

# OBSTACLE COURSE

# SALES CENTER

UPTON HILL REGIONAL PARK 6060 WILSON BOULEVARD ARLINGTON, VA

# OWNER

#### NOVA PARKS

5400 OX ROAD FAIRFAX STATION, VA 22039 TEL. (703) 359-4606 FAX. (703) 273-0905

# ARCHITECT

# ZHA ARCHITECTS, PC

4031 UNIVERSITY DRIVE SUITE # 120 FAIRFAX, VIRGINIA 22030 TEL. (703) 352-1933 FAX. (703) 691-9171

# STRUCTURAL

# EHLERT/ BRYAN, INC.

1451 DOLLY MADISON BLVD.

SUITE 220

McLEAN, VA 22101

TEL. (703) 827-9552

FAX. (703) 356-2031

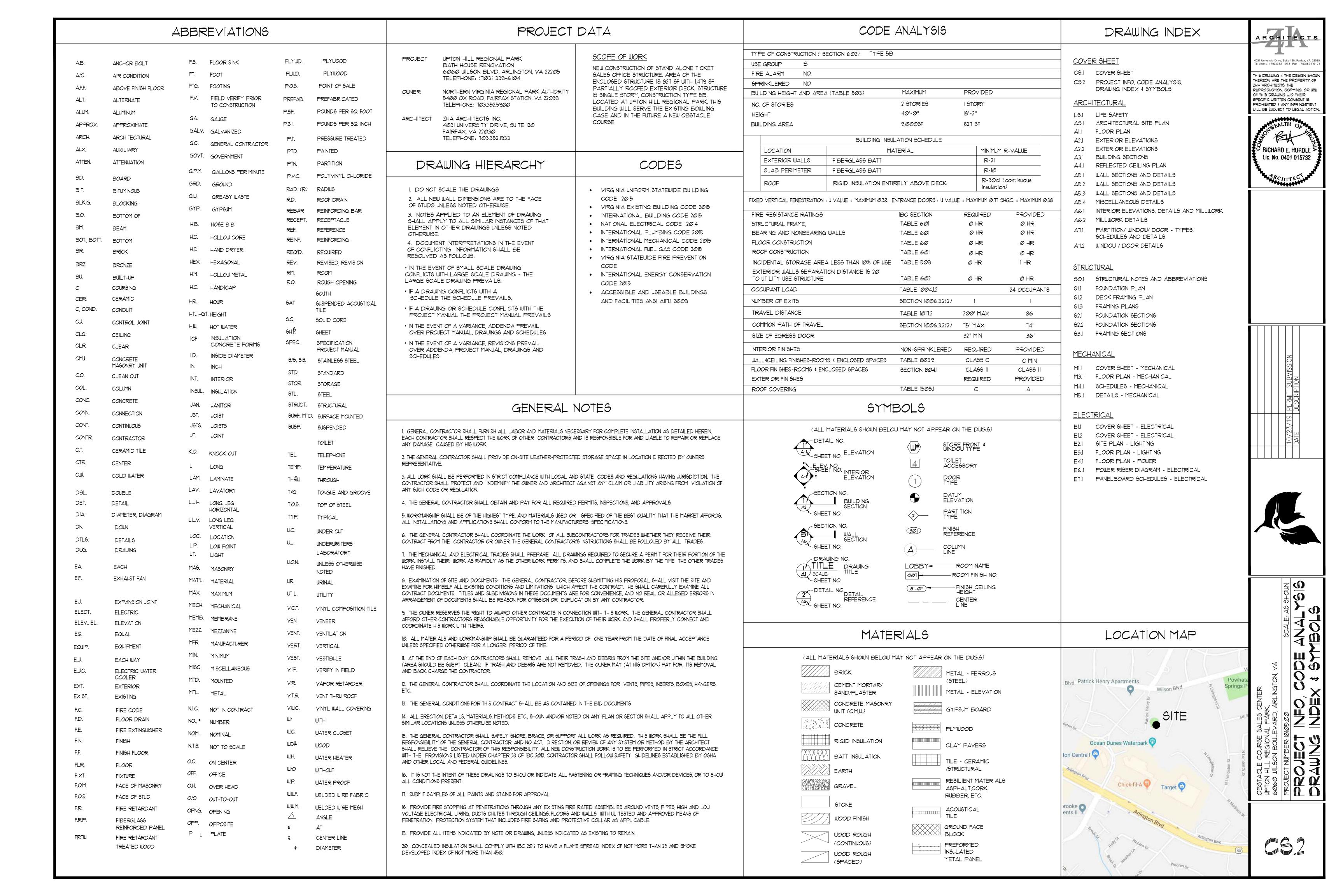
## MECH/ELECT/PLUMBING

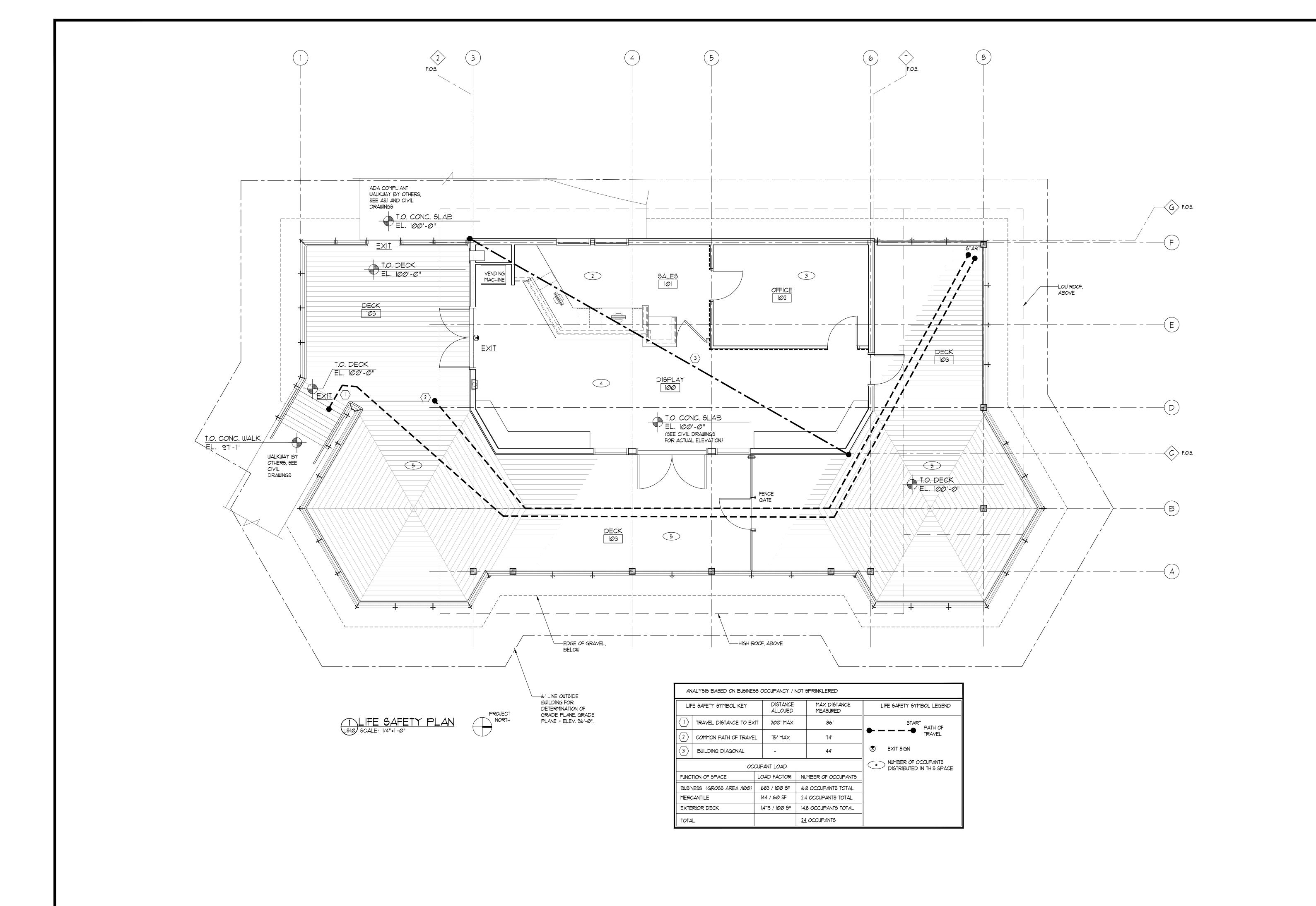
#### HURST & ASSOCIATES

308 HILLWOOD AVENUE FALLS CHURCH, VA 22046 TEL. (703) 534-7872 FAX. (703) 536-3970

PEMIT SUBMISSION
10.23.2019



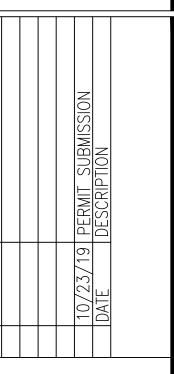




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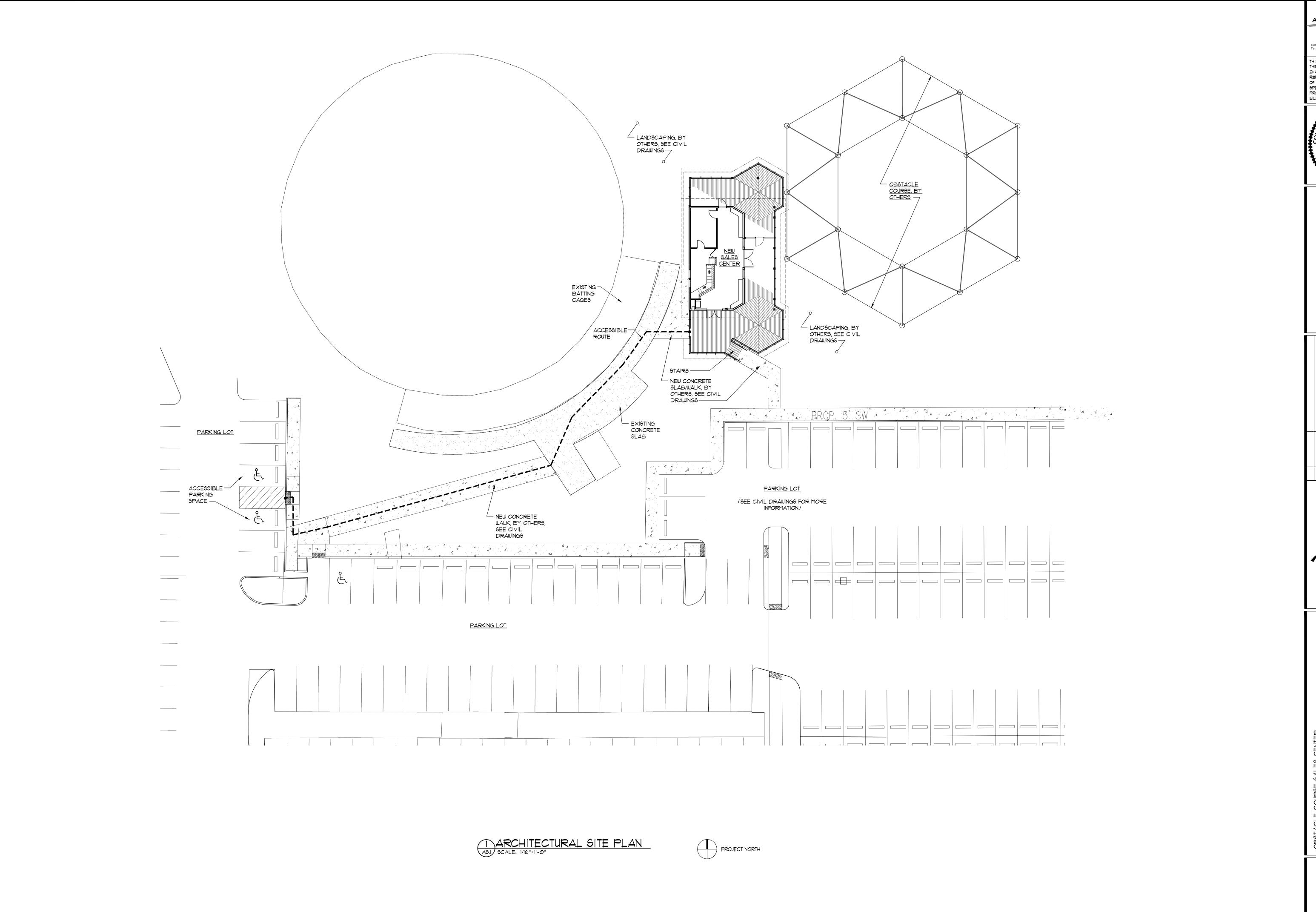






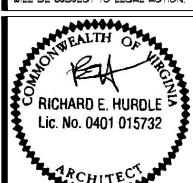
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TACLE COURSE SALES CENTER NY HILL REGIONAL PARK, Ø WILSON BOULEYARD, ARLINGTON, YA JECT NUMBER: 18105,00



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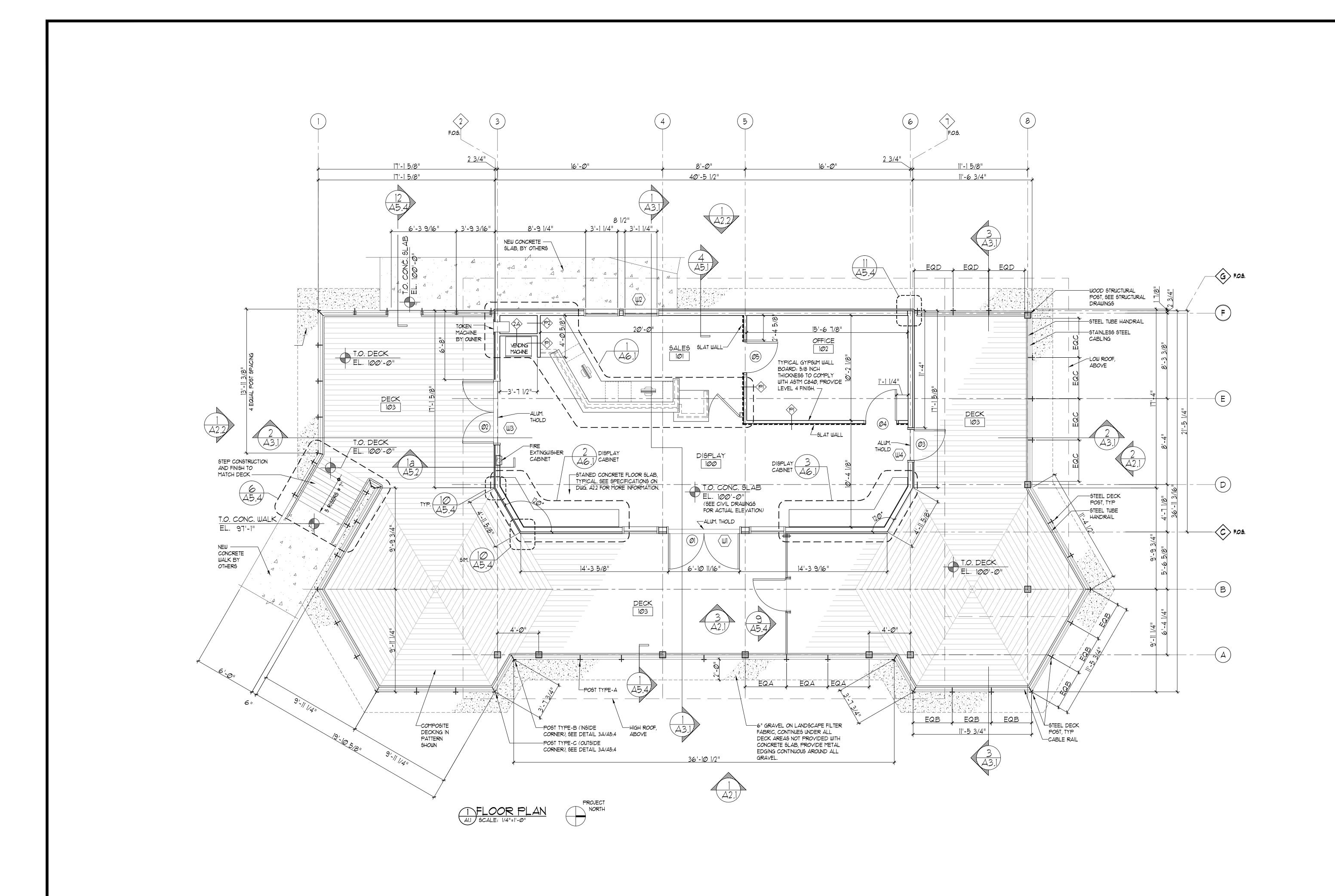
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1. REGIONAL PARK,
SON BOULEVARD, ARLINGTON, VA

NUMBER: 18105.00

SCALE: AS SHOWN

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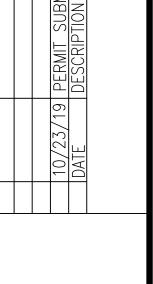


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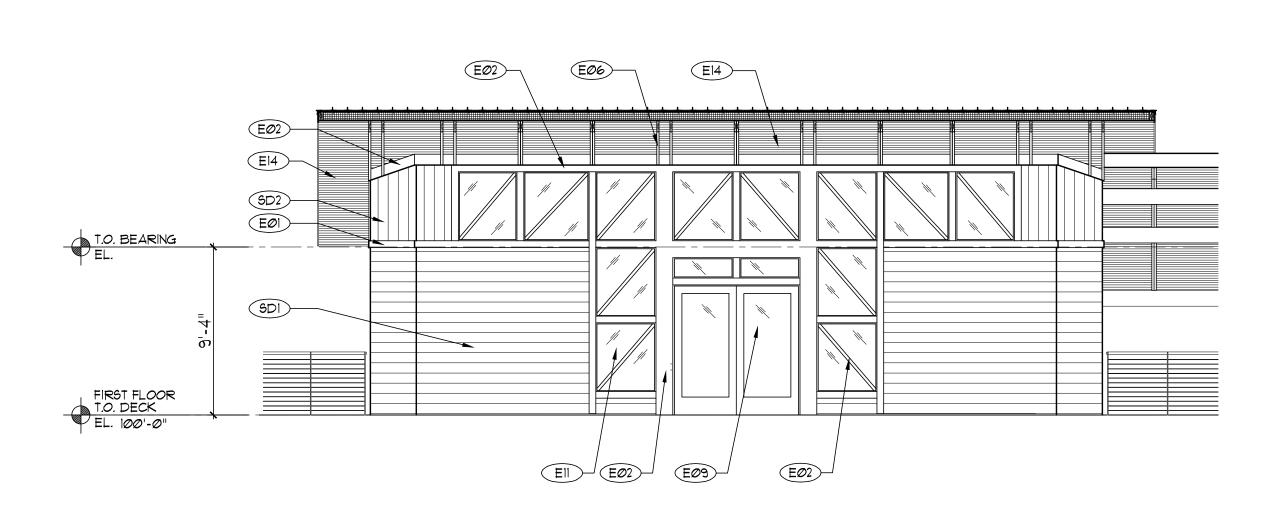




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HILL REGIONAL PARK,
MILSON BOULEVARD, ARLINGTON, VA

ST NUMBER: 18105.00

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3 FRONT ELEVATION
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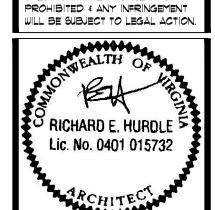
#### EXTERIOR FINISH SCHEDULE ALTERNATE \* 2 ALTERNATE \* 1 BUILDING ELEMENT / MATERIAL COLOR & DESCRIPTION COLOR & DESCRIPTION MANUFACTURER NOTE WESTERN RED CEDAR, WESTERN RED CEDAR, (SDI) CEDAR WOOD TONGUE AND GROOVE SIDING FINGER JOINED WOOD STAINED (SEE SELECT KNOTTY GRADE SELECT KNOTTY GRADE SEMI-TRANSPARENT NOT ALLOWED. SPECIFICATIONS) "SKY GREY" "RED CEDAR" WESTERN RED CEDAR, WESTERN RED CEDAR, STAINED FINGER JOINED WOOD SD2 VERTICAL CEDAR WOOD SIDING. SELECT KNOTTY GRADE SELECT KNOTTY GRADE SEMI-TRANSPARENT NOT ALLOWED. "RED CEDAR" "SKY GREY" EØI WOOD BAND STAINED "SKY GREY" "ULTRA WHITE" SEMI-TRANSPARENT EØ2 WOOD TRIM STAINED "SKY GREY" "ULTRA WHITE" SEMI-TRANSPARENT MVP PROFILE EØ3 WOOD STAIR / COMPOSITE PRE-FINISHED "BRAZILIAN CHERRY" "TROPICAL WALNUT" EØ4 CEDAR WOOD FASCIA WESTERN RED CEDAR, WESTERN RED CEDAR, FINGER JOINED WOOD CABOT / SEMI-TRANSPARENT STAINED SELECT KNOTTY GRADE SELECT KNOTTY GRADE NOT ALLOWED. "SKY GREY" "PEWTER GREY" CABOT / SEMI-TRANSPARENT EØ5 WOOD POST CEDAR STAINED "TUSCAN GOLD" "DARK GREY" E06 ROOF JOIST / RAFTERS STAINED "TUSCAN GOLD" "DARK GREY" SEMI-TRANSPARENT EØ1 WOOD BEAM STAINED "TUSCAN GOLD" "DARK GREY" SEMI-TRANSPARENT EØ8 | GUARD RAIL SYSTEM POWDER COAT COLOR T.B.D. COLOR T.B.D. SEE SPECIFICATION EØ9 WOOD DOORS & FRAMES SEE DOOR SCHEDULE SEE DOOR SCHEDULE STAINED EIO | CMU FOUNDATION WALL COLOR TO BE SELECTED BY ARCHITECT FROM MFG COLOR TO BE SELECTED DPR ACRYLIC FINISH, BY ARCHITECT FROM MFG SANDBLAST TEXTURE STANDARD COLORS STANDARD COLORS EII WOOD WINDOW STAINED E12 | ALUMINUM WINDOWS PRE-FINISHED LIGHT BRONZE ANODIZED LIGHT BRONZE ANODIZED KAWNEER TRIFAB 45IT E13 METAL ROOFING PRE-FINISHED SLATE GREY SIERRA TAN \*09 ATAS CABOT / E14 WOOD CEILING STAINED "SEACOAST GREY" "LINEN" SEMI-TRANSPARENT EI5 STEEL CROSS BRACING COLOR T.B.D. COLOR T.B.D. SEE SPECIFICATION PAINTED - SEE SPECIFICATION El6 DECK FASCIA STAINED "CHESTNUT BROWN" "PEWTER GREY" SEMI-TRANSPARENT

CEDAR SIDING INSTALLATION NOTES:

- FINISH WESTERN RED CEDAR ASAP! FACTORY FINISH OR APPLY COATINGS PRIOR TO INSTALLATION IF POSSIBLE. ALWAYS TOUCH UP FIELD CUTS.
- · ACCLIMATIZE WESTERN RED CEDAR SIDING BEFORE INSTALLATION.
- FASTENERS: 304 OR 316 GRADE STAINLESS STEEL, ALUMINUM, OR HOT DIPPED GALVANIZED (AS PER ASTM A-153).
- · NAIL ALL WESTERN RED CEDAR SIDING INTO 11/4" OF SOLID WOOD.
- · ENSURE BUTT JOINTS ARE MADE OVER SOLID WOOD TO PROVIDE SECURE NAILING. JOIN TWO PIECES OF SIDING WITH A MITERED BUTT JOINT.
- · BLIND NAIL SIDING THROUGH TONGUE EDGE AT 16" O.C. INTO STUDS
- · USE FULL LENGTH SECTION OF SIDING TO THE MAXIMUM AMOUNT POSSIBLE
- · STAGGER JOINTS EVENLY AND RANDOMLY ACROSS WALLS

ARCHITECTS

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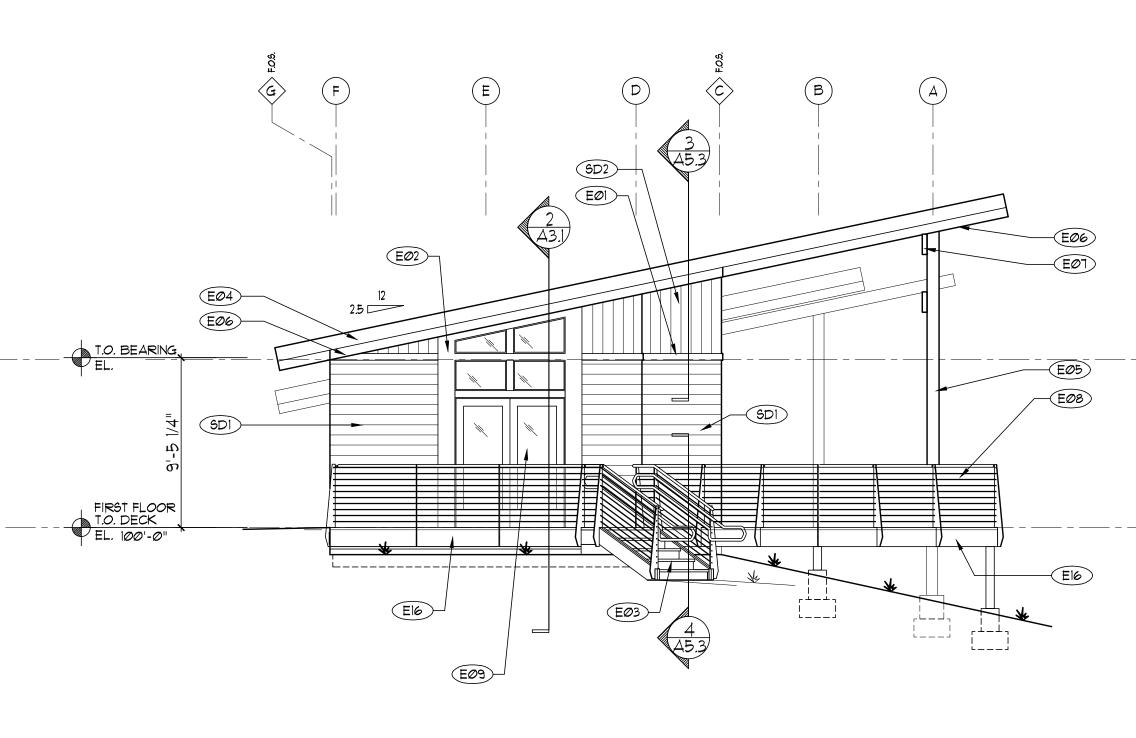
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(E16)



			ALTERNATE * 1	ALTERNATE * 2		
	BUILDING ELEMENT / MATERIAL	FINISH	COLOR & DESCRIPTION	COLOR & DESCRIPTION	MANUFACTURER	NOTE
SDI	CEDAR WOOD TONGUE AND GROOVE SIDING	STAINED (SEE SPECIFICATIONS)	WESTERN RED CEDAR, SELECT KNOTTY GRADE "RED CEDAR"	WESTERN RED CEDAR, SELECT KNOTTY GRADE "SKY GREY"	CABOT / SEMI-TRANSPARENT	FINGER JOINED WOOD NOT ALLOWED.
<b>SD</b> 2	VERTICAL CEDAR WOOD SIDING.	STAINED	WESTERN RED CEDAR, SELECT KNOTTY GRADE "RED CEDAR"	WESTERN RED CEDAR, SELECT KNOTTY GRADE "SKY GREY"	CABOT / SEMI-TRANSPARENT	FINGER JOINED WOOD NOT ALLOWED.
EØI	WOOD BAND	STAINED	"SKY GREY"	"ULTRA WHITE"	CABOT / SEMI-TRANSPARENT	
<b>EØ</b> 2	WOOD TRIM	STAINED	"9KY GREY"	"ULTRA WHITE"	CABOT / SEMI-TRANSPARENT	
<b>EØ</b> 3	WOOD STAIR / COMPOSITE	PRE-FINISHED	"BRAZILIAN CHERRY"	"TROPICAL WALNUT"	MVP PROFILE	
EØ4)	CEDAR WOOD FASCIA	STAINED	WESTERN RED CEDAR, SELECT KNOTTY GRADE "SKY GREY"	WESTERN RED CEDAR, SELECT KNOTTY GRADE "PEWTER GREY"	CABOT / SEMI-TRANSPARENT	FINGER JOINED WOOD NOT ALLOWED.
EØ5	WOOD POST CEDAR	STAINED	"TUSCAN GOLD"	"DARK GREY"	CABOT / SEMI-TRANSPARENT	
E06)	ROOF JOIST / RAFTERS	STAINED	"TUSCAN GOLD"	"DARK GREY"	CABOT / SEMI-TRANSPARENT	
EØT	WOOD BEAM	STAINED	"TUSCAN GOLD"	"DARK GREY"	CABOT / SEMI-TRANSPARENT	
EØ8	GUARD RAIL SYSTEM	POWDER COAT	COLOR T.B.D.	COLOR T.B.D.	SEE SPECIFICATION	
EØ9	WOOD DOORS & FRAMES	STAINED	SEE DOOR SCHEDULE	SEE DOOR SCHEDULE		
ElØ	CMU FOUNDATION WALL	DPR ACRYLIC FINISH, SANDBLAST TEXTURE	COLOR TO BE SELECTED BY ARCHITECT FROM MFG STANDARD COLORS	COLOR TO BE SELECTED BY ARCHITECT FROM MFG STANDARD COLORS	DRYVIT	
EII	WOOD WINDOW	STAINED				
E12	ALUMINUM WINDOWS	PRE-FINISHED	LIGHT BRONZE ANODIZED	LIGHT BRONZE ANODIZED	KAWNEER TRIFAB 451T	
EI3	METAL ROOFING	PRE-FINISHED	SLATE GREY	SIERRA TAN #09	ATAS	
El4	WOOD CEILING	STAINED	"SEACOAST GREY"	"LINEN"	CABOT / SEMI-TRANSPARENT	
E15	STEEL CROSS BRACING	PAINTED - SEE SPECIFICATION	COLOR T.B.D.	COLOR T.B.D.	SEE SPECIFICATION	
El6	DECK FASCIA	STAINED	"CHESTNUT BROWN"	"PEWTER GREY"	CABOT / SEMI-TRANSPARENT	

#### CEDAR SIDING INSTALLATION NOTES:

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- · BLIND NAIL SIDING THROUGH TONGUE EDGE AT 16" O.C. INTO STUDS
- · USE FULL LENGTH SECTION OF SIDING TO THE MAXIMUM AMOUNT POSSIBLE
- · STAGGER JOINTS EVENLY AND RANDOMLY ACROSS WALLS

### SPECIFICATIONS:

PROVIDE COMPLETE SHEET METAL ROOFING SYSTEM INCLUDING MANUFACTURERS RECOMMENDED SEALING TAPE FLASHING TRIM AND JOINT SEALANT. SUBMIT A SAMPLE 12 INCHES LONG BY ACTUAL WIDTH OF UNIT, INCLUDING FINISHED SEAM AND IN REQUIRED PROFILE. INCLUDE FASTENERS, CLEATS, CLIPS, AND OTHER ATTACHMENTS. THE FOLLOWING GUARANTEES SHALL BE PROVIDED BY THE METAL ROOFING MANUFACTURER: DURABILITY OF THE ROOF PANELS AGAINST RUPTURE, STRUCTURAL FAILURE, OR PERFORATION SHALL BE GUARANTEED FOR A PERIOD OF TEN (10) YEARS. THE COLOR FINISH SHALL BE GUARANTEED FOR A PERIOD OF TEN (10) YEARS. PROVIDE MANUFACTURER'S WRITTEN WEATHER TIGHTNESS WARRANTY FOR A MAXIMUM OF TEN (10) YEARS AGAINST LEAKS IN ROOFING SYSTEM. WARRANTY SHALL BE SIGNED BY BOTH THE MANUFACTURER OF THE METAL ROOFING SYSTEM AND THE METAL ROOFING SYSTEM INSTALLER. ACCEPTABLE MANUFACTURERS: "STANDING SEAM TEE-PANEL SYSTEM" BERRIDGE MANUFACTURING COMPANY (800-231-8127), "DUTCH SEAM (MRD) PANEL SYSTEM"± ATAS INTERNATIONAL, INC. (800-468-1441), "SNAP-ON-SEAM SSIO-12 PANEL SYSTEM"± DIMENSIONAL METALS INC. (DMI) (800-828-1510), "SNAP-CLAD PANELS"± PETERSEN ALUMINUM CORPORATION (PAC-CLAD) (800-722-7150)

THE ROOF SYSTEM SHALL BE COMPOSED OF THE FOLLOWING: PANELS SHALL BE NOMINAL 16" SEAM ON CENTER WITH SNAP-ON SEAM. FABRICATE FROM 24 GAUGE HOT DIPPED GALVANIZED (G-90) STEEL IN ACCORDANCE WITH ASTM A653. COATING TO BE TWO-COAT, THERMO-CURED, FULL-STRENGTH 10% "KYNAR" 500" FLUOUROPOLYMER COATING. COLOR AS SELECTED BY ARCHITECT FROM MANUFACTURERS STANDARD COLOR SELECTION. PROVIDE SELF-ADHERING SHEET UNDERLAYMENT, POLYETHYLENE FACED: ASTM D1970, MINIMUM OF 30 MILS THICK' SLIP-RESISTING,

POLYETHYLENE-FILM-REINFORCED TOP SURFACE LAMINATED TO A HEAT RESISTIVE ADHESIVE, WITH RELEASE-PAPER BACKING+ COLD APPLIED. PROVIDE PRIMER WHEN RECOMMENDED BY UNDERLAYMENT MANUFACTURER.

#### STAINED CONCRETE FLOOR:

PROVIDE CONCRETE ACID STAIN SYSTEM MANUFACTURED BY DIRECT COLORS, INC., 430 EAST 10TH STREET, SHAWNEE, OK 14801, (811) 255-2656, (405) 275-6657, FAX: (405) 275-2815, E-MAIL: INFO@DIRECTCOLORS.COM, WWW.DIRECTCOLORS.COM. PROVIDE ONE PRIME COAT AND TWO FINISH COATS OF DIRECT COLORS WATER BASED POLYURETHANE SEALER. THE FINAL COAT SHALL HAVE DIRECT COLORS NON-SKID ADDITIVE. COLOR T.B.D.

#### PLASTIC-LAMINATE-FACED ARCHITECTURAL CABINETS:

ARCHITECTURAL WOODWORK STANDARDS GRADE PREMIUM. FRAMELESS CONSTRUCTION. HIGH-PRESSURE DECORATIVE LAMINATE MANUFACTURER: WILSONART STANDARD HORIZONTAL AND VERTICAL GRADE LAMINATES OR APPROVED EQUAL. COLORS TO BE APPROVED BY ARCHITECT. DRAWER SIDES AND BACKS: SOLID-HARDWOOD LUMBER. DRAWER BOTTOMS: HARDWOOD PLYWOOD. PROVIDE SHOP DRAWINGS SHOWING LOCATION OF EACH ITEM, DIMENSIONED PLANS AND ELEVATIONS, LARGE-SCALE DETAILS.

### SOLID SURFACING:

MANUFACTURER: WILSONART, GIBRALTER, 1/2" THICK, OR APPROVED EQUAL, COLOR TO BE APPROVED BY ARCHITECT.

#### CABINET HARDWARE AND ACCESSORIES: HINGES: STANLEY 1585 - 5 KNUCKLE HINGE OR APPROVED EQUAL, WITH PLASTIC INSERTS AT SCREWS.

WIRE PULLS: BACK MOUNTED, SOLID METAL, 5 INCHES (127 MM) LONG, 2-1/2 INCHES (63.5 MM) DEEP, AND 5/16 INCH (8 MM) IN DIAMETER. CATCHES: MAGNETIC CATCHES, BHMA A156.9, BØ3141.5HELF RESTS IN "SHELF RESTS" PARAGRAPH BELOW ARE INSTALLED IN HOLES DRILLED IN CABINET SIDES AND PARTITIONS. SHELF RESTS: BHMA A156.9, BØ4Ø13±METAL, TWO-PIN TYPE WITH SHELF HOLD-DOWN CLIP.

DRAWER SLIDES: BHMA A156.9, GRADE 1HD-100 AND GRADE 1HD-200: SIDE MOUNTED + FULL-EXTENSION TYPE + ZINC-PLATED-STEEL BALL-BEARING SLIDES. EXPOSED HARDWARE FINISHES: SATIN CHROMIUM PLATED: BHMA 626 FOR BRASS OR BRONZE BASE± BHMA 652 FOR STEEL BASE.

"MEGAWALL ALUMINUM SLATWALL". MANUFACTURER: MEGAWALL, INC. (616-647-4190)

A. 1-SIDED ALUMINUM PANEL COLOR: RAW ALUMINUM B. GROOVE SPACING: 1-INCH ON CENTERS.

C. INSTALLATION METHOD: HIDDEN FASTENER SYSTEM.

POLYURETHANE, COLOR TO MATCH ADJACENT SURFACES. APPROVED MANUFACTURERS: DOW CORNING CORPORATION, GE, PECORA CORPORATION, SIKA CORPORATION, TREMCO INCORPORATED.

PERMALOC CLEANLINE XL, 3/16 INCH (4.8MM) X 6 INCH (152MM) HIGH, EXTRUDED ALUMINUM, 6063 ALLOY, T-6 HARDNESS, LANDSCAPE EDGING FOR STRAIGHT-LINE AND CURVILINEAR APPLICATIONS IN STRAIGHT PROFILE, AS MANUFACTURED BY PERMALOC CORPORATION, HOLLAND MI 49424, TELEPHONE (800) 356-9660. FINISH: BLACK DURAFLEX.

#### AIR WATER RESISTANT BARRIER:

DUPONT TYVEK HOMEWRAP.

#### GUARD RAIL SYSTEM:

CUSTOM STEEL CHICAGO STYLE POSTS, ALUMINUM TOP RAIL, STEEL HANDRAILS, POWDER COATED FINISH, STAINLESS STEEL CABLE INFILL AND FITTINGS. AS MANUFACURED BY KEUKA STUDIOS, FINE ARCHITECTURAL METALWORK WWW.KEUKA-STUDIOS.COM, 1011 RUSH HENRIETTA TOWN LINE RD., RUSH, NY 14543, TEL 1-855-454-5678

#### EXTERIOR WOOD STAIN:

CABOT SEMI-TRANSPARENT DECK AND SIDING STAIN

#### ALUMINUM STOREFRONT WINDOW: KAWNEER TRIFAB 451T

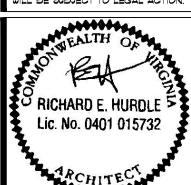
EXTERIOR WOOD DOORS: JELD WEN "CUSTOM WOOD" DOOR. EXTERIOR GRADE. UNFINISHED ALDERWOOD. SITE FINISH WITH STAIN TO MATCH ADJACENT WOOD FRAMING.

#### INTERIOR WOOD DOORS:

JELD WEN "CUSTOM WOOD" DOOR. INTERIOR GRADE, UNFINISHED ALDERWOOD. SITE FINISH WITH STAIN TO MATCH EXTERIOR WOOD DOORS.

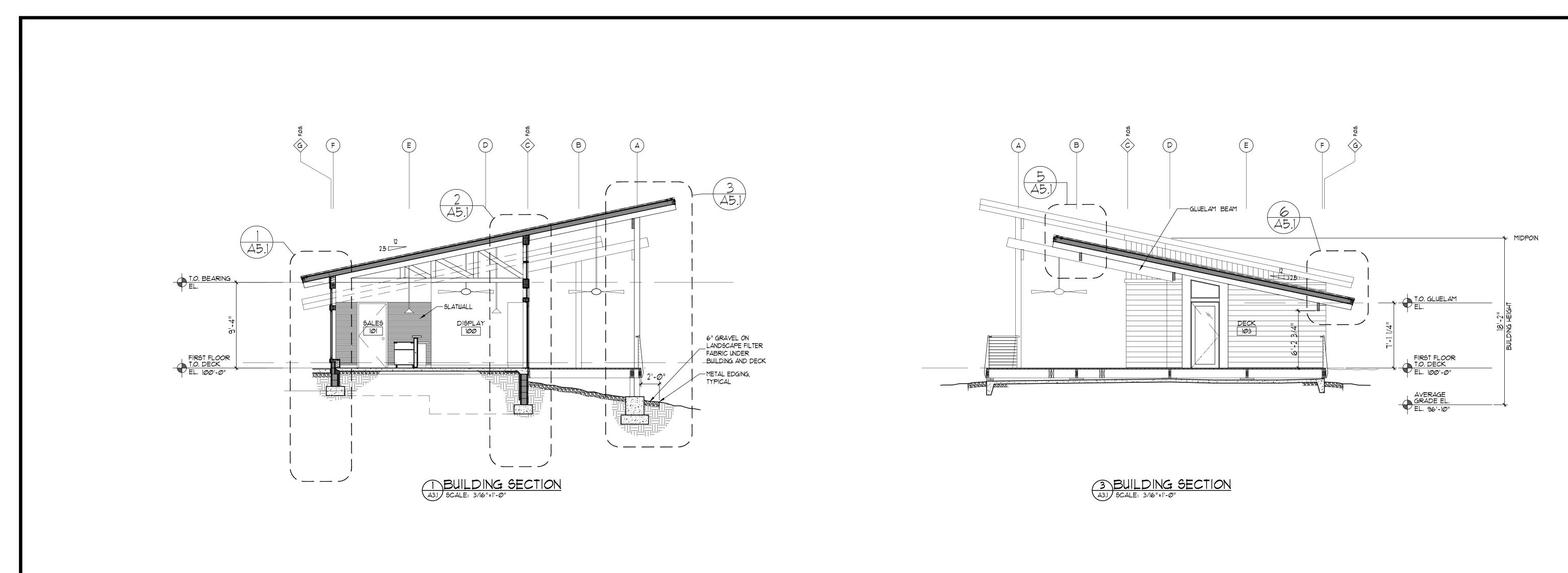


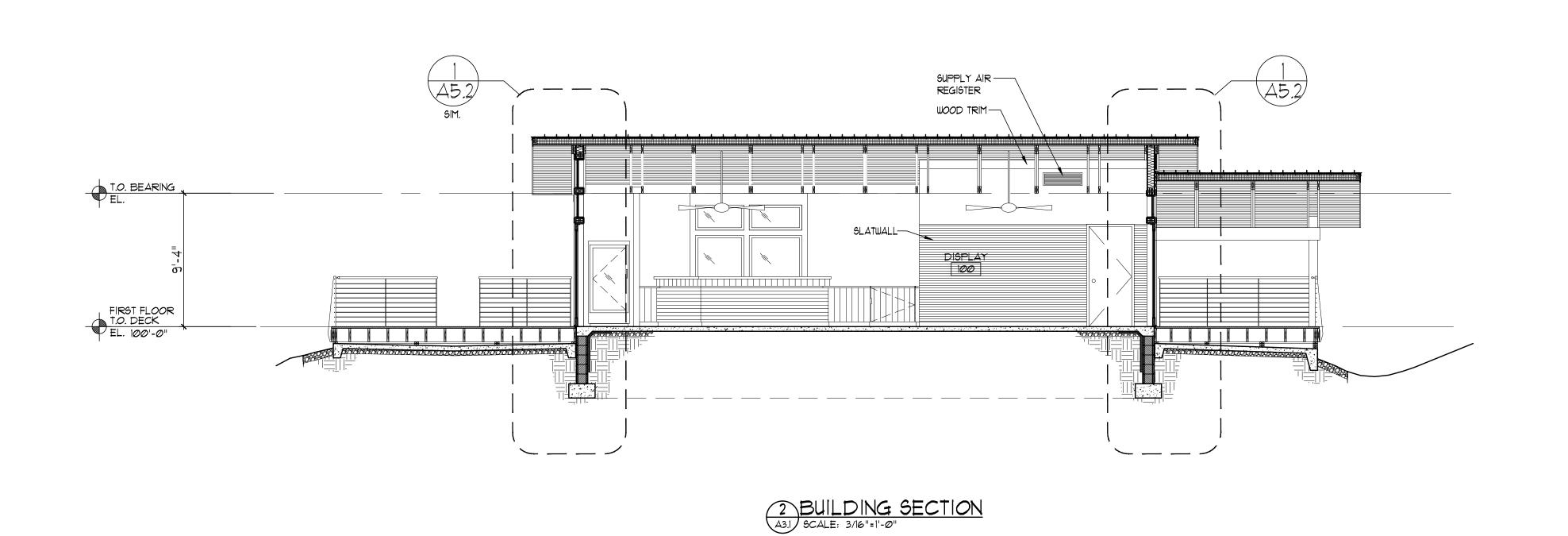
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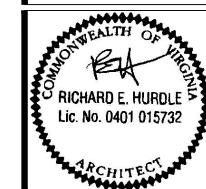






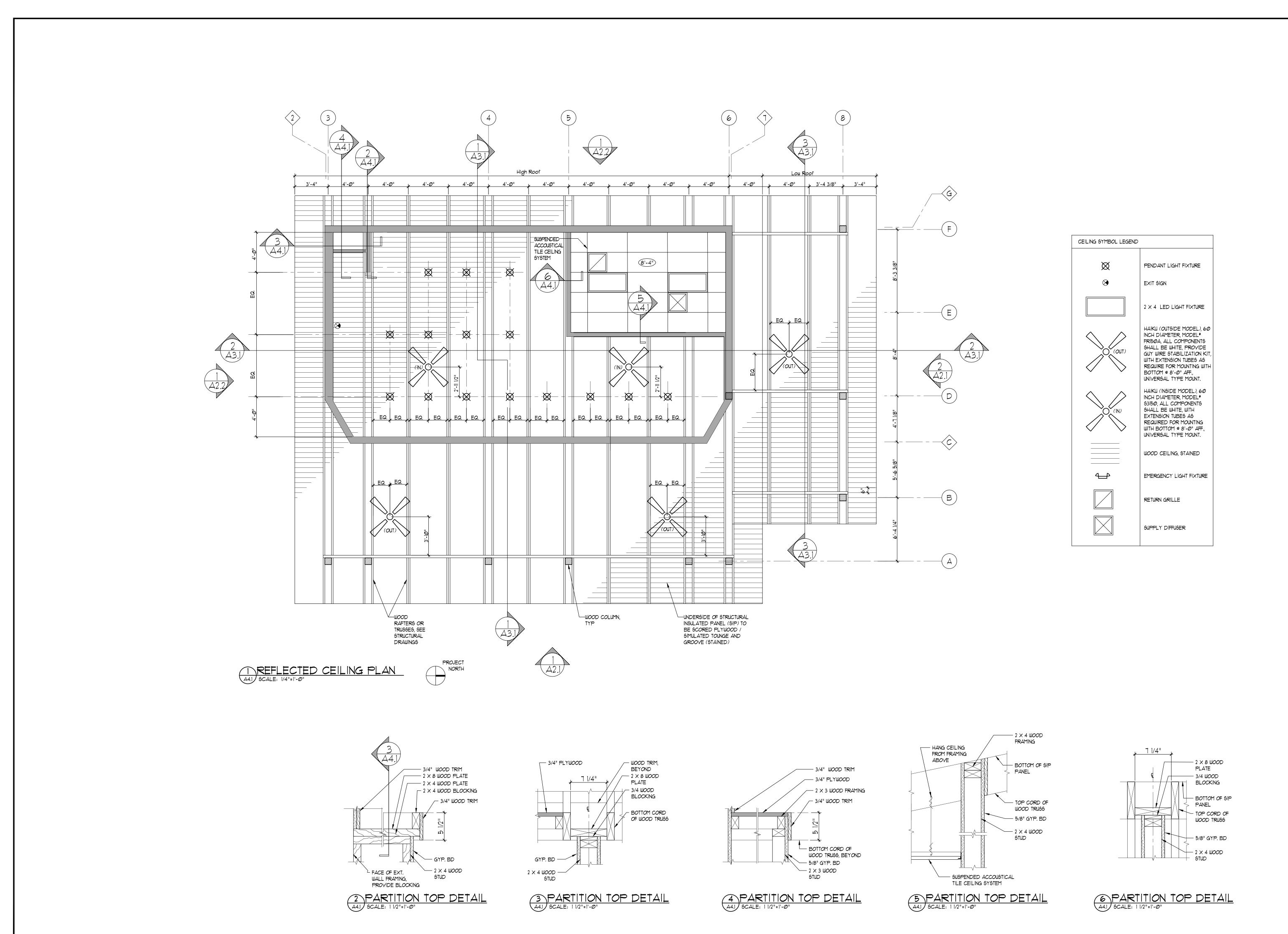
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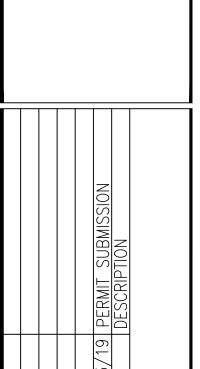




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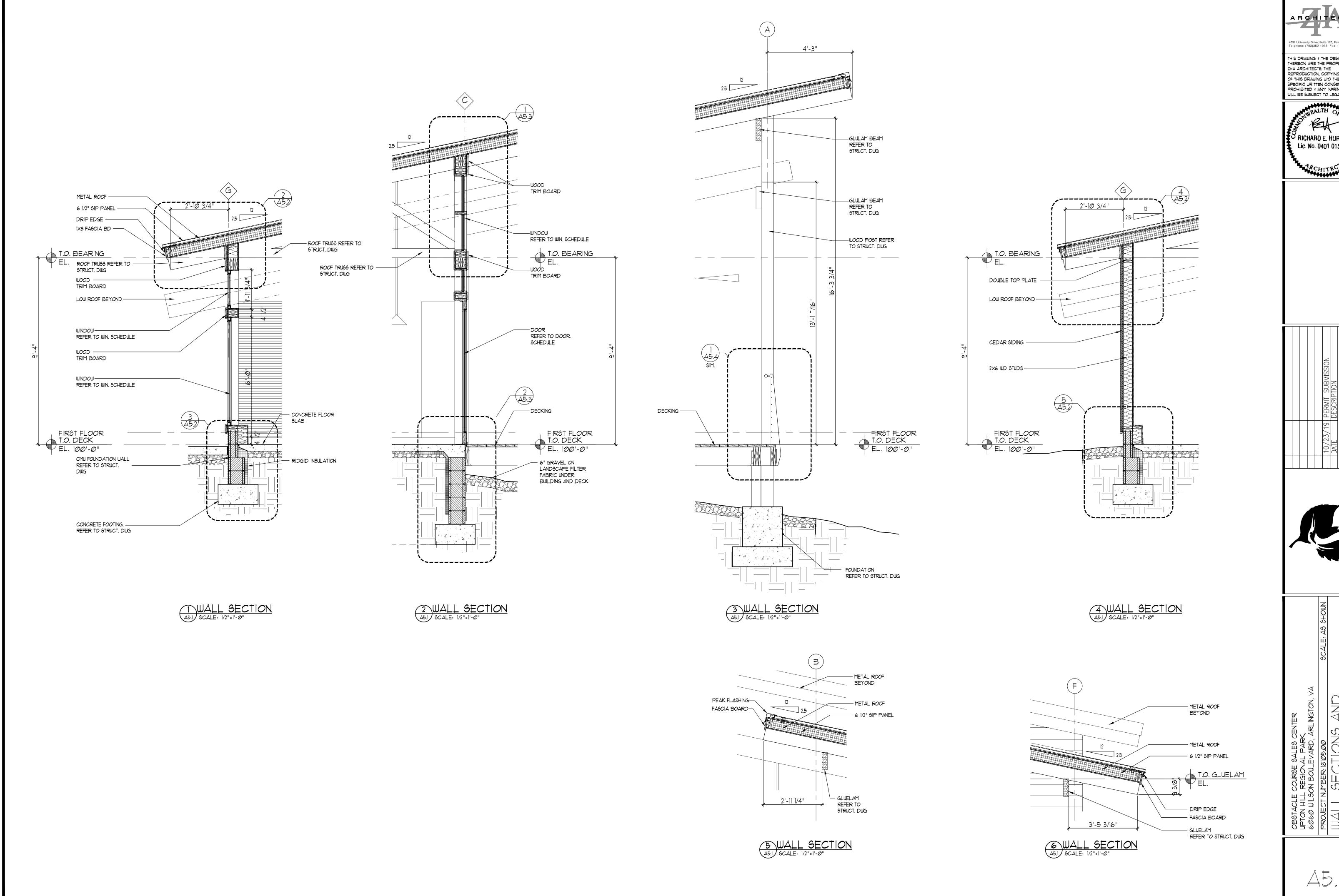


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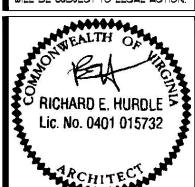
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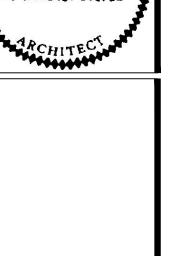
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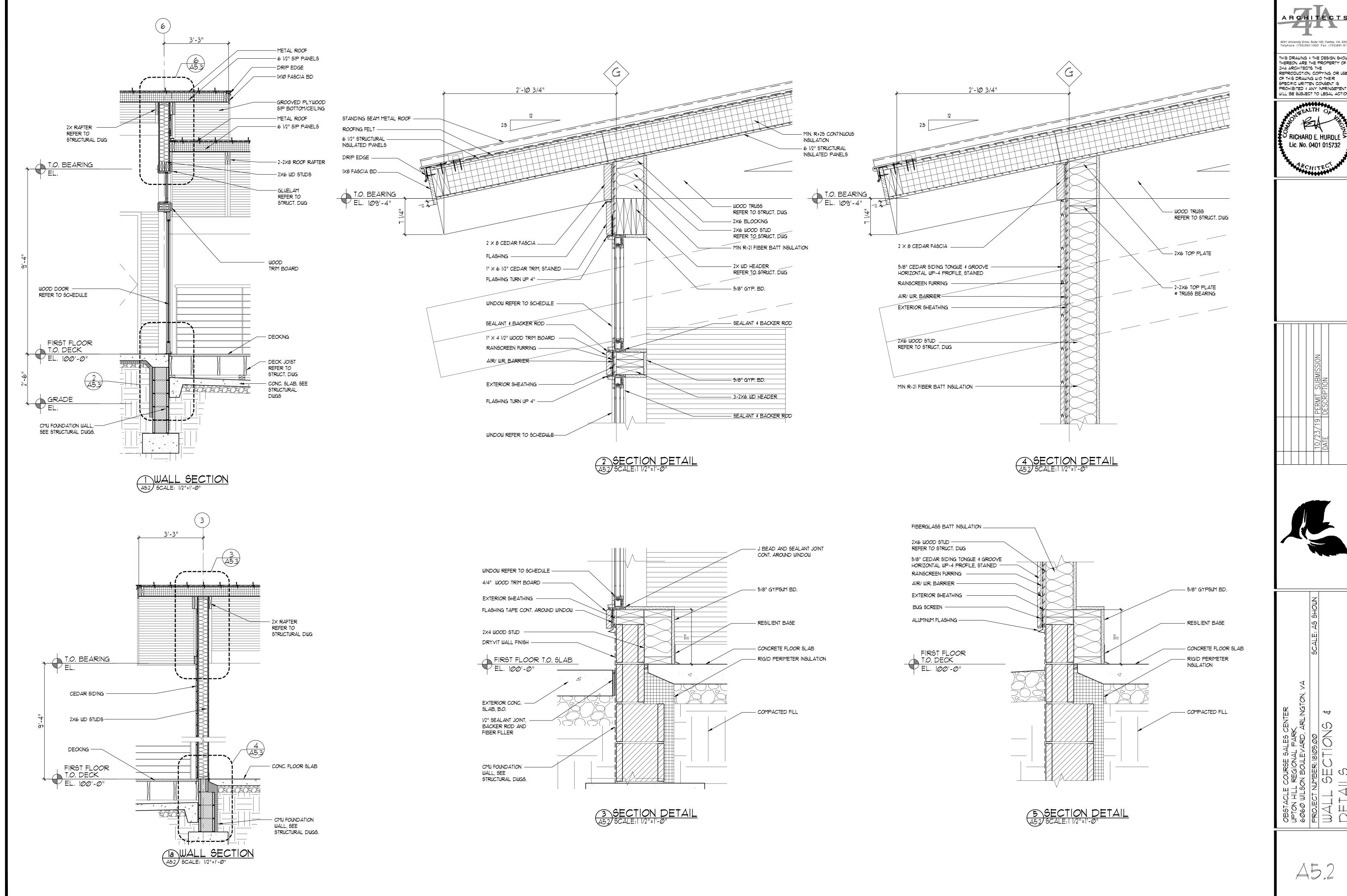
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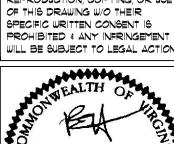








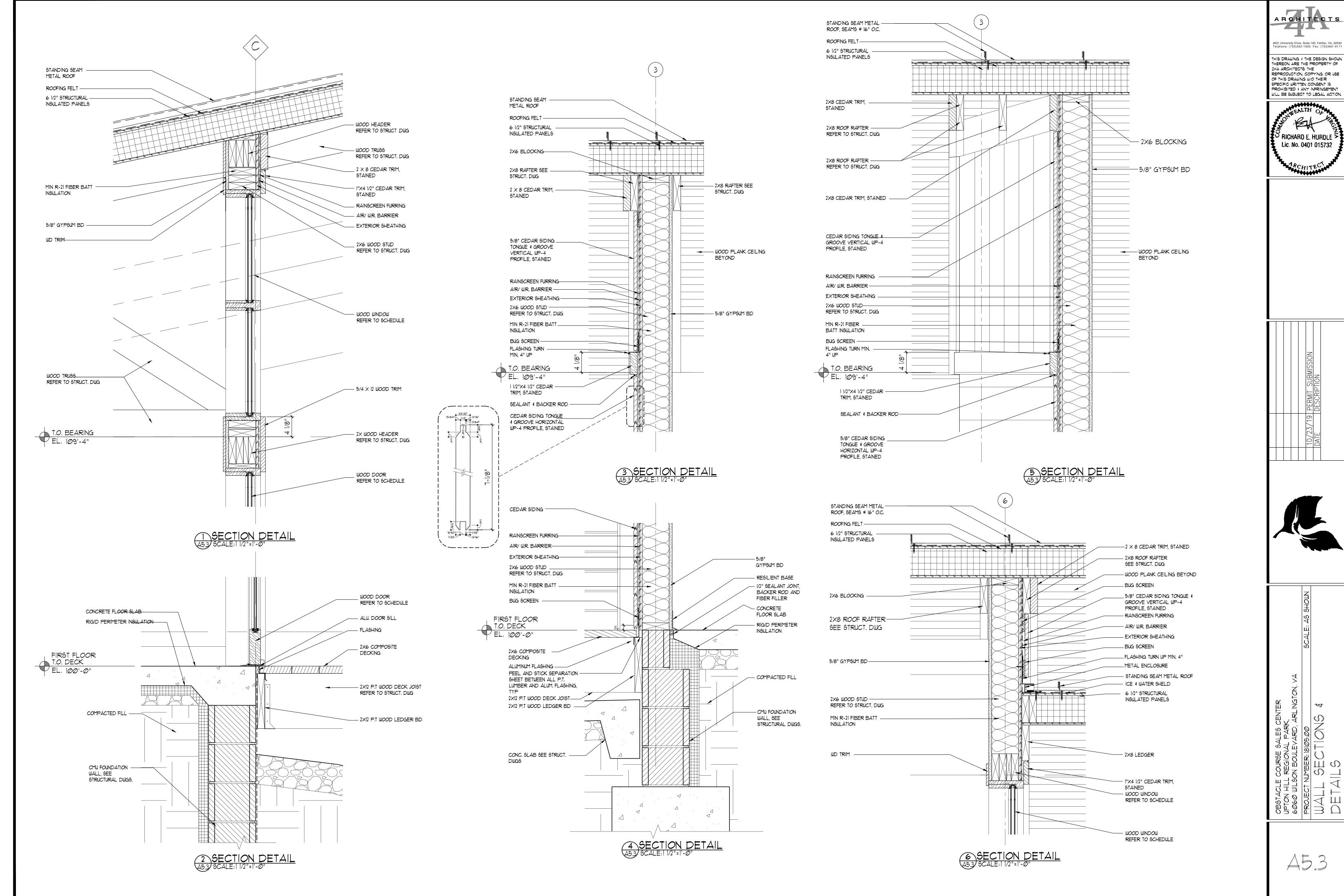
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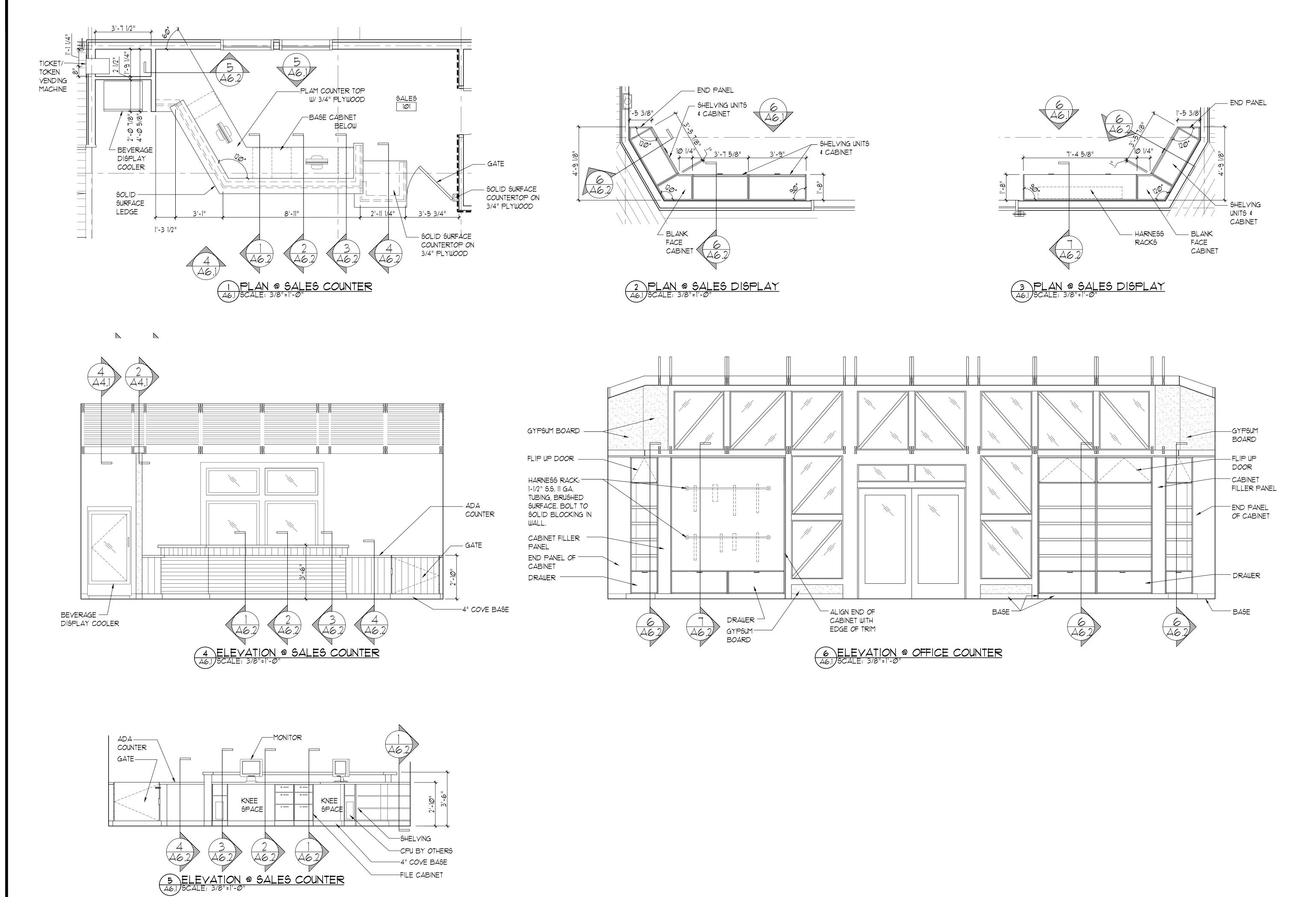






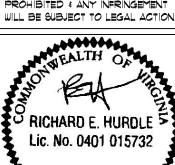






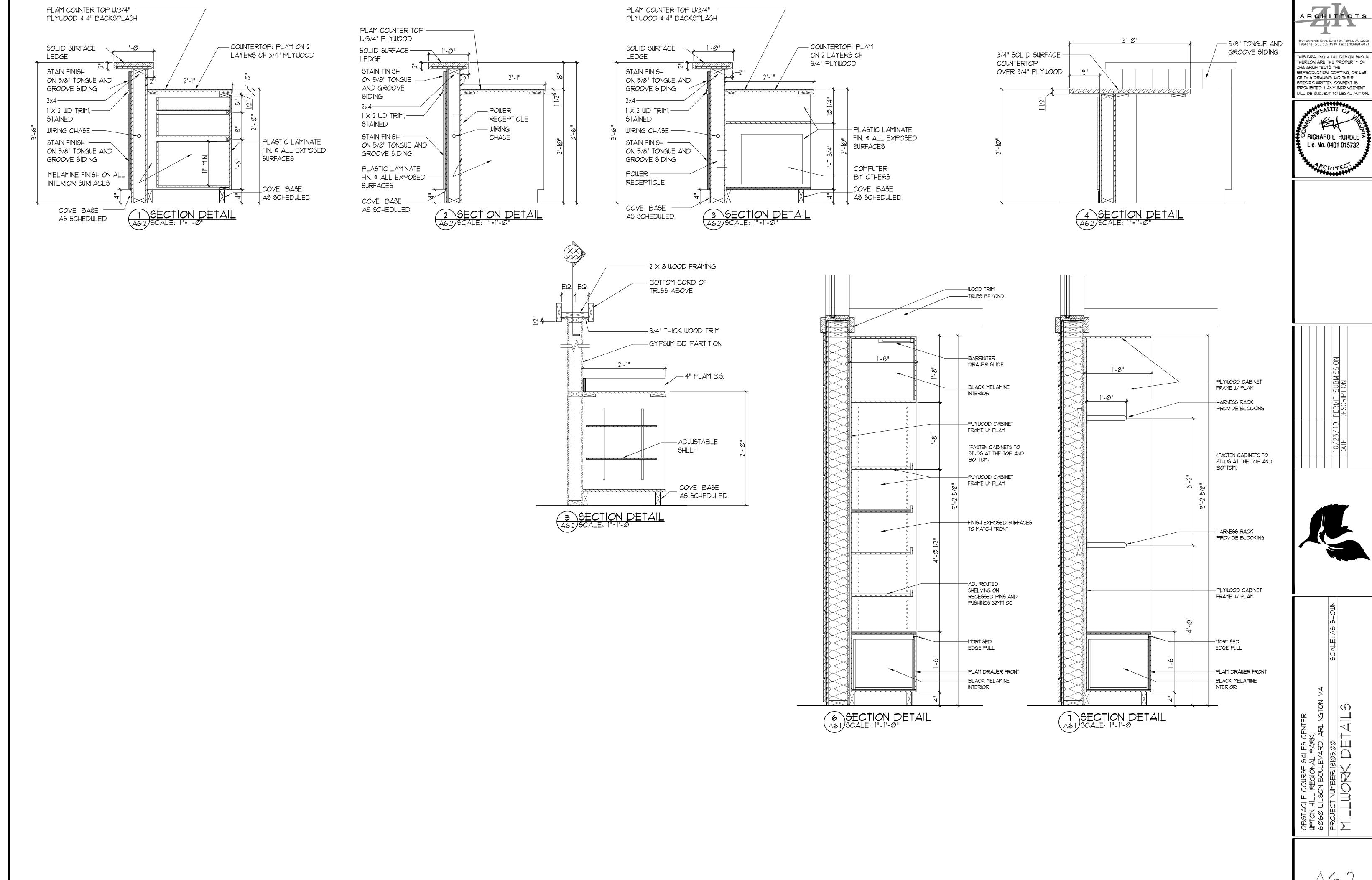
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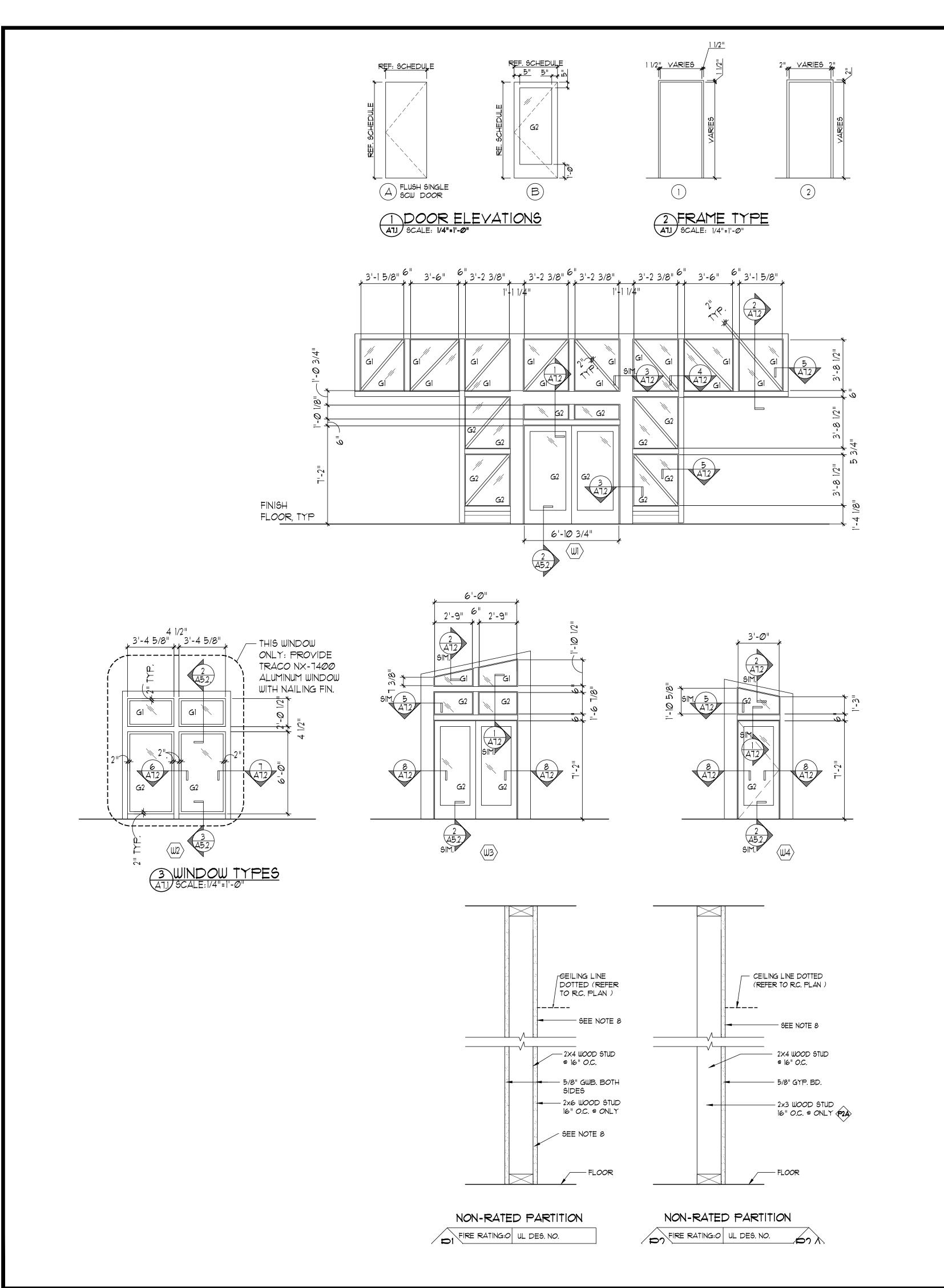
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	DOOR SCHE		REMARKS											
NO.	ROOM NAME	FROM - TO	WIDTH HEIGHT THICK	TYPE	MATERIAL	FINISH	MATERIAL	FINISH	TYPE	THRESHOLD	HEAD/ JAMB	LABEL	HRDWR	
ØI	DISPLAY	DISPLAY - EXTERIOR	(2) 3'-5 3/8" x T'-2" x 1 3/4"	В	SCWD/GLS	STAIN	WD	STAIN	1	ALUM.	1/A7.2 3/A7.2		2	THRESHOLD BY STOREFRONT MFG.
Ø2	DISPLAY	DISPLAY - EXTERIOR	(2) 3'-Ø" x 7'-2" x   3/4"	В	SCWD/GLS	STAIN	WD	STAIN	1	ALUM.	1/A7.2 8/A7.2		2	THRESHOLD BY STOREFRONT MFG.
Ø3	DISPLAY	DISPLAY - EXTERIOR	3'-Ø" x T'-2" x l 3/4"	В	SCWD/GLS	STAIN	WD	STAIN	1	ALUM.	1/A7.2 8A7.2		3	THRESHOLD BY STOREFRONT MFG.
Ø4	DISPLAY	DISPLAY - OFFICE	3'-0" x 7'-0" x 1 3/4"	Д	SCWD	STAIN	HM	PTD.	2		HI/AT.2 JI/AT.2		1	
Ø5	OFFICE	SALES - OFFICE	3'-6" x 7'-0" x 1 3/4"	Д	SCWD	STAIN	HM	PTD.	2		H1/A7.2 J1/A7.2		1	

#### GENERAL NOTES

- 1. DOORS, THRESHOLDS TO MEET ACCESSIBILITY REQUIREMENTS, U.O.N. 1. PROVIDE ADA COMPLIANT DOOR SILLS, PUSH PULL HARDWARE AND CLOSERS.
- 2. PROVIDE KICK PLATE @ PUSH SIDE OF THE DOOR
- 3. PROVIDE 3 SILENCERS AT EACH SINGLE SWING DOOR LEAF, SR64 IV
- 4. PROVIDE I SILENCER AT EACH DOUBLE DOOR LEAF,
- 5. PROVIDE CLEAR SILICONE SEALANT AT THE BOTTOM OF
- ALL DOOR FRAMES. 6. CHECK AND ADJUST ALL DOOR CLOSERS.
- ALUM. = ALUMINUM HM. = HOLLOW METAL SCWD. = SOLID CORE WOOD MTL. = METAL

ABBREVIATIONS USED:

FF. = FACTORY FINISH PTD. = PAINTED ADA = AMERICANS WITH DISABILITY ACT GL. = GLASS

#### HARDWARE SCHEDULE

PROVIDE BMHA GRADE 2 WITH 626 FINISH ON ALL HARDWARE. ACCEPTABLE MANUFACTURERS: SCHLAGE, CORBIN, SARGENT.

HARDWARE SET #1 (1) OFFICE LOCK SET (3) PAIR HINGES (1) FLOOR STOP (1) KICK PLATE (PUSH SIDE) HARDWARE SET \*2 (1) CYLINDRICAL DEADBOLT (3) PAIR HINGES

(4) KICK PLATES

- (2) CLOSERS WITH 90° STOP (2) PUSH PULL HANDLE SETS (1) PAIR FLUSH BOLTS (1) ALUM. SILL (ADA) (1) WEATHER STRIP PACKAGE
- HARDWARE SET \*3 (1) CYLINDRICAL DEADBOLT (1.5) PAIR HINGES
- (1) CLOSER WITH 90° STOP (1) PUSH PULL HANDLE SET (1) ALUM. SILL (ADA)
- (1) WEATHER STRIP PACKAGE (2) KICK PLATES

KEYING SCHEDULE: ONE (1) KEY SHALL OPEN EVERY DOOR IN THE FACILITY EXCEPT THE OFFICE. THE OFFICE SHALL HAVE SEPARATE KEY.

NOTE: CONFIRM HARDWARE SCHEDULE WITH OWNER PROVIDE MASTER KEYING SYSTEM PER OWNER REQUIREMENTS

#### GLAZING SCHEDULE

ASSEMBLY TYPE	DESCRIPTION	THICKNESS	COLOR	GLASS TYPE	
NGUL ATES	INSIDE AIR SPACE	1/4"	CLEAR -	HEAT STRENGTHENED	
INSULATED	OUTSIDE	1/4"	CLEAR	HEAT STRENGTHENED	
	INSIDE	1/4"	CLEAR	TEMPERED	
INSULATED			-	-	
	OUTSIDE	1/4"	CLEAR	TEMPERED	
	INSULATED	INSIDE AIR SPACE OUTSIDE INSIDE AIR SPACE	INSIDE   1/4"	INSIDE	INSIDE

### ROOM FINISH SCHEDULE

ROOM NO.	ROOM NAME	FLOOR	BASE	WALLS *	CEILING	REMARKS
100	DISPLAY	STAINED CONCRETE	B-1	P-1	CLG-I	
101	SALES	STAINED CONCRETE	B-1	P-1	CLG-I	
1Ø2	OFFICE	STAINED CONCRETE	B-I	P-2	CLG-I	

#### FINISH INDEX

SYMBOL	MANUFACTURER	TYPE	COLOR	CONTACT	NOTES
P-1	SHERWIN WILLIAMS	EGGSHELL	CLASSIC LIGHT BUFF #SW0050		
P-2	SHERWIN WILLIAMS	EGGSHELL	BAGEL *SW6114		
В-1	JOHNSONITE	4" RUBBER	GROUNDED # 264	KRISTAN MILLIKAN 913-484-0311	PROVIDE LONG TOE BASE AROUND EXTERIOR WALL. STANDARD TO BASE AT ALL OTHER LOCATIONS
CLG-I	ARMSTRONG	CORTEGA SQUARE EDGE, LAY-IN 24" X 48", WITH PRELUDE XL 15/16" EXPOSED TEE SYSTEM.	WHITE	Armstrong World Industries, Inc. (800-234-5464)	PROVIDE AL ACCESSORIES FOR A COMPLETE CEILING SYSTEM.

NOTE: ALL PAINTED SURFACES TO RECEIVE ONE COAT OF PRIMER AND TWO COATS OF FINISH.

ARCHITECTS

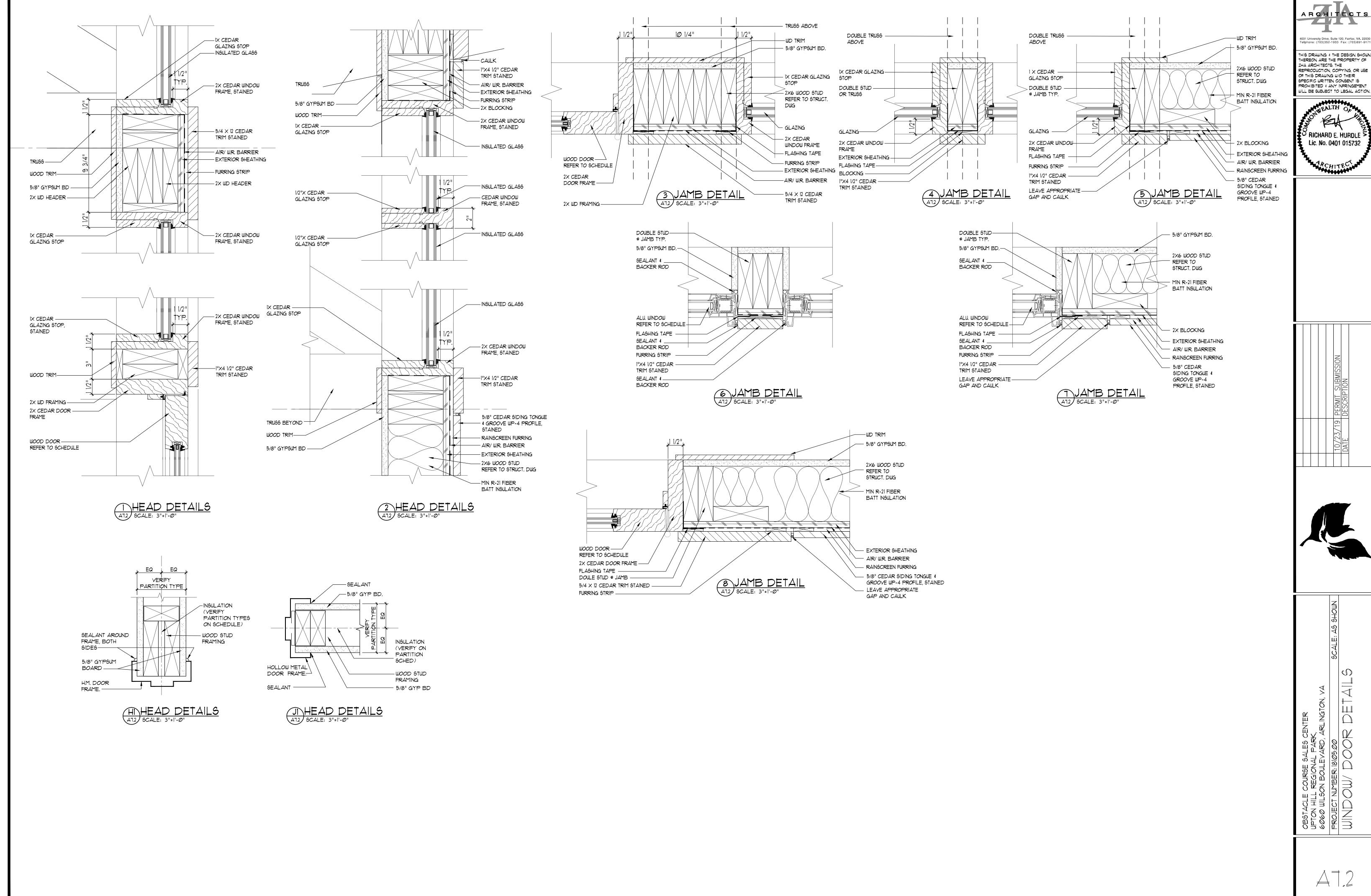
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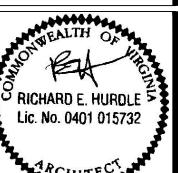
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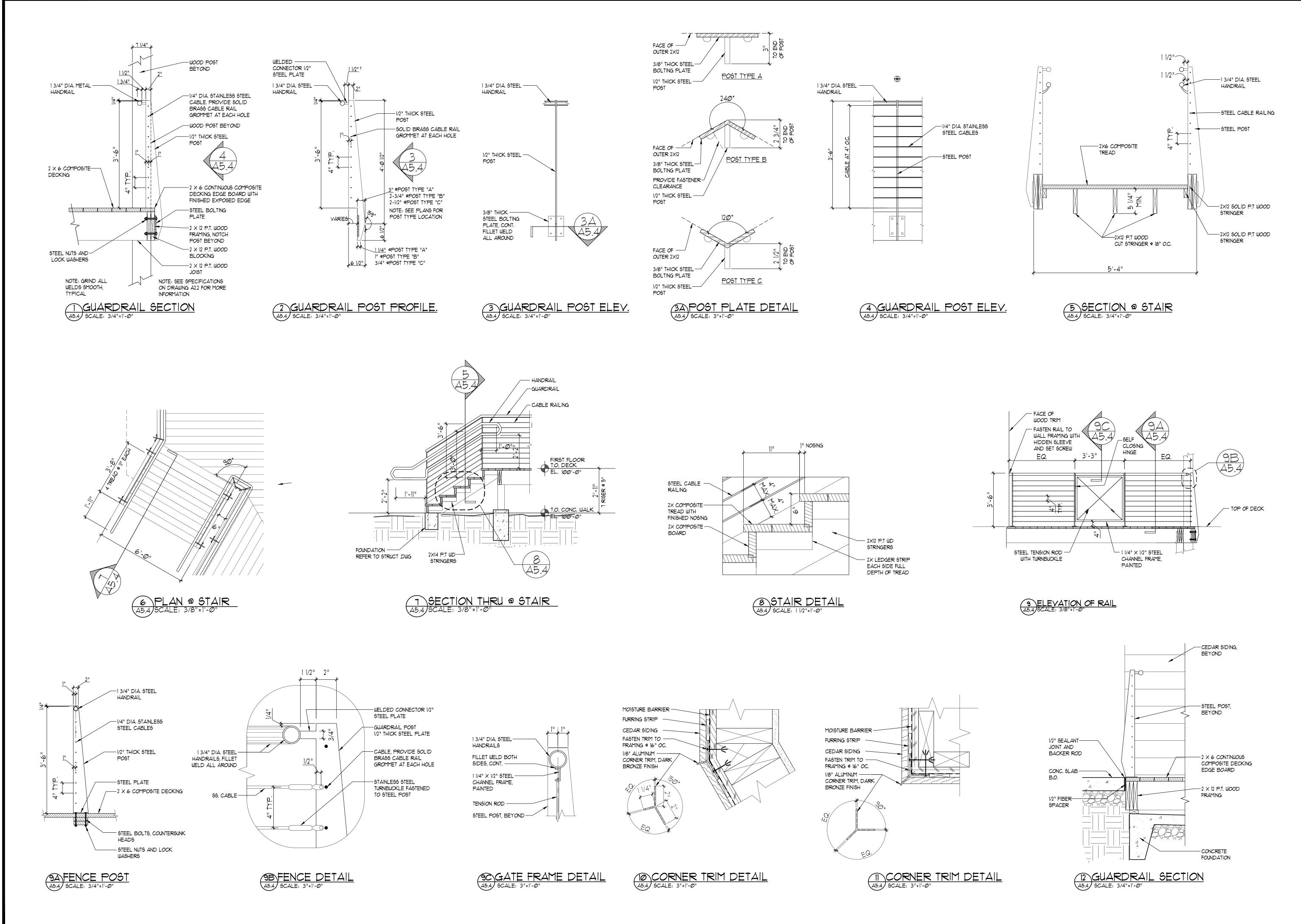






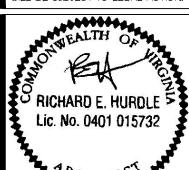




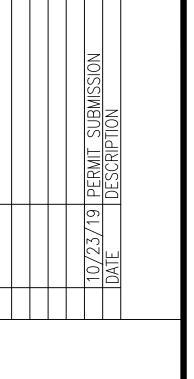


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A. THE BUILDING IS DESIGNED UNDER THE PROVISIONS OF THE 2015 INTERNATIONAL BUILDING CODE AND ASCE 7-10.

B. THE FOLLOWING LIVE LOADS WERE USED IN THE DESIGN:

# BUILDING RISK CATEGORY

FLOOR LIVE LOAD 100 PSF DECK OFFICE 100 PSF STAIRS AND EXITS 100 PSF

LIVE LOAD REDUCTION IS UTILIZED AS NOTE: ALLOWED BY CODE.

ROOF LIVE LOAD 30 PSF MINIMUM UNIFORM ROOF LIVE LOAD

ROOF SNOW LOAD GROUND SNOW LOAD (Pg) 30 PSF

21 PSF FLAT-ROOF SNOW LOAD (Pf) SNOW EXPOSURE FACTOR (Ce) 1.0 SNOW IMPORTANCE FACTOR (Is) 1.0

THERMAL FACTOR (Ct) NOTE: DRIFTING SNOW LOADS AS REQUIRED BY CODE

WIND LOAD WIND SPEED (3 SECOND GUST)

115 MPH VULT (0.77\*VULT) 90 MPH VASD: WIND EXPOSURE

INTERNAL PRESSURE COEFFICIENT +0.18, -0.18COMPONENTS AND CLADDING WIND LOAD

EFFECTIVE WIND AREA ZONE PRESSURE 10 FT.^2 +21.8 PSF 10 FT.^2 -23.6 PSF 10 FT.^2 +21.8 PSF 10 FT.^2 -29.0 PSF

EARTHQUAKE DESIGN

1.00 SEISMIC IMPORTANCE FACTOR (Ie) SEISMIC DESIGN CATEGORY SITE CLASSIFICATION SEISMIC RESPONSE COEFFICIENTS 0.119 0.051

0.127 0.082 DESIGN BASE SHEAR 2.0 KIPS SEISMIC-FORCE RESISTING SYSTEM PER ASCE 7-10 TABLE 12.2-1 TYPE A17 2.0 2.0 0.064

ANALYSIS METHOD C. SEE ARCHITECTURAL DRAWINGS FOR ANGLES, CLIPS, PLATES, ETC., AND OTHER

MECHANICAL AND ELECTRICAL CONTRACTORS.

MISCELLANEOUS ITEMS. VERIFY AND COORDINATE ALL FRAMES, OPENINGS, ETC. WITH THE

D. SUBMIT SHOP DRAWINGS FOR THE FOLLOWING ITEMS. SUBMITTALS INCLUDE BUT MAY NOT BE LIMITED TO:

-- CONCRETE MIX DESIGN

--REINFORCING STEEL --WOOD TRUSSES

DO NOT USE CONTRACT DRAWINGS AS A BASE FOR SHOPS. REVIEW IS LIMITED TO DESIGN CONFORMANCE. CONTRACTOR IS RESPONSIBLE FOR DIMENSIONS.

E. CONTRACTOR SHALL COORDINATE WITH THE QUALIFIED AGENCY RETAINED BY THE OWNER TO PERFORM INSPECTION AND TESTING. INSPECTIONS REQUIRED INCLUDE, BUT MAY NOT BE

--SOILS AND FOUNDATIONS

#### 2. EARTHWORK

--CONCRETE

A. FOUNDATIONS ARE DESIGNED TO BEAR ON ENGINEERED FILL OR NATURAL SOIL WITH AN ASSUMED CAPACITY OF 1,500 PSF. THIS VALUE IS TO BE VERIFIED IN THE FIELD BY THE BUILDING INSPECTOR OR A QUALIFIED TESTING AGENCY.

B. BOTTOM OF ALL EXTERIOR FOOTINGS SHALL BE A MINIMUM OF 2 FOOT-6 INCH BELOW FINISH EXTERIOR GRADE. WHERE REQUIRED, STEP FOOTINGS IN RATIO OF 2 HORIZONTAL TO 1

C. COMPACTED BACKFILL BELOW BUILDING SLABS AND FOOTINGS: ALL SOIL FILL MATERIAL MUST BE APPROVED BY SOILS ENGINEER PRIOR TO PLACEMENT. PROOFROLL SUBGRADE REMOVING AND REPLACING SOFT OR COMPRESSIVE MATERIALS. FILL MATERIAL SHALL BE PLACED IN LAYERS NOT TO EXCEED 8INCH AND COMPACTED TO MIN. 95 PERCENT OF THE DRY MAXIMUM DENSITY AS DETERMINED BY ASTM D698.

#### 3. CONCRETE

A. CONCRETE CONSTRUCTION SHALL BE PER THE APPLICABLE BUILDING CODE, ACI 318 AND ACI 301, LATEST EDITIONS.

B. CONCRETE SHALL ATTAIN THE FOLLOWING 28 DAY COMPRESSIVE STRENGTHS PER ASTM A39.

--FOOTINGS, PIERS 3,000 PSI 3,500 PSI --SLAB-ON-GRADE

C. VERIFY CONCRETE STRENGTHS WITH A MINIMUM OF ONE SET OF SIX 6X12-INCH COMPRESSION CYLINDERS (2 @ 7 DAYS, 2 @ 28, 2 SPARE) PER DAY PER MIX TYPE WITH AN ADDITIONAL SET FOR EACH 100 YARDS OF CONCRETE. ALTERNATIVELY, 4X8-INCH COMPRESSION CYLINDERS MAY USED, INCREASE TO 3 CYLINDERS PER TEST SAMPLE (3 @ 7 DAYS, 3 @ 28,

D. EXTERIOR CONCRETE SHALL BE AIR-ENTRAINED TO PROVIDE AN AIR CONTENT OF 6+/-1PERCENT BY VOLUME.

E. PROVIDE CLEAR DISTANCE TO OUTERMOST REINFORCING AS FOLLOWS:

CONCRETE CAST AGAINST EARTH 3 INCHES

CONCRETE EXPOSED TO EARTH OR WEATHER:

#5 OR SMALLER 1-1/2 INCHES

F. REINFORCING STEEL SHALL CONFORM TO A615-GR60; MESH SHALL CONFORM TO ASTM A185 WITH MINIMUM LAPS OF 8 INCHES. PLACING PLANS AND SHOP FABRICATION DETAILS SHALL BE IN ACCORDANCE WITH "THE MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES". FURNISH SUPPORT BARS AND ACCESSORIES IN ACCORDANCE WITH C.R.S.I. STANDARDS.

G. PROVIDE CORNER BARS TO MATCH HORIZONTAL REINFORCING IN WALLS AND FOOTINGS. SPLICE LAPS SHALL BE A MINIMUM OF 30 BAR DIAMETERS, UNLESS NOTED OTHERWISE. PROVIDE DOWELS BETWEEN FOOTINGS AND WALLS OR PIERS TO MATCH SIZE AND SPACING OF VERTICAL REINFORCING.

#### 4. MASONRY

A. MASONRY CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE APPLICABLE BUILDING CODE AND THE "BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES" TMS 402/ACI-530/ASCE 5 AND THE "SPECIFICATIONS FOR MASONRY STRUCTURES" TMS 602/ACI-530.1/ASCE 6, LATEST EDITIONS.

B. MASONRY TO CONFORM TO THE FOLLOWING SPECIFICATIONS:

HOLLOW LOAD-BEARING C.M.U ASTM C90 CONCRETE BUILDING BRICK ASTM C55, GRADE A ASTM C270, TYPE M OR S MORTAR GROUT ASTM C476

C. MASONRY ASSEMBLIES SHALL HAVE COMPRESSIVE STRENGTH (F'M) GREATER THAN OR EQUAL TO 1350 PSI.

D. WALLS SHALL BE CONSTRUCTED USING A FULL BED OF MORTAR. VERTICAL REINFORCING SHALL BE GROUTED IN PLACE WITH 2500 PSI GROUT (GROUT SLUMP SHALL FALL BETWEEN 8 AND 11 INCHES) POUR HEIGHT AND LIFT HEIGHT SHALL NOT EXCEED 5 FEET - 0 INCHES.

E. PROVIDE CONTINUOUS HOT-DIPPED GALVANIZED HORIZONTAL JOINT REINFORCING IN MASONRY WALLS AT 16 INCHES O.C. VERTICALLY.

F. MASONRY WALLS SHALL HAVE CONTROL JOINTS AT 30 FEET ON CENTER UNLESS NOTED OTHERWISE.

G. REINFORCING STEEL SHALL CONFORM TO ASTM A615-GR60. LAP BARS A MINIMUM OF 48 BAR DIAMETERS. GROUT ALL REINFORCED CORES SOLID.

A. STEEL CONSTRUCTION SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE APPLICABLE BUILDING CODE AND SHALL CONFORM TO AISC 360. STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING ASTM STANDARDS:

STEEL PLATES, CHANNELS, RODS, AND ANGLES A36

B. STRUCTURAL STEEL SHALL BE GIVEN ONE SHOP COAT OF APPROVED SHOP PRIMER APPLIED TO CLEAN AND DRY SURFACES.

C. WELDING OF STRUCTURAL STEEL SHALL BE WITH E70XX ELECTRODES.

#### 6. WOOD FRAMING

NOTE:

5. STEEL

A. FRAMING LUMBER SHALL BE HEM FIR #2, SPRUCE-PINE-FIR (SPF) #2, OR BETTER, HAVING THE FOLLOWING MINIMUM PROPERTIES (BASED ON 2X12 MEMBERS):

BENDING STRESS "Fb" 850 PSI FOR SINGLE MEMBER USE HORIZONTAL SHEAR "Fv" 70 PSI COMPRESSION PERPENDICULAR TO GRAIN "Fc" = 405 PSI COMPRESSION PARALLEL TO GRAIN "Fc11" 1150 PSI MODULUS OF ELASTICITY "E" 1,300,000 PSI

B. FRAMING LUMBER DENOTED AS "DOUG FIR" SHALL BE DOUG FIR #2, OR BETTER, HAVING THE

FOLLOWING MINIMUM PROPERTIES (BASED ON 2X12 MEMBERS):

BENDING STRESS "Fb" 850 PSI FOR SINGLE MEMBER USE HORIZONTAL SHEAR "Ev" 70 PSI COMPRESSION PERPENDICULAR TO GRAIN "Fc" = 405 PSI COMPRESSION PARALLEL TO GRAIN "Fc11" 1150 PSI MODULUS OF ELASTICITY "E" 1,300,000 PSI

C. WALL STUDS SHALL BE SPF STUD GRADE OR BETTER, HAVING THE FOLLOWING MINIMUM PROPERTIES:

COMPRESSION PARALLEL TO GRAIN "Fc11" 725 PSI MODULES OF ELASTICITY "E" 1,200,000 PSI

MINIMUM PROPERTIES (BASED ON 2X12 MEMBERS):

D. ALL EXTERIOR FRAMING SHALL BE PRESSURE-TREATED. FRAMING SHALL BE PRESSURE-TREATED WITH ALAKALINE COPPER QUAT (ACQ) OR COPPER AZOLE (CBA-A AND CA-B), NOT SODIUM BORATE (SBX). STRUCTURAL POSTS AND PRESSURE-TREATED FRAMING LUMBER SHALL BE SOUTHERN YELLOW PINE (SYP) #2 OR BETTER, HAVING THE FOLLOWING

BENDING STRESS "Fb" = 975 PSI FOR SINGLE MEMBER USE HORIZONTAL SHEAR "EV" 175 PSI COMPRESSION PERPENDICULAR TO GRAIN "Fc" = 565 PSI COMPRESSION PARALLEL TO GRAIN "Fc11" 1450 PSI

E. LAMINATED TIMBER (GLULAM) BEAMS SHALL BE EXTERIOR GRADE AND SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES:

BENDING STRESS" Fb" HORIZONTAL SHEAR "Fv" MODULUS OF ELASTICITY "E"

MODULUS OF ELASTICITY "E"

400 PSI = 165 PSI = 1,800,000 PSI =

1,600,000 PSI

SPF (SOUTH) IS NOT ACCEPTABLE.

F. PREFABRICATED JOIST HANGERS, BEAM HANGERS, POST CAPS, AND POST BASES SHALL BE SIZED AND ATTACHED PER MANUFACTURERS RECOMMENDATIONS. FASTENERS AND CONNECTORS IN EXTERIOR CONDITIONS OR UTILIZED WITH PRESSURE-TREATED MEMBERS SHALL MEET G185 HOT-DIPPED GALVANIZING.

G. ANCHOR BOLTS CONNECTING PRESSURE-TREATED WOOD PLATES TO FOUNDATIONS, MASONRY WALLS. OR CONCRETE SLABS SHALL BE HOT-DIPPED GALVANIZED. EXPANSION BOLTS CONNECTING PRESSURE-TREATED WOOD FRAMING TO FOUNDATIONS OR MASONRY WALLS SHALL BE STAINLESS STEEL.

H.BUILT-UP STUD COLUMNS SHALL HAVE ONE JACK STUD AND THE REMAINING STUDS SHALL BE KING STUDS. MULTIPLE STUDS SHALL BE NAILED WITH 10D NAILS AT 8 INCHES O.C. PROVIDE SOLID BLOCKING OR CRIPPLE STUDS IN FLOOR SYSTEM AT ALL POINT LOADS ABOVE.

I. FREESTANDING POSTS SHALL HAVE PREFAB POSTCAP AND BASE. POSTS WITHIN WALL NEED ONLY HAVE PREFAB CAP ATTACHED TO BEAM (U.N.O.). POSTS WITHIN WALL BEARING ON MASONRY OR CONCRETE SHALL HAVE PREFAB BASE (U.N.O.)

J. STUD BEARING WALLS TO BE PROVIDED WITH 2 CONTINUOUS TOP PLATES AND 1 CONTINUOUS BOTTOM PLATE WITH A MINIMUM OF ONE ROW OF HORIZONTAL BRIDGING AT MID-HEIGHT OF WALL UNLESS NOTED OTHERWISE. SPLICES OF TOP PLATES SHALL OCCUR OVER STUD AND SHALL BE STAGGERED A MINIMUM OF FOUR FEET.

K. NAILS AND STAPLES SHALL CONFORM TO REQUIREMENTS OF ASTM F1667. NAILS USED FOR FRAMING AND SHEATHING CONNECTIONS SHALL HAVE MINIMUM AVERAGE BENDING YIELD STRENGTHS AS FOLLOWS:

SHANK DIAMETER MINIMUM STRENGTH 0.099" TO 0.142" 100 KSI 0.143" TO 0.177" 90 KSI

0.178" TO 0.254"

\_. ROOF MEMBERS SHALL BE CONNECTED AT EACH BEARING POINT WITH ONE PREFABRICATED GALVANIZED METAL ANCHOR. ANCHORS SHALL BE 18 GAGE MINIMUM AND SHALL BE ATTACHED TO HAVE A CAPACITY TO RESIST A 450# UPLIFT LOADING, UNLESS SHOWN OTHERWISE ON DRAWINGS.

M.PREFABRICATED TRUSSES SHALL BE DESIGNED FOR THE FOLLOWING LOADS UNLESS NOTED OTHERWISE (SEE PLANS FOR ADDITIONAL LOCAL LOADINGS):

ROOF: LIVE LOAD - 30 PSF DEAD LOAD TOP CHORD - 15 PSF DEAD LOAD BOTTOM CHORD - 10 PSF

80 KSI

SEE ARCHITECTURAL DRAWINGS FOR TRUSS CONFIGURATION. SUBMIT SHOP DRAWINGS AND CALCULATIONS FOR REVIEW. THE DESIGN OF THE BRACING REQUIRED TO LATERALLY STABILIZE THE TRUSSES AND TRUSS MEMBERS SHALL BE THE RESPONSIBILITY OF THE SPECIALTY TRUSS ENGINEER. AFFIX SEAL OF ENGINEER REGISTERED IN THE STATE OF THE PROPOSED PROJECT. TEMPORARY BRACING DURING ERECTION IS THE RESPONSIBILITY OF THE CONTRACTOR.

N. DO NOT SPLICE STRUCTURAL MEMBERS BETWEEN SUPPORTS.

#### 7. SHEATHING

A.FLOOR SHEATHING SHALL BE 23/32 (3/4) INCH APA RATED STURD-I-FLOOR, TONGUE AND GROOVE, PLYWOOD, OBS NOT ALLOWED. PANELS SHALL HAVE LONG DIMENSION ORIENTED ACROSS THREE OR MORE JOISTS AND SHALL BE FASTENED WITH CONSTRUCTION ADHESIVE AND 10d NAILS AT 6 INCHES ON CENTER AT PANEL EDGES AND AT 12 INCHES ON CENTER AT INTERMEDIATE SUPPORTS. UNLESS NOTED OTHERWISE, PANEL EDGES NEED NOT BE

B. EXTERIOR WALL SHEATHING SHALL BE 7/16 (1/2) INCH THICK APA RATED WOOD STRUCTURAL PANELS. USE PLYWOOD; OSB NOT ALLOWED. FASTEN PANELS TO STUDS WITH 8d NAILS AT 6 INCHES ON CENTER AT PANEL EDGES AND AT 12 INCHES ON CENTER AT INTERMEDIATE SUPPORTS. UNLESS NOTED OTHERWISE, PANEL EDGES NEED NOT BE BLOCKED.

#### 8. STRUCTURAL INSULATED PANEL (SIP)

A. STRUCTURAL INSULATED PANELS (S.I.P) SHALL BE PRESSURE LAMINATED COMPOSITE MEMBERS OF APPROVED ORIENTED STRAND BOARD (OSB) AND AFM CERTIFIED EXPANDED POLYSTYRENE (EPS) INSULATION, MANUFACTURER SUPPLIED CONNECTING SPLINES AND APPROVED FASTENERS.

B. ALL PANELS SHALL BE STORED IN A PROTECTIVE AREA AND SUPPORTED TO PREVENT CONTACT WITH THE GROUND. PRIOR TO INSTALLATION, PANELS SHALL BE COVERED AND PROTECTED FROM EXPOSURE TO SUNLIGHT AND MOISTURE.

C. ALL SIP TO SIP CONNECTIONS AND SIP TO STRUCTURE CONNECTIONS ARE THE RESPONSIBILITY OF THE MANUFACTURER.

D. ROOF PANELS SHALL BE 6 1/2" THICK (5 1/2" XPS CORE) WITH SPINES AS INDICATED PER

E. DO NOT DRILL FOR PLUMBING LINES, OVERCUT SHEATHING FOR FIELD CUT OPENINGS OR CUT SHEATHING FOR ELECTRICAL CHASES WITHOUT PRIOR APPROVAL FROM PANEL MANUFACTURER.

F. SIP'S SHALL BE DESIGNED FOR THE FOLLOWING LOADS UNLESS NOTED OTHERWISE (SEE PLANS FOR ADDITIONAL LOCAL LOADINGS):

LIVE LOAD 30 PSF DEAD LOAD 20 PSF NET WIND UPLIFT 10 PSF

SUBMIT SHOP DRAWINGS AND CALCULATIONS INCLUDING ERECTION PLANS SHOWING MEMBER SIZES, LAYOUTS, CONNECTIONS, PRODUCT COMPONENTS AND ACCESSORIES FOR REVIEW AND APPROVAL. AFFIX SEAL OF ENGINEER REGISTERED IN THE STATE OF THE PROPOSED PROJECT. TEMPORARY BRACING IS THE RESPONSIBILITY OF THE CONTRACTOR

9. POST-INSTALLED ANCHORS IN CONCRETE AND MASONRY

#### A. GENERAL

INSTALL ANCHORS IN STRICT CONFORMANCE WITH THE MANUFACTURER'S PUBLISHED INSTALLATION INSTRUCTIONS AND PROCEDURES. ALL POST-INSTALLED ANCHORS IN CONCRETE SHALL HAVE ICC APPROVAL FOR USE IN CRACKED CONCRETE.

SUBSTITUTION REQUESTS FOR ALTERNATE PRODUCTS MUST BE SUBMITTED FOR APPROVAL PRIOR TO USE. CONTRACTOR SHALL PROVIDE LOAD CAPACITIES DEMONSTRATING THAT THE SUBSTITUTED PRODUCT IS CAPABLE OF ACHIEVING THE PERFORMANCE VALUES OF THE SPECIFIED PRODUCT.

PROVIDE STAINLESS STEEL FASTENERS FOR EXTERIOR USE OR WHEN PERMANENTLY EXPOSED TO WEATHER. PROVIDE GALVANIZED CARBON STEEL ANCHORS AT OTHER LOCATIONS, UNLESS OTHERWISE NOTED.

#### B. PRODUCTS

ANCHORS IN CONCRETE:

RECOMMENDATION.

CODE OR LOCAL JURISDICTION.

--EXPANSION ANCHORS SHALL BE HILTI KWIK BOLT TZ. -- UNDERCUT ANCHORS SHALL BE HILTI HDA.

-- SCREW ANCHORS SHALL BE HILTI KWIK HUS-EZ. --ADHESIVE ANCHORS SHALL BE HILTI HIT-HY 200 SAFE SET SYSTEM WITH HILTI HIT-Z

OR WITH HILTI HOLLOW DRILL BIT SYSTEM WITH HAS-E THREADED ROD.

ANCHORS IN MASONRY:

--EXPANSION ANCHORS SHALL BE HILTI KWIK BOLT-3. GROUT MASONRY CELLS SOLID 2500 PSI GROUT AT ANCHOR LOCATIONS. --SCREW ANCHORS SHALL BE HILTI KWIK HUS-EZ. GROUT MASONRY CELLS SOLID WITH

2500 PSI GROUT AT ANCHOR LOCATIONS. --ADHESIVE ANCHORS IN SOLID MASONRY SHALL BE HILTI HIT-HY 70 ADHESIVE ANCHORING

SYSTEM. STEEL ANCHOR ELEMENT SHALL BE HILTI HAS-E CONTINUOUSLY THREADED ROD OR HILTI HIS-N INTERNALLY THREADED INSERT. --ADHESIVE ANCHORS IN HOLLOW OR MULTI-WYTHE MASONRY SHALL BE HILTI HIT-HY

ADHESIVE ANCHORING SYSTEM. STEEL ANCHOR ELEMENT SHALL BE HILTI HAS-E CONTINUOUSLY THREADED ROD OR HILTI HIT-IC INTERNALLY THREADED INSERT. THE APPROPRIATE SIZE SCREEN TUBE SHALL BE USED PER THE ADHESIVE MANUFACTURER'S

#### C. INSTALLATION

ALL INSTALLATION PROCEDURES SHALL BE PER MANUFACTURERS RECOMMENDATIONS. COORDINATE AND/OR PROVIDE FOR THIRD PART INSPECTION AS REQUIRED BY BUILDING

ANCHOR CAPACITY IS DEPENDENT UPON SPACING BETWEEN ADJACENT ANCHORS AND PROXIMITY OF ANCHOR TO EDGE OF CONCRETE OR MASONRY. INSTALL ANCHORS IN ACCORDANCE WITH SPACING AND EDGE DISTANCE INDICATED ON THE DRAWINGS; IF NOT SHOWN, COMPLY WITH MINIMUM SPACING AND EDGE DISTANCE FOR FULL ANCHOR CAPACITY, AS SPECIFIED BY MANUFACTURER.

EXISTING REINFORCING BARS IN THE CONCRETE OR MASONRY STRUCTURE MAY CONFLICT WITH SPECIFIC ANCHOR LOCATIONS. DO NOT CUT OR DAMAGE REINFORCING BARS UNLESS SPECIFICALLY PERMITTED IN THE DRAWINGS.

PRIOR TO DRILLING, THE CONTRACTOR SHALL LOCATE REINFORCING BAR POSITIONS IN THE IMMEDIATE VICINITY OF PROPOSED POST-INSTALLED ANCHORS USING GPR, X-RAY, OR OTHER NON-DESTRUCTIVE MEANS.

WHEN CONFLICTS BETWEEN PROPOSED ANCHORS AND EXISTING REINFORCING BARS EXIST, SUBMIT RESULTS OF BAR LOCATIONS TO ARCHITECT / ENGINEER FOR REVIEW AND FURTHER DIRECTION.

WARNING: THE STRUCTURAL INTEGRITY OF THE BUILDING SHOWN ON THESE PLANS IS DEPENDENT UPON COMPLETION ACCORDING TO PLANS AND SPECIFICATIONS. STRUCTURAL MEMBERS ARE NOT SELF-BRACING UNTIL PERMANENTLY AFFIXED TO THE STRUCTURE. THE STRUCTURAL ENGINEERS ASSUME NO LIABILITY FOR THE STRUCTURE DURING CONSTRUCTION.

ARCHITECTS

031 University Drive, Suite 120, Fairfax, VA. 22 elphone: (703)352-1933 Fax: (703)691-9

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ABBREVIATIONS LEGEND

KO

KSI

LLV

LVL

MAS

MAX

MISC

MTL

NTS

NIC

OC

OPP

OF

PDF

PERIM

PROJ

PSF

QTY

RAD

RD

REV

REM

RTU

SIM

SJI

SOG

SQ

STD

STL

SPA

TEMP

TJI

TOC

TOS

TOW

TYP

UNO

**VERT** 

WWF

UNEXC

REINF

REQD

MO

MIN

KIP

KNOCK-OUT

LINTEL MARK

LIVE LOAD

LOW POINT

MANUF MANUFACTURER(ED)

MASONRY

MAXIMUM

MINIMUM

MATL MATERIAL

OPNG OPENING

METAL

MISCELLANEOUS

NOT TO SCALE

ON CENTER(S)

OUTSIDE FACE

PIER MARK

PERIMETER

PROJECTION

QUANTITY

RADIUS

**ROOF DRAIN** 

REMAINDER

ROOF TOP UNIT

SLIP CRITICAL

SLAB ON GRADE

SIMILAR

SQUARE

SPACES

SNOW LOAD

**TEMPORARY** 

WOOD I JOIST

THROUGH OUT

TOP, TP TOP OF PIER ELEVATION

UNEXCAVATED

VERIFY IN FIELD

WIND FRAME

**WORK POINT** 

WELDED WIRE FABRIC

TYPICAL

STAINLESS STEEL

THICK(NESS), (ENED)

TOP OF CONCRETE

TOP OF STEEL ELEVATION

TOP OF WALL ELEVATION

**UNLESS NOTED OTHERWISE** 

UNDERSIDE METAL DECK ELEVATION

EHLERT BRYAN

8609 Westwood Center Drive, Suite 800

Tysons, VA 22182

(703) 827-9552

Fax (703) 356-2031 www.ehlert-bryan.com

STEEL

STRUCT STRUCTURAL

STANDARD

REQUIRED

REVISION, REVISE(D)

REINFORCE(D), (ING)

STRAP BEAM, SLAB BEAM

STEEL JOIST INSTITUTE

SPECIALTY DESIGN ENGINEER

TOP OF FOOTING ELEVATION

PI ATF

PRECAST CONCRETE

POWER DRIVEN FASTENER

PRE-ENGINEERED BUILDING

POUNDS PER LINEAR FOOT

PARALLEL STRAND LUMBER COLUMN

POST TENSION(ED)/PRESSURE TREATED

PRECAST PLANK MARK

POUNDS PER SQ. FOOT

POUNDS PER SQ. INCH

OPPOSITE

NOT IN CONTRACT

NEAR SIDE

MASONRY OPENING

KIPS PER SQ. INCH

LONG LEG HORIZONTAL

LAMINATED VENEER LUMBER

LONG LEG VERTICAL

**ANCHOR BOLT** 

ABOVE FINISH FLOOR

BRACED FRAME MARK

**BOTTOM OF DECK** 

**BOTTOM OF STEEL** 

BEARING PLATE MARK

BEAM MARK, SOIL BORING MARK

**BOTTOM OF FOOTING ELEVATION** 

CONTROL/CONSTRUCTION JOINT

CONCRETE MASONRY UNIT

CENTER OF MASONRY WALL

DEFORMED BAR ANCHORS

APPROXIMATE(LY)

ARCHITECT(URAL)

**ADDITIONAL** 

ADJACENT

ALTERNATE

BLOCKING

BUILDING

BOTTOM

BFARING

**BASEMENT** 

**COLUMN MARK** 

CAST IN PLACE

CLEAR(ANCE)

COLUMN

COMPOSITE

CONCRETE

CONNECTION

CONTINUOUS

DETAIL

DIAMETER

DIAGONAL

DRAWING

DOUBLE

FACH

DEAD LOAD

EACH END

**EACH FACE** 

**ELEVATION** 

ELEVATOR

EQUAL

**EQUIPMENT** 

EACH SIDE

**EXPANSION** 

**FOOTING MARK** 

FLOOR DRAIN

FOUNDATION

FACE OF STUD

FOOTING STEP

FOOTING

GAGE, GAUGE

GIRDER TRUSS

GALVANIZED

**HORIZONTAL** 

HIGH POINT

HEIGHT

JOIST

JOINT

HIP TRUSS

INFORMATION

INSIDE FACE

JACK TRUSS

HIGH STRENGTH

**FUTURE** 

FACE OF BUILDING

FACE OF MASONRY WALL

FIRE RETARDANT TREATED

GENERAL CONTRACT(OR)

JOIST BEARING ELEVATION

EXTERIOR

**EACH WAY** 

EXISTING

EDGE OF DECK

**EDGE OF JOIST** 

EDGE OF SLAB

DOWN

**DIMENSION** 

CONSTRUCTION

COORDINATE(TION)

CENTER OF STUD

BETWEEN

ADDL

APPROX

ARCH

BLKG

BLDG

BOD

BOS

BOTT

**BRG** 

BSMT

BTWN

CLR

CMU

COL

COM

COMP

CONC

CONN

CONST

CONT

COORD

COS

DIAM

DIAG

DIM

DWG

ELEV

EOD

EOJ

EOS

EW

EXT

FOB

FOM

FOS

FRT

FTG

FUT

GALV

HORIZ

HS

HTR

INFO

JST

GC

EXIST, EX

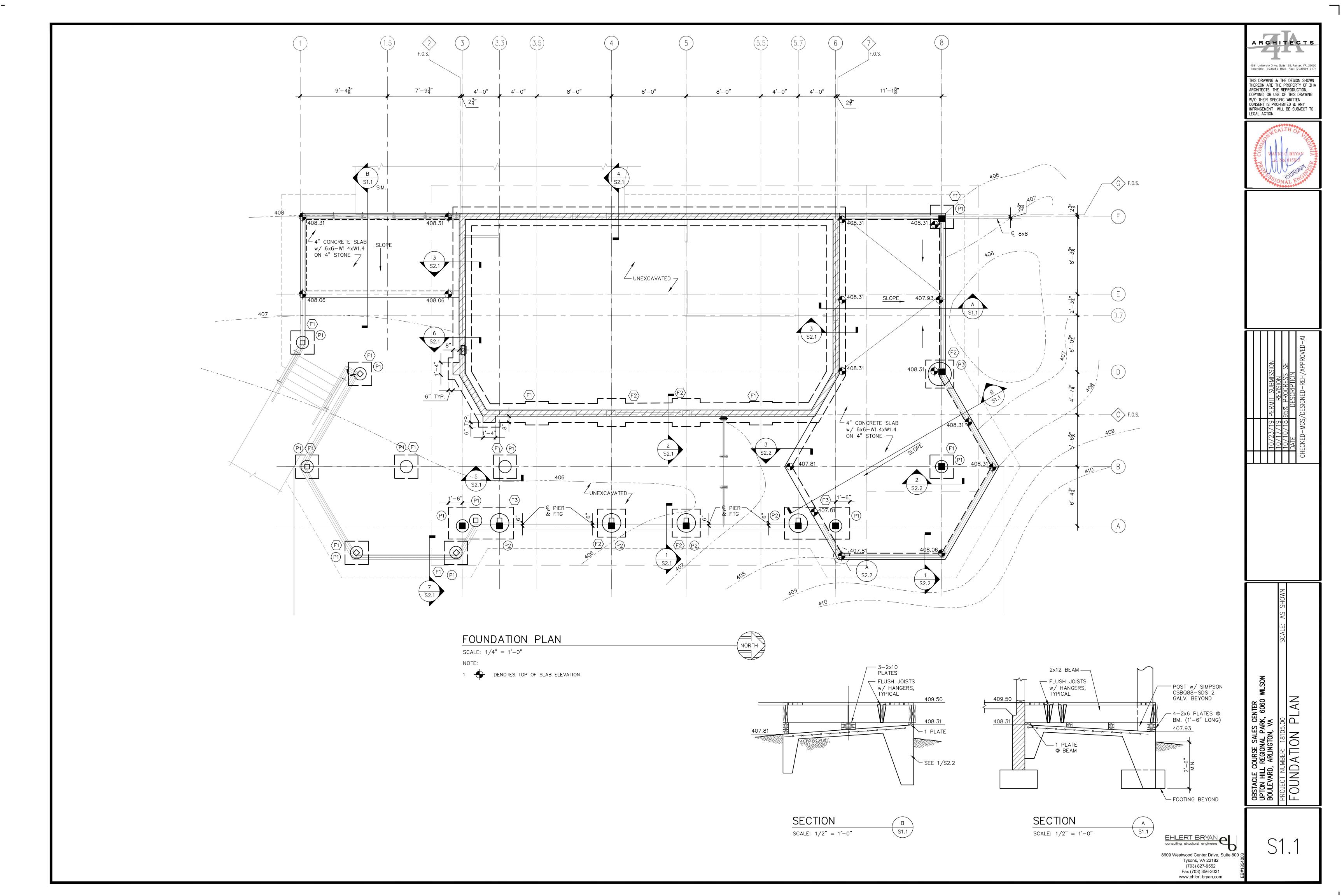
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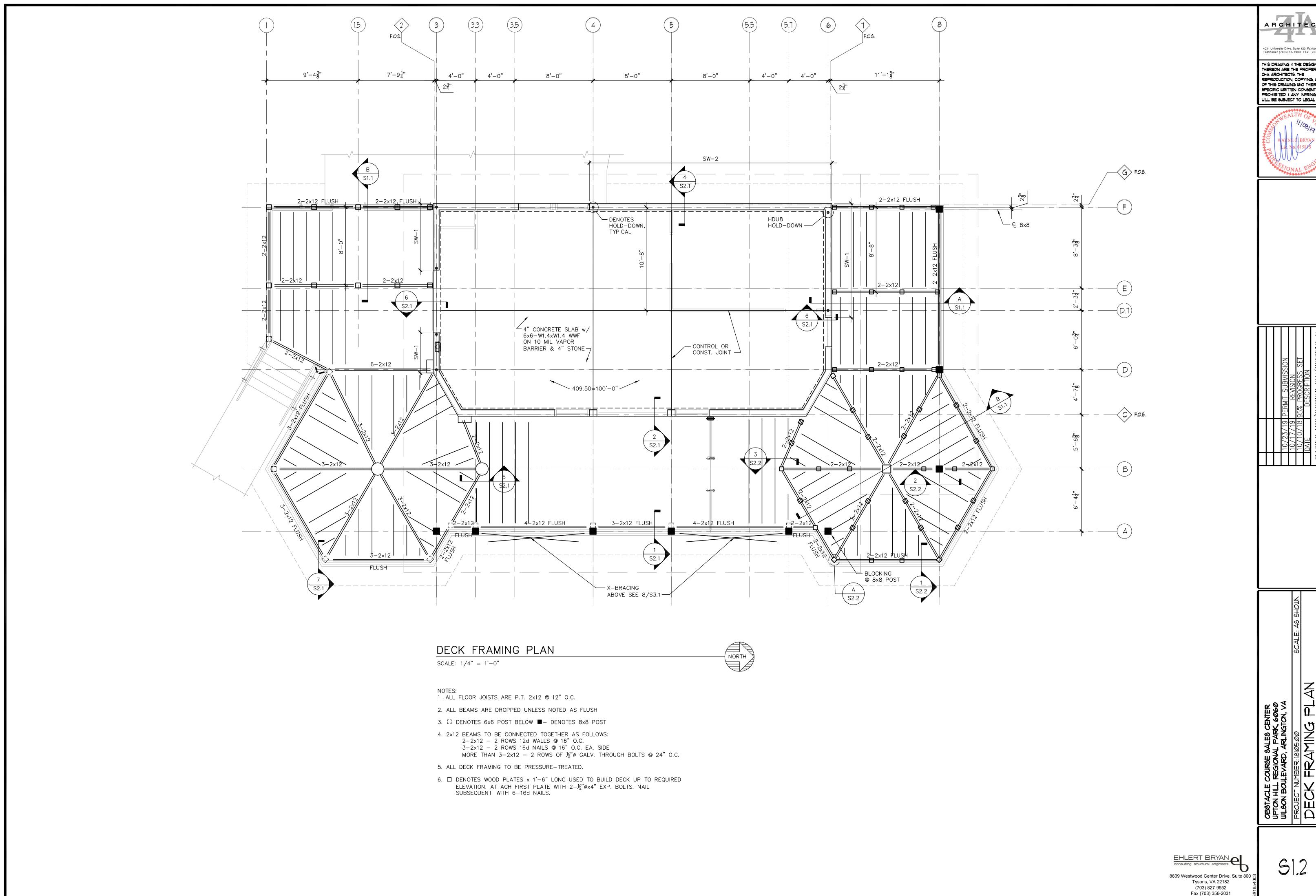
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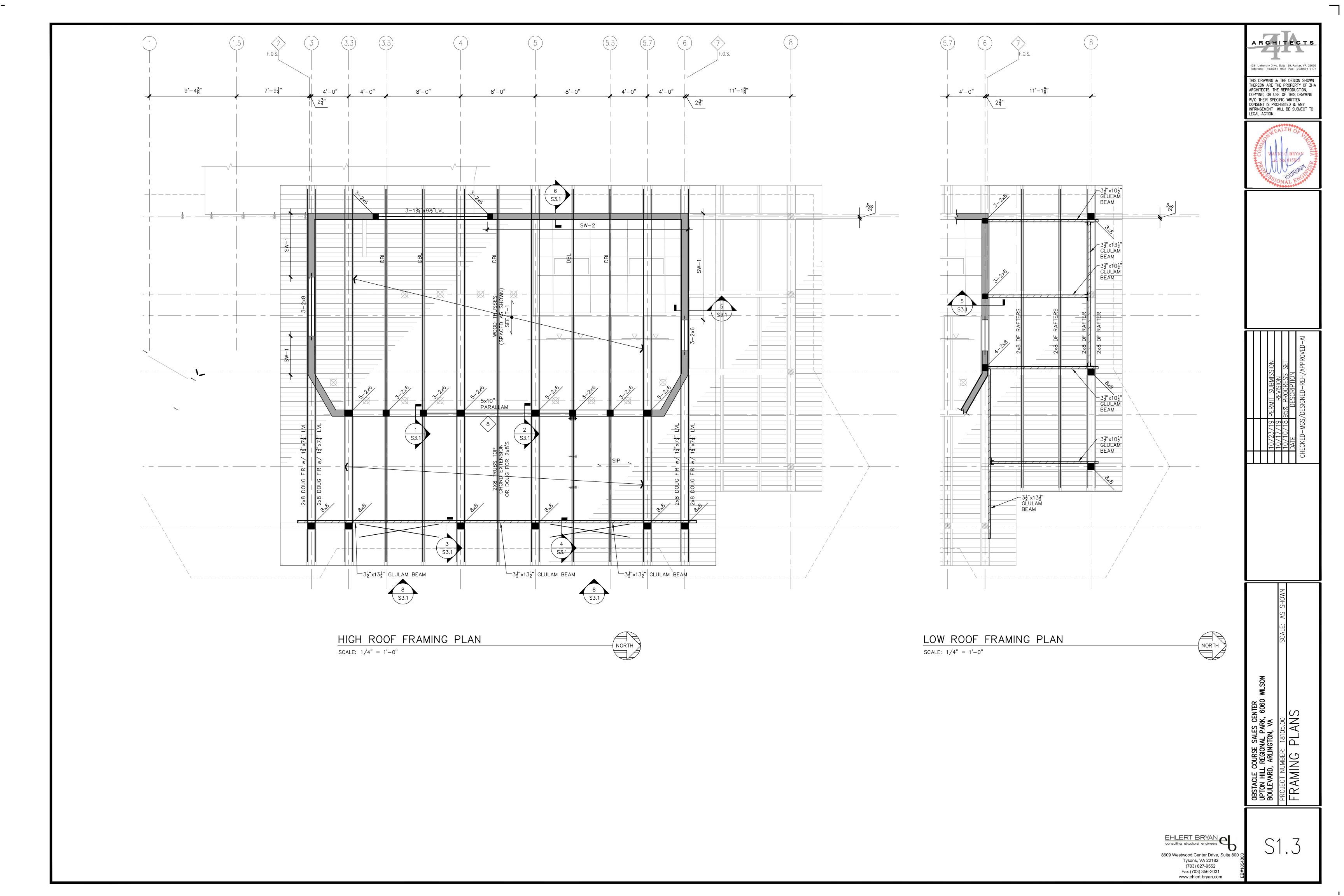


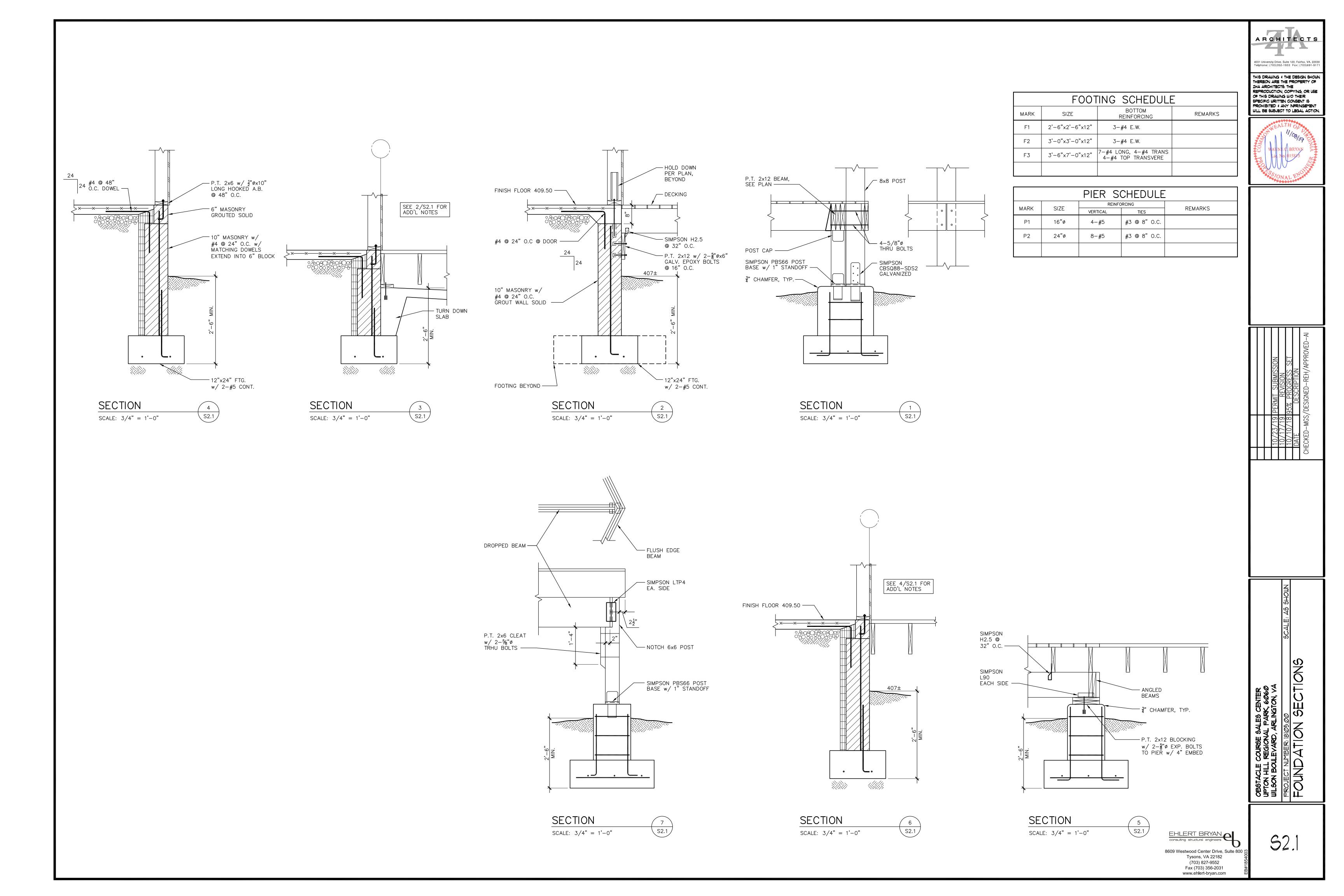


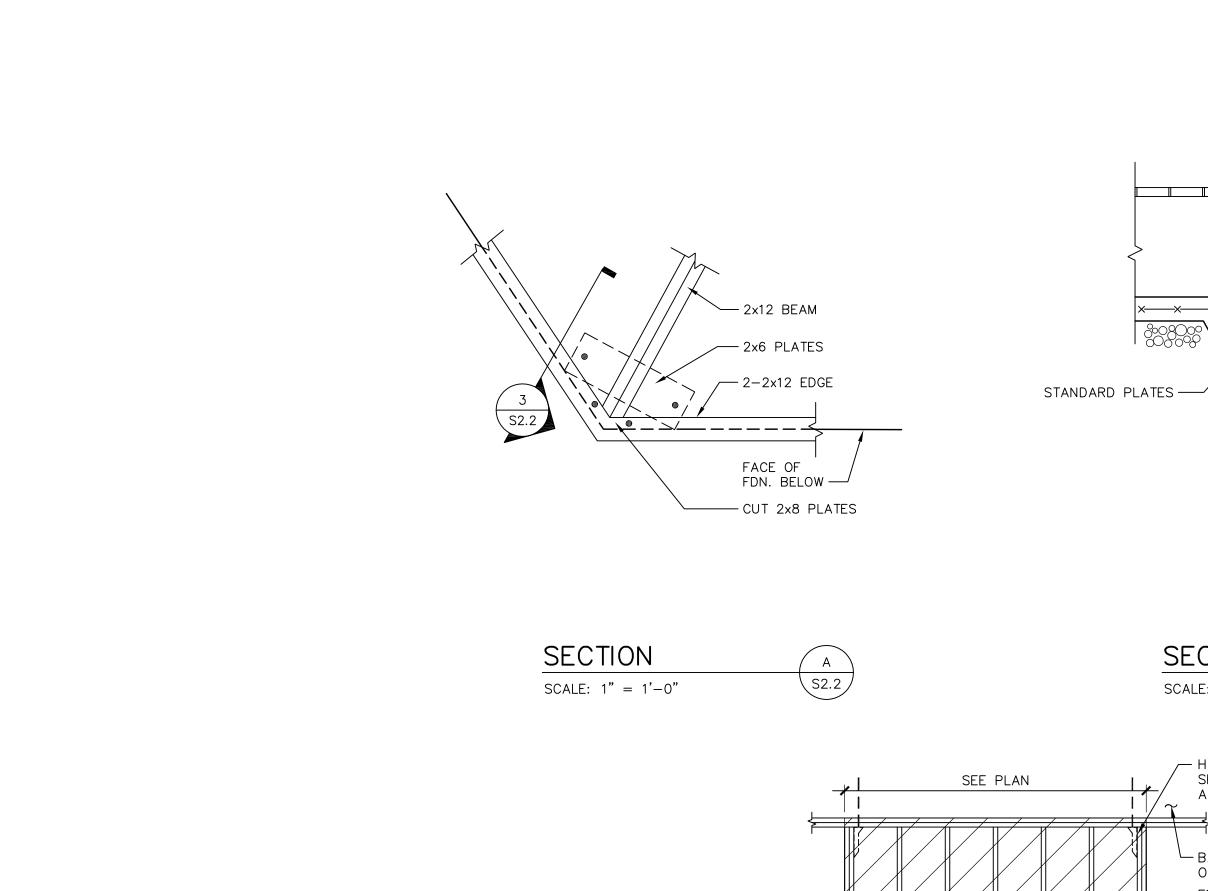
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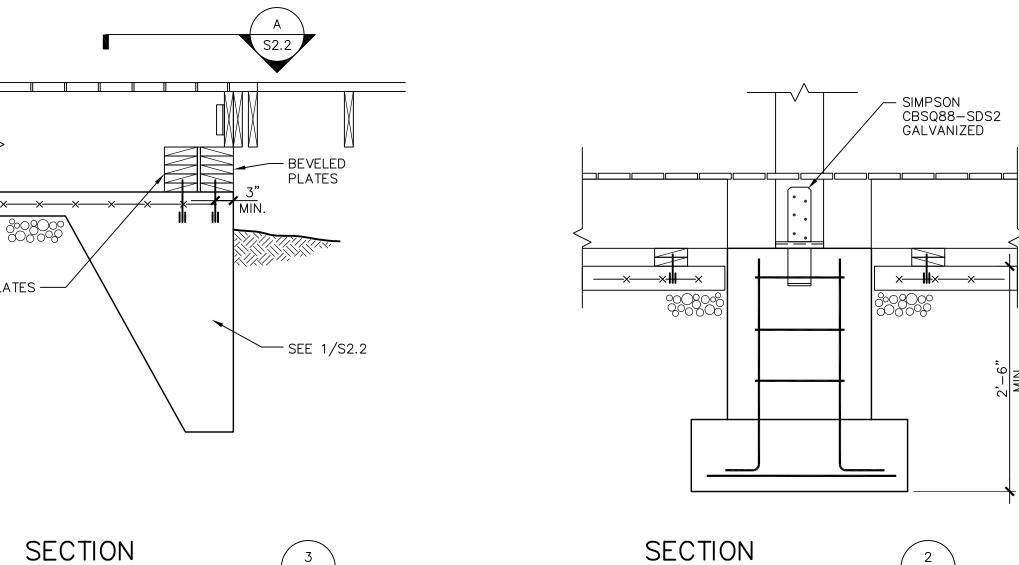


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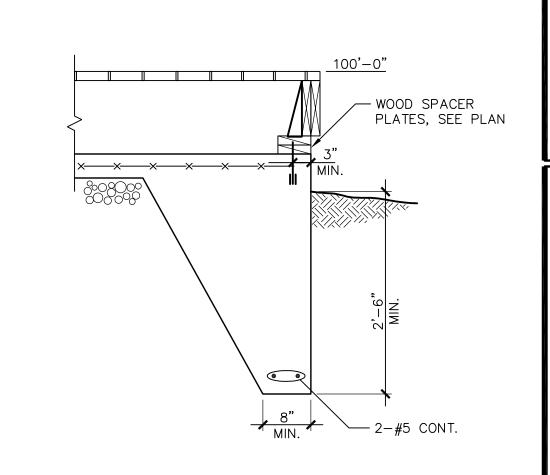






S2.2

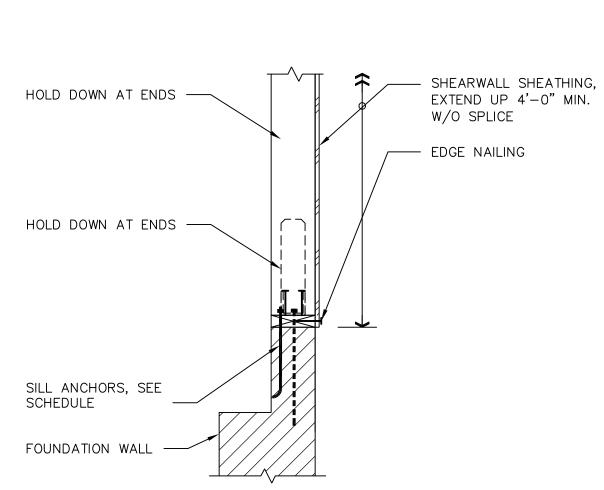
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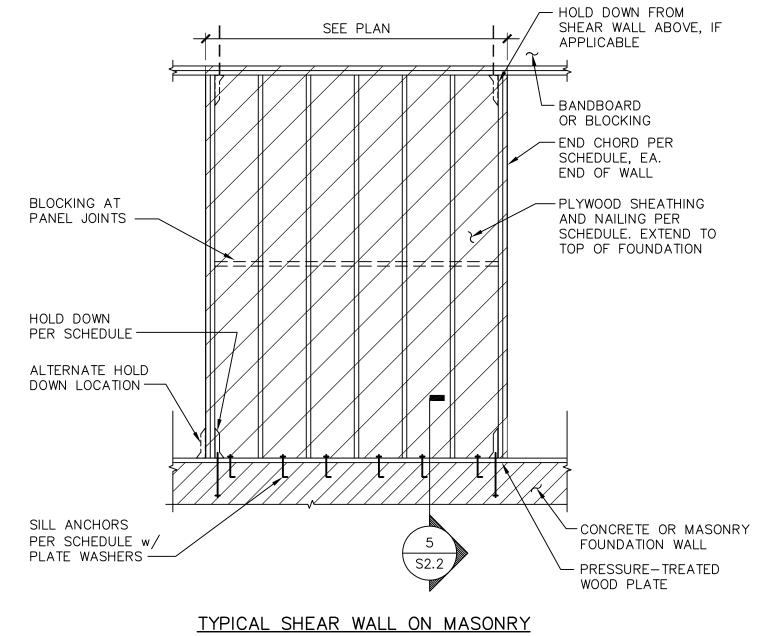


S2.2

SECTION

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





S2.2

			WOOD S	HEAR WA	ALL S	SCHE	DULE							
MARK	K SECTION LEVEL SHEATHING TYPE NAIL SIZE NAIL SPACING END CHORD TYPE ANGUED													
MARK	SECTION	LEVEL	SHEATHING TIFE		EDGES	FIELD	END CHORD	TYPE	ANCHOR	SILL ANCHORS				
SW-1	4/S2.2	FIRST	15/32 PLYWOOD	10d	4"	12"	3-2x6	HDU8-SDS2.5	7/8"øx2'-0" LONG w/ HOOK	1"ø AB @ 16" O.C.				
SW-2	4/S2.2	FIRST	15/32 PLYWOOD	10d	6"	12"	2-2x6	HDU2-SDS2.5	5/8"øx16" LONG w/ HOOK	½"ø AB @ 32" O.C.				

S2.2

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

	_ ON M/
CTION	,
TO SCALE	1
Γ	T TO SCALE

1.	ALL	SHEATHING	JOINTS	ТО	BE	BLOCKED.	

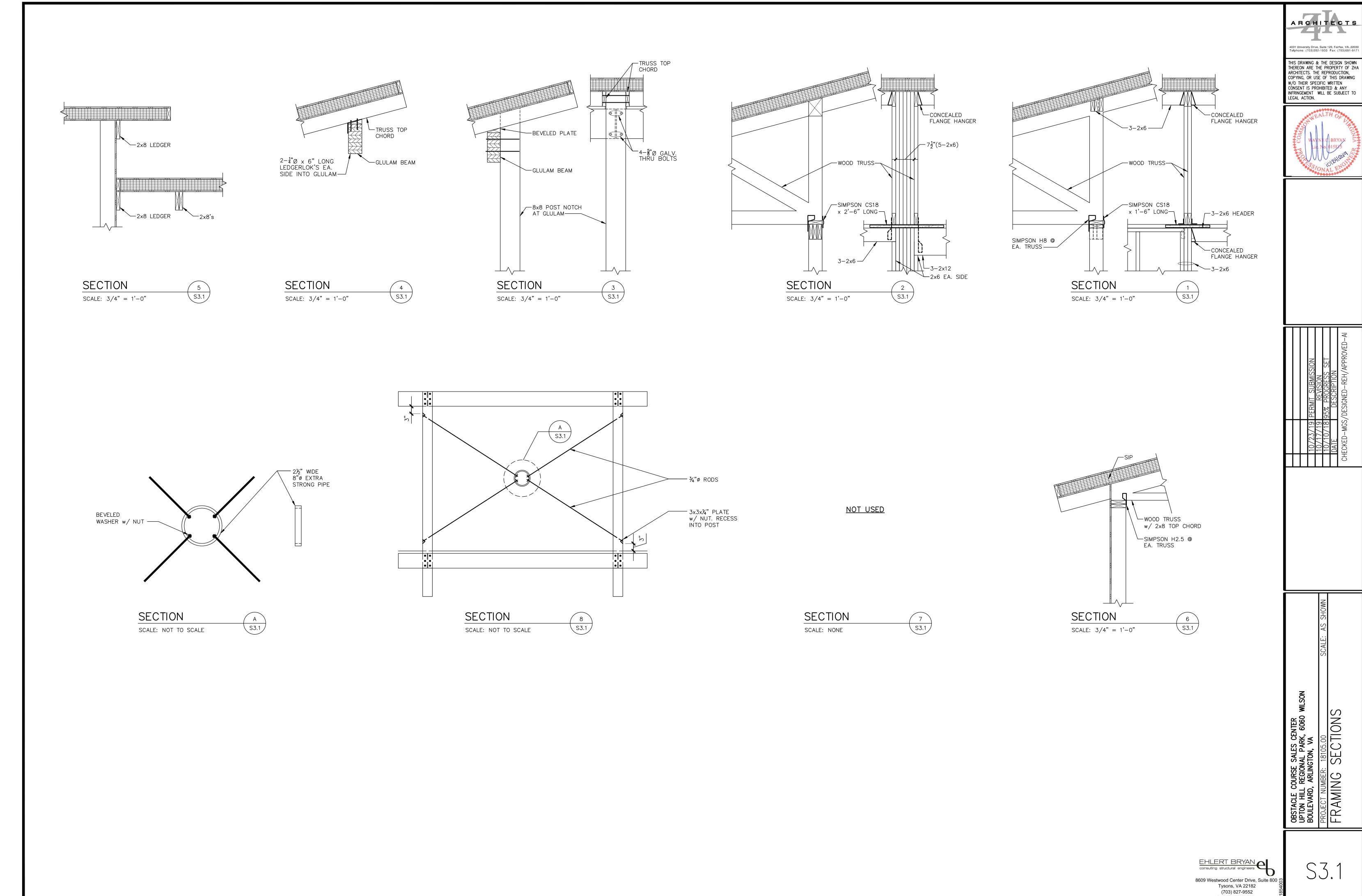
EHLERT BRYAN
consulting structural engineers

8609 Westwood Center Drive, Suite 800 87
Tysons, VA 22182
(703) 827-9552
Fax (703) 356-2031
www.ehlert-bryan.com

S2.2

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### GENERAL MECHANICAL NOTES

- 1). THE MECHANICAL WORK SHALL CONFORM TO THE REQUIREMENTS OF STATE AND LOCAL CODES AND APPLICABLE JURISDICTIONAL BODIES.
- 2). THE CONTRACTOR SHALL MAKE ALL NECESSARY ARRANGEMENTS AND PAY FOR ALL PERMITS, FEES, CHARGES AND INSPECTION REQUIRED, AS WELL AS APPLICABLE HAULING, RIGGING AND TRANSPORTATION CHARGES APPLICABLE TO HIS WORK
- 3). THE PROJECT SHALL BE BID ON THE BASIS OF SPECIFIED PRODUCT(S) WHICH ESTABLISH MINIMUM QUALITY REQUIREMENTS. WHERE MORE THAN ONE PRODUCT NAME IS INDICATED, BIDS SHALL BE BASED ON ONE OF THE NAMED PRODUCTS. ALL MECHANICAL EQUIPMENT SHOWN ON CONTRACT DOCUMENTS SHALL BE NEW. SHALL BE UL LISTED AND SHALL BE PROVIDED BY THE MECHANICAL CONTRACTOR UNLESS OTHERWISE NOTED.
- A). WHERE USE OF AN "ACCEPTABLE EQUAL" PRODUCT REQUIRES CHANGES TO THE BASE BID DESIGN IN ORDER TO INCORPORATE THE PRODUCT INTO THE PROJECT, THE CONTRACTOR SHALL SUBMIT A LAYOUT SHOWING ALL CHANGES TO ARCHITECTURAL, STRUCTURAL, ELECTRICAL, PLUMBING AND MECHANICAL REQUIREMENTS AT NO ADDITIONAL COST TO THE OWNER. THE LAYOUT SHALL ACCOMPANY THE PRODUCT SUBMITTAL DATA. COST OF CHANGES SHALL BE THE RESPONSIBILITY OF THE
- B). SUBSTITUTIONS FOR "ACCEPTABLE EQUAL" PRODUCTS NOT SPECIFIED WILL BE CONSIDERED WHEN INCLUDED WITH SUBMISSION OF THE BID AND SHALL BE SUBJECT TO ACCEPTANCE BY THE ENGINEER. PROPOSALS FOR SUBSTITUTIONS SHALL INCLUDE, BUT NOT LIMITED TO, (1) ANY CREDIT OR ADDED COST. (2) PRODUCT IDENTIFICATION (3) CODE COMPLIANCE (4) REFERENCED STANDARD COMPLIANCE AND (5) DESCRIPTION OF ALL CHANGES INCLUDING ARCHITECTURAL. STRUCTURAL. ELECTRICAL AND MECHANICAL REQUIRED TO INCORPORATE SUBSTITUTED PRODUCT INTO THE PROJECT. THE OWNER RESERVES THE RIGHT TO REJECT PROPOSED SUBSTITUTIONS.
- C). WHERE "OR EQUAL" PRODUCTS ARE INDICATED, THE BIDDER SHALL SUBMIT A LIST OF PROPOSED EQUAL SUBSTITUTE PRODUCTS WITH THE BID. THE LIST SHALL INCLUDE ADEQUATE SUPPORTING INFORMATION AS PROOF OF EQUALITY IN ORDER TO BE CONSIDERED ACCEPTABLE. NO LATER SUBSTITUTES WILL BE CONSIDERED.
- D). SUBSTITUTION SUBMISSIONS OF SPECIFIED EQUAL PRODUCTS SHALL PROVIDE THE SAME GUARANTEE AS SPECIFIED FOR BASE BID PRODUCTS.
- SUBSTITUTIONS & SUBMISSION OF SPECIFIED EQUAL PRODUCTS POLICY: ALL EQUIPMENT AND MATERIAL SUBSTITUTIONS NOT SPECIFICALLY APPROVED IN THESE DRAWINGS SHALL REQUIRE THE FOLLOWING
- SUBSTITUTIONS MUST BE APPROVED IN WRITING BY THE OWNER BEFORE SUBMISSION FOR ENGINEERING REVIEW. SUBMISSION SHALL BE AS PER SPECIFICATION AND AS CALLED FOR BELOW.
- SUBSTITUTIONS & APPROVED EQUALS MUST BE PROVIDED WITH A TABULATION OF ALL PERTINENT INFORMATION ASSOCIATED WITH THE EQUIPMENT OR MATERIAL. TABULATION SHALL SHOW SPECIFIED MATERIAL OR EQUIPMENT CHARACTERISTICS IN COMPARISON WITH PROPOSED EQUIPMENT. INFORMATION SHALL INCLUDE, BUT NOT LIMITED TO ALL ELECTRICAL CHARACTERISTICS. PHYSICAL SIZE, OPERATING CAPACITIES AND PERFORMANCE, COMPLIANCE WITH ALL CODE AND DESIGN REQUIREMENTS, COST SAVINGS TO

OWNER, AS APPLICABLE, ETC.

- CONTRACTOR SHALL PROVIDE WRITTEN STATEMENT AS TO CONTRACTOR GUARANTEEING AND WARRANTING SUBSTITUTION TO COMPLY WITH ALL DESIGN CRITERIA AND THEIR ACCEPTANCE OF SOLE RESPONSIBILITY FOR ANY COST ASSOCIATED WITH ANY TRADES AS A RESULT OF THE SUBSTITUTION.
- REVIEW OF ANY SUBSTITUTION OR APPROVED EQUAL BY ENGINEER SHALL BE FOR GENERAL COMPLIANCE ONLY. CONTRACTOR SHALL HAVE SOLE RESPONSIBILITY FOR SUBSTITUTION'S COMPLIANCE WITH DESIGN REQUIREMENTS OF SPECIFIED EQUIPMENT OR MATERIAL, INCLUDING ANY AND ALL COSTS TO OTHER TRADES AND REQUIRED MODIFICATIONS TO THE PROJECT.
- SUBSTITUTIONS SUBMITTED WITHOUT THE REQUIRED INFORMATION LISTED ABOVE SHALL NOT BE REVIEWED AND SHALL BE RETURNED TO THE CONTRACTOR WITH THE CONTRACTOR BEARING ALL COSTS ASSOCIATED WITH ANY DELAY RESULTING.
- 4). THE CONTRACTOR SHALL VERIFY FIELD CONDITIONS FOR POINTS OF CONNECTIONS, CAPACITIES AND ELEVATIONS OF SYSTEMS. IN ALL AREAS AFFECTED BY THE PROJECT, CUT, PATCH, REPAIR AND/OR REPLACE ALL MATERIALS REQUIRED TO INCORPORATE WORK. FINISHES DAMAGED AS A RESULT OF WORK SHALL BE REPAIRED TO MATCH APPROPRIATE ADJACENT FINISHES. FILL VOIDS
- 5). MECHANICAL EQUIPMENT AND PRODUCTS SHALL BE LISTED AND/OR LABELED BY AN APPROVED TESTING OR INSPECTION AGENCY IN ACCORDANCE WITH LOCAL AND GOVERNING CODE REQUIREMENTS.

AROUND DUCTWORK PENETRATING WALLS WITH FIRE STOPPING MATERIAL (THERMA-FIBER OR EQUAL)

- 6). THE DRAWINGS ARE DIAGRAMMATIC AND INDICATE THE GENERAL ARRANGEMENT OF WORK INCLUDED IN THE PROJECT. DO NOT SCALE THE DRAWING. THE CONTRACTOR SHALL ESTABLISH FINAL DIMENSIONS FROM FIELD MEASUREMENTS PRIOR TO STARTING WORK. THE WORD "PROVIDE" AS USED IN THE PROJECT SHALL BE DEFINED AS "FURNISH AND INSTALL".
- 7). MECHANICAL WORK SHALL BE COORDINATED WITH THE WORK OF ALL OTHER TRADES PRIOR TO INSTALLATION TO AVOID CONFLICTS AND ALLOCATE SPACE REQUIREMENTS.
- 8). EQUIPMENT AND PRODUCT MANUFACTURER'S RECOMMENDATIONS AND INSTRUCTIONS FOR INSTALLATION AND OPERATION SHALL BE FOLLOWED IN PERFORMING MECHANICAL WORK, UNLESS OTHERWISE INDICATED OR DIRECTED. MATERIALS AND METHODS USED IN THE WORK SHALL BE COMPATIBLE WITH BUILDING CONDITIONS AND COMPLY WITH THE BUILDING CODE REQUIREMENTS, WHICH SHALL BE THE BASIS FOR MINIMUM PRODUCT QUALITY. ALL WORK SHALL BE PERFORMED IN A NEAT AND WORKMANLIKE MANNER BY SKILLED WORKMEN EXPERIENCED IN THEIR TRADE. THE WORK SHALL BE SUBJECT TO THE ACCEPTANCE OF THE OWNER OR THE DULY AUTHORIZED REPRESENTATIVE.
- 9). DUCTWORK SHALL BE FABRICATED OF GALVANIZED SHEET METAL WITH CONSTRUCTION AND INSTALLATION IN ACCORDANCE WITH SMACNA STANDARDS AND SYSTEM REQUIREMENTS. SHEETMETAL GAGES SHALL CONFORM TO THE MECHANICAL CODE, ASHRAE STANDARDS AND UL LISTED FIRE RESISTANCE DIRECTORY REQUIREMENTS AS APPLICABLE. DUCTWORK SIZES SHOWN ARE NET CLEAR INSIDE DIMENSIONS. FABRICATE SHEETMETAL FOR INTERNALLY LINED DUCTS TO ALLOW FOR THICKNESS OF INSULATION AND MAINTAIN NET CLEAR DIMENSIONS. CONTRACTOR SHALL VERIFY ACTUAL AVAILABLE DUCT SPACE PRIOR TO FABRICATION AND INSTALLATION OF DUCTWORK. SHOULD A CONFLICT OCCUR THE CONTRACTOR SHALL NOTIFY THE ARCHITECT AND ENGINEER BEFORE CONTINUING. ALL RECTANGULAR DUCTWORK ELBOWS SHALL BE PROVIDED WITH TURNING VANES.
- 10). DUCTWORK SHALL BE SEALED WITH AN APPROVED DUCT MASTIC OR LIQUID SEALANT AS MANUFACTURED BY UNITED McGILL CORP. OR APPROVED EQUAL. DUCT SYSTEM LEAKAGE SHALL CONFORM WITH SMACNA "HVAC DUCT LEAKAGE TEST MANUAL" FOR PRIMARY AIR: CLASS 3" W.G. SEAL CLASS B, LEAKAGE CLASS 12 FOR RECTANGULAR DUCTS AND LEAKAGE CLASS 6 FOR
- FOR SECONDARY AIR: CLASS 1 "W.G. SEAL CLASS "C", LEAKAGE CLASS 24 FOR RECTANGULAR DUCTS AND CLASS 12 FOR ROUND
- 11). ALL DUCTWORK SHALL BE FABRICATED FROM FIELD CONFIRMED CONDITIONS. NO ALLOWANCE PERMITTED FOR DUCTWORK NOT
- 12). PROVIDE FIRE AND SMOKE DAMPERS IN HVAC AIR DISTRIBUTION SYSTEMS THAT PENETRATE FIRE OR SMOKE RATED ASSEMBLIES IN ACCORDANCE WITH THE BUILDING AND MECHANICAL CODES. DAMPERS SHALL BE IN ALL SUPPLY / RETURN / EXHAUST / OUTSIDE AIR DUCTS THAT PENETRATE RATED ASSEMBLIES IN ADDITION TO ALL SECONDARY DAMPERS FOR CEILING / WALL AND FLOOR MOUNTED AIR DEVICES. COORDINATE SPECIFIC FIRE RESISTIVE CONSTRUCTION REQUIREMENTS WITH THE FIRE RATED ASSEMBLIES INDICATED ON ARCHITECTURAL DRAWINGS. THROUGH PENETRATIONS FIRESTOP SYSTEMS SHALL CONFORM TO UL LISTED FIRE RESISTANCE DIRECTORY OR OTHER METHODS ACCEPTABLE TO LOCAL GOVERNING CODE AUTHORITIES.
- 13). PROVIDE ALL NECESSARY FOUNDATIONS, SUPPORTS, PADS AND BASES AS REQUIRED FOR MECHANICAL EQUIPMENT, PIPING AND DUCTWORK AS PER INTERNATIONAL BUILDING AND MECHANICAL CODE REQUIREMENTS. INSTALL EQUIPMENT, PIPING AND DUCTWORK SO AS TO BE FREE FROM OBJECTIONABLE NOISE AND VIBRATIONS. CONTRACTOR SHALL COORDINATE WORK WITH STRUCTURAL AND ARCHITECTURAL DRAWINGS PRIOR TO ACTUAL WORK.
- 14). ELECTRIC MOTORS FOR MECHANICAL EQUIPMENT SHALL BE PROVIDED UNDER MECHANICAL WORK UNLESS OTHERWISE NOTED. ALL MOTORS SHALL BE NEMA STANDARD DESIGN FOR QUIET OPERATION AND SIZED TO PROPERLY OPERATE EQUIPMENT AT RATED LOAD. MOTORS WITH BELT DRIVES SHALL BE PROVIDED WITH ADJUSTABLE PULLEYS AND SHAFTS. ELECTRICAL POWER CONNECTIONS FOR MECHANICAL EQUIPMENT SHALL BE PROVIDED UNDER ELECTRICAL WORK.
- 15). MOTOR STARTERS, RELAYS AND CONTACTORS SHALL BE FURNISHED UNDER THE MECHANICAL WORK AND INSTALLED AND POWERED UNDER THE ELECTRICAL WORK. STARTERS RELAYS AND CONTACTORS SHALL BE COMPLETE WITH LUGS SIZED FOR SPECIFIED CONDUCTORS AND INCLUDE REQUIRED ACCESSORIES (I.E.: START-STOP PUSH BUTTON PILOT LIGHTS, H.O.A SWITCH, AUXILIARY CONTACTS AND OVERLOAD PROTECTION), GENERAL PURPOSE NEMA TYPE 1 ENCLOSURES INDOORS, NEMA TYPE 3R ENCLOSURES OUTDOORS. SINGLE PHASE MOTOR STARTERS SHALL BE MANUAL TYPE WITH OVERLOAD PROTECTION, UNLESS OTHERWISE NOTED. THREE PHASE STARTERS SHALL BE MAGNETIC FULL VOLTAGE, NON-REVERSING, UNLESS OTHERWISE NOTED. STARTERS FOR MECHANICAL SYSTEMS SHALL BE AS MANUFACTURED BY SQUARE-D, GENERAL ELECTRIC OR CUTLER HAMMER. STARTERS SHALL CONFORM TO NEMA STANDARDS AND NATIONAL ELECTRIC CODE (N.E.C.) REQUIREMENTS. STARTER CONTROL AND INTERLOCK WIRING SHALL BE PROVIDED UNDER THE MECHANICAL WORK.
- 16). DUCT SMOKE DETECTORS SHALL BE INSTALLED IN ALL AIR DISTRIBUTION SYSTEMS WITH A DESIGN CAPACITY OF 2000 CFM OR GREATER IN ACCORDANCE TO THE MECHANICAL CODE AND NATIONAL FIRE PREVENTION CODE NFPA 72. DUCT SMOKE DETECTORS SHALL BE "DUAL CONTACTS" TYPE (FOR TIE-IN TO FIRE ALARM SYSTEM AND FOR FAN SHUT-DOWN), COMPLETE WITH SAMPLING TUBE, REMOTE RESET, REMOTE PILOT INDICATOR (FOR CONCEALED APPLICATIONS), UL LISTED FOR INTENDED USE AND COMPLETELY COMPATIBLE WITH FIRE ALARM SYSTEM. DUCT SMOKE DETECTORS SHALL BE PROVIDED AND INSTALLED UNDER THE MECHANICAL WORK AND WIRED AND POWERED UNDER THE ELECTRICAL WORK. PROVIDE SMOKE DAMPER AT ALL SMOKE BARRIER PENETRATION AS PER BUILDING CODE.

17). PROVIDE AUTOMATIC TEMPERATURE CONTROL SYSTEM(S) FOR HVAC EQUIPMENT UNDER MECHANICAL WORK. CONTROL DEVICES SHALL BE PROVIDED BY UNIT MANUFACTURER UNLESS OTHERWISE NOTED. HVAC EQUIPMENT NOT PROVIDED WITH CONTROL DEVICES SHALL BE PROVIDED WITH DEVICES AS MANUFACTURED BY "TRANE" OR APPROVED EQUAL. DEVICE(S) SHALL BE FULLY COMPATIBLE AND SUITABLE FOR INTENDED USE. CONTROL WIRING SHALL BE PROVIDED IN ACCORDANCE WITH THE N.E.C. FOR 24 VOLT CONTROL SYSTEM(S). WIRING SHALL BE A MINIMUM 22 AWG, COLOR CODED AND INSTALLED IN CONDUIT WHERE SUBJECT TO PHYSICAL DAMAGE OR WHERE REQUIRED TO AVOID PLENUM SPACES. EXTEND ALL LOW VOLTAGE WIRING UNBROKEN BETWEEN EACH CONTROL DEVICE AND EQUIPMENT TERMINAL STRIP. INSTALLATION OF CONTROL SYSTEM(S), WIRING AND DEVICES SHALL BE BY A CERTIFIED CONTROLS CONTRACTOR WITH A MINIMUM OF FIVE (5) YEARS EXPERIENCE IN THE INSTALLATION AND SERVICING OF

18). PIPING SHOWN IS SCHEMATIC AND DOES NOT INDICATE EVERY OFFSET, ELBOW, UNION, VALVE, TRAP, ACCESS PANEL, ETC., THAT IS REQUIRED FOR A COMPLETE WORKING SYSTEM. PROVIDE ITEMS AND FITTINGS THAT ARE REQUIRED TO INSTALL THE PIPING SYSTEM WITHIN THE SPACE PROVIDED AND THAT ARE REQUIRED FOR A COMPLETE SYSTEM. PIPING SHALL BE PROPERLY SECURED IN ACCORDANCE WITH "MSS" STANDARD SP-69. PROVIDE PIPE SADDLES AND HIGH DENSITY BLOCKING AT HANGERS FOR INSULATED

- 19). PROVIDE REFRIGERANT PIPING IN ACCORDANCE WITH THE EQUIPMENT MANUFACTURER'S REQUIREMENTS. VERIFY LINE SIZES FOR EQUIPMENT USED. PIPING SHALL BE COPPER TYPE "ACR" WITH FORGED OR WROUGHT COPPER FITTINGS CONFORMING TO ASTM B280 AND COPPER DEVELOPMENT ASSOCIATION STANDARDS. JOINTS SHALL BE MADE WITH SILVER SOLDER SILFOS OR APPROVED EQUAL. REFRIGERANT PIPING JOINTS IN CONCEALED SPACES ARE NOT ACCEPTABLE.
- 20). CONDENSATE DRAIN PIPING SHALL BE COPPER TYPE "M" WITH LEAD-FREE (95/5) SOLDERED JOINTS. PIPING AND FITTINGS SHALL CONFORM TO ASTM B88 AND THE COPPER DEVELOPMENT ASSOCIATION STANDARDS.
- 21), INSULATION MATERIALS SHALL BE "CERTAIN-TEED" OR APPROVED EQUAL, INSULATION MATERIALS SHALL HAVE A FLAME SPREAD RATING NOT MORE THAN 25 AND A SMOKE DEVELOPED RATING OF NOT MORE THAN 50. PROVIDE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND AS FOLLOWS
- **DUCTWORK:** A), SUPPLY/RETURN & O.A. AIR DUCTS (CONCEALED): INSULATE WITH NOMINAL TWO (2) INCH THICK TYPE 75 STANDARD DUCTWRAP WITH "FSK" FACING, VAPOR BARRIER, MINIMUM 1-1/2" INSTALLED THICKNESS WITH 5.6 'R' VALUE.
- B). SUPPLY/RETURN & O.A. AIR DUCTS: INSULATE WITH ONE (1) INCH THICK, TYPE 200 "ULTRA-LITE" ACOUSTICAL DUCT LINER
- WITH 100% ADHESIVE COVERAGE AND MECHANICAL FASTENERS. MINIMUM INSTALLED 'R' VALUE OF 3.7. C). SUPPLY/RETURN & O.A. AIR DUCTS (CONCEALED IN ATTIC/CRAWL/ROOF CEILING SPACE): INSULATE WITH NOMINAL THREE (3) INCH THICK TYPE 75 STANDARD DUCT WRAP WITH "FSK" FACING, VAPOR BARRIER. MINIMUM 2-1/4" INSTALLED THICKNESS WITH
- 8.5 'R' VALUE. D). SUPPLY/RETURN/EXHAUST/OUTSIDE AIR DUCTS (EXPOSED TO WEATHER CONDITIONS) : INSULATE DUCTWORK EXTERIOR WITH SEMI-RIGID FIBERGLASS BOARD INSULATION, TYPE IB300, 3.0 LBS/CU.FT DENSITY, MINIMUM 2" INSTALLED THICKNESS WITH 8.5 'R' VALUE. PROVIDE WEATHERPROOF FINISH AS MANUFACTURED BY FOSTER'S "MONOLAR" 60-95 COATINGS (MIN. OF 3 COATS) OR
- E). PROVIDE FIRST 12'-0" OF SUPPLY AND RETURN DUCT FROM HVAC/RTU UNIT W/ 1" ACOUSTICAL LINING. ADJUST DUCT SIZES IN ADDITION TO OTHER DUCT INSULATION WRAP.
- F). PROVIDE FLEX DUCT CONNECTOR ON ALL SUPPLY, RETURN AND OUTSIDE AIR DUCT CONNECTIONS TO RTU'S, AHU'S, FANS, MAU'S AND SIMILAR AIR HANDLING EQUIPMENT.

APPROVED EQUAL.

- A). CONDENSATE DRAIN: INSULATE WITH CLOSED CELL FLEXIBLE ELASTOMETRIC PIPE INSULATION, 1/2" THICK. (DO NOT INSULATE CONDENSATE DRAIN PIPING BELOW GRADE OR LOCATED OUTSIDE)
- B). REFRIGERANT PIPING (SUCTION LINE): INSULATE PIPING WITH "CLOSED-CELL" FLEXIBLE ELASTOMERIC INSULATION, 1.5" THICK. PROVIDE WITH WEATHER RESISTANT FINISH ON INSULATION EXPOSED TO OUTDOORS. INSULATION SHALL BE ARMSTRONG, HALSTEAD OR APPROVED EQUAL — ROUND DUCT TO HAVE ACOUSTICAL LINING — FACTORY MANUFACTURED.
- 22). INSTRUCTION AND IDENTIFICATION: WRITTEN INSTRUCTIONS IN A SINGLE BINDER DESCRIBING THE PROPER OPERATION AND MAINTENANCE OF EQUIPMENT AND SYSTEMS SHALL BE PROVIDED TO THE OWNER AT THE COMPLETION OF THE WORK. THE CONTRACTOR SHALL DEMONSTRATE AND INSTRUCT THE OPERATION OF SYSTEMS TO THE OWNER'S REPRESENTATIVE, ALL VALVES. CONTROLS, ETC., SHALL BE PERMANENTLY IDENTIFIED AND LABELED WITH METAL TAGS OR ENGRAVED NAMEPLATES AS APPLICABLE. COORDINATE WITH HVAC ZONE SCHEDULE.
- 23). UPON COMPLETION OF THE INSTALLATION, AIR SYSTEMS SHALL BE ADJUSTED AND BALANCED TO PROVIDE THE AIR QUANTITIES INDICATED. PROVIDE VOLUME DAMPERS, SPLITTER DAMPERS AND/OR VOLUME EXTRACTORS AS INDICATED OR REQUIRED FOR STANDING OF AABC, NEBB OR SMACNA. BALANCING WORK SHALL BE IN COMPLIANCE WITH THE STANDARD PROCEDURE MANUAL PUBLISHED BY TESTING AND BALANCING ORGANIZATION AFFILIATED WITH THE BALANCING CONTRACTOR. SUBMIT APPROPRIATE FIELD DATA ON STANDARD FORMS OF T & B ORGANIZATION IN ACCORDANCE WITH STANDARD PROCEDURES. CONTRACTOR TO PROVIDE OWNER W/ 5 COPIES OF REPORT.
- 24). PROJECT PREMISES SHALL BE THOROUGHLY CLEANED AND READY FOR OCCUPANCY INCLUDING ALL FINISHES OF EQUIPMENT PROVIDED AS PART OF THE CONTRACTORS WORK. PROVIDE ONE (1) NEW SET OF CLEAN AIR FILTERS FOR PROJECT CLOSE OUT.
- 25). THE CONTRACTOR SHALL GUARANTEE ALL MATERIALS AND WORKMANSHIP FOR A PERIOD OF ONE (1) YEAR FROM THE DATE OF ACCEPTANCE BY THE OWNER AND SHALL REPAIR OR REPLACE AT NO ADDITIONAL COST TO THE OWNER ANY PART THEREOF WHICH MAY BECOME DEFECTIVE DURING THE PERIOD OF GUARANTEE, ORDINARY WEAR AND TEAR EXCEPTED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR AND PAY FOR ANY DAMAGES RESULTING FROM OR CAUSED BY DEFECTS IN HIS/HER WORK.
- 26). ALL GAS FIRED APPLIANCE VENTS USED FOR THE PRODUCTS OF COMBUSTION FOR MECHANICAL EQUIPMENT SHALL BE POSITIVE PRESSURE, INSULATED, STAINLESS STEEL TYPE, AGA CERTIFIED, UL LISTED. CONTRACTOR SHALL COORDINATE SIZE, ROUTING, INSTALLATION AND CONNECTION SIZE TO APPLIANCE PRIOR TO PURCHASING, FABRICATION AND INSTALLATION OF VENT.
- 27). PROVIDE ACCESS DOORS IN ALL GYPSUM BOARD CEILINGS, WALL AND FLOOR ASSEMBLIES REQUIRED FOR SERVICING/ACCESS OF MECHANICAL EQUIPMENT AND ASSOCIATED DEVICES. ACCESS DOOR SHALL BE SUITABLE FOR USE IN ASSEMBLY INSTALLED IN AND SHALL MATCH FIRE RATING (IF APPLICABLE) OF ASSEMBLY.
- 28). REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR FINAL LOCATION OF AIR DISTRIBUTION DEVICES SHOWN ON MECHANICAL DRAWINGS. CONTRACTOR SHALL NOTIFY THE ENGINEER SHOULD A CONFLICT OCCUR.

#### GENERAL EQUIPMENT INSTALLATION NOTES

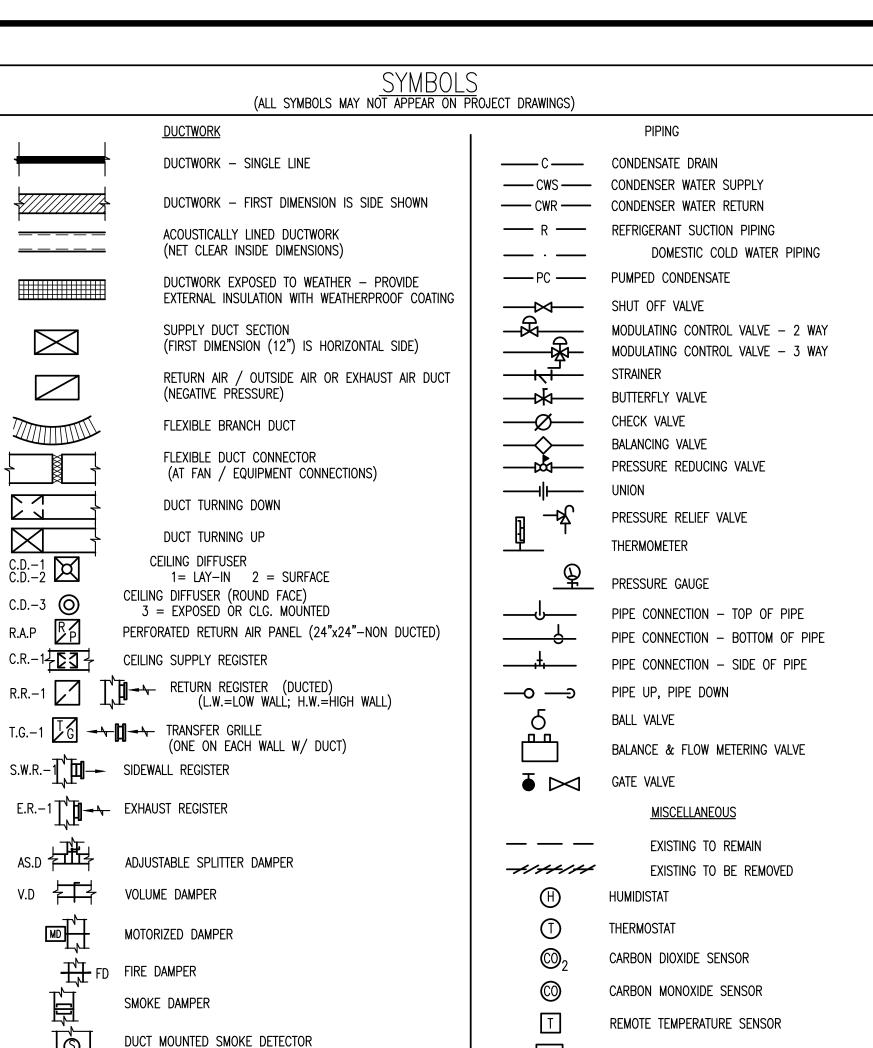
- ALL FIRE AND SMOKE DAMPERS TO BE U.L. LISTED AND LABELED AND IN COMPLIANCE WITH INTERNATIONAL MECHANICAL
- PROVIDE FLUSH ACCESS DOORS FOR ALL DAMPERS, VALVES AND OTHER CONCEALED MECHANICAL EQUIPMENT REQUIRING ADJUSTMENT AND INSPECTION. DOORS SHALL BE FINISHED TO SURROUNDING FINISHES OR AS REQUIRED BY ARCHITECTURAL DRAWINGS. ACCESS DOORS TO HAVE U.L. FIRE RATING EQUAL TO SURROUNDING SURFACES.
- PROVIDE IDENTIFICATION AND LABELS FOR ALL ACCESS DOORS IN DUCTWORK TO ACCESS FIRE/SMOKE DAMPERS.
- NO FLEX DUCT ALLOWED ABOVE DRYWALL CEILING. ALL DUCTWORK TO BE GALVANIZED STEEL SIZE AS PER SMACNA & IBC. MAX FLEX DUCT LENGTH 6'-0".
- DUCTWORK LAYOUT IS TO BE CAREFULLY COORDINATED WITH OTHER TRADES INCLUDING STRUCTURAL, PLUMBING, ELECTRICAL AND SPRINKLER. DUCTWORK LAYOUT TO BE FABRICATED FROM FIELD CONFIRMED DIMENSIONS.

#### CONDENSATE DRAINAGE

- ALL HVAC UNITS TO HAVE HARD PIPED COPPER CONDENSATE DRAINAGE SYSTEM. MINIMUM PIPE SIZE SHALL BE 1" PLUS INSULATION. CONDENSATE SHALL BE PIPED TO STORM DRAINAGE SYSTEM. CONTRACTOR TO PROVIDE SHOP DRAWINGS (1/8" SCALE) INDICATING PROPOSED LAYOUT OF CONDENSATE PIPING SYSTEM. CONTRACTOR TO PROVIDE CONDENSATE PUMPS AS REQUIRED W/ POWER.
- ALL CONDENSATE PIPING TO BE SIZED AND PITCHED PER IMC.
- CONDENSATE PUMPS LOCATED IN PLENUMS TO BE "PLENUM" RATED.
- CONTRACTOR SHALL PROVIDE IN HIS PRICE ALL ELECTRICAL AND PLUMBING WORK REQUIRED FOR A COMPLETE AND OPERATIONAL CONDENSATE REMOVAL SYSTEM.

### VENTILATION AIR

ALL OCCUPIED SPACES ARE DESIGNED TO COMPLY WITH IMC. CHAPTER 4. SECTION 403 & TABLE 403.3 REQUIREMENTS.



TIME SWITCH (PROGRAMMABLE) SOLID STATE SPEED CONTROLLER \* SA = SUPPLY AIR EXHAUST FAN RA = RETURN AIREA = EXHAUST AIRUNIT HEATER CONDENSATE DRAIN RISER ELECTRIC WALL HEATER HVAC EQUIPMENT WT BOX DESIGNATION OR VRF FAN COIL

——AIR QUANTITY --- NECK SIZE — FACE SIZE VAV BOX DESIGNATIONS FAN POWERED BOX SIZE ─FAN CFM — ELECTRIC HEATER VAV SINGLE DUCT BOX SIZE

──VAV CFM

ELECTRIC WALL HEATER

GAS FIRED UNIT HEATER

GALLON PER MINUTE

GALLON PER HOUR

FIRE DAMPER

EWH

GPM

GPH

—— AIR DEVICE TYPE

KEYED PLAN NOTE

**MISCELLANEOUS** 

AIR DEVICE DESIGNATION (SEE SCHEDULE)

AIR RISER DESIGNATION

MECHANICAL/ELECTRICAL COORDINATION REQUIREMENTS MECHANICAL CONTRACTOR WITHIN 20 DAYS OF RECEIPT OF CONTRACT TO PROVIDE TO THE ELECTRICAL CONTRACTOR A COMPLETE SET OF MECHANICAL EQUIPMENT SHOP DRAWINGS FOR ALL MECHANCIAL EQUIPMENT REQUIRING ELECTRICAL CONNECTIONS OR POWER. SHOP DRAWINGS SHALL SHOW ALL REQUIRED ELECTRICAL CONNECTIONS. MINIMUM CIRCUIT AMPS. WIRE SIZES. OVER CURRENT PROTECTION, CONNECTION TYPES AND ANY OTHER INFORMATION REQUIRED FOR THE PROPER EQUIPMENT INSTALLATION AND OPERATION.

COMBINATION FIRE / SMOKE DAMPER

CIRCULATING PUMP

MECHANICAL AND ELECTRICAL CONTRACTORS SHALL COORDINATE THIS INFORMATION AND PREPARE A CONNECTION SCHEDULE FOR SUBMISSION AND REVIEW BY ENGINEER BEFORE PROCEEDING WITH WORK.

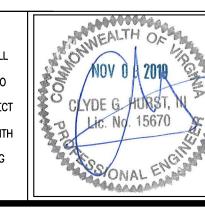
#### **ABBREVIATIONS** (ALL ABBREVIATIONS MAY NOT APPEAR ON PROJECT DWGS) AIR CONDITIONING UNIT FREQUENCY RETURN AIR AIR COOLED CONDENSING UNIT RETURN AIR FAN ACCU HEATING-AIR CONDITIONING UNIT H/AC ACCESS DOOR HANDS-OFF-AUTO RADIATION DAMPER H.O.A. ACCESS PANEL I HPIS HEAT PUMP INDOOR SECTION EXISTING TO BE RELOCATED ACCOUSTICAL TILE CEILING HEAT PUMP OUTDOOR SECTION RELIFE HOOD ACT HP0S ROOF TOP UNIT AIR HANDLING UNIT HORSEPOWER AHU RELIEF DAMPER ASD ADJUSTABLE SPLITTER DAMPER KII OWATT LEAVING AIR TEMPERATURE AUTOMATIC TEMPERATURE CONTROL SUPPLY AIR LAT ATC BHP BRAKE HORSE POWER LEAVING WATER TEMPERATURE SMOKE DAMPER BRITISH THERMAL UNIT MAKE-UP AIR UNIT SUPPLY FAN BTUH MAU CFM CUBIC FEET PER MINUTE мсс MOTOR CONTROL CENTER STATIC PRESSURE (INCHES H20 CONVECTOR MOUNTING HEIGHT UNLESS OTHERWISE SPECIFIED). CUH CABINET UNIT HEATER MD MOTOR OPERATED DAMPER UNDERCUT DOOR CU DIA CONDENSING UNIT NORMALLY CLOSED UNLESS OTHERWISE NOTED NORMALLY OPEN DIAMFTER l NO UNIT VENTILATOR DISCH OPPOSED BLADE VOLUME DAMPER DISCHARGE OBVD VOLUME DAMPER OSD OPEN SITE DRAIN VARIABLE AIR VOLUME OUTSIDE AIR-OAU OUTSIDE AIR UNIT VARIABLE VOLUME TEMPERATURE DRY BULB TEMPERATURE POUNDS PER SQUARE INCH GAUGE WATER GAUGE POWER ROOF VENTILATOR EFFICENCY WATER PRESSURE DROP ENTERING AIR TEMPERATURE PDU POOL DEHUMIDIFICATION UNIT WATER SOURCE HEAT PUMP ENTERING WATER TEMPERATURE POOL CONDENSING UNIT WET BULB TEMPERATURE EXHAUST AIR PACKAGED TERMINAL PTAC EXISTING TO BE REMOVED. EXTERNAL STATIC PRESSURE AIR CONDITIONING UNIT ESP EXISTING TO REMAIN IN PLACE PTHP PACKAGED TERMINAL ELECTRIC CEILING HEATER HEAT PUMP UNIT ELECTRIC DUCT HEATER PUMP (SEE SCHEDULE FOR TYPE) EDH EXHAUST FAN PRESSURE DROP (FT OF HEAD ELECTRIC UNIT HEATER EUH UNLESS OTHERWISE SPECIFIED)

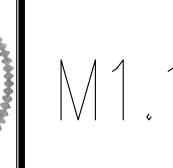
# HURST ENGINEERS

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University Drive, Suite 120, Fairfax, VA. 220 phone: (703)352-1933 Fax: (703)691-9

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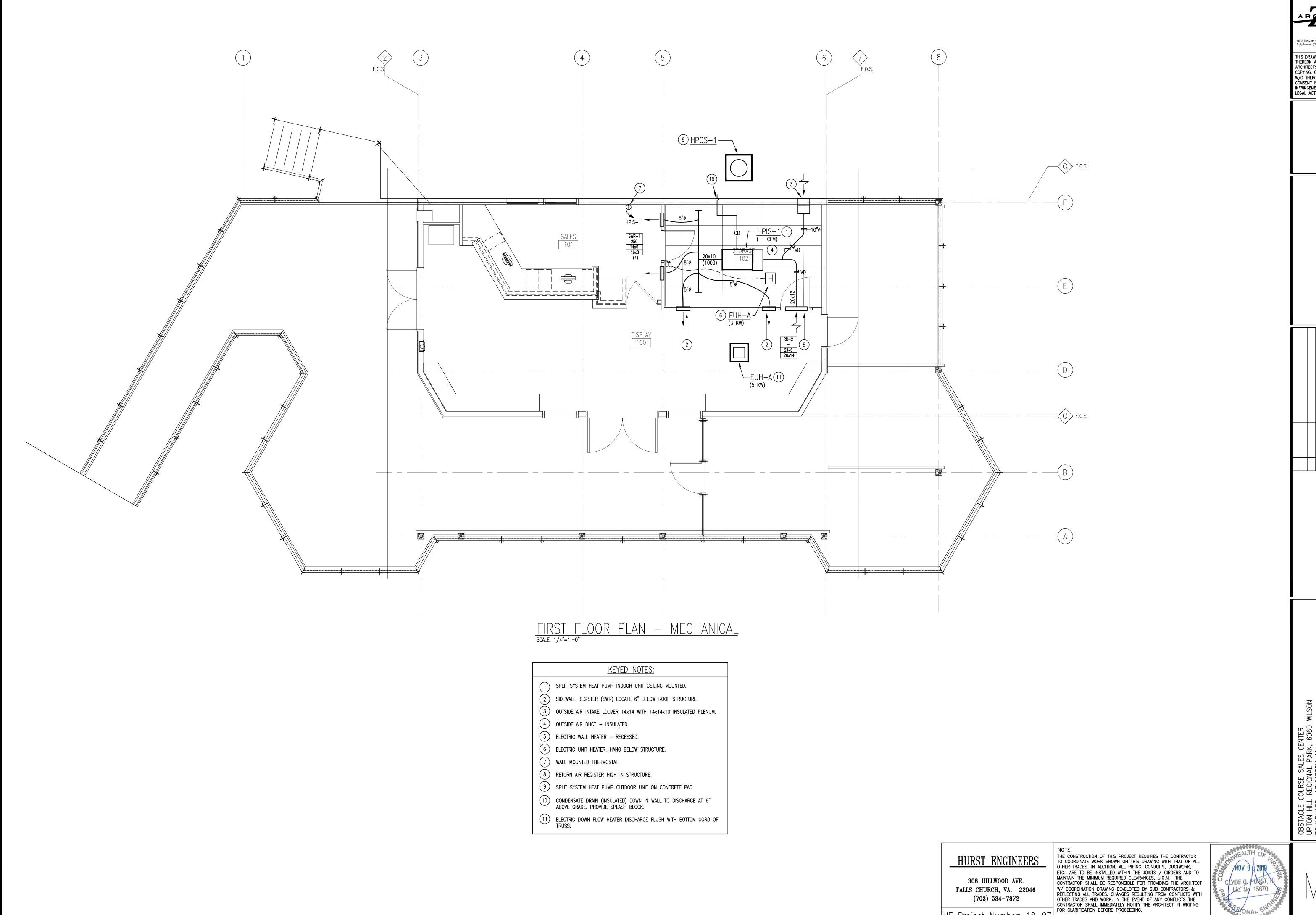
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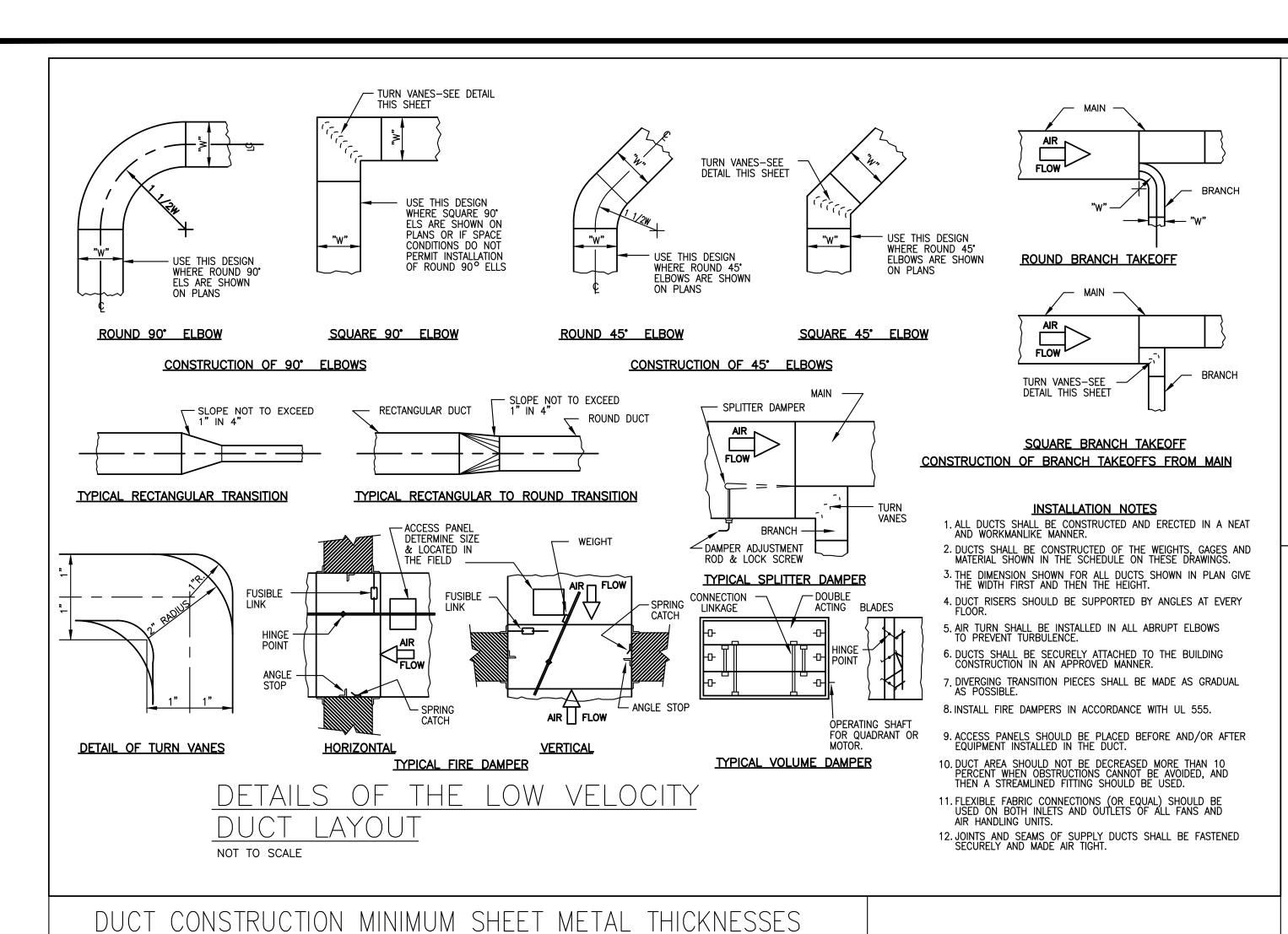
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ALUMINUM

(MINIMUM THICKNESS, NOMINAL)

0.020 INCH (NO. 24 B&S GAGE)

0.025 INCH (NO. 22 B&S GAGE)

0.032 INCH (NO. 20 B&S GAGE)

0.040 INCH (NO. 18 B&S GAGE)

0.051 INCH (NO. 16 B&S GAGE)

FITTINGS

STEEL

(MINIMUM THICKNESS, NOMINAL)

0.022 INCH (26 GAGE, GALV.)

0.028 INCH (24 GAGE, GALV.)

0.034 INCH (22 GAGE, GALV.)

0.040 INCH (20 GAGE, GALV.)

0.052 INCH (18 GAGE, GALV.)

RECTANGULAR DUCTS

ROUND DUCTS

LONGITUDINAL SEAM DUCT

(MINIMUM THICKNESS, NOMINAL)

0.022 INCH (26 GAGE, GALV.)

0.028 INCH (24 GAGE, GALV.)

0.034 INCH (22 GAGE, GALV.)

0.040 INCH (20 GAGE, GALV.)

0.052 INCH (18 GAGE, GALV.)

STEEL

(MINIMUM THICKNESS, NOMINAL)

0.022 INCH (26 GAGE, GALV.) 0.028 INCH (24 GAGE, GALV.)

0.034 INCH (22 GAGE, GALV.)

0.040 INCH (20 GAGE, GALV.)

0.052 INCH (18 GAGE, GALV.)

SPIRAL SEAM DUCT

STEEL

(MINIMUM THICKNESS, NOMINAL)

0.019 INCH (28 GAGE, GALV.)

0.022 INCH (26 GAGE, GALV.)

0.028 INCH (24 GAGE, GALV.)

0.034 INCH (22 GAGE, GALV.)

0.040 INCH (20 GAGE, GALV.)

MAXIMUM SIZE

(INCHES)

THROUGH 12

13 THROUGH 30

31 THROUGH 54

55 THROUGH 84

OVER 84

MAXIMUM SIZE

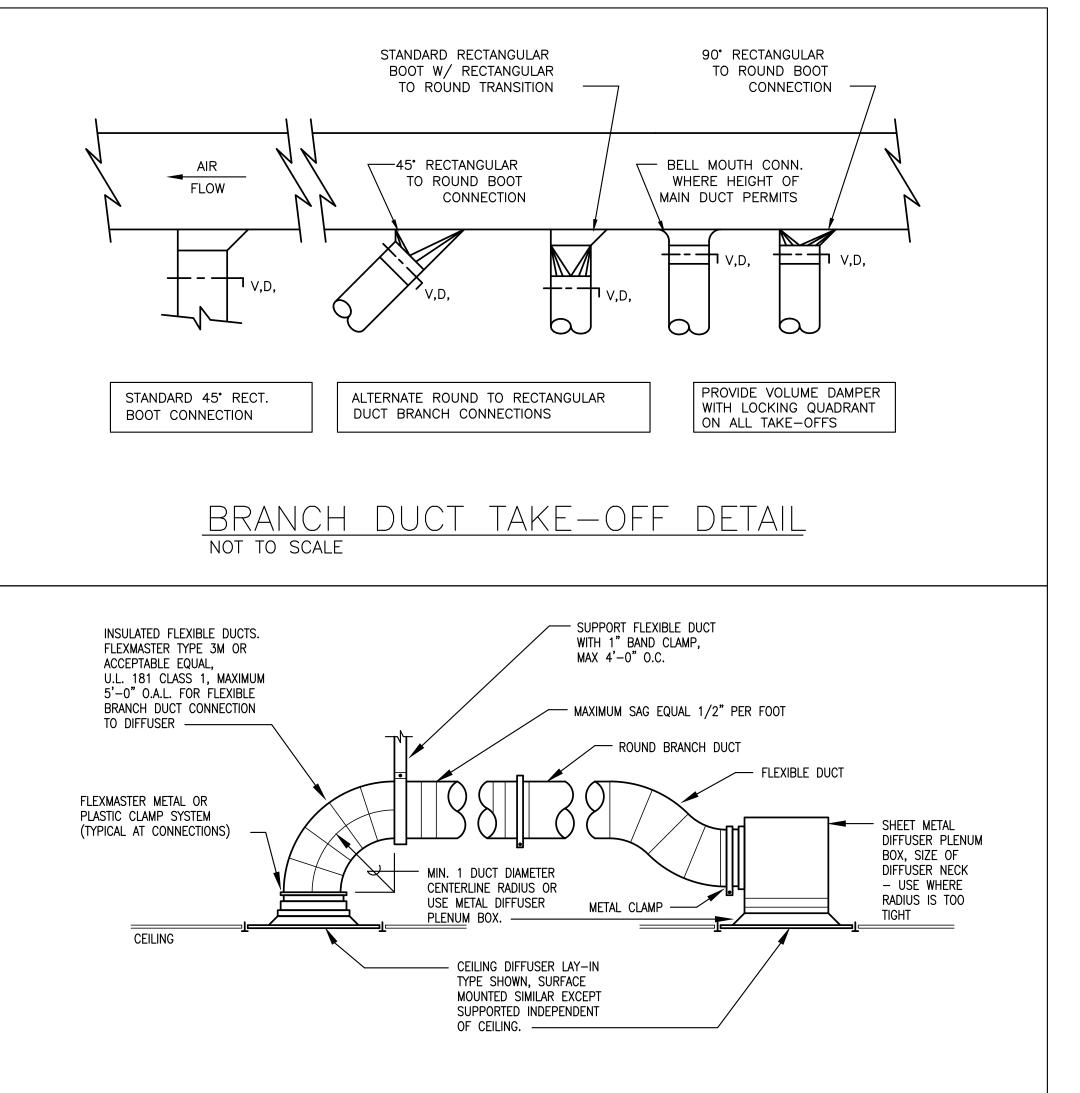
(INCHES)

THROUGH 12 13 THROUGH 18

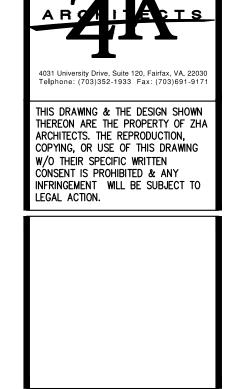
19 THROUGH 28

29 THROUGH 36

37 THROUGH 52



NO SCALE



SET PERMIT 95% PR( DESCF 10/23/19 10/10/18 ATE

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THE CONSTRUCTION OF THIS PROJECT REQUIRES THE CONTRACTOR



UNIT NO. MODEL & MANUF.			AIR ANTITY	F	AN		COOLING		HEATING C		/ IXILIARY	HEA	Г	C		ECTRIC ACTERIS			NOTES	CEDVING
ONIT NO.	MODEL & MANOI.	SA CFM	OA CFM	ESP	HP (WATTS)	AMPS	TOTAL (MBH)	SENS. (MBH)	CYCLE (MBH)	KW	٧	ø	AMPS	٧	ø	FLA	FLA MCA MOCP		NOTES	SERVING
HPIS-1	MITSUBISHI PVFY-P36NAMU-E	1000	200	0.5	N/A	3.4	36	28	42	N/A	N/A	N/A	N/A	208	1	3.4	4.4	15	2, 6, 12, 13, 14, 15, 22, 23	SALES
_	_ _	-	_	_	_	1	-	_	_	_	-	-	-	-		-	-	_	_	_
. PROVIDE U . PROVIDE U . PROVIDE U . LOCATION WALL HUNG . CEILING HL . RECESSED . PROVIDE S . PROVIDE W D. PROVIDE C		NECT AS REQUI ATER CUT-OFF.	PIPE TO N		PPROVED STO	DRM DRAIN	13. 14. 15. 16. 17. 18. 19. 20. 21.	EXTEND 4" BEY PROVIDE WATER PROVIDE W/ DISTRIBUTION OF THE PROVIDE W/ AD SEE SEQUENCE PROVIDE PARTS PROVIDE WITH PROVIDE WATER PROVIDE WITH PROVIDE	JMIDISTAT.  DJACENT SPACE S  OF OPERATION I  # PAR-21MAA / HOT GAS REHEAT BC CONTROLLER.	EFRIGERA HU CUT- D AS REI SUPPLY A NOTE FOR AND MAC- OPTION.	NT COIL OFF AND QUIRED)  R DUCT. CONTRO -3971F-1	ON ALL AUDIB L OF	_ Sides. I Le Alarm This Unit.	PITCH PA IN DRIP	AN TOW PAN.	vard dr	RAIN.		NOTE:  IF ELECTRIC HEAT REQUIRES SEPERATE CIRCUIT CONTRACTOR SH PROVISIONS FOR SEPERATE CIRCUIT. COMPLETE & OPERATIONAL.	ALL INCLUDE IN PRIC

AT COMPLETION OF CONSTRUCTION.

SP	LIT SYSTEM OUT	TDOOR	SECT	ION	(HF	POS)	) &	СО	ND	EN:	SIN(	G L	JNIT	(CU)	SCH	EDULE						
UNIT MARK	MANUFACTURER MODEL	COOLING CAPACITY (MBH)	(HIGH TEMP) REVERSE CYCLE HEATING (MBH)	NO. COMP.	COMP. RLA		NO. COND. FANS	COND. FAN FLA	V	ø I	FLA N	/ICA	MOCP	INDOOR UNIT SERVED	MAX. WT. (LBS)	NOTES	SERVING	REFRIGERAN' TYPE		DESIGN COP (HSPF)	ASHRAE EER (SEER)	ASHRAE COP (HSPF)
HPOS-1	MITSUBISHI PUMY—P36NHMU	36	42	1	18.6	N/A	1	1.56	208	1	20.2	31	40	HPIS-1	350	1, 3, 14, 15, 16, 17, 30, 31	SALES	410A	14.2	3.9	_	-
-	- -	_	-	-	-	-	-	-	-	-	-	-	_	-	-	-	-	_	-	-	-	_
2. PROVIDE W 3. PROVIDE LO 4. PROVIDE CO 5. PROVIDE W 6. PROVIDE W 7. PROVIDE W 8. PROVIDE CO 9. EVAPORATO 10. PROVIDE FI 11. PROVIDE PI	ITH DISCONNECT SIZED AS PER NEC. ITH MOTOR MASTER HEAD CONTROL. DW AMBIENT CONTROLLERS. RANKCASE HEATER. ITH HIGH AND LOW PRESSURE SWITCHES ITH WINTER START CONTROL ITH TIME DELAY RELAY OMPRESSOR START ASSIST — CAPAITOR A R FREEZE THERMOSTAT LTER—DRIER (BI—FLOW ON HEAT PUMP) HASE/ VOLTAGE MONITOR. / HOT GAS REHEAT.	AND RELAY	13. PROVIDE 14. PROVIDE 15. PROVIDE 16. VARIABLE 17. REFRIGER 18. PROVIDE 19. PROVIDE 20. UNIT TO 21. PROVIDE 22. COORDIN 23. PROVIDE 24. PROVIDE	WITH UNIT WITH CON SPEED CO RANT 410A. W/ AUTO WITH 120V BE SUITAE WITH LIQU ATE NEW I WITH GAGE	r Riser Idenser ( Idenser	COIL GUAF OR. OVER, 7 ICE OUTLI LONG LINI SOLENOID DNTROLS PACKAGE.	DAY PROG T. E APPLICA VALVE. WITH EXIS	TION. PRO	VIDE F	ACTORY	APPROVE			EFRIG. LINE SIZ	26. 27. 28. 29. 30. 31.	PROVIDE WITH WIND BAFFLE. PROVIDE WITH 4 BRANCH HEADER. PROVIDE WITH 8 BRANCH HEADER. SUPPLYING MULTIPLE HPIS UNITS. PROVIDE WITH REFRIG. PIPING CON PROVIDE WITH REFRIGERANT HEADER AS REQUIRED. PROVIDE WITH FACTORY REPRESENTATIVE CLOSE—IN INSPECTION & ST PROVIDE WITH LOW AMBIENT WIND BAFFLES.						

ELECTRIC HEATER SCHEDULE													
UNIT	MANUFACTURER	MDII	EL	ECTRICAL	DATA		MOUNTING	NOTES					
MARK	MODEL NO.	MBH	KW	AMPS	٧	ø	MOUNTING						
EUH-A	QMARK MUH0581	17.1	5	24.1	208	1	CEILING HUNG	1, 2, 3, 9					
ECH-A	QMARK CDF548	10.2	3	14.2	208	1	CEILING HEATER	1, 2, 3, 8, 11					
-	-	_	1	1	ı	1	1	1					
_	-	-	1	ı	ı	ı	ı	1					
<ol> <li>PROVIDE</li> <li>HIGH TE</li> <li>INTEGRAL</li> <li>PROVIDE</li> <li>14 GAUC</li> </ol>	POWER DISCONNECT SWITCH REMOTE THERMOSTAT (WHITE COLO MP CUT OFF THERMOSTAT — TAMPERPROOF WITH STARTER SE SECURITY COVER. MOUNTING KIT	R) 1 1 1 1	0. WALL	RECESSEI G RECESS SURFACE JM MOUNT DE ACCES	D MOUN SED MOUNTI FED & F SS PANE	TING JNTING NG RATED.		NTING BRACKET.					

	AIR [	)ISTRIBUTI(	ON DEV	ICE SCH	HEDULE	
TYPE	DESCRIPTION	CFM RANGE	NECK	FACE	MFGR MODEL (*)	NOTES
CD-1, 2	SQUARE/RECT. CEILING DIFFUSER	AS SHOWN	AS SHOWN	LOUVER	TITUS TMSA—AA	1*, 2*, 3, 4, 5, 9, 12, 13
CD-3	ROUND CEILING DIFFUSER	AS SHOWN	AS SHOWN	LOUVER	TITUS TMRA-AA	1*, 2*, 3, 4, 5, 9, 12, 13
CR-1	CEILING REGISTER (SUPPLY)	AS SHOWN	AS SHOWN	BARS SINGLE DEFL	TITUS 301 FS	1, 2, 3, 4, 5, 7, 13
SWR-1	SIDEWALL REGISTER	AS SHOWN	AS SHOWN	AERO BARS DOUBLE DEFL	TITUS 272RS	1/2*, 3, 4, 5, 7, 13, 15
SWR-2	SIDEWALL REGISTER	AS SHOWN	AS SHOWN	BARS SINGLE DEFL	TITUS 301 FS	1/2*, 3, 4, 5, 7, 13
RR-1 R/P	RETURN AIR DEVICE (CEILING)	AS SHOWN	AS SHOWN	PERFORATED	TITUS PAR-AA	1/2*, 3, 4, 5, 13
RR-2	RETURN REGISTER (CEILING / WALL)	AS SHOWN	AS SHOWN	BARS AT 35° DEFL	TITUS 350-FL	1/2*, 3, 4, 5, 6, 13
RR-3	RETURN REGISTER W/ FILTER	AS SHOWN	AS SHOWN	BARS at 35° defl	TITUS 350 FLF1	2, 3, 4, 6, 20, 21
ER-1	EXHAUST REGISTER (CEILING / WALL)	AS SHOWN	AS SHOWN	PERFORATED	TITUS PAR-AA	1/2*, 3, 4, 5, 13
ER-2	EXHAUST REGISTER (CEILING / WALL)	AS SHOWN	AS SHOWN	BARS at 35° defl	TITUS 355FL	1/2*, 3, 4, 5, 6, 13
TG-1	TRANSFER GRILLE (CEILING)	AS SHOWN	AS SHOWN	PERFORATED	TITUS PAR-AA	1/2*, 3, 4, 5, 13
TG-2	TRANSFER GRILLE (CEILING / WALL)	AS SHOWN	AS SHOWN	BARS AT 0° DEFL	TITUS 350-ZFL	1/2*, 3, 4, 5, 6, 13
RP	RETURN PANEL (CEILING)	AS SHOWN	AS SHOWN	AS SHOWN	TITUS PAR-AA	1/2*, 3, 4, 13
LD-1	LINEAR DIFFUSER (1–SLOT)	AS SHOWN	AS SHOWN	AS SHOWN	TITUS FL-15-JT	2, 4, 22
_	_	_	-	-	<u>-</u>	-
_	_	_	-	_	_	-
_	-	_	_	-	<u> </u>	-

- 1. LAY-IN CEILING CONSTRUCTION. (\*) SURFACE MOUNTING ON CEILING OR EXPOSED. (\*)
   WHITE ENAMEL FINISH.
- 4. ALUMINUM CONSTRUCTION.
- 5. OPPOSED BLADE VOLUME DAMPER.
- 6. HORIZONTAL FACE BARS WITH DEFLECTION. 7. VERTICAL FACE BARS.
- 8. EXPOSED FACE VANES
- 9. 4-WAY DIRECTIONAL THROW (UNLESS OTHERWISE 10. NON-DUCTED
- 11. SQUARE NECK CONNECTION. 12. ROUND NECK CONNECTION
- 13. NECK TYPE AS SHOWN ON DRAWINGS.
- 14. FULL RADIUS THROW
- 15. DOUBLE DEFLECTION THROW.
- \* CONTRACTOR SHALL VERIFY CEILING CONSTRUCTION TYPE PRIOR TO PURCHASING AND INSTALLATION. REFER TO ARCHITECTUAL DRAWINGS AND REFLECTED CEILING PLANS FOR CEILING TYPES.

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16. VERTICAL TO HORIZONTAL AIR PATTERN ADJUSTMENT.

17. FLUSH MOUNT- FLANGE AS REQUIRED.

22. LINEAR DIFFUSER W/ FACTORY PLENUM & JET THROW.

20. FILTER TYPE REGISTER SUPPLY W/ FILTER. 21. PROVIDE W/ SPARE FILETER

23. LINEAR DIFFUSER W/ INSULATED DUCT PLENUM.

18. BIRD SCREEN 19. 45% NET AREA MIN.

MECHANICAL AND ELECTRICAL CONTRACTORS SHALL COORDINATE THIS INFORMATION AND PREPARE A CONNECTION SCHEDULE FOR SUBMISSION AND REVIEW BY ENGINEER BEFORE PROCEEDING WITH WORK.

10/23/19 PERMIT SUBMISSION 10/10/18 95% PROGRESS SET DATE DESCRIPTION

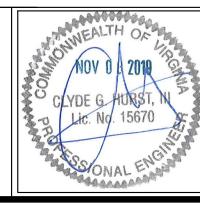
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HE Project Number: 18-97

### **SPECIFICATIONS**

- WORK INCLUDED UNDER THIS SECTION SHALL CONSIST OF ALL MATERIAL, LABOR, EQUIPMENT, AND SERVICE INCIDENTAL TO THE INSTALLATION AND TESTING OF A COMPLETE ELECTRICAL SYSTEM, AS HEREIN AFTER SPECIFIED AND AS SHOWN ON THE DRAWINGS.
- GENERAL CONDITIONS: A. ALL ELECTRICAL WORK SHALL BE IN ACCORDANCE WITH THE FOLLOWING BUILDING CODES
- 1) COMMERCIAL CONSTRUCTION:
- 1) STATE BUILDING CODE 2) NATIONAL ELECTRICAL CODE (NEC)

THE COST FOR SAME IN HIS BID

- 3) LOCAL, FIRE CODE
- 4) IECC INTERNATIONAL ENERGY CONSERVATION CODE 5) ACCESSIBILITY CODE ICC/ANSI 117.1,
- 6) FIRE SUPPRESSION NFPA 13 A. THE ELECTRICAL CONTRACTOR SHALL OBTAIN ALL PERMITS REQUIRED FOR HIS WORK AND SHALL INCLUDE
- B. IT SHALL BE THE RESPONSIBILITY OF THIS CONTRACTOR TO EXAMINE THE ARCHITECTURAL, MECHANICAL AND PLUMBING DRAWINGS AND TO FAMILIARIZE HIMSELF WITH ALL CONDITIONS AFFECTING HIS WORK. C. ALL MATERIALS SHALL BE NEW AND SHALL BE LISTED OR LABELLED BY UNDERWRITERS' LABORATORIES,
- INC., AS CONFORMING TO ITS STANDARDS. D. DETAILED SHOP DRAWINGS SHALL BE SUBMITTED FOR APPROVAL TO THE ARCHITECT OR HIS REPRESENTATIVE FOR ALL WORK AND EQUIPMENT TO BE INSTALLED.
- 5. CUTTING AND PATCHING:
- A. WHERE IT IS NECESSARY TO CUT FLOORS, WALLS OR CEILINGS FOR INSTALLATION OF ANY ELECTRICAL WORK, SUCH CUTTING SHALL BE THE RESPONSIBILITY OF THIS CONTRACTOR. ALL AFFECTED AREAS SHALL BE PATCHED BY THE ELECTRICAL CONTRACTOR TO MATCH ORIGINAL CONDITION AND APPEARANCE. BEFORE ANY CUTTING OR PATCHING, THE CONTRACTOR SHALL OBTAIN THE APPROVAL OF THE ARCHITECT AND OWNER.
- A. ALL CONDUCTORS SHALL BE COPPER. <u>ALUMINUM CONDUCTORS WILL NOT BE PERMITTED</u>. INSULATION SHALL RE 600 VOLT TYPE THEN MINIMUM WIRE SIZE SHALL RE No. 12 AWG B. ALL WIRING SHALL BE INSTALLED EMT. OR RIGID CONDUIT WHERE EXPOSED TO PHYSICAL DAMAGE UNLESS NOTED OTHERWISE FINAL CONNECTIONS TO MOTORS SHALL BE MADE WITH LIQUID TIGHT FLEXIBLE METALLIC CONDUIT. FINAL CONNECTION TO WALL HEATERS SHALL BE MADE WITH TYPE THHN WIRE, TYPE "MC" CABLE SHALL BE USED FOR BRANCH CIRCUIT WIRING WHERE PERMITTED BY LOCAL CODE
- C. ALL CONDUITS AND WIRING SHALL BE RUN CONCEALED IN CEILINGS OR WALLS UNLESS SPECIFICALLY NOTED D. ALL CONDUITS, RACEWAYS & SLEEVES BETWEEN CONDITIONED & EXTERIOR SPACES SUBJECT TO DIFFERENT TEMP DIFFERENTIALS WHICH MAY RESULT IN POSSIBLE CONDENSATION CONDITIONS SHALL COMPLY WITH NEC 300.7. PROVIDE WITH APPROVED MATERIAL TO PREVENT CIRCULATION OF AIR FROM WARM TO COOLER
- SECTION OF CONDUIT SLEEVE OR RACEWAY E. GROUNDING OF THE ENTIRE ELECTRICAL SYSTEM SHALL BE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE ARTICLE 250. F. WRITTEN APPROVAL SHALL BE OBTAINED FROM THE STRUCTURAL ENGINEER BEFORE ANY CORE DRILLING IS
- G. HOSPITAL GRADE GROUNDING AND CABLE SHALL BE USED WHERE SPECIFIED ON PLAN & REQUIRED BY
- LIGHT FIXTURES
- A. CONTRACTOR SHALL COORDINATE WITH ARCHITECTURAL DRAWING FOR ALL NEW FIXTURES LOCATION AND NOTIFY ARCHITECT OF ANY INTERFERENCE WITH EXISTING STRUCTURE. ACQUIRE WRITTEN APPROVAL PRIOR TO RELOCATING LIGHT FIXTURES.
- B. REFER TO ARCHITECTURAL FINISHED SCHEDULE FOR TYPE OF CEILING CONSTRUCTION IN RENOVATED AREAS PRIOR TO ORDERING OR INSTALLATION OF FIXTURES.
- C. REFER TO LIGHT FIXTURES SYMBOL LIST/SCHEDULES FOR ALL FLUORESCENT, EMERGENCY EXIT, AND COMPACT FLUORESCENT LIGHT FIXTURES TYPES AND SPECIFICATION. D. NEW FIRE EXIT SIGNS SHALL MATCH BASE BUILDING FIXTURES AS MANUFACTURED BY INFINITY. PATHWAY OR DUAL-LITE EXIT AND EMERGENCY LIGHT FIXTURE ARE ACCEPTABLE ALTERNATE, U.O.N. E. ALL LIGHT FIXTURES SHALL BE SUPPORTED FROM THE BUILDING STRUCTURE. DO NOT SUPPORT FROM
- SUSPENDED CEILING. F. ELECTRICAL CONTRACTOR SHALL PROVIDE ALL LIGHT FIXTURES WITH LAMPS AS PER MANUFACTURER'S
- REQUIREMENTS AND AS SHOWN ON PLANS. G. ELECTRICAL CONTRACTOR SHALL FURNISH. INSTALL AND CONNECT COMPLETE AND READY FOR SATISFACTORY OPERATION, ALL LIGHT FIXTURES. FIXTURES SHALL BE PROVIDED COMPLETE WITH ALL LAMPS, STRAPS, SUPPORTS, TO BUILDING STRUCTURE, HANGERS, ETC. INSTALL THEM IN A SATISFACTORY
- H. CONTRACTOR SHALL CHECK ALL EXISTING LIGHT FIXTURE REUSE FOR THIS PROJECT. REPLACE ANY DEFECTIVE BALLASTS, LENS, LAMP SOCKET ETC.
- I. ELECTRICAL CONTRACTOR SHALL PROVIDE ALL LIGHT FIXTURES AND LAMPS AS PER MANUFACTURER'S REQUIREMENTS AND AS SHOWN ON PLANS J. ELECTRICAL CONTRACTOR SHALL FURNISH, INSTALL AND CONNECT COMPLETE AND READY FOR
- SATISFACTORY OPERATION, ALL LIGHT FIXTURES. FIXTURES SHALL BE PROVIDED COMPLETE WITH ALL LAMPS, STRAPS, SUPPORTS, TO BUILDING STRUCTURE, HANGERS, ETC. INSTALL THEM IN A SATISFACTORY
- CONNECTIONS:
- A. ELECTRICAL CONTRACTOR SHALL MAKE ALL FINAL ELECTRICAL CONNECTIONS TO MECHANICAL AND PLUMBING EQUIPMENT. VERIFY EXACT LOCATION AND TYPE OF CONNECTION. COORDINATE EXACT JUNCTION BOX AND POWER REQUIREMENTS FOR NEW EQUIPMENT WITH THE RESPECTIVE CONTRACTORS FURNISHING FQUIPMENT, SECURE CATALOG CUTS FOR FACH ITEM OF FQUIPMENT TO ENSURE CORRECT ROUGH-IN.
- A. THE CONTRACTOR SHALL SERVICE AND GUARANTEE ALL WORKMANSHIP AND MATERIALS TO BE AS REQUIRED BY PLANS AND SPECIFICATIONS AND AS REPRESENTED BY HIM AND SHALL REPAIR OR REPLACE, AT NO ADDITIONAL COST TO THE OWNER. ANY PART THERE OF WHICH MAY BECOME DEFECTIVE, EXCEPT FOR NORMAL WEAR AND TEAR, WITHIN A PERIOD OF ONE (1) YEAR AFTER THE DATE OF FINAL ACCEPTANCE BY THE ARCHITECT
- B. ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR AND PAY FOR ANY DAMAGES CAUSED BY OR RESULTING FROM DEFECTS IN HIS OR HER WORK.
- CERTIFICATE OF COMPLIANCE: A. THE CONTRACTOR SHALL ARRANGE AND COORDINATE HIS INSPECTION WITH BRANCHES ASSOCIATED WITH THIS PROJECT. PROVIDE THE OWNER WITH ALL CERTIFICATES OF COMPLIANCE REQUIRED FOR OCCUPANCY
- BEFORE INSTALLATION AND WORK BEGINS COORDINATE WITH THE OWNER'S EQUIPMENT INSTALLER FOR THE EXACT ELECTRICAL REQUIREMENTS REQUIRED BY THE EQUIPMENT MANUFACTURER FOR A COMPLETE WORKING SYSTEM.
- A. TELEPHONE, DATA AND TELEVISION CABLING: SHALL BE PROVIDED BY OWNER EQUIPMENT INSTALLER. THIS SHALL INCLUDE CABLE, CONNECTION AND DEVICE PLATE, CONTRACTOR SHALL PROVIDE EMPTY RACEWAY. STUB OUT ABOVE ACCESSIBLE CEILING FROM WALL OUTLET BOX.
- SPRINKLER ALARM SYSTEM.
- A. PROVIDE A COMPLETE SPRINKLER ALARM SYSTEM AS INDICATED. B. THE INSTALLATION SHALL COMPLY WITH IBC AND NFPA 72. OWNER SHALL PROVIDE THE DEDICATED TELEPHONE LINES USED FOR TIE TO CENTRAL STATION.
- THIS CONTRACTOR SHALL REMOVE ANY MATERIALS NOT INSTALLED IN HIS WORK WHICH WOULD INTERFERE WITH THE WORK OF OTHER CONTRACTORS AS DIRECTED BY THE OWNER OR ENGINEER. AT THE COMPLETION OF THE WORK, THE ELECTRICAL CONTRACTOR SHALL CLEAN UP AND REMOVE FROM THE PREMISES ALL DEBRIS AND MATERIALS NOT INSTALLED, SO THAT THE PREMISES WILL BE LEFT CLEAN. CLEAN ALL CABINETS AND CONDUITS OF OIL, GREASE AND LEAVE WORK IN OTHERWISE PERFECT CONDITION.
- 13. UTILITIES
- THE INDICATED MAIN INCOMING UTILITY REQUIREMENTS ARE FOR BID AND PERMIT SURPOSE ONLY. CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING AND COORDINATING THE EXACT REQUIREMENTS WITH THE RESPECTIVE UTILITY COMPANIES.
- A. POWER 1) OWNER SHALL PAY FOR ALL POWER CO. FACILITIES CHARGES. 2) CONTRACTOR SHALL PROVIDE AND COORDINATE WITH LOCAL POWER CO.
- a) ALL REQUIREMENTS
- b) ELECTRICAL LOAD INFORMATION c) DRAWINGS
- B. TELEPHONE 1) CONTRACTOR SHALL PROVIDE AND COORDINATE WITH LOCAL TELEPHONE CO. AND BUILDING OWNER ALL REQUIREMENTS
- 2) DRAWINGS C. CABLE
- 1) CONTRACTOR SHALL PROVIDE AND COORDINATE WITH LOCAL CABLE CO. AND BUILDING OWNER ALL REQUIREMENTS. 2) DRAWINGS

- INSTALLER. THIS SHALL INCLUDE CABLE, CONNECTION AND DEVICE PLATE. CONTRACTOR SHALL PROVIDE EMPTY RACEWAY. STUB OUT ABOVE ACCESSIBLE CEILING FROM WALL OUTLET BOX. COORDINATE ALL FIRE PUMP INSTALLATION REQUIREMENTS WITH FIRE PUMP AND SPRINKLER
- 15. COORDINATION OF THE OWNERS EQUIPMENT INSTALLERS: THE ELECTRICAL INFORMATION SHOWN IS FOR PERMIT ONLY. THE CONTRACTOR SHALL COORDINATE WITH THE OWNER'S EQUIPMENT INSTALLER THE EXACT ELECTRICAL REQUIREMENTS REQUIRED BY THE EQUIPMENT
- MANUFACTURER FOR A COMPLETE WORKING SYSTEM. 16. GROUNDING SYSTEM A. GENERAL: FURNISH AND INSTALL COMPLETE SYSTEM OF GROUND CONDUCTORS AND ACCESSORIES TO EFFECTIVELY AND PERMANENTLY GROUND RACEWAYS, EQUIPMENT AND LIGHTING FIXTURES OF THE ELECTRICAL
- SYSTEM IN ACCORDANCE WITH THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE. (ARTICLE 250) EQUIPMENT: GROUND NON-CURRENT CARRYING METAL PARTS OF RACEWAYS AND ALL LIGHTING FIXTURES. TEST FOR CONTINUITY, PROVIDE WRITTEN CERTIFICATION OF COMPLIANCE.
- PANFI BOARDS A. THE CONTRACTOR SHALL PROVIDE THE REQUIRED NEW CIRCUIT BREAKERS IN EXISTING PANELBOARDS SERVING THE NEW TENANT SPACE. REFER TO RISER DIAGRAM, NOTES AND PANEL SCHEDULES FOR ALL
- 18. LOW VOLTAGE TELEPHONE AND DATA CABLING. A. CONTRACTOR TO COORDINATE WITH TENANT REPRESENTATIVE AND TENANT CABLE CONTRACTOR FOR ALL WORK RELATED TO TENANT TELEPHONE AND DATA DROP.

B. ALL NEW AND EXISTING CABLING SHALL BE BY TENANT CABLE CONTRACTOR. GENERAL AND ELECTRICAL

- CONTRACTOR SHALL GIVE AMPLE NOTICE AND TIME IN SCHEDULING WORK. C. CABLE CONTRACTOR SHALL COMPLY AND PAY ALL REQUIRED FEES AND SHALL INSTALL CABLES IN MINIMUM 3/4" CONDUIT EACH TO ACCESSIBLE CEILING SPACE FOR ALL TEL/DATA OUTLET LOCATED AT PERIMETER WALL AND/OR FIRE RATED PARTITION WALLS.
- TRANSFORMER: ALL TRANSFORMERS TO BE K-13.

EXISTING AND NEW CIRCUIT CONNECTION

- . IN THE EVENT ANY ELECTRICAL HOMERUN CIRCUIT ARE NOT CLEAR AS TO PANEL LOCATION, CONTRACTOR SHALL CONTACT ENGINEER FOR CLARIFICATION, CONTRACTOR PRICING SHALL MAKE PROVISION IN THESE CASES FOR TERMINATION AT PANEL WITHIN 100 FEET OF LOCATION.
- 2. ELECTRICAL ORDINANCE
- ALL ELECTRICAL WORK SHALL BE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE, STATE, FEDERAL, COUNTY, AND LOCAL SUPPLEMENTS OR ADDITIONS. IN INSTANCES WHERE THE DRAWINGS AND THE NATIONAL ELECTRIC CODE ARE IN CONFLICT. THE WORK SHALL BE INSTALLED AS PER REQUIREMENTS OF THE NATIONAL CODE.

#### MECHANICAL/ELECTRICAL/ PLUMBING COORDINATION REQUIREMENTS

MECHANICAL AND PLUMBING CONTRACTOR WITHIN 20 DAYS OF RECEIPT OF CONTRACT TO PROVIDE TO THE ELECTRICAL CONTRACTOR A COMPLETE SET OF MECHANICAL/ PLUMBING EQUIPMENT SHOP DRAWINGS FOR ALL MECHANICAL/ PLUMBING EQUIPMENT REQUIRING ELECTRICAL CONNECTIONS OR POWER. SHOP DRAWINGS SHALL SHOW ALL REQUIRED ELECTRICAL CONNECTIONS, MINIMUM CIRCUIT AMPS, WIRE SIZES, OVER CURRENT PROTECTION, CONNECTION TYPES AND ANY OTHER INFORMATION REQUIRED FOR THE PROPER EQUIPMENT INSTALLATION AND OPERATION.

MECHANICAL/ PLUMBING AND ELECTRICAL CONTRACTORS SHALL COORDINATE THIS INFORMATION AND PREPARE A CONNECTION SCHEDULE FOR SUBMISSION AND REVIEW BY ENGINEER BEFORE PROCEEDING WITH WORK.

#### CONTRACTOR/OWNER COORDINATION

CONTRACTOR SHALL CONTACT ARCHITECT FOR A MEETING COORDINATE AND CONFIRM ALL ELECTRICAL OUTLET LOCATIONS. THIS MEETING WILL TAKE PLACE BEFORE CMU WALLS ARE INSTALLED OR AFTER STUD PARTITION AREA INPLACE BUT BEFORE ELECTRICAL ROUGH-IN WORK BEGINS.

### RECORD DRAWING

- A. AS WORK PROGRESSES. THE ELECTRICAL CONTRACTOR SHALL RECORD ON ONE (1) SET OF CONTRACT ELECTRICAL DRAWINGS ALL CHANGES FROM THE INSTALLATION ORIGINALLY INDICATED.
- B. AT COMPLETION OF THE ELECTRICAL WORK, THIS CONTRACTOR SHALL SUBMIT TO THE ENGINEER FOR APPROVAL AND RECORD THE ABOVE COMPLETE SET OF RECORD DRAWINGS NEATLY MARKED IN RED INK, SHOWING THE ENTIRE WORK AS ACTUALLY INSTALLED.

#### LIGHTING FIXTURE NOTES

- 1. PROVIDE LIGHTING FIXTURES INSTALLED IN LOCATIONS AS SHOWN ON ARCHITECTURAL REFLECTIVE CEILING PLANS.
- 2. IF MOUNTING HEIGHTS FOR WALL FIXTURES ARE NOT SHOWN, COORDINATE WITH ARCHITECTURAL DRAWINGS PRIOR TO ROUGH-IN.
- 3. CONTRACTOR SHALL PROVIDE DISTRIBUTOR WITH VERIFICATION OF PURCHASE VOLTAGE AND CEILING TYPES FOR ALL FIXTURES PRIOR TO RELEASE OF ORDER.
- 4. CONTRACTOR SHALL PROVIDE ALL PLASTER RINGS, PLASTER FRAMES, TRIM RINGS, SLOPE ADAPTERS, ACCESSORIES AND ASSOCIATED MATERIALS FOR A COMPLETE INSTALLATION FOR ALL FIXTURE TYPES AT NO ADDITIONAL COST TO THE OWNER.
- 5. PROVIDE THE FOLLOWING:
- FLUORESCENT BALLAST (T8) SHALL BE ENERGY SAVING ELECTRONIC 10% THD.
- FLUORESCENT BALLAST (PL) SHALL BE ENERGY SAVING ELECTRONIC TYPE. - ALL T8, 32 WATT OCTRON FLUORESCENT FIXTURES SHALL BE WARM WHITE SP-35K
- ALL PL LAMPS SHALL BE RATED 35K.
- INCANDESCENT LAMPS SHALL BE RATED 130 VOLTS. - ALL EXTERIOR FIXTURE TO HAVE COLD WEATHER BALLAST AND BATTERIES RATED FOR 0°F.
- 6. ALL EMERGENCY LIGHTING SHALL BE CONNECTED AHEAD OF THE SWITCH TO COMPLY WITH NEC ARTICLE. THE BRANCH CIRCUIT BREAKER SERVING THE BRANCH CIRCUITS WITH UNIT EQUIPMENT SHALL BE PROVIDED WITH A
- 7. COORDINATE THE LOCATION OF LIGHTING FIXTURES TO ACCOMMODATE THE MECHANICAL AND PLUMBING INSTALLATION.
- 8. STRIP FLUORESCENT LIGHTING FIXTURES IN UNFINISHED CEILING SPACES SHALL BE MOUNTED TO BOTTOM SIDE OF EXPOSED JOISTS UP TO 10' - 0" AFF. JOISTS THAT ARE ABOVE 10'- 0" SHALL HAVE STRIP FLUORESCENTS, CHAIN HUNG AND MOUNTED SO THAT THE BOTTOM SIDE OF THE LIGHTING FIXTURE.
- 9. ALL EXTERIOR LIGHTING INSTALLED UNDER CANOPY SHALL BE FURNISHED WITH DAMP LOCATION LABEL. ALL OTHERS SHALL BE FURNISHED WITH WET LOCATION LABELS.
- 10. ALL BALLASTS INSTALLED IN COLD AREAS OR EXTERIOR SHALL BE FURNISHED 0 DEGREE TYPE.
- 11. CONTRACTOR SHALL COORDINATE WITH SPRINKLER CONTRACTOR FOR LIGHTING FIXTURE AND SPRINKLER HEAD LOCATIONS TO COMPLY WITH NEPA
- 12. EXTERIOR WALLS AND 'EIFS' FINISHES MOUNT JUNCTION BOX FLUSH WITH FINISH SURFACE
- 13. ALL FLUORESCENT LIGHT FIXTURES CONTROLLED BY A DIMMER SHALL HAVE DIMMABLE BALLAST.
- 14. ALL FLUORESCENT FIXTURES SHALL BE SUPPLIED WITH ENERGY SAVING ELECTRONIC BALLASTS AND ENERGY
- 15. VERIFY ALL MOUNTING HEIGHTS FOR LIGHTING FIXTURES WITH OWNER'S CONSTRUCTION ENGINEER PRIOR TO
- 16. ALL METAL HALIDE LIGHT FIXTURES RANGING FROM 150W TO 500W SHALL UTILIZE PULSE START BALLAST AND LAMPS IN ACCORDANCE WITH THE ENERGY INDEPENDENCE AND SECURITY ACT OF 2007.

### ABBREVIATIONS

	· .				
A.F.C.	ABOVE FINISHED COUNTER	EMERG.	EMERGENCY	N.I.C.	NOT IN CONTRACT
A.F.C.	ABOVE FINISHED GRADE	E.C.	EMPTY CONDUIT	PNL.	PANEL
AFDS	AMPER FUSED DISCONNECT SWITCH	E.F.	EMPTY CONDUIT EXHAUST FAN	PH.	PHASE
A.F.F.	ABOVE FINISHED FLOOR	FACP	FIRE ALARM CONTROL PANEL	Р	POLE'S
A/C	AIR CONDITIONING (UNIT)	FLUOR.	FLUORESCENT	P.0.S.	POINT OF SALES
A.H.J.	AUTHORITY HAVIG JURISDICTION	F.S.S.	FUSED SAFETY SWITCH	(R)	REMOVE AND RELOCATE
A.H.U.	AIR HANDLING UNIT	G.F.I.	GROUND FAULT INTERRUPTER	ŘÉCEPT.	RECEPTACLE
A.T.S.	AUTOMATIC TRANSFER SWITCH	H.D.	HEAVY DUTY	R.L.A.	RUNNING LOAD AMPERES
A.W.G.	AMERICAN WIRE GAUGE	HP	HORSEPOWER	S.E.L.	SERVICE ENTRANCE LABEL
A.I.C.	AMPS INTERRUPTING CAPACITY	HW IG	HOT WATER (HEATER) ISOLATED GROUND	S/N S.R.	SOLID NEUTRAL
CLG.	CEILING	IG	ISOLATED GROUND	S.R.	SERVICE RATED
CKT.	CIRCUIT	JHA	JURISDICTION HAVING AUTHORITY	SW.	SWITCH
l c/B	CIRCUIT BREAKER	KW	KILOWATTS LIGHTING MANHOLE MAIN CIRCUITS AMPS MAIN CIRCUIT BREAKER	SWB.	SWITCHBOARD
C/B C	CONDUIT	LTG.	LIGHTING	TELE.	TELEPHONE
CU.	COPPER	MH	MANHOLE	TVSS	TRANSIENT VOLTAGE SURGE
Δ	DELTA CONNECTED	MCA	MAIN CIRCUITS AMPS		SUPRESSION
(D)	DEMOLITION	MCB	MAIN CIRCUIT BREAKER	U.H.	UNIT HEATER
(D) DISC.	DISCONNECT	MDP	MAIN DISTRIBUTION PANEL	U.O.N.	UNLESS OTHERWISE NOTED
DBL	DOUBLE	MLO	MAIN LUGS ONLY	W/D	WASHER/DRYER
DWG.	DRAWING	M	MOUNTED	W/D WP	WEATHER PROOF
(E)	EXISTING	(N) N.E.C.	NEW	XFMR	TRANSFORMER
E.W.C.	ELECTRIC WATER COOLER	N.E.C.	NATIONAL ELECTRICAL CODE	XFER	TRANSFER SWITCH
ELEC.	ELECTRICAL	NFSS	NON-FUSED (SAFETY SWITCHES)	Y	WYE CONNECTED

#### BASIC MATERIALS AND METHODS

- 1. THE ELECTRICAL SYSTEM SHALL BE CONDUIT WITH A MINIMUM TRADE SIZE OF 1/2 INCH.
- 2. MOTORS AND VIBRATING EQUIPMENT SHALL BE CONNECTED WITH A SHORT (APPROXIMATELY TWO (2) FEET) LENGTH OF FLEXIBLE METAL CONDUIT OR LIQUID—TIGHT FLEXIBLE METAL CONDUIT WITH EXPOSED EQUIPMENT GROUND TO
- 3. FITTINGS, COUPLINGS AND ACCESSORIES SHALL BE COMPATIBLE WITH THE CONDUIT MATERIAL. FITTINGS AND COUPLINGS FOR ELECTRIC METALLIC TUBING SHALL BE OF STEEL AND SHALL BE OF THE COMPRESSION TYPE,
- 4. PULL AND JUNCTION BOXES SHALL BE PROVIDED WHERE INDICATED AND REQUIRED OF THE TYPE AND SIZE FOR THE INSTALLATION OF THE ELECTRICAL SYSTEM AND SHALL BE ACCESSIBLE.
- 5. OUTLET BOXES SHALL BE GALVANIZED SHEET STEEL OF THE TYPE AND SIZE APPROVED FOR THE INTENDED USE. 6. DEVICE PLATES SHALL BE TYPE 302 SATIN FINISH STAINLESS STEEL. WHERE GANG COMBINATIONS ARE REQUIRED,
- THE COMBINATIONS ARE TO BE PROVIDED AS A SINGLE PLATE.

7. EMPTY CONDUITS (EC) INSTALL A No.12 THHN OR NYLON PULL WIRE.

THEIR LOCATION.

- 8. FLEXIBLE METAL CONDUIT USED FOR CONNECTION OF LIGHTING FIXTURES, RECEPTACLE OUTLETS AND AS OTHERWISE SHOWN ON DRAWINGS, SHALL BE SUPPORTED AND BONDED IN ACCORDANCE WITH N.E.C. ARTICLE 350
- 9. ALL CIRCUIT CONDUCTORS SHALL BE MARKED OR TAGGED IN THE PANELBOARDS TO IDENTIFY ITEMS SERVED AND
- 10. ALL THE BOXES AND CONDUCTORS SHALL BE MARKED TO INDICATE THE VOLTAGE AND CIRCUIT NUMBERS. 11. MOTOR STARTERS AND ACCESSORIES SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND WITH THE N.E.C. COORDINATE THE MOTOR FOR PROPER ROTATION AND PROVIDE OVERLOAD THERMAL UNITS OF PROPER RATING.
- 12. ALL EXPOSED CONDUITS SHALL BE INSTALLED PARALLEL OR AT RIGHT ANGLES TO BUILDING STRUCTURAL MEMBERS AND PAINTED TO MATCH FINISHES AS DIRECTED (2 COATS OF RUSTOLEUM).
- 13. ALL SWITCHES AND DUPLEX RECEPTACLES SHALL BE DECORA TYPE TO MATCH BUILDING STANDARD AS MANUFACTURER BY PASS AND SEYMOUR OR APPROVED EQUAL.

### ELECTRICAL NOTES

- 1. THE ELECTRICAL PLANS ARE DIAGRAMMATIC ONLY. FIELD VERIFY FOR EXACT DIMENSIONS AND LOCATIONS
- 2. HOMERUNS WITHOUT BRANCH CIRCUIT BREAKER INFORMATION SHALL HAVE 1P, 20A, G/B'S. WHERE CONDUIT SIZE AND NUMBER AND SIZE OF WIRES IS NOT GIVEN, THE FOLLOWING SHALL APPLY: USE OF SHARED NEUTRALS NOT PERMITTED.
  - ONE BRANCH CIRCUIT 2 #12, 3/4" C. - TWO BRANCH CIRCUITS 3 #12, 3/4" C.

ACTUAL EQUIPMENT BEING PROVIDED.

- THREE BRANCH CIRCUITS 4 #12, 3/4" C. - CONTRACTOR SHALL ADJUST SIZE FOR MAXIMUM OF 2% VOLTAGE DROP.
- 3. CONTRACTOR SHALL BE RESPONSIBLE FOR CORRECTLY PHASING THE CIRCUITS IN THE PANEL.
- 4. PROVIDE IDENTIFICATION PLATES OF BLACK LAMINATED PLASTIC WITH 1/2" WHITE LETTERS FOR ALL ELECTRICAL EQUIPMENT SUCH AS PANELS. SWITCHES, ETC.
- 5. CONTRACTOR SHALL COORDINATE LOCATION AND ELECTRICAL CHARACTERISTICS OF EQUIPMENT TO SUITE
- 6. PROVIDE ALL ADDITIONAL WIRES REQUIRED FOR SWITCHING AND CONTROL FUNCTIONS INDICATED. INCREASE ASSOCIATED CONDUIT SIZE ACCORDINGLY.
- 7. ALL WORK SHALL BE CONCEALED UNLESS DIRECTED OTHERWISE BY THE OWNER.

8. ELECTRICAL CONTRACTOR SHALL OBTAIN ALL REQUIRED WORK PERMITS AND INSPECTIONS.

- 9. ELECTRICAL CONTRACTOR SHALL COORDINATE HIS WORK WITH WORK OF OTHER TRADES TO AVOID PHYSICAL INTERFERENCES OR IMPROPER INSTALLATION. FAILURE TO DO SO SHALL BE CAUSE FOR
- 10. BIDDERS ARE CAUTIONED TO VISIT THE SITE PRIOR TO FINAL PREPARATION OF THEIR BIDS.
- 11. BIDDERS SHALL VERIFY LOCAL CODE REQUIREMENTS PRIOR TO BID SUBMITTAL AND SHALL INCLUDE ALL COSTS FOR COMPLETE COMPLIANCE WITH SAME.

CONTRACTOR TO REMOVE AND REINSTALL HIS WORK AT NO ADDITIONAL EXPENSE TO THE OWNER.

- 12. DO NOT SCALE THE DRAWINGS.
- 13. CONSULT ARCHITECTURAL AND STRUCTURAL DRAWINGS FOR CONSTRUCTION, HEAD ROOM, ROOM FINISHES, FURRED CEILINGS, EXACT LOCATIONS OF FIXTURES, EQUIPMENT OUTLETS, ETC.
- 14. COORDINATE WITH EQUIPMENT MANUFACTURERS AS REQUIRED FOR A COMPLETE SYSTEM READY FOR OPERATION AT COMPLETION OF PROJECT.
- 15. PERFORM ALL WORK IN ACCORDANCE WITH THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE AND LOCAL CODES AND REGULATION'S OF JURISDICTIONAL AUTHORITIES.
- 16. ALL EQUIPMENT SHALL BE LISTED BY UNDERWRITERS LABORATORIES INC. AND SHALL BEAR THE U.L. LABEL PROVIDE ONLY NEW UNDAMAGED EQUIPMENT UNLESS OTHERWISE INDICATED.
- 17. THE ELECTRIC PLAN IS DIAGRAMMATIC ONLY. REFER TO THE ARCHITECTURAL PLAN FOR EXACT LOCATION OF STRUCTURE. VERIFY DOOR SWINGS BEFORE INSTALLING LIGHT SWITCHES. LOCATE ON LOCK SIDE OF DOOR 48" AFF UNLESS OTHERWISE NOTED.
- 18. COORDINATE SERVICE ENTRANCE FOR AC POWER AND TELEPHONE SERVICES WITH APPROPRIATE UTILITY COMPANY. PROVIDE EQUIPMENT AND PERFORM WORK IN ACCORDANCE WITH THEIR STANDARDS.
- 19. WIRE SHALL BE SIZED IN ACCORDANCE WITH THE NATIONAL ELECTRIC CODE. EACH CIRCUIT SHALL CONNECT NO MORE ITEMS (LIGHTS, RECEPTACLES, SWITCHES, ETC.) THAN DIRECTED BY THE NATIONAL ELECTRIC CODE. WIRE SHALL BE COPPER WITH 75° INSULATION. PROVIDE #12 WIRE MINIMUM 3/4" CONDUIT MINIMUM. PROVIDE ALL WIRES NECESSARY FOR PROPER FUNCTION OF SYSTEM AS REQUIRED. ALL EXTERIOR OR WET LOCATIONS SHALL CPMPLY WITH NEC 310.10(c).
- 20. ALL 20 AMP HOMERUNS GREATER THAN 100 MUST BE RUN WITH #10 WIRE. INCREASE WIRE SIZE TO COMPENSATE FOR VOLTAGE DROP ACCORDINGLY.
- 21. PROVIDE PROPER LIGHT FIXTURE FOR THE TYPE OF CEILING INSTALLED, INCLUDING ALL ACCESSORIES

REQUIRED SUCH AS BAR HANGERS, TRIM, FLANGE RINGS, ETC.

- 22. THE CONTRACTOR IS RESPONSIBLE FOR CORRECTLY PHASING THE CIRCUITS IN THE PANEL. HOMERUNS OF SIMILAR SINGLE PHASE CIRCUITS MAY BE COMBINED IN ONE PRIOR TO ORDERING AND INSTALLING
- 23. ELECTRICAL REQUIREMENTS FOR MECHANICAL EQUIPMENT ARE BASED ON EQUIPMENT SPECIFIED. COORDINATE EXACT REQUIREMENTS WITH MANUFACTURER'S SHOP DRAWINGS PRIOR TO ORDERING AND INSTALLING FOUIPMENT
- 24. WHERE OUTLETS ARE INDICATED IN CLOSE PROXIMITY TO EACH OTHER, PROVIDE GANGED DIVIDED OUTLET BOX WITH COMMON COVER PLATE. COLORS AS DIRECTED.
- 25. ALL LIGHT AND RECEPTACLE CIRCUITS OVER 100 FEFT FROM PANEL TO LAST OUTLET SHALL HAVE CONDUCTORS ONE SIZE LARGER THAN NORMALLY REQUIRED. ALL TELEPHONE OUTLETS OVER 100 FEET
- 26. DISCONNECT SWITCHES, CONDUITS RECEPTACLES, ETC. MOUNTED ON MECHANICAL EQUIPMENT SHALL BE MOUNTED IN SUCH A MANNER AS TO NOT INTERFERE WITH PROPER FUNCTION OF THE MECHANICAL UNIT.
- 27. IN THE EVENT OF A DISAGREEMENT BETWEEN THE DRAWINGS AND NOTES, THE NOTES SHALL TAKE

FROM TERMINAL BOARD SHALL HAVE CONDUIT ONE SIZE LARGER THAN NORMALLY REQUIRED.

- 28. PRIOR TO EXCAVATION FOR NEW WORK NOTIFY "MISS UTILITY" 48 HOURS IN ADVANCE SO EXISTING SUB
- SURFACE UTILITIES MAY BE IDENTIFIED.
- 29. PROVIDE HACR CIRCUIT BREAKERS FOR ALL MOTOR CIRCUITS. 30. ELECTRICAL CONTRACTOR SHALL PROVIDE ALL MOTOR STARTERS AFTER COORDINATION WITH MECHANICAL
- 31. PROVIDE ALL TRENCHING, BACK FILLING & RESURFACING REQUIRED FOR THE ELECTRICAL WORK.
- 32. SWITCHBOARDS, PANEL BOARDS, DISCONNECT SWITCHES TRANSFORMERS AND CONTACTORS ARE TO BE 'LISTED' AND 'IDENTIFIED' AS RATED FOR A MINIMUM OF 75°C CONDUCTOR TERMINATION.
- 33. BRANCH FOR ISOLATED GROUND CIRCUITS SHALL HAVE ONE EQUIPMENT GROUND CONDUCTOR (GREEN) AND ONE ISOLATED GROUND CONDUCTOR (GREEN W/ YELLOW STRIPE) INSTALLED IN RACEWAY. 34. AT THE COMPLETION OF THE JOB IT IS ELECTRICAL CONTRACTOR'S RESPONSIBILITY TO TURN OVER TO
- REFLECTED CEILING PLAN AND THE ACTUAL CIRCUITING CHANGES ADDED. 35. CONDUITS INSTALLED IN DUCT BANKS, IN SLABS IN EARTH OR FILL SHALL BE PVC SCHEDULE-40 OR GALVANIZED RIGID CONDUIT, INTERMEDIATE METAL CONDUIT ENCASED IN CONCRETE, TRANSITIONS FROM

THE BUILDING MANAGER AN AS-BUILT-DRAWING SET IN REPRODUCIBLE FORM. INCLUDING THE ENGINEER'S

BELOW GRADE SHALL BE GALVANIZED RIGID OR INTERMEDIATE METAL CONDUIT. CONDUIT ABOVE GRADE MAY BE GALVANIZED RIGID CONDUIT OR INTERMEDIATE METAL CONDUIT INDOORS OR OUTDOORS.

36. NO TELEPHONE WIRE SHALL BE RAN EXPOSED ON BASEBOARDS OR WALLS. TELEPHONE AND DATA

- OUTLETS SHALL BE IN A 2" DEEP BOX WITH SINGLE GANG RING AND PLATE. 37. ELECTRICAL DESIGN HAS BEEN BASED ON THE INSTALLATION OF 75°C CONDUCTORS CONNECTED TO TERMINAL LUGS AND EQUIPMENT U.L. LISTED FOR A MINIMUM 75°C CONDUCTORS TERMINATED ON EQUIPMENT WITH A LOWER RATING (60°C.) OR NO RATING SHOWN TO HAVE CONDUCTOR SIZE INCREASED
- TO CONFORM TO NFPA CODES AND LOCAL BUILDING CODES. 38. ELECTRICAL CONTRACTOR SHALL FIELD VERIFY NAMEPLATE LOADS OF ALL EQUIPMENT (MECH. & OWNER SUPPLIED) TO INSURE PROPER WIRE SIZING & OVER CURRENT PROTECTION & SHALL NOTIFY ENGINEER
- OF DISCREPANCIES. 39. ELECTRICAL CONTRACTOR SHALL SEAL ALL ELECTRICAL PENETRATIONS THRU. FIRE RATED PARTITIONS WITH FIRE RATED MATERIAL INSTALLED PER MANUFACTURERS GUIDELINES AND U.L. REQUIREMENTS.
- MATERIAL SELECTION SHALL BE BASED ON RATING OF PARTITION PENETRATED. 40. PROVIDE ALL SUPPLEMENTARY STEEL REQUIRED FOR ELECTRICAL WORK.
- 41. ALL UNUSED OR ABANDONED CONDUIT AND WIRING SHALL BE DISCONNECTED AND MADE SAFE BY THE
- ELECTRICIAN FOR REMOVAL FROM THE BUILDING. 42. PROVIDE TEMPORARY LIGHT AND POWER FOR THE DURATION OF THE PROJECT, ON ALL DAYS WHEN ANY TRADE IS WORKING AND FOR DELIVERIES BY OTHER TRADES.

### HURST ENGINEERS

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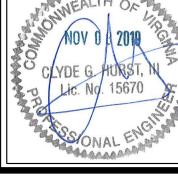
OTHER TRADES AND WORK, IN THE EVENT OF ANY CONFLICTS THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ARCHITECT IN WRITING FOR CLARIFICATION BEFORE PROCEEDING. HE Project Number: 18—97

THE CONSTRUCTION OF THIS PROJECT REQUIRES THE CONTRACTOR

TO COORDINATE WORK SHOWN ON THIS DRAWING WITH THAT OF ALL OTHER TRADES. IN ADDITION. ALL PIPING. CONDUITS. DUCTWORK. ETC., ARE TO BE INSTALLED WITHIN THE JOISTS / GIRDERS AND TO MAINTAIN THE MINIMUM REQUIRED CLEARANCES, U.O.N. THE

CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING THE ARCHITECT W/ COORDINATION DRAWING DEVELOPED BY SUB CONTRACTORS &

REFLECTING ALL TRADES. CHANGES RESULTING FROM CONFLICTS WITH



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#### GENERAL NOTES

- 1. CONTRACTOR TO COORDINATE ALL EQUIPMENT SERVICE LAYOUT WITH KITCHEN EQUIPMENT DRAWINGS.
- CONTRACTOR TO PROVIDE IN WRITING TO ARCHITECT ANY DISCREPANCIES OR AMBIGUITIES. CONTRACTOR SHALL NOT PROCEED WITH ITEMS NEEDING CLARIFICATION UNTIL DIRECTION RECEIVED FROM ARCHITECT. CONTRACTOR SHALL ALLOW FOR 10 BUSINESS DAYS FOR ARCHITECT'S RESPONSE.
- GENERAL CONTRACTOR SHALL PROVIDE IN WRITING DOCUMENTATION THAT CAREFUL COORDINATION BETWEEN ALL SUBCONTRACTORS HAS OCCURRED BEFORE COMMENCING WORK. CONTRACTOR SHALL IDENTIFY ALL AREAS
- CONTRACTOR SHALL COORDINATE ALL LIGHTING CONTROLS WITH OWNER BEFORE PURCHASE AND INSTALLATION

#### PANELBOARD NOTES

- PANEL BOARDS SHALL BE PROVIDED WITH COPPER BUSSES. S/N EQUIPMENT GROUND BUS AND ISOLATED GROUND BUS.
- PANELBOARDS SHALL BE EQUIPPED WITH QUICK REMOVAL DOORS, MANUFACTURER'S NAME PLATE WITH CHARACTERISTICS AND ALL KEYED
- CONTRACTOR SHALL VERIFY MOUNTING OF ALL PANELBOARDS PRIOR TO RELEASE FOR FABRICATION.
- PANELBOARDS SHALL BE SUITABLE FOR FLUSH AND/OR SURFACE MOUNTING. . PANELBOARDS SHALL BE PROVIDED WITH A TYPEWRITTEN DIRECTORY. HANDWRITTEN IS NOT ACCEPTABLE.
- PANELBOARDS SHALL BE PROVIDED WITH PHENOLIC PLASTIC ETCHED NAMEPLATES WITH THE FOLLOWING: (1) PANEL DESIGNATION (2) PANEL SOURCE OF SUPPLY WITH CIRCUIT NUMBER
- CONTRACTOR SHALL CHECK ALL PANELBOARD BUSSES FOR UNBALANCED CONDITIONS AND BALANCE PANEL BETWEEN PHASES AS CLOSE AS POSSIBLE. SUBMIT AMPERE READING FOR EACH PANELBOARD TO ELECTRICAL ENGINEER FOR REVIEW AND APPROVAL.
- a) MAIN SERVICE 65K b) PANEL BOARD 65K U. O. N.
- . ALL PANELBOARDS SHOWN DOUBLE SECTION SHALL BE CABLE TIED.

(3) PANEL FEEDER SIZE

- 10. ALL BRANCH CIRCUIT TO BE LABELED IN PANEL GUTTER SPACE.
- 11. HOUSE PANELBOARD CIRCUIT BREAKERS SHALL BE BOLT-ON TYPE AND ALL BREAKERS FOR HVAC EQUIPMENT SHALL BE HACR TYPE, U.O.N. 12. THE UNGROUNDED AND GROUNDED CIRCUIT CONDUITS OF EACH MULTI WIRE BRANCH CIRCUIT SHALL BE GROUPED BY CABLE TIES OR
- SIMILAR MEANS IN AT LEAST ONE LOCATION WITHIN THE PANELBOARD OR OTHER POINT OF ORIGINATION PER NEC 210.4(D)

TYPE <sub>.</sub>	DESCRIPTION	MANUFACTURER	CATALOG NO.		LAMPS		MOUNTING	REMARKS	INPUT
MARK)	DESCRIPTION	WANTONER		TYPE	WATTS	VOLTS	MOOIVIIIVO		WATTS
A	DOWN LIGHT PENDANT 6"Ø	WILLIAMS	LC6-L40C/ 835-WHT-CS/M-PM-DIM-120	LED	40	120	PENDANT	PROVIDE W/ PENDFANT MOUNT BOTTOM OF FIXTURE EVEN W/BOTTOM OF TRUSS CHORD. (VARIABLE LENGTH) COORDINATE COLOR W/ ARCHITECT.	40
В	2x4 LED -	WILLIAMS	509-524-F-L59/835-AF19156-DRV-120 -	LED	48	120	CEILING GRID	-	48
B1	2x4 LED W/ EMERGENCY BATTERY	WILLIAMS	509-524-F-L59/835-AF19156-DRV-120-EM	LED	48	120	CEILING GRID	PROVIDE W/ EMERGENCY BATTERY.	48
Х	WALL MOUNTED EXIT SIGN	WILLIAMS	EXIT—R—EM—WHT—D —	LED	5	120	WALL MOUNTED	PROVIDE W/ EMERGENCY BATTERY.	5
Y	EMERGENCY EGRESS LIGHTS- WALL PACK	WILLIAMS	EMER/CP/ADJ/LED-WHT-D -	LED	5	120	WALL	PROVIDE W/ EMERGENCY BATTERY.	5
Z	EXTERIOR LITE –	TRACE-LITE	TLED-NFL-79-VS-3K-BB-PC -	LED	76	120	WALL	PROVIDE W/ PHOTOCELL CONTROL PROVIDE W/ LOW TEMP BATTERY	76
_	-	-	_	_	-	_	_	_	-
_	-	_		_	-	-	_	_	-
_	_	_	_			_	_	-	_

### LIGHTING CONTROL SYSTEMS

- SWITCH WITH OCCUPANCY SENSOR. AUTOMATIC "ON"" CONTROL & AUTOMATIC "OFF" CONTROL. OFF CONTROL ADJUSTABL BETWEEN 1 MINUTE & 30 MINUTES. PRESET FOR 30 MINUTE. SWITCH TO HAVE MANUAL OFF/ON OVERRIDE. BASIS OF
- SWITCH WITH OCCUPANCY SENSOR MANUAL "ON" AUTOMATIC "OFF". OFF CONTROL ADJUSTABLE BETWEEN 1 MINUTE & 30 MINUTES. PRESET FOR 30 MINUTE. SWITCH TO HAVE MANUAL OFF/ON OVERRIDE. BASIS OF DESIGN BEG.
- OCCUPANCY SENSOR CEILING MOUNTED. VOLTAGE AS REQUIRED. OFF CONTROL ADJUSTABLE BETWEEN 1 MINUTE & 30 MINUTES. PRESET FOR 30 MINUTE, SWITCH TO HAVE MANUAL OFF/ON OVERRIDE, BASIS OF DESIGN BEG. OCCUPANCY SENSOR TO PROVIDE CONTROL TO SWITCH POWER PACK. OCCUPANCY SENSOR HIGH BAY MOUNTED WIDE BEAM. CONNECT TO POWER PACK SENSOR. SENSOR ADJUSTABLE BETWEEN 1
- MINUTES. PRESET FOR 30 MINUTE. SWITCH TO HAVE MANUAL OFF/ON OVERRIDE. BASIS OF DESIGN BEG. PROVIDE 50% ON CONTROL AUTOMATIC CONTROL AND 50% MANUAL CONTROL.
- SWITCH POWER PACK (1) PRIMARY (4) SECONDARY SENSORS.

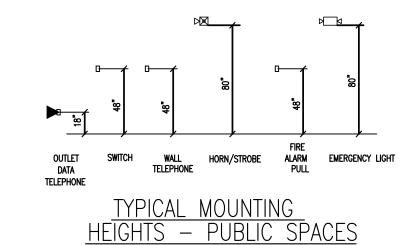
   MANUAL (VACANCY/ AUTOMATIC) OCCUPANCY MODE SWITCH.

   120-277V-20A SWITCHING.

   SINGLE SWITCHING.

   BEG MODEL PP-1

2012 I	ECC Lighting Po	wer	Density Co	omp	liance
Fixture Type	VA per Light		Quantity		Total VA
A		40		15	600
B/B1		48		2	96
					C
					C
					C
					C
					C
					C
					C
					C
					C
					C
					C
Total Design Wa	ttage	·			696
Total Square Foo	otage				830
Design VA per	Square Foot				8.0
IECC MAXIMUN	WATTS PER S	QUA	RE FOOT		1.3



#### SYMBOLS LIST

2x4 FLUORESCENT PARABOLIC EMERGENCY LIGHTING FIXTURE. 2x4 FLUORESCENT PARABOLIC LIGHTING FIXTURE. 2x2 FLUORESCENT PARABOLIC EMERGENCY LIGHTING FIXTURE. 2x2 FLUORESCENT PARABOLIC LIGHTING FIXTURE. 2x4 FLUORESCENT DIRECT/ INDIRECT EMERGENCY LIGHTING FIXTURE. 2x4 FLUORESCENT DIRECT/ INDIRECT LIGHTING FIXTURE.

2x2 FLUORESCENT DIRECT/ INDIRECT EMERGENCY LIGHTING FIXTURE. 2x2 FLUORESCENT DIRECT/ INDIRECT LIGHTING FIXTURE.

 $\Delta\Delta\Delta$ TRACK LIGHT

PENDANT LIGHT FIXTURE. FLUORESCENT STRIP LIGHTING FIXTURE. FLUORESCENT STRIP EMERGENCY LIGHTING FIXTURE. DOWNLIGHT LIGHTING FIXTURE.

WALL MOUNTED LIGHTING FIXTURE WALL MOUNTED EMERGENCY LIGHT FIXTURE. WALL MOUNTED FLUORESCENT LIGHTING FIXTURE

POLE MOUNTED 1 OR 2 HEAD LIGHT FIXTURE. DOWNLIGHT WALL WASH LIGHT FIXTURE.

EXIT LIGHTING FIXTURE—SINGLE FACE — WITH INTEGRAL BATTERY OR CONNECTED TO EMERGENCY CIRCUIT — CEILING OR WALL MOUNTED — ARROWS INDICATE DIRECTION — LED TYPE. COMBINATION OF EMERGENCY LIGHT FIXTURE WITH BATTERY PACK.

EXIT LIGHTING FIXTURE-DOUBLE FACE-WITH INTEGRAL BATTERY OR CONNECTED TO EMERGENCY CIRCUIT. REMOTE EMERGENCY LIGHT BATTERY PACK. PROVIDE WITH ACCESS PANEL AS REQUIRED. EMERGENCY LIGHT - 2 HEAD WITH 90 MINUTE BATTERY. UNIT TO COMPLY WITH NEC.

SINGLE POLE FLUSH DIMMER SWITCH SLIDING TYPE + 48" AFF. SINGLE POLE FLUSH TOGGLE SWITCH. +48" AFF DENOTES 50% SWITCHING OF FIXTURES BY EACH SWITCH. (INCLUDES 3-WAY SWITCHING)

3-WAY FLUSH TOGGLE SWITCH. 4-WAY FLUSH TOGGLE SWITCH. THERMAL MOTOR SWITCH-SIZE AS REQUIRED. KEYED SWITCH

SINGLE POLE FLUSH TOGGLE SWITCH WITH OCCUPANCY SENSOR +48" AFF, DUAL TECHNOLOGY. VACANCY SENSOR WITH 'ON' WALL SWITCH PER IECC

CEILING MOUNTED OCCUPANCY SENSOR. COOPER CONTROLS - VOLTAGE AS REQUIRED, DUAL TECHNOLOGY. SWITCH PACK COOPER CONTROLS SP20-MV.

HIGH BAY OCCUPANCY SENSOR — LEVITON PIR HIGH BAY SENSOR 120/277/480V SUITABLE — 24V SUITABLE WHEN USED WITH SUPER DUTY <u>POWER PACK</u> LEVITON SUPER DUTY POWER PACK. OPP20 - SUITABLE FOR USE WITH PIR HIGH BAY SENSOR - 20A 120/277/480V

DUPLEX RECEPTACLE TO BE MOUNTED AT 18" A.F.F., U.O.N. 120V 20 AMP NEMA 5-20R CEILING RECEPTACLE WALL OUTLET WITH DOUBLE DUPLEX RECEPTACLE- 2P, 3W, 125V, GROUNDING TYPE

DUPLEX RECEPTACLE MOUNTED 44" AFF SPECIAL RECEPTACLE. SEE ELECTRICAL POWER SCHEDULE FOR DETAILS DUPLEX RECEPTACLE WITH GROUND FAULT INTERRUPTER PROTECTION LEVITON 8599-I.

ISOLATED GROUND CEILING MOUNTED DUPLEX RECEPTACLE ISOLATED GROUND DUPLEX RECEPTACLE 18" A.F.F. DUPLEX RECEPTACLE, 2P, 3W, 125V, 20A, COLOR WHITE WITH THE TOP HALF SWITCHED. WEATHER PROOF GFI DUPLEX RECEPTACLE

TAMPER RESISTANT DUPLEX RECEPTACLE 125V, 20A, PER NEC 406.12. **₽**C HOSPITAL GRADE DUPLEX RECEPTACLE 125V, 20A WITH HCFC CABLE <del>Ф</del> н SINGLE RECEPTACLE MOUNTED AT 44" 2P, 3W, 20A, 125V.

MECHANICAL CONTROL 120V CONNECTION MTD. ABOVE CEILING. DATA WALL OUTLET (+18"AFF) WITH ONE INCH EMPTY CONDUIT W/ PULL STRING UP TO 4" ABOVE CEILING. -STRING SHALL BE TAGGED FOR INDIFICATION. HIGH SPEED INTERNET CONNECTION.

POWER AND DATA COMBINATION FLOOR BOX. WIREMOLD #RC7ATCBS/COM 75 OVERHEAD PROJECTOR DATA & POWER. QUAD POWER AND DATA COMBINATION FLOOR BOX. WIREMOLD #RC4ATCBS/COM 75

4" ABOVE CEILING. CONDUIT NOT REQUIRED ABOVE CEILING. VOICE WALL OUTLET (+18" AFF) WITH ONE INCH EMPTY CONDUIT W/ PULL STRING STUBBED ABOVE CEILING. -STRING SHALL BE TAGGED FOR INDIFICATION. "W" DENOTES 48" AFF, H INDICATES HOUSE PHONE.

ISOLATED, INSULATED GROUND FOR I. G. RECEPTS. CONCEALED BRANCH CIRCUIT WIRING IN WALLS OR ABOVE CEILING-CROSSMARKS AND NUMERALS INDICATE NUMBER AND AWG SIZE OF CONDUCTORS RESPECTIVELY—

TEL/DATA OUTLET (18" AFF) WITH ONE 1 INCH EMPTY CONDUIT WITH PULL STRING UP TO

2#12 AWG + 1#12 AWG G IMPLIED WHEN RUN IS UNMARKED. CONCEALED WIRING IN SLAB. HOMERUN WIRING TO DESIGNATED PANELBOARD-NUMERALS INDICATE CIRCUIT NUMBERS. SEE FEEDER CONNECTION SIZE SCHEDULE.

MAKE FINAL CONNECTION 208/120 VOLT PANELBOARD 480/277 VOLT PANELBOARD

MOTOR CONNECTION. SAFETY SWITCH: FSS FUSIBLE, NFSS-NONFUSIBLE. COMBINATION STARTER DISCONNECT SWITCH.

MOTOR STARTER +60" AFF.- FURNISHED UNDER MECHANICAL WORK. INSTALLED AND FINAL CONNECTION UNDER ELECTRICAL WORK. HO O J JUNCTION BOX WALL, CEILING OR FLOOR MOUNTED

MOTORIZED DAMPER COORDINATE ELECTRICAL REQUIREMENTS WITH MECHANICAL CONTRACTOR H●DB BUZZER PUSH BUTTON FOR AUDIO VISUAL DOOR BELL SYSTEM +48" AFF OVER RIDE SWITCH FOR AUDIO VISUAL DOOR BELL SYSTEM +48"AFF TRANSFORMER IN NEMA I ENCLOSURE FOR AUDIO VISUAL DOOR BELL SYSTEM MTD. ABV.

DDB DOOR BUZZER WITH VISUAL DEVICE FOR VISUAL DOOR BELL SYSTEM +80AFF WALL MOUNTED TELEVISION OUTLET +7' AFF. FLUSH MOUNTED PHOTO CELL

WALL MOUNTED CONTACTOR ACCESS CONTROLS

WALL MOUNTED TIME CLOCK

CARD READER WITH 120V POWER SD SMOKE DAMPER - PROVIDE 120V POWER - COORDINATE WITH MECHANICAL CONTRACTOR

PP POWER POLE HFHT FURNITURE POWER TELE/DATA FEED FROM WALL +18" A.F.F., COORDINATE WITH FURNITURE LAYOUT. FLOOR FIT FURNITURE POWER/TEL/DATA FEED FROM FLOOR, COORDINATE WITH FURNITURE LAYOUT WIREMOLD #4FFATCBS DUAL SERVICE FURNITURE FEED POKE-THRY SERIES WITH ALL REQUIRED ACCESSORIES. FSS FUSED SAFETY SWITCH

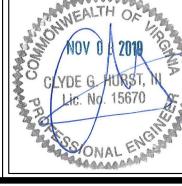
LETTERS NEXT TO RECEPTACLES, VOICE AND DATA OUTLETS SHALL DENOTE AS FOLLOWS: W = WALL MOUNTED +48" AFF.

NFSS NON-FUSED SAFETY SWITCH CP = CHILD PROOF 1. THE LETTERS NEXT TO EACH LIGHTINGS FIXTURE INDICATES LIGHTING FIXTURE TYPE SHOWN ON LIGHTING FIXTURE SCHEDULE.

### HURST ENGINEERS

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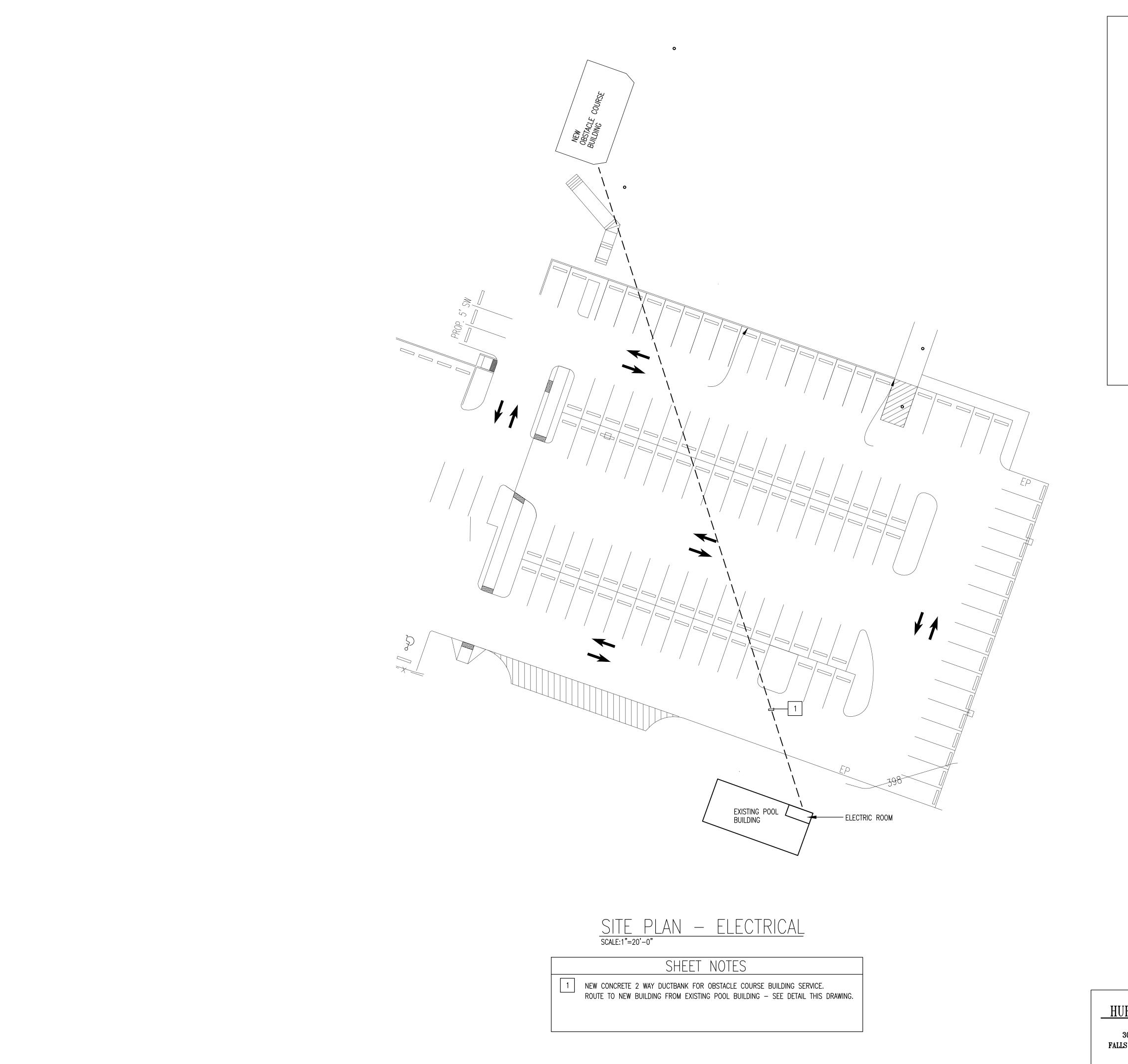
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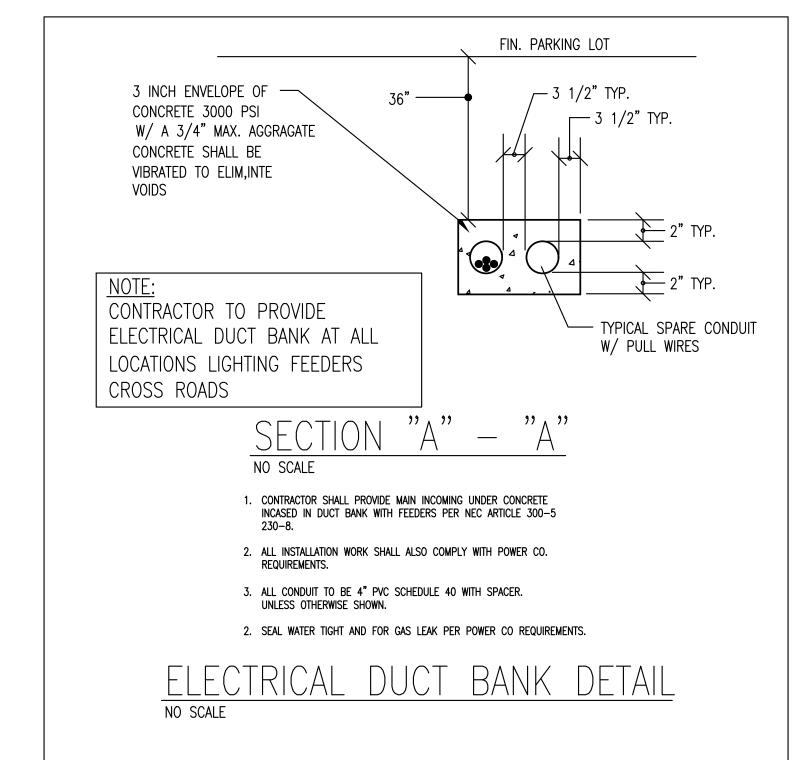


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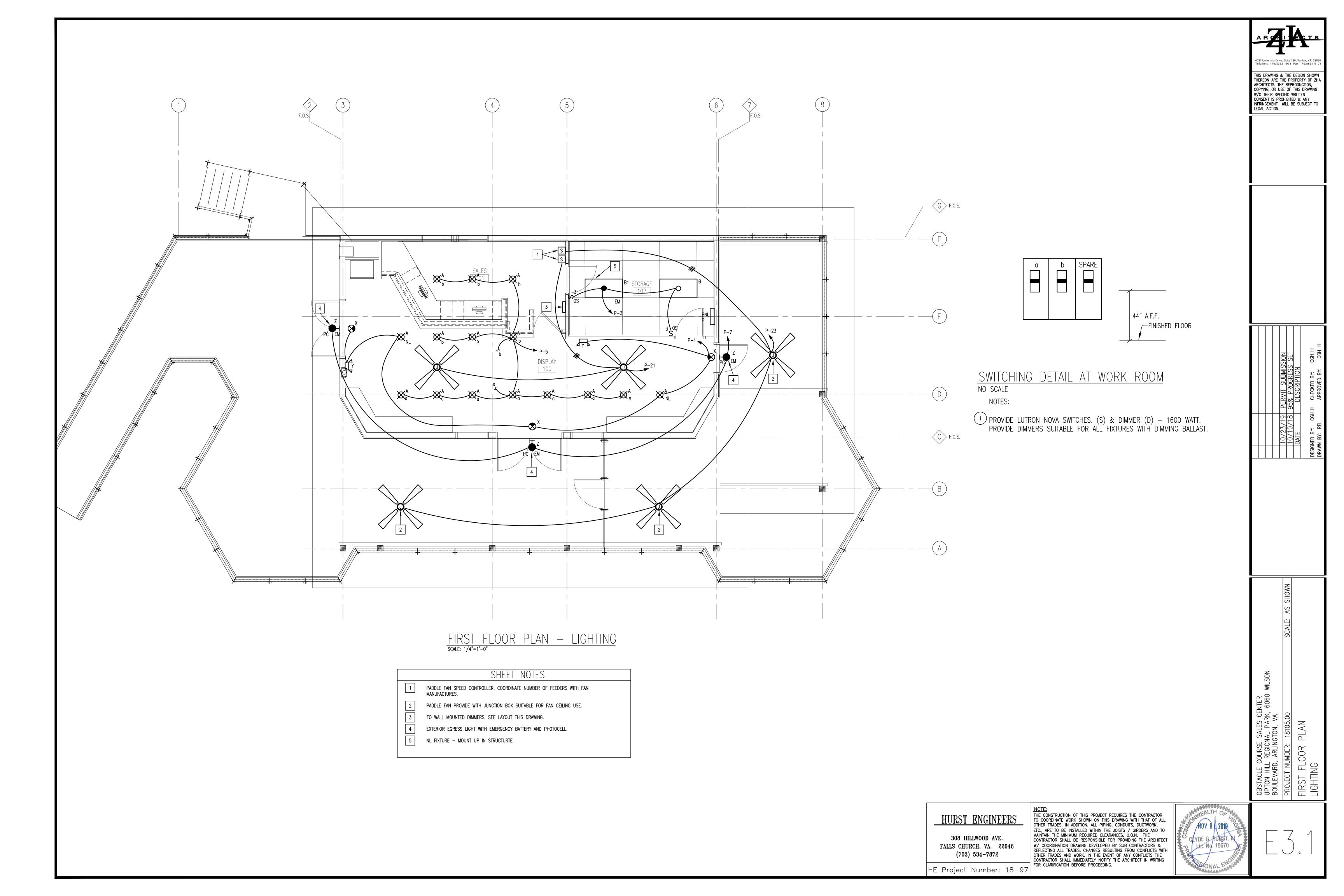
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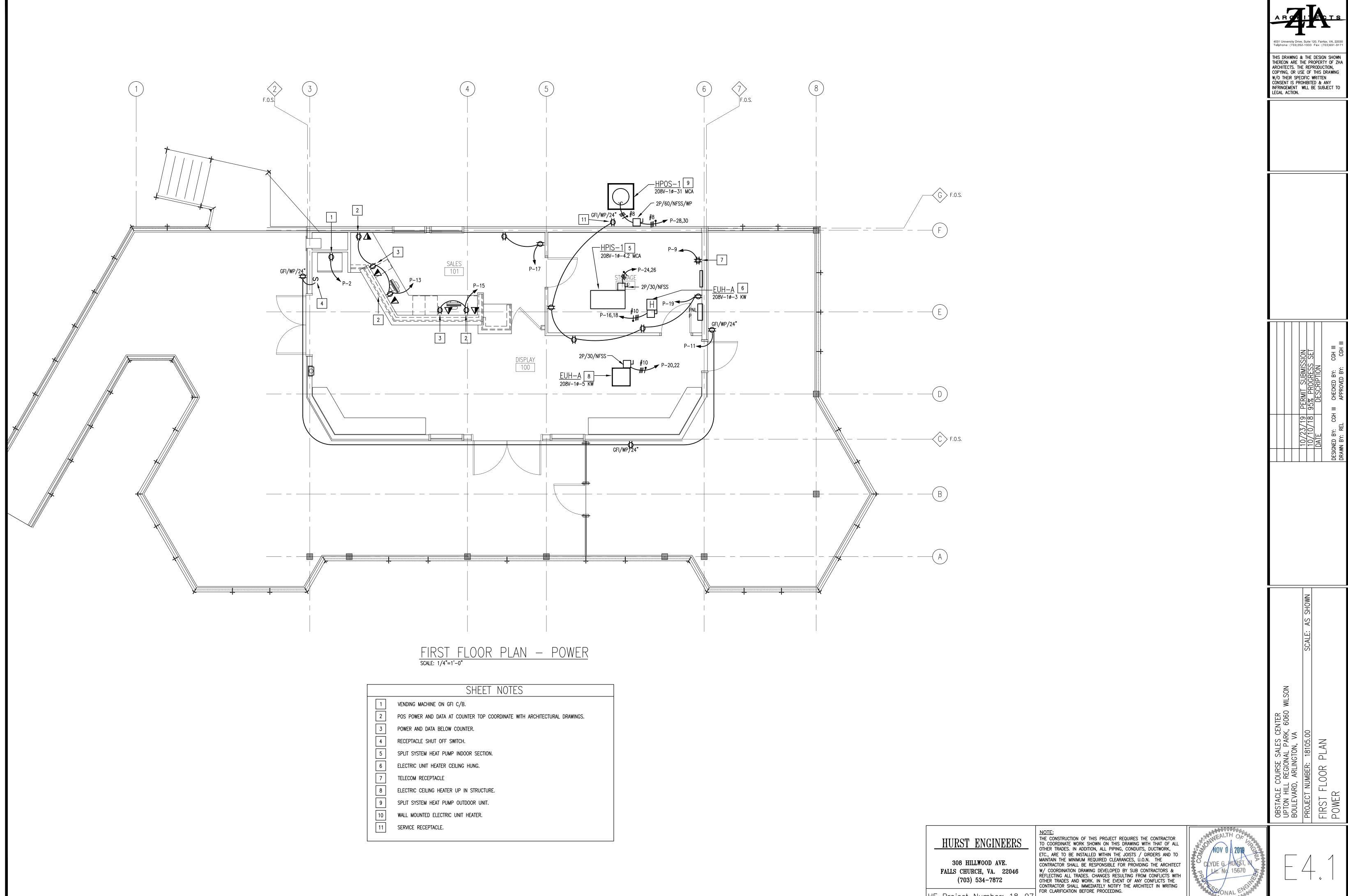
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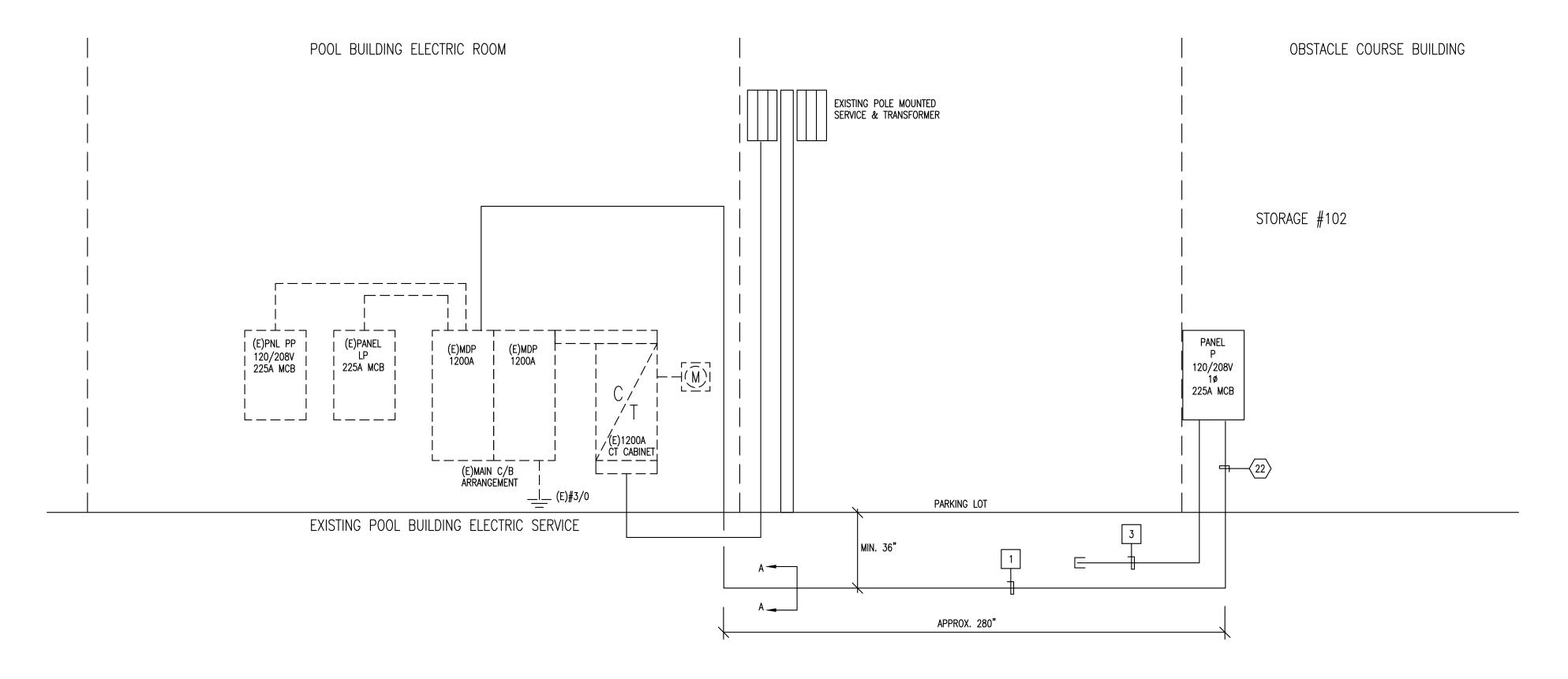
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# POWER RISER DIAGRAM — ELECTRICAL

	RISER NOTES
1	(2)WAY CONCRETE DUCTBANK — SEE DETAIL.
2	NEW OBSTACLE COURSE BUILDING ELECTRIC PANEL,
3	(2)4"C. WITH PULLSTRING CAPPED FOR FUTURE BATTERY CAGE.

### LEGEND OF FEEDER SIZES-COPPER CONDUCTORS

FEEDER SYMBOL	CONDUCTORS ( 3 PHASE, 3 WIRE) WITH GROUND	RACEWAY SIZE	CONDUCTORS ( 3 PHASE, 4 WIRE) WITH GROUND	RACEWAY SIZE	NOMINAI AMPERE RATING
1	3#6 & 1#10 GND.	1"	4// 0 0 4/// 0 00:5	4 22	60
2		. 99	4# 6 & 1#10 GND.	1"	
3	3#4 & 1#8 GND.	1"			70
4			4# 4 & 1#8 GND.	1 <sup>1</sup> / <sub>4</sub> "	
<u> </u>	3# 1 & 1#6 GND.	1 1/4 "			100
<u> </u>			4#2 & 1#6 GND.	1 <sup>1</sup> /2 "	
<u> </u>	3# 1 & 1#6 GND.	1 1/2 "			125
<b>(8</b> )			4#1 & 1#6 GND.	1 <sup>1</sup> /2 "	123
$\langle 9 \rangle$	3# 1/0 & 1#6 GND.	1 ½ "			450
(10)			4#1/0 & 1#6 GND.	2"	150
(11)	3# 2/0 & 1#6 GND.	2"			
(12)	" , "		4# 2/0 & 1#6 GND.	2"	175
(13)	3# 3/0 & 1#6 GND.	2"	" , "	_	
14	0# 3/0 & 1#0 GND.		4# 3/0 & 1#6 GND.	2"	200
(15)	7 // 4 /O 9: 1 //4 OND	- "	+# 3/0 & 1#0 GND.	2	
$\longrightarrow$	3# 4/0 & 1#4 GND.	2"	4 " 4 (0 0 4 "4 0)   0	01/ "	225
(16)			4# 4/0 & 1#4 GND.	21/2 "	
<u> </u>	3-250 KCMIL & 1#4 GND.	21/2 "			250
<u> </u>			4-250 KCMIL & 1#4 GND.	3"	
<b>(</b> 19 <b>)</b>	3-350 KCMIL & 1#4 GND.	<b>3"</b>			700
(20)			4-350 KCMIL & 1#4 GND.	3"	300
(21)	3-500 KCMIL & 1#3 GND.	3"			
(22)	"		4-600 KCMIL & 1#3 GND.	4"	350
23>	3-600 KCMIL & 1#3 GND.	3"	T SSS NOME & THE SILE.	<u>'</u>	
24	3 COC NOME & 1#3 CIVE.	<u> </u>	4-600 KCMIL & 1#3 GND.	4 27	400
(25)	C 250 KOMIL 9- 2//2 CND	2-21/2"	4-000 KCMIL & 1#3 GND.	4"	
$\rightarrow$	6-250 KCMIL & 2#2 GND.	2-2 72			500
(26)			8-250 KCMIL & 2#2 GND.	2-3"	
(27)	6-350 KCMIL & 2#1 GND.	2-3"			600
(28)			8-350 KCMIL & 2#1 GND.	2-3"	
<b>(</b> 29 <b>)</b>	6-600 KCMIL & 2#1/0 GND.	2-4"			000
(30)			8-600 KCMIL & 2#1/0 GND.	2-4"	800
(31)	9-400 KCMIL & 3#2/0 GND.	3-3"			
32			12-400 KCMIL & 3#2/0 GND.	3–3"	1000
33>	9-600 KCMIL & 3#3/0 GND.	3-4"	" ,		
(34)			12-600 KCMIL & 3#3/0 GND.	3-4"	1200
$\longrightarrow$			12-000 KCMIL & 3#3/0 GND.	5-4	
(35)	12-600 KCMIL & 4#4/0 GND.	4-4"		,	1600
(36)	1		16-600 KCMIL & 4#4/0 GND.	4-4"	
(37)	15-600 KCMIL & 5-250 KCMIL GND.	5-4"			2000
(38)			20-600 KCMIL & 5-250 KCMIL GND.	5-4"	
(39)	18-600 KCMIL & 6-350 KCMIL GND.	6-4"			2500
<b>40</b>			24-600 KCMIL & 6-350 KCMIL GND.	6-4"	2500
<b>41</b>	24-600 KCMIL & 8-400 KCMIL GND.	8-4"			
42			32-500 KCMIL & 8-400 KCMIL GND.	8-4"	3000
43>	24-600 KCMIL & 8-500 KCMIL GND.	8-4"			
44>	3,13,12		32-600 KCMIL & 8-500 KCMIL GND.	8-4"	3200
45	27-600 KCMIL & 9-500 KCMIL GND.	9-4"	12 555 Nomine of the Nomine of	- '	
\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	2. 333 Nomine & 3 330 Nomine OND.	J T	36-600 KCMIL & 9-500 KCMIL GND.	9-4"	3500
$\rightarrow$			50-000 NOMIL & 9-300 NOMIL GND.	9-4	
(47)	30-600 KCMIL & 10-500 KCMIL GND.	10-4"			4000
<b>48</b>			40-600 KCMIL & 10-500 KCMIL GND.	10-4"	
$\overline{}$	REFER TO TRANSFORMER FEEDER SCHEDUL	F PRIMARY SID	F INFORMATION		
$\langle A \rangle$	INCIDENTIAL TO THATAST ON WIEN TEEDER SCHEDOL				

MECHANICAL/ELECTRICAL COORDINATION REQUIREMENTS

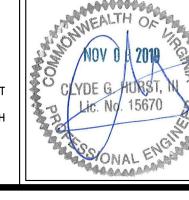
MECHANICAL CONTRACTOR WITHIN 20 CALENDAR DAYS OF RECEIPT OF CONTRACT TO PROVIDE TO THE ELECTRICAL CONTRACTOR A COMPLETE SET OF MECHANICAL EQUIPMENT SHOP DRAWINGS FOR ALL MECHANICAL EQUIPMENT REQUIRING ELECTRICAL CONNECTIONS OR POWER. SHOP DRAWINGS SHALL SHOW ALL REQUIRED ELECTRICAL CONNECTIONS, MINIMUM CIRCUIT AMPS, WIRE SIZES, OVER CURRENT PROTECTION, CONNECTION TYPES AND ANY OTHER INFORMATION REQUIRED FOR THE PROPER EQUIPMENT INSTALLATION AND OPERATION.

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# HURST ENGINEERS

308 HILLWOOD AVE. (703) 534-7872

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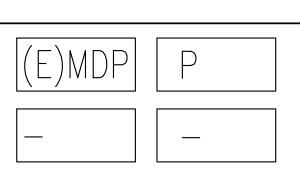
FALLS CHURCH, VA. 22046

|HE Project Number: 18-97

			Pa	ane	elbo	ard	Sc	hed	lule					Тур	oe and	d Siz	e S	pe	cific	ations
POOL BLDG. (E) MDP	Pa	nel	Loca	ation	ELEC	TRIC	RM-F	POOL E	BLDG.		Voltage	120	/208	Surface Mou	nt Exi	sting			3 PI	hase - 4 Wire - Copper Bussing
1897_(E)MDP.xls	_				DVP (					_			9							AIC 65K
				li	tem Loa	ad in V	Α	Pł	nase Lo	ads	Ph	ase Loa	ads	Item L	oad in V	A				
Load Name	Pole	s Trip	_	Rec	Light	Mech	Misc	A	В	С	Α	В	С	Rec Light	t Mech	Misc	_ F	oles	Trip	Load Name
(E) WATER HEATER (36 KW	) 3	125	1					0			0						2	3	100	SLIDE TURBINE 20 HP (E)
			_ 3						0			0					4			
			_ 5_							0			0				6			
(E) PANEL F	3	200	7					0			0						8	3	70	SPARY PAD TURBINE 15 HP (E)
			9						0			0					10			
			11							0			0				12			
(E) PANEL LE	2 _3	200	_ 13					0			0						14	3	60	SPRAY PAD FILTER PUMP 10 HP (E)
			15						0			0					16			
		. —	_ 17							0			0				18			
(2) SPARI	3	100	_ 19					0			0									POOL ACTIVITY PUMP 7.5 HP (E)
			21						0			0					22			
		. —	_ 23							0			0				24			
(1) OBSTACLE COURSE BUILDING	3	225	_ 25					0			0						_26	3_	<u>50</u>	BUCKET PUMP 5 HP (E)
			_ 27						0			0		<b> </b>			28			
			_ 29							0			0	<b> </b>			30			
(E) MINI GOLI	= 3	400	31					0			0									LAP POOL PUMP 10 HP (E)
			33						0			0		<b> </b>			34			
			35							0			0				36			
(E) CONCESSION PANE	2	60	37					0			0						38	3_	60	POOL PUMP 10 HP (E)
			39						0			0					40			
SPACE ONLY W/ PROV'S	. 1		41							0			0				42			
SPACE ONLY W/ PROV'S	<u>. 1</u>		_ 43					0			0							_	100	SHOP POWER (E)
SPACE ONLY W/ PROV'S	<u>. 1</u>		45						0			0					46			
SPACE ONLY W/ PROV'S			47							0			0					1_		SPACE ONLY W/ PROV'S.
SPACE ONLY W/ PROV'S	. 1		49					0			0					-	50	1_		SPACE ONLY W/ PROV'S.
SPACE ONLY W/ PROV'S		-	51						0			0		+				1_		SPACE ONLY W/ PROV'S.
SPACE ONLY W/ PROV'S	. 1		53							0			0				_54	1_		SPACE ONLY W/ PROV'S.
		To	otals																	
D	emar	nd Lo	ad C	alcula	ations						Phase	Totals	s - KV	/A	F	Panel	Size	Ca	lcula	itions
Lighting Loa	d	0			0	calc at	125%		]		Α	0.00		To	tal Den	nand L	oad		0	
Recepticle Loa	d b	0	_		0	10 KV	A @ 10	0%			В	0.00			Factore	ed Volt	tage		360	
					0	remai	ning ba	l @50%			С	0.00		To	tal Dem	and A	mps		0.0	
Mechanical Loa	_ b	0					100%				Total	0.00			hest Ph				0.0	
Misc Circuit Loa	b	0			0	calc at	100%								ected L				0.0	
Misc	2				0	calc at	100%							S	Spare C	apacit	ty %		0%	
Misc	3				0	calc at	100%	_												
					0	Total [	Demano	l Load							P	anel A	mps		0	Amps required to be at 80% capacity of Demand per NEC
	s (1)	) EX	LISTII		0 PARE	Total [	Demand	I Load			REPLAC			IEW 225AMF	Pi	anel A	mps <sub>.</sub>			

			F	an	albo	ard	Sc	hed	ule					Тур	e and	l Size	e S <sub>l</sub>	peo	cific	ations
STACLE COURSE BLDG. 'P'	Da	nal	-					iioa	GIO .	\/altana	120	/200			l NI-				4 0	Name 2 Mira Compar Duccing
	Га	HEI								Voltage			-	rface	N∈			_		Phase - 3 Wire - Copper Bussing
1897_P.xls			Fe	ed fro	MDP	- POO	L BUILI	DING		Main Size	225	Amp	Main C	Circuit E	Breake	Fee	der <u>s</u>	See	Risei	AIC 44K
						ad in VA		Phas	se Loads	Pha	ase Loa		Į.	Item Lo	ad in VA	4				
		s Trip		Rec		Mech	Misc	Α	В	ľ	A	В	Rec	Light	Mech					Load Name
(1) EMERGENCY/ NL LIGHTS					360			360				1400				1400				VENDING MACHINE (1) (2)
STORE ROOM LIGHTS			_		90			4400	90		0									SPARE
SALES LIGHTS				<u> </u>	1120			1120	400		-	0								SPARE
(1) EXTERIOR EGRESS LTS					120		000	000	120		0						_		-	SPARE
TELECOM RECEPT			_				800	800	- 10		_	0		1						SPARE
EXTERIOR RECEPT								540	540		0						_	2	_30_	SPARE
SALES RECEPT			-					540	5.40		4500	0			4500		14 _			
SALES RECEPT			_					F40	540		1500	4500			1500					ECH-A
SALES RECEPT								540	000		2502	1500		1	1500		18 _			(208V-1PH-3 KW)
STORAGE RECEPT			_				4000	4000	900		2500	0500			2500			2	_30_	EUH-A
PADDLE FANS INTERIOR							1000	1000	1000		2200	2500			2500		22 _	_		(208V-1PH- 5 KW)
PADDLE FANS EXTERIOR							1000		1000		2200	0000			2200			2	15	HPIS-1
SPARE								0			2222	2200			2200		26 _			(208V-1PH-4.2 MCA)
SPARE			_						0		2200	0000	-		2200		_	2	_40_	HPOS-1
SPARE								0				2200			2200		30 _			(208V-1PH-31 MCA)
SPARE									0		0	•					_			SPARE
SPARE			_					0				0		-			_		-	SPARE
SPARE			_					_	0		0	_					_			SPARE
FUTURE BATTERY CAGE	3	100	37					0				0					_		-	SPARE
	. —	- —	_ 39						0		0						_			SPARE
			_ 41					0				0					42 _	1_	20	SPARE
		Т	otals	3060	1690		2800	4360	3190	[	8400	9800			16800	1400				
De	man	ıd Lo	ad	Calcu	ations					Phase	Totals	s - KV/	4		F	anel S	Size	Ca	lcula	ations
Lighting Load		1,690	)		2,113	calc at	125%		]	Α	12.76			Tot	al Dem	and Lo	oad	26,	,173	
Recepticle Load	,	3,060	)		3,060	10 KV/	A @ 100	%		В	12.99			F	actore	d Volta	age _		208	
					0	remaii	ning bal	@50%						1	al Dema				25.8	
Mechanical Load	10	6,800	)		16,800	calc at	100%			Total	25.75			High	est Ph	ase An	nps	10	08.3	
Misc Circuit Load		4,200	<u>)</u>			-	100%							Conne					23.8	
Misc 2			_		0	calc at	125%							Sp	oare Ca	apacity	<b>%</b> _		0%	
Misc 3					0	calc at	100%								Da	nel An	one		157	Amps required to be at 80%
					26,173	Total D	emand	Load							1.0	IIICI AII	nps_		107	capacity of Demand per NEC
General Notes	(1)	) PF	<b>?</b> 0\	/IDE (	c/B LO	CK	(2) G	FI C/B	] B											

DEMAND U	JSAGE PER	NEC 220.87
MONTH	DEMAND (KW	) AMPS
1	12	32
2	12	34
3	28	78
4	37	102
5	67	186
6	116	322
7	119	331
8	114	316
9	111	308
10	34	94
11	11	31
12	11	31
MAXIMUM 12 MO	NTH DEMAND	119 KW
PER NEC 119 K	W X 1.25 =	149 KW (413 A)
NEW LOAD		25.9  KW = (72  A)
TOTAL DEMAND L	LOAD	175 KW (486 A)



### MECHANICAL/ELECTRICAL COORDINATION REQUIREMENTS

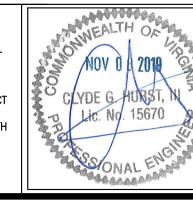
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RK, 6060 WILSON
VA
SCALE:

OBSTACLE COURSE SALES CENTER
UPTON HILL REGIONAL PARK, 6060 W
BOULEVARD, ARLINGTON, VA
PROJECT NUMBER: 18105.00
PANELBOARD SCHEDULES
ELECTRICAL