" = 1'-0"



6 S4.03 MAIN CANOPY STUB CANTILEVER
SCALE: 3/4" = 1'-0"

7/1/2020

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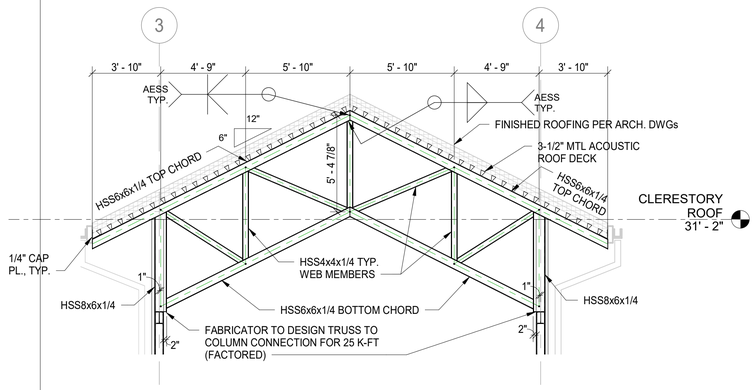
FRAMING DETAILS

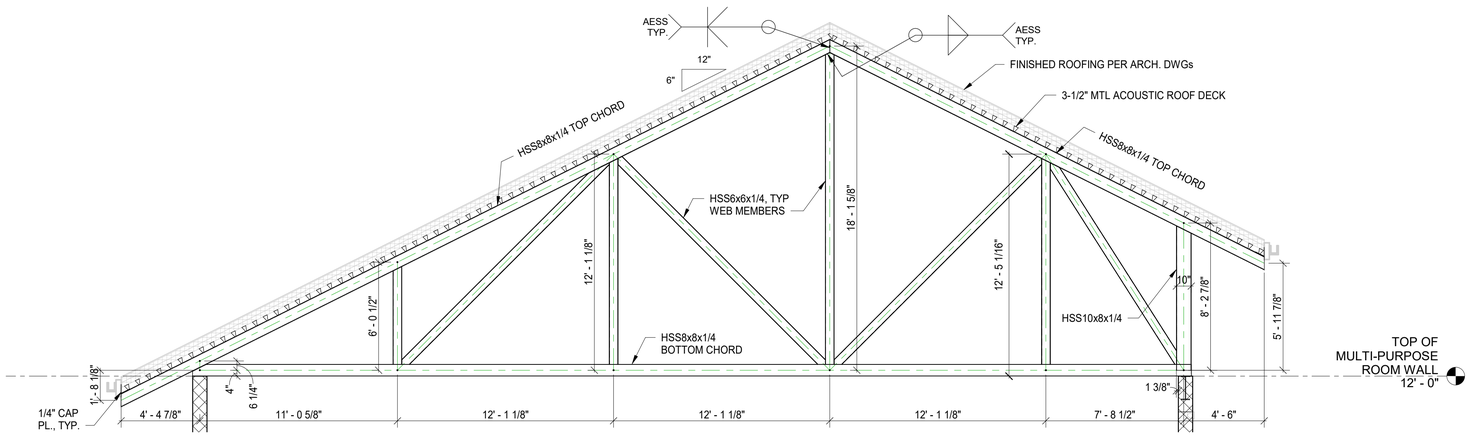
PLOT SCALE: 3/4" = 1'-0"
FILENAME:
DATE: December 18, 2019

PROJECT 3089

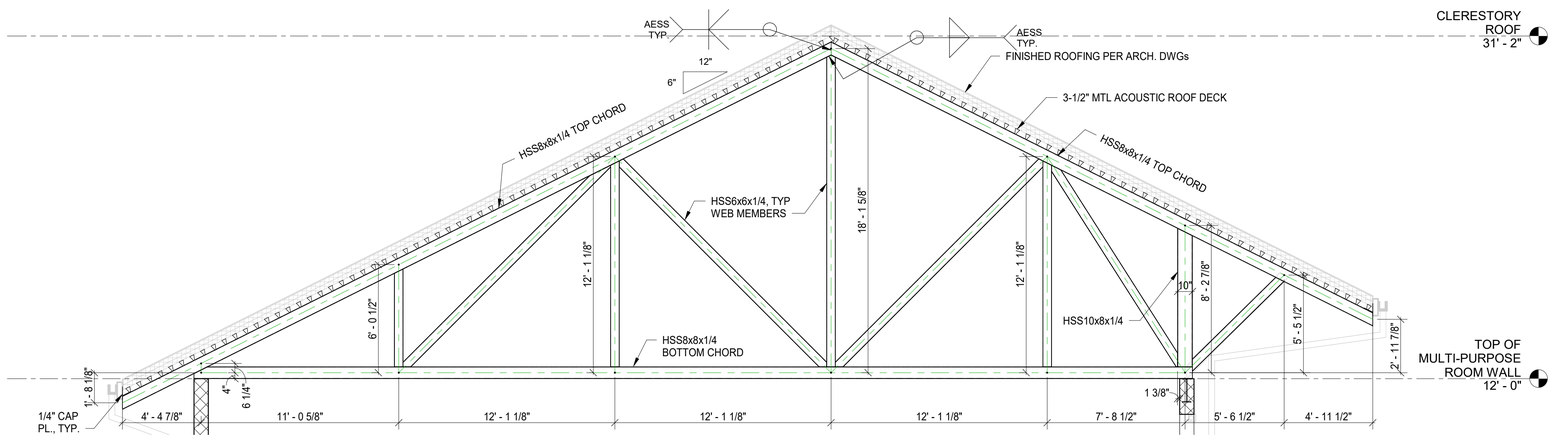
S4.03



1 / S4.10 CLERESTORY TRUSS
SCALE: 1/4" = 1'-0"



2 / S4.10 MULTI-PURPOSE ROOM TRUSS
SCALE: 1/4" = 1'-0"



3 / S4.10 MULTI-PURPOSE ROOM TRUSS w/ EXTENSION
SCALE: 1/4" = 1'-0"

TRUSS NOTES:

1. PAINT TRUSSES AND ROOF DECK PER ARCH DRAWINGS AND SPECS.
2. PROVIDE ARCHITECTURALLY EXPOSED STRUCTURAL STEEL (AESS) AT TRUSSES EXPOSED TO PUBLIC VIEW PER THE AISC SPECIFICATIONS FOR SPECIAL PROCEDURES FOR FABRICATION, ERECTION, FIELD PREPARATION, FINISH, AND TOLERANCES.
3. GRIND VISIBLE WELDS AND ROUGH EDGES SMOOTH FOR SHOP AND FIELD FABRICATION AND INSTALLATION.
4. NO VISIBLE BOLTED CONNECTIONS SHALL BE PERMITTED UNLESS SPECIFICALLY DETAILED AS SUCH.
5. ALL CONNECTIONS AND FABRICATION OF COMPONENTS EXPOSED AND VISIBLE IN THE FINISHED WORK SHALL BE MADE WITH CONTINUOUS WELDS. INTERMITTENT WELDS ARE ALLOWED ONLY FOR NON-EXPOSED OR NON-VISIBLE CONDITIONS.
6. WELD SIZE SHALL BE AS REQUIRED FOR STRUCTURAL STRENGTH AND INTEGRITY, BUT NOT LESS THAN 3/16" FILLET WELD.
7. HOLES BURNED THROUGH EXPOSED METAL DECK, FLOOR OR ROOF DECK, DURING WELDING SHALL NOT BE PERMITTED. REPLACEMENT OF DECK IN AREAS OF BURN THROUGH IS REQUIRED.

STATE OF MARYLAND
ROGER L. RODRIGUEZ
47042
PROFESSIONAL ENGINEER
7/1/2020

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland. License No. 47042 Expiration Date: 07/13/21

REVISIONS

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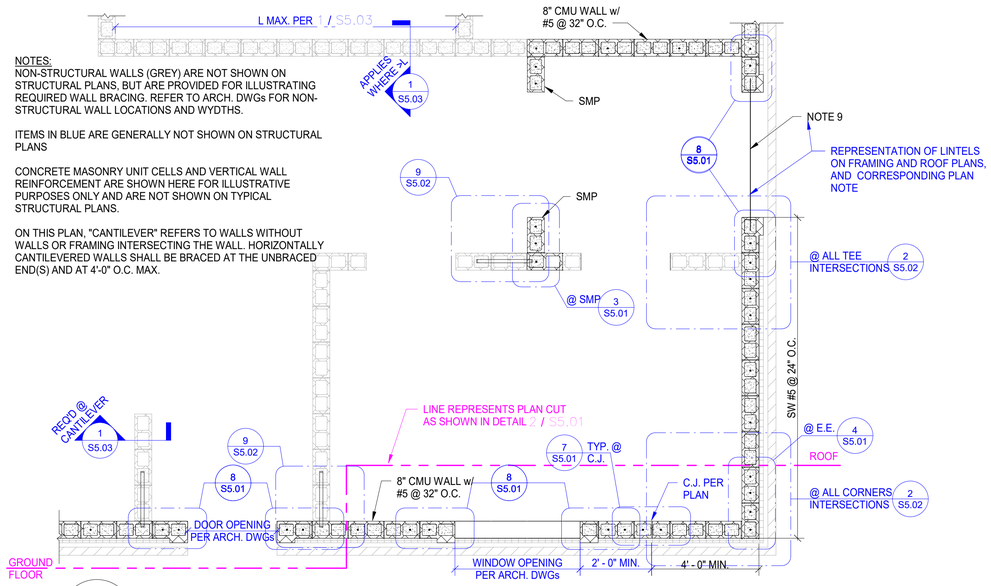
ADTEK PROJECT #: 1713.0001

TRUSS PROFILES

PLOT SCALE: 1/4" = 1'-0"
FILENAME:
DATE: December 18, 2019

PROJECT 3089

S4.10



NOTES:
NON-STRUCTURAL WALLS (GREY) ARE NOT SHOWN ON STRUCTURAL PLANS, BUT ARE PROVIDED FOR ILLUSTRATING REQUIRED WALL BRACING. REFER TO ARCH. DWGs FOR NON-STRUCTURAL WALL LOCATIONS AND WYDTHS.

ITEMS IN BLUE ARE GENERALLY NOT SHOWN ON STRUCTURAL PLANS

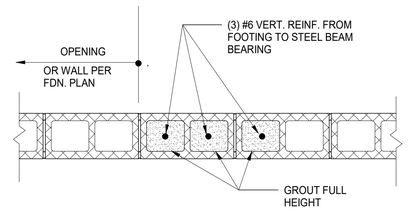
CONCRETE MASONRY UNIT CELLS AND VERTICAL WALL REINFORCEMENT ARE SHOWN HERE FOR ILLUSTRATIVE PURPOSES ONLY AND ARE NOT SHOWN ON TYPICAL STRUCTURAL PLANS.

ON THIS PLAN, "CANTILEVER" REFERS TO WALLS WITHOUT WALLS OR FRAMING INTERSECTING THE WALL. HORIZONTALLY CANTILEVERED WALLS SHALL BE BRACED AT THE UNBRACED END(S) AND AT 4'-0" O.C. MAX.

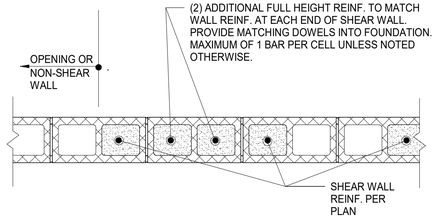
1 / S5.01 PLAN VIEW - GENERAL MASONRY WALL
SCALE: NTS

NOTES:
1) REFER TO STRUCTURAL NOTES ON S0.02 AND DETAIL 9 / S5.01 FOR HORIZONTAL JOINT REINF. INFO.
2) ALL CELLS CONTAINING VERTICAL REINFORCEMENT SHALL BE GROUTED SOLID.

2 / S5.01 REINFORCED MASONRY WALL ELEVATION
SCALE: NTS



3 / S5.01 SOLID MASONRY PIER (SMP) DETAIL
SCALE: 1" = 1'-0"

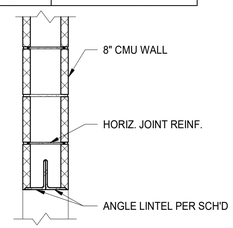


4 / S5.01 END OF SHEAR WALL REINFORCEMENT
SCALE: 1" = 1'-0"

STEEL TUBE LINTEL SCHEDULE	
WALL OPENING	TUBE
Lo ≤ 5'-0"	HSS4x4x1/4
5'-1" < Lo ≤ 7'-0"	HSS6x4x1/4
7'-1" < Lo ≤ 10'-0"	HSS10x6x1/2

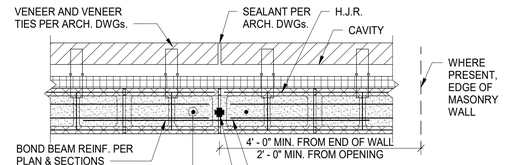
5 / S5.01 EXTERIOR CAVITY WALL LINTEL SCHEDULE
SCALE: 1" = 1'-0"

ANGLE LOOSE LINTEL SCHEDULE	
WALL OPENING	ANGLE (EVERY 4" OF CMU)
Lo ≤ 4'-0"	L3-1/2x3-1/2x1/4
4'-0" < Lo ≤ 5'-0"	L4x3-1/2x1/4 (LLV)
5'-0" < Lo ≤ 6'-0"	L5x3-1/2x5/16 (LLV)
6'-0" < Lo ≤ 7'-0"	L6x3-1/2x5/16 (LLV)
7'-0" < Lo ≤ 8'-0"	L6x3-1/2x3/8 (LLV)
8'-0" < Lo ≤ 9'-4"	L7x4x3/8 (LLV)

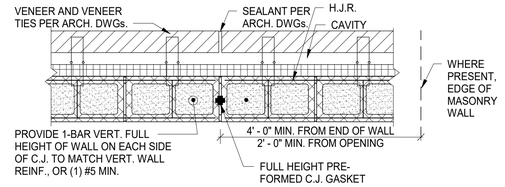


NOTE: PROVIDE MIN. 5" BEARING FOR OPENINGS 5'-0" AND UNDER, AND MIN. 8" BEARING FOR OPENINGS OVER 5'-0".

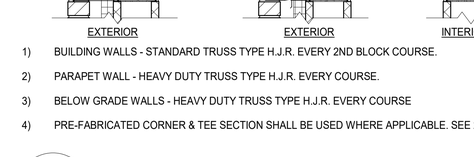
6 / S5.01 INTERIOR LOOSE ANGLE LINTEL SCHEDULE
SCALE: 1" = 1'-0"



C.J. @ BOND BEAM

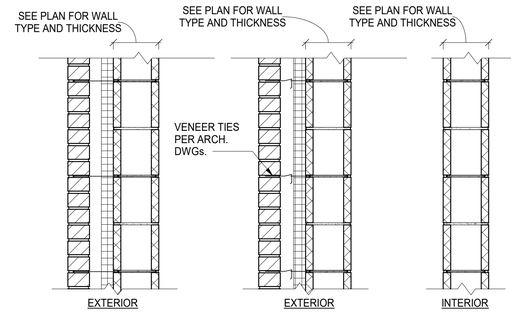


7 / S5.01 WALL CONTROL JOINT W/ VENEER
SCALE: 1" = 1'-0"



1. AT REINFORCED EXTERIOR WALLS:
PROVIDE 2 JAMB BARS AT EACH OPENING JAMB, SIZE TO MATCH WALL REINFORCING, WITH TWO JAMB DOWELS INTO FOOTING, DOWELS TO BE SAME SIZE AS JAMB REINF.
2. AT REINFORCED INTERIOR WALLS SHOWN ON STRUCTURAL DRAWINGS:
PROVIDE 2 JAMB BARS AT EACH OPENING JAMB, SIZE TO MATCH WALL REINFORCING, WITH 2 JAMB DOWELS INTO FOOTING, DOWELS TO BE SAME SIZE AS JAMB REINF.
3. AT NON-REINFORCED INTERIOR WALLS SHOWN ON STRUCTURAL DRAWINGS:
PROVIDE (1) #4 VERTICAL FULL HEIGHT W/ (1) #4 DOWEL TO FOOTING.
4. AT INTERIOR WALLS NOT SHOWN ON STRUCTURAL DRAWINGS:
GROUT BEARING SOLID WITH NO REINFORCING.

8 / S5.01 WALL JAMB DETAIL
SCALE: 1" = 1'-0"



1) BUILDING WALLS - STANDARD TRUSS TYPE H.J.R. EVERY 2ND BLOCK COURSE.
2) PARAPET WALL - HEAVY DUTY TRUSS TYPE H.J.R. EVERY COURSE.
3) BELOW GRADE WALLS - HEAVY DUTY TRUSS TYPE H.J.R. EVERY COURSE
4) PRE-FABRICATED CORNER & TEE SECTION SHALL BE USED WHERE APPLICABLE. SEE 2/S5.02

9 / S5.01 HORIZ. JOINT REINF. (H.J.R.) DETAIL
SCALE: 1" = 1'-0"

STATE OF MARYLAND — ROSE E. RODRIGUEZ — 47042 — PROFESSIONAL ENGINEER — 7/1/2020

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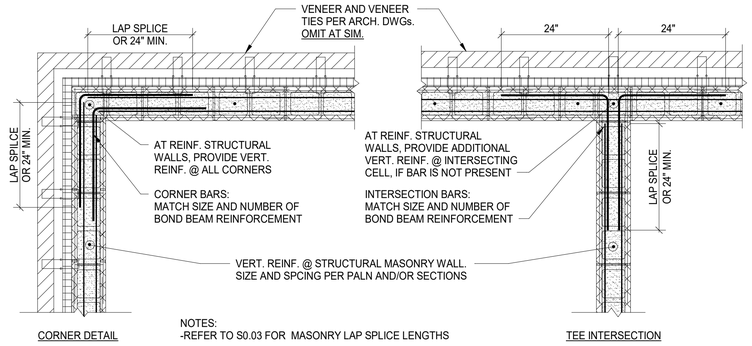
ADTEK PROJECT #: 1713.0001

TYPICAL MASONRY WALL DETAILS

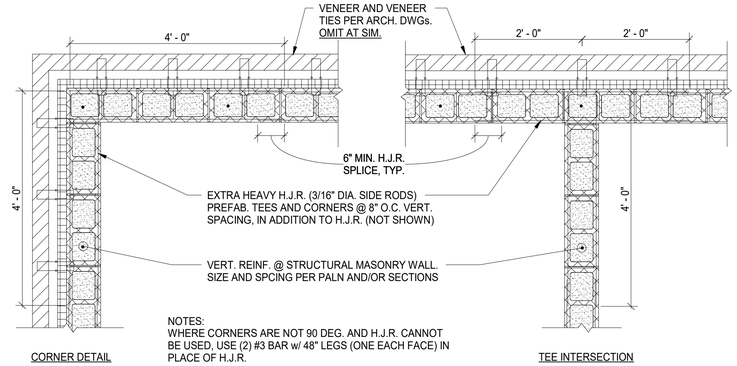
PLOT SCALE: As indicated
FILENAME:
DATE: December 18, 2019

PROJECT 3089

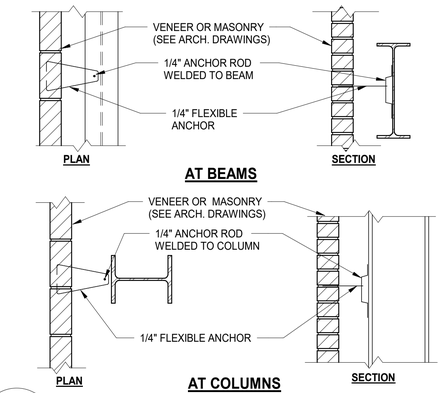
S5.01



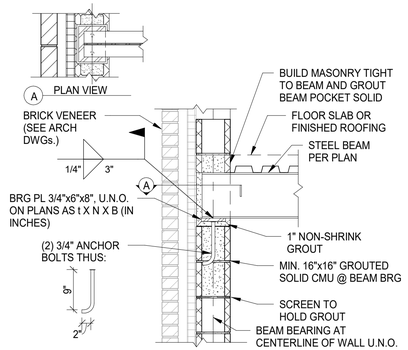
1 S5.02 BOND BEAM CORNER / TEE INTERSECTION
SCALE: 3/4" = 1'-0"



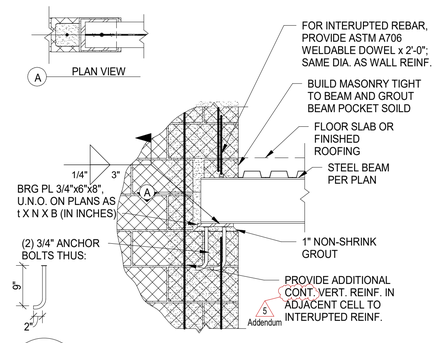
2 S5.02 CORNER TEE INTERSECTION HJR REINFORCING
SCALE: 3/4" = 1'-0"



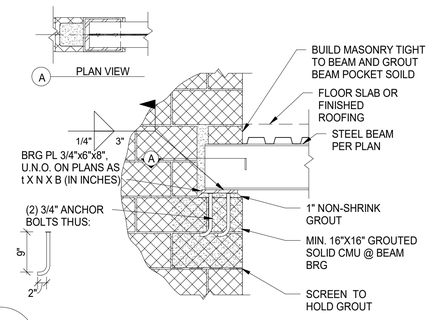
3 S5.02 VENEER TIES AT BEAMS AND COLUMNS
SCALE: 1" = 1'-0"



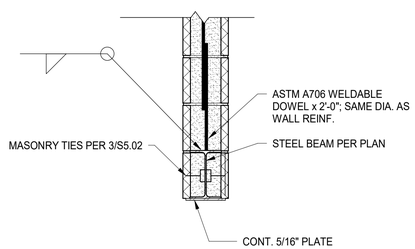
4 S5.02 BEAM BEARING ON CMU WALL
SCALE: 3/4" = 1'-0"



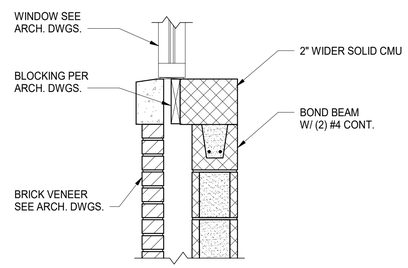
5 S5.02 BEAM BEARING ON REINF. CMU WALL
SCALE: 3/4" = 1'-0"



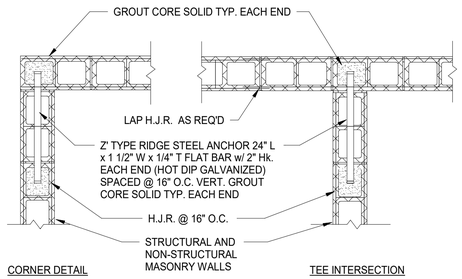
6 S5.02 BEAM BEARING ON UNREINF. CMU WALL
SCALE: 3/4" = 1'-0"



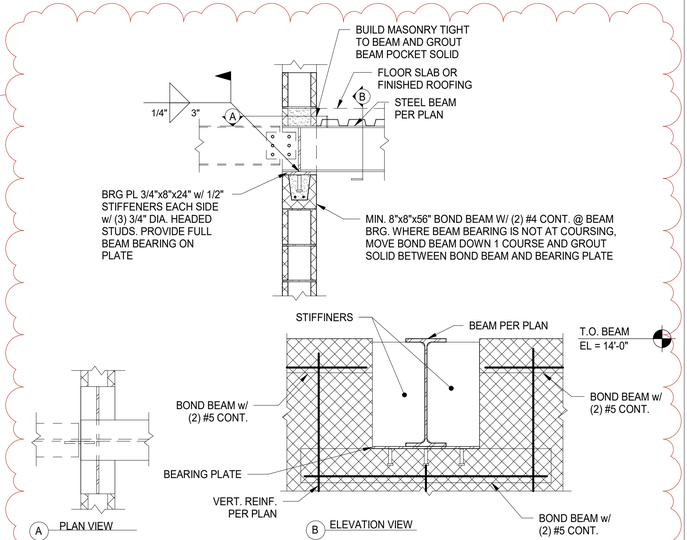
7 S5.02 LINTEL BEAM w/ PLATE DETAIL
SCALE: 1" = 1'-0"



8 S5.02 WINDOW SILL DETAIL
SCALE: 1" = 1'-0"



9 S5.02 CORNER/TEE INTERSECTING WALL REINFORCING
SCALE: 3/4" = 1'-0"



10 S5.02 BEAM BEARING ON CMU WALL
SCALE: 3/4" = 1'-0"

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#	MM-DD-YR	NAME	DESCRIPTION OF CHANGES
5	09-10-20	5	Addendum 5

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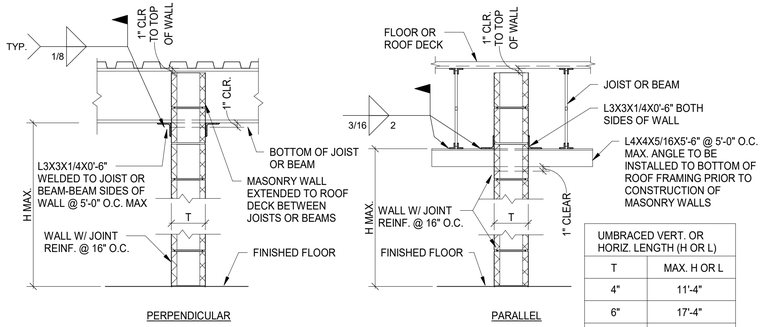
TYPICAL MASONRY WALL DETAILS

PLOT SCALE: As indicated
FILENAME:
DATE: December 18, 2019

PROJECT 3089

S5.02



UMBRACED VERT. OR HORIZ. LENGTH (H OR L)	
T	MAX. H OR L
4"	11'-4"
6"	17'-4"
8"	23'-4"
"L" IS THE HORIZONTAL DISTANCE BETWEEN INTERSECTING MASONRY WALLS.	

NOTES:
1. SEE ARCH. DWGs. FOR MASONRY WALL SIZE, LOCATION & HEIGHT.
2. SEE DETAIL 2/S5.03 FOR BRACING OF WALLS EXCEEDING UNBRACED LENGTH AND HEIGHTS LIMITS.

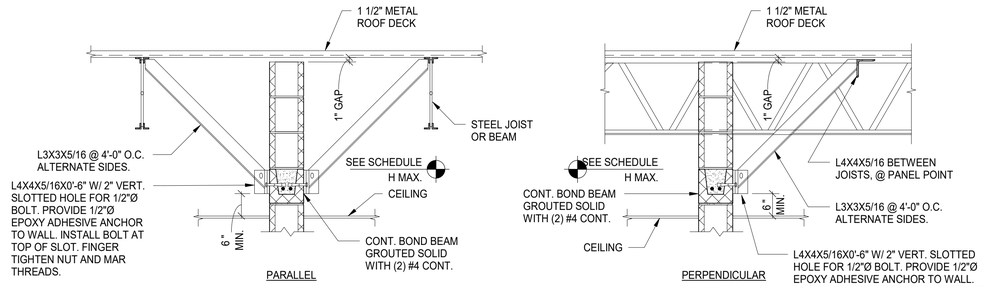
MASONRY WALLS MUST BE BRACED EITHER HORIZONTALLY, BY INTERSECTING WALLS AT EACH END, OR VERTICALLY, AT FLOOR AND STRUCTURE ABOVE, AS DETAILED HEREIN.

IF WALLS ARE NOT BRACED HORIZONTALLY BY INTERSECTING PARTITIONS, THEY ARE CONSIDERED TO SPAN VERTICALLY, AND MUST BE BRACED AT THE TOP OF THE WALL AS DETAILED.

WALLS FAIL TO MEET THE HORIZONTAL SPAN CRITERIA IF:

1. INTERSECTING PARTITIONS ARE FARTHER APART THAN THE MAX. H SHOWN.
2. IF THERE IS NO INTERSECTING PARTITION ON ONE END OF THE WALL.
3. A LONG RUN OF WALL WITH NO INTERSECTING PARTITIONS.

1 S5.03 INTERIOR NON-STRUCTURAL MASNONRY WALL BRACE
SCALE: 3/4" = 1'-0"



NOTE:
BRACE WALLS EXTENDING TO DECK PER THIS DETAIL WHERE BOTH THE UNBRACED HORIZONTAL LENGTH (HORIZONTAL DISTANCE BETWEEN INTERSECTING WALLS) AND THE HEIGHT OF THE WALL (DISTANCE FROM FLOOR TO ROOF DECK) EXCEEDS THE LIMITS SPECIFIED IN DETAIL 1/S5.03.

2 S5.03 INTERIOR NON-STRUCTURAL MASONRY WALL BRACE
SCALE: 3/4" = 1'-0"

NOTE:
BRACE WALLS EXTENDING TO BEAMS PER DETAIL 2/S5.03 WHERE BOTH THE UNBRACED HORIZONTAL LENGTH (HORIZONTAL DISTANCE BETWEEN INTERSECTING WALLS) AND THE HEIGHT OF THE WALL (DISTANCE FROM FLOOR TO ROOF DECK) EXCEEDS THE LIMITS SPECIFIED IN DETAIL 1/S5.03.

3 S5.03 INT. NON-STRUCTURAL CMU WALL BRACE
SCALE: 3/4" = 1'-0"

4 S5.03 INT. NON-STRUCTURAL CMU WALL BRACE
SCALE: 3/4" = 1'-0"

5 S5.03 CHASE WALL BRACING
SCALE: 3/4" = 1'-0"

6 S5.03 INT. NON-STRUCTURAL CMU WALL BRACING
SCALE: 1" = 1'-0"

7 S5.03 STEEL COLUMN BRACED TO MASONRY WALL
SCALE: 3/4" = 1'-0"

STATE OF MARYLAND · ROSS A. RODRIGUEZ · 47042 · PROFESSIONAL ENGINEER · 7/1/2020

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TYPICAL MASONRY WALL DETAILS

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S5.03