GENERAL STRUCTURAL NOTES

ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE VIRGINIA UNIFORM STATEWIDE BUILDING CODE. VUSBC (2009 EDITION) EFFECTIVE MARCH 1, 2011.

REFER TO ARCHITECTURAL DRAWINGS FOR WATERPROOFING DETAILS.

THE ENGINEER SHALL NOT HAVE THE AUTHORITY OR RESPONSIBILITY TO SUPERVISE OR DIRECT THE CONSTRUCTION WORK.

ALL SECTIONS AND DETAILS, WHETHER EXPLICITLY CUT ON PLAN OR NOT, SHALL BE CONSIDERED TYPICAL AND SHALL APPLY AT SIMILAR CONDITIONS.

INFORMATION REGARDING STRUCTURAL MEMBERS INDICATED TO BE EXISTING WAS OBTAINED DURING FROM LIMITED AVAILABLE EXISTING DRAWINGS. ACTUAL CONDITIONS MAY DIFFER FROM THAT WHICH IS INDICATED. IF THE CONTRACTOR UNCOVERS EXISTING CONDITIONS THAT DIFFER FROM THAT WHICH IS INDICATED ON PLAN, THE CONTRACTOR SHALL NOTIFY THE ARCHITECT AND STRUCTURAL ENGINEER OF RECORD OF THE DISCREPANCY IN ORDER THAT THE CONDITION MAY BE RESOLVED.

FIELD VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS PRIOR TO THE CONSTRUCTION AND FABRICATION OF ANY NEW STRUCTURAL MEMBERS.

TEMPORARY SHORING AND PROTECTION OF EXISTING PROPERTY

THE STRUCTURE IS DESIGNED TO BE SELF-SUPPORTING AND STABLE AFTER THE BUILDING IS FULLY COMPLETED. REASONABLE PROTECTION OF EXISTING STRUCTURE AND PROPERTY IS THE RESPONSIBILITY OF THE CONTRACTOR. THE ERECTION PROCEDURE AND SEQUENCE INCLUDING THE DESIGN ADEQUACY AND SAFETY OF VERTICAL AND LATERAL SUPPORT (ERECTION BRACING, SHORING, TEMPORARY SUPPORTS, ETC.) FOR SHORING OF EXISTING STRUCTURE DURING EXCAVATION, REMOVAL AND REPLACEMENT OF FOUNDATIONS. AND REMOVAL AND REPLACEMENT OF FLOORS, WALLS, AND ROOF SYSTEMS IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR. SHORE AND SUPPORT EXISTING MASONRY AND EXISTING FRAMING ABOVE NEW OPENINGS DURING CONSTRUCTION.

SUBMIT COMPLETE TEMPORARY SHORING DRAWINGS AND CALCULATIONS SIGNED AND SEALED BY AN ENGINEER REGISTERED IN THE COMMONWEALTH OF VIRGINIA FOR REVIEW AND APPROVAL BEFORE COMMENCEMENT OF THE WORK.

SPECIAL INSPECTIONS ARE REQUIRED BY THE VIRGINIA UNIFORM STATEWIDE BUILDING CODE (CHAPTER 17). THE FOLLOWING IS A LIST OF ITEMS THAT REQUIRE SPECIAL INSPECTION. REFER TO FORM CO-6b FOR A SPECIFIC LISTING.

> STRUCTURAL STEEL FRAMING INCLUDING FASTENERS, WELD MATERIALS, INSTALLATION OF HIGH STRENGTH BOLTS, STEEL FRAMING AND CONNECTIONS, CAST-IN-PLACE CONCRETE AND MASONRY.

SHOP DRAWINGS: THE CONTRACTOR SHALL COORDINATE THE MECHANICAL, PLUMBING, AND ELECTRICAL REQUIREMENTS WITH THE STRUCTURAL DRAWINGS, INCLUDING THE LOCATION OF MISCELLANEOUS ITEMS AFFECTING THE STRUCTURAL WORK SUCH AS OPENINGS, INSERTS, ETC. PROMPTLY NOTIFY THE ARCHITECT OF ANY DISCREPANCIES OR OMISSIONS.

THE CONTRACTOR SHALL VERIFY ALL FLOOR AND ROOF MOUNTED MECHANICAL EQUIPMENT DIMENSIONS AND WEIGHTS, AND VERIFY ALL ROOF OPENING SIZES AND LOCATIONS, WITH ARCHITECTURAL AND MECHANICAL DRAWINGS AND REVIEWED

SHOP DRAWINGS ARE TO BE REVIEWED BY THE CONTRACTOR AND SUBCONTRACTOR PRIOR TO BEING SUBMITTED FOR APPROVAL.

DESIGN LOADS

A. BUILDING OCCUPANCY CATEGORY

MECH EQUIPMENT STAIRS RESIDENTIAL ROOMS AND COORDIORS SERVING LOBBIES AND LOUNGES

REFER TO PLAN 100 PSF

40 PSF + 15 PSF PARTITIONS 100 PSF 40 PSF

C. SNOW LOADS

PG=25 PSF (GROUND SNOW) CE=1.0 (SNOW EXPOSURE FACTOR)

CT=1.0 (THERMAL FACTOR) IS=1.1 (SNOW LOAD IMPORTANCE FACTOR: ASCE 7-05 TABLE 7-4) PF (SNOW LOAD FOR LOW-SLOPE ROOF)=0.7X(CE)X(CT)X(IS)X(PG) 0.7X1.0X1.0X1.1X25 = 19.25 PSFUSE 30 PSF MIN

D. <u>WIND LOADS</u>

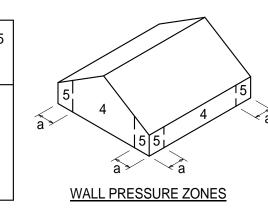
V=90 MPH (BASIC WIND SPEED: 3-SECOND GUST) IW=1.15 (WIND IMPORTANCE FACTOR: ASCE 7-05 TABLE 6-1) EXPOSURE B KD=0.85 (WIND DIRECTIONALITY FACTOR)

KZT=1.0 (TOPOGRAPHIC FACTOR) WIND LOAD DETERMINATION BY: ASCE 7-05, SECTION 6.5, METHOD 2

WALL PRESSURES (PSF)

(ANALYTICAL PROCEDURE)

EFFECTIVE : WIND AREA (SQ FT)	ZONES 4,5 (+)	ZONE 4 (-)	ZONE (-)
10 20 50 100 200 500	+17.99 +17.18 +16.11 +15.30 +14.49 +13.43	-19.52 -18.71 -17.64 -16.83 -16.02 -14.94	-24.0 -22.4 -20.3 -18.7 -17.0 -14.9



OCCUPANCY CATEGORY = III, IE = 1.25 (ASCE 7-05 TABLE 11.5-1) SEISMIC DESIGN CATEGORY = B SECTION 3404.4 EXCEPTION APPLIES

FOUNDATIONS FOR THIS STRUCTURE ARE SPREAD FOOTINGS BEARING ON EITHER VIRGIN SOIL OR CONTROLLED COMPACTED FILL WITH AN ASSUMED SOIL BEARING CAPACITY OF

THE OWNER'S GEOTECHNICAL ENGINEER SHALL VERIFY, PRIOR TO POURING CONCRETE THAT THE SOIL IS CAPABLE OF SUPPORTING SUCH A LOAD AND IS CONSISTENT WITH THE GEOTECHNICAL REPORT.

THE CONTRACTOR SHALL PROTECT THE FOOTINGS AND SLABS FROM DAMAGE FROM FROST HEAVE DURING CONSTRUCTION UNTIL THE FINAL DESIGN STRUCTURE IS COMPLETE.

STEPS IN WALL FOOTINGS SHALL HAVE A MINIMUM SPACING OF DOUBLE THE CHANGE IN ELEVATION.

AT NON-RETAINING WALLS BELOW GRADE, BACKFILL AGAINST BOTH SIDES OF WALL SIMULTANEOUSLY SO THAT GRADE DIFFERENCE IS NO MORE THAN 1'-0" AT ANY TIME.

ALL CONCRETE WORK SHALL CONFORM TO ALL REQUIREMENTS OF ACI 301-05 "SPECIFICATIONS FOR STRUCTURAL CONCRETE" AND ACI 318-08 "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE".

ASTM A185 (WELDED WIRE FABRIC - USE FLAT SHEETS ONLY) ALL EXTERIOR EXPOSED CONCRETE SHALL BE FURNISHED WITH AN AIR-ENTRAINING

- REFER TO SPECIFICATIONS.

f'c=3500 PSI (SLABS-ON-GRADE AND ELEVATED SLABS) f'c=3000 PSI (ALL OTHER CONCRETE)

ADMIXTURE PROVIDING AN AIR-CONTENT OF 6% (+/- 1 1/2%) AT POINT OF PLACEMENT

ALL MASONRY WORK SHALL CONFORM TO THE REQUIREMENTS OF (ACI 530-08/ASCE 5-08/TMS 402-08) "BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES" AND (ACI 530.1-08/ASCE 6-08/TMS 602-08) "SPECIFICATION FOR MASONRY STRUCTURES".

> ASTM C90 (BLOCK) ASTM C270 (MORTAR) - TYPE S (CMU), TYPE N (BRICK) ASTM C476 (GROUT)

f'm=1500 PSI

ASTM A615 GRADE 60 (REINFORCING)

SOLIDLY FILL COLLAR JOINTS WITH MORTAR AS THE WORK PROGRESSES.

PROVIDE STEEL SLEEVES AT PIPE PENETRATIONS (GALVANIZED AT EXTERIOR WALLS AND ALL BELOW GRADE WALLS).

GROUT ALL CELLS OF FOUNDATION WALLS SOLID UP TO FINISH GROUND FLOOR.

AT HOLLOW WALLS THAT CHANGE IN THICKNESS OR NUMBER OF WYTHES, PROVIDE A COURSE OF SOLID MASONRY OR GROUT FILLED UNITS BELOW THE TRANSITION.

ALL BLOCK CONTAINING VERTICAL REINFORCING SHALL HAVE TWO CELLS PER 16" BLOCK. CELLS SHALL ALIGN VERTICALLY. BARS SHALL BE HELD IN PLACE BY REBAR POSITIONERS OR OTHER SUITABLE DEVICES.

IN VERTICALLY REINFORCED WALLS, USE LADDER TYPE (NOT TRUSS TYPE) REINFORCING IN HORIZONTAL MORTAR JOINTS.

GROUT SLUMP SHALL BE 8" TO 11". PLACE GROUT PER ACI 530.1 SECTION 3.5 AND CONSOLIDATE BY VIBRATION. RECONSOLIDATE BY VIBRATION AFTER INITIAL WATER LOSS AND SETTLEMENT.

AFTER STEEL ERECTION IS COMPLETE, FILL ALL POCKETS AT BEARING OF JOISTS AND BEAMS SOLID WITH MASONRY. BUILD TIGHT TO STEEL MEMBER.

ALL <u>STRUCTURAL STEEL</u> WORK SHALL CONFORM TO THE REQUIREMENTS OF AISC 360-05 "SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS". BOLTED CONNECTIONS SHALL BE TIGHTENED TO A SNUG TIGHT CONDITION UNLESS NOTED OTHERWISE ON PLAN. REFER TO DRAWINGS FOR CONNECTIONS.

> ASTM A992 (W-SHAPES AND WT-SHAPES) FY = 50 KSIASTM A500 GRADE B (SQUARE AND FY = 46 KSI

RECTANGULAR HSS SHAPES) ASTM A36 (ANGLE, CHANNELS, PLATES, AND FY = 36 KSI OTHER STRUCTURAL SHAPES)

E70XX (SMAW PROCESS WELDING) E6022 (METAL DECK TO OWSJ OR STRUCTURAL STEEL - SMAW

PROCESS) E7XT-X (FCAW PROCESS WELDING)

ASTM A325-N (BOLTS) ASTM A563 (HEAVY HEX NUT)

ASTM F436 (HARDENED STEEL WASHER) ASTM F1554 FY=36 KSI (ANCHOR RODS UNO)

ASTM A108 (HEADED SHEAR STUDS)

DETAILING AND ERECTION OF STRUCTURAL STEEL AND SHALL COMPLY WITH CURRENT OSHA STANDARDS FOR THE CONSTRUCTION INDUSTRY-SUBPART R -STEEL ERECTION.

LINTELS NOTES

MASONRY WALL THICKNESS	ROUGH OPENING WIDTH	<u>LINTEL</u>	
LESS THAN 4"	8" OR LESS UP TO 48"	NO LINTEL REQUIRED L3X3X1/4 STEEL ANGLE	
4" (NOM.)	12" OR LESS UP TO 48"	NO LINTEL REQUIRED 4X8 PRECAST CMU UNIT WITH (1)#3 TOP AND BOTTOM	
6" (NOM.)	UP TO 76"	6x8 PRECAST CMU UNIT WITH (1) #4 TOP AND BOTTOM	
8" (NOM.)	12" OR LESS UP TO 56"	NO LINTEL REQUIRED (2) 4X8 PRECAST CMU UNITS WITH (1) #4 TOP AND BOTTOM EACH	
4" CMU + 4" BRICK	UP TO 72"	(1) L5X3 1/2X5/16 (LLV) IN EA WYTHE	
(3) 4" WYTHE (EXISTING)	UP TO 24"	(1) L3X3X1/4 IN EA WYTHE	
BEAR STEEL ANGLES 6" EACH END ON SOLID MASONRY.			

ALL STRUCTURAL COLD-FORMED METAL FRAMING SHALL CONFORM TO THE S100-07 "NORTH AMERICAN SPECIFICATION FOR DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS- BY AMERICAN IRON AND STEEL INSTITUTE (AISI). ALL STUDS, JOISTS, AND ACCESSORIES SHALL BE GALVANIZED STEEL WITH THE TYPE, SIZE, GAUGE, AND SPACING INDICATED ON THE DRAWINGS. PROVIDE SHOP DRAWINGS FOR DMWPV REVIEW.

DESIGN MINIMUM YIELD STRENGTHS ARE AS FOLLOWS:

STRUCTURAL MEMBERS UNLESS NOTED OTHERWISE.

BEAR PRECAST LINTELS 8" EACH END ON SOLID MASONRY.

Fy=33 KSI FOR 54, 43 AND 33 MIL THICKNESS Fy=50 KSI FOR 97 AND 68 MIL THICKNESS

PUNCH OUTS SHALL NOT BE LOCATED WITHIN 10" OF END OF MEMBER OR INSIDE FACE OF SUPPORT. PROVIDE BRIDGING IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS - NOT TO EXCEED 4'-0" OC IN VERTICAL WALL STUDS.

PAF USED TO CONNECT LIGHT GAGE STEEL MEMBERS OR CONNECTORS TO CONCRETE OR STRUCTURAL STEEL SHALL BE ONE OF THOSE INDICATED IN "POST INSTALLED ANCHOR" NOTES

USE NO. 10 SCREWS (MINIMUM SIZE) IN ALL CONNECTIONS OF LIGHT GAUGE STEEL

11. ALL POST-INSTALLED ANCHORS (IN CONCRETE OR CMU) ARE TO BE INSTALLED IN STRICT CONFORMANCE WITH THE MANUFACTURER'S RECOMMENDATIONS (INCLUDING BUT NOT LIMITED TO DRILL BIT SIZE, PROPER CLEANING OF HOLES, INSTALLATION TORQUE, AND TEMPERATURE

WHEN A SPECIFIC PRODUCT AND MANUFACTURER IS REFERENCED IN THE CONTRACT DOCUMENTS, THAT SPECIFIC PRODUCT SHALL BE USED UNLESS THE CONTRACTOR SUBMITS A REQUEST FOR A PRODUCT SUBSTITUTION OF AN ANCHOR WITH EQUIVALENT RESISTANCE VALUES IN THE APPROPRIATE BASE MATERIAL. ALL REQUESTS FOR SUBSTITUTION SHALL INCLUDE PRODUCT SPECIFICATIONS AND DESIGN DATA FOR REVIEW BY THE STRUCTURAL ENGINEER OF RECORD (DMWPV). CONTRACTOR SHALL SUBMIT CALCULATIONS DEMONSTRATING PROPOSED SUBSTITUTION IS EQUAL TO APPROVED PRODUCTS.

CHEMICAL ANCHORING SYSTEMS USED IN HOLLOW MASONRY GENERICALLY REFERRED TO AS "EPOXY" ANCHORING SYSTEMS SHALL BE ONE OF:

HIT-HY 20 BY HILTI

AT ACRYLIC-TIE ANCHORING SYSTEM BY SIMPSON AC100+ GOLD BY POWERS FASTENERS

USE STAINLESS STEEL SCREEN TUBES BY THE SAME MANUFACTURER WHEN USING THESE ADHESIVES IN MASONRY WITH VOIDS OR HOLLOW CMU. INSTALL USING DRILL IN ROTATION-ONLY MODE TO KEEP FROM DAMAGING INSIDE OF FACE SHELL.

CHEMICAL ANCHORING SYSTEMS USED IN <u>SOLID OR GROUTED MASONRY</u> GENERICALLY REFERRED TO AS "EPOXY" ANCHORING SYSTEMS SHALL BE ONE OF:

> SET HIGH STRENGTH EPOXY BY SIMPSON STRONG TIE ANCHOR SYSTEMS HIT-HY 150 MAX BY HILTI AC100 + GOLD BY POWERS FASTENERS

THREADED ROD ANCHORS USED WITH THESE SYSTEMS SHALL BE STANDARD STRENGTH STEEL ROD (ASTM A36) UNLESS NOTED OTHERWISE. REINFORCING STEEL USED WITH THESE SYSTEMS SHALL COMPLY WITH ASTM A615 GRADE 60.

CHEMICAL ANCHORING SYSTEMS USED IN <u>CONCRETE</u> GENERICALLY REFERRED TO AS "EPOXY ANCHORS" SHALL BE ONE OF:

SET-XP BY SIMPSON STRONG TIE ANCHOR SYSTEMS

HIT-RE 500-SD BY HILTI HIT-HY 150 MAX SD BY HILTI

PE1000 + BY POWERS FASTENERS

DO NOT USE CHEMICAL ANCHORS IN OVERHEAD APPLICATIONS.

FASTENERS GENERICALLY REFERRED TO AS "CONCRETE/MASONRY SCREWS" SHALL BE ONE OF:

KWIK-CON II + BY HILTI TITEN BY SIMPSON STRONG TIE ANCHOR SYSTEMS (DO NOT USE TITEN HD MINI) TAPPER BY POWERS FASTENERS (DO NOT USE TAPPER +)

FASTERNERS GENERICALLY REFERRED TO AS "PAF" (POWER ACTUATED FASTENERS) SHALL BE

PAF INTO NORMAL WEIGHT CONCRETE:

	<u>ANCHOR</u>	<u>MANUF</u>	SHANK DIAMETER	MIN EMBEDMENT
1 2		HILTI POWERS PIN FASTENER:	0.157" 0.157" S	1 1/4" 1 1/4"
3 4	. SP SERIES	RAMSET SIMPSON	0.150"/0.180" TAPERE 0.157"	D SHANK 1 1/4" 1 1/4"

PAF INTO

4.	PDPA	SIMPSON	0.157"
O STRI	JCTURAL STEEL:		
	ANCHOR	MANUF	SHANK DIAMETER
1. 2.	X-U 8 mm HEAD SPIRAL CSI PIN	HILTI POWERS FASTENERS	0.157" 0.157"

RAMSET 0.150" PDPA SIMPSON 0.157" USE ONLY HILTI X-U PAF IN STRUCTURAL STEEL GREATER THAN 1/2" THICK. 1/2" MINIMUM POINT PENETRATION REQUIRED IN STRUCTURAL STEEL GRATER THAN 1/2" THICK.

12. ABBREVIATIONS

HS = HIGH STRENGTH

HT = HEIGHT

INT = INTERIOR

<u>ABBREVIATIONS</u>		
AB = ANCHOR BOLT	JBE	= JOIST BEARING ELEV
AFF = ABOVE FINISHED FLOOR	JT	= JOINT
APC = ARCHITECTURAL PRECAST	LBS	= POUNDS
CONCRETE	LGST	
ARCH = ARCHITECTURAL	LL	= LIVE LOAD
BLDG = BUILDING	LLH	= LONG LEG HORIZONT
BM = BEAM	LLV	= LONG LEG VERTICAL
BOT = BOTTOM	LSH	= LONG SIDE HORIZON
BRG = BEARING	LSV	= LONG SIDE VERTICAL
CANT = CANTILEVER	LVL	= LAMINATED VENEER
CFS-S = COLD-FORMED STEEL- STRUCTURAL	LW	= LIGHT WEIGHT
CFS-NS= COLD-FORMED STEEL- NON STRUCTURAL	MAS	= MASONRY
CIP = CAST-IN-PLACE	MAX	= MAXIMUM
CJ = CONTROL JOINT	MECH	= MECHANICAL
CL = CENTERLINE	MFR	= MANUFACTURER
CLG = CEILING	MISC	= MISCELLANEOUS
CLR = CLEAR	MIN	= MINIMUM
CMU = CONCRETE MASONRY UNIT	[NC]	= NON-COMPOSITE
COL = COLUMN	NO.	= NUMBER
CONC = CONCRETE	NIC	= NOT IN CONTRACT
CONN = CONNECTION	NTS	= NOT TO SCALE
CONT = CONTINUOUS	NW	= NOT TO SOALL = NORMAL WEIGHT
COORD = COORDINATE	OC	= ON CENTER
DET = DETAIL	OPP	= OPPOSITE
DIA = DIAMETER	OH	= OPPOSITE HAND
DIAG = DIAGONAL	OWSJ	
DIM = DIMENSION	PAF	= POWDER ACTUATED
DL = DEAD LOAD	PL	= POWDER ACTUATED = PLATE
	PLF	
DN = DOWN DWGS = DRAWINGS	POJ	= POUNDS PER LINEAR
		= PLANE OF JOIST
EA = EACH	PSF	= POUNDS PER SQUAR
EJ = EXPANSION JOINT	PSI	= POUNDS PER SQUAR
EL = ELEVATION	REF	= REFERENCE
ELEV = ELEVATOR		= REINFORCING
EOS = EDGE OF SLAB		= REQUIRED
EQ = EQUAL	SECT	= SECTION
EQUIP = EQUIPMENT	SIM	= SIMILAR
EXIST = EXISTING	SOG	= SLAB-ON-GRADE
EW = EACH WAY	SPA	= SPACE
EXP = EXPANSION	STD	= STANDARD
EXT = EXTERIOR	STIFF	
FFE = FINISHED FLOOR ELEVATION	TBE	= TRUSS BEARING ELE
FLR = FLOOR	T&B	= TOP AND BOTTOM
FLT = FLAT BAR	T&G	= TONGUE AND GROOV
FRT = FIRE RETARDANT TREATED	TOB	= TOP OF BEAM
FTG = FOOTING	TOC	= TOP OF CONCRETE
GA = GAUGE	TOS	= TOP OF STEEL
GALV = GALVANIZED	TYP	= TYPICAL
GC = GENERAL CONTRACTOR	UNO	= UNLESS NOTED OTHE
GT = GIRDER TRUSS	VERT	
HK = HOOK	WCJ	= WALL CONTROL JOIN
HORIZ = HORIZONTAL	WT	= WEIGHT
LIC LIICH CTDENCTH	\^/\^/	WELDED WIDE EADDL

EVATION . TRUSS NTAL LUMBER

D FASTENER AR FOOT

ARE FOOT ARE INCH

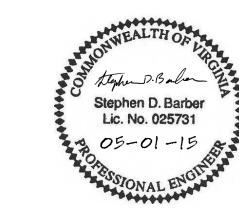
EVATION OVE

(H) = HIGH

(L) = LOW

HERWISE

Project Code VMDO Project Number WWF = WELDED WIRE FABRIC



RENOVATION OF THREE

217-17565-002

RESIDENCE HALLS

DRAPER HALL

RADFORD UNIVERSITY

RADFORD, VIRGINIA

VMDO ARCHITECTS

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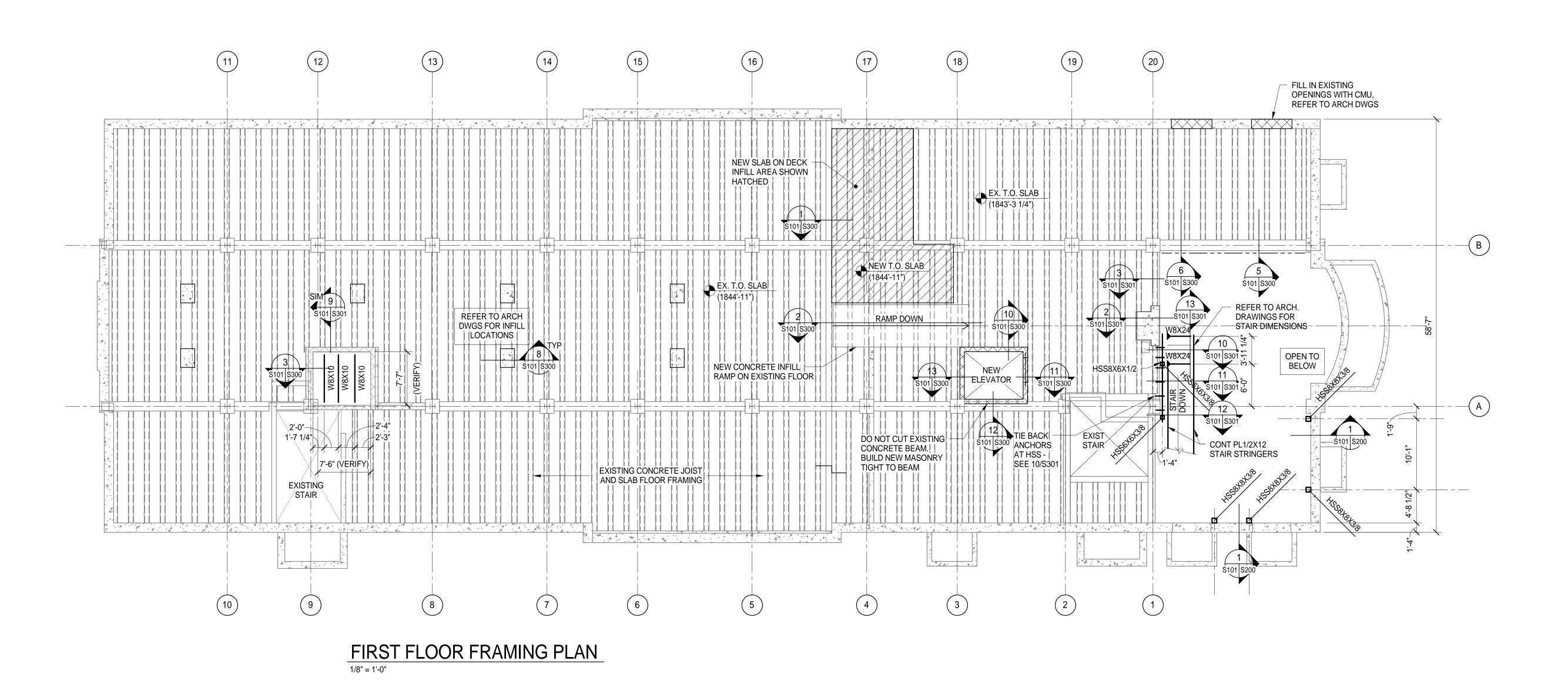
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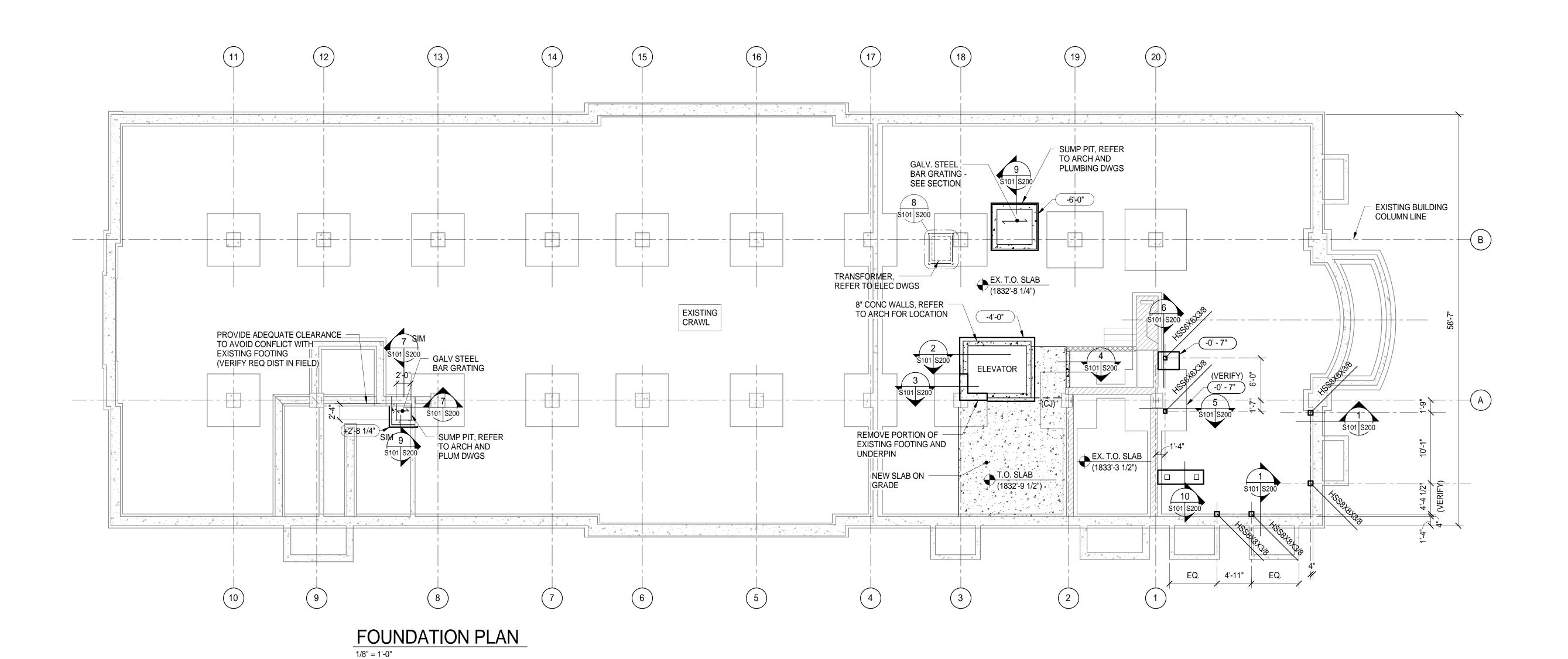
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Note: Modifications to the bid documents that were issued by addenda have been incorporated into these drawings for the convenience of the Contractor. In the event of discrepancies between the originally issued addenda and changes depicted on these drawings, the originally issued addenda shall take precedence.

ISSUES AND REVISIONS NO. SUBMITTAL DATE 05.19.14 BID DOCUMENTS CONSTRUCTION SET 05.01.15

GENERAL STRUCTURAL NOTES





 TYPICAL NEW SLAB-ON-GRADE SHALL BE 4" NORMAL WEIGHT CONCRETE WITH 6X6-W1.4XW1.4 WWF AT MID-DEPTH, OVER VAPOR BARRIER/RETARDER (REF ARCH DWGS), OVER 4" POROUS FILL.

2. TOP OF FOOTING ELEVATIONS INDICATED THUS (-X'-XX") ARE RELATIVE TO TYPICAL BASEMENT TOP OF SLAB ELEVATION INDICATED ON PLAN

3. REFER TO ARCHITECTURAL DRAWINGS FOR ELEVATOR AND PIT WALL LOCATIONS.

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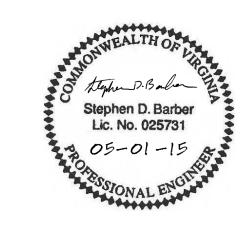


RENOVATION OF THREE RESIDENCE HALLS DRAPER HALL

RADFORD UNIVERSITY RADFORD, VIRGINIA

Project Code

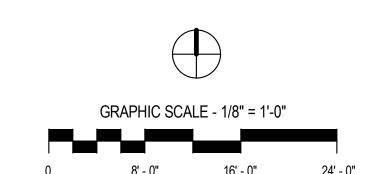
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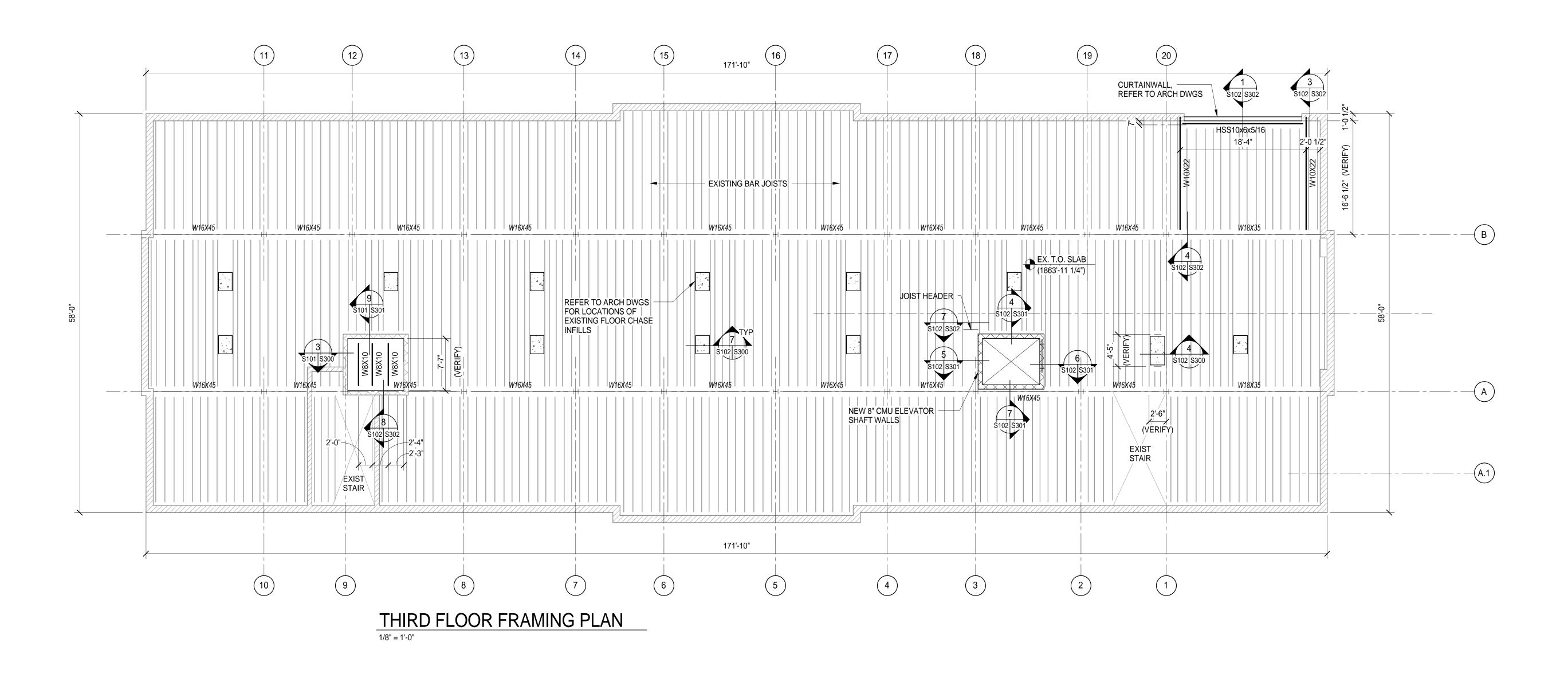


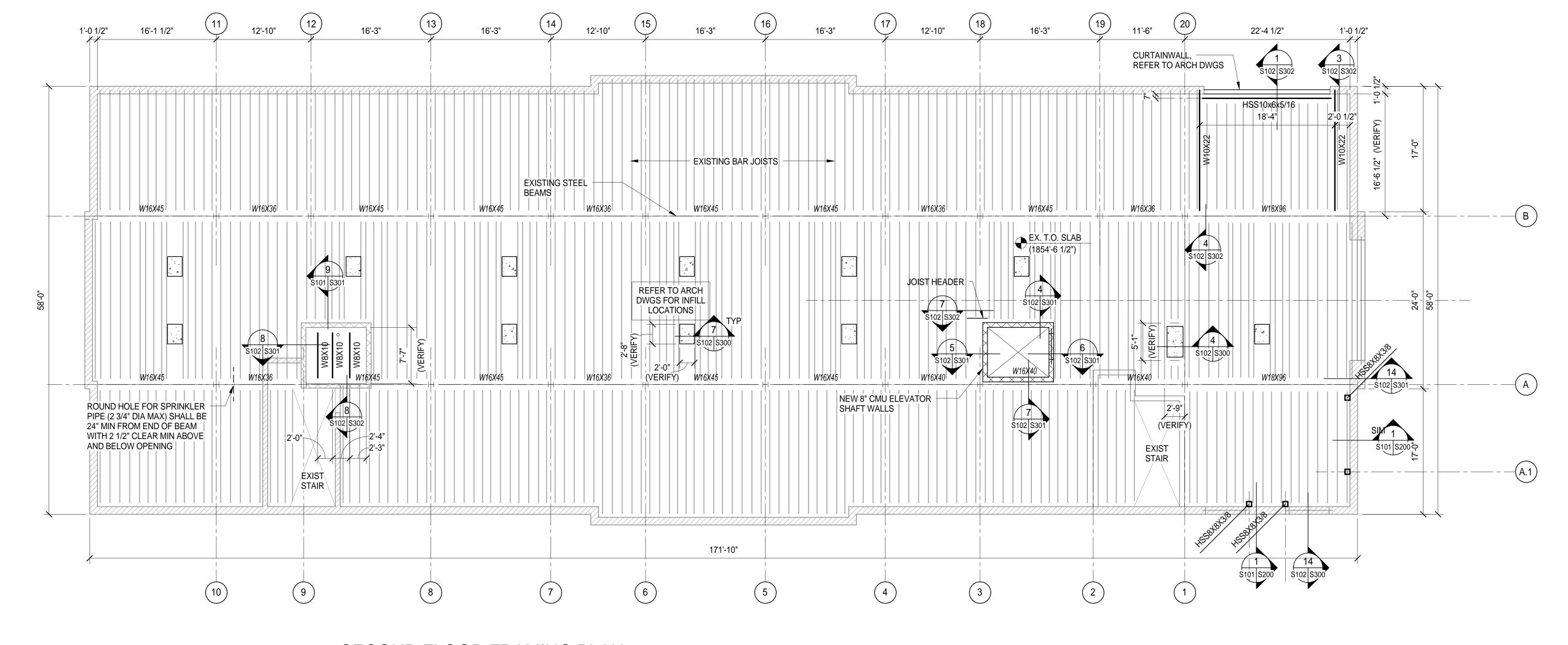
ISSUES AND REVISIONS NO. SUBMITTAL BID DOCUMENTS

CONSTRUCTION SET

05.19.14 05.01.15

FOUNDATION AND FIRST FLOOR FRAMING PLANS





SECOND FLOOR FRAMING PLAN

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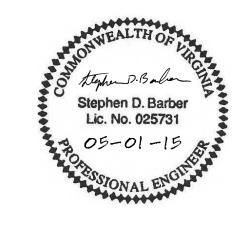
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RENOVATION OF THREE RESIDENCE HALLS DRAPER HALL

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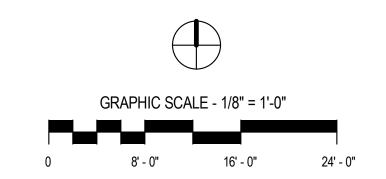
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ISSUES AND REVISIONS

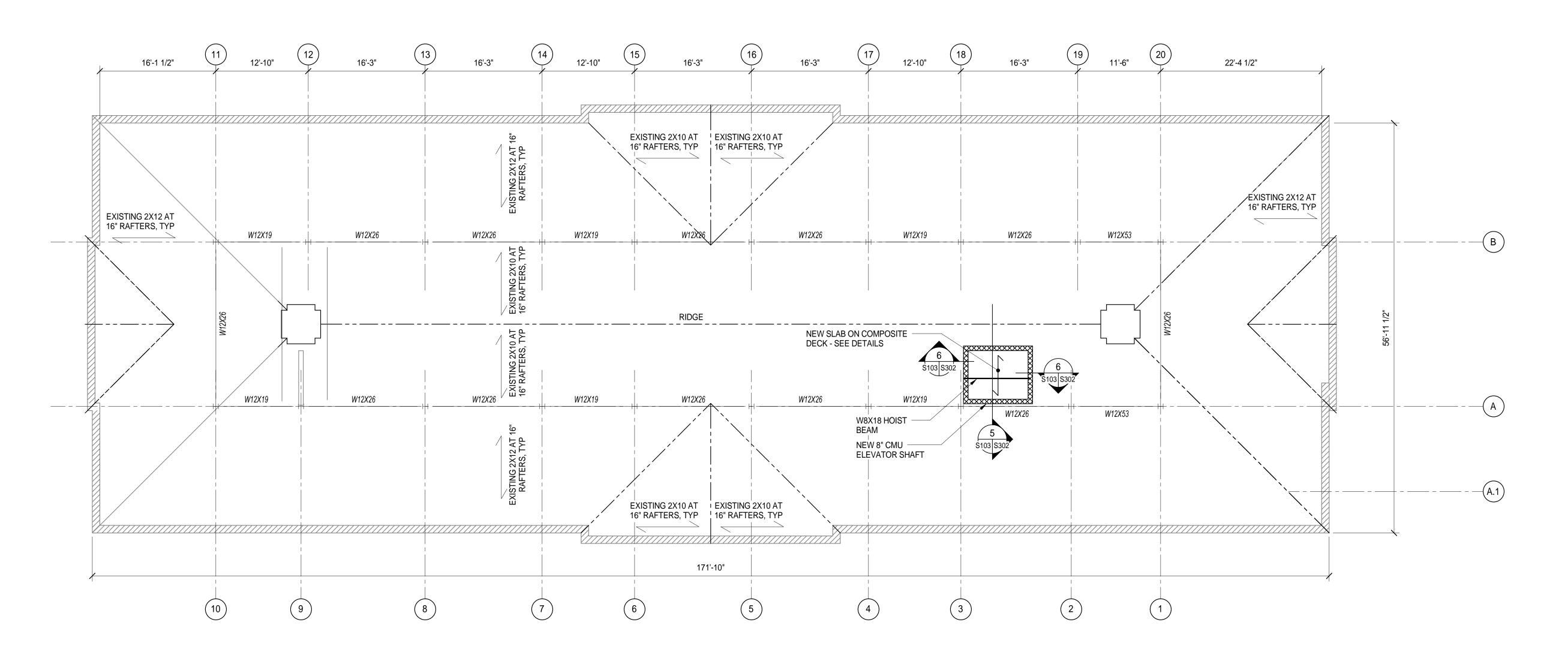
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BID DOCUMENTS

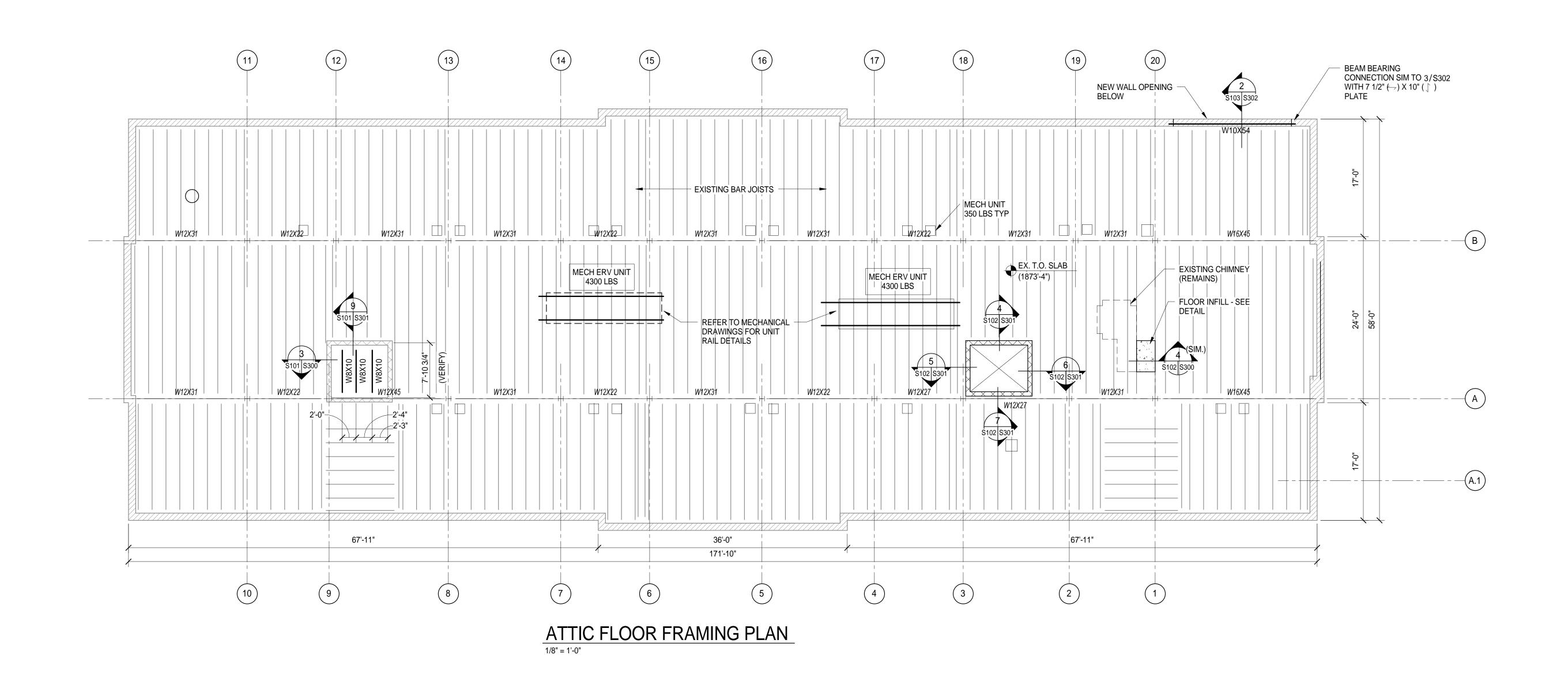
CONSTRUCTION SET

05.19.14 05.01.15

SECOND AND THIRD FLOOR FRAMING PLANS



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



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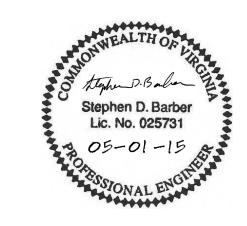
RENOVATION OF THREE RESIDENCE HALLS DRAPER HALL

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Project Code

VMDO Project Number

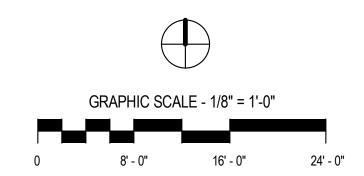
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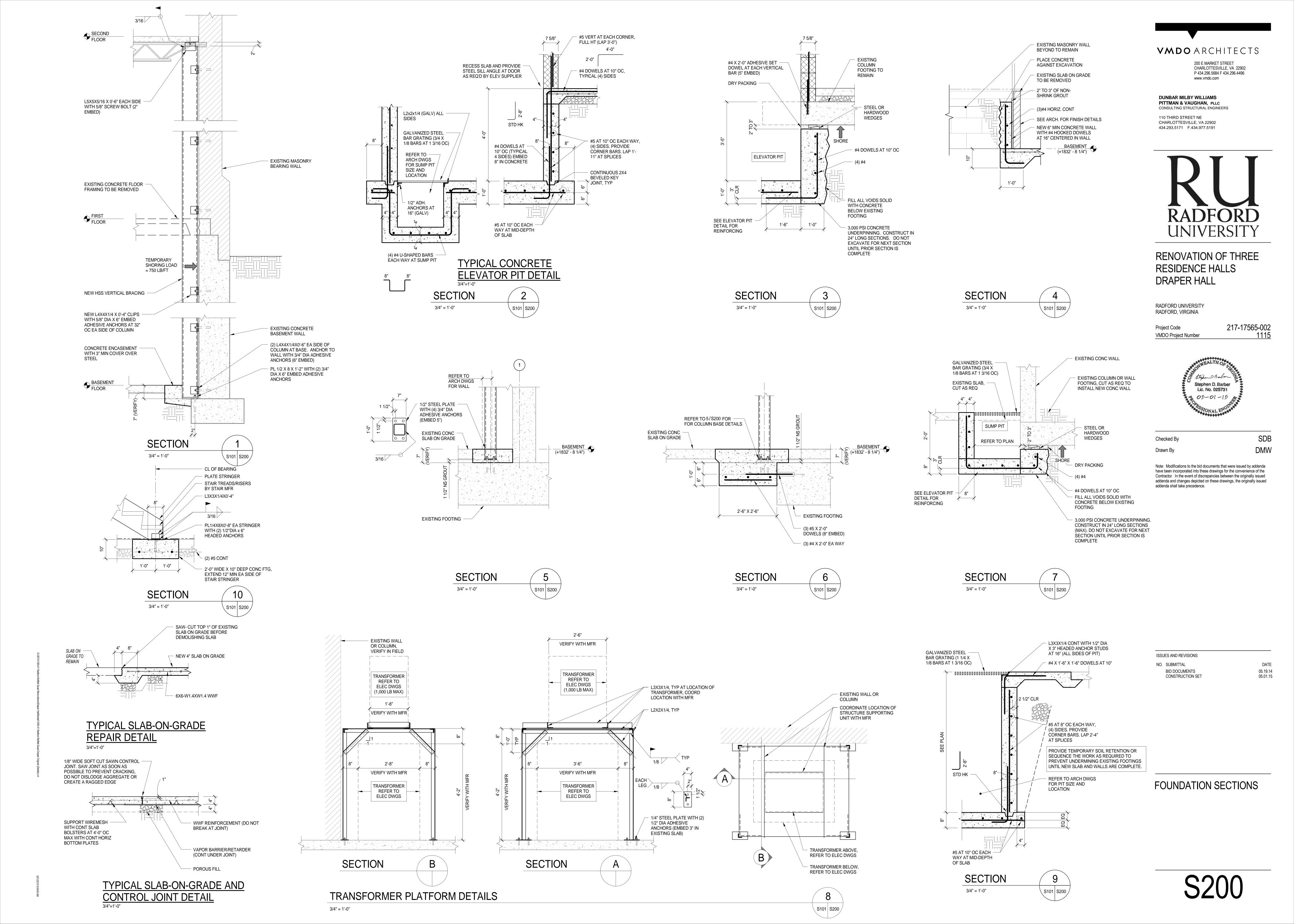


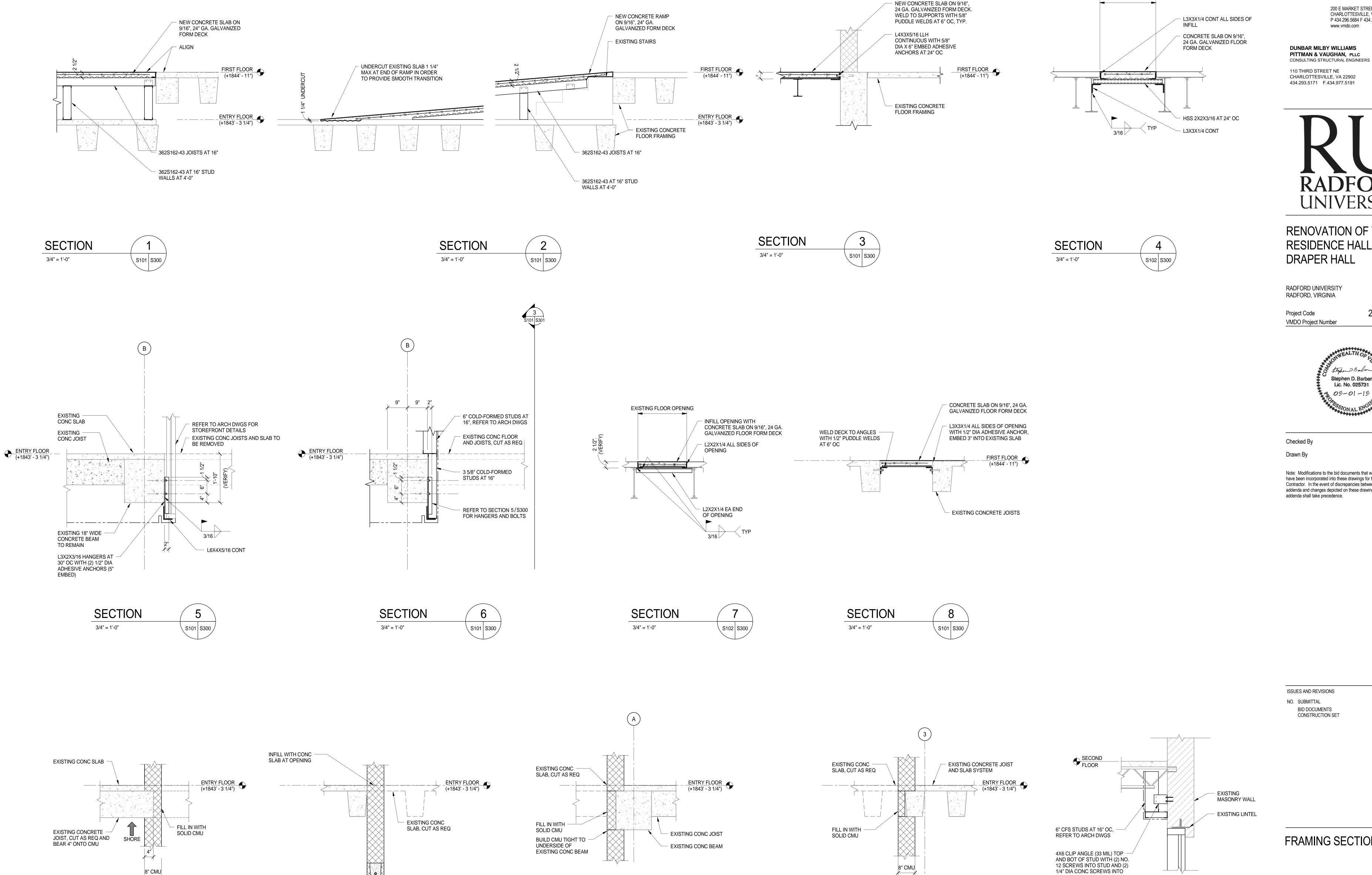
ISSUES AND REVISIONS

NO. SUBMITTAL
BID DOCUMENTS
CONSTRUCTION SET

05.19.14 05.01.15

ATTIC FLOOR AND ROOF FRAMING PLANS





SECTION

3/4" = 1'-0"

12

S101 S300

REFER TO ARCH DWGS

S101 S300

8" CMU

SECTION

3/4" = 1'-0"

8" CMU BOND BEAM ALL SIDES -OF SHAFT WITH (1) #5 CONT.

PROVIDE CORNER BARS WITH

2'-6" LEGS

SECTION

3/4" = 1'-0"

S101 S300

8" CMU

13

S101 S300

SECTION

3/4" = 1'-0"

EXISTING WALL

SECTION

3/4" = 1'-0"

S102 S300

VMDO ARCHITECTS

200 E MARKET STREET CHARLOTTESVILLE, VA 22902 P 434.296.5684 F 434.296.4496 www.vmdo.com

DUNBAR MILBY WILLIAMS PITTMAN & VAUGHAN, PLLC

110 THIRD STREET NE CHARLOTTESVILLE, VA 22902 434.293.5171 F.434.977.5191

EXISTING FLOOR OPENING



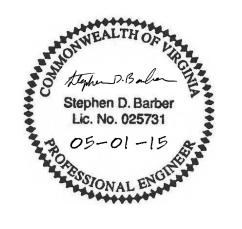
RENOVATION OF THREE RESIDENCE HALLS DRAPER HALL

RADFORD UNIVERSITY RADFORD, VIRGINIA

Project Code

VMDO Project Number

217-17565-002



Checked By

Drawn By

Note: Modifications to the bid documents that were issued by addenda have been incorporated into these drawings for the convenience of the Contractor. In the event of discrepancies between the originally issued addenda and changes depicted on these drawings, the originally issued addenda shall take precedence.

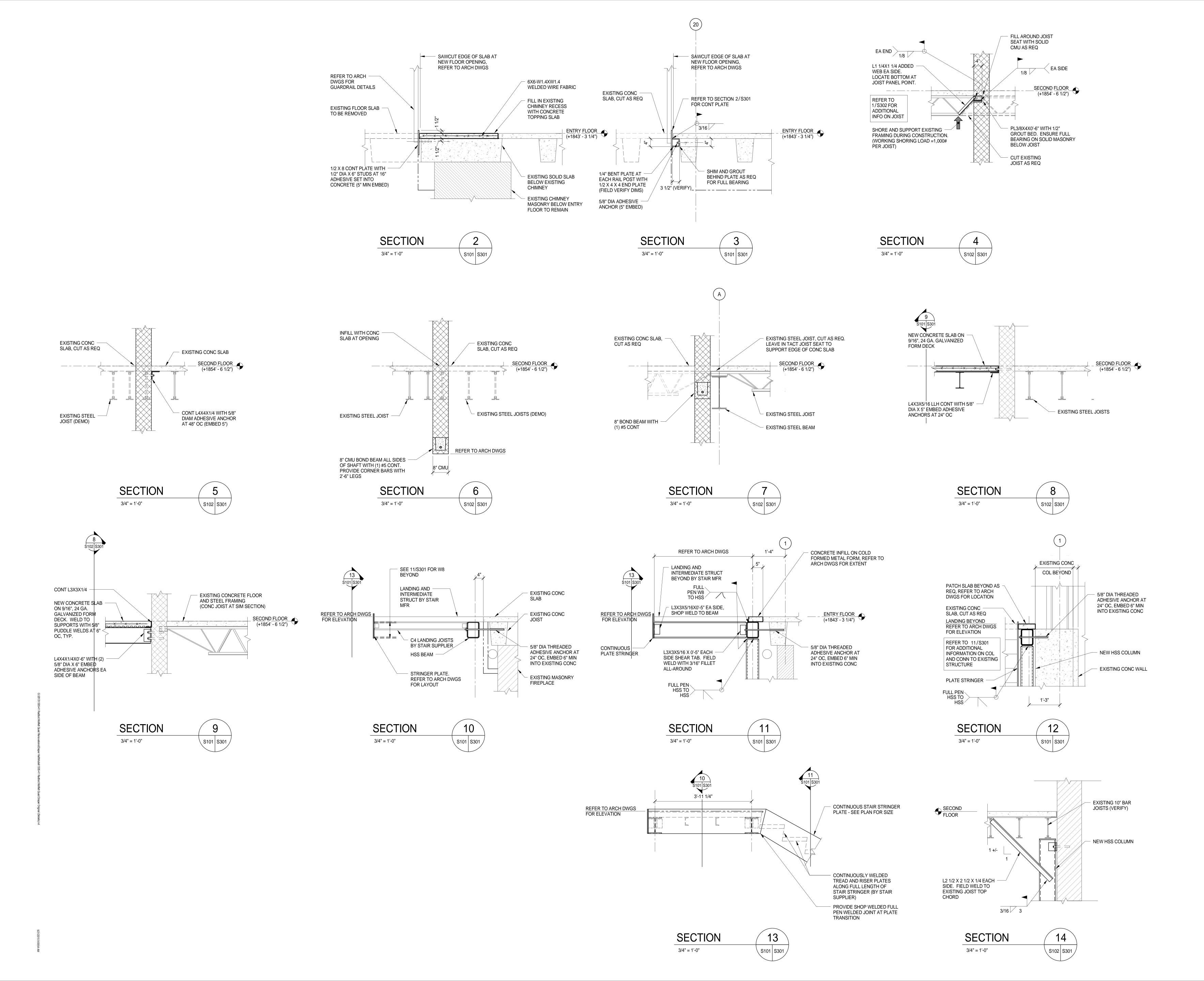
ISSUES AND REVISIONS

BID DOCUMENTS CONSTRUCTION SET DATE

05.19.14

05.01.15

FRAMING SECTIONS



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CONSULTING STRUCTURAL ENGINEERS

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RENOVATION OF THREE RESIDENCE HALLS DRAPER HALL

RADFORD UNIVERSITY RADFORD, VIRGINIA

TWEFORE, VIRGINIA

Project Code

VMDO Project Number

217-17565-002 1115



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DI

DATE

05.19.14 05.01.15

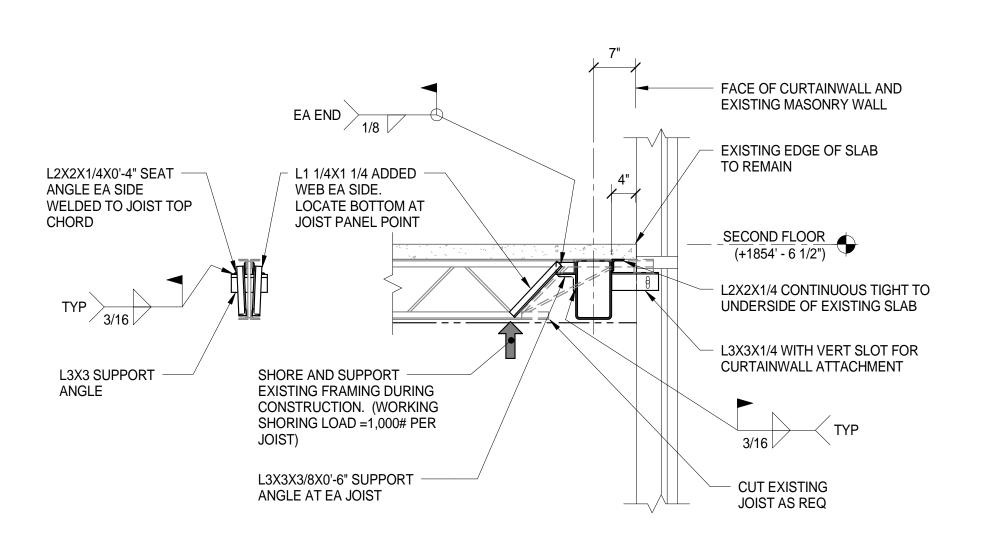
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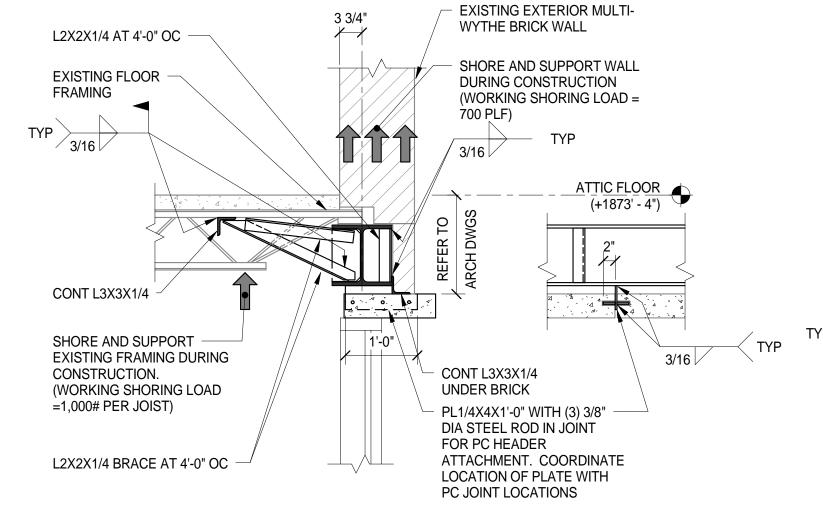
ISSUES AND REVISIONS
NO. SUBMITTAL

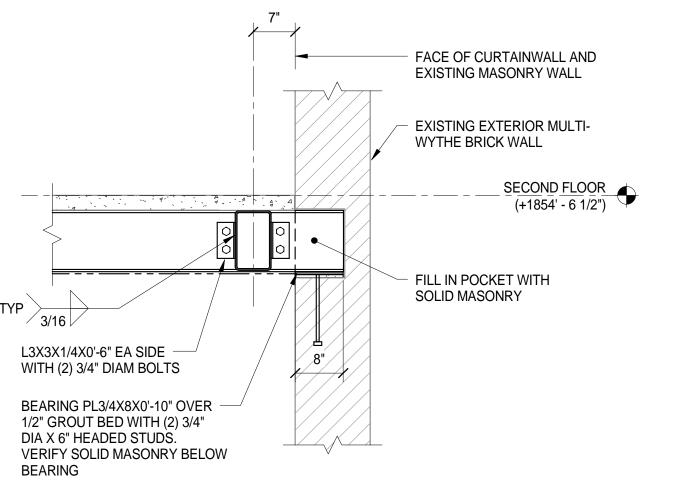
BID DOCUMENTS CONSTRUCTION SET

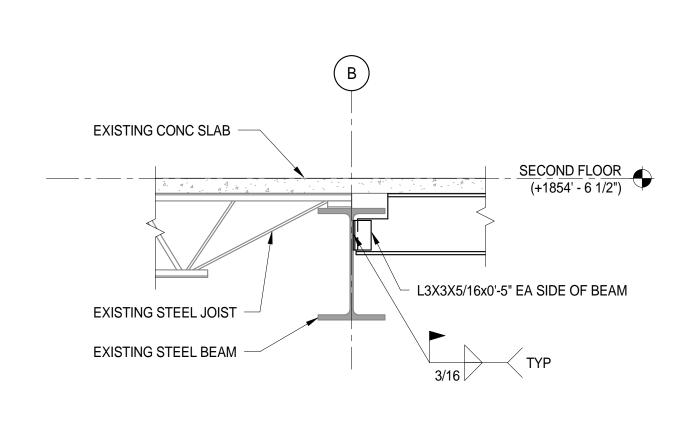
FRAMING SECTIONS

S301









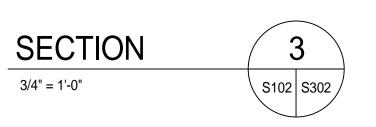
SECTION 1

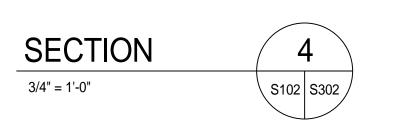
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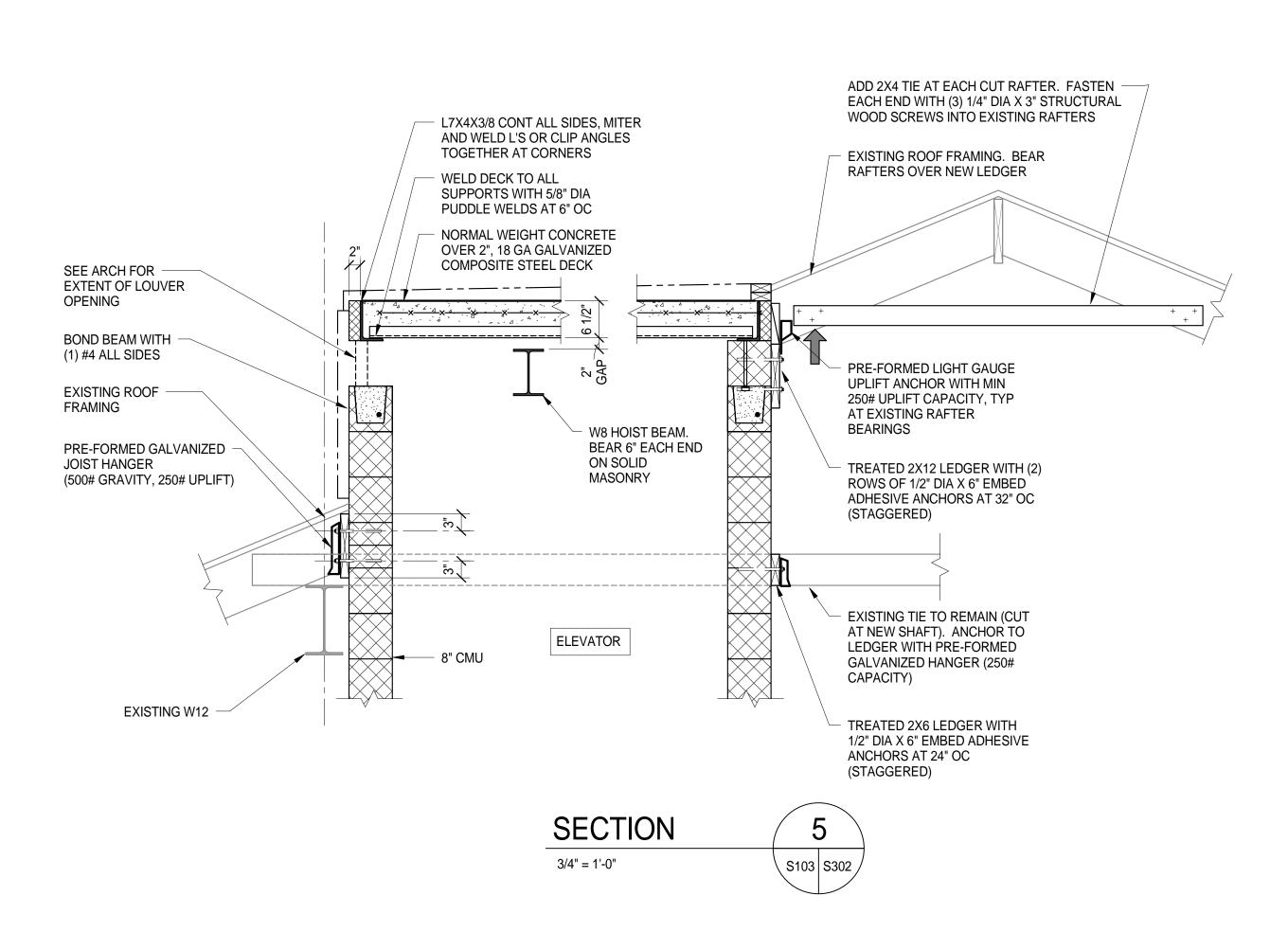
\$102 \$302

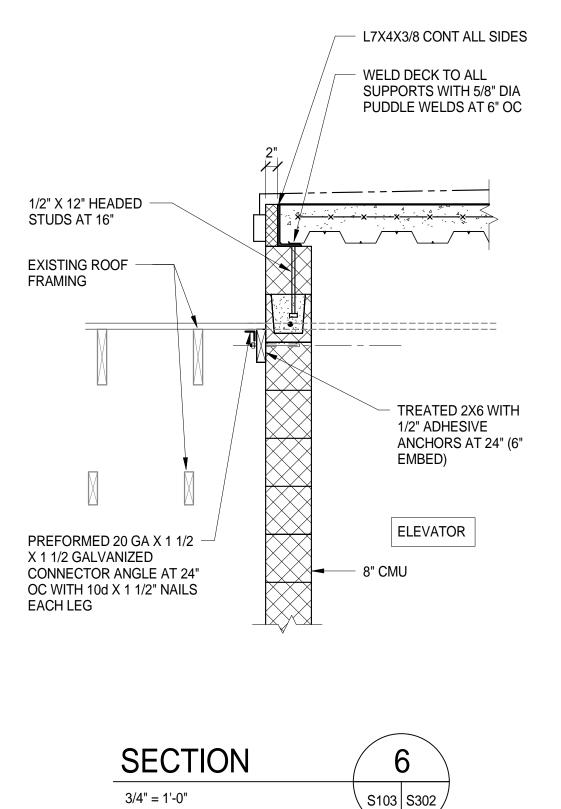
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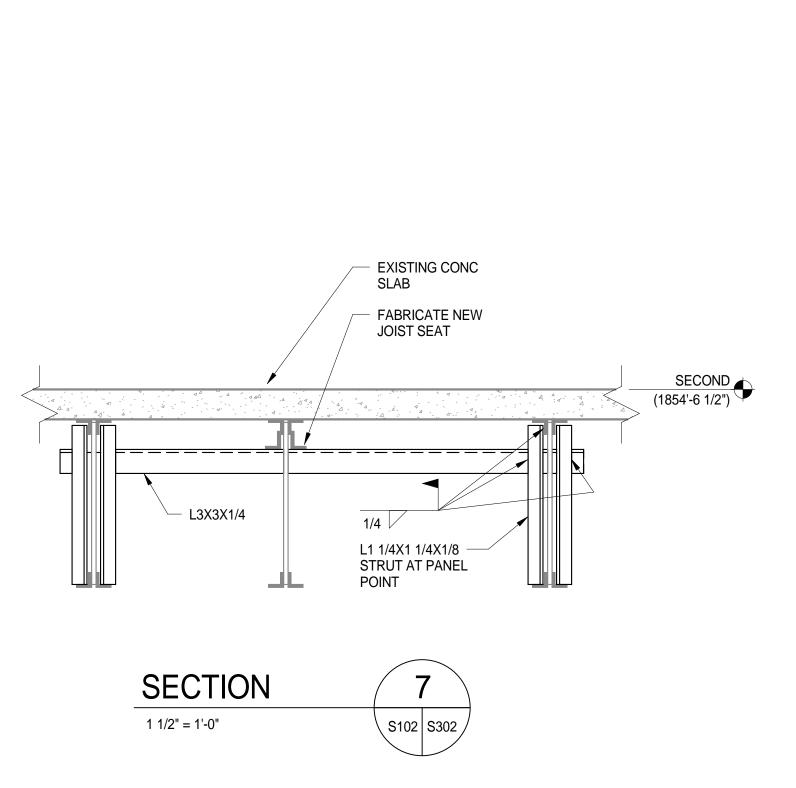
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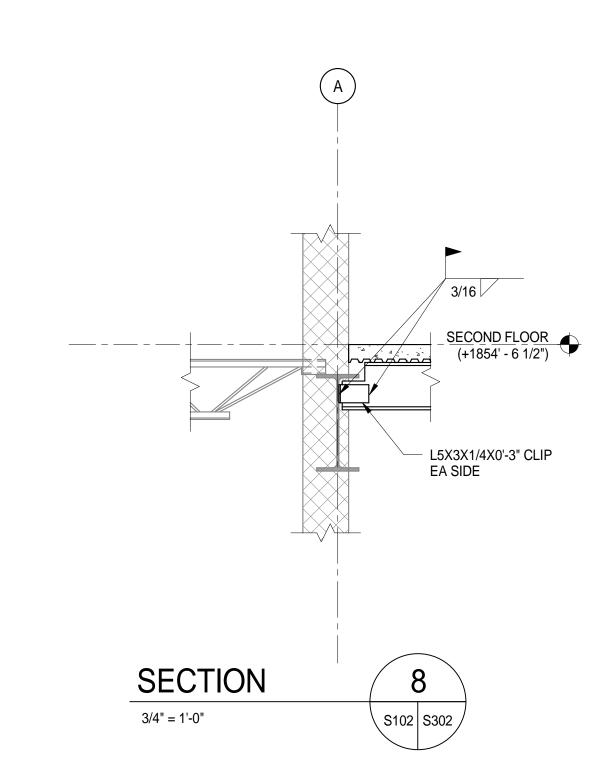












VMDO ARCHITECTS

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CONSULTING STRUCTURAL ENGINEERS



RENOVATION OF THREE RESIDENCE HALLS DRAPER HALL

RADFORD UNIVERSITY RADFORD, VIRGINIA

Drawn By

Project Code VMDO Project Number

NUMBER OF THE PARTY OF THE PART

217-17565-002

Checked By

Lic. No. 025731

05-01-15

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ISSUES AND REVISIONS

NO. SUBMITTAL DATE
BID DOCUMENTS 05.19.14

05.01.15

FRAMING SECTIONS

CONSTRUCTION SET