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# SHERWIN WILLIAMS

12360 W. SH 29, LIBERTY  
HILL, TX, 78642



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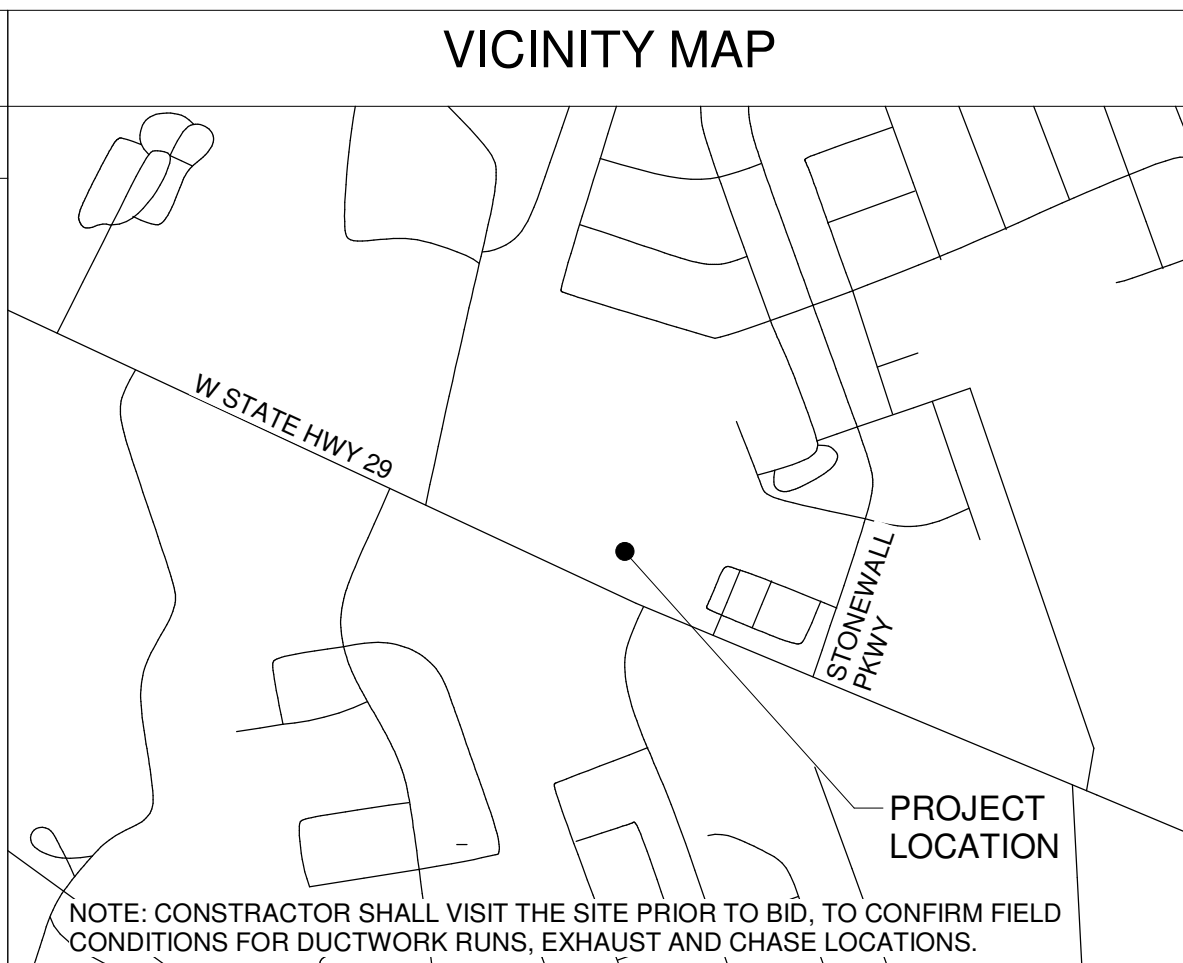
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PROJECT #:  
DRAWN BY: BA  
CHECKED BY: MP

CONSTRUCTION PHASE NOTE	
<b>ARCHITECT'S DESIGN WITHOUT CONSTRUCTION PHASE SERVICES</b>	
<p>SINCE DIRECT CONSTRUCTION OBSERVATIONS AND REVIEW OF THE CONTRACTOR'S PERFORMANCE IS NOT INCLUDED AS PART OF THE ARCHITECT'S BASIC SERVICES, IT IS UNDERSTOOD THAT SUCH RESPONSIBILITIES WILL BE ASSUMED BY OTHERS. LINGLE DESIGN GROUP, INC. AVAILS ITSELF TO THE CLIENT, THE CONTRACTOR, AND ANY OTHER PARTIES AS NECESSARY (VIA TELEPHONE, FAX, AND EMAIL) IN ORDER TO ASSIST IN PROVIDING CLARIFICATIONS OR RESOLVING ISSUES AND PROBLEMS THAT MAY ARISE. ALTHOUGH MANY ISSUES CAN BE EASILY ADDRESSED WITHOUT THE ARCHITECTS INVOLVEMENT, THERE ARE TIMES WHEN PARTICIPATION IS ADVISABLE. DETERMINATION OF WHEN INVOLVEMENT IS APPROPRIATE IS LEFT TO THE PROFESSIONAL DISCRETION OF THE CONTRACTOR. IT IS UNDERSTOOD THAT THE CLIENT AND/OR THE CONTRACTOR ASSUMES ALL RESPONSIBILITY FOR INTERPRETATION OF THE DRAWINGS, AND ANY OTHER SUPPLEMENTAL INFORMATION, AND WHEN THE ARCHITECT IS DENIED THE OPPORTUNITY TO PROVIDE CLARIFICATIONS OR PARTICIPATE IN CHANGES TO THE DESIGN OR THE RESOLUTION OF ISSUES OR PROBLEMS, ALL PARTIES WAIVE ANY CLAIMS AGAINST THE ARCHITECT THAT MAY BE IN ANY WAY CONNECTED THERETO. LINGLE DESIGN GROUP, INC. IS HELD HARMLESS FROM LOSS, CLAIM, OR COSTS ARISING OR RESULTING FROM MODIFICATIONS OR CHANGES MADE TO THE DESIGN (WITHOUT THE KNOWLEDGE OF THE ARCHITECT) DUE TO CONDITIONS OR CIRCUMSTANCES (ANTICIPATED OR NOT) BEYOND THE ARCHITECT'S CONTROL.</p>	



STATEMENT OF COMPLIANCE	
I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED UNDER MY DIRECT SUPERVISION AND TO THE BEST OF MY KNOWLEDGE AND BELIEF COMPLY WITH ALL APPLICABLE LAWS, CODES & ORDINANCES.	
SIGNATURE:	
	ARCHITECT
REGISTRATION NO.:	18179
DATE:	30 / SEP / 2024

SYMBOL LEGEND		
	DETAIL NUMBER	
	SHEET NUMBER	
	WALL SECTION MARKER	
	BUILDING SECTION MARKER	
	ELEVATION MARKER	
	DETAIL NUMBER	
	SHEET NUMBER	
	DETAIL MARKER	
	ELEVATION MARKER	
	FINISH TYPE MARK	
	DOOR TYPE	
	WINDOW TYPE	
	ELEVATION MARKER	

CODE / BUILDING INFORMATION	
BUILDING CODES:	
BUILDING:	2015 INTERNATIONAL BUILDING CODE
MECHANICAL:	2015 INTERNATIONAL MECHANICAL CODE
ELECTRICAL:	2017 NATIONAL ELECTRICAL CODE
PLUMBING:	2015 INTERNATIONAL PLUMBING CODE
FUEL GAS:	2015 INTERNATIONAL FUEL GAS CODE
FIRE:	2015 INTERNATIONAL FIRE CODE
ENERGY:	2015 INTERNATIONAL ENERGY CONSERVATION CODE
ACCESSIBILITY:	2009 ICC/ANSI A117.1
BUILDING INFORMATION:	
CONSTRUCTION TYPE:	V-B
SCOPE OF WORK:	NEW CONSTRUCTION
FLOOR AREA:	4,499 SQ. FT.
STORIES / HEIGHT:	1 STORY / 24' - 6"
FIRE PROTECTION:	PORTABLE FIRE EXTINGUISHERS
INTERIOR FINISHES:	CLASS A FLAME SPREAD RATING
NUMBER OF EMPLOYEES:	4
OCCUPANCY:	M (MERCANTILE) - OCCUPANT LOAD: 71

PERMIT SET - 11/15/2023	

ABBREVIATIONS																			
#	FOUND OR NUMBER	C.M.	CONSTRUCTION MANAGER	DN	DOWN	FEC	FIRE EXTINGUISHER	HTG.	HEATING	M.H.	MANHOLE	OFOI	OWNER FURNISHED / OWNER INSTALLED	R.A.	RETURN AIR	SLP.	SLOPE	TINT	TINTED
(E)	EXISTING	C.M.U.	CONCRETE MASONRY UNIT	DW	DISHWASHER	CABINET		HVAC	HEATING / VENTILATION / AIR CONDITIONING	M.O.	MASONRY OPENING	OH.	OVERHEAD	R.D.	ROOF DRAIN	SPEC.	SPECIFICATION	TMPD	TEMPERED
(N)	NEW	CJ	CEILING JOIST	DWG.	DRAWING	FIN.	FINISH			M.A.S.	MASONRY	OPG.	OPENING	R.H.	RIGHT HAND	SPKR	SPEAKER	TOL	TOLERANCE
+	PLUS OR MINUS	CO	CLEANOUT			FIXT.	FIXTURE	I.D.	INSIDE DIAMETER	MATL.	MATERIAL	OPP.	OPPOSITE	R.O.	ROUGH OPENING	SQ.	SQUARE	TYP.	TYPICAL
@	DIAMETER	CJ	CONTROL JOINT	E.	EAST	FLOUR.	FLOURESCENT	IN.	INCH	MAX.	MAXIMUM	OPQ.	OPAQUE	R.O.W.	RIGHT OF WAY	SS	STAINLESS STEEL	U.N.O.	UNLESS NOTED OTHERWISE
		CL	CENTER LINE	E.P.	ELECTRIC PANEL	FLR.	FLOOR	INSUL.	INSULATE / INSULATION	MECH.	MECHANICAL	P.L.	PROPERTY LINE	RAD.	RADIUS	SS.	STAINLESS STEEL	UNFIN.	UNIFORM BUILDING CODE
A.B.	ANCHOR BOLT	CLG.	CEILING	E.W.	EACH WAY	FND.	FOUNDATION	INT.	INTERIOR	MEMB.	MEMBRANE	P.P.T.	PARTITION	REF.	REFERENCE	STD.	STANDARD	UBC	UNIFORM BUILDING CODE
A.C.T.	ACOUSTICAL (CLG) TILE	CLR.	CLEAR	EA	EACH	FT.	FOOT/FEET	INV.	INVERT	MFR.	MANUFACTURE(ER)(ING)	REFR.	REFRIGERATOR	REIN.	REINFORCED	STD.	STANDARD	UNFIN.	UNFINISH(ED)
A.F.F.	ABOVE FINISH FLOOR	COL	COLUMN	EJ	EXPANSION JOINT	FTG.	FOOTING	J-BOX	JUNCTION BOX	MIN.	MINIMUM	REINFD.	REQUIRED	REQD.	REQUIRED	STL.	STEEL	V.B.	VINYL BASE
A.H.U.	AIR HANDLING UNIT	COMP	COMPOSITE	EL	ELEVATION	FUT.	FUTURE	JST.	JOIST	MISC.	MISCELLANEOUS	REINFT.	REINFORCED	RESIL.	RESILIENT	STRUC	STRUCTURAL	V.C.T.	VINYL COMPOSITION TILE
A.S.S.	AUTOMATIC SPRINKLER SYSTEM	CONC.	CONCRETE	ELEC.	ELECTRICAL	G.C.	GENERAL CONTRACTOR	JT.	JOINT	MOD.	MODULAR / MODULE	REINFT.	REINFORCED	RESIL.	RESILIENT	STRUC	STRUCTURAL	V.T.R.	VENT THROUGH ROOF
A.C	AIR CONDITIONING	COND	CONDENSING UNIT	EMER.	EMERGENCY	G.I.	GALVANIZED IRON	KO.	KNOCKOUT	MTD.	MOUNTED	REINFT.	REINFORCED	RESIL.	RESILIENT	STRUC	STRUCTURAL	VERT.	VERTICAL
ABV.	ABOVE	CONN.	CONNECTION	EQU.	EQUAL	GA.	GUAGE	KPL.	KICKPLATE	MTFR	METAL FURRING	REINFT.	REINFORCED	RESIL.	RESILIENT	STRUC	STRUCTURAL		
ACOUS.	ACOUSTICAL	CONSTR.	CONSTRUCTION	EQUIP.	EQUIPMENT	GL.	GLASS / GLAZING	L.	LENGTH	MTL.	METAL	REFR.	REFRIGERATOR	REV.	REVISION	T&G	TONGUE AND GROOVE	W.	WEST
ALUM.	ALUMINUM	CONT.	CONTINUOUS / CONTINUE	EXIS.	EXISTING	GLV.	GALVANIZED	L.B.	LAG BOLT	MUL.	MULLION	REFR.	REFRIGERATOR	RFG.	ROOFING	T.	TREAD	W.B.	WEATHER BARRIER
APPROX.	APPROXIMATE	CONTR.	CONTRACTOR	EXT.	EXTERIOR	GL.	GLASS / GLAZING	L.H.	LEFT HAND			REFR.	REFRIGERATOR	RM.	ROOM	T.B.D.	TO BE DETERMINED	W.C.	WATER CLOSET
ARCH.	ARCHITECT(URAL)	CTR.	CENTER			GND.	GROUND	L.L.	LEFT HAND			REFR.	REFRIGERATOR	RVRS.	REVERSE	T.O.B.	TOP OF BEAM	W.H.	WATER HEATER
		CU FT	CUBIC FOOT	F.F.	FINISH FLOOR	GR.	GRADE / GRADING	L.L.	LEFT HAND			REFR.	REFRIGERATOR			PSF	POUNDS PER SQUARE FOOT	W.M.	WIRE MESH
		CU YD	CUBIC YARD	F.H.	FIRE HYDRANT	GWB.	GYPSPUM WALL BOARD	L.L.	LEFT HAND			REFR.	REFRIGERATOR			PSI	POUNDS PER SQUARE INCH	W.R.	WATER RESISTANT
B.M.	BENCH MARK	CU FT	CUBIC FOOT	F.L.	FLOW LINE	GYP BD	GYPSPUM BOARD	L.L.	LEFT HAND			REFR.	REFRIGERATOR			PSI	POUNDS PER SQUARE INCH	W.T.	WALL TILE
B.O.C.	BOTTOM OF CURB	CU YD	CUBIC YARD	F.O.C.	FACE OF CONCRETE	GYP	GYPSPUM	L.V.L.	LIVE LOAD			REFR.	REFRIGERATOR			PSI	POUNDS PER SQUARE INCH	W.W.F.	WELDED WIRE FABRIC
BD.	BOARD	D.F.	DRINKING FOUNTAIN	F.O.F.	FACE OF FINISH	H.B.	HOSE BIB					REFR.	REFRIGERATOR			PSI	POUNDS PER SQUARE INCH	W.	WITH
BLDG.	BUILDING	D.S.	DOWNSPOUT	F.O.M.	FACE OF MASONRY	H.C.	HOLLOW CORE					REFR.	REFRIGERATOR			PSI	POUNDS PER SQUARE INCH	WO	WITHOUT
BLK.	BLOCK(ING)	D.S.	DOUBLE	F.O.S.	FACE OF STUD	H.M.	HOLLOW METAL					REFR.	REFRIGERATOR			PSI	POUNDS PER SQUARE INCH	WD.	WOOD
BLW.	BELOW	DEPT.	DEPARTMENT	F.O.S.H.	FACE OF SHEATHING	H.M.	HOLLOW METAL					REFR.	REFRIGERATOR			PSI	POUNDS PER SQUARE INCH	WSCT.	WAINSCOT
BRG.	BEARING	DET.	DETAIL	F.S.R.	FIRE SPRINKLER RISER	HDR.	HEADER					REFR.	REFRIGERATOR			PSI	POUNDS PER SQUARE INCH		
BRG. PL.	BEARING PLATE	DIA	DIAMETER	F.S.	FLOOR SINK	HDW.	HARDWARE					REFR.	REFRIGERATOR			PSI	POUNDS PER SQUARE INCH		
BS	BUILDING SECTION	DIAG	DIAGONAL	FCO	FLOOR CLEANOUT	HDWD.	HARDWOOD					REFR.	REFRIGERATOR			PSI	POUNDS PER SQUARE INCH		
		DISP	DISPENSER / DISPOSAL	FD	FLOOR DRAIN	HOR.	HORIZONTAL					REFR.	REFRIGERATOR			PSI	POUNDS PER SQUARE INCH		
		DL	DEAD LOAD	FE	FIRE EXTINGUISHER	HT.	HEIGHT					REFR.	REFRIGERATOR			PSI	POUNDS PER SQUARE INCH		

**SHERWIN WILLIAMS**

STORE #:  
XXXX

ADDRESS:  
12360 W. SH 29, LIBERTY  
HILL, TX, 78642

SHEET TITLE:  
Cover Sheet

SHEET NUMBER:  
**G001**

## DIVISION 1 - GENERAL CONDITIONS

### A. CONSTRUCTION OBSERVATION SERVICES

1. DIRECT CONSTRUCTION OBSERVATIONS AND REVIEW OF THE CONTRACTOR'S PERFORMANCE IS NOT INCLUDED AS PART OF THE ARCHITECT'S BASIC SERVICES. IT IS UNDERSTOOD THAT SUCH RESPONSIBILITIES WILL BE ASSUMED BY OTHERS. LINGLE DESIGN GROUP AVAILS ITSELF TO THE CLIENT, CONTRACTOR AND OTHER PARTIES AS NECESSARY (VIA TELEPHONE, FAX AND E-MAIL) IN ORDER TO ASSIST IN PROVIDING CLARIFICATIONS OR RESOLVING ISSUES AND PROBLEMS

### B. EXAMINATION

1. DRAWINGS AND SPECIFICATIONS ARE INTENDED TO BE COMPLEMENTARY. SPECIFIC INFORMATION MAY BE FOUND IN EITHER OR BOTH.
2. THE CONTRACTOR IS HEREBY SPECIFICALLY DIRECTED, AS A CONDITION OF THE CONTRACT, TO ACQUAINT HIMSELF WITH THE ARTICLES CONTAINED IN THE GENERAL NOTES, AND TO NOTIFY AND APPRISE ALL SUBCONTRACTORS AND ALL OTHER PARTIES OF THE CONTRACT OF, AND BIND THEM TO ITS CONDITIONS.
3. PRIOR TO SUBMITTING BID, GENERAL CONTRACTOR SHALL OBTAIN A COPY OF THE LEASE/TENANT AGREEMENT, AND ANY EXHIBITS THAT PERTAIN TO TENANT BUILD OUT. ALL INFORMATION SHALL BE NOTED FOR RESPONSIBILITIES AND COORDINATION.
4. DO NOT SCALE DRAWINGS. WRITTEN DIMENSIONS GOVERN PARTITION LOCATIONS, DIMENSIONS AND TYPES. DOOR AND WINDOW LOCATIONS SHALL BE AS SHOWN ON CONSTRUCTION PLAN. IN CASE OF CONFLICT, NOTIFY DESIGNER/ARCHITECT FOR WRITTEN CLARIFICATION PRIOR TO PROCEEDING WITH CONSTRUCTION.
5. ANY DETAILS OR NOTES REQUIRING FIELD VERIFICATION BY THE CONTRACTOR ARE TO BE DONE DURING THE BID PROCESS. DISCREPANCIES FOUND AFTER THE GENERAL CONTRACTOR IS SELECTED WILL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR AND CORRECTED AT THE GENERAL CONTRACTOR'S EXPENSE.
6. THE DESIGNER/ARCHITECT SHALL BE IMMEDIATELY NOTIFIED OF ANY APPARENT CONFLICTS, ERRORS, OR OMISSIONS IN THE CONSTRUCTION DRAWINGS; ANY APPARENT MISAPPLICATION OF ANY PRODUCT, SYSTEM OR ASSEMBLY FOR THE INTENDED USE, OR ANY DISCOVERED EXISTING CONDITIONS THAT ARE CONTRARY TO THE CONDITIONS INDICATED IN THE CONSTRUCTION DRAWINGS. THE DESIGNER/ARCHITECT SHALL PROVIDE INTERPRETATION AND CLARIFICATION AND, IF REQUIRED, MAKE APPROPRIATE REVISIONS TO THE CONSTRUCTION DRAWINGS. FAILURE TO NOTIFY THE DESIGNER/ARCHITECT PRIOR TO PROCEEDING WITH RELATED WORK WILL RESULT IN THE CONTRACTOR CORRECTING SUCH ITEMS AT THE CONTRACTOR'S EXPENSE.
7. THE CONSTRUCTION DRAWINGS ARE GENERAL DIAGRAMMATIC REPRESENTATIONS OF THE WORK, AND DO NOT INDICATE OR SPECIFY IN DETAIL EVERY CONDITION AND COMPONENT OF CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIALS AND EQUIPMENT, FABRICATE ALL ASSEMBLIES AND INSTALL ALL EQUIPMENT AND SYSTEMS TO PRODUCE A COMPLETE, INTEGRATED AND FULLY FUNCTIONAL WORK PRODUCT IN ACCORDANCE WITH ALL MATERIAL AND EQUIPMENT MANUFACTURER'S REQUIREMENTS, INDUSTRY STANDARDS AND FEDERAL, STATE AND LOCAL LAWS, CODES AND REGULATIONS.
8. PRIOR TO ACCEPTANCE OF SUB-CONTRACTOR BIDS AND COMMENCEMENT OF CONSTRUCTION, GENERAL CONTRACTOR TO PROVIDE ALL SUB-CONTRACTORS ACCESS TO A FULL SET OF CONSTRUCTION DOCUMENTS.
9. THE CONTRACTOR SHALL VERIFY THAT DRAWINGS ARE THE LATEST ISSUE PRIOR TO COMMENCING CONSTRUCTION, & SHALL MAINTAIN ONE COPY AT THE SITE, INCLUDING ALL ADDENDA, CHANGE ORDERS & FIELD CHANGES.
10. GENERAL CONTRACTOR SHALL VISIT PROPOSED JOB SITE AND FAMILIARIZE HIMSELF WITH THE EXISTING CONDITIONS & LOCATIONS OF UTILITIES. FAILURE OF GENERAL CONTRACTOR TO VISIT JOB SITE PRIOR TO BIDDING WILL RESULT IN FORFEITURE OF EXTRA COMPENSATION FOR TIME AND MONEY.
11. THE GENERAL CONTRACTOR SHALL CONTACT LOCAL UTILITY COMPANIES TO VERIFY ALL ELEVATIONS, SIZES, LOCATIONS AND CONNECTION POINTS FOR ALL UTILITIES AFFECTED BY THIS PROJECT. THE GENERAL CONTRACTOR SHALL COORDINATE AND OBTAIN ALL APPLICATIONS FOR, AND ENSURE ALL UTILITIES ARE TURNED ON PRIOR TO COMPLETION OF WORK

### C. USE/OWNERSHIP OF DRAWINGS

1. THE ARCHITECT, THE ARCHITECT'S CONSULTANTS AND SHERWIN-WILLIAMS SHALL BE DEEMED THE AUTHORS & JOINT OWNERS OF THEIR RESPECTIVE INSTRUMENTS OF SERVICE, INCLUDING THE DRAWINGS AND SPECIFICATIONS, & WILL RETAIN ALL COMMON LAW, STATUTORY AND OTHER RESERVED RIGHTS, INCLUDING COPYRIGHTS.
2. THE ARCHITECT, TENANT, OR THE BRAND OWNER ASSUME NO RESPONSIBILITY OR LIABILITY FOR THE USE OF THESE DOCUMENTS FOR ANY PURPOSE OTHER THAN SPECIFICALLY AUTHORIZED BY THE aforementioned AND SIGNED AND SEALED FOR THE SPECIFIC LOCATION IN THE STATE SHOWN ON THE DRAWINGS AND SEAL.

### D. CONTRACTS

1. THE LATEST EDITION OF THE 'GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION', AIA A201, PUBLISHED BY THE AMERICAN INSTITUTE OF ARCHITECTS, ARE HEREBY MADE PART OF THESE DRAWINGS AND SPECIFICATIONS.
2. TEN DAYS BEFORE CONSTRUCTION COMMENCEMENT, THE GENERAL CONTRACTOR SHALL PROVIDE THE ARCHITECT, FRANCHISEE, BRAND OWNER AND THE CONSTRUCTION MANAGER WITH A DETAILED AND COMPLETE CONSTRUCTION SCHEDULE, SHOWING ALL TRADES WITH STARTING AND COMPLETION DATES. A COMPLETE LIST OF ALL SUBCONTRACTORS MUST ALSO BE INCLUDED WITH THE SCHEDULE. THE GENERAL CONTRACTOR IS TO NOTIFY ALL PARTIES IN RECEIPT OF PROJECT SCHEDULE IN ANY CHANGES OCCUR WHICH AFFECT THE COMPLETION DATE. FAILURE TO COMPLETE THE PROJECT AS SCHEDULED MAY RESULT IN PENALTIES INCURRED BY THE GENERAL CONTRACTOR REGARDING FINAL PAYMENT.

### E. INSURANCE

1. ALL CONTRACTORS (GENERAL AND SUBCONTRACTORS) SHALL COMPLY WITH THE REQUIREMENTS FOR INSURANCE, BONDS AND WAIVERS OF LIEN, AS OUTLINED IN THE LATEST EDITION OF THE 'GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION', AIA A201, PUBLISHED BY THE AMERICAN INSTITUTE OF ARCHITECTS AND SHALL MEET THE OWNER'S LIEN CO REQUIREMENTS.
2. TO THE FULLEST EXTENT PERMITTED BY LAW, THE CONTRACTOR SHALL INDEMNIFY AND HOLD HARMLESS THE OWNER, ARCHITECT, ARCHITECT'S CONSULTANTS, AND AGENTS AND EMPLOYEES OF ANY OF THEM FROM & AGAINST CLAIMS/DAMAGES ARISING OUT OF OR RESULTING FROM PERFORMANCE OF THE WORK PROVIDED THAT SUCH CLAIM, DAMAGE, LOSS OR EXPENSE IS ATTRIBUTABLE TO BODILY INJURY, SICKNESS, DISEASE OR DEATH, OR TO INJURY TO OR DESTRUCTION OF TANGIBLE PROPERTY, BUT ONLY TO THE EXTENT CAUSED BY THE NEGLIGENT ACTS OR OMISSIONS OF THE CONTRACTOR. A SUBCONTRACTOR, ANYONE DIRECTLY OR INDIRECTLY EMPLOYED BY THEM OR ANYONE FOR WHOSE ACTS THEY MAY BE LIABLE, REGARDLESS OF WHETHER OR NOT SUCH CLAIM, DAMAGE, LOSS OR EXPENSE IS CAUSED IN PART BY A PARTY INDEMNIFIED HEREUNDER.

### F. STANDARDS AND CODES

1. GIVE ALL NOTICES AND COMPLY WITH ALL NATIONAL, STATE AND LOCAL LAWS, ORDINANCES, CODES, RULES AND REGULATIONS BEARING ON THE CONDUCT OF THE WORK. IF THE CONTRACTOR OBSERVES THAT THE DRAWINGS AND SPECIFICATIONS ARE AT VARIANCE THEREWITH, PROMPTLY NOTIFY THE DESIGNER/ARCHITECT. NECESSARY CHANGES SHALL BE MADE IN ACCORDANCE WITH THE GENERAL CONDITIONS.
2. THE CONTRACTOR SHALL FILE, OBTAIN AND PAY FEES FOR BUILDING DEPARTMENT AND ALL OTHER AGENCY APPROVALS AND PERMITS, CONTROLLED INSPECTIONS, AND FINAL WRITE-OFFS FOR PROJECT COMPLETION. COPIES OF TRANSACTIONS ARE TO BE FORWARDED TO THE PROJECT MANAGER.
3. IF THE CONTRACTOR KNOWINGLY PERFORMS ANY WORK WHICH IS CONTRARY TO SUCH LAWS, ORDINANCES, CODES, RULES AND REGULATIONS, HE SHALL PROMPTLY MAKE CHANGES AS REQUIRED TO COMPLY THEREWITH AND BEAR ALL COSTS ARISING THEREFROM.
4. WHERE CODES OR REGULATIONS, OTHER THAN THOSE LISTED IN THIS SECTION, ARE REFERRED TO IN VARIOUS SECTIONS OF THE DOCUMENTS, IT SHALL BE UNDERSTOOD THAT THEY APPLY TO THIS WORK AS FULLY AS IF CITED HEREIN.
5. LOADS AND CODE RESTRICTIONS FOR ALL DESIGN CONSIDERATIONS SHALL CONFORM TO LOCAL, STATE AND ALL GOVERNING CODES.
6. THE CONTRACTOR SHALL ARRANGE FOR ALL INSPECTIONS NECESSARY TO OBTAIN CERTIFICATE OF OCCUPANCY.
7. THE CONTRACTOR SHALL MAINTAIN, FOR THE ENTIRE LENGTH OF HIS CONTRACT, EXITS, EXIT LIGHTING, FIRE PROTECTIVE DEVICES, AND ALARMS TO CONFORM TO LOCAL BUILDING CODE REQUIREMENTS AND LANDLORD REQUIREMENTS.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADEQUATELY BRACING AND PROTECTING WORK DURING CONSTRUCTION AGAINST DAMAGE, BREAKAGE, COLLAPSE, DISTORTION AND/OR MISALIGNMENT IN ACCORDANCE WITH APPLICABLE CODES, STANDARDS AND GOOD PRACTICE.
9. WORK AND/OR CONSTRUCTION OPERATIONS SHALL NOT UNDERMINE THE STRUCTURAL INTEGRITY OF THE BUILDING.
10. ALL COMBUSTIBLE MATERIALS SHALL MEET APPLICABLE CODES. WOOD SHALL BE FIRE RETARDANT TREATED WHERE REQUIRED BY LOCAL BUILDING CODES.
11. THE CONTRACTOR SHALL PROVIDE BACK FLOW DEVICES AS REQUIRED BY LOCAL, STATE AND FEDERAL CODES.

## DIVISION 1 - GENERAL CONDITIONS

### G. LAYOUT OF WORK

1. EXERCISE PROPER PRECAUTIONS TO VERIFY ALL EXISTING CONDITIONS AND LAYOUT OF WORK. CONTRACTOR IS RESPONSIBLE FOR ANY ERROR RESULTING FROM FAILURE TO EXERCISE SUCH PRECAUTIONS. ANY SUCH ERROR WILL NOT BE CONSIDERED AS A BASIS FOR EXTRA COMPENSATION.
2. CONTRACTOR SHALL PROMPTLY NOTIFY ARCHITECT IF SUBSURFACE OR OTHERWISE CONCEALED PHYSICAL CONDITIONS DIFFER MATERIALLY FROM THOSE INDICATED IN THE CONTRACT DOCUMENTS, OR DIFFER FROM THOSE CONDITIONS ORDINARILY FOUND TO EXIST & GENERALLY RECOGNIZED AS INHERENT IN CONSTRUCTION ACTIVITIES OF THIS NATURE.
3. THE GENERAL CONTRACTOR SHALL NOT SCALE THE DRAWINGS.
4. GENERAL CONTRACTOR IS RESPONSIBLE FOR LAY OUT OF ALL WORK AND IS RESPONSIBLE FOR ALL LINES AND MEASUREMENTS OF THE BUILDING, UTILITIES, AND OTHER WORK EXECUTED UNDER THE CONTRACT, & SHALL ENSURE THAT THE WORK PERFORMED COMPLIES WITH APPROVED DRAWINGS.
5. PARTITIONS ARE DIMENSIONED FROM FINISH OF STUD TO FACE OF STUD, UNLESS OTHERWISE NOTED. DIMENSIONS MARKED "CLEAR" SHALL BE MAINTAINED AND SHALL ALLOW FOR THICKNESS OF FINISHES INCLUDING TILE, FRP, ETC. DIMENSIONS MARKED "CLEAR" ARE TO BE WITHIN 1/8" ALONG FULL HEIGHT AND FULL WIDTH OF WALLS.
6. ALL ROUGH OPENINGS AND DIMENSIONS LABELED "HOLD" ARE CRITICAL AND ARE NOT TO BE ADJUSTED WITHOUT WRITTEN CONSENT OF ARCHITECT/DESIGNER.
7. ALL WALL FLOOR PLATES ARE TO BE LOCATED AND POSITIONING CONFIRMED WITH FLOOR PLAN PRIOR TO DRYWALL INSTALLATION.
8. DIMENSIONS ARE AS FOLLOWS, UNLESS OTHERWISE NOTED:
  - TO INSIDE FACE OF FRAME AT DOORS & OTHER OPENINGS
  - TO TOP OF FINISHED FLOORS
  - TO BOTTOM OF FINISHED CEILINGS
  - TO INSIDE FACE OF FINISHED MELLWORK
9. CONTRACTOR SHALL INSTALL PORTABLE FIRE EXTINGUISHERS (TYPE 2A10BC) PER IFC SECTION 906.
10. FOR BUILT-IN WORK SURROUNDED BY PARTITIONS, INCLUDING BUT NOT LIMITED TO APPLIANCES AND FURNISHINGS, CONTRACTOR SHALL CONFIRM THAT FLOOR SLAB DOES NOT VARY BY MORE THAN 1/4" IN 20'-0". NOTIFY ARCHITECT/DESIGNER IF THIS TOLERANCE IS EXCEEDED.
11. NEW GYPSUM BOARD CONSTRUCTION ADJOINING EXISTING CONSTRUCTION IN THE SAME PLANE SHALL BE FLUSH WITH NO VISIBLE JOINTS, UNLESS OTHERWISE NOTED.
12. DIMENSIONS KNOWN AS V.I.F. SHALL BE VERIFIED BY THE CONTRACTOR IN THE FIELD BY LAYING OUT THE PARTITIONS. CONTRACTOR SHALL NOTIFY CONSTRUCTION MANAGER AND ARCHITECT OF ANY DISCREPANCY IN DIMENSIONS PRIOR TO PROCEEDING WITH THE WORK IN THAT AREA.
13. THE ARCHITECT AND HIS CONSULTANTS WILL NOT HAVE CONTROL, OVER OR CHARGE OF, NOR BE RESPONSIBLE FOR, THE CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES, THE SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK. THE CONTRACTORS FAILURE TO PERFORM THE WORK IN ACCORDANCE WITH THE REQUIREMENTS OF THE CONSTRUCTION DRAWINGS OR CONTRACT, OR THE ACTS OR OMISSIONS OF THE CONTRACTOR, SUBCONTRACTORS, OR THEIR AGENTS OR EMPLOYEES OR ANY OTHER PERSONS OR ENTITIES PERFORMING PORTIONS OF THE WORK.
14. WORK NOT PARTICULARLY DETAILED, NOTED OR SPECIFIED, SHALL BE THE SAME AS SIMILAR PARTS THAT ARE DETAILED, NOTED OR SPECIFIED.
15. IN THE EVENT OF INCONSISTENCIES AMONG THE CONTRACT DOCUMENTS, THE DESIGNER/ARCHITECT SHALL INTERPRET THEM WHEN ASKED TO DO SO BY THE OWNER OR CONTRACTOR. THE DESIGNER/ARCHITECT SHALL NOT BE RESPONSIBLE FOR THE RESULTS OF SUCH INTERPRETATIONS MADE BY OTHERS.
16. THE GENERAL CHARACTER OF DETAIL WORK IS SHOWN ON THE CONTRACT DOCUMENTS. SUBSEQUENT CLARIFICATIONS MAY BE MADE BY ADDITIONAL LAYOUTS OR LARGE SCALE OR FULL SIZE DETAILS.
17. DRAWINGS AND DIAGRAMS FOR MECHANICAL AND ELECTRICAL WORK SHALL BE CONSIDERED AS DIAGRAMMATIC ONLY. NOT TO BE USED FOR ANY STRUCTURAL GUIDANCE OR PHYSICAL LAYOUT. IN CASE OF CONFLICT, UNLESS OTHERWISE NOTED, THE ARCHITECTURAL DRAWINGS SHOWING LOCATIONS FOR MECHANICAL AND ELECTRICAL ITEMS AND ACCESSORIES SHALL TAKE PRECEDENCE.
18. UNLESS OTHERWISE NOTED, IT IS THE INTENTION OF THE DRAWINGS AND SPECIFICATIONS FOR ALL WORK, EQUIPMENT, CASEWORK, MECHANICAL, ELECTRICAL AND SIMILAR DEVICES OF WHATEVER NATURE, TO BE NEW & FREE OF DEFECTS, AND BE COMPLETELY INSTALLED, HOOKED-UP, MADE OPERATIONAL AND FUNCTIONAL FOR THE PURPOSE INTENDED, AND THAT ALL COSTS FOR THIS BE INCLUDED IN THE CONTRACTOR'S PROPOSAL.
19. THE CONTRACTOR SHALL, IN ACCORDANCE WITH THE CONSTRUCTION DOCUMENTS, APPLY, INSTALL, CONNECT, ADJUST, TEST AND/OR COMPLY ON MANUFACTURER'S ARTICLES, MATERIALS AND/OR EQUIPMENT PER MANUFACTURER'S INSTRUCTIONS. IN CASE OF CONFLICT BETWEEN MANUFACTURER'S INSTRUCTIONS AND THE CONTRACT DOCUMENTS, THE CONTRACTOR SHALL NOTIFY THE PROJECT MANAGER AND THE ARCHITECT BEFORE PROCEEDING.
20. THE CONTRACTOR SHALL COORDINATE AND SCHEDULE WORK BY OUTSIDE VENDORS INCLUDING BUT NOT LIMITED TO, TELEPHONE, DATA, TENANTS' FORCES' ITEMS. CONTRACTOR SHALL COORDINATE EXACT LOCATIONS AND SHALL DO THE CUTTING, FITTING AND PATCHING REQUIRED TO RECEIVE THE WORK OF OTHERS AS SHOWN OR REASONABLY IMPLIED BY THE DRAWINGS AND SPECIFICATIONS.
21. ANY CHANGES IN THE SCOPE OF WORK INVOLVING A CHANGE IN THE CONSTRUCTION COST OR TIME SHALL BE APPROVED BY THE OWNER IN WRITING PRIOR TO THE CONTRACTOR COMMENCING WITH THE WORK SCOPE CHANGE.

### H. REFLECTED CEILING PLAN NOTES

1. REFER TO MECHANICAL, ELECTRICAL, DRAWINGS AND SPECIFICATIONS FOR DESIGN OF THESE SYSTEMS (DUCT SIZES, CIRCUITING, ETC.) AND FOR ADDITIONAL REQUIREMENTS. LOCATIONS OF FIXTURES, REGISTERS, SWITCHES, ETC. SHALL BE AS SHOWN ON THE ARCHITECTURAL PLANS. NOTIFY ARCHITECT/DESIGNER OF ANY CONFLICTS PRIOR TO COMMENCING CONSTRUCTION.
2. VERIFY FIELD CONSTRUCTIONS AND LOCATIONS OF ALL PLUMBING AND STRUCTURAL ELEMENTS AND OTHER APPLICABLE ITEMS. NOTIFY ARCHITECT/DESIGNER OF INADEQUATE CLEARANCES FOR CEILING LAYOUT.
3. ALL REGISTERS, SPRINKLER HEADS AND LIGHTING FIXTURES SHALL OCCUR WITHIN GRID LINES. INCANDESCENT FIXTURES OR OTHER ELEMENTS SHALL BE LOCATED AT THE CENTER OF ACOUSTICAL TILES UNLESS NOTED OTHERWISE.
4. CUT-OUTS AT FIXTURES IN LAY-IN CEILINGS SHALL BE PRECISE WITH NO GAPS, CHIPS OR IRREGULARITIES.
5. CEILING GRID SHALL BE LEVEL WITHIN A TOLERANCE OF 1/8" IN A SPAN OF 10'-0".
6. LAY-IN LIGHTING FIXTURES SHALL NOT RELY ON THE CEILING SYSTEM ALONE FOR SUPPORT. LAY-IN LIGHTING FIXTURES SHALL BE SUPPORTED FROM THE STRUCTURE BY NO LESS THAN TWO HANGER WIRES AND SECURED TO THE CEILING GRID SYSTEM WITH THE APPROPRIATE ATTACHMENT HARDWARE.
7. THE ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL ALL THE REQUIRED ACCESSORIES, OPTIONS, MOUNTING HARDWARE AND FIELD FABRICATION REQUIRED TO PROPERLY ADAPT THE FIXTURES TO THE SPECIFIC APPLICATIONS.
8. ELECTRICAL CONTRACTOR SHALL CLEARLY LABEL PANEL BOARD CIRCUITING AS TO OPERATION.
9. ALL ELECTRICAL DEVICES SHALL BEAR THE U.L. LABEL.
10. ALL ELECTRICAL WORK SHALL FOLLOW ALL APPLICABLE NATIONAL, STATE & LOCAL CODES, REGULATIONS AND LAWS.
11. REFER TO LIGHT FIXTURE SCHEDULE FOR FINISH OF LIGHT FIXTURE TRIM.
12. WHERE/IF EXISTING CEILINGS ARE SCHEDULED TO REMAIN, & ARE DAMAGED OR OTHERWISE MODIFIED TO ACCOMMODATE THE NEW LAYOUT, THE G.C. SHALL PATCH, REPAIR OR RESTORE AS REQUIRED TO "LIKE-NEW" CONDITION.
13. IF ANY LIGHTS ARE SPECIFIED IN A LOCATION EXPOSED TO THE WEATHER, ELECTRICAL CONTRACTOR SHALL OBTAIN A SIMILAR FIXTURE RATED FOR EXTERIOR APPLICATION.
14. IF EXISTING MECHANICAL AND FIRE PROTECTION SYSTEMS ARE PRESENT, CONTRACTOR SHALL REWORK THE SYSTEMS TO ACCOMMODATE THE NEW CEILING AND WALL LAYOUTS.
15. USE OF THE ABOVE CEILING PLENUM AREA AS A RETURN AIR SYSTEM IS NOT ACCEPTABLE. RETURN AIR SHALL BE DUCTED TO THE CEILING.
16. THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ANY TESTING AND BALANCING OF ANY REWORKED MECHANICAL SYSTEM.

## DIVISION 1 - GENERAL CONDITIONS

### I. TENANT FURNISHED ITEMS

1. PRODUCTS TO BE FURNISHED AND PAID FOR BY THE TENANT AND INSTALLED BY THE CONTRACTOR ARE INDICATED AS 'TENANT SUPPLIED' IN THE EQUIPMENT SCHEDULE.
2. TENANT'S RESPONSIBILITIES FOR TENANT FURNISHED PRODUCTS:
  - SUPPLY CONTRACTOR WITH PRODUCT LITERATURE, TENANT REVIEW.
  - PRODUCT DATA AND SAMPLES.
  - PAY FOR PRODUCT DELIVERY TO SITE.
  - REVIEW DAMAGED PRODUCTS WITH CONTRACTOR PROMPTLY.
  - SUBMIT CLAIMS FOR DAMAGE. REPLACE DAMAGED, DEFECTIVE OR DEFICIENT ITEMS.
  - ARRANGE FOR MANUFACTURER'S WARRANTIES, INSPECTIONS AND SERVICE.
3. CONTRACTOR'S RESPONSIBILITIES FOR TENANT FURNISHED PRODUCTS:
  - REVIEW SHOP DRAWINGS, PRODUCT DATA AND SAMPLES TO ADEQUATELY ACQUAINT HIMSELF WITH THE SCOPE OF WORK.
  - REVIEW THE ORDER: SCHEDULE THE DELIVERY; RECEIVE, UNLOAD AND STORE PRODUCTS AT SITE.
  - INSPECT FOR COMPLETE OR DAMAGE. IF ITEMS ARE DAMAGED, GENERAL CONTRACTOR TO NOTIFY PROJECT MANAGER AND TENANT.

### J. ALTERATIONS (IF APPLICABLE)

1. ARRANGE WITH LANDLORD/TENANT A CONVENIENT TIME TO PERFORM ALL WORK AND INSTALL TEMPORARY PROTECTED MEANS OF EGRESS FROM REQUIRED EXITS, INCLUDING TEMPORARY LIGHTING AND SAFETY DEVICES IN ACCORDANCE WITH GOVERNING STATE AND LOCAL CODE AND BUILDING MANAGEMENT REQUIREMENTS.
2. THE CONTRACTOR SHALL REMOVE, REPAIR, RESTORE AND REPLACE ANY WORK NECESSARY OR INDICATED ON THE DRAWINGS. CUT ALL NECESSARY OPENINGS AND REPAIR AFTER CUTTING WHERE NECESSARY. ALL PROTRUSIONS, MARKS, CRACKS, OR OTHER EVIDENCE OF A DEFICIENT OR DAMAGED CONDITION SHALL BE ELIMINATED UNLESS SPECIFICALLY NOTED OTHERWISE. ANY ITEMS WHICH ARE SPLIT, CRACKED, CHIPPED, SPALLED, BROKEN, MISSING, OUT OF ALIGNMENT OR ADJUSTMENT, MECHANICALLY OR STRUCTURALLY UNSAFE OR UNSOUND, BENT, TORN, OR OTHERWISE DEFICIENT OR DAMAGED IN ANY MANNER SHALL BE REMOVED, REPLACED, RESTORED OR SATISFACTORILY REPAIRED AS DIRECTED BY THE OWNER'S REPRESENTATIVE.

3. PERFORM DEMOLITION WORK AND SUCH SPRINKLER WORK, CONCRETE SAW CUTTING, PAINTING AND SIMILAR WORK CAUSING EXCESSIVE NOISE, DUST OR ODOORS DISTURBING BUILDING OCCUPANTS, OR ANY WORK DISRUPTING TENANTS OR PUBLIC TRAFFIC WITHIN THE BUILDING, AFTER HOURS OR AT TIMES AND IN SUCH MANNER AS OTHERWISE APPROVED BY LANDLORD/OWNER.

4. SPECIAL ATTENTION SHALL BE GIVEN TO EXISTING AREAS SURROUNDING THE EXTERIOR OF THE PROJECT SPACE. ALL CONSTRUCTION AND INSTALLED EQUIPMENT, WALKS, AND LANDSCAPED AREAS SHALL BE PROTECTED AND GUARDED BY BARRIERS OR OTHER MEANS NECESSARY TO PROTECT AREAS FROM DAMAGE DURING CONSTRUCTION. ALL AREAS DAMAGED WILL BE RESTORED TO THEIR ORIGINAL CONDITION PRIOR TO FINAL PAYMENT AT THE SOLE EXPENSE OF THE GENERAL CONTRACTOR.

### K. HAZARDOUS MATERIALS

1. ASBESTOS AND HAZARDOUS WASTE EXCLUSION: THE ARCHITECT HEREBY STATES, AND THE OWNER ACKNOWLEDGES, THAT THE ARCHITECT HAS NO PROFESSIONAL LIABILITY OR OTHER INSURANCE (AND IS UNABLE TO REASONABLY OBTAIN SUCH INSURANCE) FOR CLAIMS ARISING OUT OF THE PERFORMANCE OF OR THE FAILURE TO PERFORM PROFESSIONAL SERVICES, INCLUDING BUT NOT LIMITED TO, THE PREPARATION OF REPORTS, DESIGNS, DRAWINGS, AND SPECIFICATIONS, AND RELATED TO THE INVESTIGATION DETECTION OF HAZARDOUS MATERIALS ON THE SITE.

### L. CONTRACTOR USE OF PREMISES

1. CONSTRUCTION OPERATIONS: LIMITED TO AREAS NOTED ON DRAWINGS.
2. TIME RESTRICTIONS FOR PERFORMING WORK: VERIFY WITH LANDLORD/OWNER & LOCAL CODES.
3. UTILITY OUTAGES AND SHUTDOWN SHALL BE COORDINATED WITH THE LANDLORD/OWNER.
4. AT ALL TIMES CONDUCT OPERATIONS TO INSURE THE LEAST INCONVENIENCE TO THE GENERAL PUBLIC. COMPLY WITH APPLICABLE CODES AND ORDINANCES FOR SAFETY.
5. ASSUME FULL RESPONSIBILITY FOR THE PROTECTION AND SAFEKEEPING OF PRODUCTS STORED ON THE SITE UNDER THIS CONTRACT.
6. COORDINATE USE OF PREMISES FOR WORK & STORAGE WITH THE LANDLORD/OWNER, & TO AREAS PERMITTED BY APPLICABLE LAWS, STATUTES, ORDINANCES & CODES.
7. LIMIT USE OF SITE FOR WORK AND STORAGE TO AREAS DESIGNATED UNLESS SPECIFIC ADDITIONAL AREAS ARE ALLOWED IN WRITING BY THE LANDLORD/OWNER.
8. IN THE EVENT OF DAMAGES TO MATERIALS/WORK, GENERAL CONTRACTOR OR RESPONSIBLE SUBCONTRACTORS SHALL IMMEDIATELY MAKE ALL REPAIRS AND REPLACEMENTS NECESSARY AT NO ADDITIONAL COST TO THE OWNER.
9. TEMPORARY SANITARY FACILITIES FOR THE WORKERS SHALL BE FURNISHED, INSTALLED AND MAINTAINED BY THE GENERAL CONTRACTOR. IF "CONTRACTOR-USE" FACILITIES DO NOT EXIST ON SITE. PERMANENT TOILETS INSTALLED ON THE PROJECT SHALL NOT BE USED DURING CONSTRUCTION OF THE PROJECT. ALL SUCH FACILITIES AND SERVICES SHALL BE FURNISHED IN STRICT ACCORDANCE WITH EXISTING GOVERNING HEALTH REGULATIONS.
10. PARKING TO BE DESIGNATED BY LANDLORD.

### M. TEMPORARY JOB SITE SIGN

1. GENERAL CONTRACTOR SHALL PROVIDE AND INSTALL A TEMPORARY JOB SITE SIGN. SIGN SHALL BE PREPARED BY A PROFESSIONAL SIGN COMPANY.

### N. FINISH NOTES

1. ENSURE THAT SURFACE TO RECEIVE FINISHES ARE CLEAN, TRUE AND FREE OF IRREGULARITIES AND ARE ACCEPTABLE TO RECEIVE NEW FINISHES. DO NOT PROCEED WITH WORK UNTIL UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED. COMMENCEMENT OF WORK SHALL INDICATE INSTALLER'S ACCEPTANCE OF SUBSTRATE.
2. ALL CODE-REQUIRED LABELS SUCH AS "U.L.", FACTORY MUTUAL OR ANY EQUIPMENT IDENTIFICATION, PERFORMANCE RATING, NAME OR NOMENCLATURE PLATES SHALL REMAIN READABLE AND NOT PAINTED.
3. THE CONTRACTOR SHALL PATCH SURFACES AS NECESSARY TO MATCH ADJACENT IN A MANNER SUITABLE TO RECEIVE FINISHES.
4. ALL MATERIALS AND FINISHES INDICATED ON DRAWINGS SHALL BE NEW AND UNUSED.
5. ANY SUBSTITUTIONS MUST BE REVIEWED AND APPROVED BY THE OWNER'S REPRESENTATIVE PRIOR TO FABRICATION OR PURCHASING.
6. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE TIMELY ARRIVAL OF ALL SPECIFIED FINISH MATERIALS, EQUIPMENT, LIGHT FIXTURES, AND ANY OTHER MATERIALS TO BE UTILIZED IN THE PROJECT. THE G.C. SHALL NOTIFY THE ARCHITECT/DESIGNER IN WRITING WITHIN (10) DAYS OF DATE OF CONTRACT OF THOSE ITEMS SPECIFIED THAT ARE NOT READILY AVAILABLE. IF NOTIFICATION IS NOT RECEIVED, THE G.C. ACCEPTS RESPONSIBILITY FOR THE PROPER ORDERING AND FOLLOW-UP OF SPECIFIED ITEMS SO AS NOT TO CREATE A HARDSHIP ON THE OWNER, AND NOT TO DELAY PROGRESS OF THE WORK. NO EXTENSION OF TIME TO THE CONTRACT WILL BE ALLOWED FOR G.C.'S INABILITY TO SECURE SPECIFIED ITEMS.
7. COORDINATE WITH TENANT'S REPRESENTATIVE FOR DELIVERY AND PLACEMENT OF TENANT SUPPLIED ITEMS AND FURNISHINGS.
8. REFER TO FINISH SCHEDULE FOR SPECIFIED FINISHES.
9. ALL DOOR AND WINDOW FRAMES SHALL BE CAULKED AROUND ENTIRE PERIMETER.
10. GENERAL CONTRACTOR SHALL CAULK BETWEEN BASE AND FLOOR WITH CLEAR SILICONE SEALANT.
11. GENERAL CONTRACTOR SHALL SHALL TAPE AND BED ALL WALLS FOR A SMOOTH PAINTED FINISH.

12. THE GENERAL CONTRACTOR SHALL BE SOLELY RESPONSIBLE TO SECURE AND PROTECT FROM DAMAGE ALL ITEMS ON THE PREMISES, INCLUDING, BUT NOT LIMITED TO: CONSTRUCTION MATERIALS, LIGHT FIXTURES, FOOD SERVICE EQUIPMENT, EQUIPMENT, AND THE FURNITURE PACKAGE. AFTER RECEIPT ON JOB SITE, ANY LOST, STOLEN OR ITEMS DAMAGED LATER BY SUBCONTRACTORS OR OTHERS IN THE BUILDING, SHALL BE REPLACED OR REPAIRED AT THE GENERAL CONTRACTOR'S SOLE EXPENSE. THE GENERAL CONTRACTOR SHALL NOTIFY AND RELATE THIS INFORMATION AND REQUIREMENT TO ALL TRADES AND SUBCONTRACTORS ON SITE.

## DIVISION 1 - GENERAL CONDITIONS

13. NO MATERIAL SUBSTITUTIONS WILL BE PERMITTED UNLESS AUTHORIZATION HAS BEEN GRANTED BY THE BRAND OWNER DESIGN AND CONSTRUCTION DEPARTMENT AND THE FRANCHISEE. ANY MATERIAL SUBSTITUTIONS WITHOUT AUTHORIZATION WILL SUBJECT THE GENERAL CONTRACTOR TO REPLACEMENT OF SUCH SUBSTITUTED MATERIALS WITH APPROVED MATERIALS AT THE SOLE EXPENSE OF THE GENERAL CONTRACTOR.

### O. GENERAL CLEANING

1. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR ALL TRASH REMOVAL, INCLUDING TRASH MADE BY ALL OTHER TRADES, AND SHALL KEEP THE SPACE CLEAN AND CLEAR OF REFUSE AT ALL TIMES. AT COMPLETION OF PROJECT, GENERAL CONTRACTOR SHALL REMOVE ALL CONTRACTOR'S TOOLS, CONSTRUCTION EQUIPMENT, MACHINERY & SURPLUS MATERIALS FROM THE JOB SITE, & SHALL HIRE A PROFESSIONAL CLEANING COMPANY FOR FINAL CLEANUP BEFORE TURNING COMPLETED STORE OVER TO OWNER/TENANT.

### P. ACCESSIBILITY

1. NOTE: FOLLOWING ARE ADA GUIDELINES AND FOR GENERAL CONTRACTOR INFORMATION ONLY. LISTED ITEMS DO NOT REPLACE OR AMEND FEDERAL, STATE OR LOCAL CODES. IN CASE OF CONFLICT IN THE REQUIREMENTS OF AUTHORITIES HAVING JURISDICTION, THE MOST RESTRICTIVE REQUIREMENTS SHALL GOVERN.
2. ALL EXTERIOR DOORS SHALL HAVE A 24" CLEAR HORIZONTAL OPEN SURFACE/AREA AT THE STRIKESIDE/PULLSIDE OF DOORS. ALL INTERIOR DOORS SHALL HAVE 18" CLEAR AT THE STRIKESIDE/PULLSIDE OF DOORS. PROVIDE 12" CLEAR HORIZONTAL SURFACE ON THE PUSH SIDE/STRIKE OF ALL DOORS. ALL LOCKSETS SHALL HAVE A LEVER HANDLE UNLESS NOTED OTHERWISE & SHALL OPEN FROM INSIDE OF THE SPACE WITH ONE MOTION AND REQUIRE NO SPECIAL KNOWLEDGE OR EFFORT. THUMB-TURNS OR SEPARATE DEADBOLTS ARE NOT ALLOWED ON EGRESS DOORS.
3. THRESHOLDS SHALL NOT EXCEED 1/2" IN HEIGHT AND SHALL HAVE A SLOPE NO GREATER THAN 1:2.
4. ALL EMERGENCY EXITING ALARM AND SIGNAGE TO COMPLY WITH FEDERAL, STATE AND MUNICIPAL CODES FOR ACCESSIBILITY.
5. GENERAL CONTRACTOR SHALL ALLOW FOR APPLIED FINISH DIMENSIONS IN ADDITION TO STANDARD CONSTRUCTION TOLERANCES IN ACHIEVING ALL ACCESSIBILITY CLEARANCES PER DRAWINGS AND/OR ADA GUIDELINES.
6. EMERGENCY WARNING SYSTEMS SHALL COMPLY WITH ADA REQUIREMENTS FOR THE HEARING IMPAIRED. VISUAL WARNING STROBE LIGHTS TO BE DESIGNED TO HAVE A FREQUENCY OF NOT MORE THAN 60 FLASHES PER MINUTE.
7. REFER TO TOILET ROOM ELEVATIONS FOR ACCESSIBILITY REQUIREMENTS/MOUNTING HEIGHTS.
8. WATER CLOSET AND URINAL FLUSH VALVE CONTROLS, & FAUCET AND OPERATING MECHANISM CONTROLS SHALL BE OPERABLE WITH ONE HAND, SHALL NOT REQUIRE TIGHT GRASPING, PINCHING OR TWISTING OF THE WRIST, AND SHALL BE MOUNTED NO MORE THAN 44" ABOVE THE FLOOR.
9. THE FORCE REQUIRED TO ACTIVATE WATER CLOSET AND URINAL FLUSH VALVE CONTROLS, & FAUCET AND OPERATING MECHANISM CONTROLS SHALL BE NO GREATER THAN 5 LBS.
10. SELF-CLOSING FAUCET CONTROL VALVES ARE ALLOWED IF THE FAUCET REMAINS OPEN FOR AT LEAST 10 SECONDS.
11. REFER TO ACCESSIBILITY DETAILS IN PLANS FOR TYPICAL ACCESSIBILITY GUIDELINES.

### Q. PUNCH LIST/CLOSE-OUT

1. UPON NOTIFICATION BY THE GENERAL CONTRACTOR THAT THE WORK IS SUBSTANTIALLY COMPLETE, THE OWNER'S REPRESENTATIVE SHALL PREPARE A PUNCH LIST OF THE PROJECT AND THE GENERAL CONTRACTOR SHALL MAKE GOOD ALL PUNCH LIST ITEMS TO THE SATISFACTION OF THE OWNER'S REPRESENTATIVE PRIOR TO FINAL PAYMENT.
2. GENERAL CONTRACTOR AND HIS JOB SUPERVISOR SHALL TEST ALL EQUIPMENT FOR PROPER OPERATION, IN THE PRESENCE OF THE FRANCHISEE, BEFORE TURNING COMPLETED STORE OVER TO FRANCHISEE.

### R. RECORD DRAWINGS/WARRANTIES

1. THE CONTRACTOR SHALL LEAVE A COPY OF REDLINED AS-BUILT DRAWINGS AT THE STORE NOTING ALL REVISIONS OF WORK UPON COMPLETION OF CONSTRUCTION. DRAWINGS SHALL BE PLACED IN A 36" LONG 4" PVC PIPE WITH A CAP. PVC PIPE SHALL BE ATTACHED TO WALL AT LOCATION AS SPECIFIED BY THE PROJECT MANAGER.
2. UPON COMPLETION OF THE WORK AND BEFORE FINAL PAYMENT IS MADE, THE CONTRACTOR SHALL SECURE AND DELIVER TO THE OWNER ALL GUARANTEES AND/OR WARRANTS ON ALL EQUIPMENT SUPPLIED AND/OR INSTALLED BY THE CONTRACTOR AND HIS SUB-CONTRACTORS, AND ALL PROVIDE ELECTRONIC COPIES OF OPERATIONS/MAINTENANCE MANUALS.

### S. GUARANTEE

1. THE GENERAL CONTRACTOR SHALL GUARANTEE IN WRITING ALL MATERIALS & LABOR FOR ONE (1) YEAR FROM THE DATE OF FINAL ACCEPTANCE BY THE OWNER, AND WILL, AT HIS OWN COST, REPAIR OR REPLACE ALL WORK OR DAMAGES CAUSED BY THE WORK WHICH BECOMES DEFECTIVE DURING THE TERM OF THE GUARANTEE. THE TERM OF THE GUARANTEE MAY BE MODIFIED OR EXTENDED BY THE OWNER/CONTRACTOR AGREEMENT.
2. OWNER MAY WITH-HOLD FINAL PAYMENT UNTIL GENERAL CONTRACTOR SUPPLIES OWNER WITH A WARRANTY LETTER AND SUBCONTRACTORS LIEN WAIVERS.

### T. DEFINITIONS

1. "FURNISH" - SUPPLY AND DELIVER TO THE PROJECT SITE, READY FOR UNLOADING, UNPACKING, ASSEMBLY, INSTALLATION AND SIMILAR OPERATIONS.
2. "INSTALL" - OPERATIONS AT THE PROJECT SITE INCLUDING THE ACTUAL UNLOADING, UNPACKING, ASSEMBLY, ERECTING, PLACING, ANCHORING, APPLYING, WORKING TO DIMENSION, FINISHING, CURING, PROTECTING, CLEANING AND SIMILAR OPERATIONS.
3. "PROVIDE" - FURNISH AND INSTALL, COMPLETE AND READY FOR INTENDED USE.

4. "TENANT SUPPLIED" - SUPPLIED BY SHERWIN-WILLIAMS.



ALL DRAWINGS AND WRITTEN MATERIAL CONTAINED HEREIN ARE THE PROPERTY OF THE LINGLE DESIGN GROUP, INC. THEY MAY NOT BE REPRODUCED, COPIED, REPRODUCED, OR DISSEMINATED IN ANY MANNER WITHOUT WRITTEN AUTHORIZATION FROM THE ARCHITECT.

11/15/2023



PROJECT #:

DRAWN BY: BA CHECKED BY: MP

- PERMIT SET - 11/15/2023
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## SHERWIN WILLIAMS

STORE #:

XXXX

ADDRESS:

12360 W. SH 29, LIBERTY HILL, TX, 78642

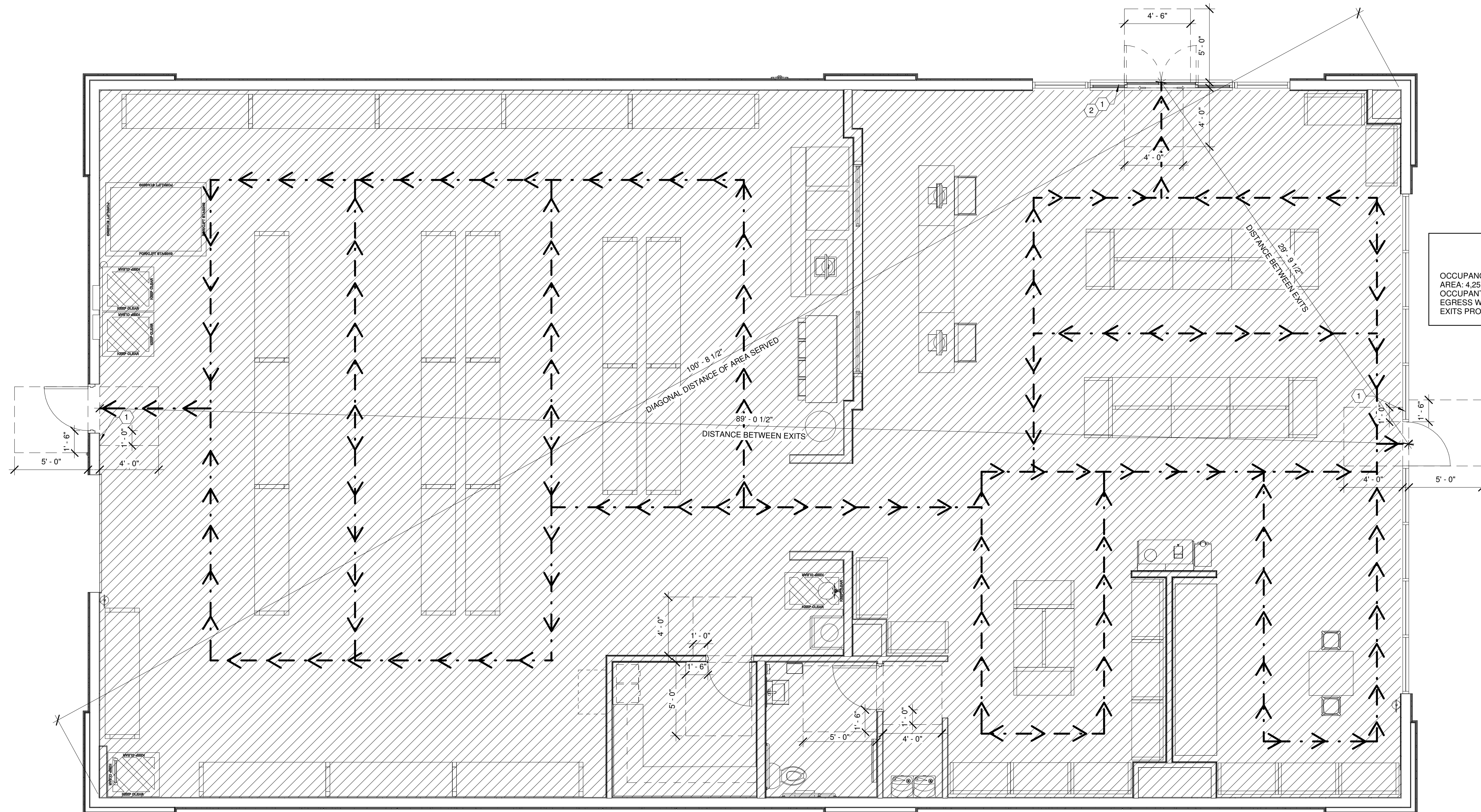
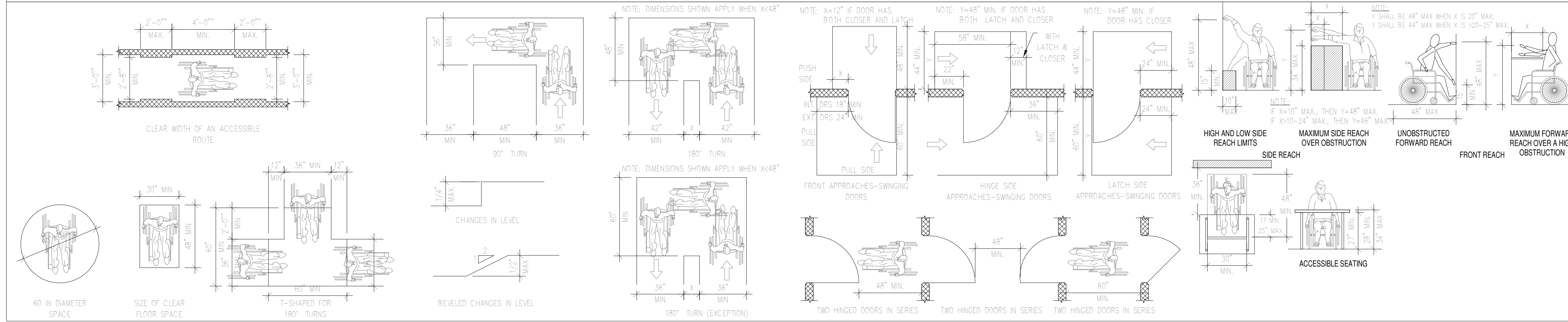
SHEET TITLE:

## General Notes

SHEET NUMBER:

G002

TYPICAL ACCESSIBILITY DETAILS



ACCESSIBILITY PLAN CODED NOTES

- 1 TACTILE SIGNAGE AT EXTERIOR EXIT DOORS - SIGNAGE TO READ "EXIT" PER IBC 1011.4
- 2 SIGNAGE: "MAXIMUM OCCUPANCY 71 PERSONS"

RESTROOM FIXTURES

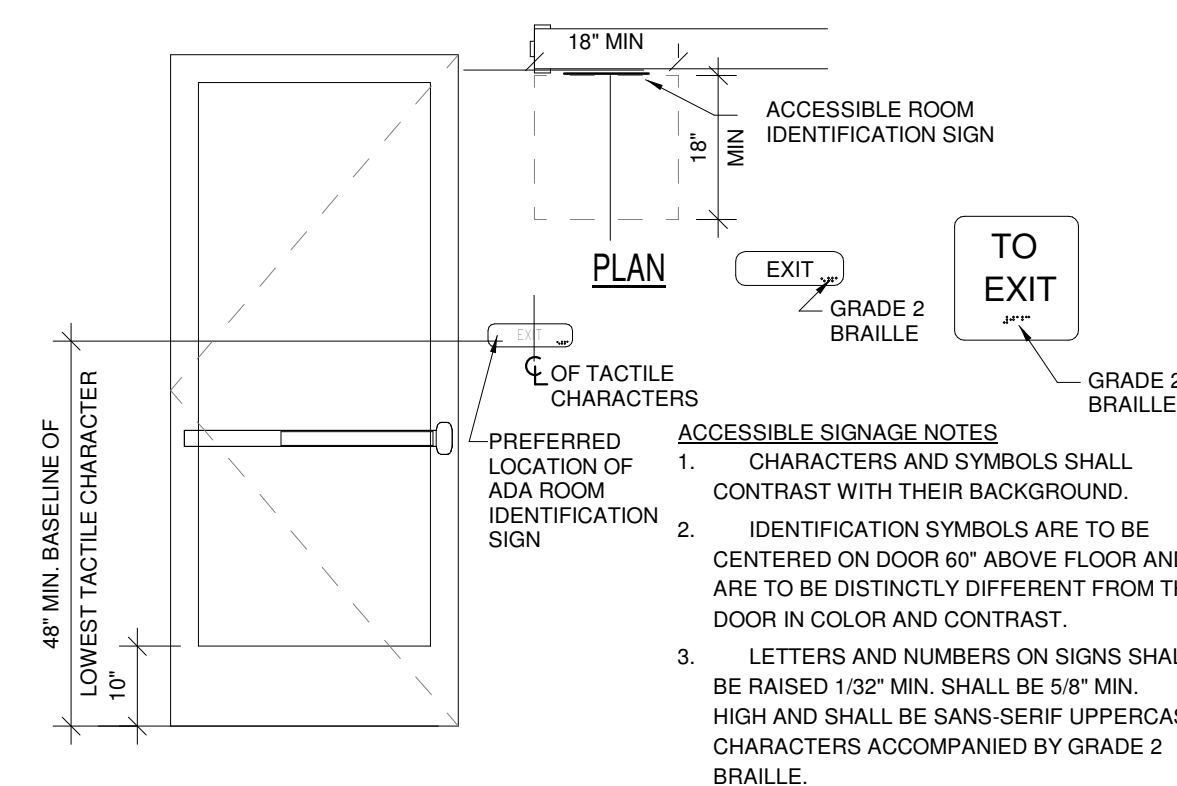
	REQUIRED	PROVIDED
WATER CLOSET	1 PER 500	1
URINAL	>50% OF WC	0
LAVATORIES	1 PER 750	1
SERVICE SINK	1	1

GENERAL NOTES

- G.C. TO VERIFY QUANTITY & LOCATIONS OF FIRE EXTINGUISHERS WITH LOCAL AUTHORITIES. FIRE EXTINGUISHERS TO BE SUPPLIED BY G.C. - REFER TO FLOOR PLAN.
- G.C. TO PROVIDE FIRE DEPARTMENT REQUIRED KEY BOX. COORDINATE LOCATION AND TYPE WITH LOCAL AUTHORITIES.
- SEE MEP DRAWINGS AND RESPONSIBILITY SCHEDULE FOR INFORMATION REGARDING FIRE ALARM SYSTEM - SYSTEM BY GENERAL CONTRACTOR (IF APPLICABLE)
- ALL CLEAR FLOOR SPACE AND TURNING SPACE TO BE NO GREATER THAN 2% SLOP PER ADA 304.2 & 305.2

RETAIL

OCCUPANCY: M (MERCANTILE)  
 AREA: 4,257 SQ. FT.  
 OCCUPANT LOAD: 71 (60 SQ. FT./OCC)  
 EGRESS WIDTH: 123" (0.2"/OCC = 15" MIN.)  
 EXITS PROVIDED: 3 (2 REQUIRED)

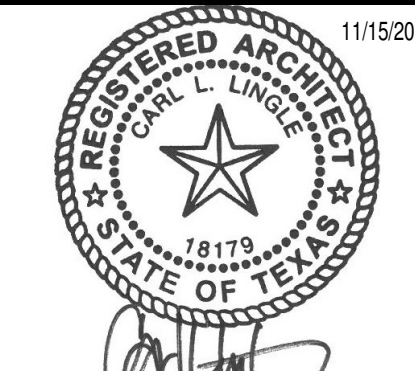


A5 Exit Signage Detail  
 1/2" = 1'-0"

A1 Accessibility & Egress Plan  
 1/4" = 1'-0"

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PROJECT #:  
 DRAWN BY: BA CHECKED BY: MP

PERMIT SET - 11/15/2023  
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SHERWIN WILLIAMS

STORE #:  
 XXXX  
 ADDRESS:

12360 W. SH 29, LIBERTY HILL, TX, 78642

SHEET TITLE:

Accessibility & Egress Plan

SHEET NUMBER:

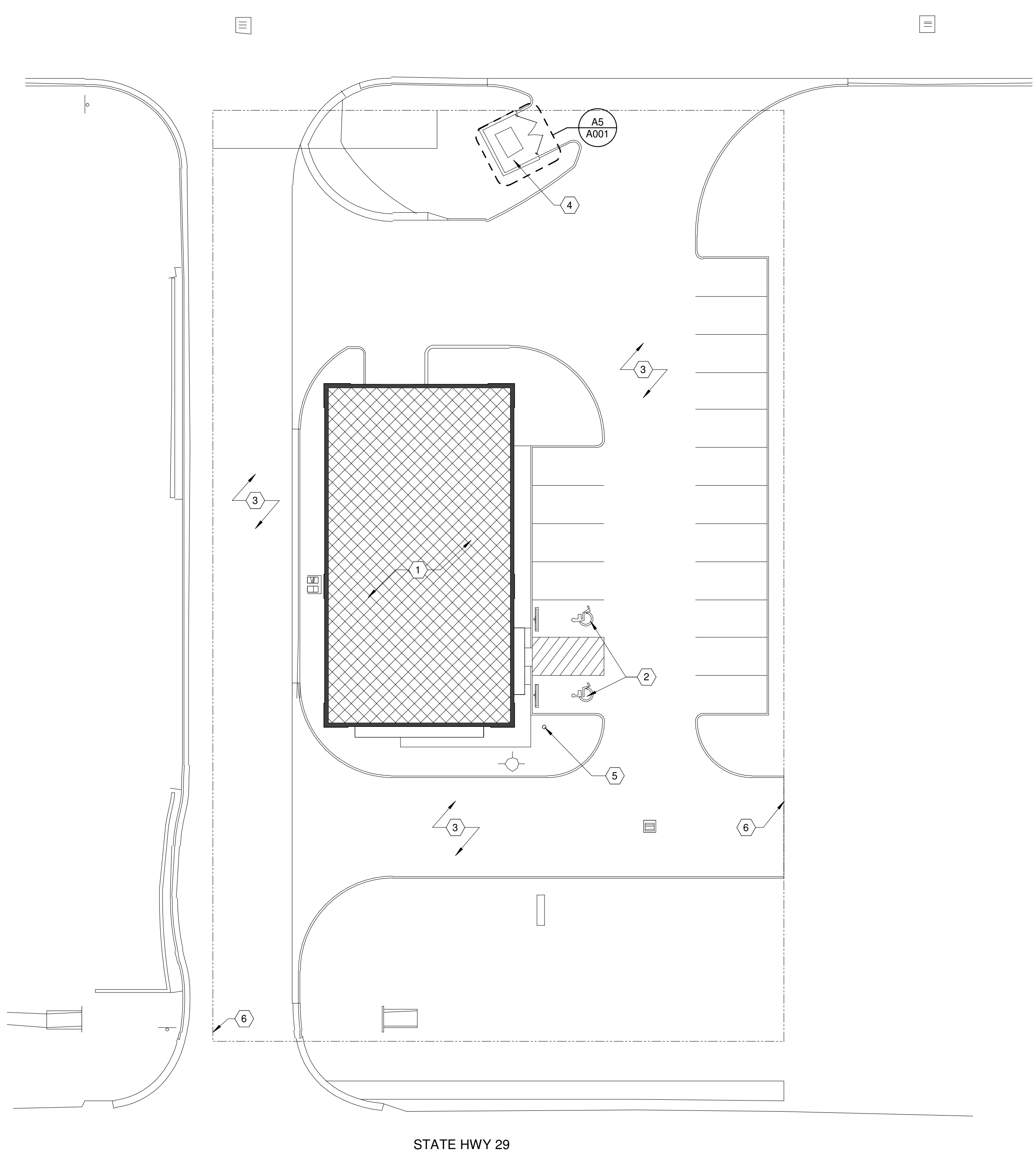
G100

**SITE PLAN CODED NOTES**

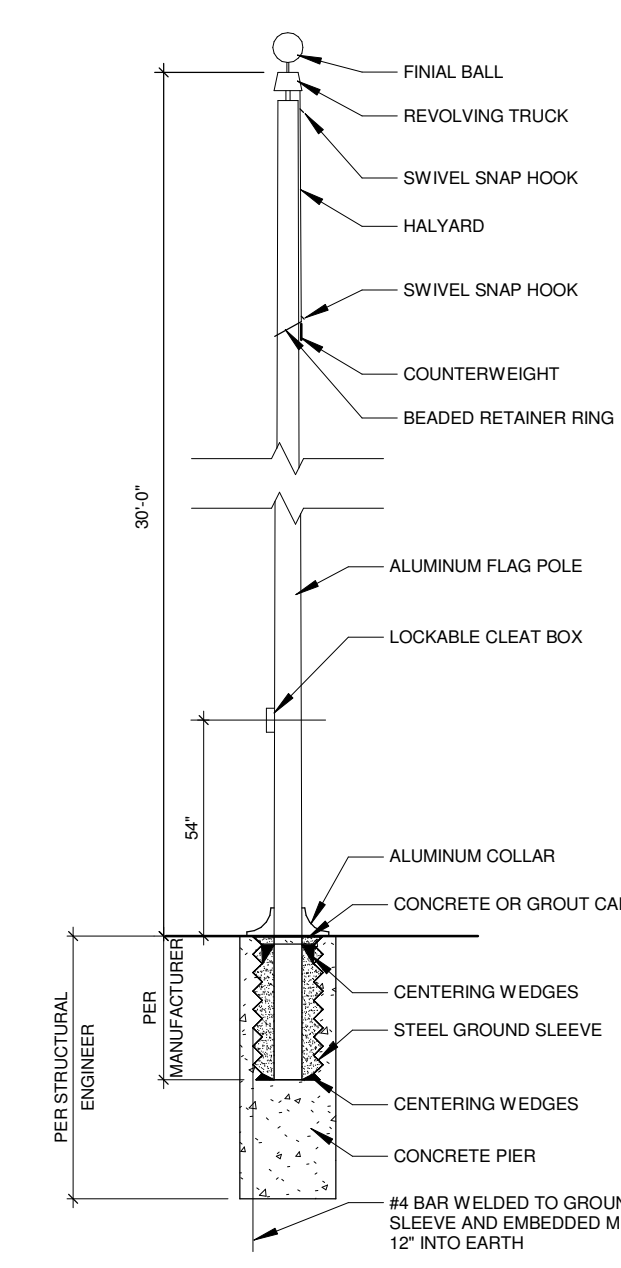
1	SHERWIN-WILLIAMS
2	ACCESSIBLE PARKING
3	PAVEMENT
4	TRASH ENCLOSURE
5	FLAG POLE
6	PROPERTY LINE

**GENERAL NOTES**

- UNLESS OTHERWISE NOTED, ALL SITE & CIVIL WORK PERFORMED UNDER SEPARATE PERMIT.
- REFERENCE CIVIL PERMIT SET.
- GENERAL CONTRACTOR TO COORDINATE ALL UTILITIES SCHEDULING & CONNECTIONS.

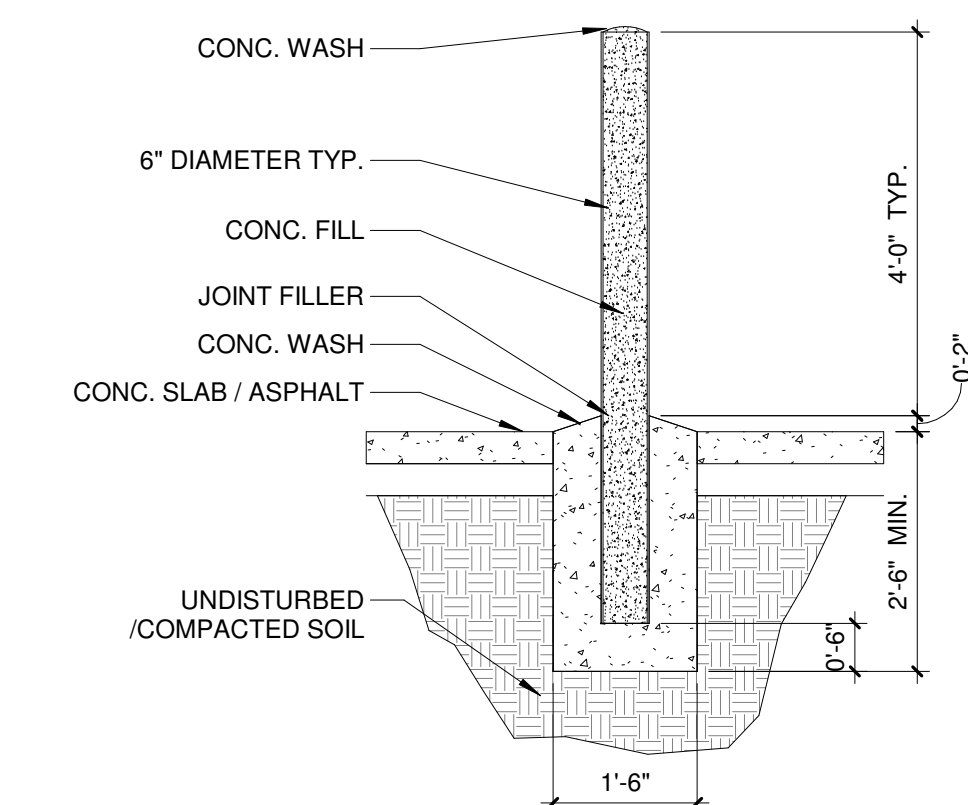


**A1 SITE PLAN SCHEMATIC**  
1" = 20'-0"

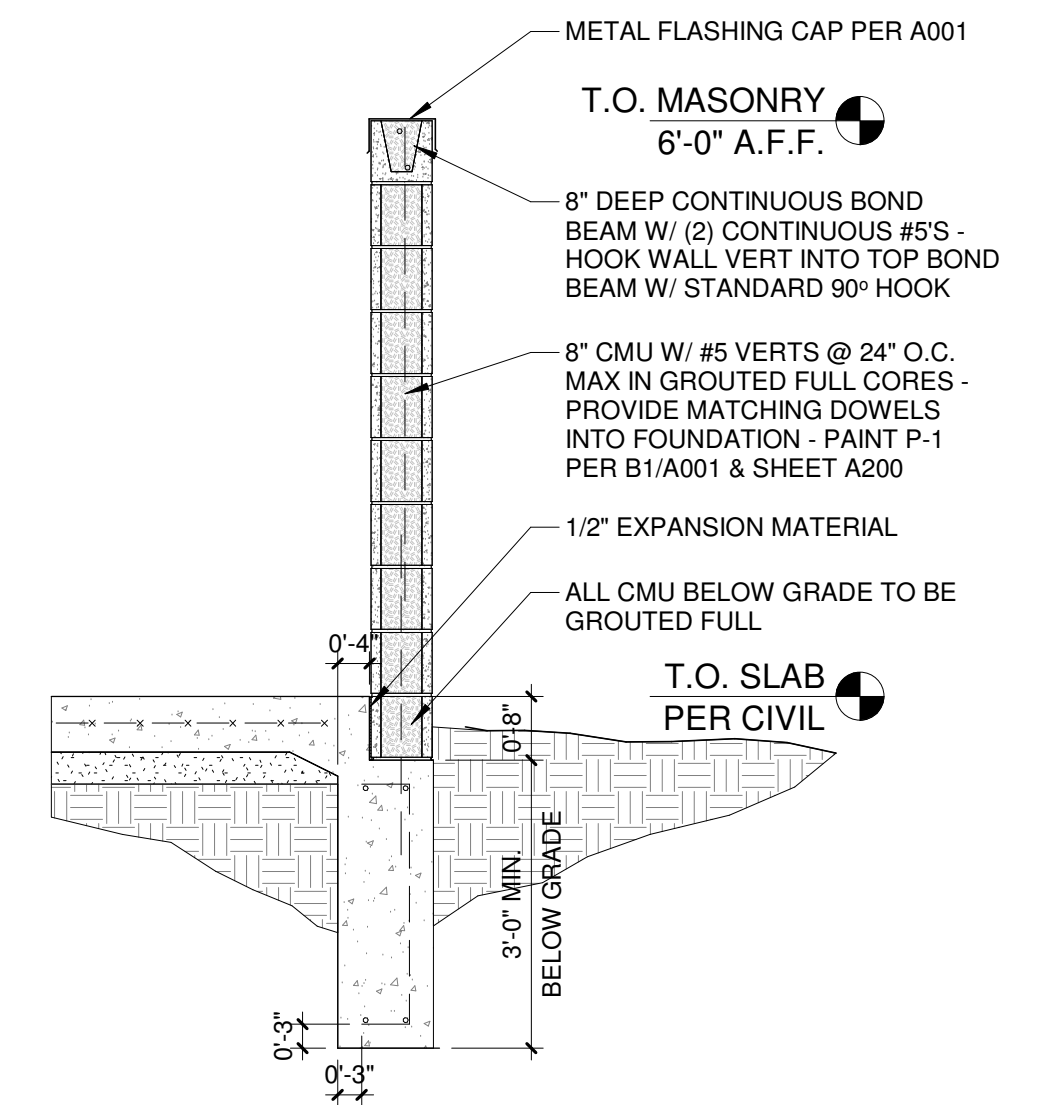


**C4 FLAG POLE**  
1/4" = 1'-0"

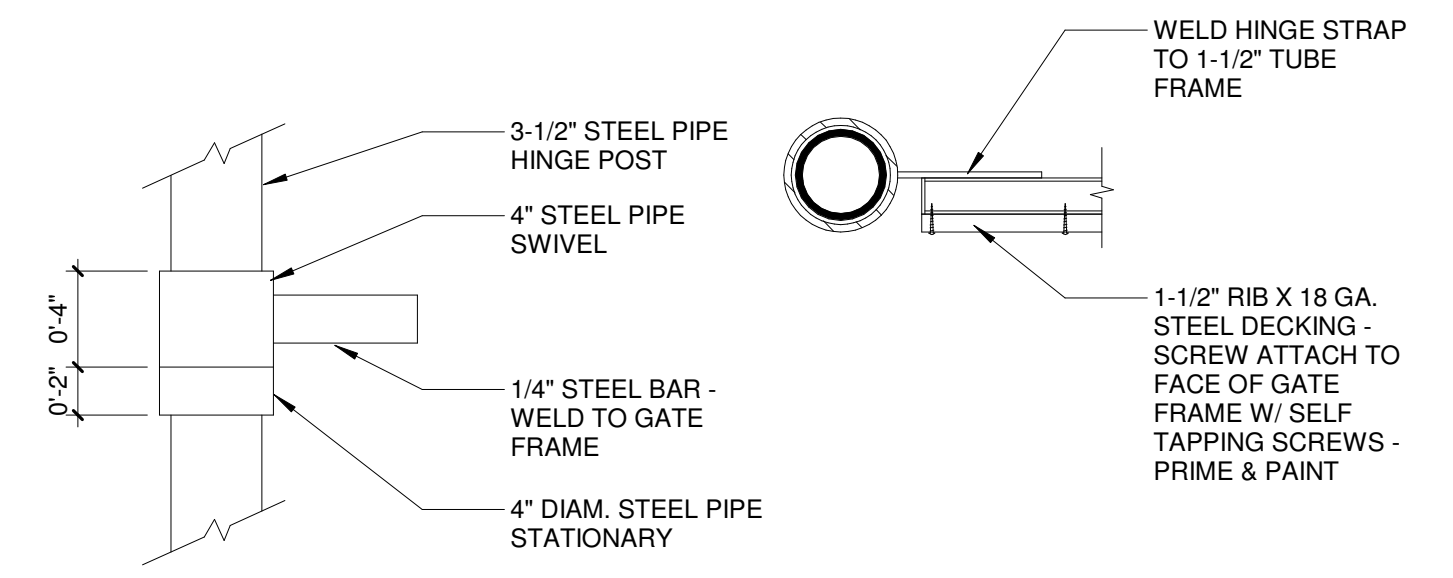
NOTE: SEE PLAN FOR LOCATION



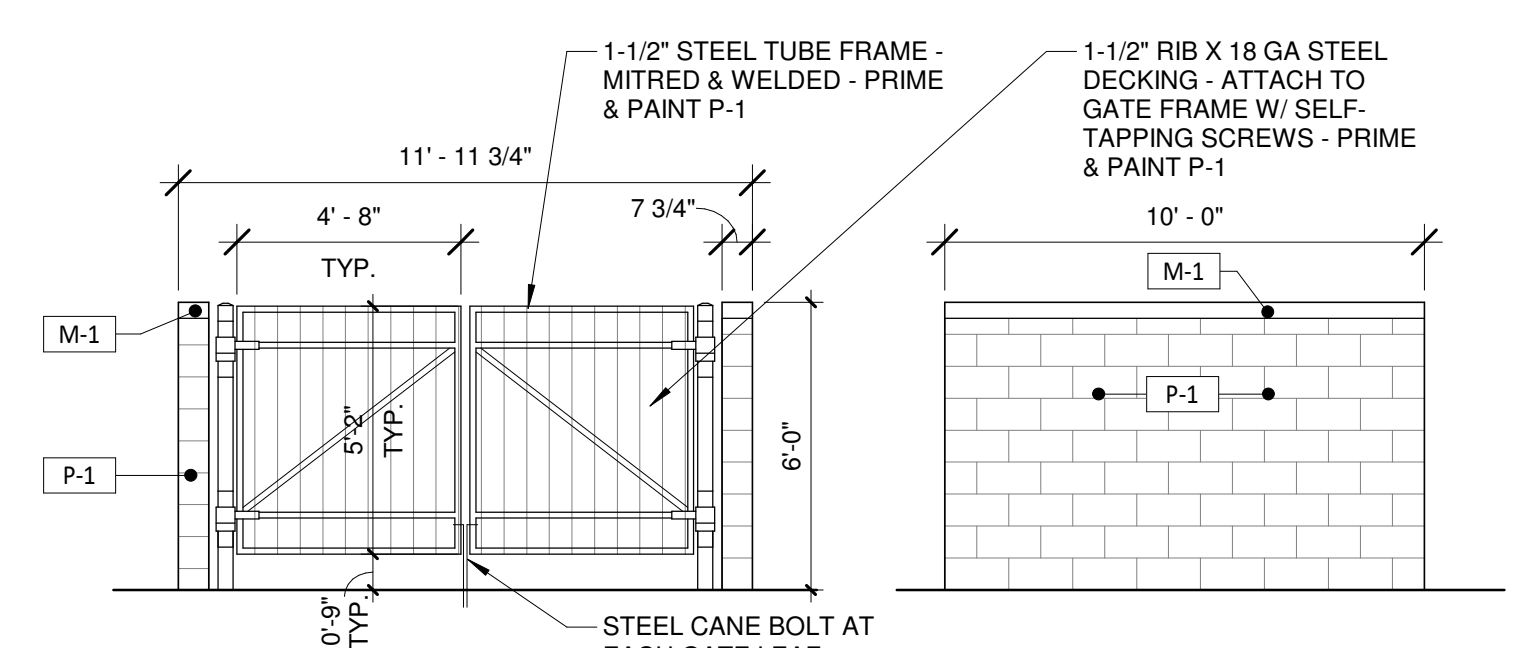
**B4 BOLLARD DETAIL**  
1/2" = 1'-0"



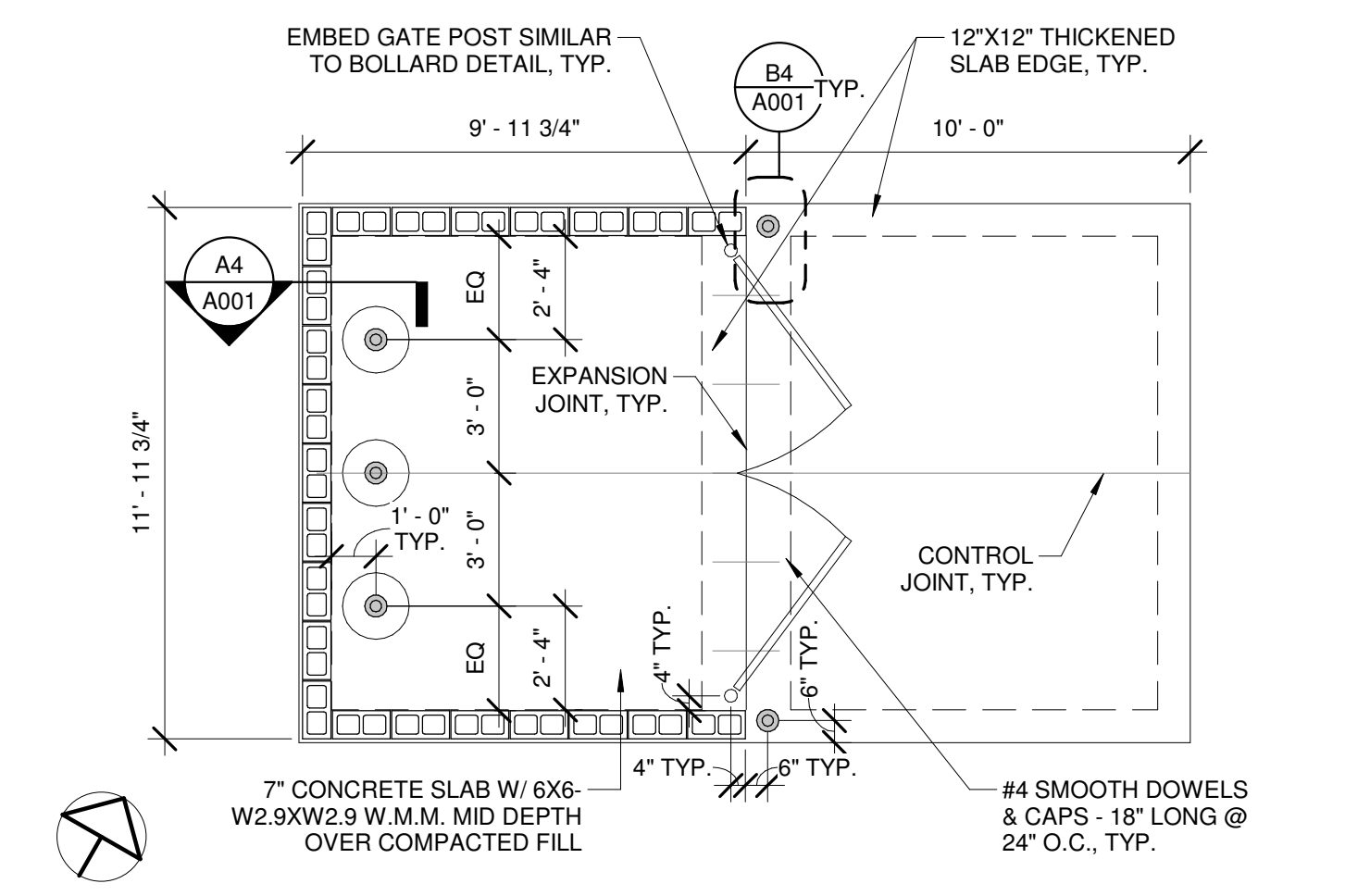
**A4 TRASH ENCLOSURE WALL SECTION**  
1/2" = 1'-0"



**C5 HINGE DETAIL**  
1 1/2" = 1'-0"



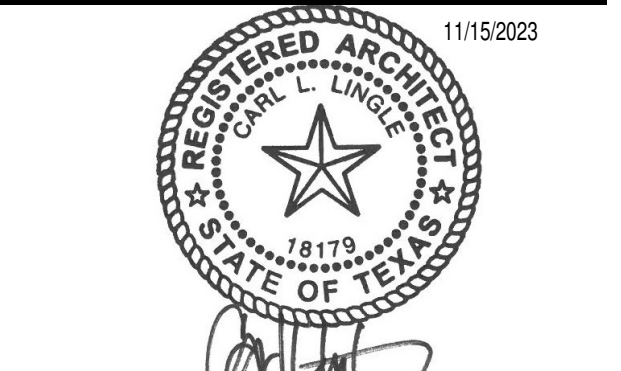
**B5 TRASH ENCLOSURE ELEVATIONS**  
1/4" = 1'-0"



**A5 TRASH ENCLOSURE PLAN**  
1/4" = 1'-0"

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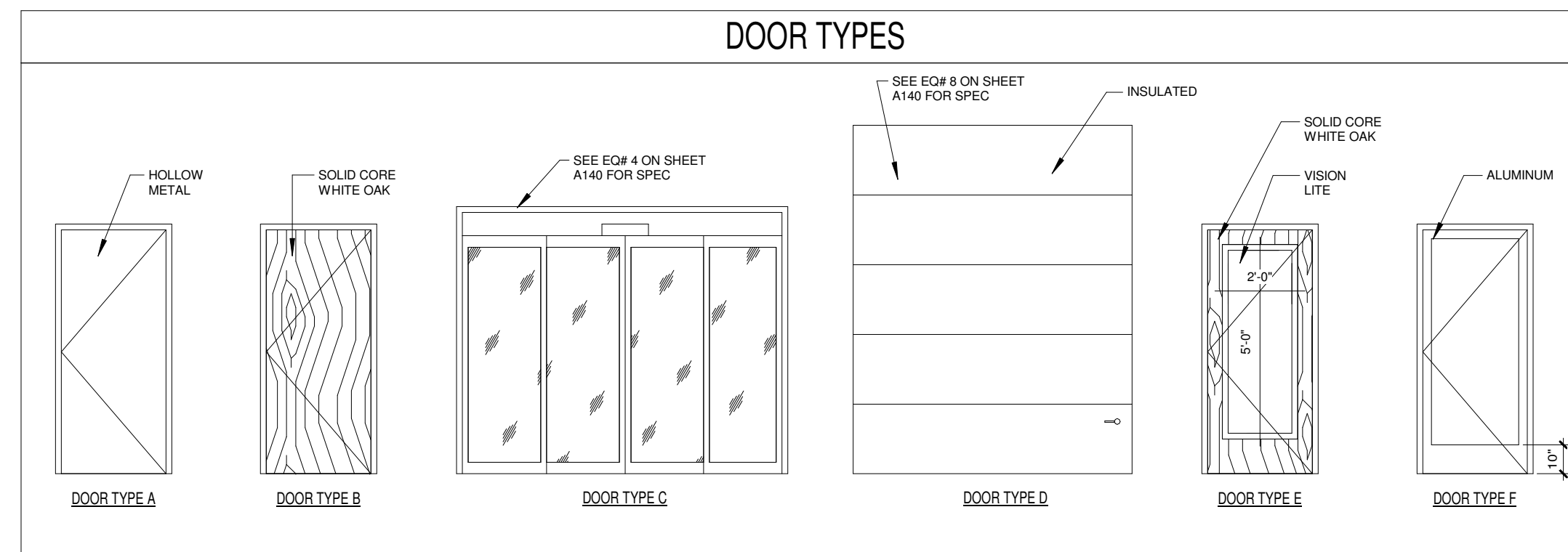
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**SHERWIN WILLIAMS**

STORE #:  
XXXX  
ADDRESS:  
12360 W. SH 29, LIBERTY HILL, TX, 78642

SHEET TITLE:  
Architectural Site Plan

SHEET NUMBER:  
**A001**



### Door Schedule

Mark	Width	Height	Thickness	DOOR TYPE	DOOR MATERIAL	FRAME MATERIAL	HARDWARE GROUP
101A	10'-0"	7'-8"	0'-4 1/2"	C	ALUM	ALUM	1
101B	3'-0"	7'-0"	0'-1 3/4"	F	ALUM	ALUM	6
102A	8'-0"	10'-0"	0'-1 1/2"	D	STEEL	---	5
102B	3'-0"	7'-0"	0'-1 3/4"	A	HM-STL	HM-STL	4
104	3'-0"	7'-0"	0'-1 3/4"	B	WOOD	HM-STL	2
105	3'-0"	7'-0"	0'-1 3/4"	E	WOOD	HM-STL	3

### HARDWARE SCHEDULE

**GROUP 1 - SLIDING DOORS**

2 EA.	EXIT DEVICE	MOTION DETECTION UNIT
1 EA.	LOCK	MANUFACTURER LOCK SYSTEM
2 EA.	CLOSER	AUTOMATIC DOORS
1 EA.	SIGNAGE	"DOOR TO REMAIN UNLOCKED DURING BUSINESS HOURS"
1 EA.	SIGNAGE	"MAXIMUM OCCUPANCY" - POST AT MAIN ENTRY
1 EA.	THRESHOLD	MANUFACTURER THRESHOLD SYSTEM

**GROUP 2 - RESTROOM DOORS (PRIVACY SET)**

3 PR.	HINGE	STANLEY - #FBB179 - 4-1/2" X 4-1/2"
1 EA.	LATCH	SCHLAGE - ND40S-TLR (PRIVACY HARDWARE) - 626 FINISH
1 EA.	CLOSER	DORMA - 8616FFHP
3 EA.	SILENCERS	GLYNN - GJ64
1 EA.	SIGNAGE	"RESTROOM" SIGNAGE PER DETAIL ON SHEET A400
1 EA.	STOP	AS REQUIRED - WALL: #407 1/2 PA28 - FLOOR: #436 OR #438 PA28

**GROUP 3 - OFFICE DOOR**

3 PR.	HINGE	STANLEY - #FBB179 - 4-1/2" X 4-1/2"
1 EA.	LATCH	SCHLAGE - ND50PD-TLR-SFIC - 626 FINISH
1 EA.	LOCK	LATCH-COMPATIBLE SMALL FORMAT INTERCHANGEABLE CORE
3 EA.	SILENCERS	GLYNN - GJ64
1 EA.	STOP	AS REQUIRED - WALL: #407 1/2 PA28 - FLOOR: #436 OR #438 PA28
1 EA.	VISION LITE	FULL GLASS - VERIFY W/ SHERWIN-WILLIAMS CORPORATE

**GROUP 4 - SERVICE DOOR**

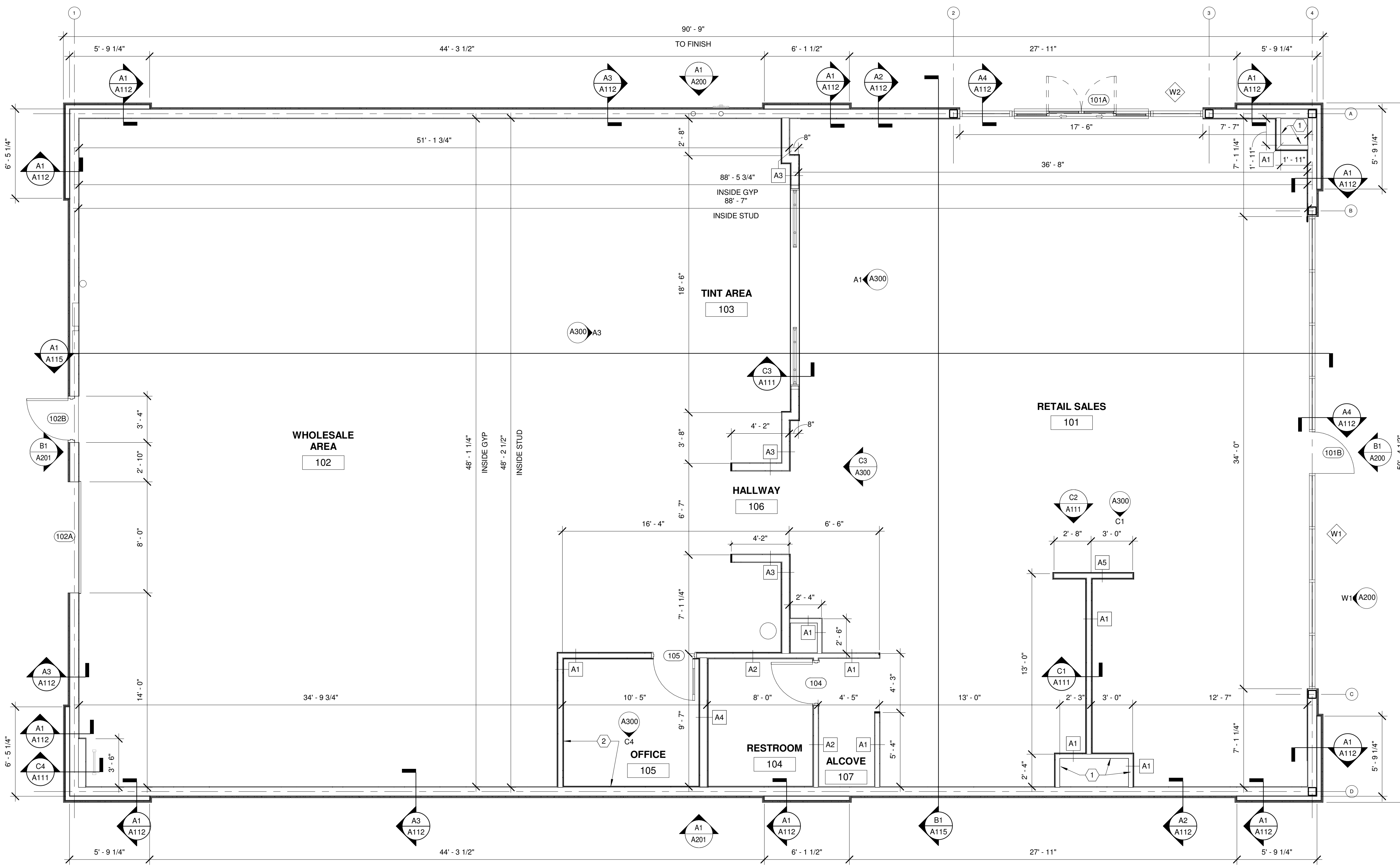
3 PR.	HINGE	STANLEY - #FBB179 - 4-1/2" X 4-1/2"
1 EA.	PULL	YALE - 632F-626
1 EA.	EXIT DEVICE	YALE - 2150-36 - 652 FINISH (PANIC BAR)
1 EA.	CLOSER	LCN-4041 (4040 SERIES) - HEAVY DUTY CLOSER
3 EA.	SILENCERS	GLYNN - GJ64
1 EA.	THRESHOLD	PEMKO - #171A - SIZE AS REQUIRED
1 EA.	SWEEP	PEMKO - #307AV - SIZE AS REQUIRED
1 EA.	WEATHERSTRIP	PEMKO - #303AV - SIZE AS REQUIRED

**GROUP 5 - DELIVERY DOOR**

1 EA.	OPENER/LOCK	MOTORIZED OPERATOR - LIFTMASTER LJ8900W
1 EA.	WEATHERSTRIP	PEMKO - #303AV - SIZE AS REQUIRED

**GROUP 6 - STOREFRONT DOOR**

3 PR.	HINGE	4-1/2" X 4-1/2" B.B. W/IT NON REMOVABLE PINS
1 EA.	LOCK	KEYED DEADBOLTS WITH INSIDE THUMBTURN
1 EA.	EXIT DEVICE	PUSH SET
1 EA.	PULL	ELMES G500-01-023-L300 OR APPROVED SIMILAR
1 EA.	CLOSER	LCN-4041 (4040 SERIES) - HEAVY DUTY CLOSER
1 EA.	THRESHOLD	PEMKO - #171A - SIZE AS REQUIRED
1 EA.	SWEEP	PEMKO - #307AV - SIZE AS REQUIRED



**DOOR AND HARDWARE NOTES:**

- G.C. TO FURNISH & INSTALL MEDECO CYLINDER IN ALL PERIMETER DOORS. SHERWIN-WILLIAMS CORPORATE WILL RE-KEY TO SHERWIN-WILLIAMS MASTER KEY SYSTEM. PROVIDE KEYWAY ON EXTERIOR FACE.
- G.C. TO FURNISH & INSTALL MEDECO CYLINDER IN ALL INTERIOR H.M. DOORS. ALL INTERIOR DOORS TO BE KEYPED ALIKE. PROVIDE KEYWAY ON EXTERIOR FACE.
- ALL HOLLOW METAL DOOR FRAMES ARE TO BE WELDED.
- G.C. TO FURNISH & INSTALL PANIC HARDWARE PER ALL APPLICABLE REGULATIONS & CODES HAVING JURISDICTION.
- DOOR STOPS AND BUMPERS TO BE INSTALLED BEHIND ALL DOORS.
- ALL HARDWARE TO BE US26D BRUSHED CHROME, CLEAR ANODIZED FINISH.
- UNDERCUT RESTROOM & OFFICE DOORS 1".
- U.N.O. ALL PAINTED DOORS & DOOR JAMBS TO BE PAINTED P-1.

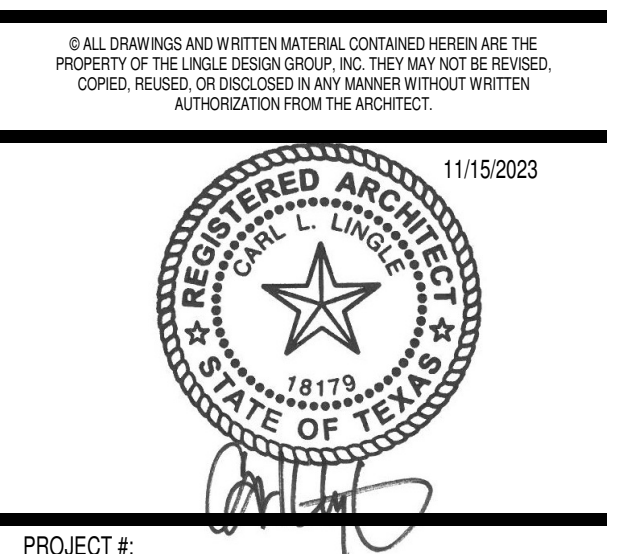
**GENERAL NOTES**

- G.C. TO PROVIDE BLOCKING FOR SUPPORT OF RESTROOM AND CASEWORK ACCESSORIES AS RECOMMENDED BY MANUFACTURER. SEE ENLARGED RESTROOM AND CASEWORK ELEVATIONS.
- OCCUPANCY LOAD SIGN SUPPLIED AND INSTALLED BY G.C.
- G.C. SHALL SUPPLY AND INSTALL RECESSED FIRE EXTINGUISHERS AS REQUIRED BY LOCAL CODES. LOCATION PER LOCAL CODES. COORDINATE PLACEMENT WITH TENANT AND FIRE MARSHAL.
- REFERENCE THE FOLLOWING SHEETS: G001 GENERAL NOTES, ABBREVIATIONS AND SYMBOLS; G100 ACCESSIBILITY PLANS.
- ALL DIMENSIONS NOTED ARE FROM FACE OF STUD TO FACE OF STUD, UNO.
- ELECTRICAL EQUIPMENT BY G.C. SEE ELECTRICAL DRAWINGS.
- PLUMBING EQUIPMENT BY G.C. SEE PLUMBING DRAWINGS.
- ALL CONSTRUCTION MUST BE PERFORMED WITHOUT ANY PENETRATION OF STOREFRONT IN ANY WAY, INCLUDING, BUT NOT LIMITED TO SCREWS, BOLTS AND DRILLING.
- SOUND BATT INSULATION TO BE MINIMUM CLASS 2 WITH FLAME SPREAD RATING OF 25 TO 75.
- WINDOWS AND DOORS TO HAVE SAFETY GLAZING
- SHGC: .27  
U-FACTOR: .28
- XX WALL TYPES - SEE SHEET A111
- XX STOREFRONT TAG - SEE SHEET A201
- XXX DOOR TAG - SEE SHEET A110
- INDICATES GLAZING

**CONSTRUCTION PLAN CODED NOTES**

1	NO GYP. BD. NEEDED INSIDE VOID SPACE
2	WOOD BLOCKING FOR DESK SHELVING

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 CHECKED BY: MP

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**SHERWIN WILLIAMS**

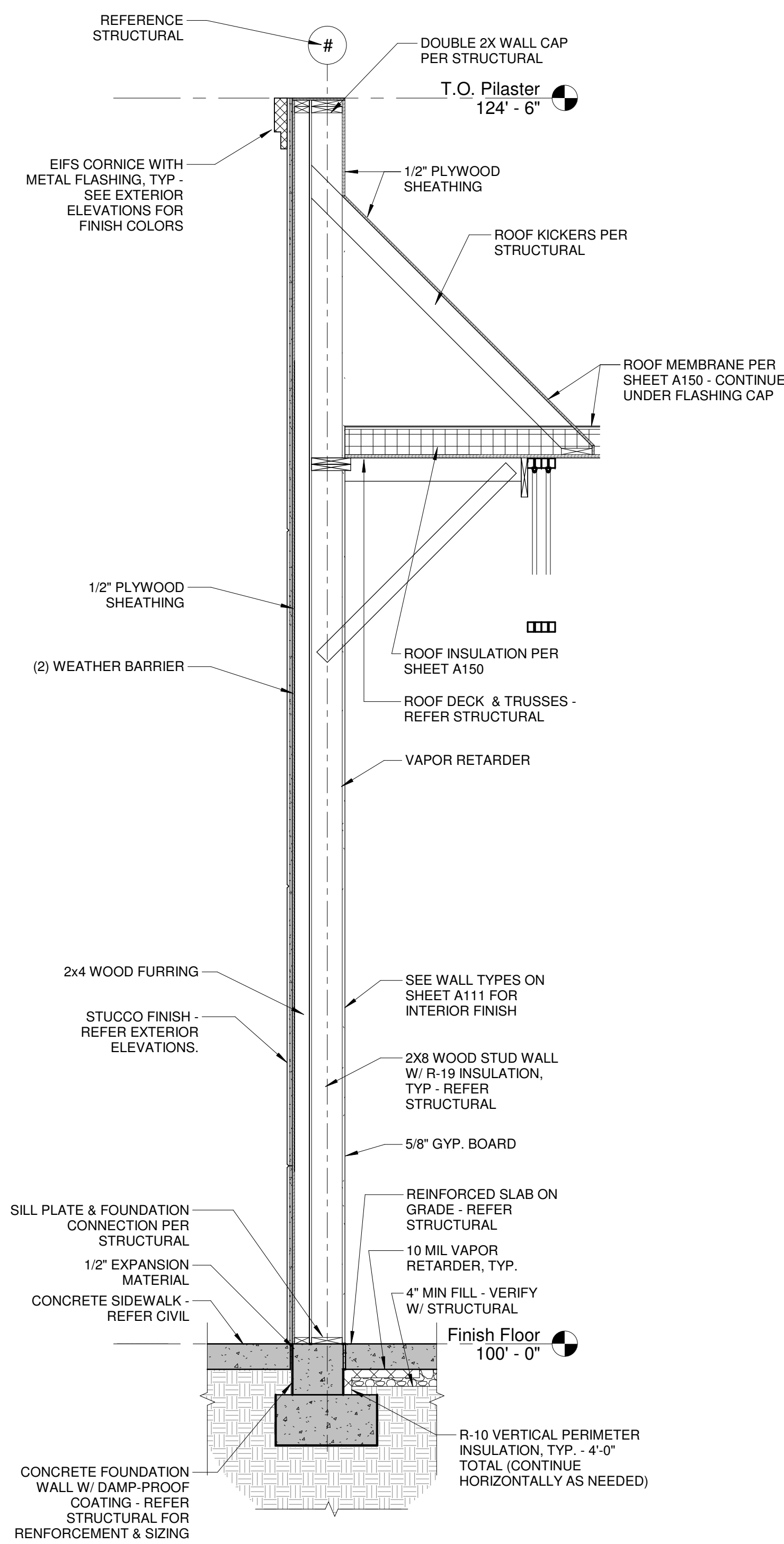
STORE #:  
 XXXX  
 ADDRESS:  
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Construction Plan

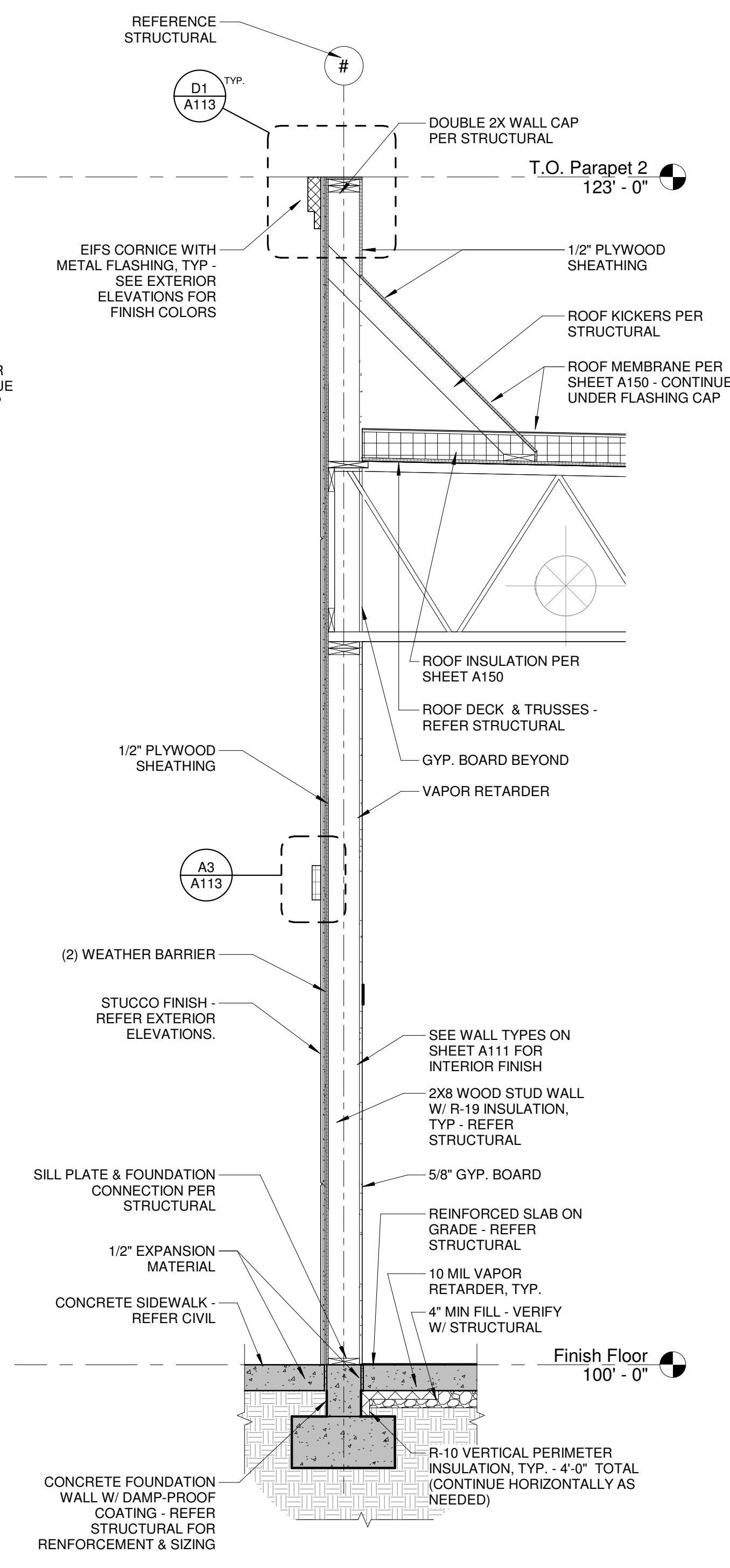
SHEET NUMBER:  
**A110**

**A1 CONSTRUCTION PLAN**  
 1/4" = 1'-0"

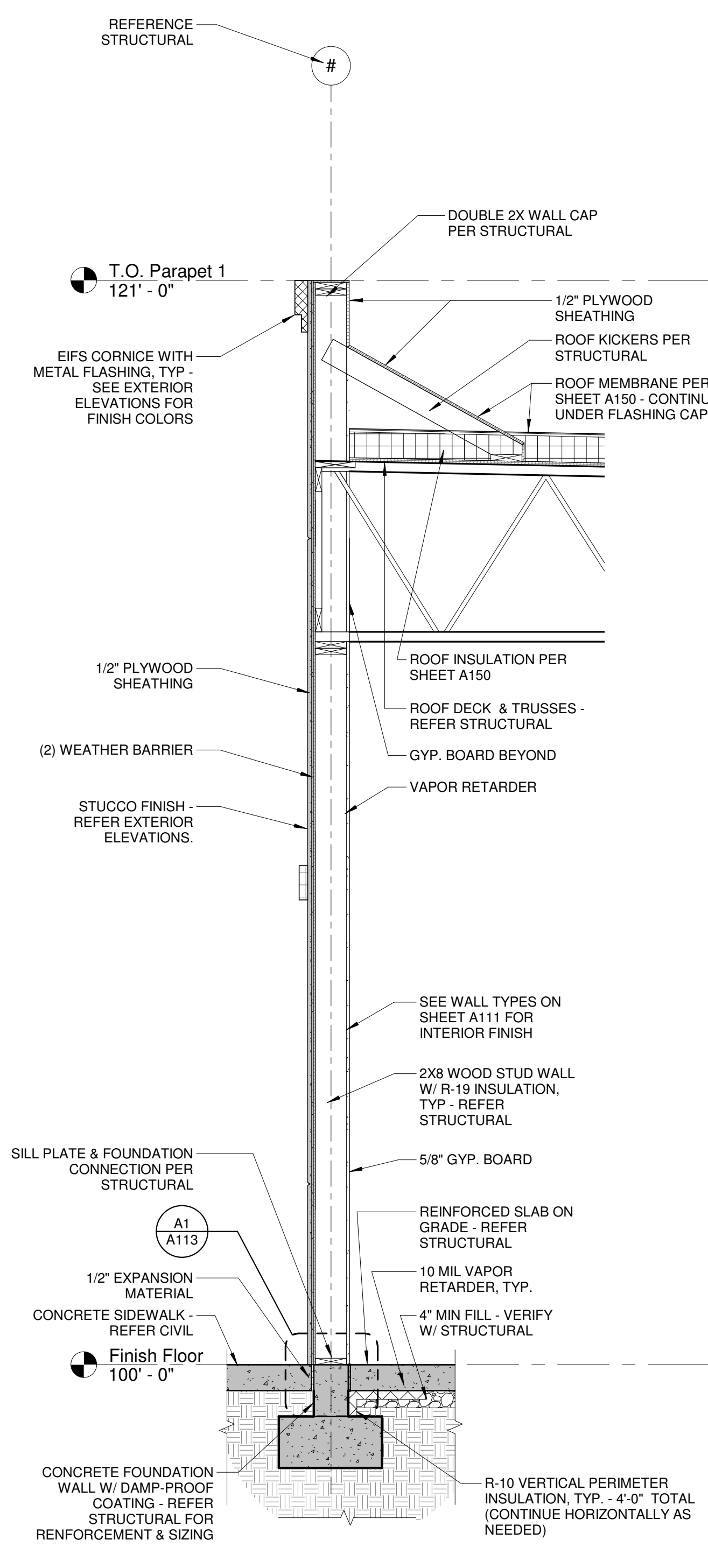




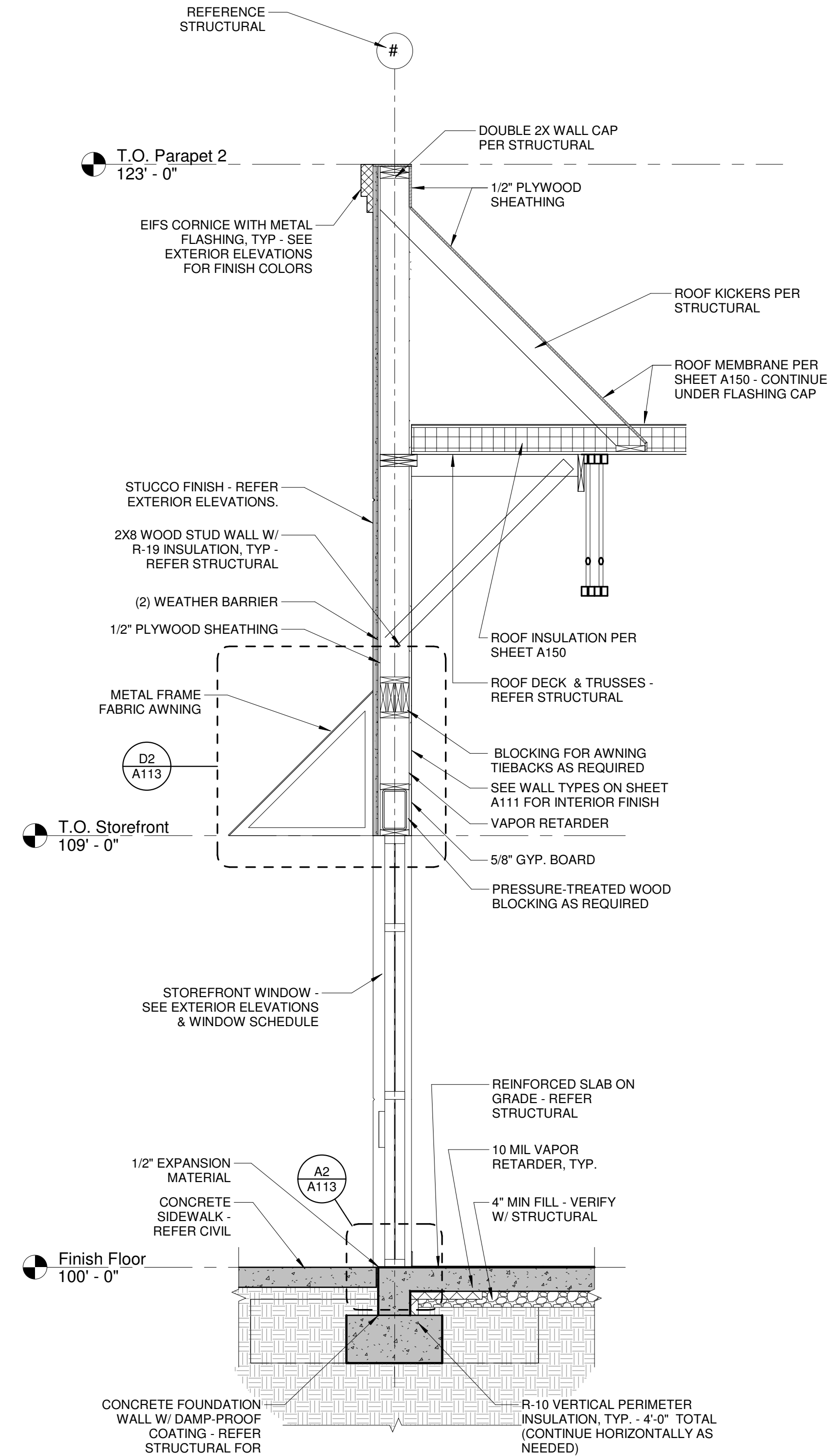
**(A1) WALL SECTION @ PILASTER**  
1/2" = 1'-0"



**(A2) WALL SECTION**  
1/2" = 1'-0"

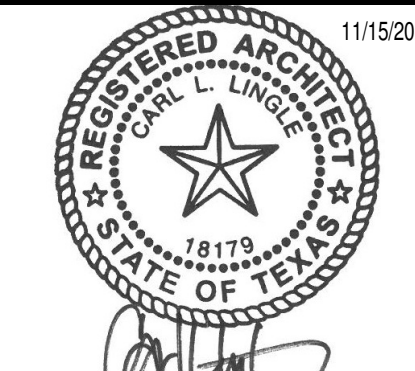


**(A3) WALL SECTION**  
1/2" = 1'-0"



**(A4) WALL SECTION @ ENTRY**  
1/2" = 1'-0"

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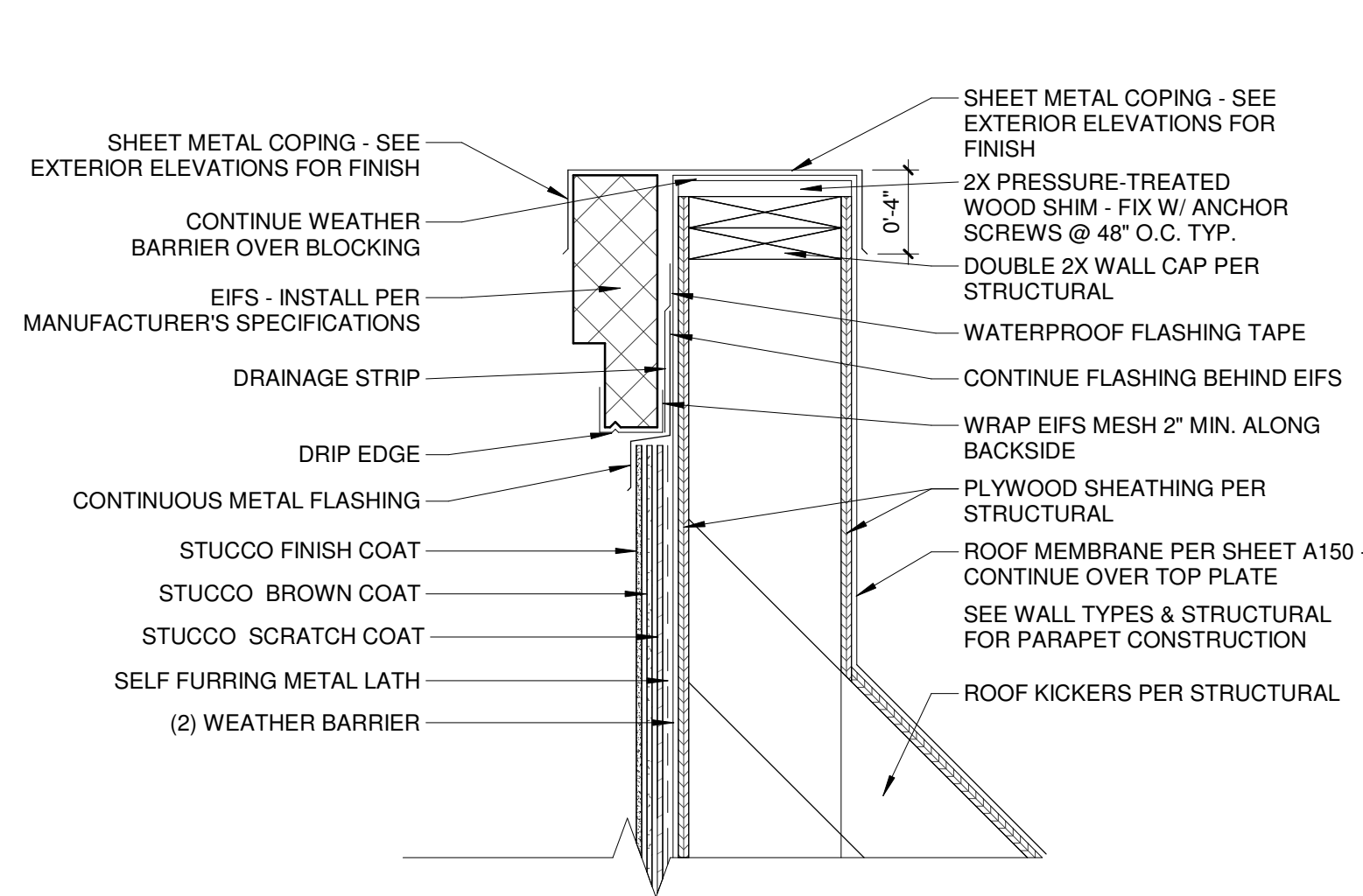
**SHERWIN WILLIAMS**

STORE #:  
 XXXX  
 ADDRESS:  
 12360 W. SH 29, LIBERTY  
 HILL, TX, 78642

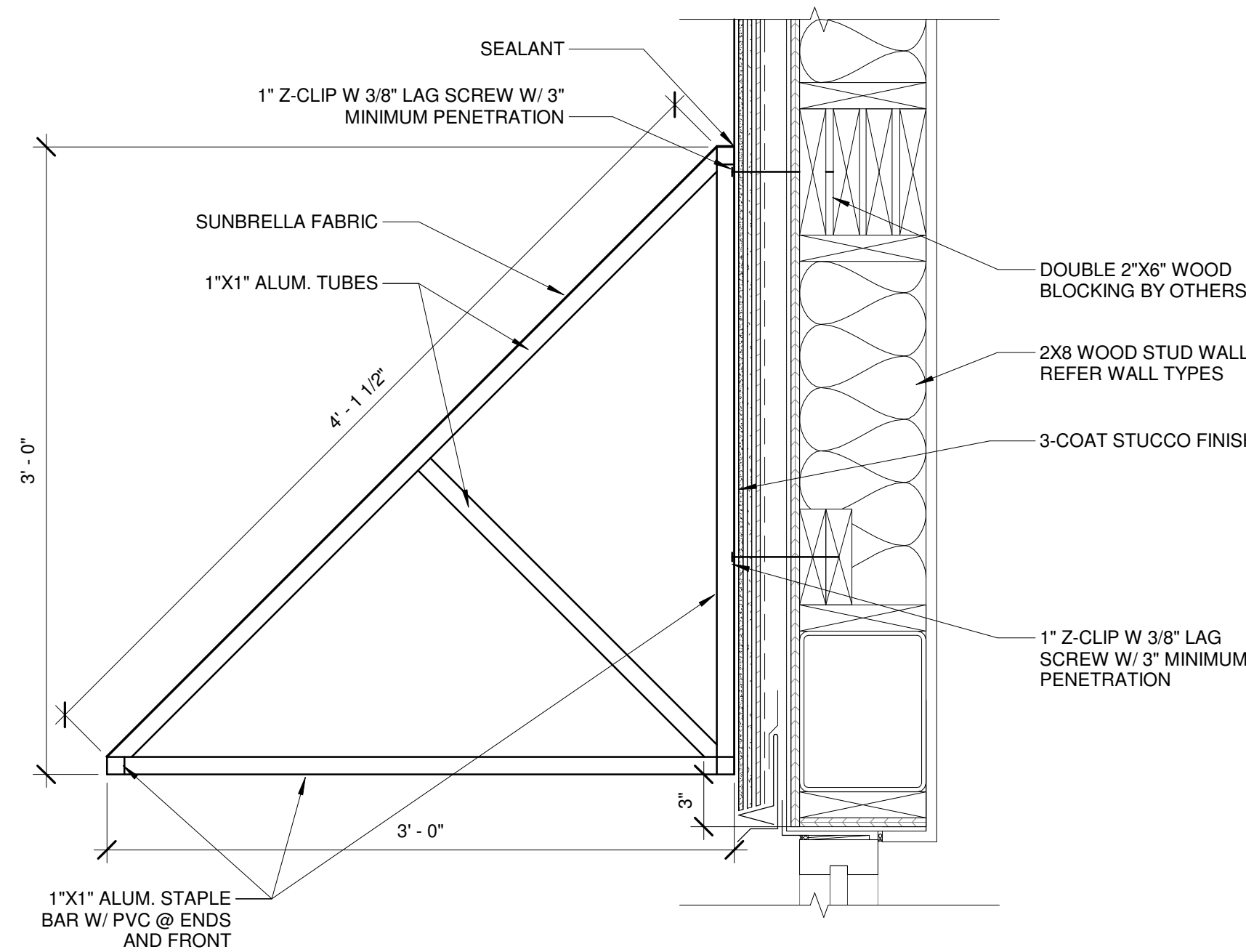
**Exterior Wall Types**

SHEET NUMBER:

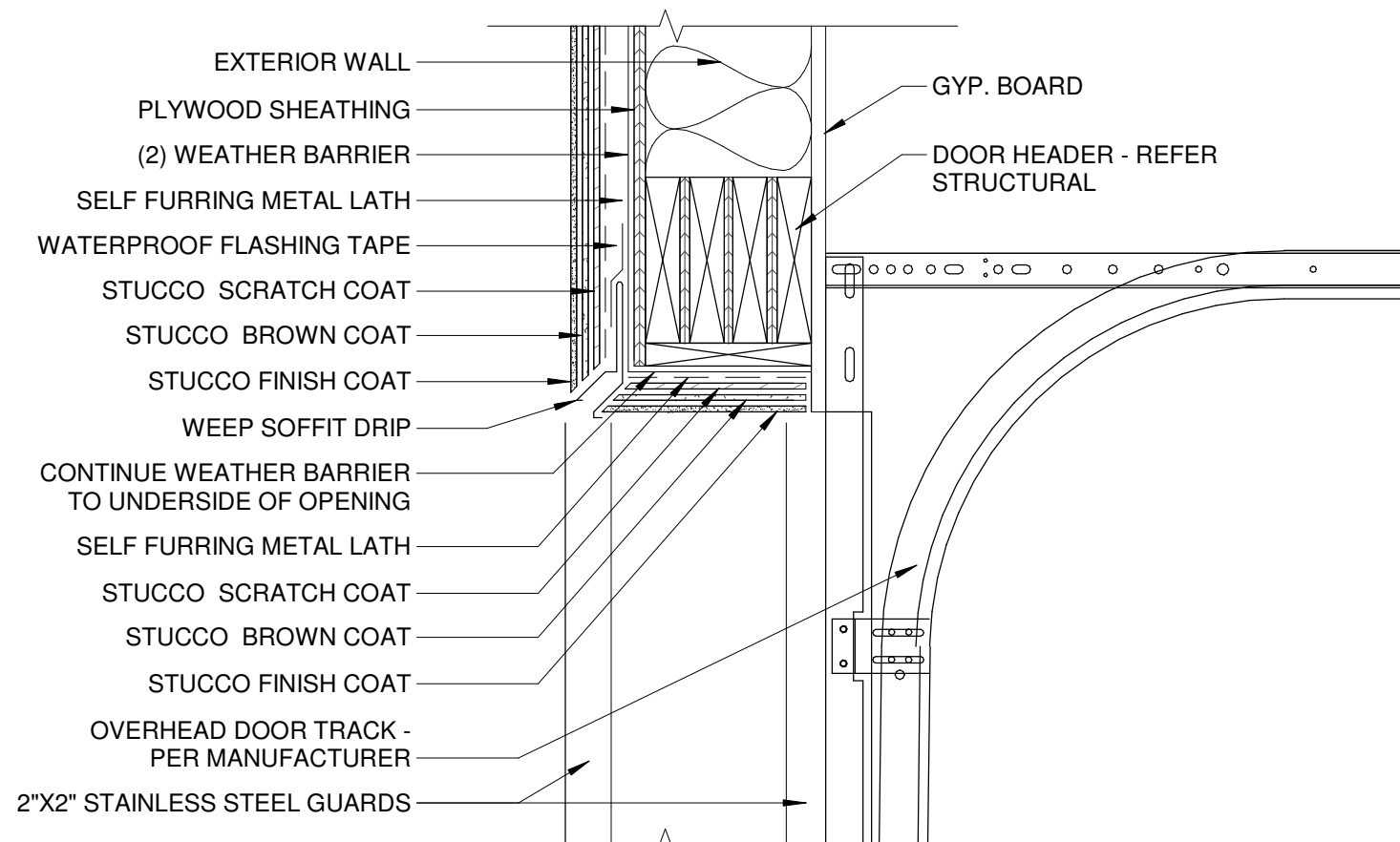
**A112**



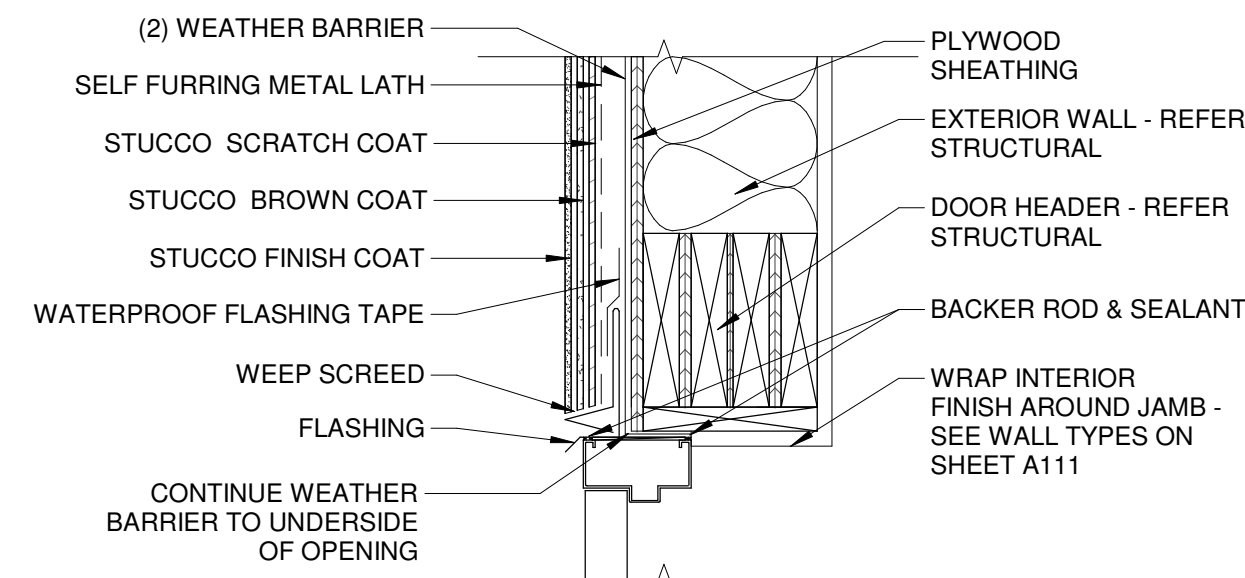
SECTION AT PARAPET  
1 1/2" = 1'-0"



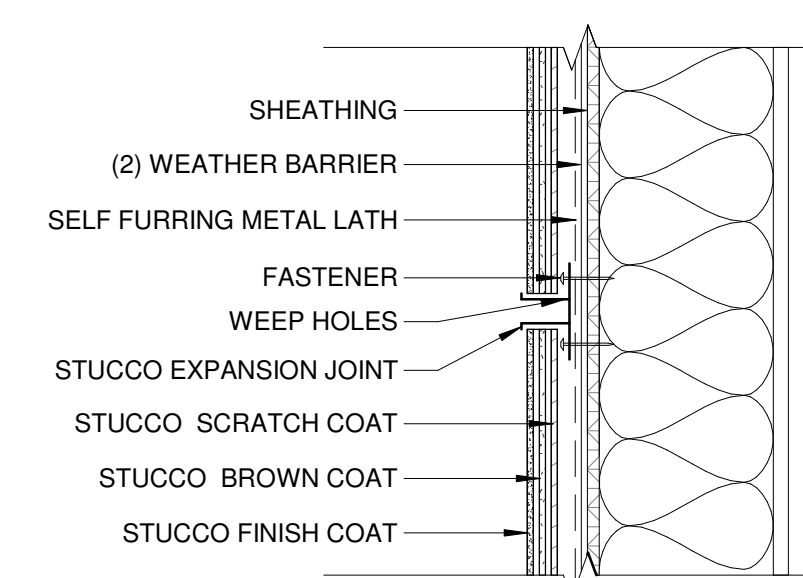
AWNING SECTION  
1 1/2" = 1'-0"



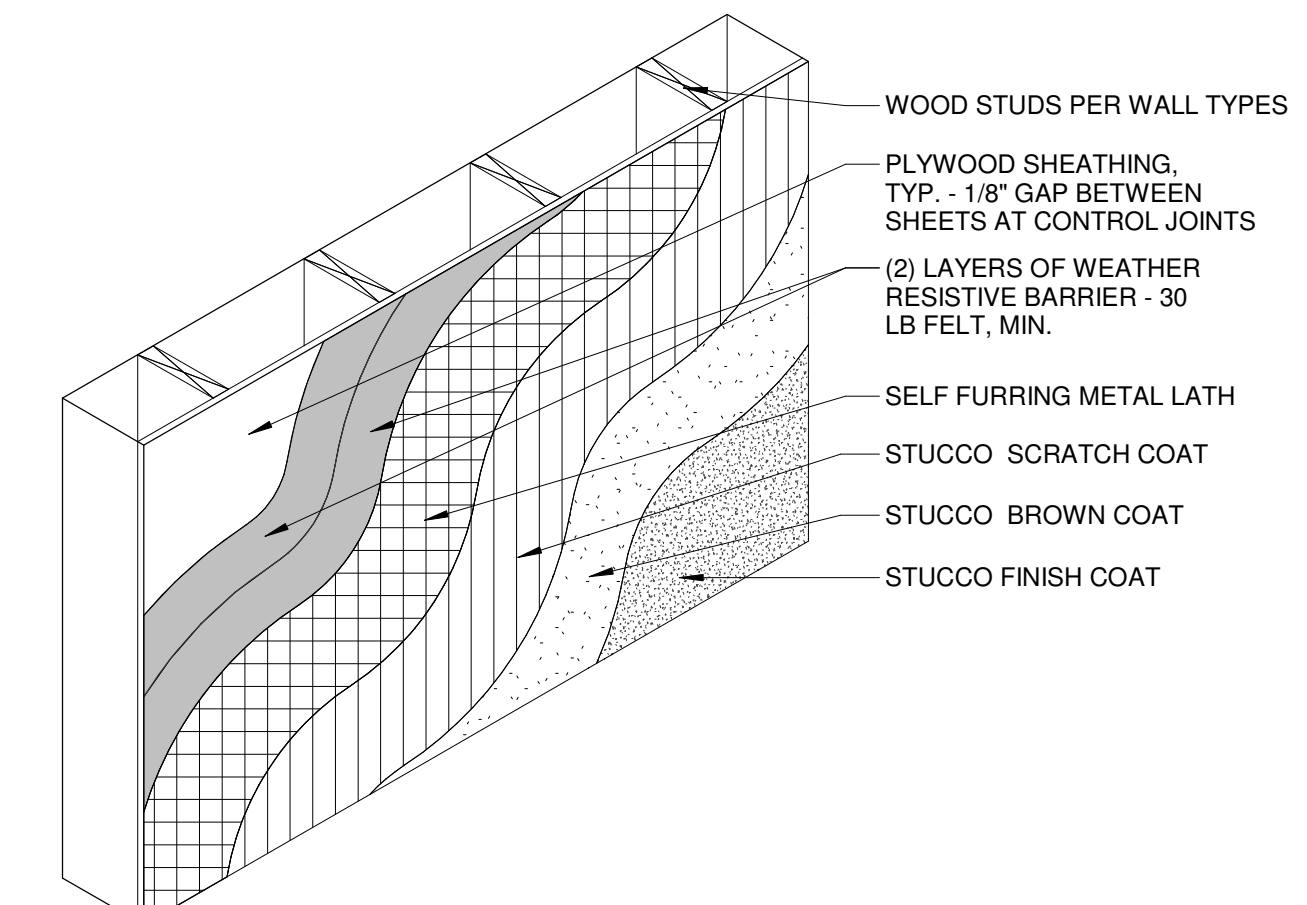
OVERHEAD DOOR HEADER  
1 1/2" = 1'-0"



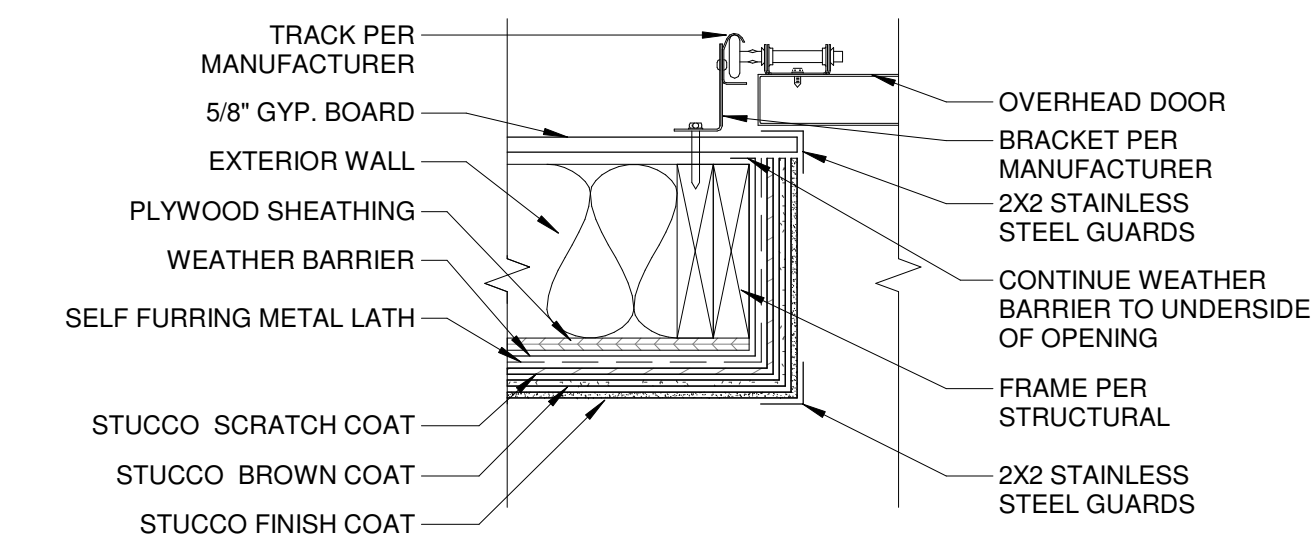
EXTERIOR DOOR HEADER  
1 1/2" = 1'-0"



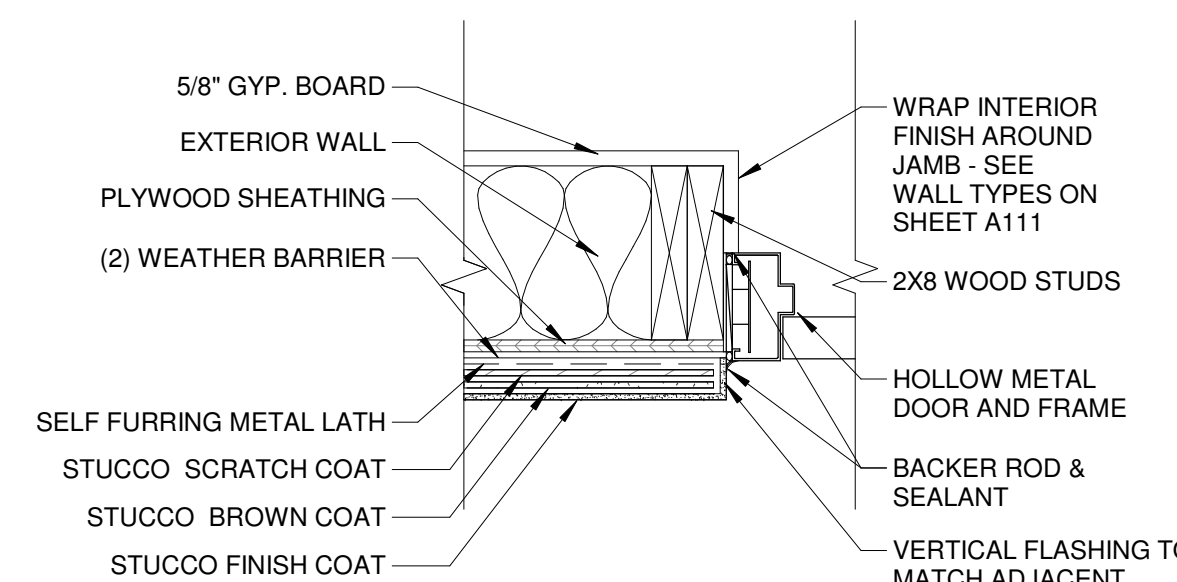
STUCCO JOINT DETAIL  
1 1/2" = 1'-0"



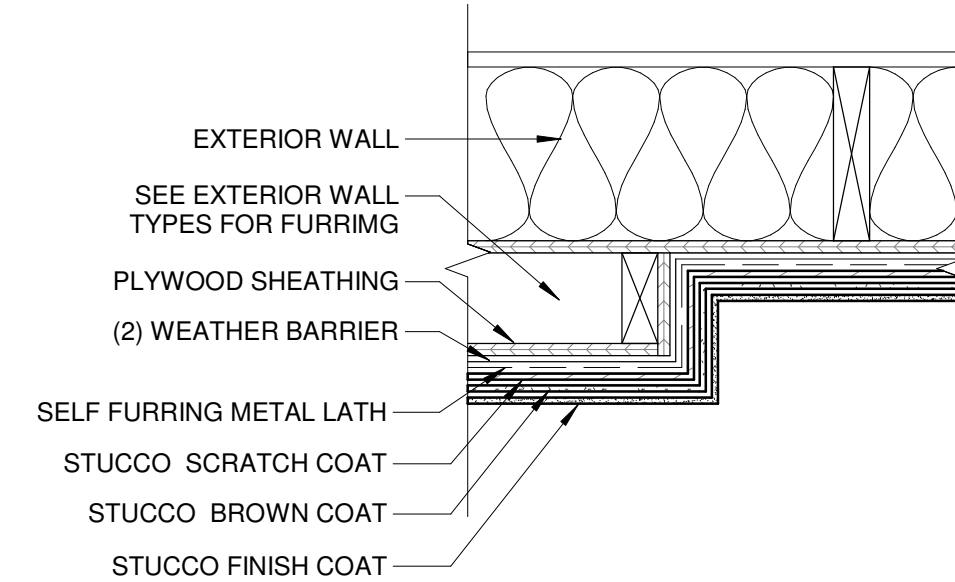
STUCCO FINISH AT WOOD SHEATHING  
3/4" = 1'-0"



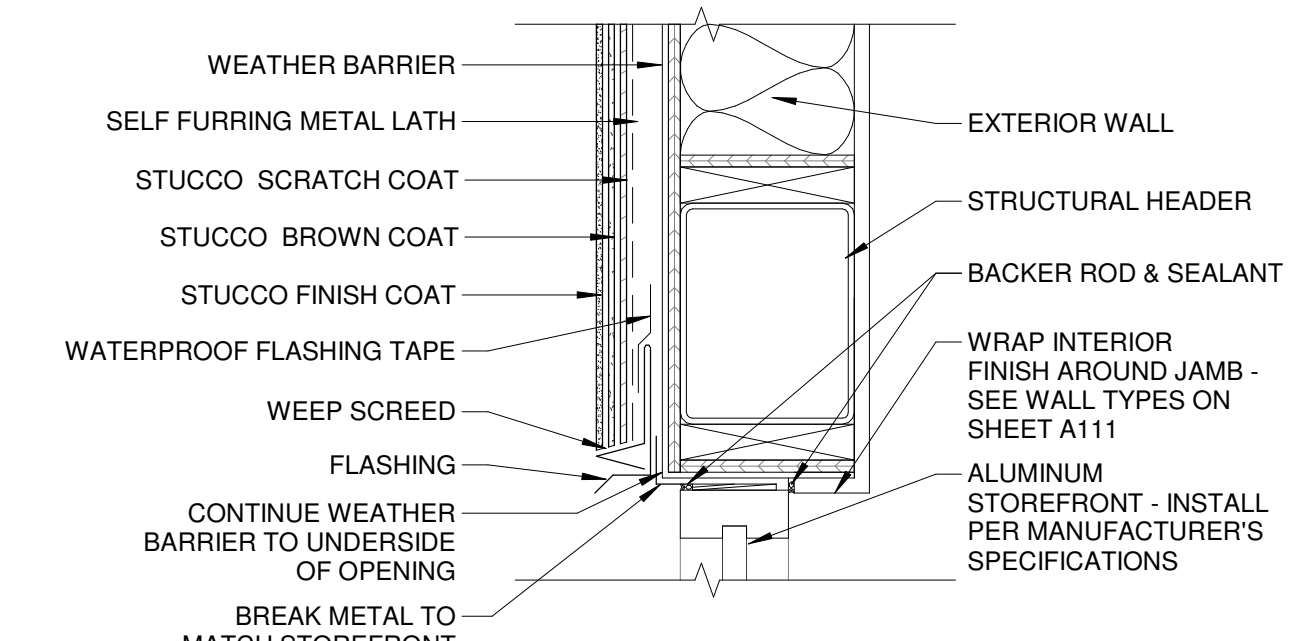
OVERHEAD DOOR JAMB  
1 1/2" = 1'-0"



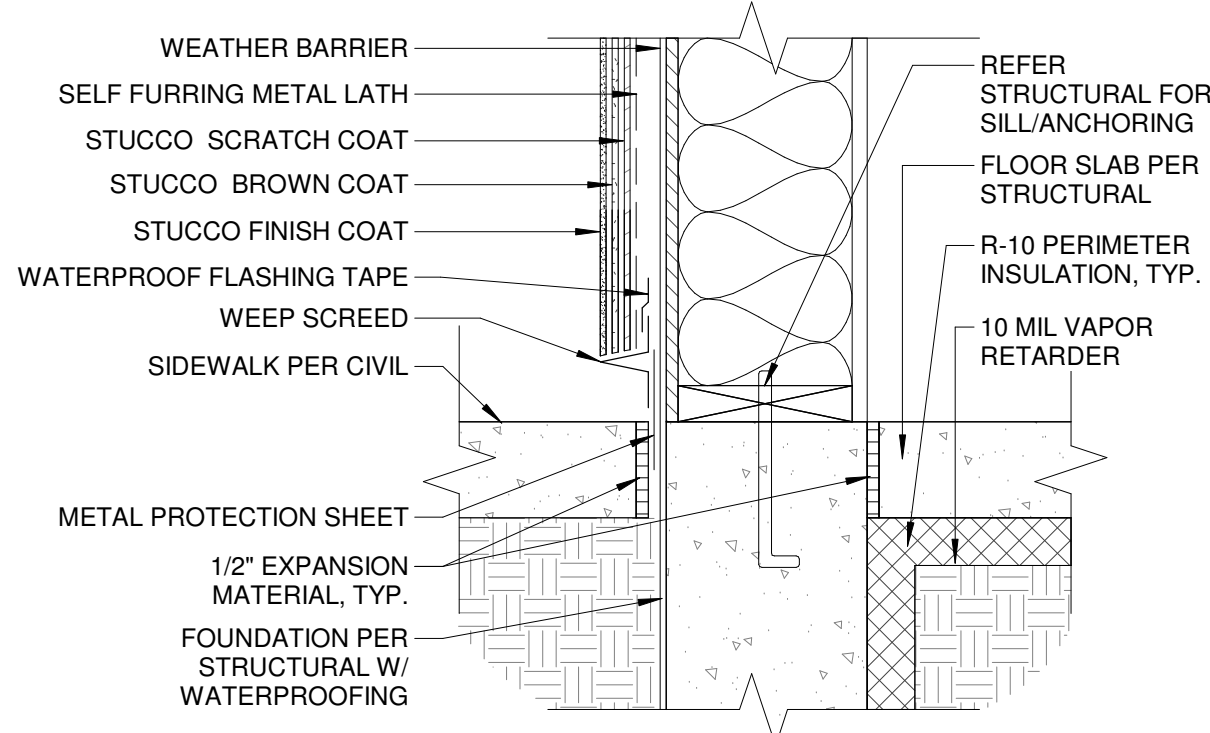
EXTERIOR DOOR JAMB  
1 1/2" = 1'-0"



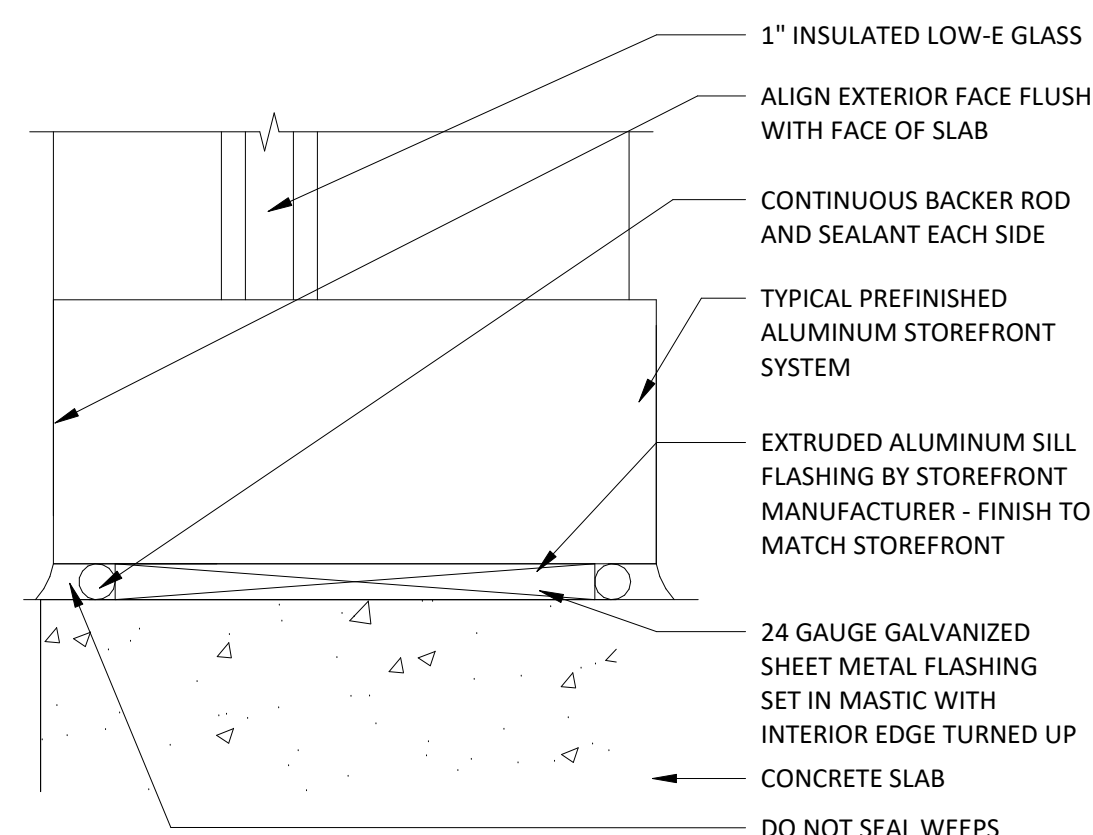
VERTICAL TRANSITION AT PILASTER  
1 1/2" = 1'-0"



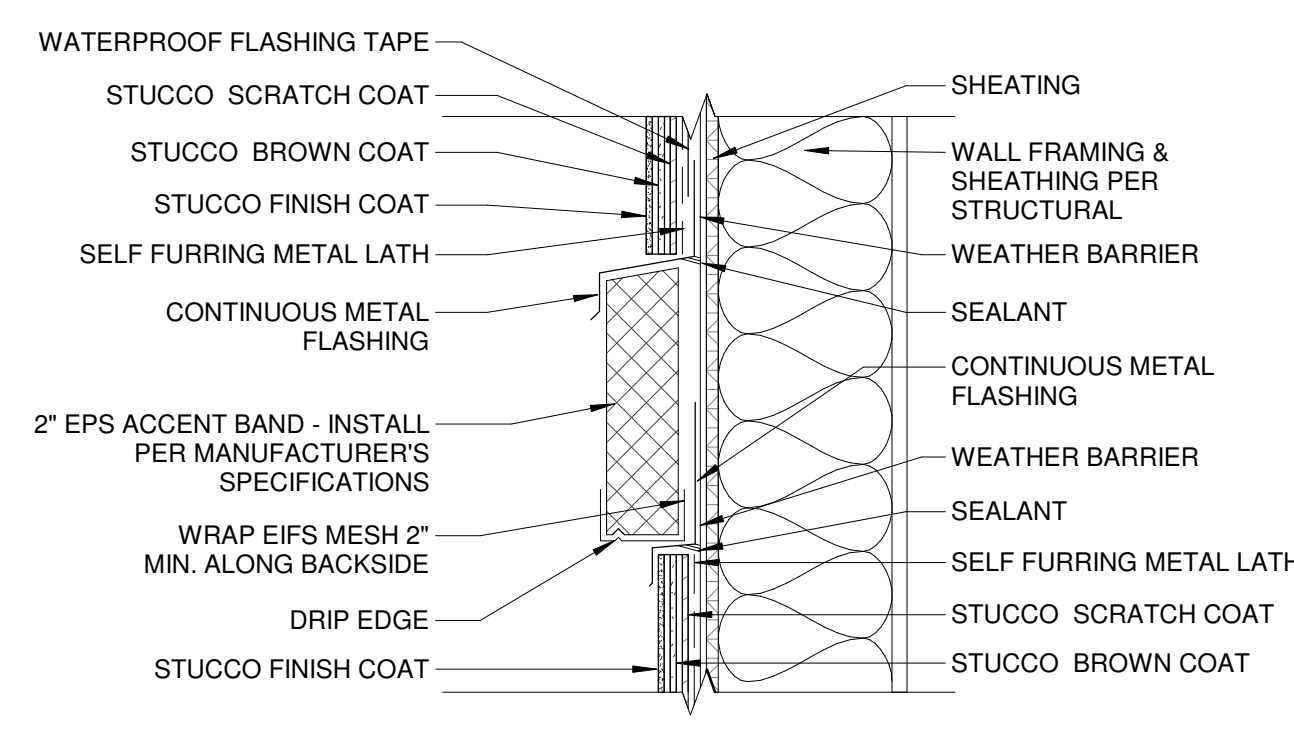
STUCCO AT STOREFRONT  
1 1/2" = 1'-0"



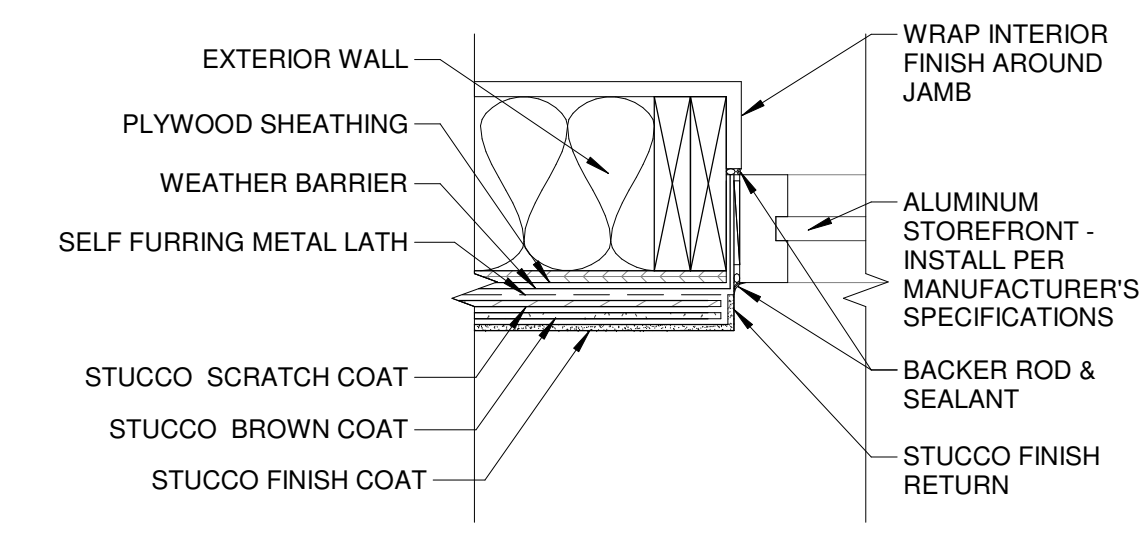
BASE AT STUCCO  
1 1/2" = 1'-0"



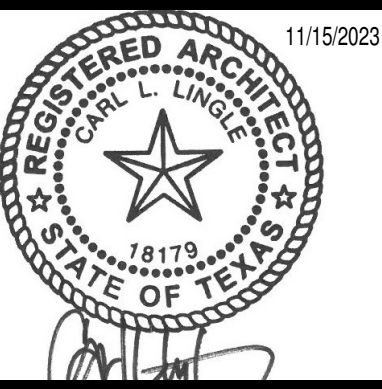
STOREFRONT SILL DETAIL  
6" = 1'-0"



SECTION AT EPS ACCENT BAND  
1 1/2" = 1'-0"



VERTICAL TRANSITION AT STUCCO & STOREFRONT  
1 1/2" = 1'-0"



PERMIT SET - 11/15/2023

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SHERWIN WILLIAMS

STORE #:  
XXXX

ADDRESS:  
12360 W. SH 29, LIBERTY  
HILL, TX, 78642

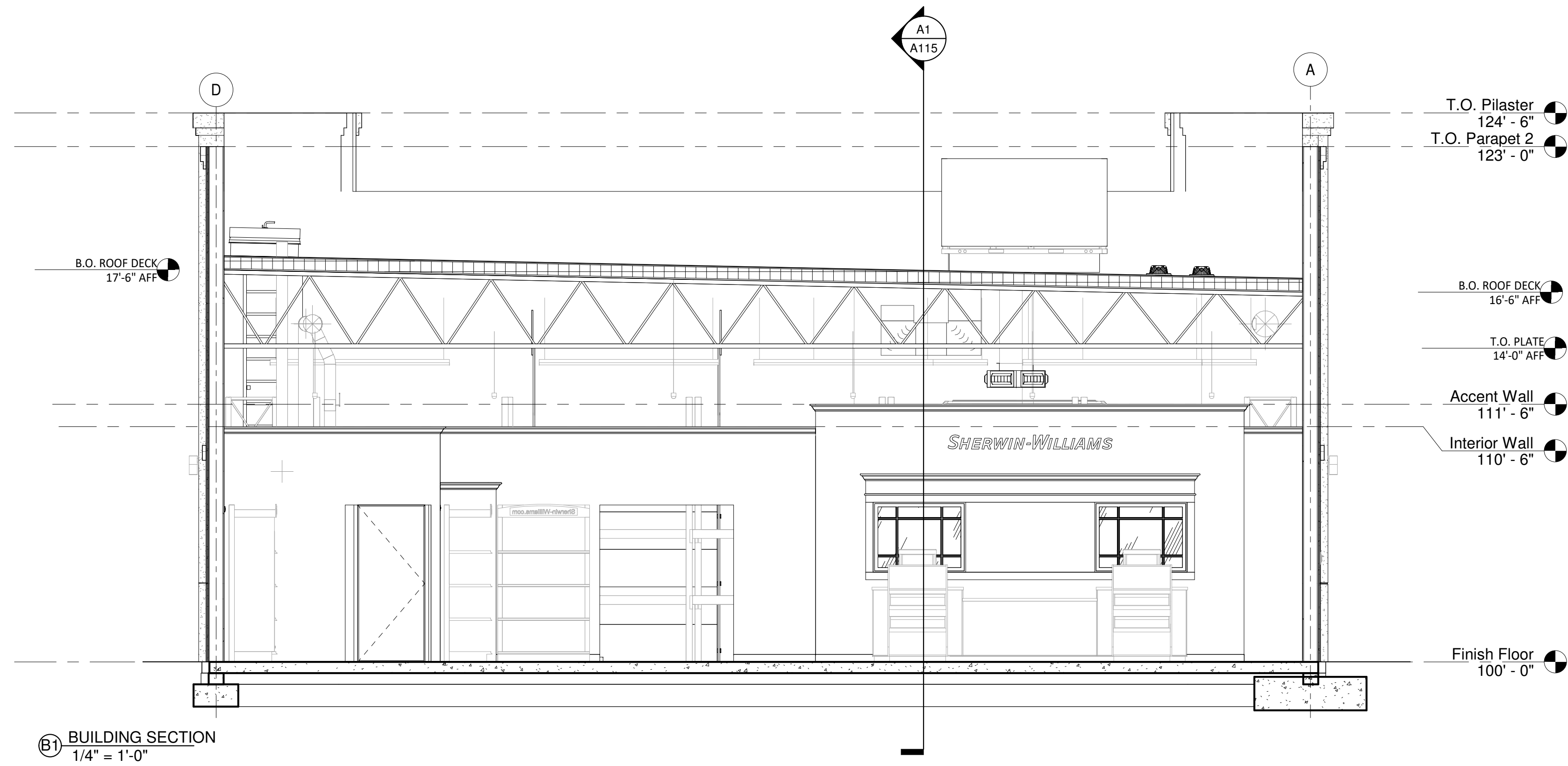
SHEET TITLE:

Exterior Wall Details

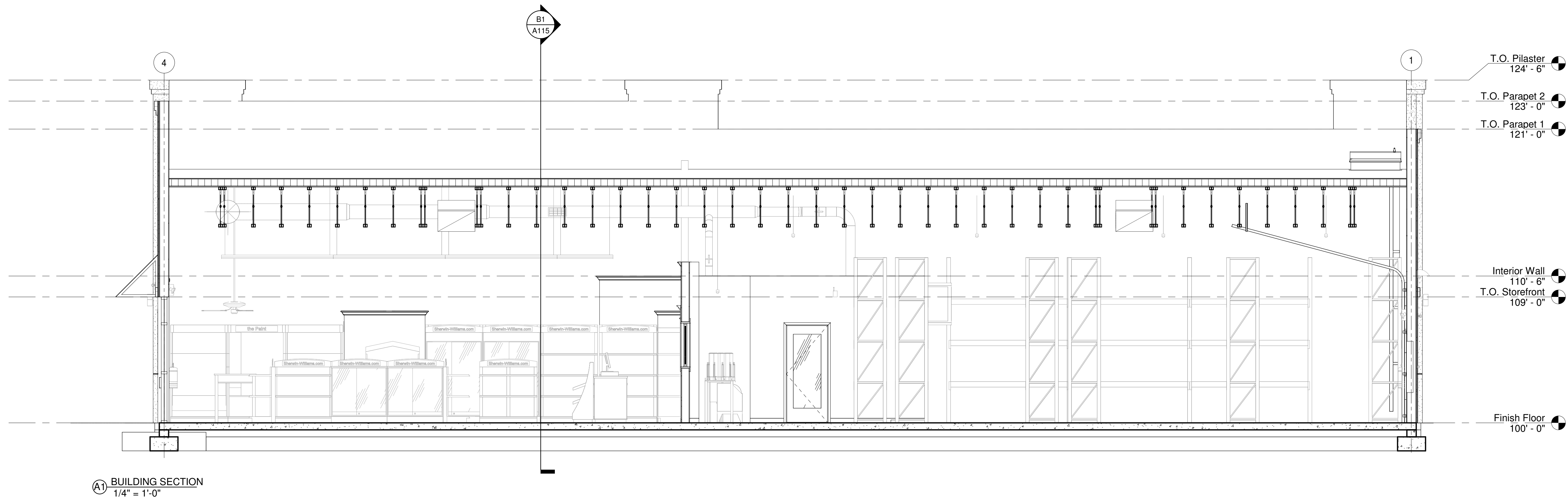
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A113

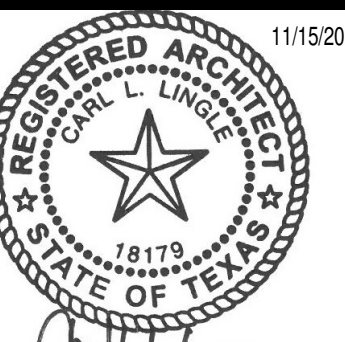




B1) BUILDING SECTION  
1/4" = 1'-0"



A1) BUILDING SECTION  
1/4" = 1'-0"



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SHERWIN WILLIAMS

STORE #:  
XXXX  
 ADDRESS:  
12360 W. SH 29, LIBERTY HILL, TX, 78642

SHEET TITLE:  
Building Sections

SHEET NUMBER:  
A115

INTERIOR FINISH LEGEND			
MARK	DESCRIPTION	MANUFACTURER & SPEC.	REMARKS
<b>BASE</b>			
B-1	RUBBER COVE BASE	ARMSTRONG #018 "DESERT" OR JOHNSONITE #080 "FAWN"	INSTALL ON SHEETROCK WALLS IN STAGING, SALES, OFFICE, AND CORRIDOR AREAS
B-2	ALUMINUM COVE BASE	SCHLUTER -SERIES: DILEX-AHK -FINISH: SATIN ANODIZED ALUMINUM	MATCHING INSIDE AND OUTSIDE CORNERS. INSTALL IN RESTROOM
<b>FLOORING</b>			
F-1	VINYL WOOD PLANK	ARMSTRONG FLOORING -SERIES: NA180 -SIZE: 6"x48" -COLOR: GALLERY OAK RYE	PROVIDED BY SHERWIN-WILLIAMS
F-2	CERAMIC TILE	DALTILE -SERIES: PORTFOLIO -SIZE: 12x24 -COLOR: NOCE #PF11	GROUT: MAPEI #39 IVORY
F-3	DENSIFIED CONCRETE	H&C ENDURA POLISH CONCRETE SEALER	POLISH TO 800 GRIT BEFORE SEALING. JOINT FILLER: SHER-CRETE POLYUREA
<b>PAINT</b>			
P-1	PAINT - ACCESSIBLE BEIGE	SHERWIN-WILLIAMS -SERIES: EMERALD K37 -COLOR: SW 7036 -FINISH: FLAT	(2) COATS IN SALES AREA, OFFICE, CORRIDOR, AND STAGING - (2) COATS ON WOOD DOORS & TRIM. HOLLOW METAL DOOR FRAMES U.N.O.
P-2	PAINT - CITYSCAPE	SHERWIN-WILLIAMS -SERIES: EMERALD K37 -COLOR: SW 7067 -FINISH: FLAT	(2) COATS ON SALES AREA ACCENT WALL (SEE A1/A300)
P-3	PAINT - AESTHETIC WHITE	SHERWIN-WILLIAMS -COLOR: SW 7035	(2) COATS ON WOOD CAP, CROWN MOLDING, CORRIDOR CEILING - USE DRIFALL PAINT ON ROOF STRUCTURE, DECK & DUCTING
P-4	PAINT - DRY ERASE	SHERWIN-WILLIAMS -DRY ERASE CLEAR GLOSS COATING KIT KB65C2000 -FINISH: CLEAR	USE ON OFFICE WALL - SEE PLAN
P-5	PAINT - ANTIMICROBIAL	SHERWIN-WILLIAMS -SERIES: PAINT SHIELD -COLOR: SW 7036 -FINISH: EGG SHELL	USE IN RESTROOMS AND HALLWAY
P-6	PAINT - SNAPDRY	SHERWIN-WILLIAMS -SERIES: SNAPDRY -COLOR: SW 7035	USE ON HORIZONTAL SURFACE OF TINTING WINDOW OPENING
<b>MISCELLANEOUS</b>			
M-1	LATICRETE	HYDRO BAN	INSTALL AT ALL WET WALLS & DEMISING WALL(S) - SEE DETAIL
M-2	WINDOW GRAPHIC	PRINTED VINYL SHEET	SHERWIN-WILLIAMS PROVIDE/INSTALL - EXTERIOR OF GLASS AT STAGING AREA
M-3	PLASTIC LAMINATE	PIONITE -SERIES: HARD ROCK -COLOR: MAPLE G48 WM791 H	USE FOR ALL EXPOSED SURFACES OF COUNTER AND SHELVING IN OFFICE
<b>WALL COVERING</b>			
WC-1	CERAMIC TILE	DALTILE -SERIES: PORTFOLIO -SIZE: 6x24 & 3x12 BULLNOSE -COLOR: NOCE #PF11	5'-3" HIGH WANSOOT (FULL HEIGHT) @ WET WALL - SEE ELEVATIONS - GROUT: MAPEI #39 IVORY
WC-2	FRP WALL PANEL	MARLITE -MODEL: P-100 -FINISH: PEBBLED -COLOR: WHITE	INSTALL TO 4'-0" A.F.F.
<b>NOTES:</b>			
A.	CONFIRM PAINT FINISH AND COATING/PRIMING REQUIREMENTS WITH PAINT SPECIFICATIONS ON SHEET A121		

**GENERAL NOTES**

A. ALL FLOOR FINISHES SHALL BE INSTALLED WITH TOP EDGES LEVEL WITH ADJACENT MATERIAL TOP EDGES. CONFIRM TILE THICKNESS AS THESE MAY VARY. CONFIRM THAT NO OVERALL FLOATING OF FLOOR IS REQUIRED.

B. COORDINATE FLOORING TRANSITIONS AND BASE TILE INSTALLATION WITH MILLWORK SHOP DRAWINGS AND FIELD CONDITIONS.

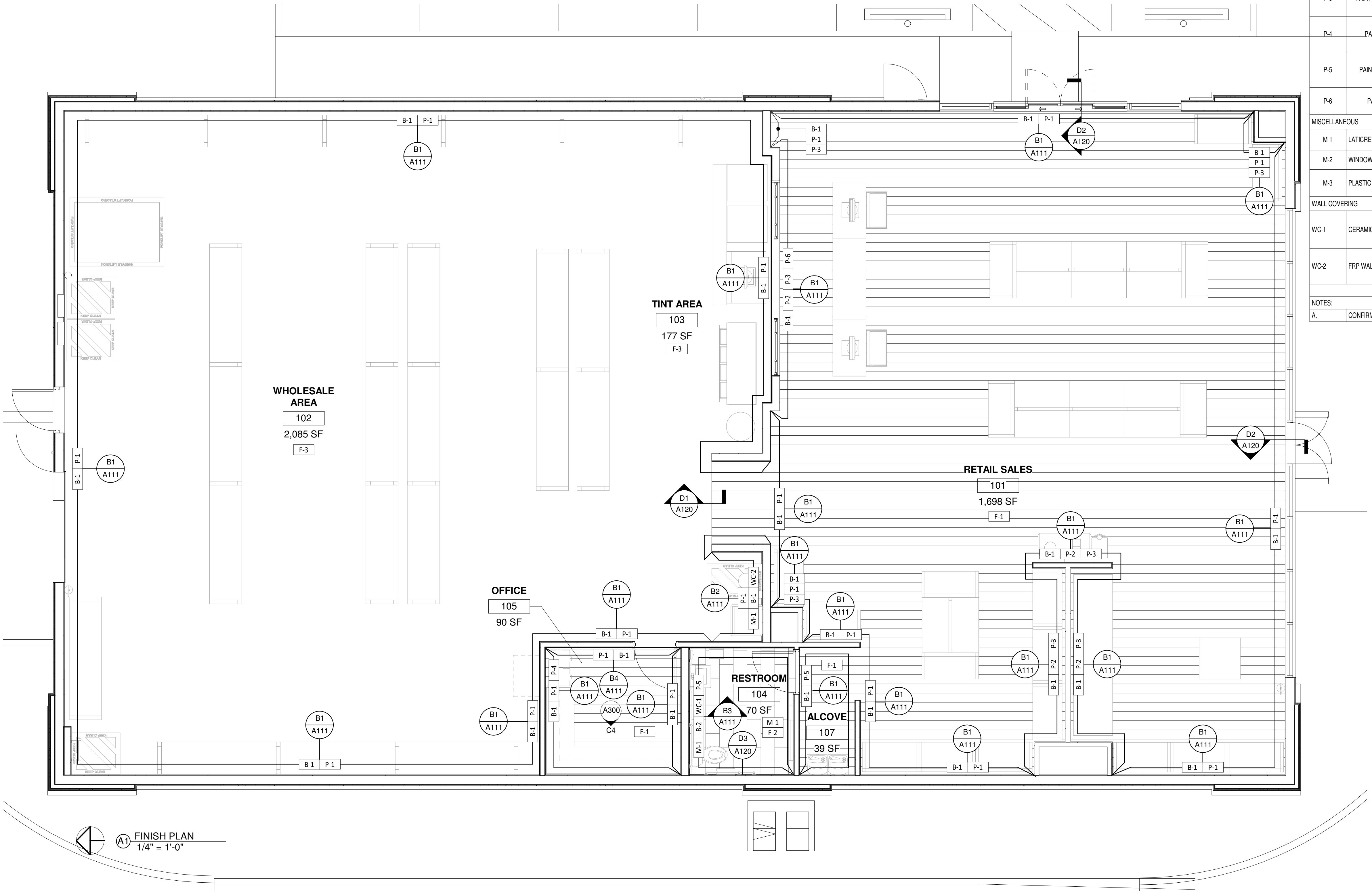
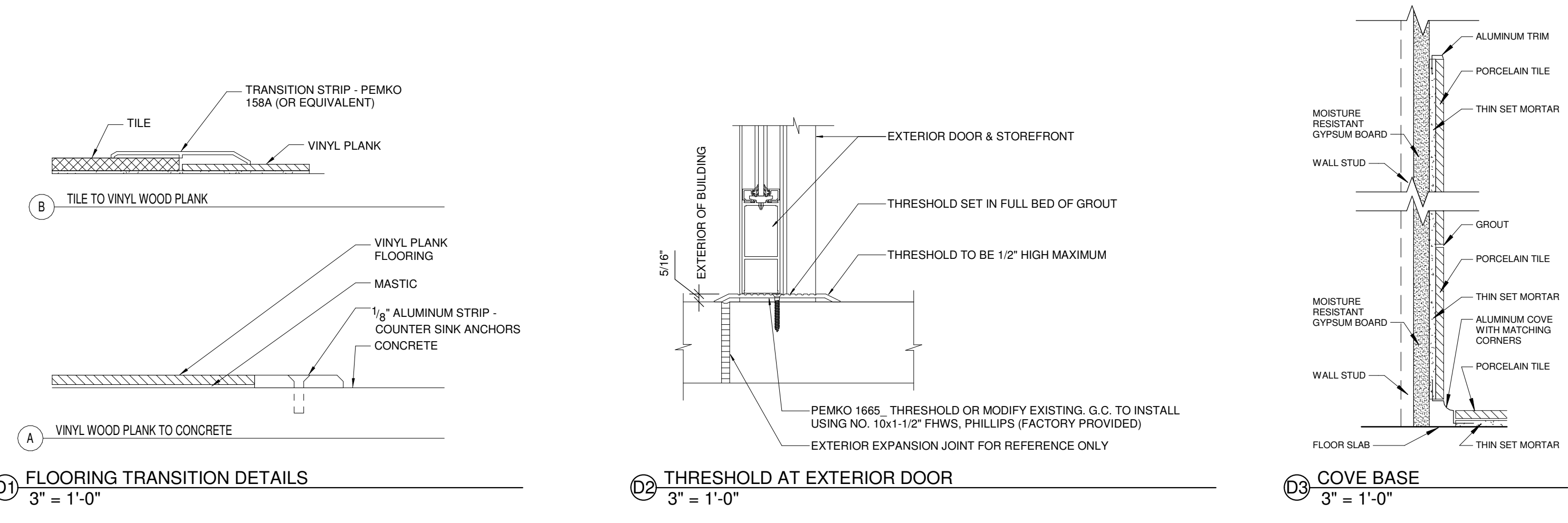
C. ALL THRESHOLDS SHALL HAVE A MAXIMUM HEIGHT OF 1/2" ABOVE EXISTING CONCRETE SLAB AND/OR INTERIOR FINISHES.

D. TILE TRANSITION BETWEEN ROOMS TO BE CENTERED ON DOOR FRAME.

E. SEE PLUMBING DRAWINGS FOR DIMENSIONS AND LOCATIONS OF FLOOR DRAINS AND FLOOR SINKS.

F. ALL INTERIOR FINISHES TO HAVE A FLAME SPREAD RATING OF 25 OR LESS, WITH A MAXIMUM SMOKE GENERATION FACTOR OF 450.

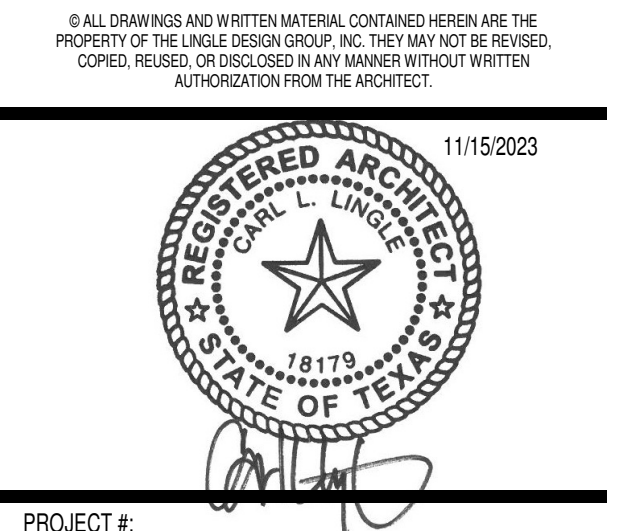
G. TILE INSTALLER SHALL COORDINATE WITH GENERAL CONTRACTOR AND PROVIDE LAYOUT OF ALL WALL TILE PRIOR TO INSTALLATION. GENERAL CONTRACTOR SHALL PREPARE WALLS AS TO MINIMIZE CUT TILES IN THE HORIZONTAL DIRECTION AND ELIMINATE CUT TILES IN THE VERTICAL DIRECTION ON ANY WALLS. CONTACT ARCHITECT OF ANY DISCREPANCIES IN DIMENSIONS FOR DIRECTION PRIOR TO INSTALLATION. FAILURE TO ADHERE TO THESE REQUIREMENTS RESULTING IN ANY REMEDIATION REQUIRED TO MEET DESIGN INTENT WILL BE AT CONTRACTORS COST.



LINGLE DESIGN GROUP, INC.  
158 WEST MAIN STREET  
LENA, IL 61048  
815.369.9155

1764 BLAKE ST  
DENVER, CO 80202  
303.974.5875

WWW.LINGLEDESIGN.COM



PROJECT #:  
DRAWN BY: BA  
CHECKED BY: MP

PERMIT SET - 11/15/2023

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△ -

**SHERWIN WILLIAMS**

STORE #:  
XXXX

ADDRESS:  
12360 W. SH 29, LIBERTY HILL, TX, 78642

SHEET TITLE:

Finish Plan

SHEET NUMBER:

**A120**

**A1 FINISH PLAN**  
1/4" = 1'-0"

## PAINT SPECIFICATIONS

### INTERIOR, EXTERIOR AND INDUSTRIAL PAINTS AND COATINGS

#### PART 1 – GENERAL

##### 1.1. SUMMARY

- 1.1.1. SECTION INCLUDES
- 1.1.1.1. INTERIOR AND EXTERIOR PAINT AND COATINGS SYSTEMS INCLUDING SURFACE PREPARATION.
- 1.1.2. RELATED SECTION
- 1.1.2.1. SECTION 03 30 00 CAST-IN-PLACE CONCRETE
- 1.1.2.2. SECTION 05 12 16 FABRICATED FIREPROOFED STEEL COLUMNS
- 1.1.2.3. SECTION 05 60 00 METAL FABRICATIONS
- 1.1.2.4. SECTION 06 20 00 FINISH CARPENTRY
- 1.1.2.5. SECTION 06 40 00 ARCHITECTURAL WOODWORK
- 1.2. REFERENCES
- 1.2.1. THE PUBLICATION LISTED FORM A PART OF THIS SPECIFICATION TO THE EXTENT REFERENCED.
- 1.2.1.1. ASTM INTERNATIONAL (ASTM)
- 1.2.1.1.1. ASTM E 2129
- 1.2.1.2. STEEL STRUCTURES PAINTING COUNCIL
- 1.2.1.2.1. SSPC-SP 1
- 1.2.1.2.2. SSPC-SP 2
- 1.2.1.2.3. SSPC-SP 3
- 1.2.1.2.4. SSPC-SP 5
- 1.2.1.2.5. SSPC-SP 6
- 1.2.1.2.6. SSPC-SP 7
- 1.2.1.2.7. SSPC-SP 10
- 1.2.1.2.8. SSPC-SP 11
- 1.2.1.2.9. SSPC-SP 12
- 1.2.1.2.10. SSPC-SP 13
- 1.2.1.3. MATERIAL SAFETY DATA SHEETS / ENVIRONMENTAL DATA SHEETS

##### 1.3. SUBMITTALS

- 1.3.1. APPLICATOR QUALIFICATIONS STATEMENT

##### 1.4. QUALITY ASSURANCE

- 1.4.1. INSTALLER QUALIFICATIONS
- 1.4.1.1. A FIRM OR INDIVIDUAL EXPERIENCED IN APPLYING PAINTS AND COATINGS SIMILAR IN MATERIAL DESIGN, AND EXTENT TO THOSE INDICATED FOR THIS PROJECT
- 1.4.1.2. THE FIRM OR INDIVIDUAL SHALL BE APPROVED IN WRITING BY THE COATING MANUFACTURER.
- 1.4.2. PAINT EXPOSED SURFACES. IF A COLOR OF FINISH, OR A SURFACE IS NOT SPECIFICALLY MENTIONED, ARCHITECT WILL SELECT FROM STANDARD PRODUCTS, COLORS, AND SHEENS AVAILABLE
- 1.4.3. DO NOT PAINT PREFINISHED ITEMS, CONCEALED SURFACES, FINISHED METAL SURFACES, OPERATING PARTS, AND LABELS UNLESS INDICATED.
- 1.4.4. MOCK-UP: PROVIDE A MOCK-UP FOR EVALUATION OF SURFACE PREPARATION TECHNIQUES AND APPLICATION WORKMANSHIP. AN IN-PLACE MOCK-UP MAY BE PERMITTED AT THE DISCRETION OF THE ARCHITECT OR OWNER.
- 1.4.4.1. FINISH SURFACES FOR VERIFICATION OF PRODUCTS, COLORS, AND SHEENS.
- 1.4.4.2. FINISH AREA DESIGNATED BY ARCHITECT OR OWNER
- 1.4.4.3. DO NOT PROCEED WITH REMAINING WORK UNTIL THE COATING MANUFACTURER APPROVES THE MOCK-UP.
- 1.5. DELIVERY, STORAGE, AND HANDLING
- 1.5.1. DELIVERY: DELIVER MANUFACTURER'S UNOPENED CONTAINERS TO THE WORK SITE. PACKAGING SHALL BEAR THE MANUFACTURER'S NAME, LABEL, AND THE FOLLOWING INFORMATION
- 1.5.1.1. PRODUCT NAME AND TYPE
- 1.5.1.2. APPLICATION AND USE INSTRUCTIONS
- 1.5.1.3. SURFACE PREPARATION
- 1.5.1.4. VOC CONTENT
- 1.5.1.5. BATCH DATE
- 1.5.1.6. COLOR NUMBER
- 1.5.2. STORAGE: STORE AND DISPOSE OF SOLVENT BASED MATERIALS, AND MATERIALS USED WITH SOLVENT BASED MATERIALS, IN ACCORDANCE WITH REQUIREMENTS OF LOCAL AUTHORITIES HAVING JURISDICTION.
- 1.5.3. STORE MATERIALS IN AN AREA THAT IS WITHIN THE ACCEPTABLE TEMPERATURE RANGE PER THE MANUFACTURER'S INSTRUCTIONS. PROTECT FROM FREEZING.
- 1.5.4. HANDLING: MAINTAIN A CLEAN, DRY STORAGE AREA TO PREVENT CONTAMINATION OR DAMAGE TO THE COATINGS.

##### 1.6. PROJECT CONDITIONS

- 1.6.1. MAINTAIN ENVIRONMENTAL CONDITIONS (TEMPERATURE, HUMIDITY, AND VENTILATION) WITHIN LIMITS RECOMMENDED BY THE MANUFACTURER FOR OPTIMUM RESULTS. DO NOT INSTALL PRODUCTS UNDER ENVIRONMENTAL CONDITIONS OUTSIDE OF THE MANUFACTURER'S ABSOLUTE LIMITS.
- 1.6.2. DO NOT APPLY COATINGS IN AREAS WHERE DUST IS BEING GENERATED.
- 1.6.3. PROVIDE LIGHTING LEVELS IN AREAS WHERE COATINGS ARE BEING INSTALLED OF AT LEAST 80 FOOT CANDLES.
- 1.7. EXTRA MATERIALS
- 1.7.1. DISPOSE OF EXTRA MATERIALS IN ACCORDANCE WITH REGULATIONS OF AUTHORITIES HAVING JURISDICTION

#### PART 2 – PRODUCTS

- 2.1. MANUFACTURERS
- 2.1.1. THE SHERWIN-WILLIAMS COMPANY, 1-800-524-5979, WWW.SHERWIN-WILLIAMS.COM
- 2.1.1.1. SOURCE FROM THE NEAREST SHERWIN-WILLIAMS LOCATION
- 2.1.2. SUBSTITUTIONS SHALL NOT BE PERMITTED
- 2.2. APPLICATION
- 2.2.1. INTERIOR PAINTS AND COATINGS
- 2.2.1.1. METAL: STRUCTURAL STEEL, JOISTS, TRUSSES, BEAMS, PARTITIONS AND SIMILAR ITEMS
- 2.2.1.2. WOOD: WALLS, CEILINGS, DOORS, TRIM AND SIMILAR ITEMS
- 2.2.1.3. GYPSUM: DRYWALL BOARD, GYPSUM BOARD
- 2.2.1.4. CONCRETE FLOORS
- 2.3. PAINT MATERIALS
- 2.3.1. PAINTS AND COATINGS
- 2.3.1.1. UNLESS OTHERWISE INDICATED, PROVIDE FACTORY MIXED AND TINTED COATINGS. DO NOT REDUCE, THIN, OR DILUTE COATINGS OR ADD MATERIALS TO COATINGS UNLESS SUCH PROCEDURE IS SPECIFICALLY DESCRIBED IN THE MANUFACTURER'S PRODUCT INSTRUCTIONS.
- 2.3.1.2. FOR OPAQUE FINISHES, TINT EACH COAT INCLUDING PRIMER COAT. FOLLOW MANUFACTURER'S PRODUCT INSTRUCTIONS FOR OPTIMAL COLOR CONFORMANCE.
- 2.3.2. PRIMERS: WHERE THE MANUFACTURER OFFERS OPTIONS ON PRIMERS FOR A PARTICULAR SUBSTRATE, USE PRIMER CATEGORIZED AS "BEST" BY THE MANUFACTURER.
- 2.3.2.1. WHEN INDICATED BY THE MANUFACTURER, USE THE APPROPRIATE "P-SHADE" TINT COLOR FOR THE DESIRED TOPCOAT COLOR.
- 2.3.2.2. WHEN NO "P-SHADE" COLOR IS INDICATED, TINT THE PRIMER TO MATCH THE TOP COAT.
- 2.3.3. COATING APPLICATION ACCESSORIES: PROVIDE ALL PRIMERS, SEALERS, CLEANING AGENTS, CLEANING CLOTHS, SANDING MATERIALS, AND CLEAN-UP MATERIALS PER MANUFACTURER'S SPECIFICATIONS.
- 2.3.4. COLOR: AS SCHEDULED OR INDICATED ON DRAWINGS

#### 2.4. INTERIOR PAINT SCHEDULE

- 2.4.1. METAL: DUCTWORK
- 2.4.1.1. DRYFALL WATERBORNE TOPCOATS:
  - 2.4.1.1.1. EG-SHEL FINISH
  - 2.4.1.1.1.1. FIRST COAT: S-W PRO INDUSTRIAL WATERBORNE ACRYLIC DRYFALL, B42W82
  - 2.4.1.1.1.2. SECOND COAT: S-W PRO INDUSTRIAL WATERBORNE ACRYLIC DRYFALL, B42W82, 8.0 MILS WET, 2.0 MILS DRY PER COAT
- 2.4.2. METAL (OVERHEAD): STRUCTURAL STEEL, JOISTS, TRUSSES, BEAMS, MISCELLANEOUS AND ORNAMENTAL IRON, FERROUS METAL
- 2.4.2.1. DRYFALL WATERBORNE TOPCOATS
  - 2.4.2.1.1. EG-SHEL FINISH
  - 2.4.2.1.1.1. FIRST COAT: S-W PRO INDUSTRIAL PRO-CRYL UNIVERSAL PRIMER, B66W310, 7.0 MILS WET, 3.0 MILS DRY
  - 2.4.2.1.1.2. SECOND COAT: S-W PRO INDUSTRIAL WATERBORNE ACRYLIC DRYFALL, B42W82, 8.0 MILS WET, 2.0 MILS DRY PER COAT
- 2.4.3. METAL: STRUCTURAL STEEL AND IRON, FERROUS METAL, MISC. IRON
- 2.4.3.1. ACRYLIC SYSTEM
  - 2.4.3.1.1. EG-SHEL FINISH
  - 2.4.3.1.1.1. FIRST COAT: S-W PRO INDUSTRIAL PRO-CRYL UNIVERSAL PRIMER, B66A00310, 5.0 MILS WET, 1.8 MILS DRY
  - 2.4.3.1.1.2. SECOND COAT: S-W PRO INDUSTRIAL ACRYLIC, B66-600 SERIES, 6.0 MILS WET, 2.1 MILS DRY
  - 2.4.3.1.1.3. THIRD COAT: S-W PRO INDUSTRIAL ACRYLIC, B66-600 SERIES, 6.0 MILS WET, 2.1 MILS DRY

## PAINT SPECIFICATIONS

- 2.4.4. WOOD (VERTICAL SURFACES): WALLS, CEILINGS, DOORS, TRIM, WINDOW FRAMES
- 2.4.4.1. ALKYD SYSTEM
  - 2.4.4.1.1. SEMI-GLOSS FINISH (WATERBASED)
  - 2.4.4.1.1.1. FIRST COAT: S-W PREMIUM WALL & WOOD PRIMER, B28W8811, 4 MILS WET, 1.8 MILS DRY
  - 2.4.4.1.1.2. SECOND COAT: S-W PROCLASSIC INTERIOR WATERBASED ACRYLIC-ALKYD SEMI-GLOSS, B34W8853
  - 2.4.4.1.1.3. THIRD COAT: S-W PROCLASSIC INTERIOR WATERBASED ACRYLIC-ALKYD SEMI-GLOSS, B34W8853, 4 MILS WET, 1.6 MILS DRY PER COAT
- 2.4.5. WOOD (HORIZONTAL SURFACE): TRIM, WINDOW FRAMES, COUNTERS
- 2.4.5.1. ACRYLIC SYSTEM
  - 2.4.5.1.1. SEMI-GLOSS FINISH
  - 2.4.5.1.1.1. FIRST COAT: S-W PREMIUM WALL & WOOD PRIMER, B28W8811, 4 MILS WET, 1.8 MILS DRY
  - 2.4.5.1.1.2. SECOND COAT: S-W SNAPDRY INTERIOR/EXTERIOR, A71 SERIES, 4 MILS WET, 1.44 MILS DRY
  - 2.4.5.1.1.3. THIRD COAT: S-W SNAPDRY INTERIOR/EXTERIOR, A71 SERIES, 4 MILS WET, 1.44 MILS DRY
- 2.4.6. GYPSUM: WALLS, CEILINGS, GYPSUM BOARD, AND SIMILAR ITEMS
- 2.4.6.1. LATEX SYSTEM
  - 2.4.6.1.1. FLAT FINISH
  - 2.4.6.1.1.1. FIRST COAT: S-W PREMIUM WALL & WOOD PRIMER, B28W8811, 4 MILS WET, 1.8 MILS DRY
  - 2.4.6.1.1.2. SECOND COAT: S-W EMERALD INTERIOR LATEX FLAT K35 SERIES, K35W8353
  - 2.4.6.1.1.3. THIRD COAT: S-W EMERALD INTERIOR LATEX FLAT K35 SERIES, K35W8353, 4 MILS WET, 1.6 MILS DRY PER COAT
  - 2.4.6.1.2. EG-SHELL FINISH (AT RESTROOMS AND RESTROOM ALCOVE)
  - 2.4.6.1.2.1. FIRST COAT: S-W PREMIUM WALL & WOOD PRIMER, B28W8811, 4 MILS WET, 1.8 MILS DRY
  - 2.4.6.1.2.2. SECOND COAT: S-W PAINT SHIELD INTERIOR LATEX MICROBICIDAL, D12W00051, 4.0 MILS WET, 1.8 MILS DRY
  - 2.4.6.1.2.3. THIRD COAT: S-W PAINT SHIELD INTERIOR LATEX MICROBICIDAL, D12W00051, 4.0 MILS WET, 1.8 MILS DRY
- 2.4.6.2. POLYURETHANE (DRY ERASE) SYSTEM
  - 2.4.6.2.1. GLOSS FINISH
  - 2.4.6.2.1.1. FIRST COAT: S-W PREMIUM WALL & WOOD PRIMER, B28W8811, 4 MILS WET, 1.8 MILS DRY
  - 2.4.6.2.1.2. SECOND COAT: S-W EMERALD INTERIOR LATEX FLAT K35 SERIES, K35W8353, 4 MILS WET, 1.6 MILS DRY
  - 2.4.6.2.1.3. THIRD COAT: S-W DRY ERASE CLEAR GLOSS COATING, KB65C2000 KIT, 4 MILS WET, 2 MILS DRY
  - 2.4.6.2.1.4. FOURTH COAT: S-W DRY ERASE CLEAR GLOSS COATING, KB65C2000 KIT, 4 MILS WET, 2 MILS DRY
- 2.4.7. CONCRETE: CONCRETE FLOORS
- 2.4.7.1. ALKYD SYSTEM
  - 2.4.7.1.1. FLAT FINISH
  - 2.4.7.1.1.1. FIRST COAT: S-W PRO INDUSTRIAL PRO-PARK WATERBORNE TRAFFIC MARKING PAINT, B97YD2467, 15 MILS WET, 9.3 MILS DRY
- 2.4.7.2. ACRYLIC SYSTEM
  - 2.4.7.2.1. GLOSS FINISH
  - 2.4.7.2.1.1. FIRST COAT: H&C CLARISHIELD WATER-BASED WET-LOOK CONCRETE SEALER, 50,148155
  - 2.4.7.2.1.2. SECOND COAT: H&C CLARISHIELD WATER-BASED WET-LOOK CONCRETE SEALER, 50,148155

#### 2.5. EXTERIOR PAINT SCHEDULE

- 2.5.1. MASONRY: CONCRETE MASONRY UNITS
- 2.5.1.1. ELASTOMERIC SYSTEM
  - 2.5.1.1.1. FLAT FINISH
  - 2.5.1.1.1.1. FIRST COAT: S-W LOXON BLOCK SURFACER, A24W00200, 16 MILS WET, 8.8 MILS DRY
  - 2.5.1.1.1.2. SECOND COAT: S-W EMERALD EXTERIOR LATEX FLAT, K47 SERIES, 5.3 MILS WET, 2.1 MILS DRY
  - 2.5.1.1.1.3. THIRD COAT: S-W EMERALD EXTERIOR LATEX FLAT, K47 SERIES, 6.4 MILS WET, 2.5 MILS DRY
- 2.5.2. METAL: GALVANIZED
- 2.5.2.1. ACRYLIC SYSTEM
  - 2.5.2.1.1. GLOSS FINISH
  - 2.5.2.1.1.1. FIRST COAT: S-W PRO INDUSTRIAL PRO-CRYL UNIVERSAL PRIMER, B66A00310, 5.0 MILS WET, 1.8 MILS DRY
  - 2.5.2.1.1.2. SECOND COAT: S-W PRO INDUSTRIAL ACRYLIC, B66-600 SERIES, 6.0 MILS WET, 2.1 MILS DRY
  - 2.5.2.1.1.3. THIRD COAT: S-W PRO INDUSTRIAL ACRYLIC, B66-600 SERIES, 6.0 MILS WET, 2.1 MILS DRY
- 2.5.3. METAL: STRUCTURAL STEEL AND IRON, FERROUS METAL, MISC. IRON
- 2.5.3.1. ACRYLIC SYSTEM
  - 2.5.3.1.1. EG-SHEL FINISH
  - 2.5.3.1.1.1. FIRST COAT: S-W PRO INDUSTRIAL PRO-CRYL UNIVERSAL PRIMER, B66A00310, 5.0 MILS WET, 1.8 MILS DRY
  - 2.5.3.1.1.2. SECOND COAT: S-W PRO INDUSTRIAL ACRYLIC, B66-600 SERIES, 6.0 MILS WET, 2.1 MILS DRY
  - 2.5.3.1.1.3. THIRD COAT: S-W PRO INDUSTRIAL ACRYLIC, B66-600 SERIES, 6.0 MILS WET, 2.1 MILS DRY
- 2.5.4. EXTERIOR INSULATION AND FINISH SYSTEM, SYNTHETIC STUCCO
- 2.5.4.1. LATEX SYSTEM
  - 2.5.4.1.1. FLAT FINISH
  - 2.5.4.1.1.1. FIRST COAT: S-W LOXON CONCRETE AND MASONRY PRIMER, A24W00300, 5.3 MILS WET, 2.1 MILS DRY
  - 2.5.4.1.1.2. SECOND COAT: S-W EMERALD EXTERIOR LATEX FLAT, K47 SERIES, 5.3 MILS WET, 2.1 MILS DRY
  - 2.5.4.1.1.3. THIRD COAT: S-W EMERALD EXTERIOR LATEX FLAT, K47 SERIES, 6.4 MILS WET, 2.5 MILS DRY
- 2.5.5. PAVING: ASPHALTIC CONCRETE AND CONCRETE
- 2.5.5.1. ALKYD SYSTEM
  - 2.5.5.1.1. FLAT FINISH
  - 2.5.5.1.1.1. FIRST COAT: S-W PRO INDUSTRIAL PRO-PARK WATERBORNE TRAFFIC MARKING PAINT, B97YD2467, 15 MILS WET, 9.3 MILS DRY

#### PART 3 – EXECUTION

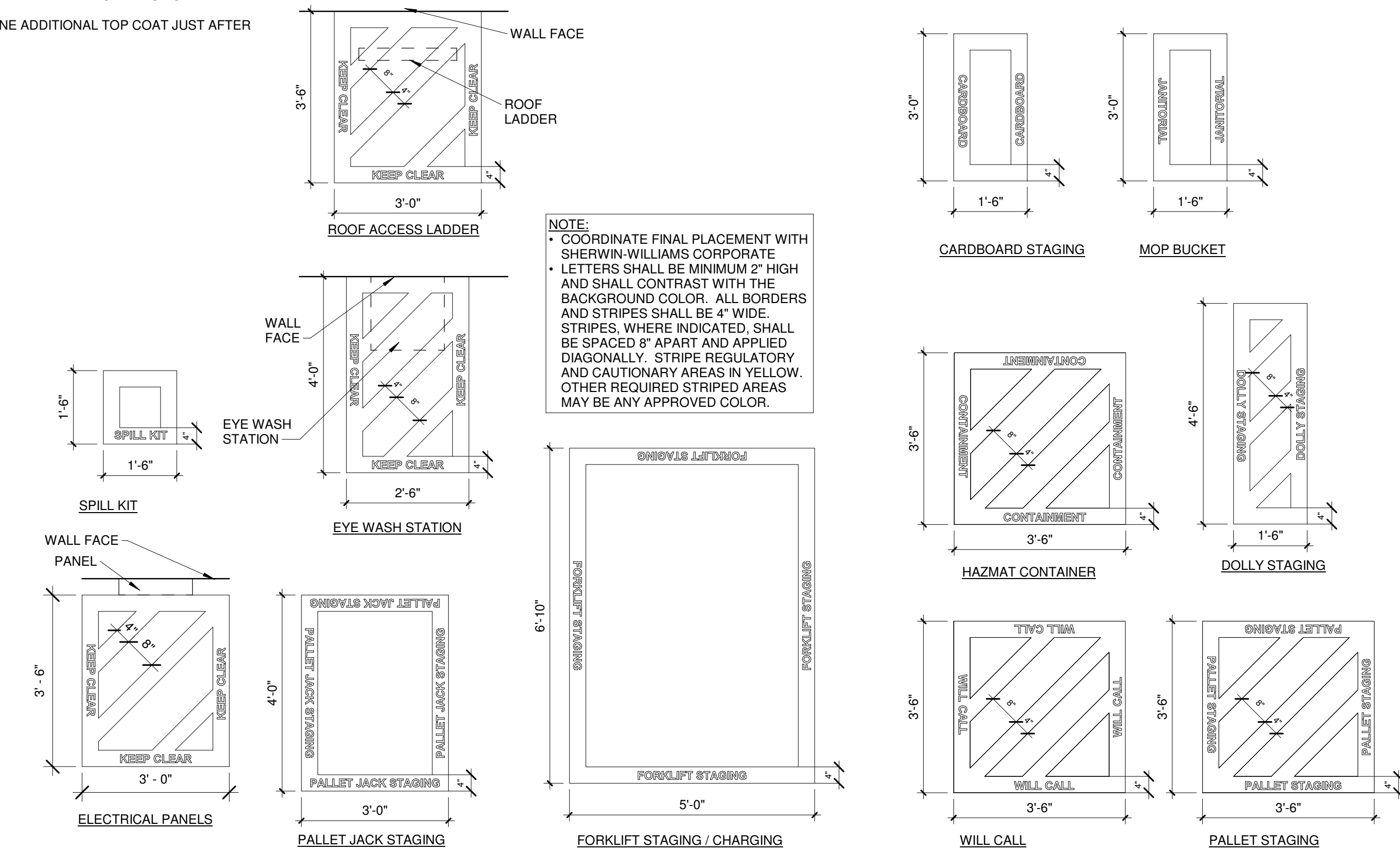
- 3.1. EXAMINATION
- 3.1.1. DO NOT BEGIN INSTALLATION UNTIL SUBSTRATES HAVE BEEN PROPERLY PREPARED. NOTIFY ARCHITECT OF UNSATISFACTORY CONDITIONS BEFORE PROCEEDING. IF SUBSTRATE IS THE RESPONSIBILITY OF ANOTHER INSTALLER, NOTIFY ARCHITECT OF UNSATISFACTORY PREPARATION BEFORE PROCEEDING.
- 3.1.2. PROCEED WITH WORK ONLY AFTER CONDITIONS HAVE BEEN CORRECTED AND APPROVED BY ALL PARTIES. OTHERWISE APPLICATION OF COATINGS WILL BE CONSIDERED AS AN ACCEPTANCE OF SURFACE CONDITIONS.
- 3.2. SURFACE PREPARATION
- 3.2.1. GENERAL: SURFACES SHALL BE DRY AND IN SOUND CONDITION. REMOVE OIL, DUST, DIRT, LOOSE RUST, PEELING PAINT, OR OTHER CONTAMINATION TO ENSURE GOOD ADHESION.
  - 3.2.1.1. REMOVE MILDEW BEFORE PAINTING BY WASHING WITH A SOLUTION OF 1 PART LIQUID HOUSEHOLD BLEACH AND 3 PARTS WARM WATER. APPLY THE SOLUTION AND SCRUB THE MILDEW AREA. ALLOW THE SOLUTION TO REMAIN ON THE SURFACE FOR 10 MINUTES. RINSE THOROUGHLY WITH CLEAN WATER AND ALLOW THE SURFACE TO DRY A MINIMUM OF 48 HOURS BEFORE PAINTING. WEAR PROTECTIVE GLASSES, GOGGLES, WATERPROOF GLOVES, AND PROTECTIVE CLOTHING. QUICKLY WASH OFF ANY OF THE MIXTURE THAT COMES IN CONTACT WITH SKIN. DO NOT ADD DETERGENTS OR AMMONIA TO THE BLEACH/WATER SOLUTION.
  - 3.2.1.2. REMOVE ITEMS INCLUDING BUT NOT LIMITED TO THERMOSTATS, ELECTRICAL OUTLETS, SWITCH COVERS AND SIMILAR ITEMS PRIOR TO PAINTING. AFTER COMPLETING PAINTING OPERATIONS IN EACH SPACE OR AREA REINSTALL ITEMS REMOVED USING WORKERS SKILLED IN THE TRADES INVOLVED.
  - 3.2.1.3. NO EXTERIOR PAINTING SHOULD BE DONE IMMEDIATELY AFTER A RAIN. DURING FOGGY WEATHER, WHEN RAIN IS PREDICTED, OR WHEN THE TEMPERATURE IS BELOW 50 DEGREES F (10 DEGREES C) UNLESS PRODUCTS ARE DESIGNED SPECIFICALLY FOR THESE CONDITIONS. ON LARGE EXPANSES OF METAL SANDING THE AIR, SURFACE, AND MATERIAL TEMPERATURES MUST BE 50 DEGREES F (10 DEGREES C) OR HIGHER TO USE LOW TEMPERATURE PRODUCTS.
- 3.2.2. ALUMINUM
  - 3.2.2.1. REMOVE ALL OIL, GREASE, DIRT, OXIDE, AND OTHER FOREIGN MATERIAL BY CLEANING PER SSPC-SP1, SOLVENT CLEANING

## PAINT SPECIFICATIONS

- 3.2.3. CONCRETE AND CONCRETE MASONRY:
  - 3.2.3.1. REMOVE ALL LOOSE MORTAR AND FOREIGN MATERIAL. SURFACE MUST BE FREE OF LAITANCE, CONCRETE DUST, DIRT, FORM RELEASE AGENTS, MOISTURE CURING MEMBRANES, LOOSE CEMENT, AND HARDENERS. CONCRETE MUST BE CURED AT LEAST 30 DAYS AT 75 DEGREES F (24 DEGREES C). THE PH OF THE SURFACE SHOULD BE BETWEEN 6 AND 9 UNLESS THE PRODUCTS ARE DESIGN TO BE USE IN HIGH (OR LOW) PH ENVIRONMENTS. ON TILT-UP AND CAST-IN-PLACE CONCRETE COMMERCIAL DETERGENTS AND ABRASIVE BLASTING MAY BE NECESSARY TO PREPARE THE SURFACE. FILL BUG HOLES, AIR POCKETS, AND OTHER VOIDS WITH A CEMENT PATCHING COMPOUND.
  - 3.2.4. COPPER AND STAINLESS STEEL
  - 3.2.4.1. REMOVE ALL OIL, GREASE, DIRT, OXIDE, AND OTHER FOREIGN MATERIAL BY CLEANING PER SSPC-SP2, HAND TOOL CLEANING.
- 3.2.5. GYPSUM BOARD
  - 3.2.5.1. EXTERIOR
    - 3.2.5.1.1. MUST BE CLEAN AND DRY. ALL NAIL HEADS MUST BE SET AND SPACKLED. JOINTS MUST BE PAINTED AND COVERED WITH A JOINT COMPOUND. SPACKLED NAIL HEADS AND TAPE JOINTS MUST BE SANDED SMOOTH AND ALL DUST REMOVED PRIOR TO PAINTING. EXTERIOR SURFACES MUST BE SPACKLED WITH EXTERIOR GRADE COMPOUNDS. PROVIDE GYPSUM BOARD FINISH LEVEL AS INDICATED ON DRAWINGS OR AS SPECIFIED ELSEWHERE.
  - 3.2.5.2. INTERIOR
    - 3.2.5.2.1. MUST BE CLEAN AND DRY. ALL NAIL HEADS MUST BE SET AND SPACKLED. JOINTS MUST BE PAINTED AND COVERED WITH A JOINT COMPOUND. SPACKLED NAIL HEADS AND TAPE JOINTS MUST BE SANDED SMOOTH AND ALL DUST REMOVED PRIOR TO PAINTING. PROVIDE GYPSUM BOARD FINISH LEVEL AS INDICATED ON DRAWINGS OR AS SPECIFIED ELSEWHERE.
- 3.2.6. GALVANIZED METAL
  - 3.2.6.1. CLEAN PER SSPC-SP1 USING DETERGENT AND WATER OR A DEGREASING CLEANER TO REMOVE GREASES AND OILS. APPLY A TEST AREA PRIMING AS REQUIRED. ALLOW THE COATING TO DRY AT LEAST ONE WEEK BEFORE TESTING. IF ADHESION IS POOR THEN BRUSH BLAST PER SSPC-SP7 TO REMOVE TREATMENTS.
- 3.2.7. STEEL
  - 3.2.7.1. STRUCTURAL PLATE, AND SIMILAR ITEMS
    - 3.2.7.1.1. SHOULD BE CLEANED BY ONE OR MORE OF THE SURFACE PREPARATIONS DESCRIBED BELOW. VISUAL STANDARDS ARE AVAILABLE THROUGH THE SOCIETY OF PROTECTIVE COATINGS.
    - 3.2.7.1.1.1. SOLVENT CLEANING: SSPC-SP1
    - 3.2.7.1.1.2. HAND TOOL CLEANING: SSPC-SP2
    - 3.2.7.1.1.3. POWER TOOL CLEANING: SSPC-SP3
    - 3.2.7.1.1.4. WHITE METAL BLAST CLEANING: SSPC-SP5 OR NACE 1
    - 3.2.7.1.1.5. COMMERCIAL BLAST CLEANING: SSPC-SP6 OR NACE 3
    - 3.2.7.1.1.6. BRUSH-OFF BLASTING: SSPC-SP7 OR NACE 4
    - 3.2.7.1.1.7. POWER TOOL CLEANING TO BARE METAL: SSPC-SP11
    - 3.2.7.1.1.8. NEAR-WHITE BLAST CLEANING: SSPC-SP10 OR NACE 2
    - 3.2.7.1.1.9. HIGH AND ULTRA-HIGH PRESSURE WATER JETTING FOR STEEL AND OTHER HARD MATERIALS: SSPC-SP12 OR NACE 5
    - 3.2.7.1.1.10. WATER BLASTING: SSPC-SP12 OR NACE 5
  - 3.2.8.1. MUST BE CLEAN AND DRY. PRIME AND PAINT AS SOON AS POSSIBLE. KNOTS AND PITCH STREAKS MUST BE SCRAPED, SANDED, AND SPOT PRIMED BEFORE AND FULL PRIMING COAT IS APPLIED. PATCH ALL NAIL HOLES AND IMPERFECTIONS WITH A WOOD FILLER OR PUTTY AND SAND SMOOTH.
- 3.3. INSTALLATION
- 3.3.1. APPLY ALL COATINGS AND MATERIALS PER THE MANUFACTURER'S SPECIFICATIONS. DO NOT THIN COATINGS UNLESS SPECIFICALLY DIRECTED BY THE MANUFACTURER.
- 3.3.2. DO NOT APPLY TO WET OR DAMP SURFACES. WAIT AT LEAST 30 DAYS BEFORE APPLYING TO NEW CONCRETE OR MASONRY UNLESS USING PRODUCTS SPECIFICALLY DESIGNED TO BE APPLIED PRIOR TO 30 DAYS OF CURING TIME. TEST NEW CONCRETE FOR MOISTURE CONTENT. WAIT UNTIL WOOD IS FULLY DRY AFTER RAIN OR MORNING DEW OR FOG.
- 3.3.3. APPLY COATINGS USING METHODS AND TOOLS RECOMMENDED BY THE MANUFACTURER.
- 3.3.4. UNIFORMLY APPLY COATINGS WITHOUT RUNS, DRIPS, SAGS, HOLIDAYS, OR BRUSH MARKS AND WITH A CONSISTENT SHEEN.
- 3.3.5. APPLY COATINGS AT SPREADING RATE REQUIRED TO ACHIEVE THE MANUFACTURER'S RECOMMENDED DRY FILM THICKNESS.
- 3.3.6. REGARDLESS OF NUMBER OF COATS SPECIFIED, APPLY AS MANY COATS AS NECESSARY FOR COMPLETE HIDE AND UNIFORM APPEARANCE.
- 3.3.7. THE COATED SURFACE MUST BE INSPECTED AND APPROVED BY THE ARCHITECT AND MANUFACTURER PRIOR TO THE APPLICATION OF EACH COAT.
- 3.4. PROTECTION
- 3.4.1. PROTECT FINISHED COATINGS FROM DAMAGE UNTIL COMPLETION OF THE PROJECT
- 3.4.2. TOUCH-UP DAMAGED COATINGS AFTER SUBSTANTIAL COMPLETION, FOLLOWING MANUFACTURER'S RECOMMENDATION FOR TOUCH UP OR REPAIR OF DAMAGED COATINGS. REPAIR ANY DEFECTS THAT WILL HINDER THE PERFORMANCE OF THE COATINGS.
- 3.4.2.1. REGARDLESS OF TOUCH-UP, APPLY ONE ADDITIONAL TOP COAT JUST AFTER SUBSTANTIAL COMPLETION.

A3 Paint Stripping - Caution Areas  
1/2" = 1'-0"

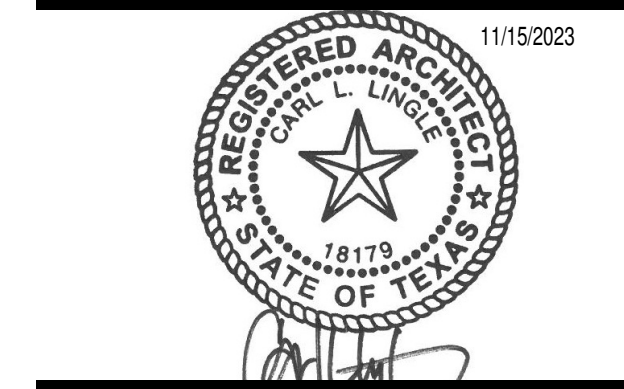
NOTE:  
• COORDINATE FINAL PLACEMENT WITH SHERWIN-WILLIAMS CORPORATE  
• LETTERS SHALL BE MINIMUM 2" HIGH AND SHALL CONTRAST WITH THE BACKGROUND COLOR. ALL BORDERS AND STRIPES SHALL BE 4" WIDE. STRIPES, WHERE INDICATED, SHALL BE SPACED 8" APART AND APPLIED DIAGONALLY. STRIPES REGULATORY AND CAUTIONARY AREAS IN YELLOW. OTHER REQUIRED STRIPED AREAS MAY BE ANY APPROVED COLOR.



A5 Paint Stripping - Operational Areas  
1/2" = 1'-0"

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SHERWIN WILLIAMS

STORE #:  
XXXX

ADDRESS:  
12360 W. SH 29, LIBERTY  
HILL, TX, 78642

SHEET TITLE:

Paint Specifications

SHEET NUMBER:

A121



HAZARDOUS MATERIALS STORAGE					
		MAX. STORAGE HEIGHT	MAX. AMOUNT	ACTUAL AMOUNT	
FLAMMABLE CLASS	1A	4'-0"	30 GAL	0 GAL	
	1B	4'-0"		392 GAL	
	1C	4'-0"		60 GAL	654 GAL TOTAL
COMBUSTIBLE CLASS	II	6'-0"	1,600 GAL TOTAL	150 GAL	
	IIIA	6'-0"		52 GAL	
	IIIB	6'-0"	13,200 GAL		330 GAL TOTAL
AEROSOL LEVEL	1	8'-0"			121 LBS
	2	8'-0"	2,500 LBS	2,500 LBS	203 LBS
	3	8'-0"	1,000 LBS		21 LBS
			TOTAL		224 LBS TOTAL

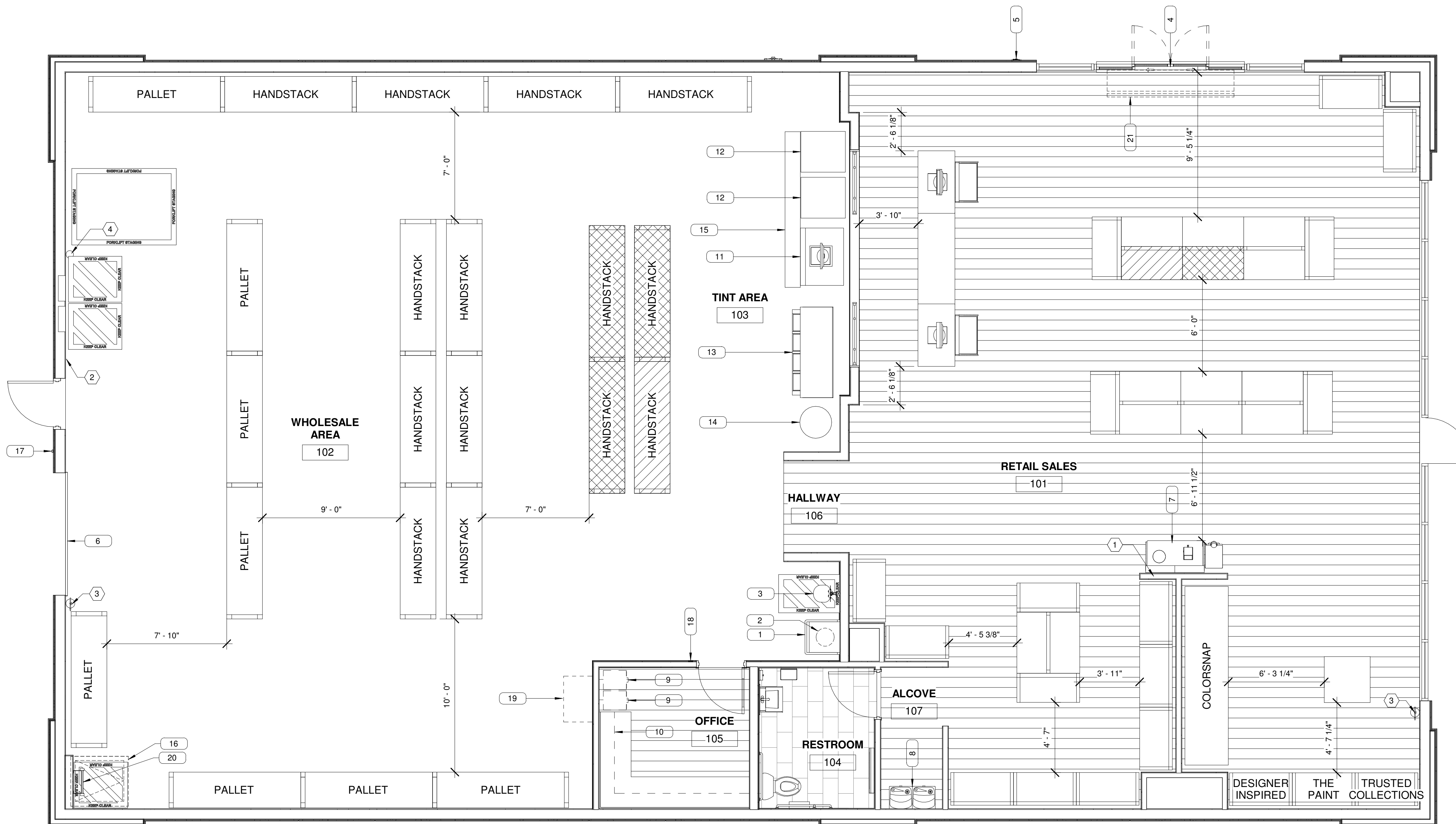
NOTE: TENANT WILL BE RESPONSIBLE FOR ADDING PERMANENT SIGNS ON EACH STORAGE SHELF OR RACK STATING THE ABOVE STORAGE LIMITATIONS AND TRAINING STORE STAFF IN PROPER STORAGE OF FLAMMABLE AND COMBUSTIBLE LIQUIDS. STORE OWNER WILL BE RESPONSIBLE FOR ADDING SIGNAGE TO SHELF AND RACK STORAGE WHERE FLAMMABLE AND COMBUSTIBLE LIQUIDS ARE STORED THAT "WARNING, NO COMBUSTIBLE PRODUCTS ARE TO BE STORED ABOVE ANY FLAMMABLE OR COMBUSTIBLE LIQUIDS" PER 2015 IFC.

FIXTURE PLAN CODED NOTES	
1	COLD WATER LINE FOR COFFEE MAKER - SEE PLUMBING SHEETS
2	TIME CLOCK & LUTRON VIVE LIGHTING CONTROL SYSTEM - VERIFY W/ ELECTRICAL
3	FIRE EXTINGUISHER - SEE DETAIL A5/A140
4	AS-BUILT DRAWING TUBE - SEE DETAIL C5/A111

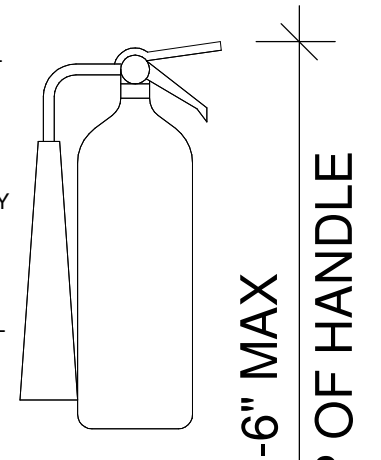
EQUIPMENT LIST							
TAG	DESCRIPTION	MANUFACTURER	MODEL	PROVIDED BY	INSTALLED BY	REMARKS	
1	UTILITY SINK	ELKAY	B1C24X24X	GC	GC	ELEVATED ON METAL LEGS	
2	WATER HEATER	A. O. SMITH	DEL-20	GC	GC	MOUNT ON SHELF ABOVE UTILITY SINK - VERIFY SPEC W/ PLUMBING	
3	EYEWASH STATION	BRADLEY	S19224DC	GC	GC	WALL MOUNTED - PLUMB TO HOT/COLD WATER (W/ MIXING VALVE) & SANITARY SEWER	
4	SLIDING GLASS DOOR	TORMAX	TX9200	TENANT	GC	MOUNT 4'-0" A.F.F. - COORDINATE FINAL PLACEMENT WITH FIRE PREVENTION BUREAU	
5	EMERGENCY KEY CABINET	KNOX BOX	3200 RECESSED MOUNTED	GC	GC	8'-0" W X 10'-0" OPENING - LIGHT GRAY - WALL-MOUNTED MOTORIZED OPERATOR: LIFTMASTER LJ8900W	
6	OVERHEAD DELIVERY DOOR	OVERHEAD DOOR	470	GC	GC		
7	COFFEE BAR W/ WATER COOLER			TENANT	TENANT		
8	HIGHLOW DRINKING FOUNTAIN	ELKAY	EDFP217C	GC	GC	REFER PLUMBING	
9	FILE CABINET			TENANT	TENANT		
10	ALUMINUM RACEWAY	LEGRAND	ALA4800 & ALA-G	TENANT	GC	ALTERNATES: HUBBLE HBLALU4800 & MONOSYSTEMS SWA4800	
11	ACCUTINTER	MILLER	ACCUTINTER 8012	TENANT	TENANT	VERIFY SPEC W/SHERWIN-WILLIAMS	
12	5 GALLON MIXER	RED DEVIL	05025U	TENANT	TENANT	VERIFY SPEC W/SHERWIN-WILLIAMS	
13	1 GALLON MIXER	RED DEVIL	1015-PB-SQ	TENANT	TENANT	VERIFY SPEC W/SHERWIN-WILLIAMS	
14	MANUAL TINTER	FLUID MANAGEMENT	HARBIL NSC80	TENANT	TENANT	VERIFY SPEC W/SHERWIN-WILLIAMS	
15	CONVEYOR ROLLER			TENANT	TENANT	VERIFY SPEC W/SHERWIN-WILLIAMS	
16	ROOF HATCH	BILCO	GS-50TB - 36x30	GC	GC	COORDINATE PLACEMENT WITH STRUCTURAL	
17	EXTERIOR BUZZER BUTTON	EDWARDS	1786-B	GC	GC	MOUNT 4'-0" A.F.F. - REFER ELECTRICAL	
18	BUZZER RECEIVER	OPTEX	RCTD-20U	GC	GC		
19	DATA CABINET			GC	GC	INSTALL PHONE/COMPUTER BOARD AT DATA CABINET	
20	FIXED ROOF ACCESS LADDER			GC	GC		
21	AMBIENT UNHEATED AIR DOOR UNIT	BERNER	CHD10-2072A	GC	GC		

### CONSTRUCTION NOTES

- THE GC SHALL INSTALL NEW VINYL WOOD PLANK FLOORING AND COVE BASE IN THE SALES, OFFICE AND CORRIDOR AREAS. INSTALL CERAMIC TILE ON THE FLOOR AND AS A 5'-3" HIGH WAINSCOT ON ALL WALLS FACING INTO THE RESTROOMS. SEE SHEET A400 FOR MORE INFORMATION.
- THE GC SHALL INSTALL SHEETROCK Furring ON ALL EXTERIOR WALLS, INTERIOR COLUMNS AND MASONRY WALLS FACING INTO THE SALES AREA. THESE WALLS SHALL EXTEND FROM THE SLAB TO THE UNDERSIDE OF THE ROOF DECK. INCLUDE INSULATION AS REQUIRED TO ACHIEVE THE EXTERIOR WALL INSULATION VALUE INDICATED IN THE DESIGN GUIDELINES. SEE THE DESIGN GUIDELINES FOR MORE INFORMATION.
- THE GC SHALL INSTALL ALL WALLS FACING INTO THE SALES AREA TO BE FLAT, WITH NO PROTRUSIONS.
- THE GC SHALL INSTALL SOUND INSULATION IN THE WALLS SURROUNDING AND SEPARATING THE RESTROOMS. THIS INSULATION SHALL EXTEND FROM THE SLAB TO THE ASSOCIATED CEILING HEIGHT.
- THE GC SHALL NEW STOREFRONT WINDOWS AND DOORS WHERE SHOWN ON THIS PLAN. THESE SHALL BE DOUBLE GLAZED, INSULATED 1" GLASS. INSTALL THE MULLIONS TO PROVIDE A MINIMUM CLEAR GLASS SPACE OF 48 INCHES IN WIDTH AND 60 INCHES IN HEIGHT. SEE THE DESIGN GUIDELINES FOR MORE INFORMATION.
- THE GC SHALL INSTALL RESTROOM ACCESSORIES. SEE THE DESIGN GUIDELINES FOR A LISTING OF THOSE ACCESSORIES AND PRODUCT SELECTIONS.
- SEE THE REFLECTED CEILING PLAN FOR CEILING LAYOUT AND OTHER RELATED INFORMATION.
- THE GC SHALL INSTALL THE SPECIFIED, 3-SECTIONED, WOOD FRAMED, WINDOW FEATURE IN THE WALL BETWEEN THE SALES AND TINTROOM AREAS. PRIME AND PAINT THE FRAMING. INSTALL CLEAR GLASS IN THE TWO END SECTIONS, LEAVING THE CENTER AS A CASED OPENING. SEE ELEVATION A1/A300 FOR MORE INFORMATION. SEE THE DESIGN GUIDELINES FOR PRODUCT AND COLOR SELECTIONS.
- THE GC SHALL INSTALL A PLASTIC LAMINATE WORK COUNTER AND UPPER BOOK SHELF IN THE OFFICE. SHERWIN-WILLIAMS TO PROVIDE WIRE RACEWAY FOR DATA, VOICE, AND POWER ALONG DESK. RACEWAY SHALL BE WIRED USING MINIMUM OF TWO (2) CIRCUITS. SPACE EACH OPENING 2'-0" ON CENTER. ALL RECEPTACLES SHALL BE GRAY. G.C. TO INSTALL RACEWAY SURGE/DECORATOR COVERS AT VOICE/DATA LOCATIONS. VOICE/DATA DEVICES AND WIRING SHALL BE INSTALLED BY OTHERS.
- THE GC SHALL INSTALL A PRIMED AND PAINTED WOOD CAP AND CROWN MOLDING ON TOP OF THE "T" WALL IN THE COLOR STUDIO AREA AND ON THE PERIMETER WALLS OF THE OFFICE, RESTROOMS AND TINT/SALES WALL. SEE SHEET A300 FOR MORE INFORMATION.
- THE GC SHALL INSTALL WHITE FRP ON THE WALL BEHIND THE UTILITY SINK AND EYE WASH STATION. THIS FEATURE SHALL EXTEND FROM THE SLAB TO 4 FEET A.F.F. AND TO 2 FEET BEYOND EACH SIDE OF THE EQUIPMENT.
- THE GC SHALL INSTALL A 1/2 INCH PLYWOOD BACK BOARD BENEATH THE SHEETROCK ON THE END OF THE "T" WALL IN THE SALES AREA TO SUPPORT A FLAT PANEL TELEVISION. SEE VIEW A3/A300 FOR INSTALLATION INSTRUCTIONS.
- THE GC SHALL PAINT ALL INTERIOR AND EXTERIOR WALLS, DOORS, ROOF DECK, EXPOSED CONDUITS. SHERWIN-WILLIAMS WILL SUPPLY ALL LIQUID PAINT PRODUCTS FOR APPLICATION BY THE LANDLORD/CONTRACTOR. SEE THE PAINTING SCHEMATIC FOR THE LOCATION OF ACCENT COLORS. SEE THE PAINTING SCHEDULE CONTAINED IN THE DESIGN GUIDELINES FOR PRODUCT AND COLOR SELECTIONS.



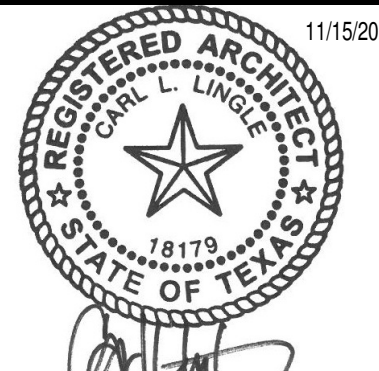
- NOTE:
- FIRE EXTINGUISHERS WITH A MINIMUM OF 2A1BC RATING AND CLASS K SHALL BE PLACED IN SUFFICIENT QUANTITY SO TRAVEL DISTANCE DOES NOT EXCEED 75'-0".
  - FINAL LOCATION & QUANTITY OF FIRE EXTINGUISHERS SHALL BE AS DIRECTED BY FIRE MARSHAL.
  - INSTALL NEW TYPE "K" WALL MOUNTED FIRE EXTINGUISHER. PROTRUSION INTO PATH OF CIRCULATION 4" MAX.
  - INSTALL NEW WALL MOUNTED FIRE EXTINGUISHER (MIN. TYPE 2A 40BC.) PROTRUSION INTO PATH OF CIRCULATION 4" MAX.



A5 TYPICAL FIRE EXTINGUISHER DETAIL  
1" = 1'-0"

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### SHERWIN WILLIAMS

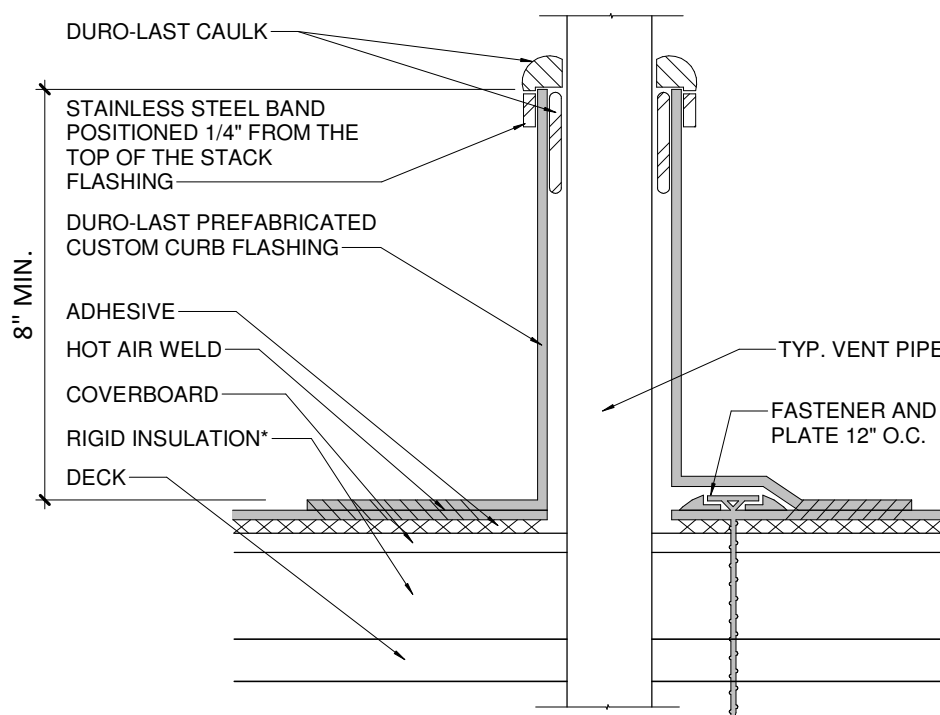
STORE #:  
XXXX

ADDRESS:  
12360 W. SH 29, LIBERTY HILL, TX, 78642

SHEET TITLE:  
Fixture Plan & Schedule

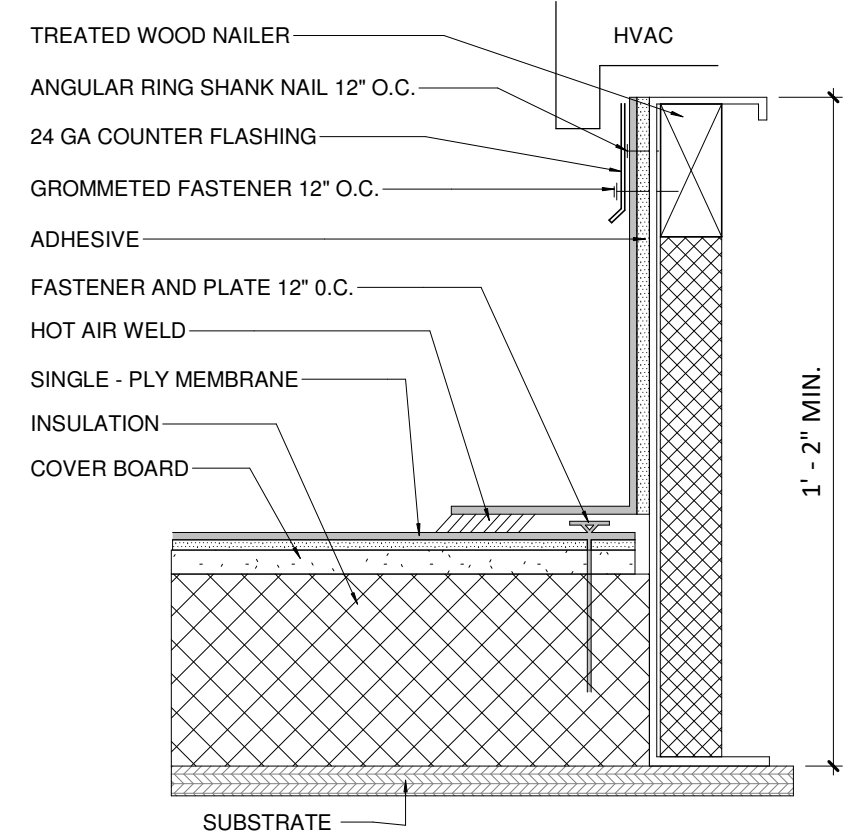
SHEET NUMBER:  
A140

A1 FIXTURE PLAN  
1/4" = 1'-0"



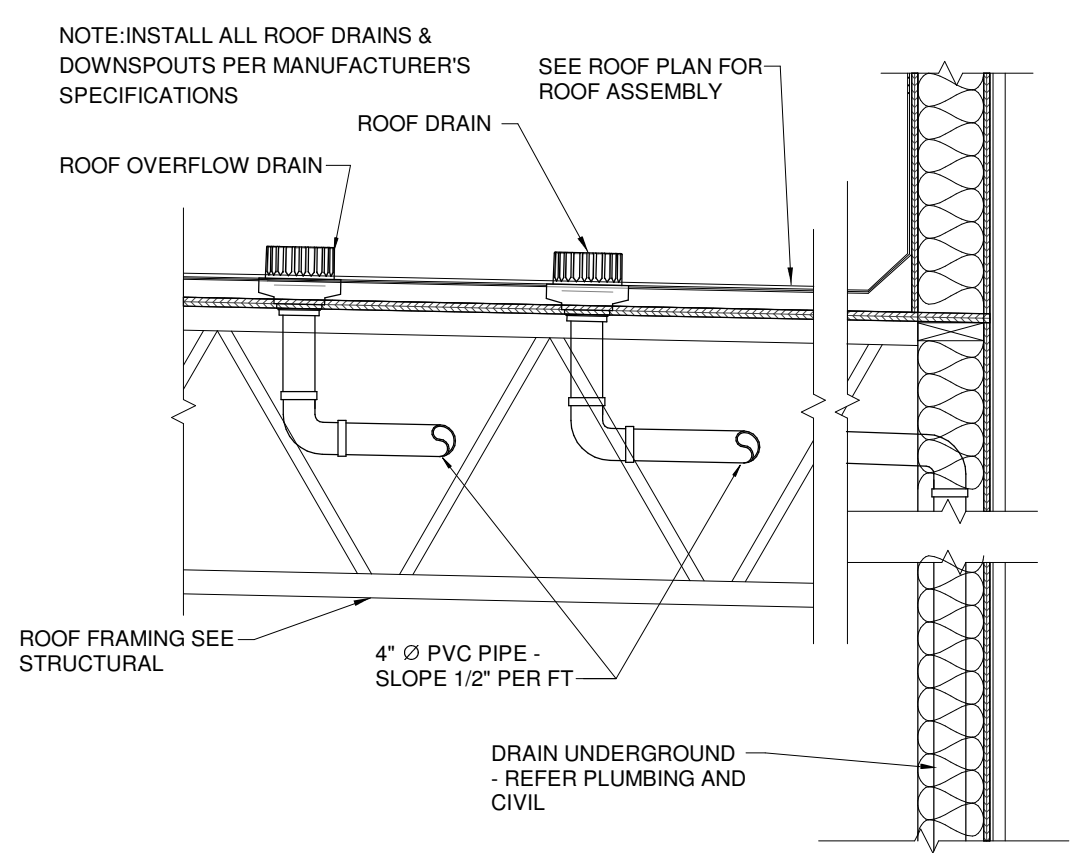
- NOTE:**
1. WITH MECHANICALLY FASTENED OR BALLASTED SPECIFICATIONS, MEMBRANE MUST BE MECHANICALLY ATTACHED WITH 2" (50 mm) ANCHOR DISC AND ACCEPTABLE FASTENERS (MINIMUM OF 4 PER PIPE).
  2. DO NOT OVERLAP THE FLANGES FROM ADJACENT PIPE FLASHINGS.
  3. ANY SEAM UNDER BOOT FLANGE TO BE TREATED AS T-JOINT.
  4. BOTH SURFACES TO BE MATED MUST BE CLEANED WITH TAPE PRIMER/WASH. EPDM TAPE PRIMER/WASH MUST BE COMPLETELY DRY AND TACK FREE BEFORE APPLYING EPDM LAP CEMENT.
  5. IF A LEAD FLASHING IS PRESENT ON THE PIPE, IT MUST BE REMOVED BEFORE A DURO-LAST STACK FLASHING IS INSTALLED.
  6. MEMBRANE ATTACHMENT AROUND THE PENETRATION WILL BE THE SAME AS THE DECK MEMBRANE. MAX 18" O.C. AND A MINIMUM OF ONE PLATE/FASTENER PER FLASHING.
- \*R-VALUE AND THICKNESS TO BE LISTED IN THE SPECIFICATIONS AND/OR BUILDING WALL SECTIONS.

**D1 TYPICAL BOOT DETAIL**  
3/8" = 1'-0"



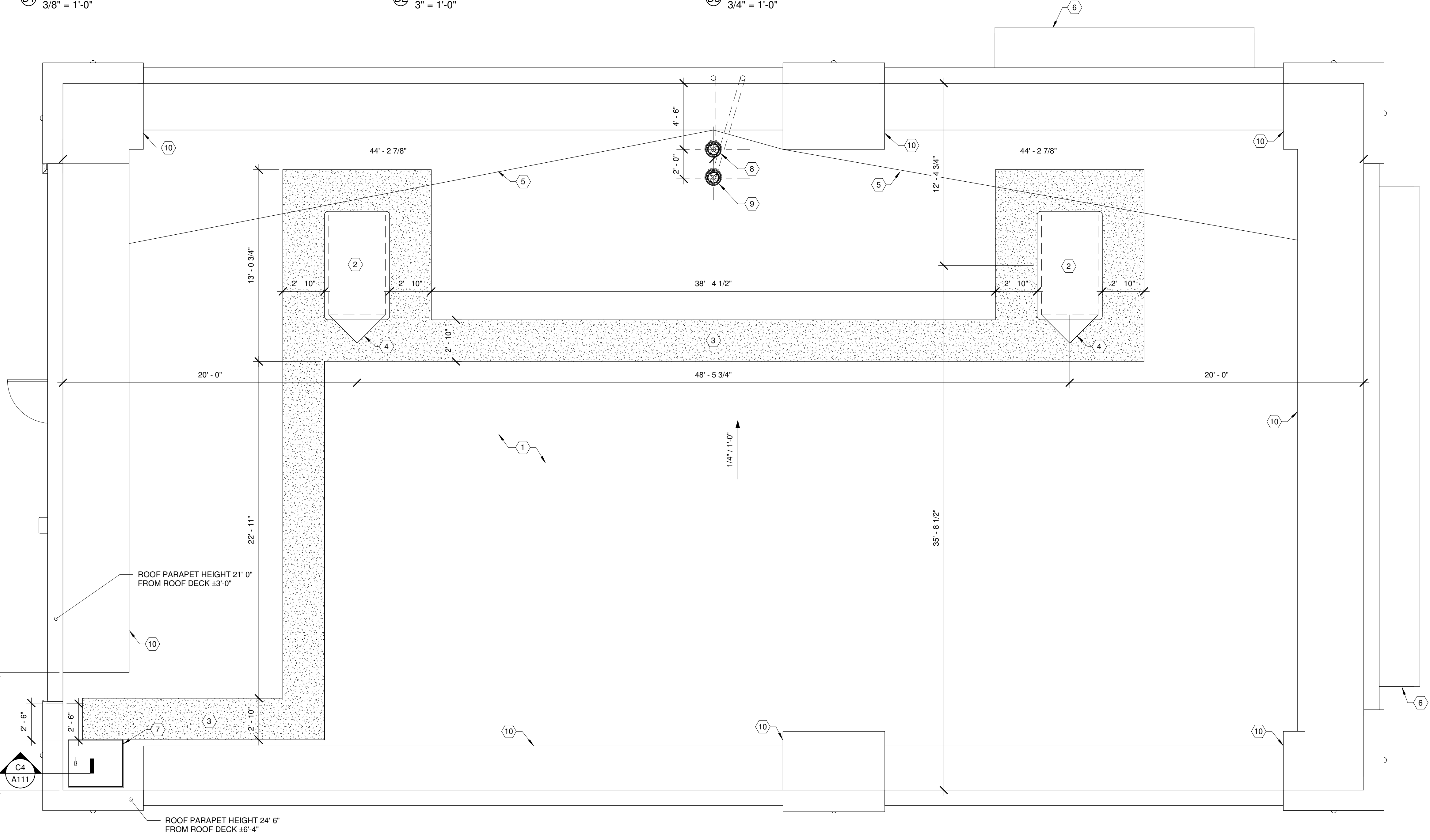
- NOTES:**
1. USE PREFABRICATED OUTSIDE CORNERS.

**D2 TYPICAL CURB FLASHING**  
3" = 1'-0"



**D3 TYPICAL ROOF DRAINAGE**  
3/4" = 1'-0"

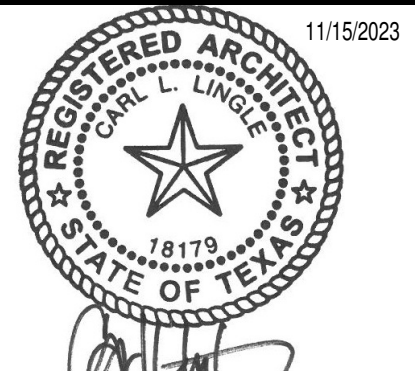
ROOF PLAN CODED NOTES	
1	WHITE (SRI 29 MIN.) 45 MIL TPO MEMBRANE ROOF OVER R-30 RIGID INSULATION - INSTALL PER MANUFACTURER'S SPEC - ROOF DECK PER STRUCTURAL - 2% SLOPE MIN.
2	MECHANICAL ROOFTOP UNIT - SEE MECHANICAL FOR INFORMATION, REINFORCE PER STRUCTURAL
3	REINFORCED WALKWAY FOR EQUIPMENT ACCESS
4	TAPERED INSULATION CRICKET AT EQUIPMENT CURB
5	SLOPE CRICKET TO ROOF DRAIN
6	METAL FRAME BLUE FABRIC AWNING
7	ROOF ACCESS HAT - COORDINATE PLACEMENT WITH STRUCTURAL
8	ROOF DRAIN - J.R. SMITH 1010-A04 (OR EQUIVALENT) - CONNECT BELOW GRADE TO STORM DRAIN - COORDINATE PLACEMENT W/ CIVIL
9	ROOF OVERFLOW DRAIN - J.R. SMITH 1070-A04 (OR EQUIVALENT) - COORDINATE PLACEMENT W/ CIVIL
10	ROOF KICKERS PER STRUCTURAL



**A1 ROOF PLAN**  
1/4" = 1'-0"

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**SHERWIN WILLIAMS**

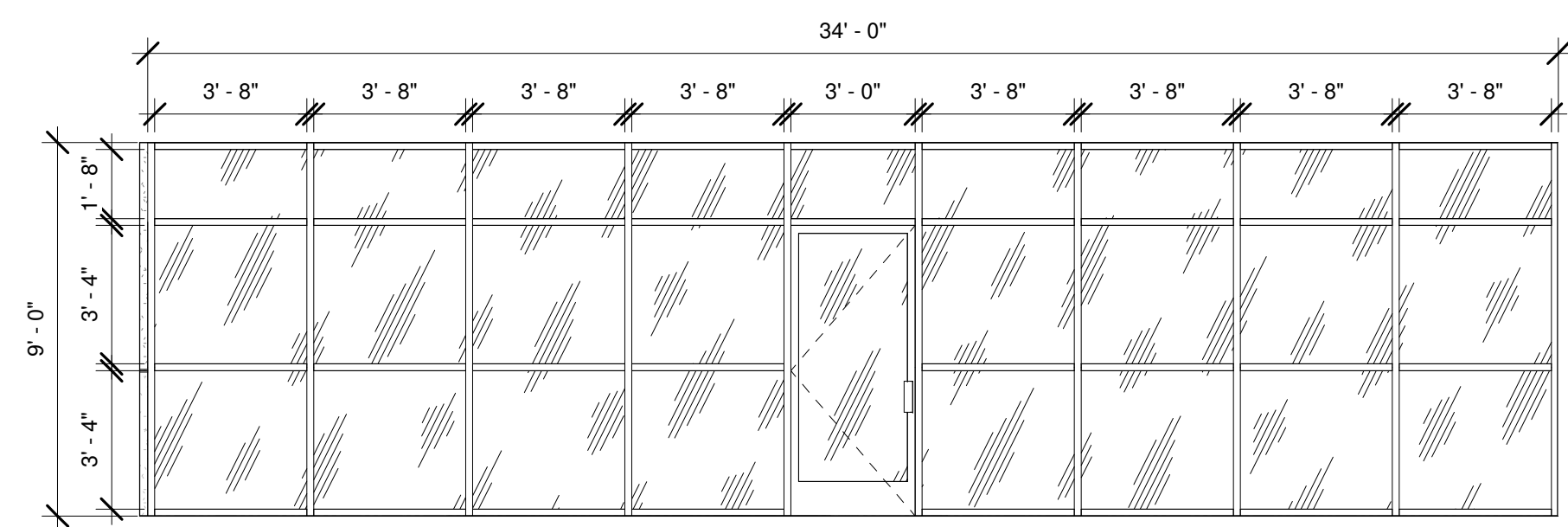
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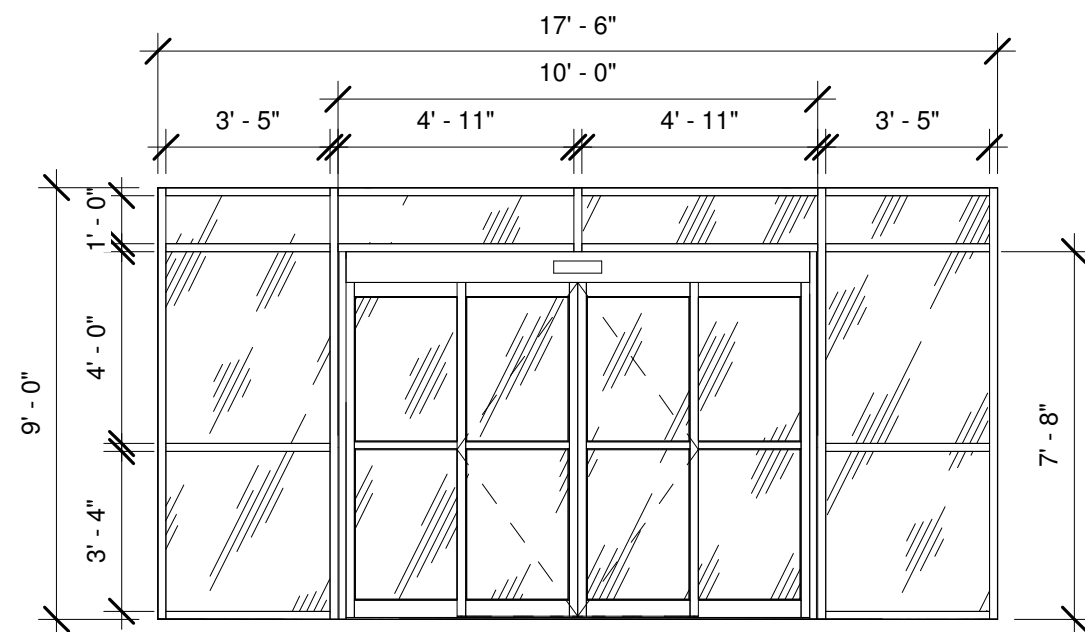
Roof Plan

SHEET NUMBER:

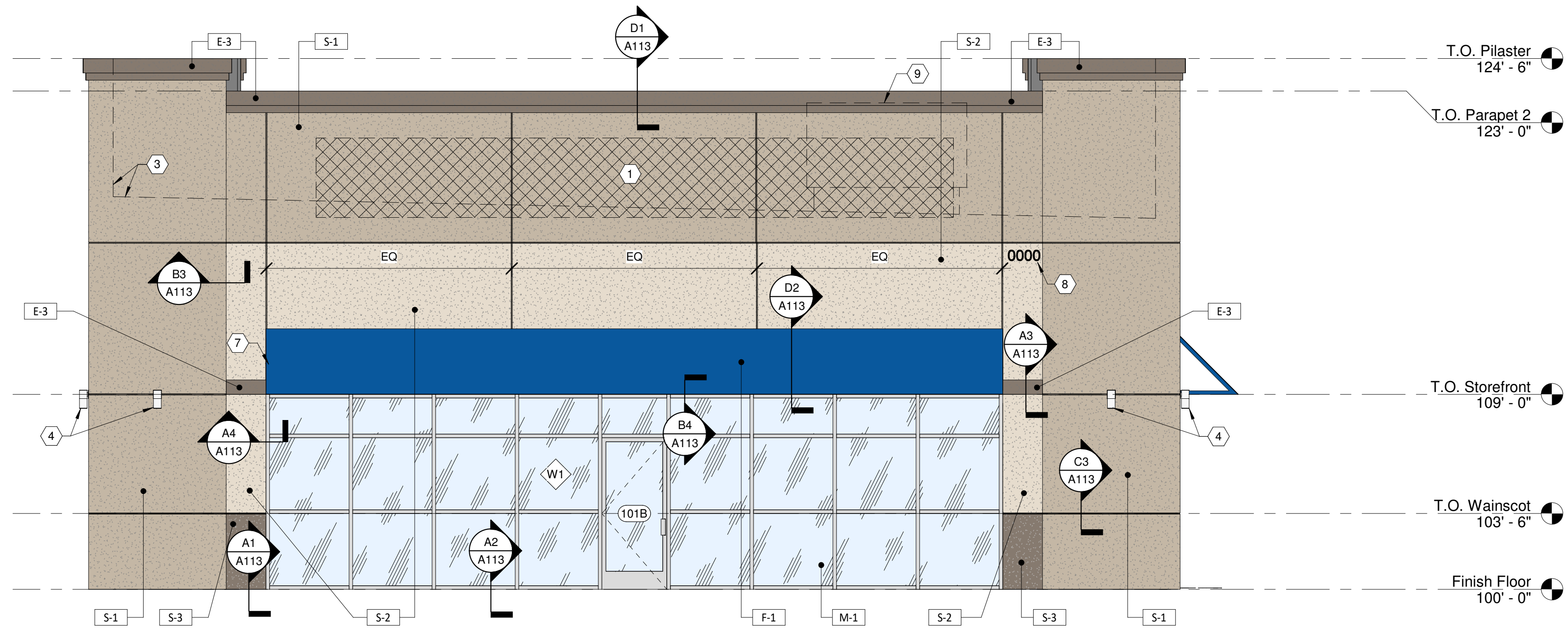
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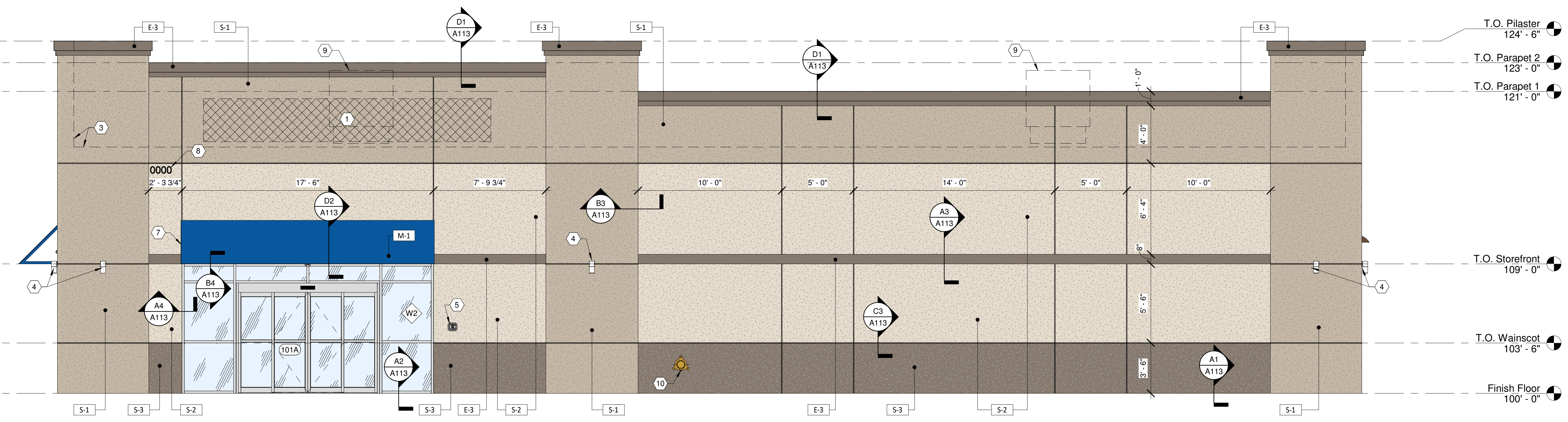
W1 WINDOW 1  
1/4" = 1'-0"



W2 WINDOW 2  
1/4" = 1'-0"



B1 SOUTH ELEVATION  
1/4" = 1'-0"



A1 EAST ELEVATION  
1/4" = 1'-0"

EXTERIOR FINISH SCHEDULE			
MARK	DESCRIPTION	MANUFACTURER & SPEC	SAMPLE
S-1	STUCCO BAY	SHERWIN-WILLIAMS COLOR: SW 7506 LOGGIA	
P-1	PAINT		
S-2	STUCCO FIELD	SHERWIN-WILLIAMS COLOR: SW 6105 DIVINE WHITE	
P-2	PAINT		
S-3	STUCCO BAY	SHERWIN-WILLIAMS COLOR: SW 7025 BACKDROP (PARAPET FLASHING TO MATCH)	
E-3	EIFS CORNICE & BAND		
P-3	PAINT		
M-1	ANODIZED ALUMINUM	COLOR: CLEAR ANODIZE	
F-1	FABRIC OVER METAL FRAME AWNING	COLOR: SHERWIN WILLIAMS BLUE (AWNINGS)	

EXTERIOR ELEVATION CODED NOTES	
1	SIGNAGE UNDER SEPARATE PERMIT
2	UTILITY METER BANK - PAINT TO MATCH ADJACENT FINISH - COORDINATE WITH CIVIL
3	ROOF LINE BEHIND PARAPET
4	EXTERIOR LIGHTING - SEE SCHEDULE ON SHEET A130
5	KNOX BOX - MODEL 3200 RECESSED - COORDINATE PLACEMENT WITH FIRE PREVENTION BUREAU
6	Buzzer Button
7	Metal Frame Blue Fabric Awning
8	BUILDING ADDRESS PER 2015 IFC 505.1 - 4" HIGH MIN., 1/2" MIN. STROKE WIDTH
9	ROOF TOP UNIT BEYOND
10	ROOF OVERFLOW DRAIN NOZZLE

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STATE OF TEXAS

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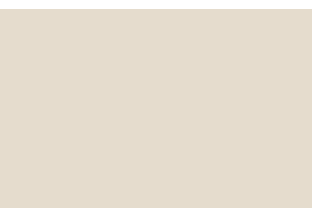

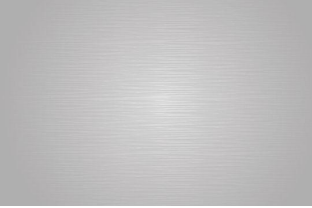

SHERWIN WILLIAMS

STORE #:  
XXXX

ADDRESS:  
12360 W. SH 29, LIBERTY  
HILL, TX, 78642

SHEET TITLE:  
Exterior Elevations &  
Window Schedule

SHEET NUMBER:  
A200

EXTERIOR FINISH SCHEDULE			
MARK	DESCRIPTION	MANUFACTURER & SPEC	SAMPLE
S-1	STUCCO BAY	SHERWIN-WILLIAMS COLOR: SW 7506 LOGGIA	
P-1	PAINT		
S-2	STUCCO FIELD	SHERWIN-WILLIAMS COLOR: SW 6105 DIVINE WHITE	
P-2	PAINT		
S-3	STUCCO BAY	SHERWIN-WILLIAMS COLOR: SW 7025 BACKDROP (PARAPET FLASHING TO MATCH)	
E-3	EIFS CORNICE & BAND		
P-3	PAINT		
M-1	ANODIZED ALUMINUM	COLOR: CLEAR ANODIZE	
F-1	FABRIC OVER METAL FRAME AWNING	COLOR: SHERWIN WILLIAMS BLUE (AWNINGS)	

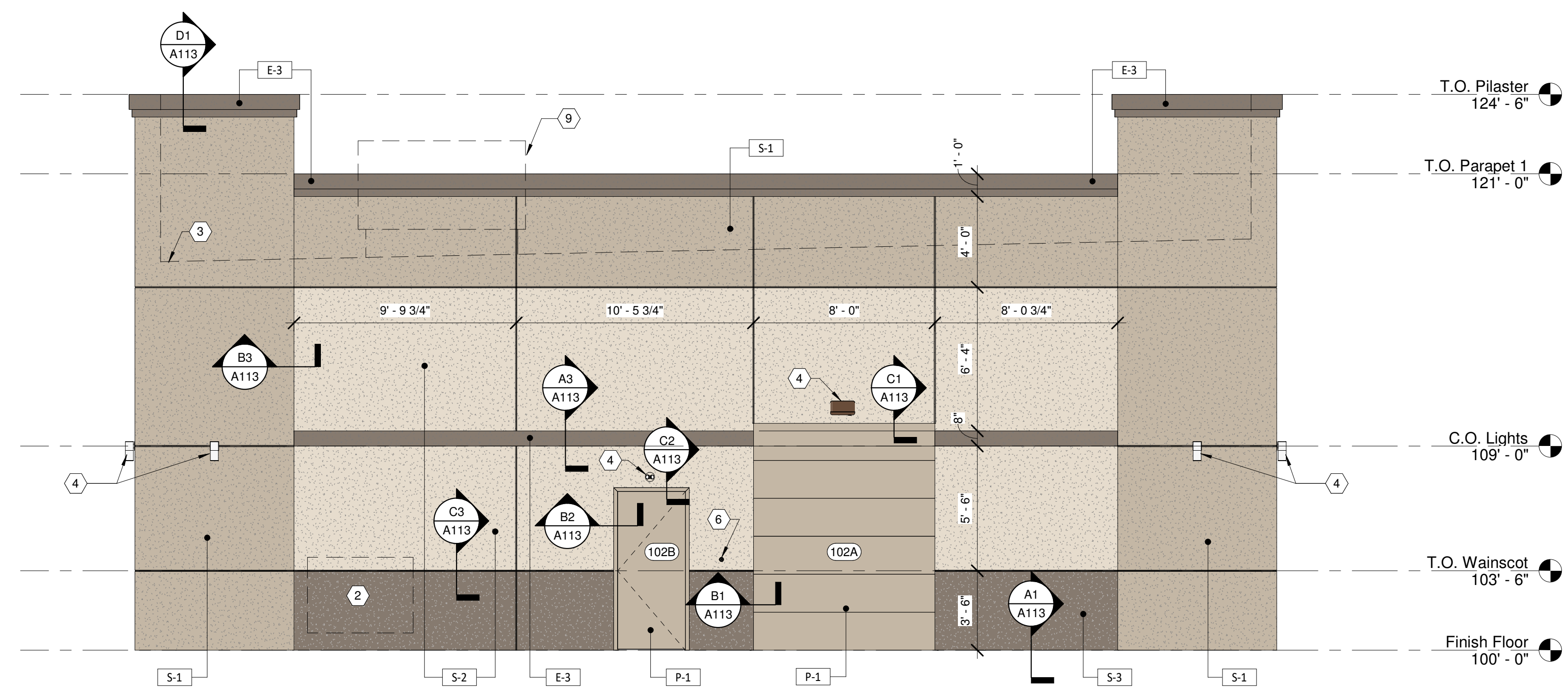
EXTERIOR ELEVATION CODED NOTES	
1	SIGNAGE UNDER SEPARATE PERMIT
2	UTILITY METER BANK - PAINT TO MATCH ADJACENT FINISH - COORDINATE WITH CIVIL
3	ROOF LINE BEHIND PARAPET
4	EXTERIOR LIGHTING - SEE SCHEDULE ON SHEET A130
5	KNOX BOX - MODEL 3200 RECESSED - COORDINATE PLACEMENT WITH FIRE PREVENTION BUREAU
6	BUZZER BUTTON
7	METAL FRAME BLUE FABRIC AWNING
8	BUILDING ADDRESS PER 2015 IFC 505.1 - 4" HIGH MIN., 1/2" MIN. STROKE WIDTH
9	ROOF TOP UNIT BEYOND
10	ROOF OVERFLOW DRAIN NOZZLE

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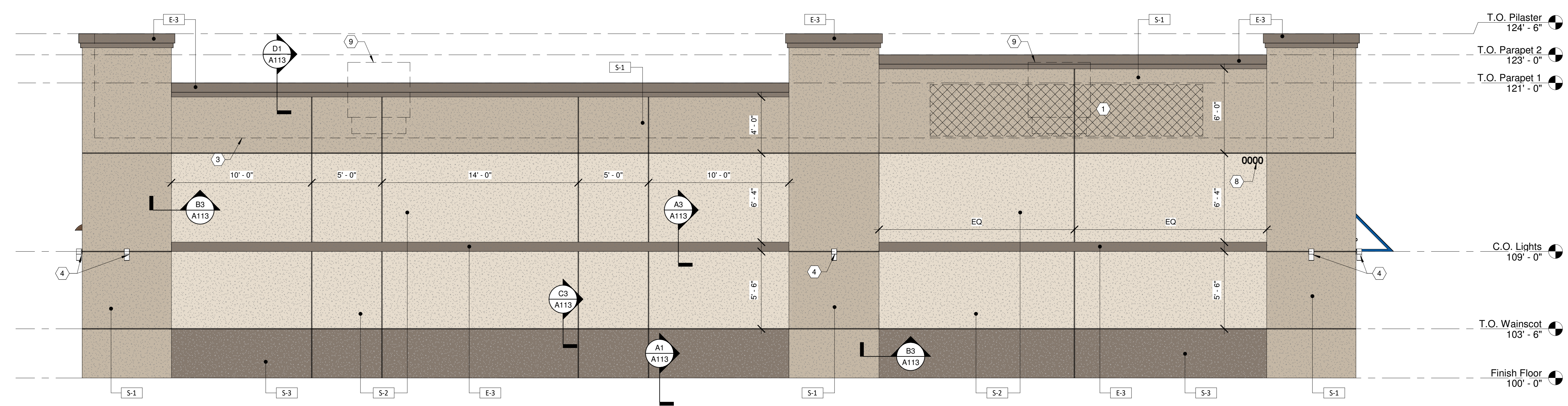
11/15/2023  
 REGISTERED ARCHITECT  
 STATE OF TEXAS  
 8175

PROJECT #:  
 DRAWN BY: BA CHECKED BY: MP

PERMIT SET - 11/15/2023  
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(B1) NORTH ELEVATION  
 1/4" = 1'-0"



(A1) WEST ELEVATION  
 1/4" = 1'-0"

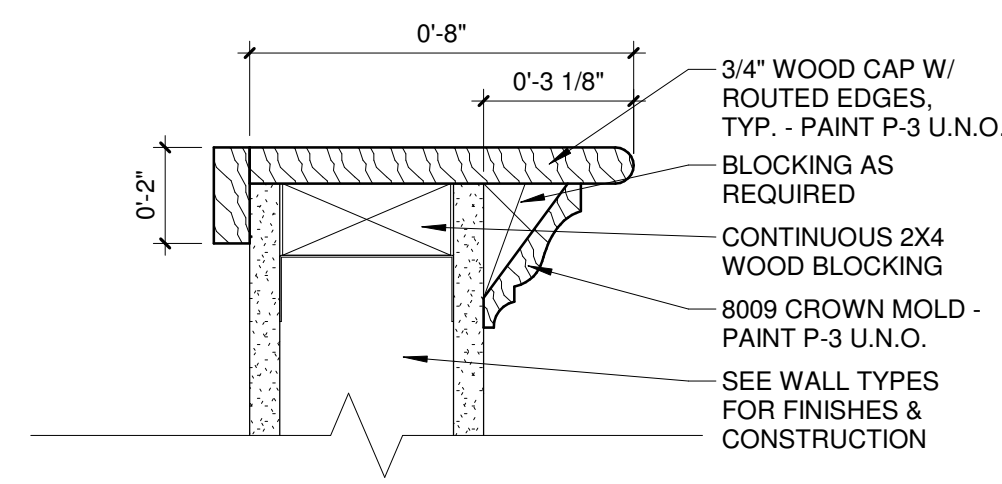
SHERWIN WILLIAMS

STORE #:  
 XXXX  
 ADDRESS:  
 12360 W. SH 29, LIBERTY  
 HILL, TX, 78642

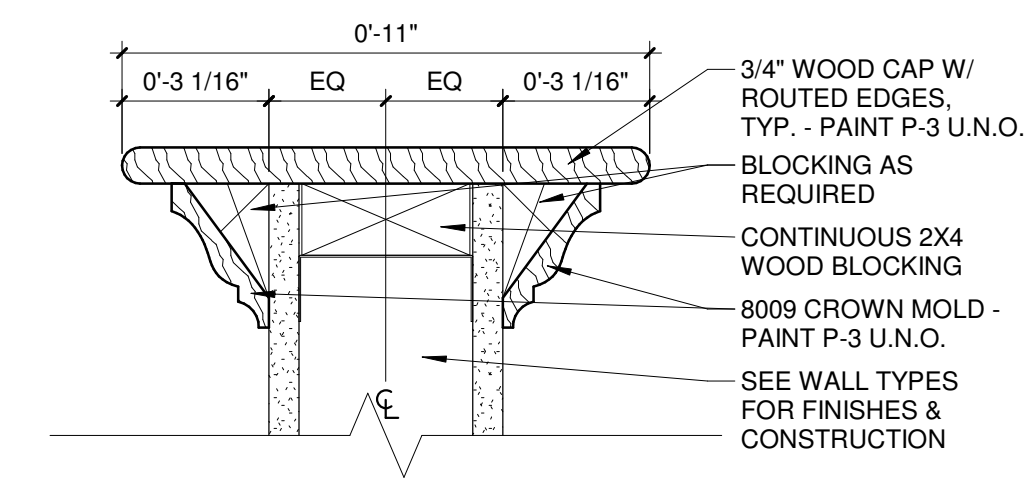
SHEET TITLE:  
 Exterior Elevations

SHEET NUMBER:  
**A201**

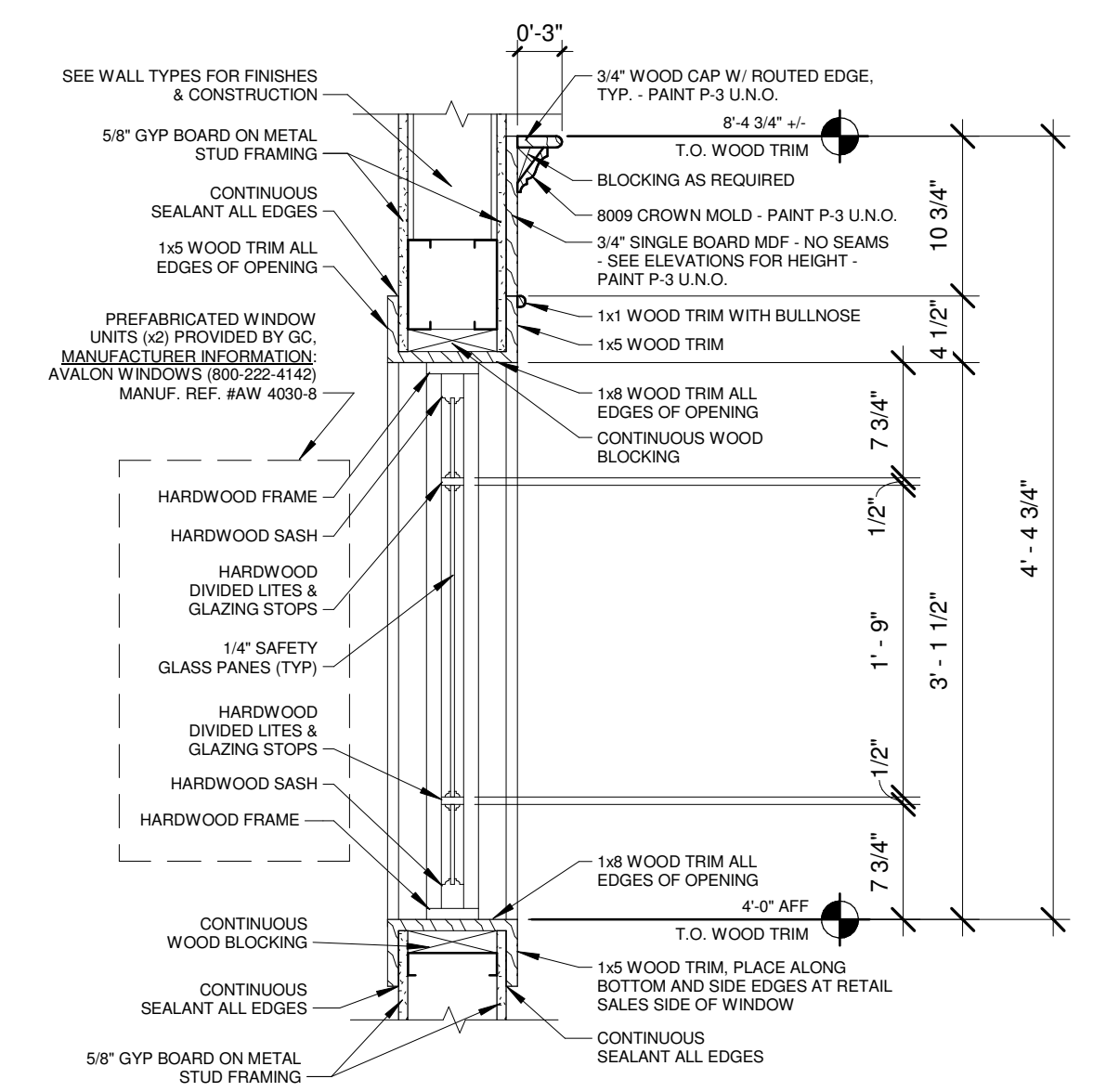




D1 WOOD CAP & TRIM (SINGLE)  
3\"/>



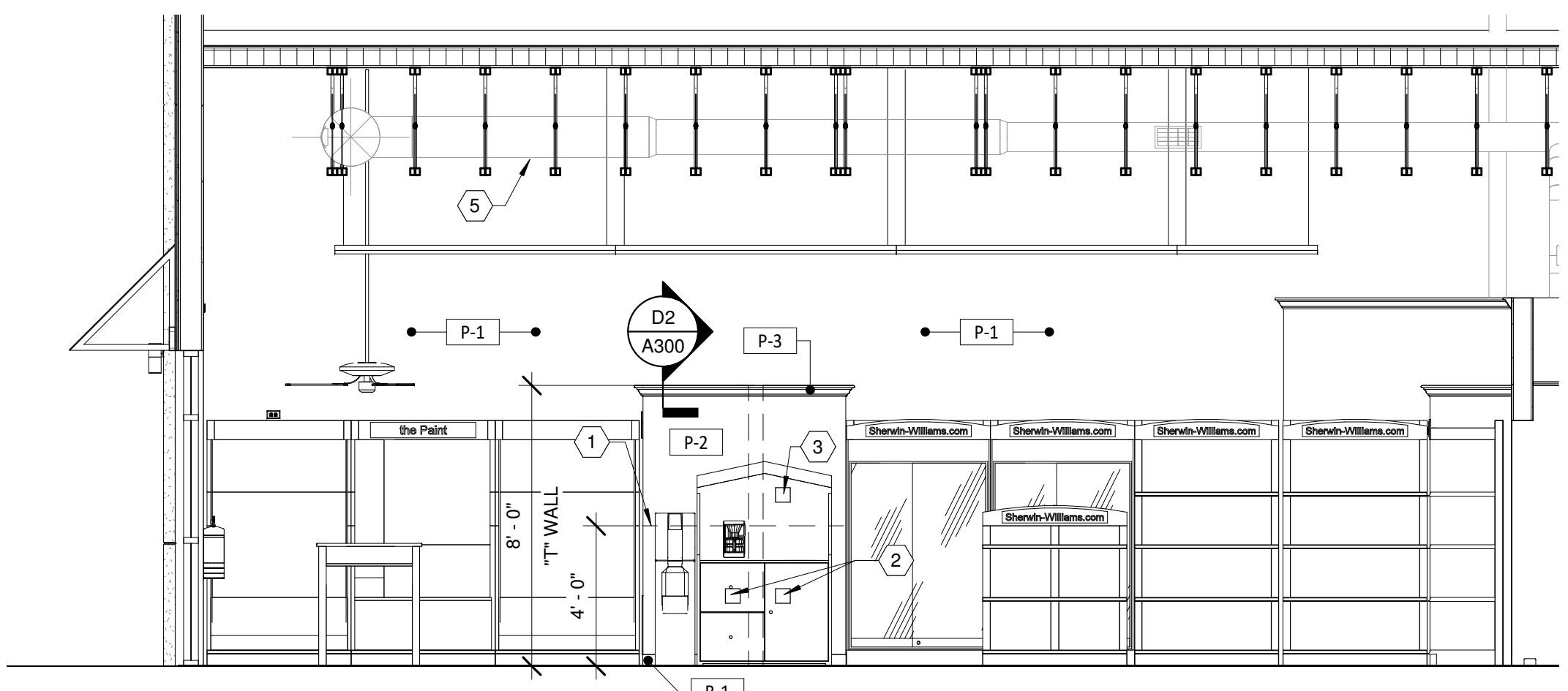
D2 WOOD CAP & TRIM (DOUBLE)  
3\"/>



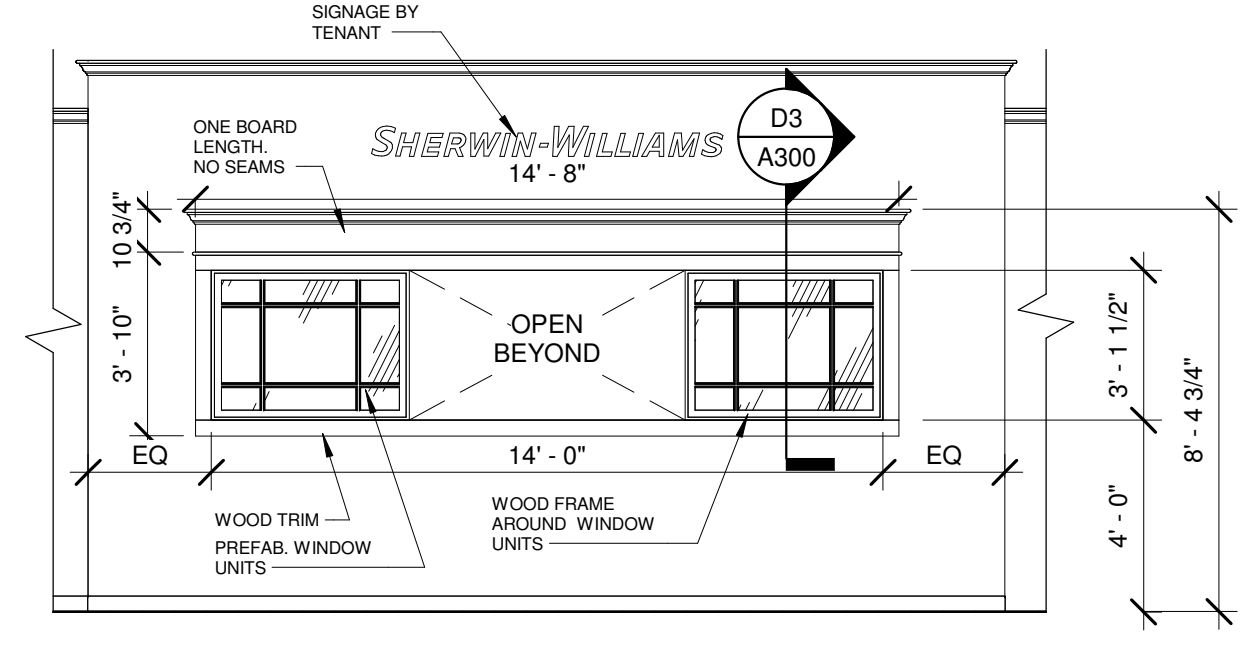
D3 WOOD TRIM (TINT WINDOW)  
1\"/>

**INTERIOR ELEVATION CODED NOTES**

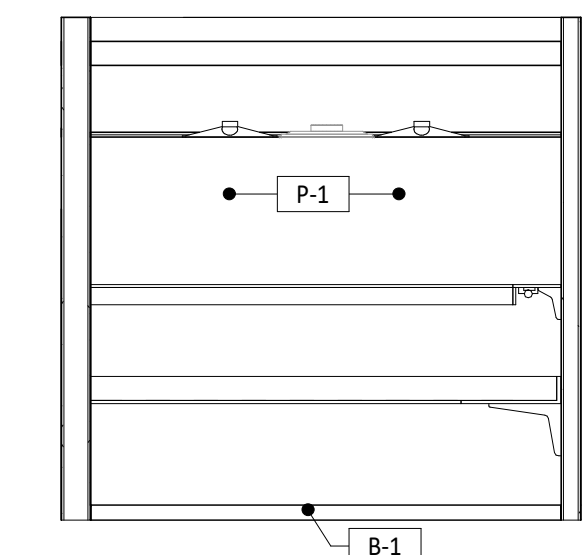
- 1 3/4\"/>
- 2 QUAD OUTLET & WATER VALVE IN RECESSED BOX - COORDINATE W/ ELECTRICAL & PLUMBING
- 3 EXTEND CONDUIT FOR DATA J-BOX THROUGH PLYWOOD BACKING BOARD - TVL508 - COORDINATE W/ ELECTRICAL - TERMINATE AT DATA BOARD
- 4 CASED WINDOW BY AVALON - G.C. TO PROVIDE & INSTALL - COORDINATE SPEC W/ SHERWIN-WILLIAMS CORPORATE
- 5 CONFIRM HVAC DUCTWORK AND DIFFUSER/RETURN LOCATIONS WITH MECHANICAL SHEETS - RUN DUCTWORK IN BETWEEN TRUSSES



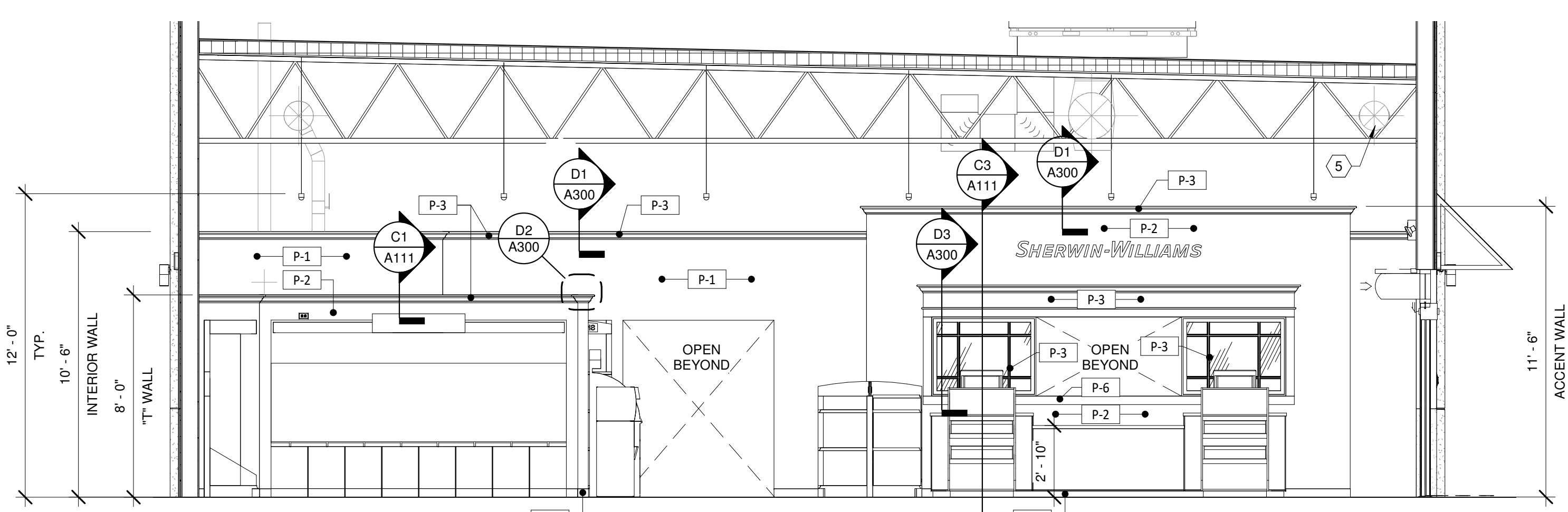
C ELEVATION AT SALES AREA  
1/4\"/>



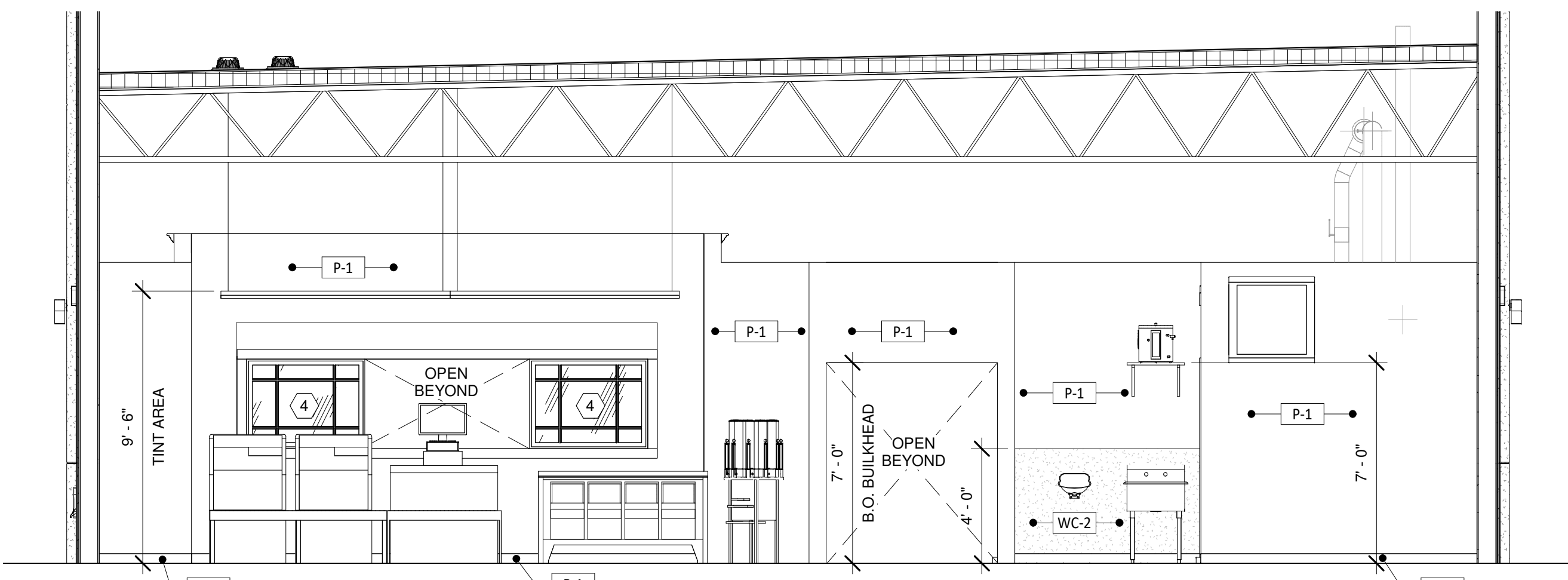
C3 FEATURE WINDOW  
1/4\"/>



C4 OFFICE ELEVATION  
1/4\"/>



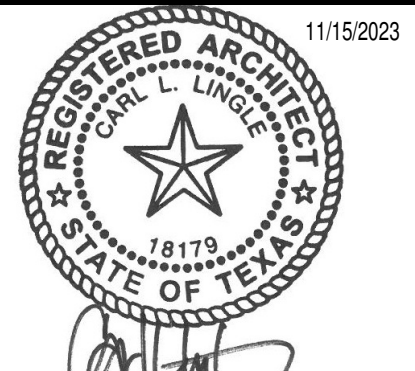
A ELEVATION AT FEATURE WINDOW  
1/4\"/>



A3 ELEVATION AT UTILITY SINK/ TINT AREA  
1/4\"/>

LINGLE DESIGN GROUP, INC.  
158 WEST MAIN STREET  
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DRAWN BY: BA CHECKED BY: MP

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**SHERWIN WILLIAMS**

STORE #:  
XXXX  
ADDRESS:  
12360 W. SH 29, LIBERTY HILL, TX, 78642

SHEET TITLE:  
Interior Elevations

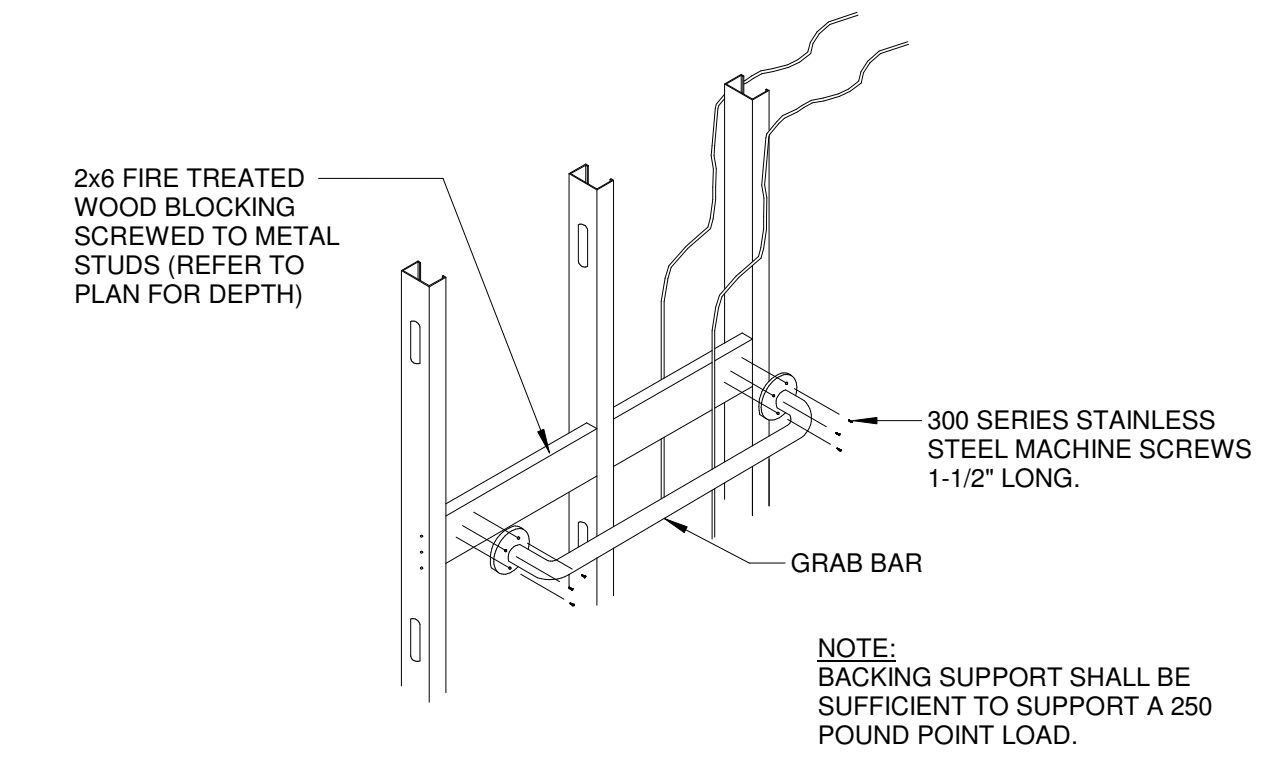
SHEET NUMBER:  
**A300**

RESTROOM FIXTURE SCHEDULE					
TAG	DESCRIPTION	MANUFACTURER	MODEL	REMARKS	PROVIDED/INSTALLED BY
A	42" GRAB BAR	BOBRICK	B-6808 X 42	(1) 2X6 4'-0" LONG CENTER MOUNTED @ 33" A.F.F. TO CENTER OF SUPPORT GRAB BAR - SEE DETAIL D5/A400	GC
B	18" GRAB BAR	BOBRICK	B-6808 X 18	2X6 WOOD BLOCKING FOR 18" VERTICAL GRAB BAR	GC
C	36" GRAB BAR	BOBRICK	B-6808 X36	(1) 2X6 4'-0" LONG CENTER MOUNTED @ 33" A.F.F. TO CENTER OF SUPPORT GRAB BAR - SEE DETAIL D5/A400	GC
D	TOILET TISSUE DISPENSER	BOBRICK	B-2840	INSTALL BLOCKING PER MANUFACTURER RECOMMENDATIONS	TENANT
E	WATER CLOSET	KOHLER	K-3519 WHITE	1 GALLON PER FLUSH - SEAT: KOHLER LUSTRA K-4650 WHITE	GC
F	LAVATORY	AMERICAN STANDARD	COMRADE 0124.024.020 WHITE	INTEGRATED PLUMBING SHROUD - FAUCET: BRADLEY S53-315 "AERADA 1200 Series CS FAUCET"; PLUG-IN ADAPTER, CAPACITIVE SENSING ACTIVATION NO SUBSTITUTIONS.	GC
G	MIRROR	BOBRICK	B-165 2436	INSTALL BLOCKING PER MANUFACTURER RECOMMENDATIONS	GC
H	SOAP DISPENSER	BOBRICK	B-2112	INSTALL BLOCKING PER MANUFACTURER RECOMMENDATIONS	TENANT
I	PAPER TOWEL DISPENSER	CINTAS	AUTOMATIC	INSTALL BLOCKING PER MANUFACTURER RECOMMENDATIONS	TENANT
J	SANITARY NAPKIN DISPOSAL	BOBRICK	B-353	RECESSED MOUNTED - INSTALL BLOCKING PER MANUFACTURER RECOMMENDATIONS	TENANT
K	BABY CHANGING STATION	BOBRICK	KB200-01	INSTALL BLOCKING PER MANUFACTURER RECOMMENDATIONS	TENANT

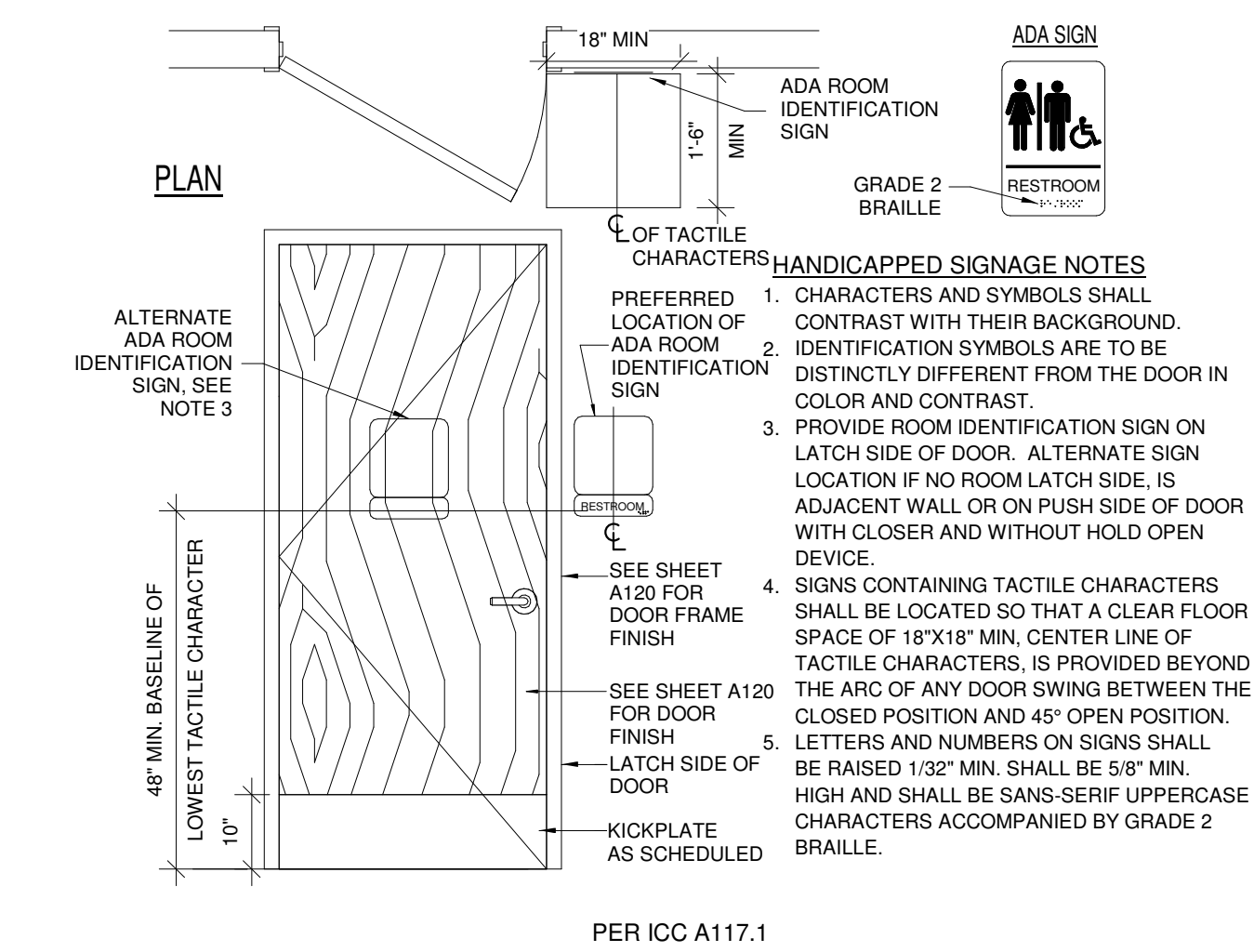
**GENERAL NOTES**

- ALL FIXTURES & ACCESSORIES MUST MEET ALL NATIONAL AND LOCAL CODES AND ADA REQUIREMENTS. PROVIDE SOLID FIRE TREATED BLOCKING AT ALL WALL MOUNTED FIXTURES FOR SECURE ANCHORING. VERIFY LOCATION WITH MANUFACTURERS SPECIFICATIONS. CLEAR SILICONE CAULK ALL FIXTURES TO PARTITION.
- WATER CLOSET AND URINAL FLUSH VALVE CONTROLS, AND FAUCET AND OPERATING MECHANISM CONTROLS, SHALL BE OPERABLE WITH ONE HAND, SHALL NOT REQUIRE TIGHT GRASPING, PINCHING, OR TWISTING OF THE WRIST, AND SHALL BE MOUNTED NO MORE THAN 44" ABOVE THE FLOOR.
- THE FORCE REQUIRED TO ACTIVATE WATER CLOSET AND URINAL FLUSH VALVE CONTROLS, AND FAUCET AND OPERATING CONTROLS, SHALL BE NO GREATER THAN 5 LBF.
- SEE SHEET A110 FOR WALL DIMENSIONS.
- USE MOISTURE RESISTANT GYPSUM BOARD AT WALLS BEHIND PLUMBING FIXTURES.
- PROVIDE BATT INSULATION IN WALLS WHERE SCHEDULED ON SHEET A110.

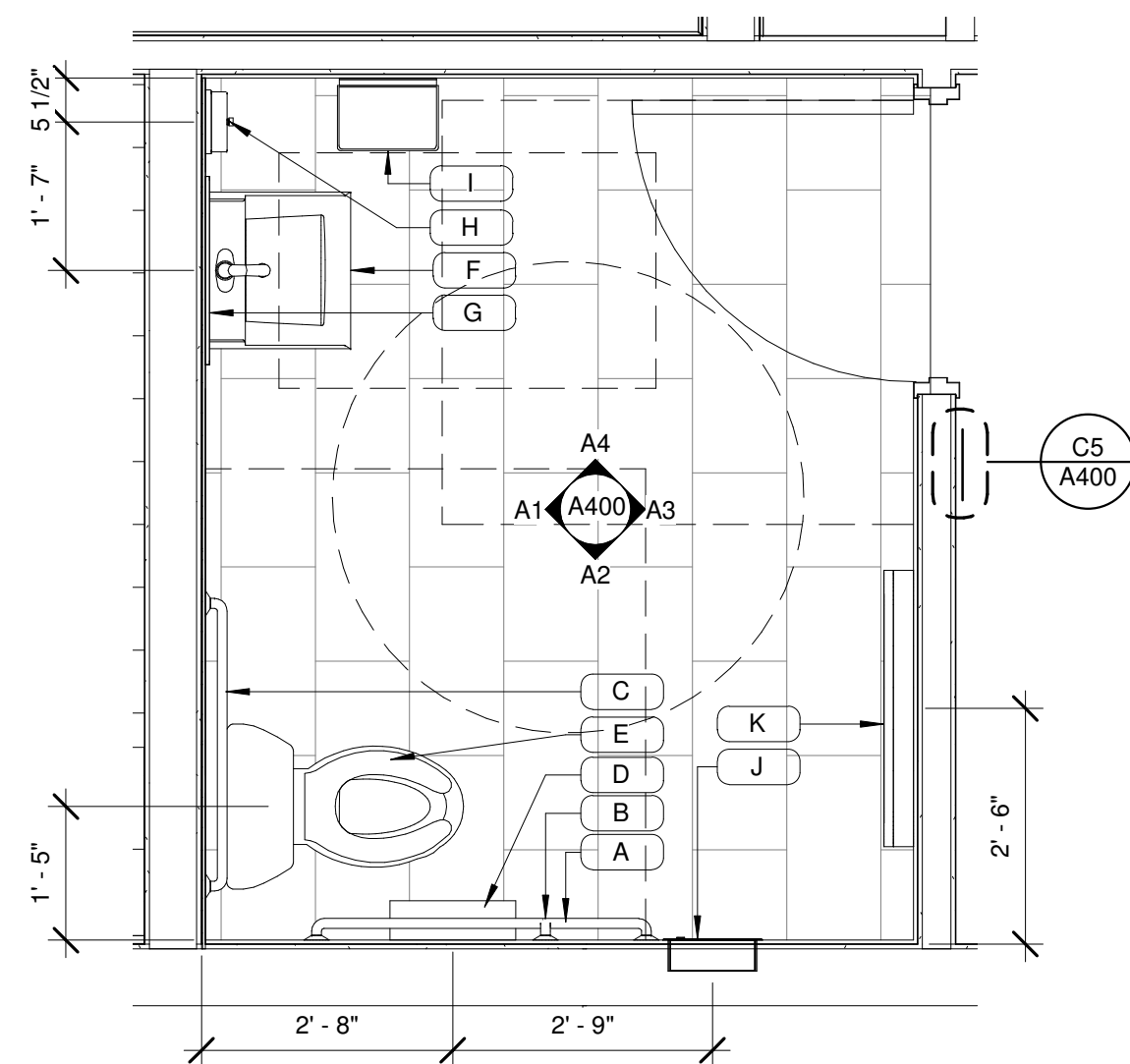
- XX-X FINISH TAG - SEE FINISH SCHEDULE ON SHEET A120
- # DOOR TAG - SEE DOOR SCHEDULE ON SHEET A110



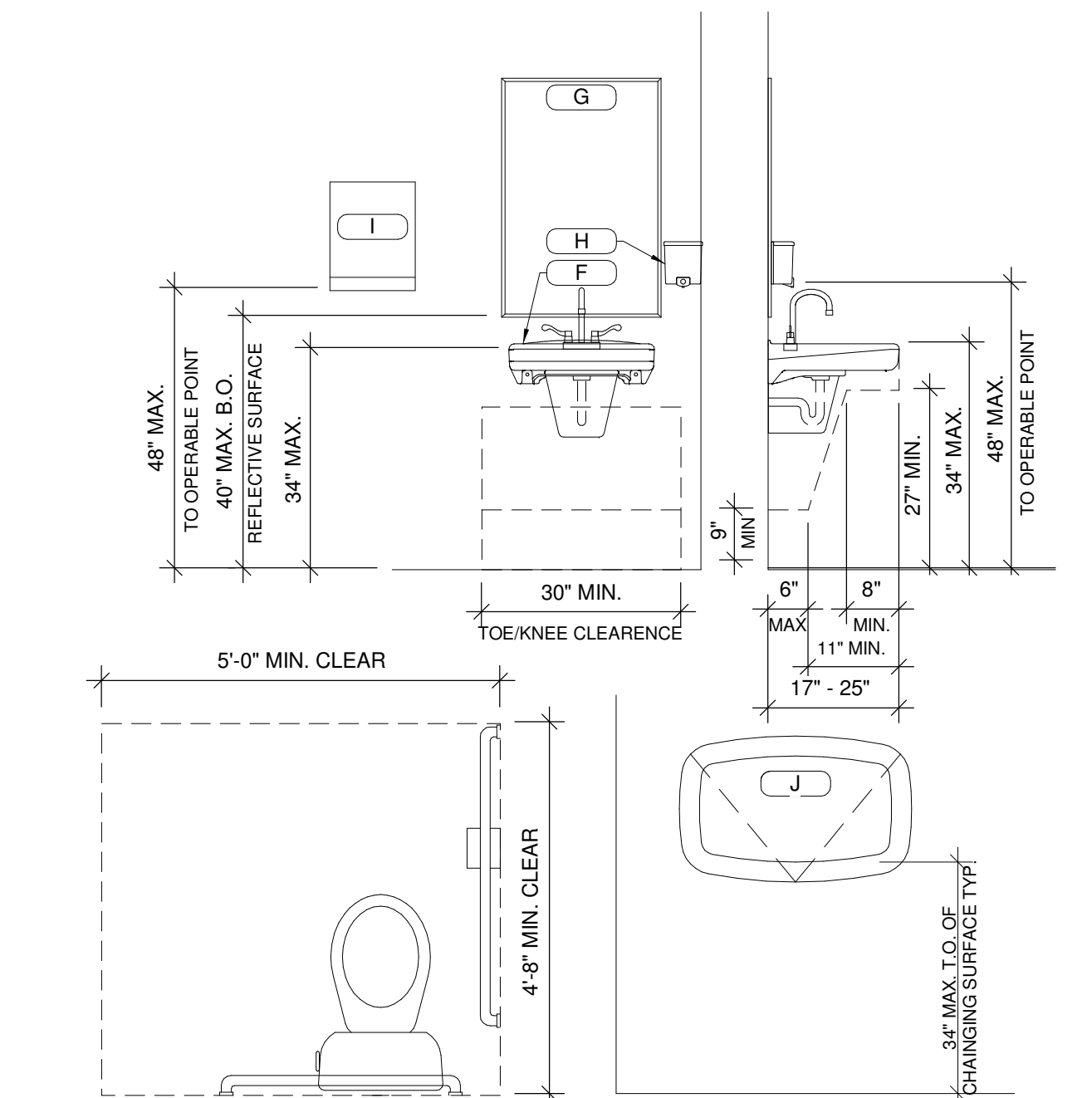
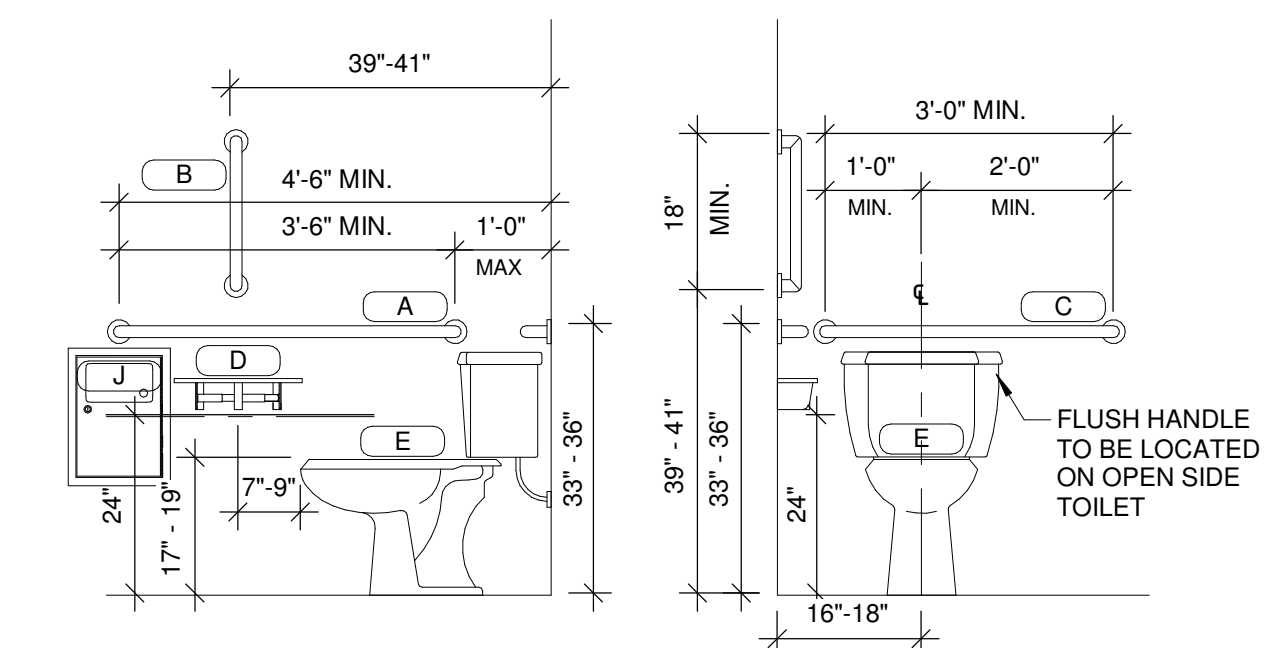
D5 TYP. GRAB BAR ATTACHMENT DETAIL  
1/2" = 1'-0"



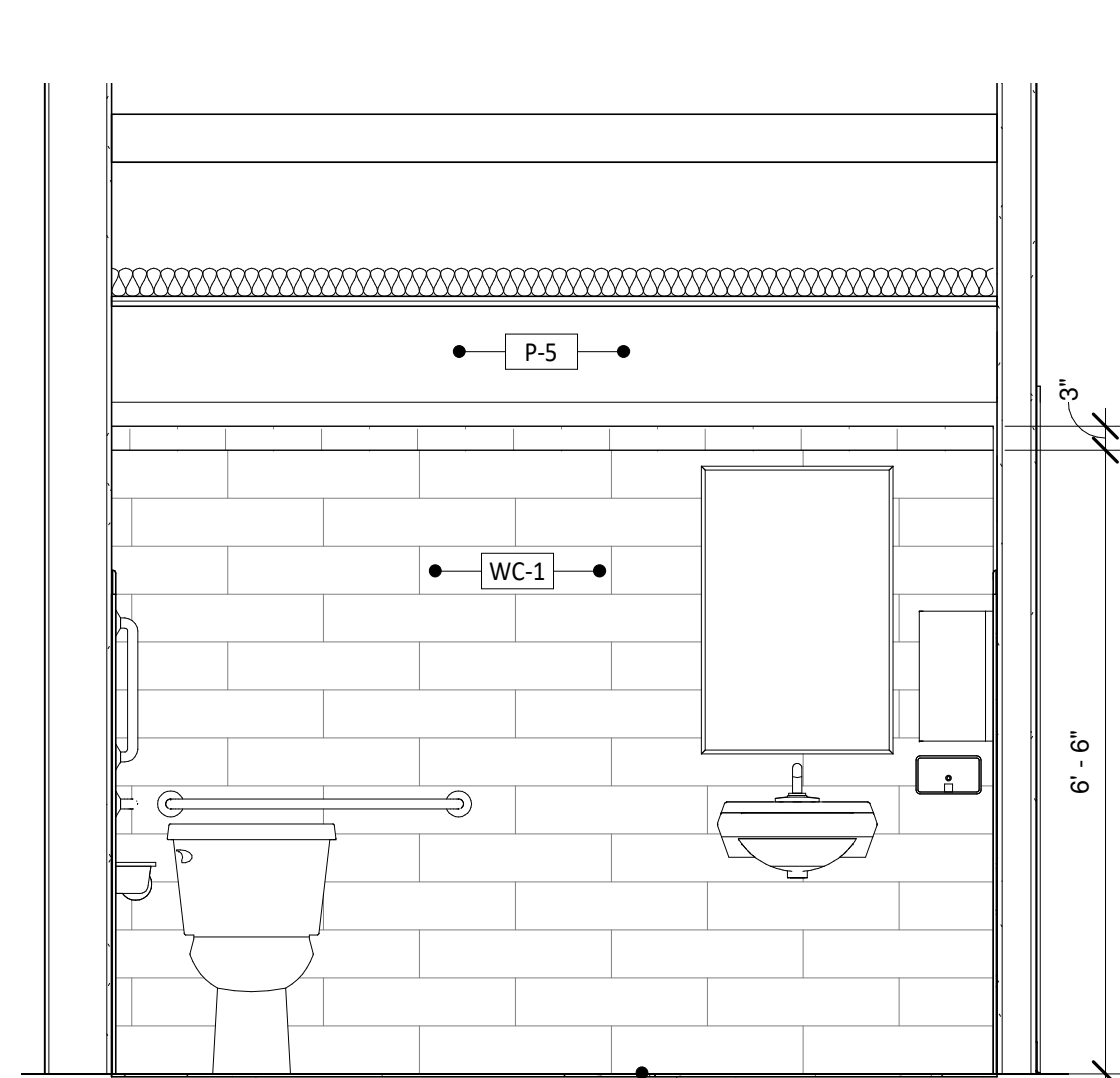
C5 RESTROOM SIGNAGE DETAIL  
1/2" = 1'-0"



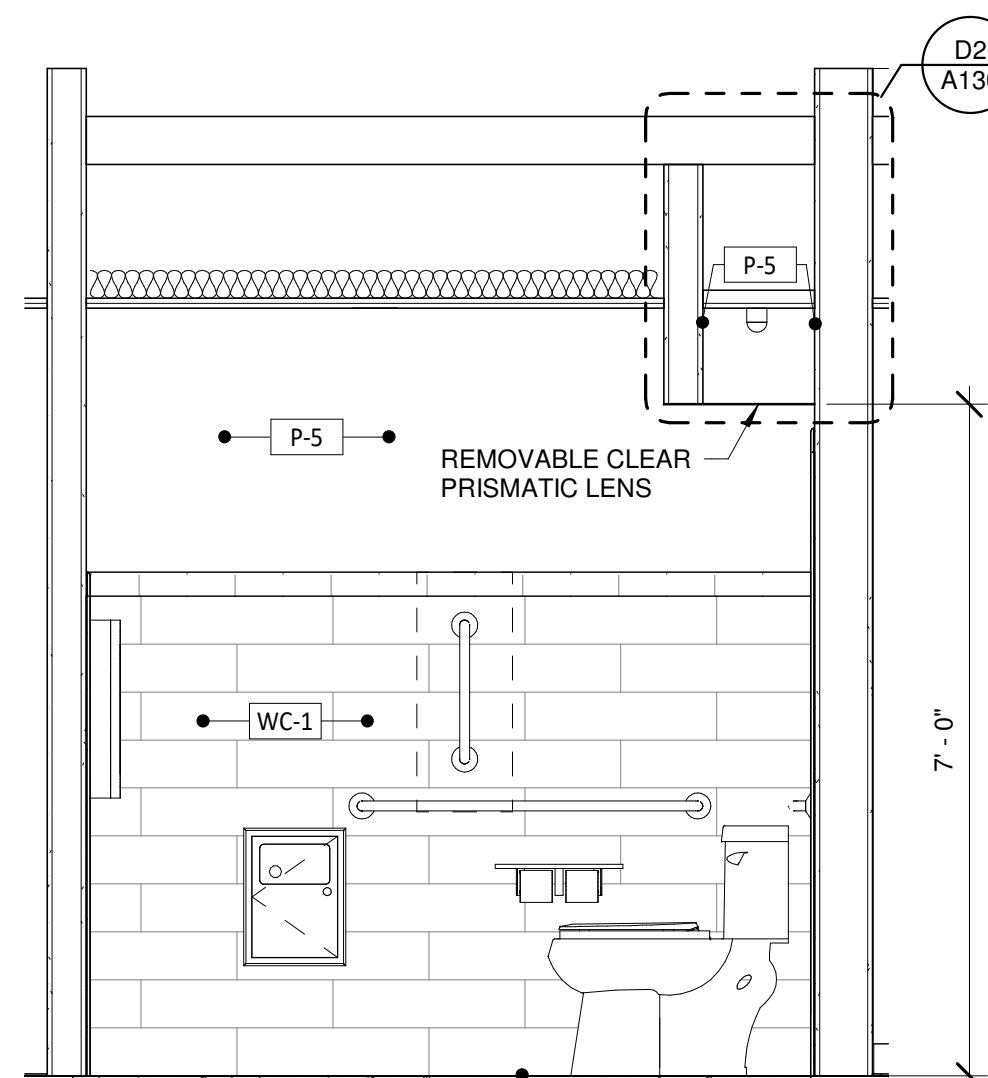
C1 RESTROOM PLAN  
1/2" = 1'-0"



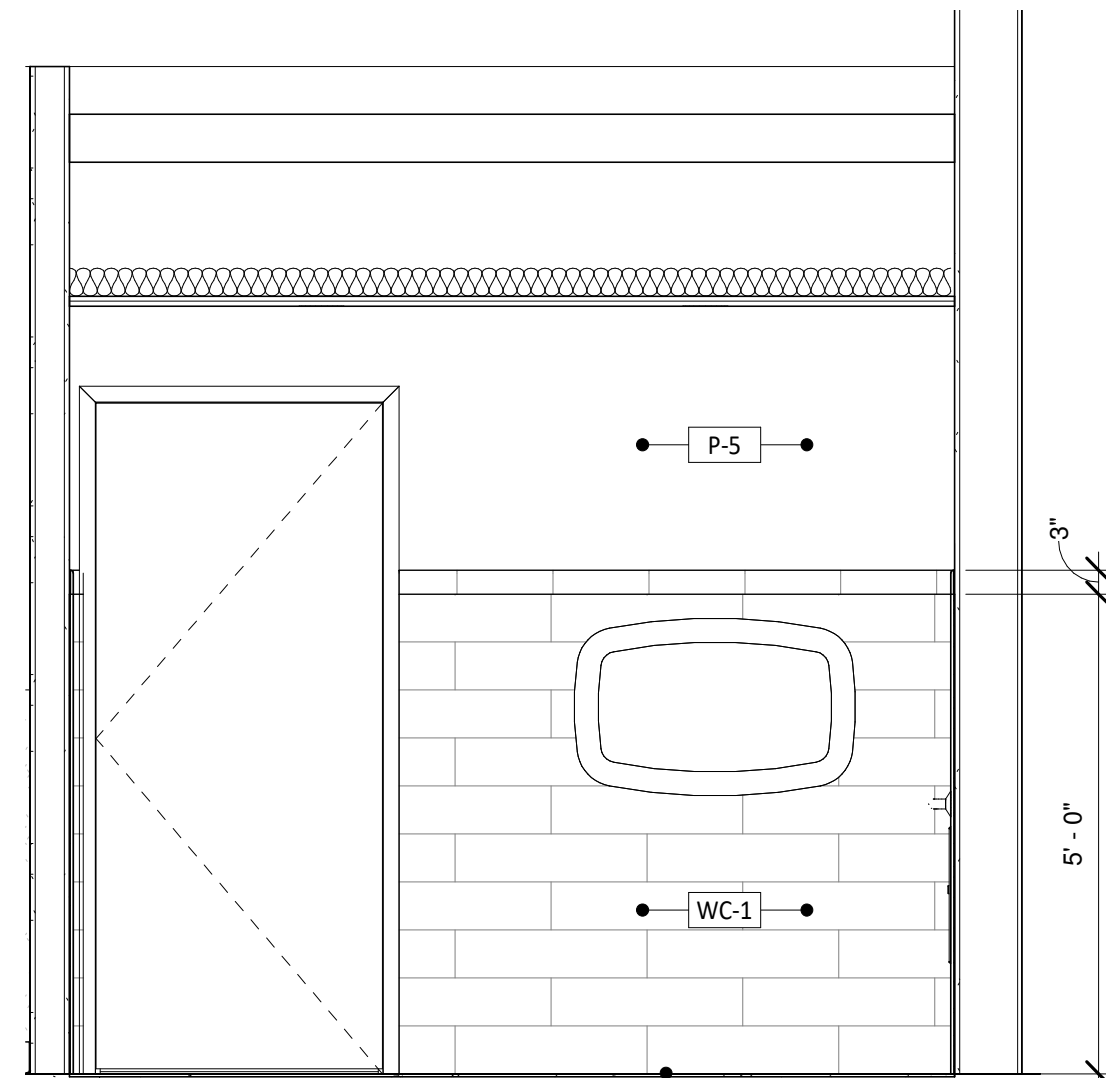
A5 REQUIRED ACCESSIBILITY CLEARANCES  
1/2" = 1'-0"



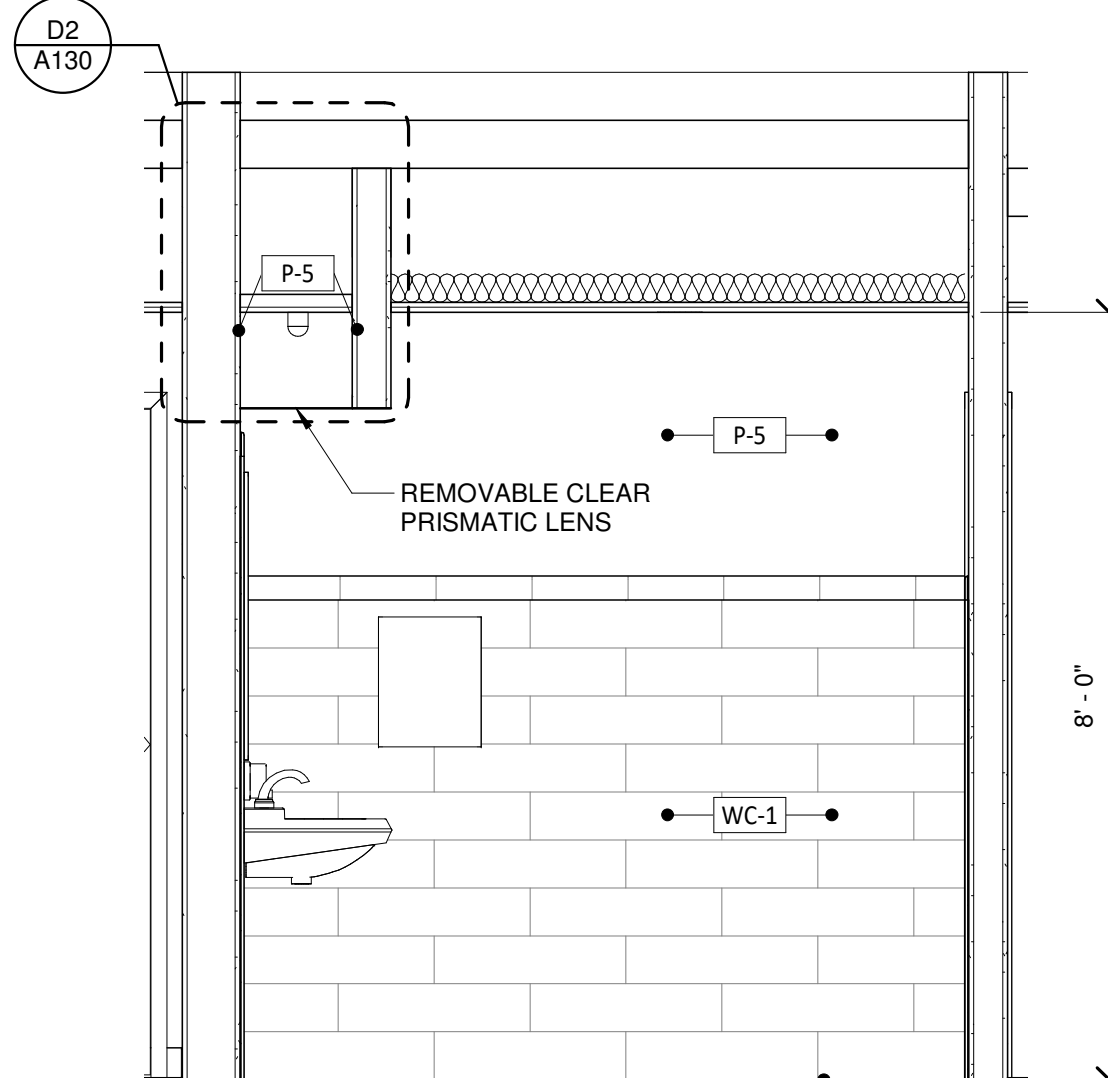
A1 RESTROOM ELEVATION  
1/2" = 1'-0"



A2 RESTROOM ELEVATION  
1/2" = 1'-0"



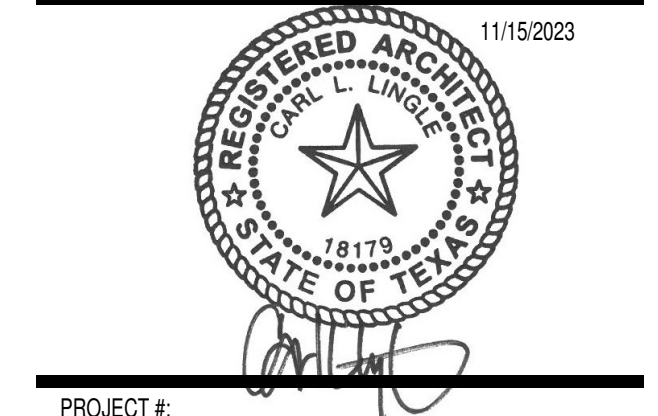
A3 RESTROOM ELEVATION  
1/2" = 1'-0"



A4 RESTROOM ELEVATION  
1/2" = 1'-0"

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PROJECT #:  
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**SHERWIN WILLIAMS**

STORE #:  
XXXX  
ADDRESS:  
12360 W. SH 29, LIBERTY HILL, TX, 78642

SHEET TITLE:  
Enlarged Restroom Plan

SHEET NUMBER:

**A400**

**STRUCTURAL ABBREVIATIONS**

#	POUND(S), NUMBER	INT	INTERIOR
&	AND	ISF	INSIDE FACE
(E)	EXISTING	J/BRG	JOIST BEARING
@	AT	JG	JOIST GIRDER
AB	ANCHOR BOLT (S)	JG/BRG	JOIST GIRDER BEARING
ADDL	ADDITIONAL	JST	JOIST
ALT	ALTERNATE	JT	JOINT
ARCH	ARCHITECT(URAL)	kip	1,000 POUNDS
B/FTG	BOTTOM OF FOOTING	ksi	kiPs PER SQUARE INCH
BLDG	BUILDING	LB	POUND
BLKG	BLOCKING	LLH	LONG LEG HORIZONTAL
BM	BEAM	LLV	LONG LEG VERTICAL
BMD	BOTTOM OF METAL DECK	MAX	MAXIMUM
BN	BOUNDARY NAIL	MECH	MECHANICAL
BOT	BOTTOM	MEZZ	MEZZANINE
BP	BASE PLATE	MFR	MANUFACTURER
BRG	BEARING	MIN	MINIMUM
BS	BOUNDARY SCREW	MISC	MISCELLANEOUS
BTWN	BETWEEN	MTL	METAL
CANT	CANTILEVER(ED)	NS	NEAR SIDE
CFS	COLD-FORMED STEEL	NTS	NOT TO SCALE
CIP	CAST-IN-PLACE	oc	ON CENTER
CJ	CONTROL OR CONST JOINT	OH	OPPOSITE HAND
CL	CENTER LINE	OPNG	OPENING
CLR	CLEAR	OSF	OUTSIDE FACE
CMU	CONCRETE MASONRY UNIT	PAF	POWER-ACTUATED FASTENER
COL	COLUMN	PARA	PARAPET
CONC	CONCRETE	PEMB	PRE-ENGINEERED METAL BUILDING (MANUFACTURER)
CONN	CONNECTION	PIL	PILASTER
CONST	CONSTRUCTION	PL	PLATE
CONT	CONTINUOUS	PLBG	PLUMBING
CTR	CENTER	PLYWD	PLYWOOD
DBA	DEAD BAR ANCHOR	psf	POUNDS PER SQUARE FOOT
DBL	DOUBLE	psi	POUNDS PER SQUARE INCH
DC	DEMAND CRITICAL (WELD)	PTDF	PRESSURE TREATED DOUGLAS FIR
deg	DEGREE	PTDFL	PRESSURE TREATED DOUGLAS FIR LARCH
DET	DETAIL(S)	PTSPF	PRESSURE TREATED SPRUCE PINE FIR
DF	DOUGLAS FIR	PTSYP	PRESSURE TREATED SOUTHERN YELLOW PINE
DFL	DOUGLAS FIR LARCH	QT	QUANTITY
dia	DIAMETER	REINF	REINFORCED, REINFORCING
DIM	DIMENSION	REQD	REQUIRED
DWG	DRAWING	RTU	ROOF TOP UNIT
DWL	DOWEL	SCHED	SCHEDULE
EA	EACH	SD	SNOW DRIFT
EE	EACH END	SHTG	SHEATHING
EF	EACH FACE	SIM	SIMILAR
EL	ELEVATION	SL	SNOW LOAD
ELEV	ELEVATOR	SPF	SPRUCE PINE FIR
EMB	EMBEDMENT	STD	STANDARD
EN	EDGE NAIL	STL	STEEL
EOJ	END OF JOIST	STRUC	STRUCTURAL
EOS	EDGE OF SLAB	SYP	SOUTHERN YELLOW PINE
EQ	EQUAL	T&B	TOP AND BOTTOM
ETC	ET CETERA	T&G	TONGUE AND GROOVE
EW	EACH WAY	T/BRG	TRUSS BEARING
EXP	EXPANSION	T/CONC	TOP OF CONCRETE
EXT	EXTERIOR	T/FTG	TOP OF FOOTING
FDN	FOUNDATION	T/PAN	TOP OF PANEL
FF	FINISH FLOOR	T/PARA	TOP OF PARAPET
FIN FLR	FINISH FLOOR	T/PIL	TOP OF PILASTER
FLR	FLOOR	T/S	TOP OF SLAB
FRMG	FRAMING	T/STL	TOP OF STEEL
FRT	FIRE-RETARDENT TREATED	TYP	TYPICAL
FS	FAR SIDE	UNO	UNLESS NOTED OTHERWISE
FTG	FOOTING	USGS	US GEOLOGICAL SURVEY
FV	FIELD VERIFY	VAR	VARIES
ga	GAUGE	VERT	VERTICAL
GALV	GALVANIZE(D)	w/	WITH
GLB	GLULAM BEAM	WHS	WELDED HEADED STUD(S)
HDR	HEADER	WP	WORK POINT
HGR	HANGER	WWR	WELDED WIRE REINFORCEMENT
HK	HOOK		
HORIZ	HORIZONTAL		
HSS	HOLLOW STRUCTURAL SECTION		

**SHOP DRAWING AND SUBMITTAL NOTES**

- SHOP DRAWINGS AND/OR SUBMITTALS SHALL BE FURNISHED FOR ALL STRUCTURAL COMPONENTS. UNLESS OTHERWISE NOTED, THESE SHALL BE SUBMITTED FOR REVIEW PRIOR TO FABRICATION IN ACCORDANCE WITH THESE CONTRACT DRAWINGS AND PROJECT SPECIFICATIONS (IF APPLICABLE). CONTRACTOR SHALL ALLOW A MINIMUM OF 2 WEEKS FROM RECEIPT OF SHOP DRAWINGS FOR CASE ENGINEERING INC. TO PROVIDE RESPONSE.
- PRIOR TO SUBMITTAL TO THE ENGINEER, THE CONTRACTOR AND ARCHITECT SHALL HAVE REVIEWED THE SHOP DRAWINGS AND MADE ANY CORRECTIONS REQUIRED. THE CONTRACTOR AND ARCHITECT SHALL STAMP THE DRAWINGS, INDICATING THE SUBMITTAL HAS BEEN REVIEWED.
- STRUCTURAL DRAWINGS ARE THE SOLE PROPERTY OF CASE ENGINEERING. REPRODUCTION OF STRUCTURAL DRAWINGS FOR USE IN SHOP DRAWING SUBMITTALS IS NOT ACCEPTABLE WITHOUT OUR WRITTEN AGREEMENT.

**BUILDING CODES AND STANDARDS USED FOR DESIGN**

- INTERNATIONAL BUILDING CODE 2015 EDITION  
ASCE 7-10  
OCCUPANCY CATEGORY: II

**DESIGN LOADS**

- DESIGN LOADS  
ROOF LIVE LOAD: 20 psf  
ROOF DEAD LOAD: 20 psf
- SNOW LOAD DESIGN CRITERIA  
SNOW LOAD IMPORTANCE FACTOR, I: 1.0  
GROUND SNOW LOAD, Pg: 5 psf  
FLAT ROOF SNOW LOAD, Pf: 5 psf  
THERMAL FACTOR, Ct: 1.0  
EXPOSURE FACTOR, Ce: 1.0  
MINIMUM FROST DEPTH: 1'-0"
- WIND LOAD DESIGN CRITERIA  
WIND IMPORTANCE FACTOR, I: 1.0  
ULTIMATE WIND SPEED: 115 MPH (3 SEC GUST)  
WIND EXPOSURE CATEGORY: B  
WIND ENCLOSURE CLASSIFICATION: ENCLOSED  
Gcpi: +/- 0.18  
- 'a' DIMENSION: 5 ft  
- 'h' DIMENSION: 18 ft
- SEISMIC LOAD DESIGN CRITERIA  
REDUNDANCY FACTOR, p: 1.0  
SEISMIC IMPORTANCE FACTOR, I: 1.0  
SITE CLASS: D  
SPECTRAL RESPONSE ACCELERATIONS: Ss=0.054g, S1=0.034g, Sds=0.057g, Sd1=0.054g  
SEISMIC DESIGN CATEGORY: A  
BASIC SEISMIC-FORCE RESISTING SYSTEM: FRAMED WOOD WALLS WITH STRUCTURAL WOOD  
RESPONSE MODIFICATION FACTOR, R: 6.5  
SYSTEM OVER-STRENGTH FACTOR, Qo: 2.5  
DEFLECTION AMPLIFICATION FACTOR, Cd: 4  
SEISMIC RESPONSE COEFFICIENT, Cs: 0.01  
ANALYSIS PROCEDURE USED: EQUIVALENT LATERAL FORCE

**COMPONENT & CLADDING (C & C) DESIGN WIND PRESSURES**

- SURFACE PRESSURES ARE GIVEN IN THE TABLE BELOW IN PSF AND ARE BASED ON THE TRIBUTARY AREA IN SQUARE FEET (SF) OF THE MEMBER BEING DESIGNED. LINEAR INTERPOLATION BETWEEN VALUES SHOWN IS ACCEPTABLE. EXTRAPOLATION OF VALUES ABOVE LARGEST TRIBUTARY AREA IS NOT ACCEPTABLE.
- TABLES ARE APPLICABLE FOR ENCLOSED LOW-RISE BUILDINGS WITH A MEAN ROOF HEIGHT (h) LESS THAN OR EQUAL TO 60 FT.
- REFER TO ASCE 7 DIAGRAMS FOR THE LOCATION OF WIND PRESSURE ZONES BASED ON ADOPTED CODE YEAR.
- POSITIVE PRESSURES ACT TOWARD THE BUILDING, NEGATIVE & OVERHANG PRESSURES ACT AWAY FROM THE BUILDING AND ARE APPLIED NORMAL TO THE C & C SURFACE. DELEGATED DESIGNERS ARE RESPONSIBLE FOR DESIGNING EACH C & C FOR THE MAXIMUM POSITIVE AND NEGATIVE WIND PRESSURES BASED ON ASCE 7 LOAD COMBINATIONS.
- NO C & C SHALL BE DESIGNED FOR A NET PRESSURE OF LESS THAN 16 PSF ULTIMATE ACTING IN EITHER DIRECTION.
- PRESSURES SHOWN ARE ULTIMATE PRESSURES AND SHOULD BE MULTIPLIED BY 0.6 FOR NOMINAL (ASD) PRESSURES. USE A PERMANENT DEAD LOAD OF 6 PSF FOR A MEMBER NET UPLIFT DESIGN.

ASCE 7-10 & EARLIER				
ALL ROOF TYPES				
ROOF ZONES	10 SF	100 SF	200 SF	700 SF
NEGATIVE 1	-23.8	-21.8	-21.8	-21.8
NEGATIVE 2	-39.9	-30.0	-25.8	-25.8
NEGATIVE 3	-39.9	-30.0	-25.8	-25.8
POSITIVE 1	16.0	16.0	16.0	16.0
POSITIVE 2 & 3	21.8	18.5	17.6	16.3
OVERHANG 1 & 2	-34.3	-32.2	-27.9	-22.2
OVERHANG 3	-34.3	-32.2	-27.9	-22.2
WALL ZONES	10 SF	100 SF	200 SF	
NEGATIVE 4	-23.6	-20.4	-19.4	
NEGATIVE 5	-29.0	-22.6	-20.7	
POSITIVE 4 & 5	21.8	18.6	17.6	
PARAPETS	10 SF	100 SF	200 SF	
CASE A - ZONE 2	54.4	37.1	36.2	
- ZONE 3	54.4	37.1	36.2	
CASE B - EDGE ZONE 2	-38.1	-31.7	-29.8	
- CORNER ZONE 3	-43.5	-33.9	-31.0	

**GENERAL STRUCTURAL NOTES**

- THIS DRAWING SET IS TO BE VIEWED AS A WHOLE AND COORDINATED WITH ARCHITECTURAL, MECHANICAL, CIVIL, AND OTHER DISCIPLINES. ALL WORK PERTAINING TO A SPECIFIC CONTRACTOR MAY OR MAY NOT BE SHOWN ON SPECIFIC DRAWING SECTIONS. IT IS EACH SUBCONTRACTOR'S RESPONSIBILITY TO PREPARE HIS BID FROM A COMPLETE SET OF PLANS.
- THE CONTRACTOR SHALL FOLLOW WRITTEN DIMENSIONS ONLY. DO NOT SCALE DRAWINGS. DIMENSIONS NOT SHOWN ON PLAN TO BE COORDINATED WITH ARCHITECTURAL PLANS.
- ALL DETAILS AND SECTIONS SHOWN ON THE DRAWINGS ARE INTENDED TO BE TYPICAL AND SHALL APPLY AT ANY SIMILAR SITUATION ELSEWHERE ON THE JOB, EXCEPT WHERE A DIFFERENT DETAIL OR SECTION IS SHOWN.
- THE STRUCTURE SHALL BE ADEQUATELY BRACED AND SHORED DURING ERECTION AGAINST WIND AND ERECTION LOADS. STRUCTURAL MEMBERS ARE DESIGNED FOR "IN-PLACE" LOADS ONLY.
- THE GENERAL CONTRACTOR SHALL VERIFY ALL OPENING SIZES, PAD SIZES, AND LOCATIONS WITH THE RESPECTIVE CONTRACTORS.
- THE CONTRACTOR SHALL NOTIFY THE ARCHITECT AND ENGINEER IMMEDIATELY OF ANY DISCREPANCIES BETWEEN CONSTRUCTION DOCUMENTS AND ACTUAL FIELD CONDITIONS.
- THE VARIOUS SUBCONTRACTORS ARE RESPONSIBLE FOR PLACING SLEEVES, OUTLET BOXES, ANCHORS, VENT OPENINGS, ETC. THAT MAY BE REQUIRED IN FOUNDATION WALLS. CONSTRUCTION MANAGER SHALL COORDINATE ALL PLACEMENT OF ITEMS IN FOUNDATION WALLS.
- SEE ARCHITECTURAL PLANS FOR ADDITIONAL DETAILS AND INFORMATION.
- ALL ELEVATIONS GIVEN ARE REFERENCED TO FINISHED FLOOR ELEVATIONS AT 0'-0", UNLESS SHOWN AS USGS ELEVATIONS.
- WHERE GENERAL NOTES OR TYPICAL DETAILS CONTRADICT INFORMATION PROVIDED IN BUILDING SECTIONS, THE BUILDING SECTIONS TAKE PRECEDENCE.
- ALL HOLES THROUGH CONSTRUCTION SHALL BE CORE DRILLED OR SAWCUT.
- WHERE INFORMATION PROVIDED IN THESE STRUCTURAL DRAWINGS CONTRADICTS INFORMATION PROVIDED IN PROJECT SPECIFICATIONS, THE SPECIFICATIONS SHALL TAKE PRECEDENCE.
- FOR ARCHITECTURAL, MEP, & STRUCTURAL COORDINATION: MODELED ELEMENTS SHOWN ON STRUCTURAL DRAWINGS SUCH AS TRUSSES, OPEN-WEB JOISTS, AND JOIST GIRDERS, ARE NOT THE FINAL CONFIGURATION. ALL COORDINATION SHALL BE PERFORMED BETWEEN THE VARIOUS TRADES AND THE SUPPLIERS OF THESE ELEMENTS FOR THE STRUCTURE, NOT WITH THE STRUCTURAL MODEL.
- THIS DRAWING SET IS TO BE VIEWED AS A WHOLE. ALL TYPICAL DETAILS AND GENERAL NOTES SHOWN IN THESE DRAWINGS ARE APPLICABLE TO THE PROJECT EVEN IF THEY ARE NOT SHOWN ON PLANS OR SECTIONS.
- DESIRED ALTERATIONS TO ANY DETAIL, MEMBER SIZE, MEMBER TYPE, OR ANY OTHER STRUCTURAL COMPONENT SHOWN ON THE DRAWINGS, SHALL BE SUBMITTED AS A REQUEST IN WRITING TO CASE ENGINEERING. CASE ENGINEERING WILL NOT BE RESPONSIBLE FOR CHANGES TO THE DESIGN OR DETAILS MADE DURING SHOP DRAWINGS DEVELOPMENT, DURING CONSTRUCTION, OR AT ANY OTHER TIME WITHOUT WRITTEN CONSENT.

**EXCAVATION AND EARTHWORK NOTES**

- THE BEARING VALUE AND LATERAL EARTH PRESSURES OF THE SOILS IS PER REPORT BY: ECS SOUTHWEST, LLP, DATED JULY 31 2023. THE FOUNDATION DESIGN IS BASED ON THE FOLLOWING NET ALLOWABLE BEARING AND LATERAL EARTH PRESSURES:
  - SPREAD FOOTINGS 3,000 psf
  - CONT. WALL FOOTINGS 3,000 psf
  - PASSIVE PRESSURE 280psf/ft
  - FRICTION COEFFICIENT 0.44
- WATER LEVELS INDICATED ON THE BORING LOGS MAY BE SUBJECT TO SEASONAL AND/OR ANNUAL VARIATIONS. A DEWATERING SYSTEM OF SUFFICIENT CAPACITY SHALL BE INSTALLED AND OPERATED TO MAINTAIN THE CONSTRUCTION AREA FREE OF WATER AT ALL TIMES.
- ALL FOOTING EXCAVATIONS SHALL BE INSPECTED, PRIOR TO CONCRETE PLACEMENT, BY A SOILS ENGINEER TO VERIFY SUITABLE BEARING MATERIAL OF CAPACITY AS SPECIFIED.
- NOTIFY THE OWNER'S REPRESENTATIVE WHEN ADDITIONAL EXCAVATION IS REQUIRED TO REACH SUITABLE BEARING MATERIAL.
- THE SOILS ENGINEER SHALL CERTIFY IN WRITING THAT ALL FOUNDATIONS WERE PLACED ON SOIL WITH THE BEARING VALUE AS SPECIFIED.
- WITHIN THE EXCAVATION AREA OF FOUNDATIONS, ALL VEGETATION, TOPSOIL, PREVIOUSLY PLACED FILL AND UNSUITABLE SOILS SHALL BE REMOVED. ALL FOOTINGS TO BEAR ON VIRGIN SOIL OR PROPERLY PLACED AND COMPACTED ENGINEERED FILL.
- FOUNDATION DESIGN DOES NOT ACCOUNT FOR WINTER CONSTRUCTION. ANY UNENCLOSED / UNHEATED SPACES SHALL BE ADEQUATELY PROTECTED AGAINST FROST DURING WINTER CONSTRUCTION BY THE CONTRACTOR.
- IF ANY SOFT SPOTS, OR AREAS QUESTIONABLE FOR ANY REASONS ARE ENCOUNTERED BY THE CONTRACTOR, ARCHITECT/ENGINEER SHALL BE NOTIFIED IMMEDIATELY SO THAT ANY REQUIRED ACTION MAY BE TAKEN PRIOR TO CONTINUATION OF CONSTRUCTION IN THAT AREA.

**POST-INSTALLED ANCHOR NOTES**

POST-INSTALLED ANCHORS SHALL ONLY BE USED WHERE SPECIFIED ON THE CONSTRUCTION DOCUMENTS. THE CONTRACTOR SHALL OBTAIN APPROVAL FROM THE ENGINEER OF RECORD PRIOR TO INSTALLING POST-INSTALLED ANCHORS IN PLACE OF MISSING OR MISPLACED CAST-IN-PLACE ANCHORS. CARE SHALL BE TAKEN IN PLACING POST-INSTALLED ANCHORS TO AVOID CONFLICTS WITH EXISTING REBAR. HOLES SHALL BE DRILLED AND CLEANED IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS. SUBSTITUTION REQUESTS FOR PRODUCTS OTHER THAN THOSE SPECIFIED ON THESE DRAWINGS SHALL BE SUBMITTED BY THE CONTRACTOR TO THE ENGINEER OF RECORD ALONG WITH CALCULATIONS THAT ARE PREPARED & SEALED BY A REGISTERED PROFESSIONAL ENGINEER. THE CALCULATIONS SHALL DEMONSTRATE THAT THE SUBSTITUTED PRODUCT IS CAPABLE OF ACHIEVING, AT A MINIMUM, THE PERTINENT EQUIVALENT PERFORMANCE VALUES OF THE SPECIFIED PRODUCT USING THE BUILDING CODE.

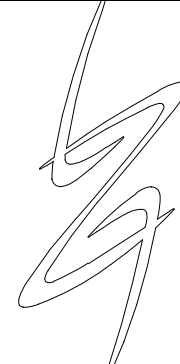
- TYPICAL POST-INSTALLED ANCHORS IN CONCRETE SHALL COMPLY WITH THE LATEST OF THEIR RESPECTIVE ICC EVALUATION REPORTS.
- WHEN INSTALLING ANCHORS IN CONCRETE, CONTRACTOR SHALL LOCATE EXISTING REINFORCING STEEL, CONDUITS, ETC. PRIOR TO DRILLING FOR ANCHORS. CONTRACTOR SHALL USE CARE AND CAUTION TO PREVENT DAMAGE TO EXISTING REINFORCING BARS.
- CONTRACTOR SHALL PROVIDE 1" MINIMUM CLEARANCE BETWEEN EDGES OF ANY HOLES FOR POST-INSTALLED ANCHORS AND EXISTING REINFORCING STEEL.
- CONTRACTOR SHALL PROVIDE INSPECTION AND TESTING AS REQUIRED PER THE "SPECIAL INSPECTIONS" SECTION OF THESE GENERAL STRUCTURAL NOTES.
- CONTRACTOR SHALL USE A HOLLOW DRILL BIT AND VACUUM SYSTEM WHEN DRILLING INTO CEMENTITIOUS MATERIALS.

**DEFERRED SUBMITTALS**

THE FOLLOWING DESIGN ELEMENTS MUST BE SIGNED & SEALED BY A PROFESSIONAL ENGINEER (PE/SE) REGISTERED IN THE STATE WHERE THIS PROJECT IS LOCATED, AND SUBMITTED TO THE ARCHITECT AND ENGINEER OF RECORD. DESIGNED DRAWINGS AND CALCULATIONS SHALL BE SUBMITTED FOR REVIEW AND RECORD.

- STRUCTURAL STEEL CONNECTION CALCULATIONS AND SHOP FABRICATION DRAWINGS FOR CONNECTIONS.
- PRE-FABRICATED RED-BUILT TRUSS CALCULATIONS AND FABRICATION DRAWINGS INCLUDING:
  - ALL TRUSS-TO-TRUSS CONNECTIONS
  - PLAN AND DETAILS FOR THE LOCATIONS OF ALL ERECTION/TEMPORARY AND PERMANENT LATERAL AND DIAGONAL BRACING AND/OR BLOCKING.
  - FRAMING PLAN LAYOUT (DIMENSIONED AND TO SCALE).
  - EACH TRUSS SHALL BE LEGIBLY BRANDED, MARKED, OR OTHERWISE HAVE PERMANENTLY AFFIXED THERETO THE FOLLOWING INFORMATION LOCATED WITHIN 2 FEET OF THE CENTER OF THE SPAN ON THE FACE OF THE BOTTOM CHORD.
    - IDENTITY OF THE COMPANY MANUFACTURING THE TRUSS
    - DESIGN LOADS
    - TRUSS SPACING

LINGLE DESIGN GROUP, INC



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# CASE

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CERTIFICATE OF AUTHORITY NO. F-20080

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11/6/23

PROJECT #:  
LDG-TX-04-23

DRAWN BY: MLW

CHECKED BY: RR

CHECK SET - 10/XX23

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SHERWIN WILLIAMS

STORE #:

XXXX

ADDRESS:

12360 W. SH 29, LIBERTY  
HILL, TX, 78642

SHEET TITLE:

GENERAL NOTES

SHEET NUMBER:

S1.1

## CONCRETE NOTES

- ALL CONCRETE WORK INCLUDING FORMING, REINFORCING, MIXING, PLACING, FINISHING AND CURING SHALL BE DONE IN ACCORDANCE WITH THE ACI MANUAL OF CONCRETE PRACTICE INCLUDING "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE", ACI 318, AND "SPECIFICATIONS FOR STRUCTURAL CONCRETE", ACI 301 LATEST EDITIONS.
- IT SHALL BE THE RESPONSIBILITY OF THE MIX DESIGN SUPPLIER TO PROPORTION MIXES APPROPRIATELY TO REACH THE REQUIRED PROPERTIES NOTED, AND SHALL BE APPROPRIATE FOR THEIR INTENDED USE. ADMIXTURES MEETING ASTM C494 ARE OPTIONAL. HOWEVER, AIR-ENTRAINING ADMIXTURES MEETING ASTM C260 SHALL BE USED FOR CONCRETE EXPOSED TO THE EXTERIOR OR FREEZE-THAW CYCLES.
- CONTRACTOR SHALL SUBMIT CONCRETE MIX DESIGNS FOR EACH INTENDED USE ON THE PROJECT FOR REVIEW AND APPROVAL BY THE ENGINEER OF RECORD. CONTENTS OF THE MIX DESIGN SHALL COMPLY WITH, AND INCLUDE ALL INFORMATION REQUIRED BY, ACI 318, CHAPTER 5 (FOR 2011 AND EARLIER CODE EDITIONS), & CHAPTER 26 (FOR 2014 CODE EDITION). THIS INCLUDES, BUT IS NOT LIMITED TO NUMBER OF TESTS AND AGE OF TESTS INCLUDED IN THE MIX DESIGN REPORT.
- ALL CONCRETE DENSITY SHALL BE NORMAL WEIGHT (145 pcf +/- 5) UNLESS OTHERWISE INDICATED.
- FLY ASH ALLOWANCES:
  - 20% MAXIMUM BY WEIGHT OF CEMENTITIOUS IN FOOTINGS
  - 15% MAXIMUM BY WEIGHT OF CEMENTITIOUS MATERIAL IN SLABS
  - 0% (NONE) ALLOWED IN SLABS TO RECEIVE SHAKE ON HARDENERS
- MACRO SYNTHETIC FIBER: POLYPROPYLENE/POLYETHYLENE SYNTHETIC MACRO FIBER COMPLYING WITH ASTM C1116 TYPE 3, MINIMUM 2 INCH LENGTH, ASPECT RATIO 50 TO 90.
  - BASIS OF DESIGN: EUCLID CHEMICAL COMPANY (THE): TUFSTRAND SF; WWW.EUCLIDCHEMICAL.COM OR APPROVED EQUAL.
  - FIBER MANUFACTURER SHALL HAVE ISO 9001 CERTIFICATION.
  - MACRO SYNTHETIC FIBER SHALL BE TESTED IN CONCRETE TO MEET THE REQUIREMENTS OF ICC-ES383.
- COORDINATE CONCRETE WORK WITH THAT OF OTHER TRADES TO ALLOW FOR SETTING OF SLEEVES, ACCESSORIES, ETC.
- ALL REINFORCING STEEL, ANCHOR RODS, DOWELS, AND INSERTS SHALL BE WELL-SECURED IN POSITION PRIOR TO PLACING CONCRETE. DO NOT "WET SET" OR "FLOAT" INTO CONCRETE.
- TEST CYLINDERS WILL BE REQUIRED, AND RECORDS OF RESULTS SHALL BE SUBMITTED TO ENGINEER OF RECORD, PROVIDE A MINIMUM OF (4) 6"x12" CYLINDERS FOR TESTING (1 AT 7 DAYS, 2 AT 28 DAYS, ONE SPARE). ALTERNATIVELY, PROVIDE A MINIMUM (5) 4"x8" CYLINDERS FOR TESTING (1 AT 7 DAYS, 3 AT 28 DAYS, ONE SPARE). SLUMP TESTS ARE RECOMMENDED.
- CONSTRUCTION JOINTS IN CONCRETE INDICATED WITH A ROUGH, CLEAN SURFACE SHALL HAVE A 1/4" AVERAGE AMPLITUDE.
- ALL COLD JOINTS SHALL BE ROUGHENED AND CLEANED PRIOR TO PLACING CONCRETE.
- SLUMP: CONCRETE MIXES SHALL BE PROPORTIONED TO ACHIEVE A MAXIMUM SLUMP OF 8" FOR CONCRETE CONTAINING HIGH RANGE WATER REDUCING ADMIXTURE. 6" FOR CONCRETE CONTAINING A MID-RANGE WATER REDUCING ADMIXTURE PRE-ADDITIVE. MIXES SHALL HAVE A WATER SLUMP OF 2"-3" (3" TO 4" FOR CONCRETE RECEIVING A "DRY-SHAKE" HARDENER), MAXIMUM 4" WATER SLUMP FOR ALL OTHER CONCRETE NOT CONTAINING A WATER REDUCER.
- SELF-CONSOLIDATING CONCRETE MAY BE USED FOR ALL ARCHITECTURAL CONCRETE AND HEAVILY REINFORCED MEMBERS AS SHOWN ON THE DRAWINGS. ALL SELF-CONSOLIDATING CONCRETE SHALL CONTAIN THE SPECIFIED HIGH-RANGE WATER-REDUCING ADMIXTURE AND VISCOSITY-MODIFYING ADMIXTURE WHERE REQUIRED. MINIMUM SPREAD OF 22"-30" WHEN MEASURED IN ACCORDANCE WITH ASTM C1611 OR AS REQUIRED BY THE SUCCESSFUL TEST PLACEMENT. THE WORKABILITY, PUMPABILITY, FINISHABILITY, AND SETTING TIME OF THE PROPOSED MIX DESIGN SHALL BE VERIFIED WITH A SUCCESSFUL TEST PLACEMENT ONSITE. COMPRESSIVE STRENGTH: 5000 PSI AT 28 DAYS OR AS NOTED ON THE DRAWINGS.
- AIR CONTENT: ALL CONCRETE EXPOSED TO FREEZING AND THAWING AND/OR REQUIRED TO BE WATER TIGHT SHALL HAVE AN AIR CONTENT OF 4.5% TO 7.5%. ALL INTERIOR SLABS AND ALL SLABS TO RECEIVE DRY-SHAKE SHALL HAVE A MAXIMUM AIR CONTENT OF 3%.
  - CONSOLIDATE CONCRETE DURING PLACEMENT OPERATIONS, SO CONCRETE IS THOROUGHLY WORKED AROUND REINFORCEMENT AND OTHER EMBEDDED ITEMS AND INTO CORNERS.
  - MAINTAIN REINFORCEMENT IN POSITION ON CHAIRS DURING CONCRETE PLACEMENT.
  - SCREED SLAB SURFACES WITH A STRAIGHT EDGE AND STRIKE OFF TO CORRECT ELEVATIONS.
  - UTILIZE A VIBRATORY SCREED FOR CONCRETE THAT WILL RECEIVE DIAMOND POLISH FINISH. KEEP VIBRATING SCREED MOVING CONTINUOUSLY ACROSS SURFACE. DO NOT STOP SCREED IN ANY ONE PLACE WHILE VIBRATING.
  - SLOPE SURFACES UNIFORMLY TO DRAINS WHERE REQUIRED.
  - BEGIN INITIAL FLOATING USING BULL FLOATS OR DARBIES TO FORM A UNIFORM AND OPEN-TEXTURED SURFACE PLANE BEFORE EXCESS BLEED WATER APPEARS ON THE SURFACE. DO NOT FURTHER DISTURB SLAB SURFACES BEFORE STARTING FINISHING OPERATIONS.
  - THE USE OF HIGHWAY STRAIGHT EDGES OR "BUMP CUTTERS" ON CONCRETE SLABS TO BE POLISHED IS PROHIBITED.
- CONCRETE TO BE POLISHED SHALL RECEIVE A HARD STEEL TROWEL FINISH WITH A MINIMUM OF (3) SEPARATE PASSES WITH POWER TROWEL TO ACHIEVE CLASS 5 FINISH AS DESCRIBED IN ACI 302R. HAND TROWELLING SHALL BE LIMITED TO ONLY THOSE AREAS NECESSARY. REFER TO ARCHITECTURAL DRAWINGS FOR ADDITIONAL INFORMATION.
  - INSPECT TROWELLING MACHINE AND REMOVE ACCUMULATED MORTAR PRIOR TO EACH PASS.
  - FINISH SURFACE SHALL BE FREE OF TROWEL MARKS, BURN MARKS AND MOTTLING.
- ALL CONCRETE SHALL HAVE A MINIMUM 28-DAY COMPRESSIVE STRENGTH IN ACCORDANCE WITH THE FOLLOWING:
  - AIR ENTRAINMENT IS NOT RECOMMENDED FOR SURFACES TO BE GIVEN A SMOOTH, DENSE, HARD-TROWELED FINISH. COORDINATE FINISH REQUIREMENTS WITH ARCHITECTURAL DRAWINGS AND/ OR SPECIFICATIONS.

INTENDED USE	CONCRETE TABLE					
	EXPOSURE CLASS	MIN 28 DAY STRENGTH (psi)	MAX WATER-CEMENT RATIO	% TOTAL AIR LIMITS	MACRO SYNTHETIC FIBER (1)	% MAX SHRINKAGE @ 28 DAYS
INTERIOR SLAB ON GRADE	F0	4,000	0.50	3	YES	0.04
FOOTING & FOUNDATION WALLS	F3	5,000	0.40	4.5 TO 7.5	-	0.05
CONCRETE EXPOSED TO DE-ICERS	F3	5,000	0.40	4.5 TO 7.5	-	0.05
ALL CONCRETE NOT OTHERWISE SPECIFIED	F3	5,000	0.40	4.5 TO 7.5	-	0.05

### TABLE NOTES

- SYNTHETIC MACRO FIBER REINFORCEMENT MAY BE USED TO REPLACE REINFORCING STEEL IN CONCRETE SLABS ON GRADE AND TOPPING SLABS WHERE INDICATED ON DRAWINGS. SUBMIT FIBER MANUFACTURER'S DOCUMENTATION INDICATING THAT PROPOSED FIBER DOSAGE WILL PROVIDE A MINIMUM Fe3 VALUE AS FOLLOWS IN ACCORDANCE WITH ASTM C 1609. UNDER NO CIRCUMSTANCES SHALL DOSAGE RATE BE LESS THAN 3.0lbs PER CUBIC YARD OF CONCRETE IN SLABS ON GRADE AND TOPPING SLABS. SYNTHETIC MACRO FIBER REINFORCEMENT IS PROHIBITED IN CONCRETE TO RECEIVE POLISHED CONCRETE FINISHES. SYNTHETIC MACROFIBERS MAY BE USED TO REPLACE WWF IN CONCRETE ON METAL DECK IN ACCORDANCE WITH IBC 2015 & ANSI/SDI-C1.0 MINIMUM DOSAGE FOR SYNTHETIC MACROFIBER SHALL BE 4.0 LBS PER CUBIC YARD OF ONCRETE. STEEL OVER NEGATIVE MOMENT AREAS AS SHOWN ON DRAWINGS SHALL NOT BE REPLACED.
  - SLABS ON GRADE AND TOPPING SLABS
    - 4" DEEP SLAB: Fe3 = 94psi
    - 6" DEEP SLAB: Fe3 = 128psi
    - 8" DEEP SLAB: Fe3 = 180psi

### REINFORCING STEEL NOTES

- NON-WELDED STEEL BAR REINFORCING SHALL CONFORM TO ASTM A615, GRADE 60.
- WELDED STEEL BAR REINFORCING SHALL CONFORM TO ASTM A706.
- WELDING OF REINFORCING STEEL SHALL BE PERFORMED BY AWS QUALIFIED WELDERS IN CONFORMANCE WITH AWS D1.1 USING E90 ELECTRODES FOR ASTM A615 REBAR, AND E80 ELECTRODES FOR ASTM A706 REBAR UNLESS OTHERWISE NOTED ON THE DRAWINGS.
- WELDED WIRE REINFORCEMENT (WWR) SHALL BE SMOOTH WIRE PER ASTM A185 WITH MINIMUM YIELD STRENGTH, fy = 65 ksi. OR DEFORMED WIRE PER ASTM A497 WITH MINIMUM YIELD STRENGTH, fy = 70 ksi. UNLESS NOTED OTHERWISE.
- MINIMUM CONCRETE COVER FOR REINFORCING STEEL IN CAST-IN-PLACE (NON-PRESTRESSED) CONCRETE SHALL BE AS FOLLOWS UNLESS OTHERWISE NOTED ON THE DRAWINGS:
  - CONCRETE CAST AGAINST EARTH = 3"
  - CONCRETE EXPOSED TO EARTH OR WEATHER:
    - #6 BAR AND LARGER = 2"
    - #5 BAR AND SMALLER = 1 1/2"
  - CONCRETE NOT EXPOSED TO EARTH OR WEATHER (SLABS, WALLS, & JOISTS):
    - #14 BARS AND LARGER = 1 1/2"
    - #11 BARS AND SMALLER = 3/4"
  - CONCRETE NOT EXPOSED TO EARTH OR WEATHER (BEAMS & COLUMNS):
    - PRIMARY REINFORCEMENT, TIES, STIRRUPS, & SPIRALS = 1 1/2"
- ALL DETAILING, FABRICATION, AND ERECTION OF REINFORCING STEEL SHALL CONFORM TO THE LATEST EDITION OF ACI 315 (SP-66), DETAILS AND DETAILING OF CONCRETE REINFORCEMENT.
- LAP SPLICE LENGTHS FOR BARS INSTALLED IN CONCRETE SHALL BE IN ACCORDANCE WITH THE TABLE.

### DEVELOPMENT LENGTH OF STANDARD HOOKS IN CONCRETE NOTES

- VALUES IN TABLE ARE BASED ON 60ksi REBAR. FOR OTHER REBAR YIELD STRENGTHS, MULTIPLY VALUES IN THE TABLE BY THE SPECIFIED YIELD STRENGTH DIVIDED BY 60.
- SEE ACI 318 SECTION 12.5 FOR ALLOWABLE REDUCTIONS IN DEVELOPMENT LENGTH. IT SHALL NOT BE LESS THAN 8 BAR DIAMETERS OR 6 INCHES.
- HOOKEED BARS ARE NOT CONSIDERED EFFECTIVE IN DEVELOPING BARS IN COMPRESSION.
- REBAR IN ALL CONCRETE MEMBERS SHALL HAVE STANDARD HOOKS WHERE SHOWN ON SECTIONS IN ACCORDANCE WITH "DEVELOPMENT LENGTH OF STANDARD HOOKS IN TENSION" TABLE, UNLESS SPECIFICALLY NOTED OTHERWISE ON THE DRAWINGS.

DEVELOPMENT LENGTH OF STANDARD HOOKS IN CONCRETE - 60 ksi...			
BAR SIZE	fc = 4,000 psi	fc = 4,500 psi	fc = 5,000 psi
#3	8	7	7
#4	10	9	9
#5	12	12	11
#6	15	14	13
#7	17	16	15

### TENSION LAP SPLICE LENGTH IN CONCRETE NOTES

- FOR HORIZONTAL BARS, VALUES IN THE TABLE SHALL BE MULTIPLIED BY 1.3 WHERE MORE THAN 12 INCHES OF FRESH CONCRETE IS CAST BELOW THE BAR.
- WHERE CLEAR SPACING OF BARS BEING SPLICED IS AT LEAST 2 BAR DIAMETERS AND CLEAR COVER AT LEAST 1 BAR DIAMETER, USE CASE 1. FOR ALL OTHER BAR ARRANGEMENTS, USE CASE 2.
- VALUES IN THE TABLE ARE BASED ON 60ksi REBAR. FOR OTHER REBAR YIELD STRENGTHS, MULTIPLY VALUES IN THE TABLE BY THE SPECIFIED YIELD STRENGTH DIVIDED BY 60.
- WHERE BARS OF DIFFERENT SIZES ARE SPLICED, PROVIDE THE LAP LENGTH OF THE LARGER BAR.
- WELDED WIRE REINFORCEMENT (DEFORMED OR PLAIN WIRE) SHALL BE LAPPED ONE FULL MESH SQUARE PLUS 2 INCHES MINIMUM, BUT NOT LESS THAN 12 INCHES.
- REBAR IN ALL CONCRETE MEMBERS SHALL BE SPLICED IN ACCORDANCE WITH "TENSION LAP SPLICE LENGTH" TABLE, UNLESS SPECIFICALLY NOTED OTHERWISE ON THE DRAWINGS.

TENSION LAP SPLICE LENGTH IN CONCRETE - 60 KSI REBAR TABLE (INCHES)								
fc =	3,500psi	3,500psi	4,000psi	4,000psi	4,500psi	4,500psi	5,000psi	5,000psi
BAR SIZE	CASE 1	CASE 2	CASE 1	CASE 2	CASE 1	CASE 2	CASE 1	CASE 2
#3	20	30	19	28	18	27	17	25
#4	27	40	25	37	24	35	23	34
#5	33	50	31	47	30	44	28	42
#6	40	60	37	56	35	53	34	50
#7	58	87	54	81	51	77	49	73

## STRUCTURAL STEEL NOTES

- FABRICATION AND ERECTION OF STRUCTURAL STEEL MEMBERS IS TO BE IN ACCORDANCE WITH "AISC CODE OF STANDARD PRACTICE", LATEST EDITION.
- STEEL FABRICATOR SHALL PARTICIPATE IN THE AISC QUALITY CERTIFICATION PROGRAM AND BE DESIGNATED AN AISC-CERTIFIED PLANT, CATEGORY STD.
- IT IS THE RESPONSIBILITY OF THE STEEL FABRICATOR TO DESIGN THE CONNECTIONS. CONNECTIONS ARE TO BE IN ACCORDANCE WITH CURRENT AISC STANDARDS AND APPLICABLE GOVERNMENT CODES. ALL CONNECTIONS SHALL BE BOLTED OR WELDED AND SHALL DEVELOP 60% OF THE ALLOWABLE UNIFORM LOAD TABULATED IN THE AISC "MANUAL OF STEEL CONSTRUCTION" FOR ALLOWABLE STRESS DESIGN, 10k (ASD), OR SHEAR REACTION SHOWN ON THE DRAWINGS, WHICHEVER IS GREATER. PROVIDE MINIMUM NUMBER OF ASTM F3125 GRADE A325 OR A490 BOLTS AS SHOWN IN THE "STRUCTURAL STEEL BOLTED CONNECTIONS" TABLE.
- ANCHOR RODS TO BE ASTM F1554, GRADE 36 FULLY-THEADED RODS WITH PLATE WASHERS AND NUTS ON THE BOTTOM UNLESS NOTED OTHERWISE-SEE "TYPICAL ANCHOR BOLT" DETAIL.
- BOLT HOLES SHALL BE 1/16" OVERSIZE UNLESS OTHERWISE NOTED ON THE DRAWINGS. FIELD BURNING OF BOLT HOLES SHALL NOT BE PERMITTED.
- WELDING SHALL BE PERFORMED BY AWS QUALIFIED WELDERS IN CONFORMANCE WITH AWS D1.1, USING E70 SERIES ELECTRODES, UNLESS OTHERWISE NOTED ON THE DRAWINGS. ADDITIONALLY, WELDING IN LOS ANGELES, CA SHALL BE PERFORMED BY CERTIFIED WELDERS.
- ALL STEEL SHALL BE SHOP PAINTED WITH A STANDARD ALKYD PRIMER (GRAY). FOR HARSH ENVIRONMENTS USE A GRAY ZINC ORGANIC OR INORGANIC PRIMER.
- FABRICATE ALL BEAMS WITH THE MILL CAMBER UP.
- CONNECTION NOTATION IS AS FOLLOWS. LOADS SHOWN ON PLAN/DETAILS ARE ALLOWABLE (ASD):
  - SHEAR = V OR [ ]
  - MOMENT = M
- STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING ASTM DESIGNATIONS AND GRADES:
  - ANGLES, CHANNELS, PLATES, BARS, AND RODS = A36, fy = 36ksi
  - RECTANGULAR HSS = A500 GRADE B, fy = 46ksi OR A500 GRADE C, fy=50ksi
- REFER TO "DEFERRED SUBMITTALS" FOR ADDITIONAL REQUIREMENTS.

### WOOD FRAMING NOTES

- WOOD FRAMING SHALL CONFORM TO THE "LUMBER TABLE" UNLESS NOTED OTHERWISE.
- FOR STRUCTURAL GLUE-LAMINATED TIMBER MEMBERS, AN AITC CERTIFICATION OF CONFORMANCE ISSUED BY A CURRENT, ICC-APPROVED QUALITY CONTROL AGENCY SHALL BE SUBMITTED TO THE BUILDING INSPECTOR PRIOR TO INSTALLATION.
- FOR WOOD FASTENING REQUIREMENTS, REFER TO TABLE 2304.9.1 FOR IBC 2012 AND OLDER, OR TABLE 2304.10.1 FOR IBC 2015 AND NEWER.
- ALL NAILS SHALL BE GALVANIZED COMMON WIRE NAILS UNLESS OTHERWISE NOTED. SEE "WOOD FASTENER TYPES SCHEDULE" FOR MINIMUM FASTENER DIMENSIONS. NAILS IN CONTACT WITH FIRE RETARDANT TREATED OR PRESSURE TREATED WOOD SHALL BE HOT-DIP GALVANIZED (ASTM A153) OR STAINLESS STEEL (TYPE 304 OR 316). WHEN REQUIRED TO PREVENT SPLITTING, PRE-DRILL FOR NAILS WITH 1/8" DIAMETER DRILL BIT.
- BOLTS AND LAG SCREWS SHALL CONFORM TO ASTM A307 AND ANSI/ASME STANDARD B18.2.1-1981, AND SHALL BE GALVANIZED. BOLTS AND LAG SCREWS IN CONTACT WITH FIRE RETARDANT TREATED OR PRESSURE TREATED WOOD SHALL BE HOT-DIP GALVANIZED (ASTM A153) OR STAINLESS STEEL (TYPE 304 OR 316). STANDARD WASHERS SHALL BE PROVIDED UNDER HEAD AND NUT OF ALL BOLTS IN WOOD FRAMING. BOLT THREADS SHALL NOT BEAR ON WOOD. DRILLED HOLES FOR BOLTS SHALL BE 1/16" LARGER IN DIAMETER THAN BOLT.
- ALL BOLTS SHALL BE RETIGHTENED IMMEDIATELY PRIOR TO CLOSING IN FRAMING.
- METAL FRAMING CONNECTORS SHALL BE "SIMPSON" BRAND OR ENGINEERED APPROVED EQUIVALENT AND SHALL BE GALVANIZED. METAL FRAMING CONNECTORS IN CONTACT WITH FIRE RETARDANT TREATED OR PRESSURE TREATED WOOD SHALL BE HOT-DIP GALVANIZED (ASTM A123) OR STAINLESS STEEL (TYPE 316L). METAL FRAMING CONNECTORS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S LATEST PUBLISHED INSTALLATION INSTRUCTIONS USING THE LARGER SIZE AND QUANTITY OF FASTENERS INDICATED, UNLESS OTHERWISE NOTED.
- WASHERS USED IN SHEAR WALLS AND ANCHOR HOLD DOWNS SHALL BE SQUARE WASHERS OF SIZE AND THICKNESS INDICATED IN "SHEAR WALL SHEATHING AND FASTENER SCHEDULE". ROUND WASHERS ARE NOT ACCEPTABLE FOR SHEAR WALL APPLICATIONS.
- ALL BOLTS, WASHERS, NAILS, METAL FRAMING CONNECTORS AND OTHER FASTENERS IN CONTACT WITH PRESERVATIVE OR FIRE RETARDANT TREATED LUMBER SHALL BE HOT-DIPPED GALVANIZED (ASTM A153) OR STAINLESS STEEL (TYPE 304 OR 316).
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT WOOD USED FOR STRUCTURAL PURPOSES IS KEPT AS DRY AS POSSIBLE BEFORE AND DURING CONSTRUCTION. A MAXIMUM MOISTURE CONTENT SHALL BE MAINTAINED UNTIL THE BUILDING ENVELOPE IS CLOSED IN AND WATER-PROOFED AS FOLLOWS:
  - KILN-DRIED LUMBER: 19%
  - TIMBERS: 19%
  - LVL & PSL: 12%
  - PLYWOOD: 8%
  - OSB: 4%
- ALL WOOD IN CONTACT WITH CONCRETE SHALL BE PRESSURE-TREATED. ALL WOOD EXPOSED TO WEATHER SHALL BE PRESSURE-TREATED. PRESSURE TREATMENT OF WOOD THAT IS CUT SHALL BE REINSTATED ON CUT EDGES.

LUMBER TABLE		
MEMBER	SPECIES	GRADE
2x PLATES, STRIPPING, MISC CONCEALED FRAMING, BLKG, & FIRE STOPPING	DOUGLAS FIR-LARCH	NO 1
SILLS ON CONCRETE OR MASONRY	DOUGLAS FIR-LARCH	NO 1
2x LUMBER	DOUGLAS FIR-LARCH	NO 1
ALL 4x DIMENSIONED LUMBER	DOUGLAS FIR-LARCH	NO 1
LAMINATED VENEER LUMBER (LVL) HEADERS, BEAMS, STRINGERS AND POSTS	PER MANUFACTURER	ICC ESR-2403, GRADE 1.9E; OR ICC ESR-1387, GRADE 1.9E; OR ICC ESR-2993, GRADE 1.9E; OR ICC ESR-1994, GRADE 2.0E
SHEAR WALL SHEATHING	PER MANUFACTURER	APA RATED SHEATHING, EXPOSURE 1 (PS 1 OR PS 2)
ROOF SHEATHING	PER MANUFACTURER	APA RATED SHEATHING, EXPOSURE 1 (PS 1 OR PS 2)

### WOOD FASTENER TYPES SCHEDULE

NOTE: 1-"SD" AND "SDS" SCREWS ARE MANUFACTURED BY SIMPSON STRONG-TIE. 2-ALL SCREWS SHALL BE INSTALLED SO THAT HEADS ARE FLUSH WITH OUTSIDE MATERIAL. DO NOT OVERDRIVE SCREWS. SCREWS WITH WING-TIPS ARE NOT PERMITTED IN SHEAR WALLS OR DIAPHRAGMS.

TYPE	DIAMETER	LENGTH
16d COMMON	0.162"	3 1/2"
10d COMMON	0.148"	3"
8d COMMON	0.131"	2 1/2"
#9 SD SCREW	0.131"	1 1/2" OR 2 1/2"
#10 SD SCREW	0.161"	1 1/2" OR 2 1/2"
SDS SCREW	0.25"	VARIES 1 1/2"-8"



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CERTIFICATE OF AUTHORITY NO. F-20080

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PROJECT #:  
LDG-TX-04-23  
DRAWN BY: MLW  
CHECKED BY: RR

CHECK SET - 10/XX/23

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## SHERWIN WILLIAMS

STORE #:  
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ADDRESS:

12360 W. SH 29, LIBERTY HILL, TX, 78642

SHEET TITLE:

## GENERAL NOTES

SHEET NUMBER:

# S1.2

**REINFORCED MASONRY NOTES**

- MASONRY CONSTRUCTION SHALL CONFORM TO THE APPLICABLE PORTIONS OF TMS 602, "SPECIFICATIONS FOR MASONRY STRUCTURES". CONCRETE MASONRY UNITS SHALL BE CLASSIFIED AS  
  
NORMAL WEIGHT  
  
DENSITY AND CONFORM TO ASTM C90. THE MASONRY ASSEMBLY SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH,  
  
[ (f'm) = 1,500 psi]
- GROUT IN ACCORDANCE WITH ASTM C476 MAY BE FINE OR COARSE, SELF-CONSOLIDATING OR CONVENTIONAL (AT CONTRACTOR'S OPTION), AND SHALL BE PROPORTIONED TO ACHIEVE THE MINIMUM SPECIFIED COMPRESSIVE STRENGTH OF MASONRY. GROUT SHALL HAVE A DRY DENSITY OF 135 +/- 3pcf. NORMAL WEIGHT AGGREGATES IN GROUT SHALL COMPLY WITH ASTM C404. MORTAR SHALL COMPLY WITH PROPORTION SPECIFICATION REQUIREMENTS OF ASTM C270.
- ALL MASONRY WALLS SHALL HAVE  
  
HEAVY DUTY LADDER TYPE HORIZONTAL JOINT REINFORCING PER MASONRY WALL ELEVATION  
  
VERTICAL REINFORCEMENT IS PER FOUNDATION PLAN.
- SUPPLY VERTICAL REINFORCING IN MINIMUM LENGTHS EQUAL TO 4'-0" PLUS LAP SPLICE LENGTH PER TABLE.
- WALL CONSTRUCTION LIFTS FOR REINFORCING BARS AND INSULATION FILL SHALL BE PER ACI 530.
- PORTLAND CEMENT AND LIME TYPE "S" MORTAR IS REQUIRED FOR ALL MASONRY UNLESS NOTED OTHERWISE.
- SEE ARCHITECTURAL PLANS FOR LOCATION AND DETAIL OF CONTROL JOINTS AND EXPANSION JOINTS. SEE TYPICAL CONTROL JOINT DETAIL FOR GUIDANCE.
- REFER TO ARCHITECTURAL DRAWINGS FOR LOCATIONS AND DETAILS OF DOOR AND WINDOW OPENINGS FOR SPECIAL COURSING AND OTHER MASONRY DETAILS. THE INFORMATION SHOWN ON THE STRUCTURAL DRAWINGS IS INTENDED TO DEFINE THE STRUCTURAL REQUIREMENTS ONLY.
- ALL BOLTS, ANCHORS, ETC., INSERTED IN THE WALLS SHALL BE GROUTED SOLID INTO POSITION WITH MINIMUM EDGE DISTANCE FROM ANCHOR TO EDGE OF GROUTED PORTION OF CMU IN ALL DIRECTIONS AS NOTED ON DRAWINGS.
- REINFORCING SHALL CONFORM TO ASTM A615, GRADE 60, UNLESS NOTED ON DRAWINGS. REINFORCING TO BE WELDED SHALL CONFORM TO ASTM A706.
- WHEN A FOUNDATION DOWEL DOES NOT LINE UP WITH A VERTICAL BLOCK CORE, IT SHALL NOT BE SLOPED MORE THAN (ONE HORIZONTAL IN 6 VERTICAL), OR 10 DEGREES. DOWEL MAY BE GROUTED INTO CELL IN VERTICAL ALIGNMENT. EVEN THOUGH IT IS IN AN ADJACENT CELL TO THE VERTICAL WALL REINFORCING, AS LONG AS THE CENTER-TO-CENTER SPACE BETWEEN THE WALL REINFORCING AND THE DOWEL DOES NOT EXCEED 8 INCHES. DOWELS SHALL NOT BE BENT INTO ALIGNMENT AFTER CONCRETE HAS BEEN CAST.
- SPLICED REINFORCING SHALL BE LAPPED ACCORDING TO "MASONRY LAP SPLICE LENGTH" TABLE. SPLICED BARS SHALL BE WIRED TOGETHER. CONTRACTOR MAY OPT TO STAGGER SPLICES.
- VERTICAL BARS SHALL BE HELD IN POSITION AT TOP AND BOTTOM AND AT INTERVALS NOT EXCEEDING 192 DIAMETERS OF THE REINFORCING OR 10'-0"
- REINFORCING STEEL SHALL BE SECURELY TIED IN PLACE AND INSPECTED BEFORE GROUTING STARTS.
- VERTICAL GROUTING MAY BE EITHER "LOW LIFT" OR "HIGH LIFT" AT THE CONTRACTOR'S OPTION.
- VERTICAL CELLS THAT WILL BE GROUTED SHALL HAVE VERTICAL ALIGNMENT TO MAINTAIN A CONTINUOUS UNOBTSTRUCTED CELL AREA NOT LESS THAN 2"x3".
- GROUTING OF MASONRY BEAMS OVER OPENINGS SHALL BE DONE IN ONE CONTINUOUS OPERATION.
- VERTICAL REINFORCING BARS SHALL MAINTAIN MINIMUM CLEARANCES AS FOLLOWS UNLESS NOTED OTHERWISE ON DRAWINGS:  
1. INSIDE FACE OF MASONRY = 3/4"  
2. ADJACENT BARS NOT SPLICED = 1" OR 1 BAR DIAMETER, WHICHEVER IS GREATER.
- INSULATION INSERTS ARE NOT PERMITTED IN GROUTED CELLS.
- PRISM TESTS IN ACCORDANCE WITH ASTM C1314 AND ASTM C140 SHALL BE PERFORMED WITH TEST REPORTS SENT TO ARCHITECT AND EOR FOR RECORD. REFER TO SPECIAL INSPECTIONS TABLE ITEM "EVALUATION OF STRENGTH" FOR ADDITIONAL INFORMATION.

**MASONRY LAP SPLICE LENGTH NOTES**

- CONTRACTOR SHALL PROVIDE DEVELOPMENT AND REBAR SPLICE LENGTHS SHOWN IN THE TABLES AS A MINIMUM UNLESS INDICATED OTHERWISE IN STRUCTURAL DETAILS OR NOTES.
- "SINGLE" INDICATES ONE BAR PER CELL. "DOUBLE" INDICATES TWO BARS PER CELL. SEE PLAN.

<b>f'm = 1,500 psi - MASONRY LAP SPLICE LENGTH TABLE (INCHES)</b>						
	CMU SIZE	8"	10"	10"	12"	12"
BAR SIZE	STD HOOK DEVELOPMENT LENGTH (IN)		SINGLE	DOUBLE	SINGLE	DOUBLE
#3	5	12	12	13	12	13
#4	6	15	12	23	12	23
#5	8	23	18	36	15	36
#6	9	43	34	70	28	70
#7	10	60	46	84	38	84

**SPECIAL INSPECTIONS**

- REFER TO THE SPECIAL INSPECTION TABLES FOR THE LIST OF ELEMENTS OF CONSTRUCTION THAT SHALL REQUIRE SPECIAL INSPECTION. THIS SHALL BE CONSIDERED A GUIDE, AND THE CONTRACTOR AND INSPECTOR SHALL REFER TO THE IBC FOR COMPLETE REQUIREMENTS, QUALIFICATIONS, EXCEPTIONS, AND SUBMITTALS. REFER TO IBC CHAPTER 17. THE OWNER SHALL BE RESPONSIBLE FOR EMPLOYING THE SPECIAL INSPECTION AGENCY. ANY "OBSERVATIONS" BY THE EOR WILL NOT BE TO PERFORM SPECIAL INSPECTIONS AND SHALL NOT BE INTERPRETED AS SUCH.
- COPIES OF ALL INSPECTION REPORTS THAT REPORT COMPLIANCE SHALL BE SUBMITTED TO THE ARCHITECT OF RECORD, STRUCTURAL ENGINEER OF RECORD, AND BUILDING INSPECTOR WITHIN 7 CALENDAR DAYS OF COMPLETION OF THAT PORTION OF WORK. A MINIMUM OF ONE (1) PROGRESS REPORT PER MONTH FOR EACH TYPE OF CONSTRUCTION REQUIRING SPECIAL INSPECTION SHALL BE SUBMITTED TO THE STRUCTURAL ENGINEER OF RECORD.
- SPECIAL INSPECTOR SHALL INFORM ENGINEER OF RECORD IMMEDIATELY OF NON-COMPLIANCE WITH CONSTRUCTION DOCUMENTS OR APPROVED SUBMITTALS. CONTACT ENGINEER OF RECORD THE SAME DAY NON-COMPLIANCE IS DISCOVERED AND FOLLOW UP WITH AN OFFICIAL REPORT WITHIN 2 BUSINESS DAYS.
- THE SPECIAL INSPECTIONS IDENTIFIED ON THE PLANS ARE IN ADDITION TO, AND NOT A SUBSTITUTE FOR THOSE INSPECTIONS REQUIRED TO BE PERFORMED BY A BUILDING INSPECTOR.
- SPECIAL INSPECTIONS ARE NOTED AS EITHER "CONTINUOUS" OR "PERIODIC". A "CONTINUOUS" INSPECTION REQUIRES THE PRESENCE OF A QUALIFIED INSPECTOR IN THE VICINITY OF THE WORK BEING PERFORMED FOR 100% OF THAT WORK. A "PERIODIC" INSPECTION REQUIRES PART-TIME OBSERVATION OF THE WORK BEING PERFORMED. THE INSPECTOR SHALL ALSO OBSERVE THE FINAL CONDITION OF THE WORK BEFORE IT IS CLOSED FROM VIEW.
- WHEN WORK IN MORE THAN ONE CATEGORY OF WORK REQUIRING SPECIAL INSPECTION IS TO BE PERFORMED SIMULTANEOUSLY, OR THE GEOGRAPHIC LOCATION OF THE WORK IS SUCH THAT IT CANNOT BE CONTINUOUSLY OBSERVED, IT SHALL BE THE RESPONSIBILITY OF THE AGENT TO EMPLOY A SUFFICIENT NUMBER OF SPECIAL INSPECTORS TO ASSURE THAT ALL WORK IS CONTINUOUSLY INSPECTED IN ACCORDANCE WITH THOSE PROVISIONS.
- SPECIAL INSPECTIONS AND TESTS ARE NOT REQUIRED FOR PORTIONS OF STRUCTURES DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH THE COLD-FORMED STEEL LIGHT-FRAME CONSTRUCTION PROVISIONS OF SECTION 2211 OF THE IBC OR THE CONVENTIONAL LIGHT-FRAME CONSTRUCTION PROVISIONS OF SECTION 2308 OF THE IBC.

<b>SPECIAL INSPECTIONS - WOOD TABLE</b>		
ITEM	INSPECTION FREQUENCY	SCOPE
PREMANUFACTURED WOOD STRUCTURAL ELEMENTS AND ASSEMBLIES	-	SEE "OFF-SITE FABRICATION" SPECIAL INSPECTION TABLE
DIAPHRAGM AND SHEAR WALL	PERIODIC	WOOD SHEAR WALLS, SHEAR PANELS, AND DIAPHRAGMS, INCLUDING NAILING, BOLTING, ANCHORING, AND OTHER FASTENING TO COMPONENTS OF THE MAIN LATERAL SYSTEM WHEN THE FASTENER SPACING IS LESS THAN OR EQUAL TO 4 INCHES ON CENTER

<b>SPECIAL INSPECTIONS - CONCRETE TABLE</b>		
ITEM	INSPECTION FREQUENCY	SCOPE
REINFORCEMENT	PERIODIC	INSPECT REINFORCEMENT AND PLACEMENT; VERIFY CONFORMANCE WITH CONSTRUCTION DOCUMENTS, AND THAT BARS ARE FREE FROM MATERIALS THAT COULD PREVENT BOND, ARE ADEQUATELY LAPPED, SPLICED, TIED, AND SUPPORTED
REINFORCEMENT	PERIODIC	VERIFY WELDABILITY OF REBAR OTHER THAN ASTM A 706; INSPECT SINGLE PASS FILLET WELDS NOT GREATER THAN 5/16"
REINFORCEMENT	CONTINUOUS	INSPECT ALL OTHER WELDS (SEE ALSO "STEEL" SPECIAL INSPECTIONS TABLE)
ANCHOR INSTALLATION	PERIODIC	INSPECT CAST-IN-PLACE ANCHORS AND BOLTS
ANCHOR INSTALLATION	PERIODIC	INSPECT POST-INSTALLED MECHANICAL AND ADHESIVE ANCHORS NOT OTHERWISE SPECIFIED
ANCHOR INSTALLATION	CONTINUOUS	INSPECT POST-INSTALLED MECHANICAL AND ADHESIVE ANCHORS PER THE REQUIREMENTS IN THEIR RESPECTIVE ICC-ES REPORTS
MIX DESIGN	PERIODIC	VERIFY USE OF APPROVED MIX DESIGN
SAMPLING AND TESTING	CONTINUOUS	PRIOR TO CONCRETE PLACEMENT, FABRICATE SPECIMENS FOR STRENGTH TESTING; PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE TEMPERATURE OF THE CONCRETE
CONCRETE PLACEMENT	PERIODIC	VERIFY MAINTENANCE OF CURING TEMPERATURE AND TECHNIQUES
CONCRETE PLACEMENT	PERIODIC	INSPECT FORMWORK FOR SHAPE, LOCATION, AND DIMENSIONS OF CONCRETE MEMBER BEING FORMED
CONCRETE PLACEMENT	CONTINUOUS	CONCRETE PLACEMENT

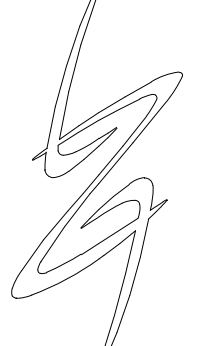
<b>SPECIAL INSPECTIONS - SOILS AND FOUNDATIONS TABLE</b>		
ITEM	INSPECTION FREQUENCY	SCOPE
SOILS	PERIODIC	VERIFY MATERIALS BELOW SHALLOW FOUNDATIONS ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY; VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL; PERFORM CLASSIFICATION AND TESTING OF COMPACTED FILL MATERIALS; PRIOR TO PLACEMENT OF COMPACTED FILL, INSPECT SUBGRADE AND VERIFY THAT SITE HAS BEEN PREPARED PROPERLY
SOILS	CONTINUOUS	VERIFY USE OF PROPER MATERIALS, DENSITIES, LIFT THICKNESSES, AND COMPACTION OF FILL; VERIFY MATERIALS AND PROCEDURES COMPLY WITH THE GEOTECHNICAL REPORT

<b>SPECIAL INSPECTIONS - OFF-SITE FABRICATION (INCLUDING PRE-MANUFACTURED WOOD STRUCTURAL ELEMENTS AND ASSEMBLIES, AND STEEL FABRICATING)</b>		
ITEM	INSPECTION FREQUENCY	SCOPE
FABRICATION AND IMPLEMENTATION PROCEDURES	PERIODIC	VERIFY THAT FABRICATOR MAINTAINS DETAILED FABRICATION AND QUALITY CONTROL PROCEDURES THAT PROVIDE A BASIS FOR INSPECTION CONTROL OF THE WORKMANSHIP AND THE FABRICATOR'S ABILITY TO CONFORM TO APPROVED CONSTRUCTION DOCUMENTS AND REFERENCED STANDARDS; REVIEW PROCEDURES FOR COMPLETENESS AND ADEQUACY RELATIVE TO THE CODE REQUIREMENTS FOR THE FABRICATOR'S SCOPE OF WORK
NOTE	-	SPECIAL INSPECTION FOR OFF-SITE FABRICATION IS NOT REQUIRED FOR FABRICATORS APPROVED BY THE BUILDING OFFICIAL IN ACCORDANCE WITH THE CODE

<b>SPECIAL INSPECTIONS - STEEL TABLE</b>		
ITEM	INSPECTION FREQUENCY	SCOPE
MATERIAL VERIFICATION	PERIODIC	HIGH STRENGTH BOLTS, NUTS, AND WASHERS: REVIEW MANUFACTURER'S CERTIFICATE OF COMPLIANCE; IDENTIFICATION MARKINGS TO CONFORM TO ASTM STANDARDS SPECIFIED IN THE CONSTRUCTION DOCUMENTS
MATERIAL VERIFICATION	PERIODIC	STRUCTURAL STEEL: REVIEW MANUFACTURER'S CERTIFIED MILL TEST REPORTS; IDENTIFICATION MARKINGS ON STEEL SHAPES TO CONFORM TO AISC STANDARDS SPECIFIED IN THE CONSTRUCTION DOCUMENTS
MATERIAL VERIFICATION	PERIODIC	WELD FILLER MATERIALS: REVIEW MANUFACTURER'S CERTIFICATE OF COMPLIANCE; IDENTIFICATION MARKINGS TO CONFORM WITH AWS SPECIFICATIONS IN THE CONSTRUCTION DOCUMENTS
HIGH-STRENGTH BOLTING	PERIODIC	BEARING-TYPE CONNECTIONS: VERIFY BOLTS, NUTS, WASHERS, PAINT, INSTALLATION, AND TIGHTENING CONFORM TO THEIR RESPECTIVE STANDARDS
WELDING	PERIODIC	SINGLE PASS FILLET WELDS NOT GREATER THAN 5/16"
WELDING	PERIODIC	VERIFY WELDABILITY OF REINFORCING STEEL OTHER THAN ASTM A 706; ALL REINFORCING STEEL NOT REQUIRING CONTINUOUS INSPECTION
WELDING	CONTINUOUS	COMPLETE AND PARTIAL JOINT PENETRATION GROOVE WELDS; MULTIPASS FILLET WELDS; SINGLE PASS FILLET WELDS > 5/16"
STRUCTURAL DETAILS	PERIODIC	INSPECT STEEL FRAME FOR COMPLIANCE WITH CONSTRUCTION DOCUMENTS FOR MEMBER SIZES AND LOCATIONS, BRACING, AND CONNECTIONS

<b>SPECIAL INSPECTIONS - MASONRY - LEVEL 1 INSPECTION (LEVEL B QUALITY ASSURANCE) FOR OCCUPANCY CATEGORY I, II, III STRUCTURES</b>		
ITEM	INSPECTION FREQUENCY	SCOPE
REINFORCEMENT	PERIODIC	LAPPING AND SPLICING OF REBAR; LOCATION, PLACEMENT, GRADE, SIZE, AND TYPE OF REINFORCEMENT AND CONNECTORS
REINFORCEMENT	CONTINUOUS	WELDING OF REINFORCING BARS
INSTALLATION OF MASONRY, GROUT, AND MORTAR	PERIODIC	CONSTRUCTION OF MORTAR JOINTS; SIZE AND LOCATION OF STRUCTURAL ELEMENTS; PROTECTION OF MASONRY IN COLD WEATHER (BELOW 40 F) OR HOT WEATHER (ABOVE 90 F); CLEAN GROUT SPACE
INSTALLATION OF MASONRY, GROUT, AND MORTAR	CONTINUOUS	GROUT PLACEMENT IN CELLS WITH STEEL REINFORCEMENT
MIXING OF MORTAR AND GROUT	PERIODIC	PROPORTIONS OF SITE-PREPARED MORTAR AND GROUT
ANCHORS	PERIODIC	INSPECT POST-INSTALLED MECHANICAL AND ADHESIVE ANCHORS PER THE REQUIREMENTS IN THEIR RESPECTIVE ICC-ES REPORTS
EVALUATION OF STRENGTH	CONTINUOUS	PREPARATION OF GROUT SPECIMENS, MORTAR SPECIMENS, AND/ OR PRISMS: VERIFY f'm PRIOR TO CONSTRUCTION. A "SET" IS HEREBY DEFINED AS A MINIMUM OF 4 PRISM SPECIMENS. A MINIMUM OF 1 SET SHALL BE PREPARED AND TESTED FOR EACH DAY MASONRY IS INSTALLED. TEST 1 PRISM AT 7 DAYS, 2 AT 28 DAYS, AND THE 4th PRISM AT THE EOR'S DIRECTION, IF REQUIRED. REPORT ALL TEST RESULTS TO THE ARCHITECT AND EOR WITHIN 3 WORKING DAYS OF TESTING.
MISCELLANEOUS	PERIODIC	COMPLIANCE WITH REQUIRED INSPECTION PROVISIONS OF THE CONSTRUCTION DOCUMENTS AND THE APPROVED SUBMITTALS SHALL BE VERIFIED

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LOG-TX-04-23  
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**SHERWIN WILLIAMS**

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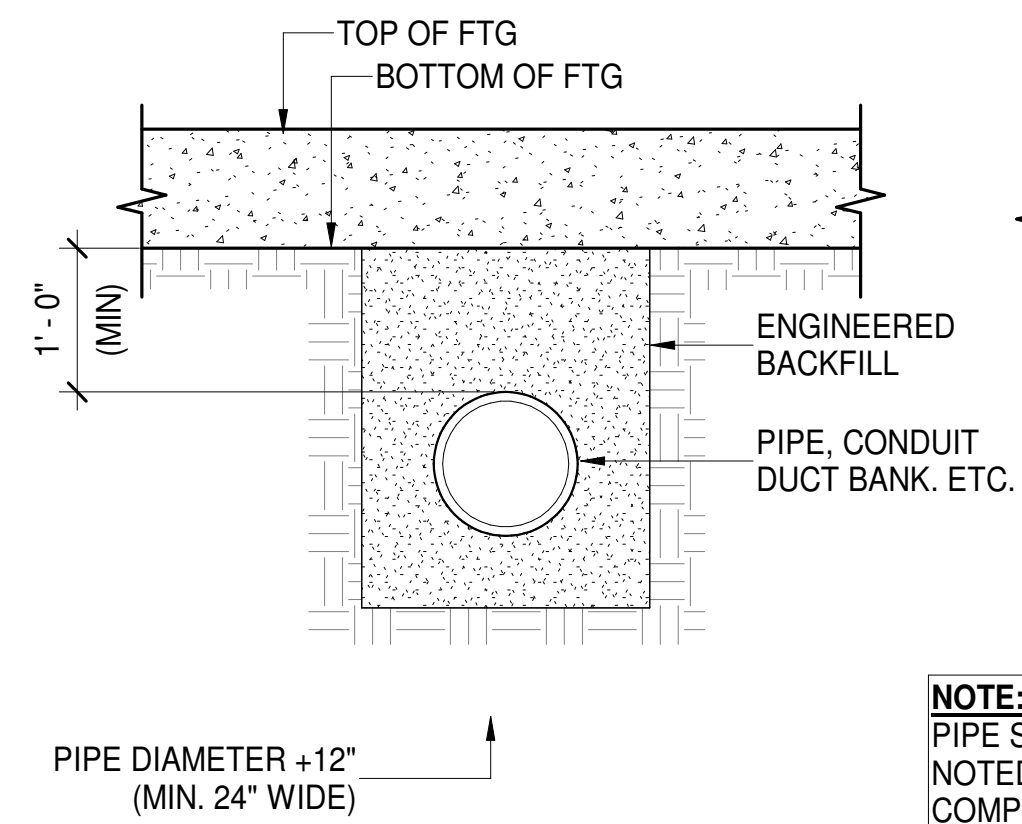
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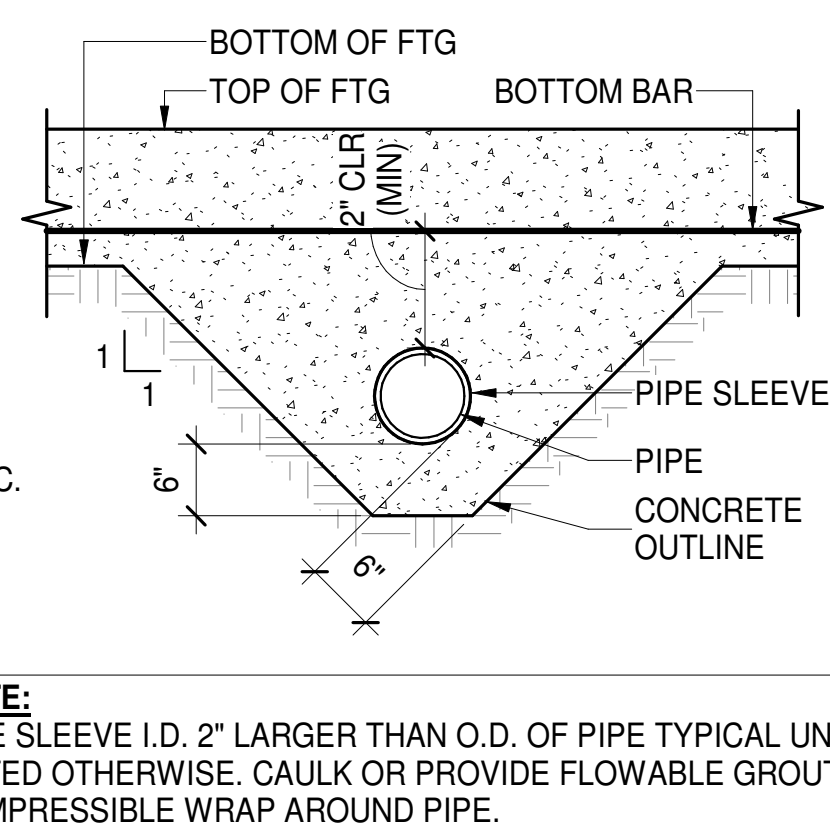
**GENERAL NOTES**

SHEET NUMBER:

**S1.3**

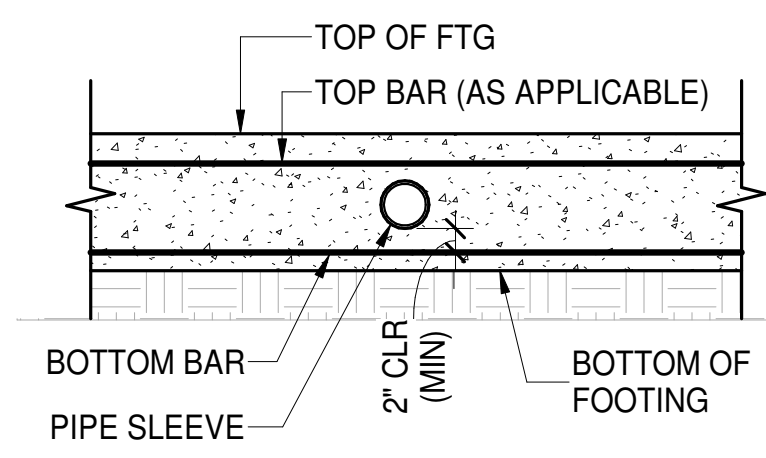


**BELOW BOTTOM OF FOOTING**



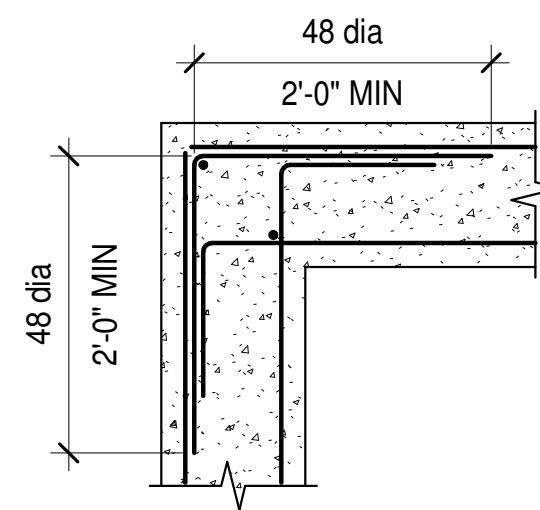
**CLOSE TO BOTTOM OF FOOTING**

**NOTE:**  
PIPE SLEEVE I.D. 2" LARGER THAN O.D. OF PIPE TYPICAL UNLESS NOTED OTHERWISE. CAULK OR PROVIDE FLOWABLE GROUT w/ COMPRESSIBLE WRAP AROUND PIPE.

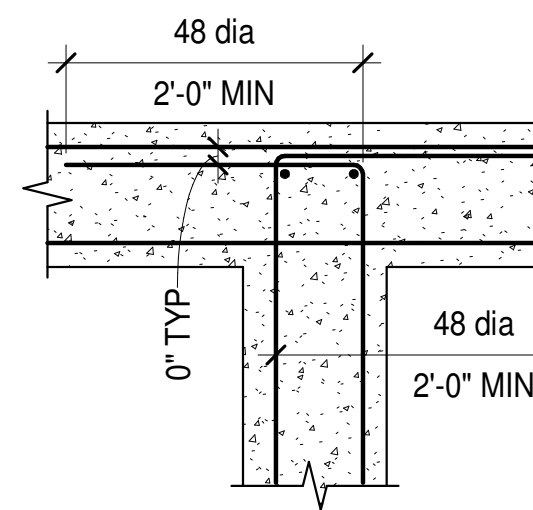


**CLEAR OF TOP & BOTTOM BAR IN FOOTING OR FOUNDATION WALL (OR TRENCH FOOTING/GRADE BM.)**

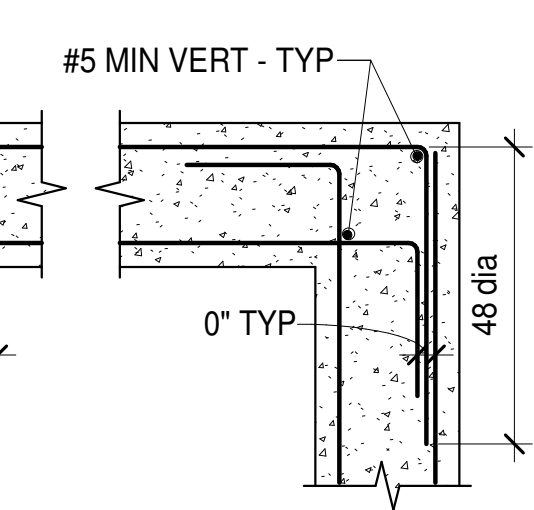
**NOTES:**  
1. WHERE SINGLE CURTAIN OF REINFORCING OCCURS, BEND BARS AS SHOWN FOR OUTSIDE BARS.  
2. FOR MORE THAN 2 BARS PER LAYER, EXTEND INNER BARS 12" INTO PERPENDICULAR FOOTING. OUTER BARS SHALL BE PLACED AS INDICATED.  
3. CORNER BARS TO MATCH WALL REINFORCEMENT.



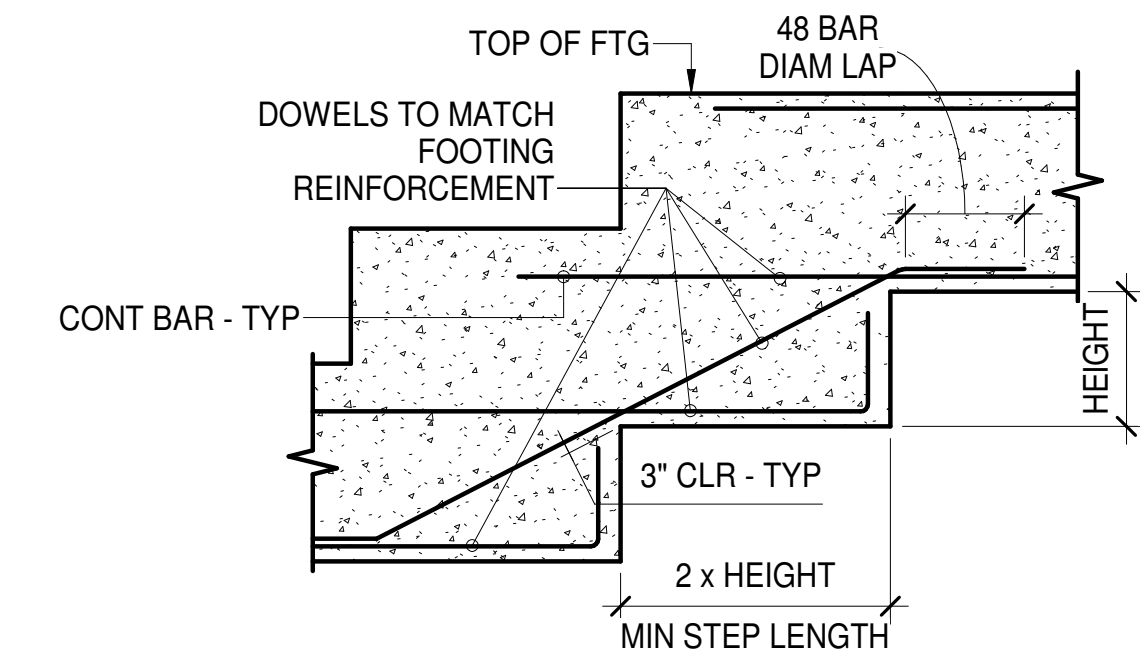
**PLAN OF ALT CORNER**



**PLAN OF INTERSECTION**



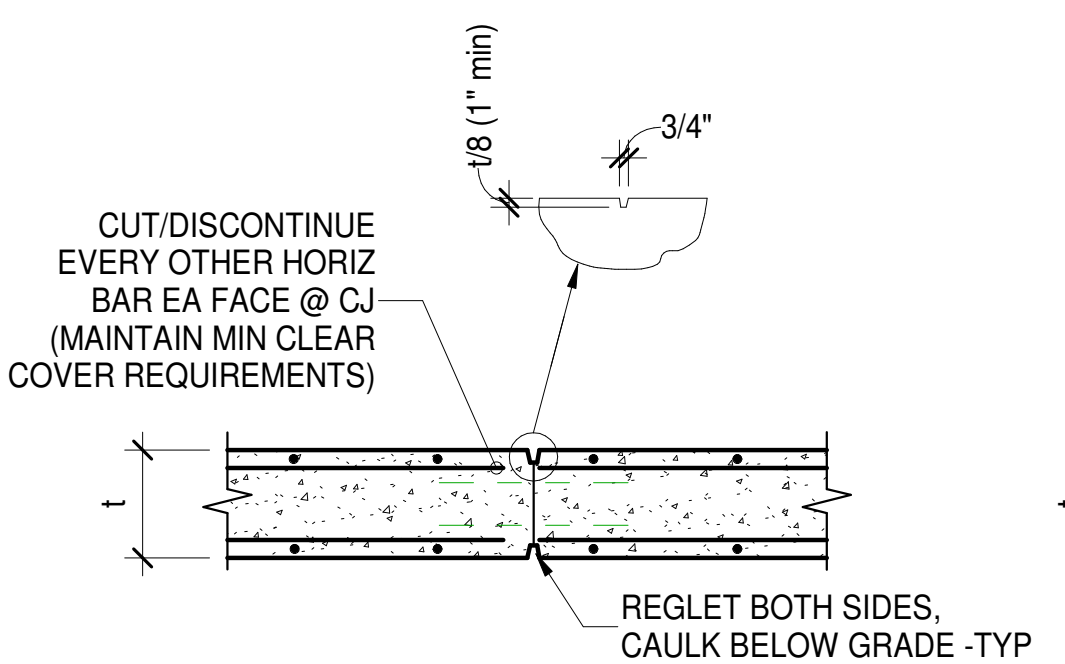
**PLAN OF TYPICAL CORNER**



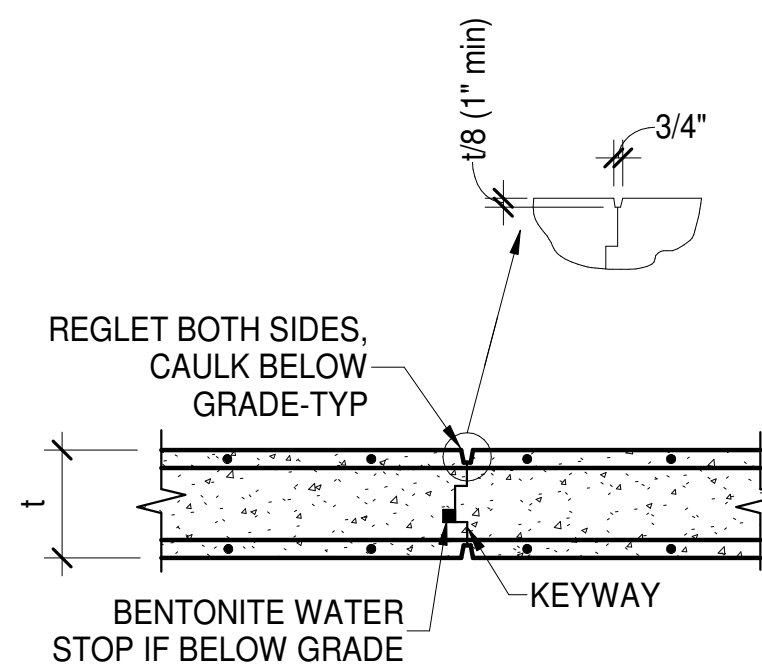
**C TYP FOOTING STEP**  
S1.4 N.T.S.

**A TYP FOUNDATION PIPE PENETRATION DETAILS**  
S1.4 N.T.S.

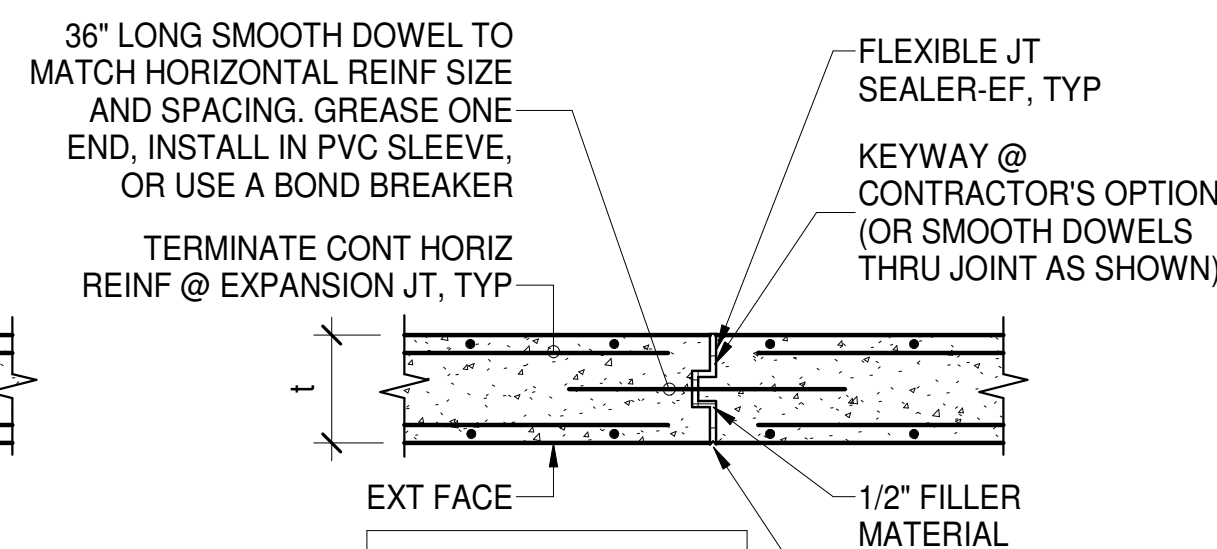
**B TYP CONCRETE WALL REINFORCEMENT**  
S1.4 N.T.S.



**CONTROL JOINT**



**CONSTRUCTION JOINT**



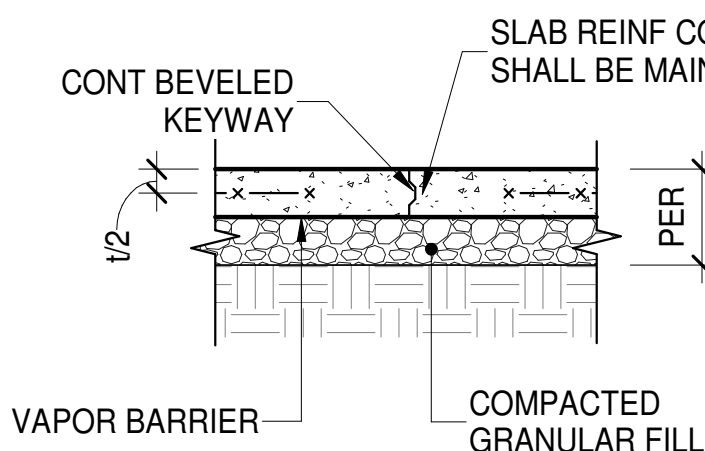
**EXPANSION JOINT**

**NOTE:**  
25'-0"oc MAX. SPACING OR AS APPROVED BY OWNER/ARCHITECT/ENGINEER

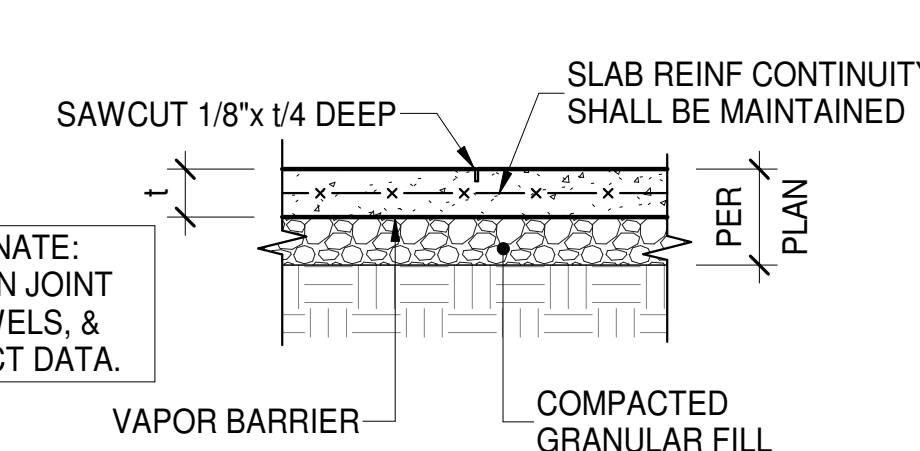
**NOTE:**  
LOCATION TO BE BY CONTRACTOR.

**NOTE:**  
MAX EXPANSION JOINT SPACING = 100'-0"

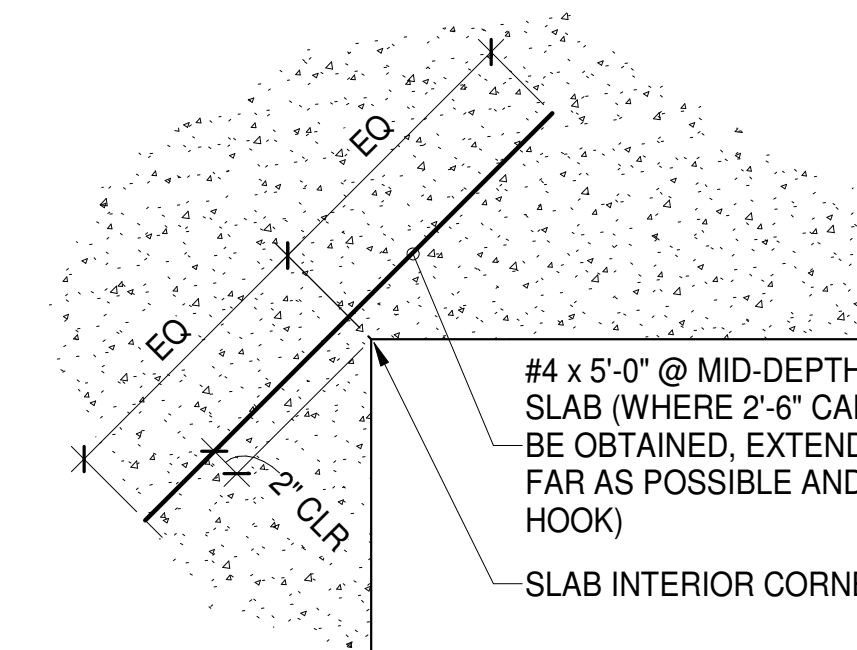
**NOTES:**  
1. SAW-CUT CONTROL JOINTS TO BE CUT AS SOON AS SURFACE WILL NOT BE TORN, ABRADED, OR OTHERWISE DAMAGED BY CUTTING ACTION. (WITHIN 8 TO 10 HOURS OF BURNISHING)  
2. SPACE CONTROL JOINTS AT 15'-0" MAX. FOR INTERIOR SLABS UNO ON PLANS.  
3. CONSTRUCTION JOINTS TO BE USED AT END OF EACH POUR.



**CONSTRUCTION JOINT**



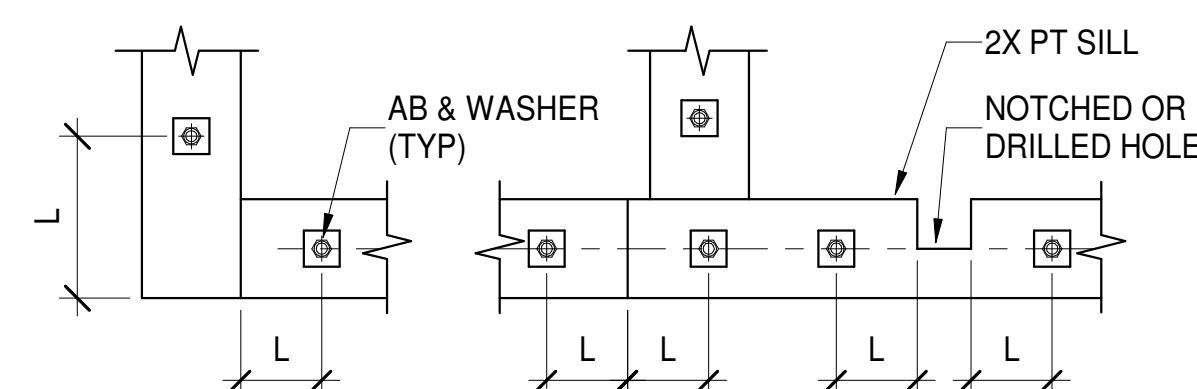
**CONTROL JOINT**



**F TYP REINF @ INTERIOR CORNERS**  
S1.4 N.T.S.

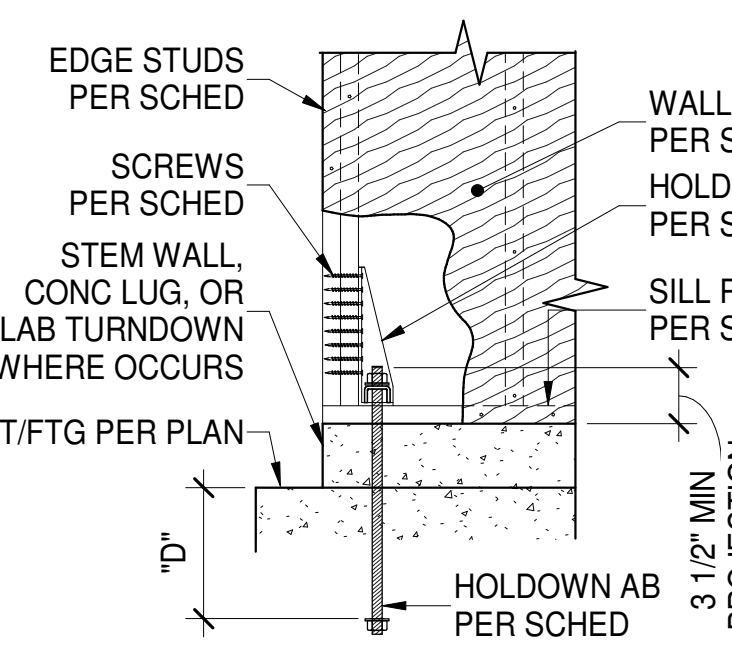
**D TYP CONCRETE WALL CONTROL, CONSTRUCTION, AND EXPANSION JOINT DETAILS**  
S1.4 N.T.S.

**E TYP SLAB-ON-GRADE CONSTRUCTION JOINT DETAILS**  
S1.4 N.T.S.



**NOTES:**

1. TYPICAL ANCHOR BOLT END DISTANCE L = 4 1/2" MIN, 12" MAX.
2. ANCHOR BOLTS SHALL BE INSTALLED AT 12" MAXIMUM FROM EACH END OF EACH SILL PLATE PIECE, AND SHALL BE SPACED AT 48" ON CENTER MAXIMUM. SEE TYPICAL SHEAR WALL DETAIL FOR ANCHOR BOLT SPACING AT SHEAR WALLS.
3. WHERE SILL PLATE IS NOTCHED, DRILLED OR CUT MORE THAN ONE THIRD OF ITS WIDTH, INSTALL ANCHOR BOLT EACH SIDE AS SHOWN. NOTCHES, CUTS AND HOLES SHALL BE TREATED WITH A PRESERVATIVE SOLUTION CONFORMING TO AWPA STANDARD M4.
4. ANCHOR BOLTS SHALL BE 5/8" DIAMETER FULLY THREADED WITH 3"x3" x 0.229" PLATE WASHERS, UNLESS OTHERWISE NOTED.
5. MINIMUM ANCHOR BOLT EMBEDMENT SHALL BE 7". MEASURED FROM TOP OF THE CONCRETE SLAB. FOR ANCHOR BOLTS EMBEDDED IN CONCRETE CURBS **NOT** POURED MONOLITHICALLY WITH THE FOUNDATION (NON-INTEGRAL CURBS), THE LENGTH OF ANCHOR BOLT IN CONCRETE CURBS SHALL NOT APPLY TO THIS MINIMUM EMBEDMENT.
6. ANCHOR BOLTS WITH DAMAGED THREADS SHALL NOT BE USED.
7. WHERE SILL PLATE ANCHORS MUST BE POST-INSTALLED, PROVIDE 3/4"dia x 8 1/2" SIMPSON TITEN HD STAINLESS STEEL SCREW ANCHORS (INTEGRAL CURBS ONLY, OR NO CURB), OR 5/8"dia x (8 1/2" + CURB HEIGHT) STAINLESS STEEL THREADED ROD ANCHORS INSTALL w/ HILTI HIT-HY 200 ADHESIVE OR EQUIVALENT. POST-INSTALLED ANCHORS SHALL NOT REPLACE HOLDOWN ANCHOR BOLTS UNLESS ALLOWED IN THE HOLDOWN SCHEDULE.



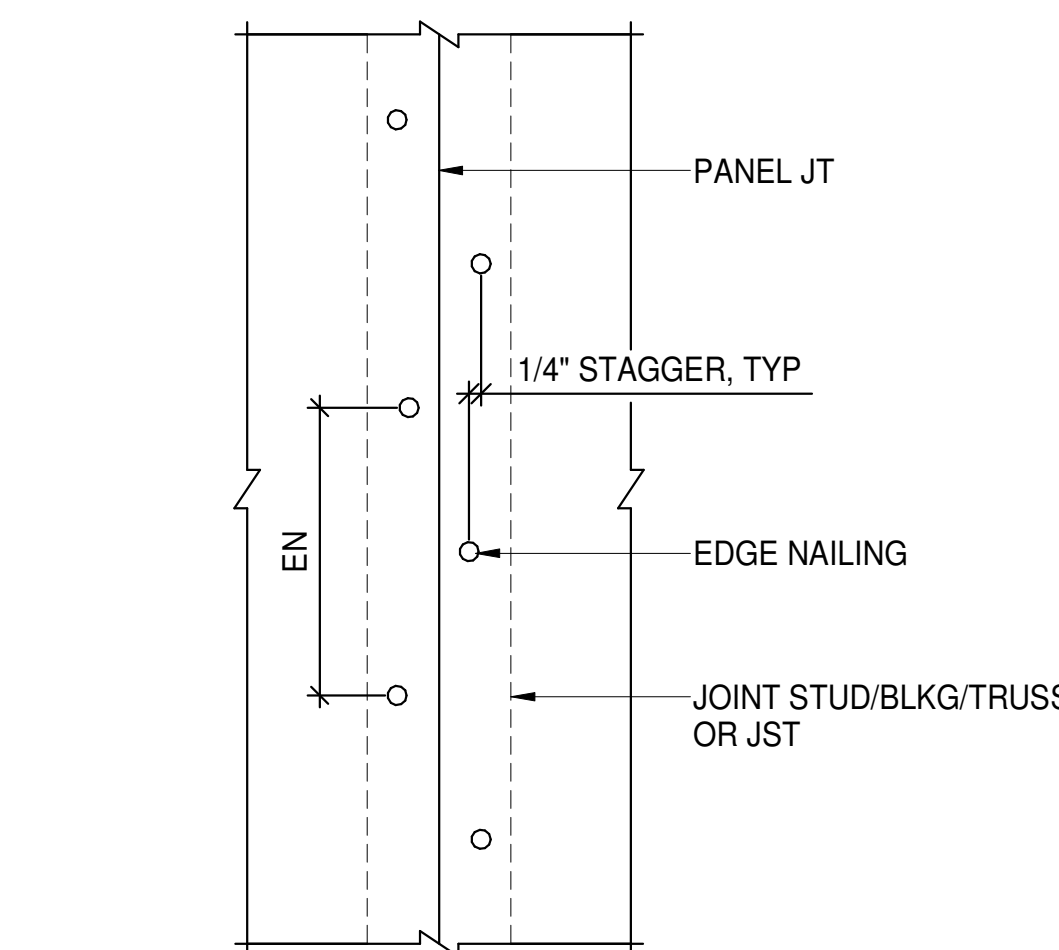
**HOLDOWN AT FOUNDATION**

**H TYP HOLDOWN SCHEDULE & DETAILS**  
S1.4 N.T.S.

HOLDOWN SCHEDULE					
MARK	EDGE STUDS	SIMPSON HOLDOWN	SDS 1/4"x2.5" STUD SCWS	HILTI AB (POST-INSTALLED)	"D" (POST-INSTALLED)
(A)	2 - 2x	HDU2-SDS2.5	6	5/8" GR.36	8"
(B)	2 - 2x	HDU4-SDS2.5	10	5/8" GR.36	10"
(C)	2 - 2x	HDU5-SDS2.5	14	5/8" GR.36	12"
(D)	3 - 2x	HDU8-SDS2.5	20	7/8" GR.36	14"

**NOTES:**

1. HOLDOWN ANCHOR BOLTS SHALL BE HOT-DIPPED GALVANIZED (ASTM A153). CONTRACTOR MAY CHOOSE CAST-IN-PLACE OR POST-INSTALLED OPTION. ADHERE WITH HILTI HIT-HY 200 SAFE SET SYSTEM ADHESIVE FOR POST-INSTALLED OPTION. IF "N/A" IS SHOWN, POST-INSTALLED OPTION IS NOT ALLOWED.
2. THICKENED FOOTING WHERE REQUIRED TO ACHIEVE MINIMUM ANCHOR BOLT EMBEDMENT.
3. WHERE HOLDOWN OCCURS ADJACENT TO A POST ON THE PLAN, USE THE LARGER OF THE INDICATED POST OR THE SCHEDULE EDGE STUDS.



**J TYP STAGGERED EDGE NAILING DETAIL**  
S1.4 N.T.S.

**G TYPICAL SILL PLATE ANCHOR BOLT DETAIL**  
S1.4 N.T.S.

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CERTIFICATE OF AUTHORITY NO. F-20080

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**SHERWIN WILLIAMS**

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SHEET TITLE:  
**TYPICAL DETAILS**

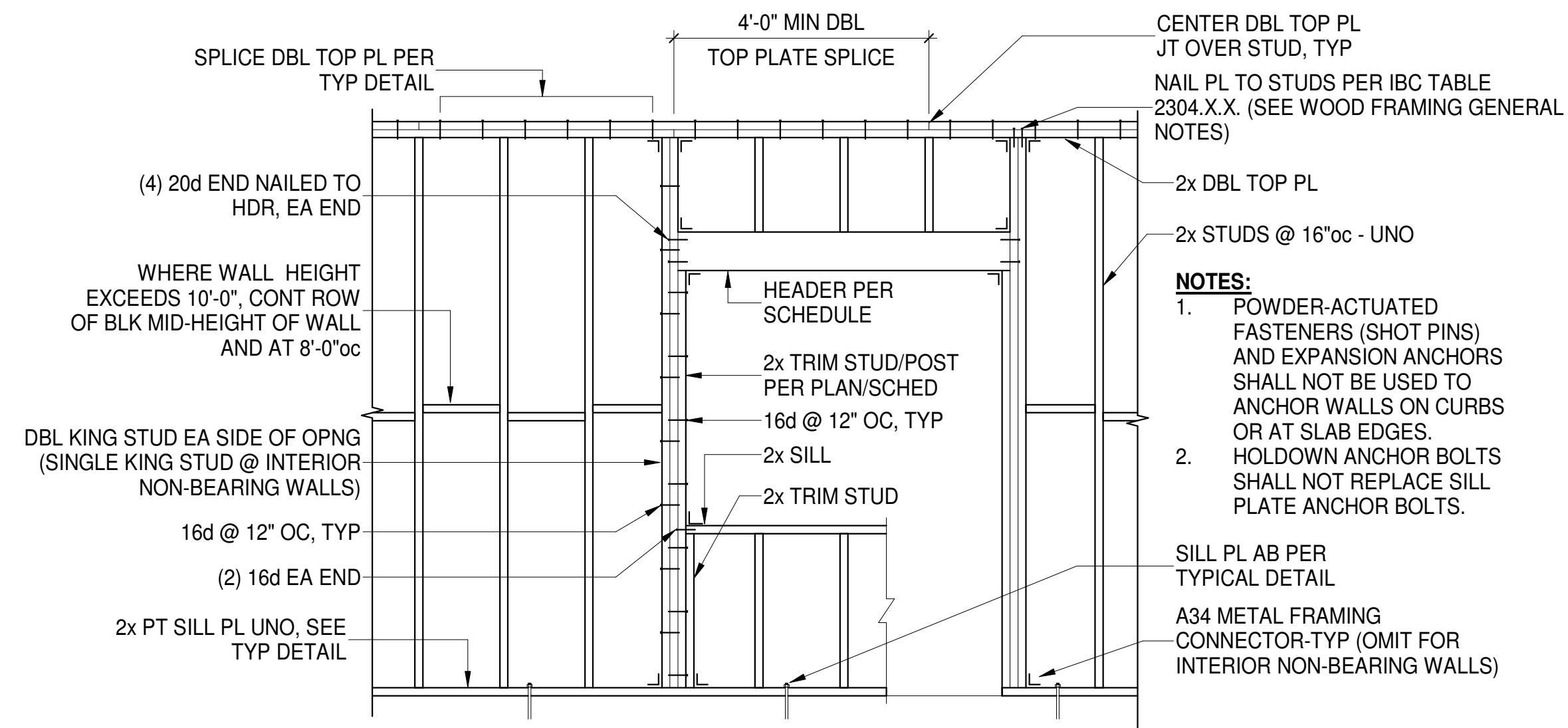
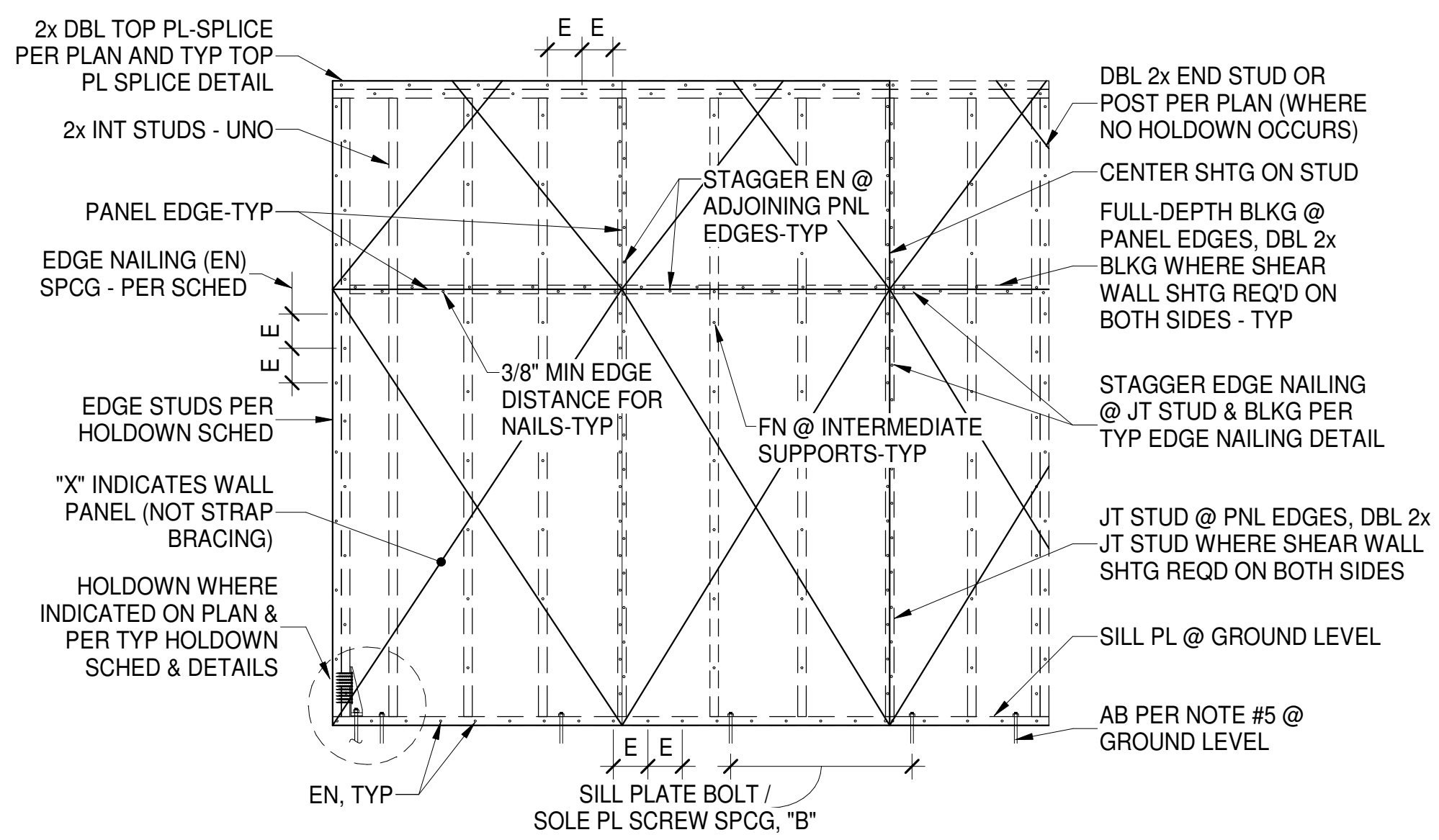
SHEET NUMBER:  
**S1.4**

SILL PL BOLTS & SOLE PL SCREWS SCHEDULE			
MARK	WALL SIDES SHEATHED	FASTENER SPACING "B" (NOTES #5-6)	
		BOLT	SCREW
⑥	1	34"	5"
	2	16"	2"
④	1	22"	3"
	2	10"	1.5"
③	1	16"	2"
	2	8"	1"

WALL SHEATHING AND NAILING SCHEDULE			
MARK	SHTG SPEC	NAIL SIZE	EN SPCG "E"
⑥	15/32" *	10d	6"
④	15/32" *	10d	4"
③	15/32" *	10d	3"

\* PANELS SHALL BE (SHEATHING) GRADE. SEE LUMBER SCHEDULE FOR REQUIREMENTS.

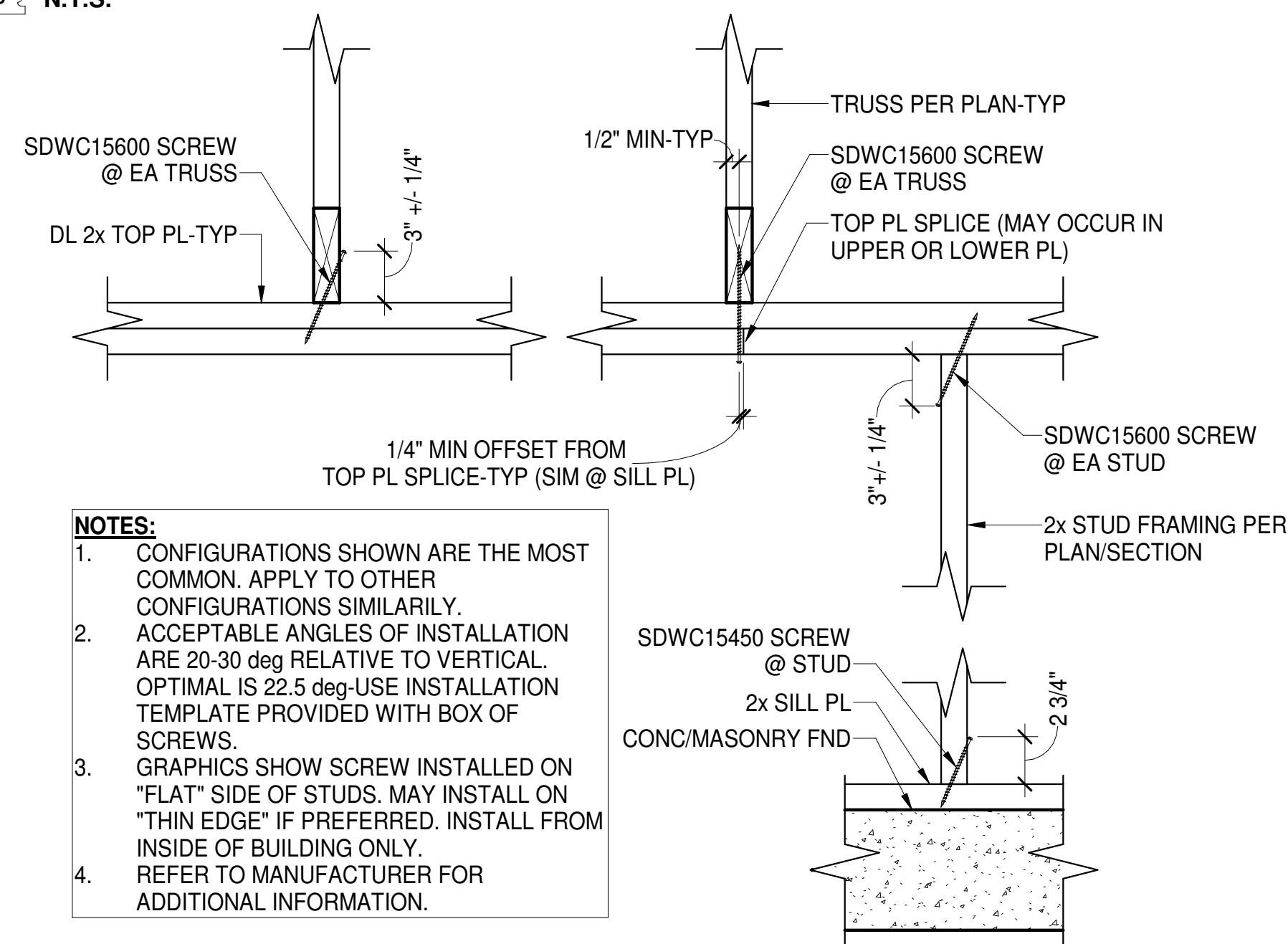
- NOTES:**
1. FIELD NAILING (FN): 10d @ 12"oc.
  2. ALL NAILS SHALL BE COMMON OR BOX WIRE NAILS.
  3. MINIMUM DIMENSION OF ANY SHEATHING SHEET EQUALS 16" OR STUD SPACING, WHICHEVER IS GREATER.
  4. ALL SHEAR WALL SHEATHING PANEL EDGES SHALL BE FULLY BLOCKED WITH FULL DEPTH 2x STUD BLOCKING-TYP-UNO.
  5. SILL PLATES SHALL BE FASTENED WITH 5/8"dia x 7"LG EMBED ANCHOR BOLTS PER FASTENER SPACING "B" IN SCHEDULE ABOVE. ALTERNATIVELY, USE 5/8" x 8"LG SIMPSON TITEN HD SCREW ANCHORS. BOTH OPTIONS REQUIRE 3"x3"x0.229" PLATE WASHERS AT EACH AB. REFER TO ARCH DRAWINGS/ SPECIFICATIONS FOR FIRE-RETARDANT AND PRESERVATIVE TREATMENT, IF REQUIRED.
  6. REFER TO ARCH DRAWINGS/ SPECIFICATIONS FOR FIRE-RETARDANT AND PRESERVATIVE TREATMENT, IF REQUIRED.



- NOTES:**
1. POWDER-ACTUATED FASTENERS (SHOT PINS) AND EXPANSION ANCHORS SHALL NOT BE USED TO ANCHOR WALLS ON CURBS OR AT SLAB EDGES.
  2. HOLDOWN ANCHOR BOLTS SHALL NOT REPLACE SILL PLATE ANCHOR BOLTS.

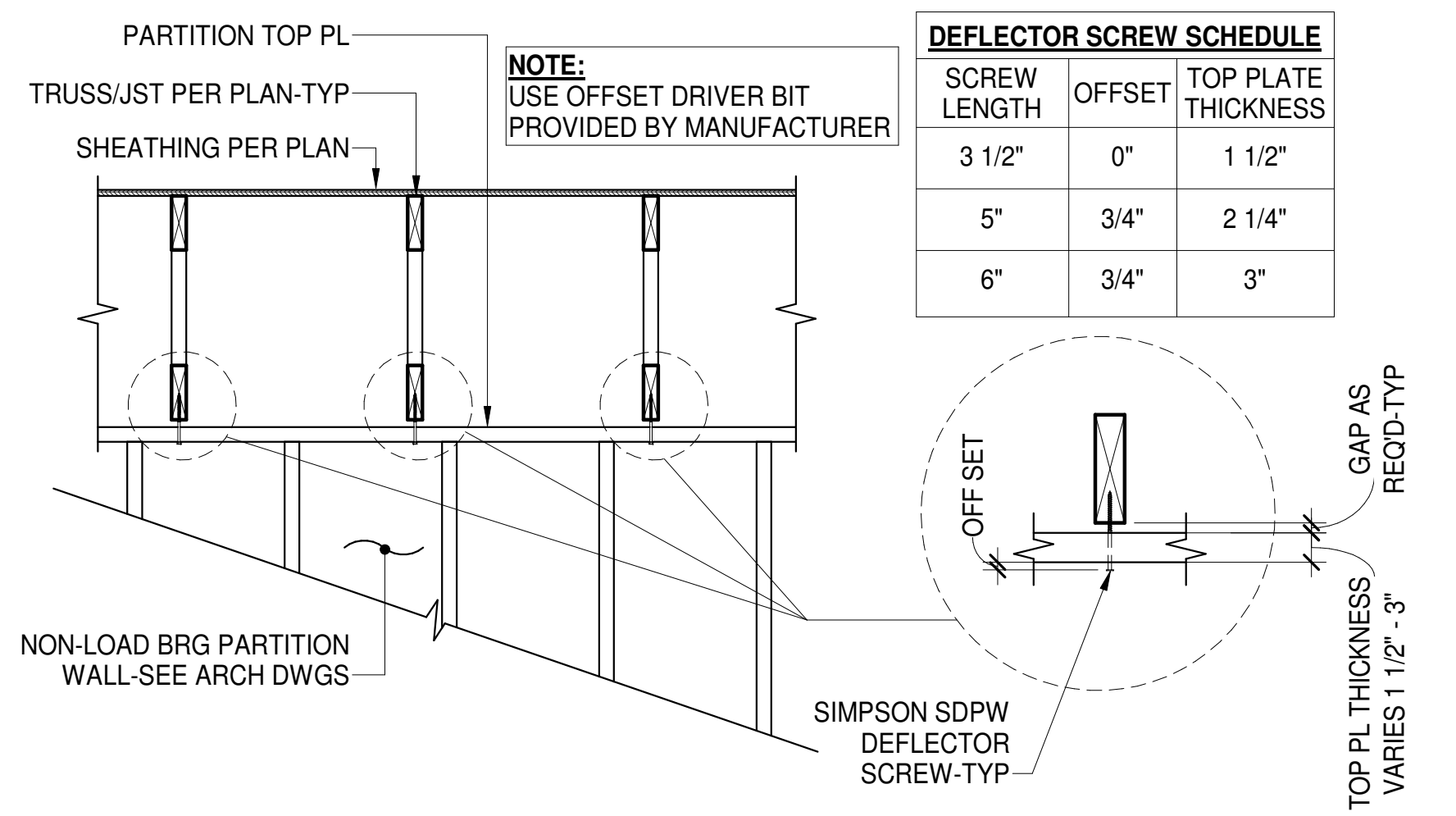
**A TYP SHEAR WALL SHEATHING AND FASTENER SCHEDULE - WOOD CONSTRUCTION**  
S1.5 N.T.S.

**B TYP STRUCTURAL WALL PANEL FRAMING ELEVATION**  
S1.5 N.T.S.



- NOTES:**
1. CONFIGURATIONS SHOWN ARE THE MOST COMMON. APPLY TO OTHER CONFIGURATIONS SIMILARLY.
  2. ACCEPTABLE ANGLES OF INSTALLATION ARE 20-30 deg RELATIVE TO VERTICAL. OPTIMAL IS 22.5 deg-USE INSTALLATION TEMPLATE PROVIDED WITH BOX OF SCREWS.
  3. GRAPHICS SHOW SCREW INSTALLED ON "FLAT" SIDE OF STUDS. MAY INSTALL ON "THIN EDGE" IF PREFERRED. INSTALL FROM INSIDE OF BUILDING ONLY.
  4. REFER TO MANUFACTURER FOR ADDITIONAL INFORMATION.

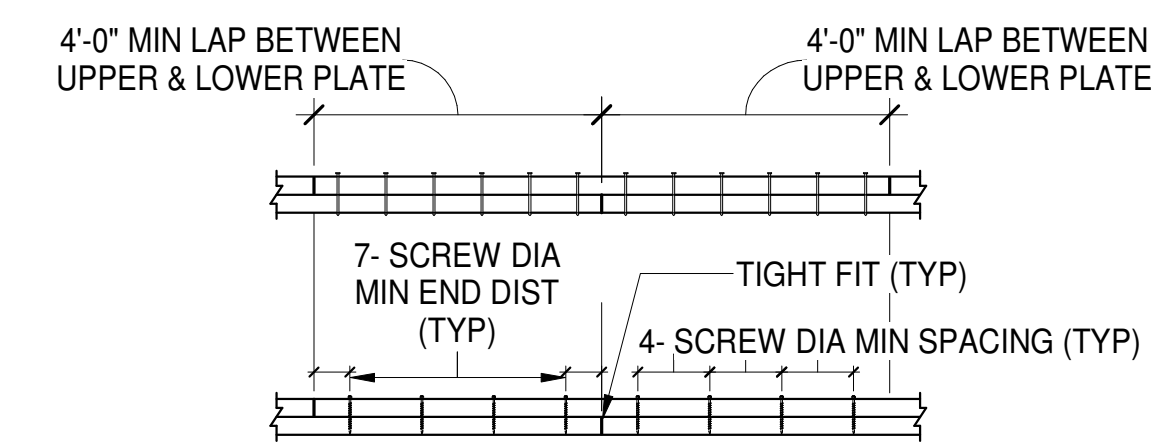
**C TYPICAL SIMPSON SDWC TRUSS SCREW DETAIL**  
S1.5 N.T.S.



DEFLECTOR SCREW SCHEDULE		
SCREW LENGTH	OFFSET	TOP PLATE THICKNESS
3 1/2"	0"	1 1/2"
5"	3/4"	2 1/4"
6"	3/4"	3"

**NOTE:** USE OFFSET DRIVER BIT PROVIDED BY MANUFACTURER

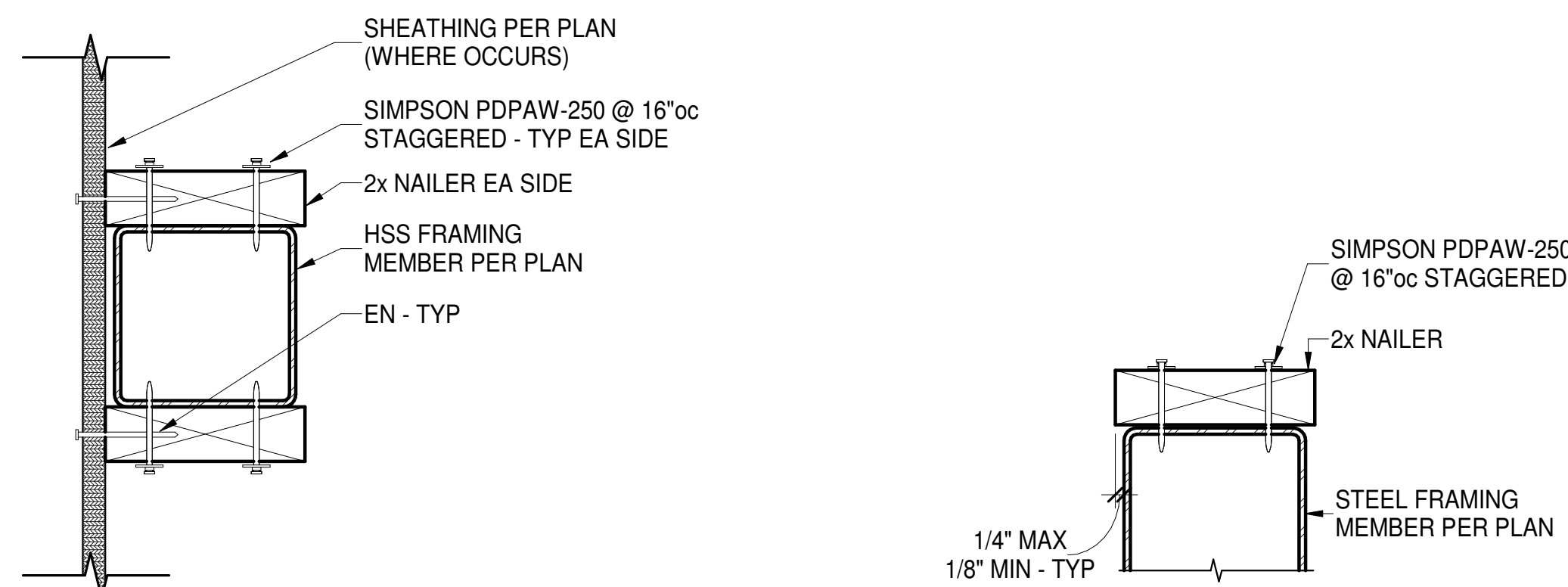
**D TYP SLIP CONNECTION @ NON LOAD-BEARING WOOD PARTITION WALL**  
S1.5 N.T.S.



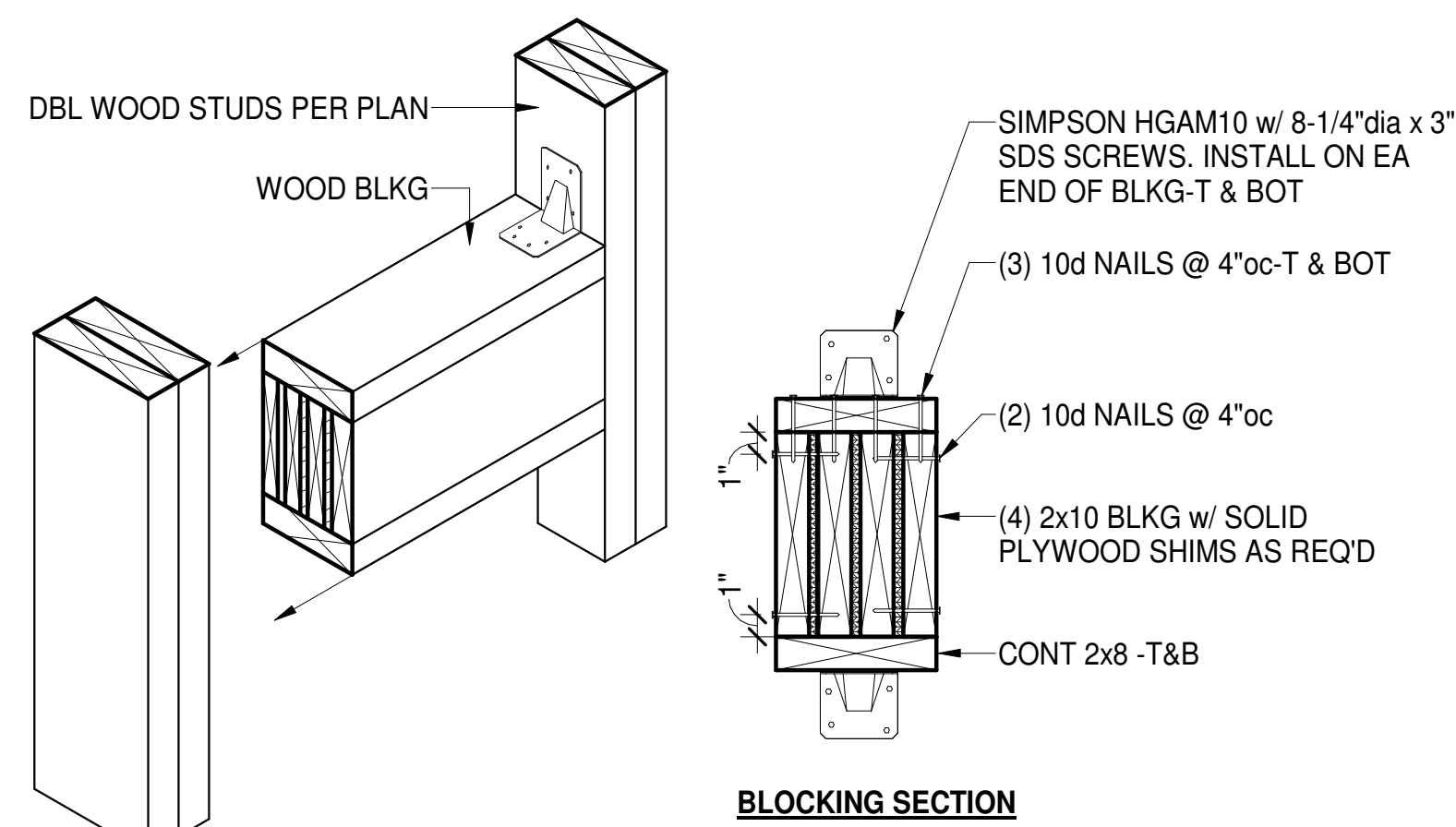
NAILED SPLICE SCHEDULE		SCREWED SPLICE SCHEDULE	
MARK	NAILS	MARK	SDS 1/4\"/>
④	8 - 16d	④	8 - 1/4\"/>
⑥	10 - 16d	④	12 - 1/4\"/>
⑧	12 - 16d	④	24 - 1/4\"/>

- NOTES:**
1. SPLICE 2x DOUBLE TOP PLATES PER MARK "A" AND 3x DOUBLE TOP PLATES PER MARK "D" OF THE ABOVE SCHEDULE, UNLESS OTHERWISE INDICATED.
  2. SCREWS SHALL BE 3" LONG FOR 2x PLATES AND 5" LONG FOR 3x PLATES.
  3. JOINTS IN UPPER AND LOWER PLATE SHALL BE CENTERED OVER STUD OR MULLION.
  4. ALL NAILS SHALL BE COMMON WIRE NAILS.
  5. SCHEDULE INDICATES NUMBER OF NAILS OR SCREWS ON EACH SIDE OF EACH JOINT.

**E TYPICAL TOP PLATE SPLICE DETAIL**  
S1.5 N.T.S.



**G NAILER ON BEAM - PAF NAILED**  
S1.5 N.T.S.



**H TYPICAL CANOPY ATTACHMENT BLOCKING @ WOOD STUDS**  
S1.5 N.T.S.

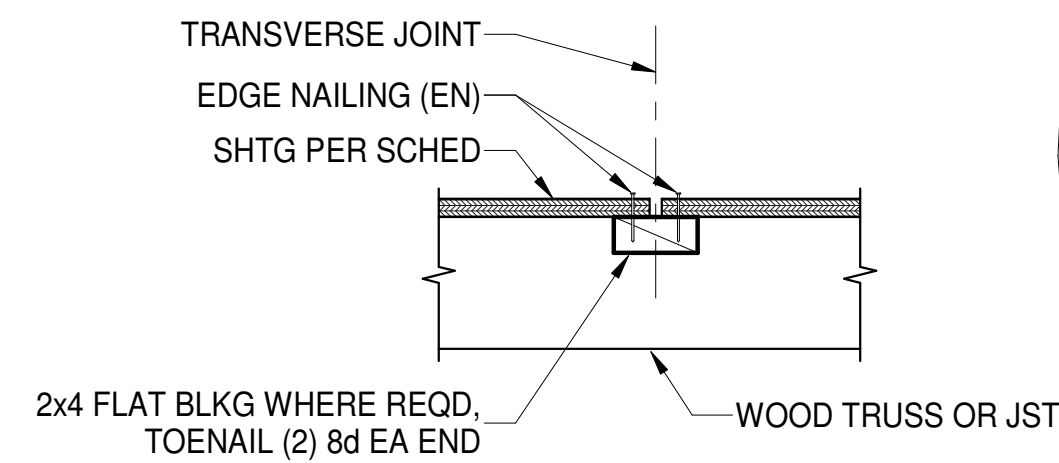
**F TYP NAILER @ HSS COLUMN-NAILED**  
S1.5 N.T.S.



11/6/23

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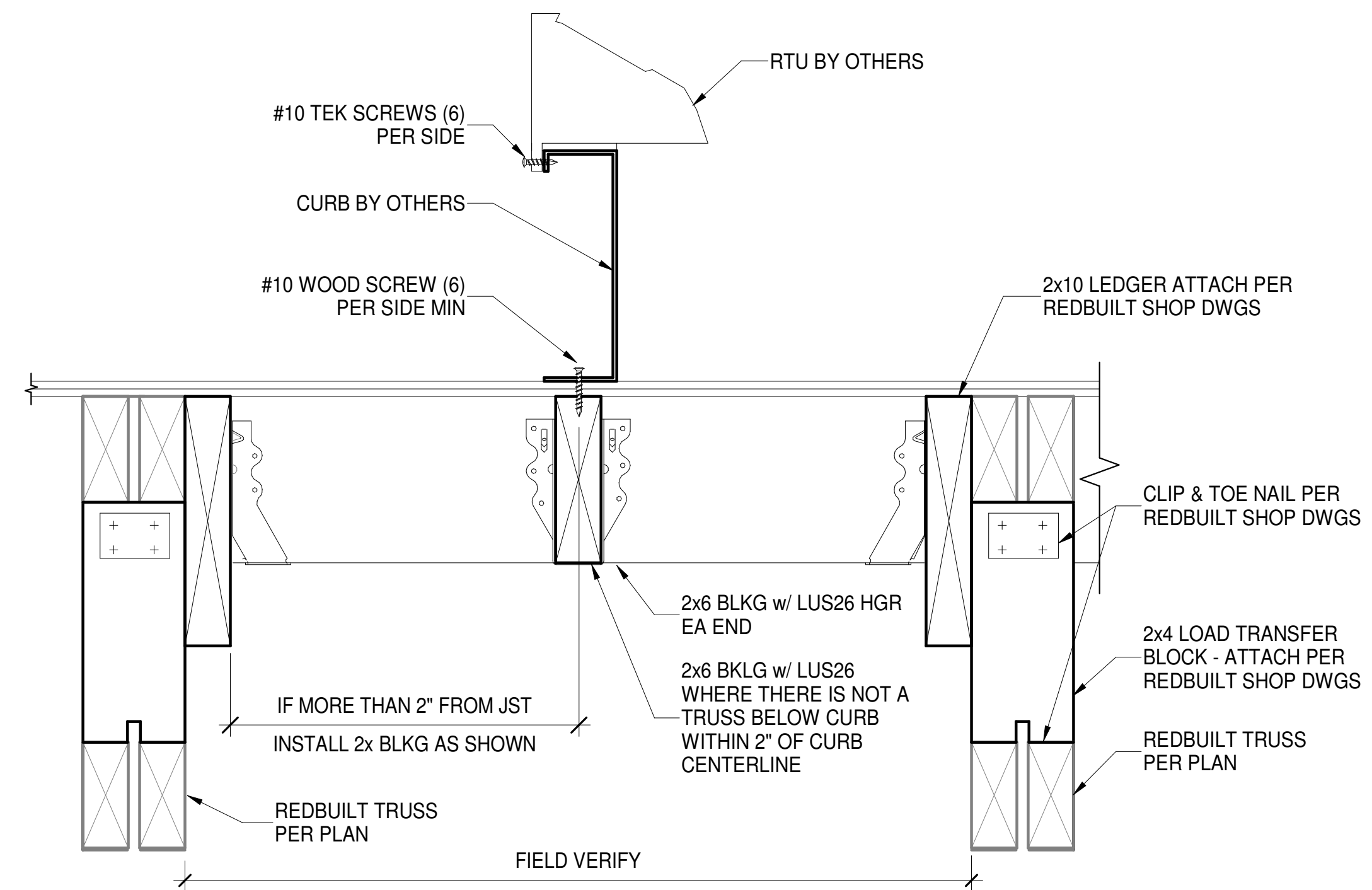
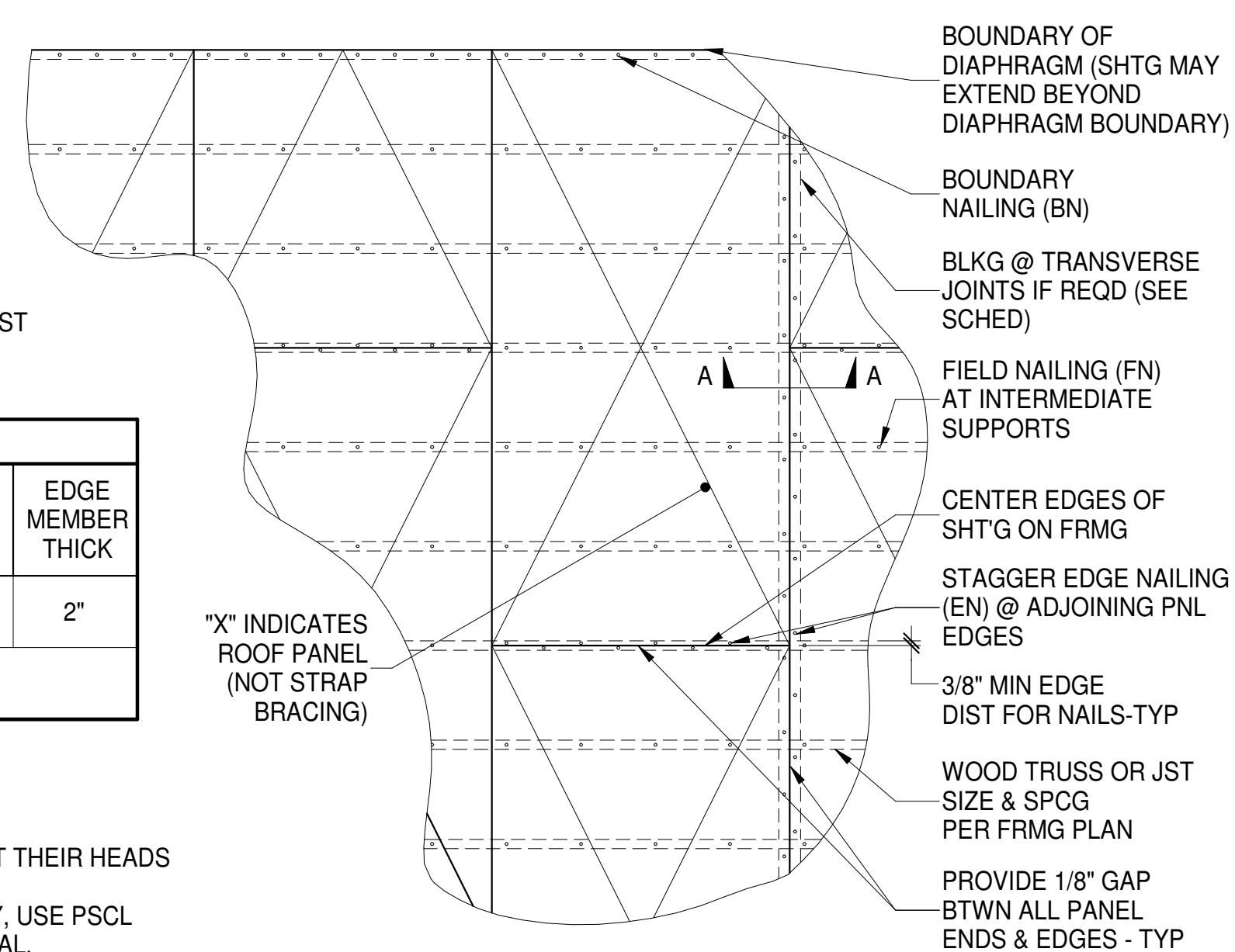


**SECTION A-A**

DIAPHRAGM SHEATHING & NAILING SCHEDULE							
MARK	SHTG SPEC	NAILS IZE	BN SPCG	EN SPCG	FN SPCG	TRANSV BLKG	EDGE MEMBER THICK
R1	19/32" *	10d	6"	6"	12"	NO	2"

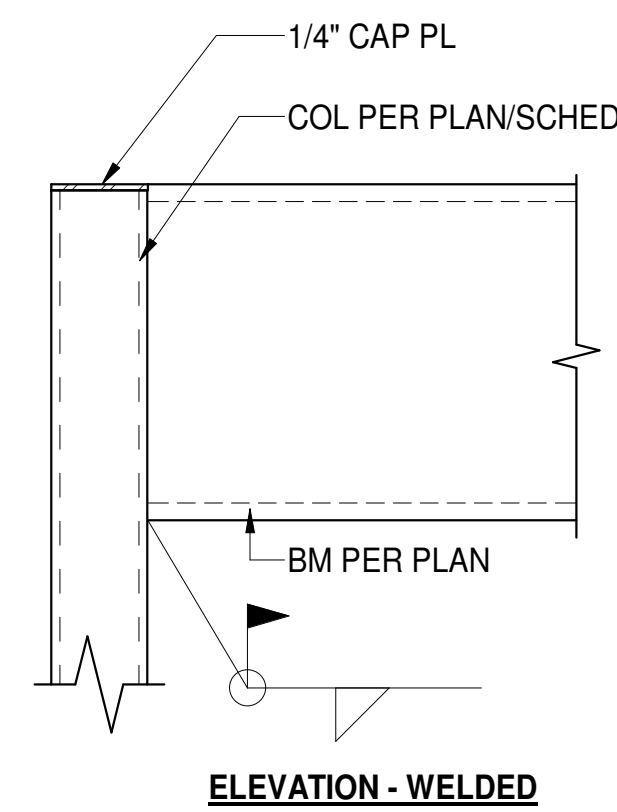
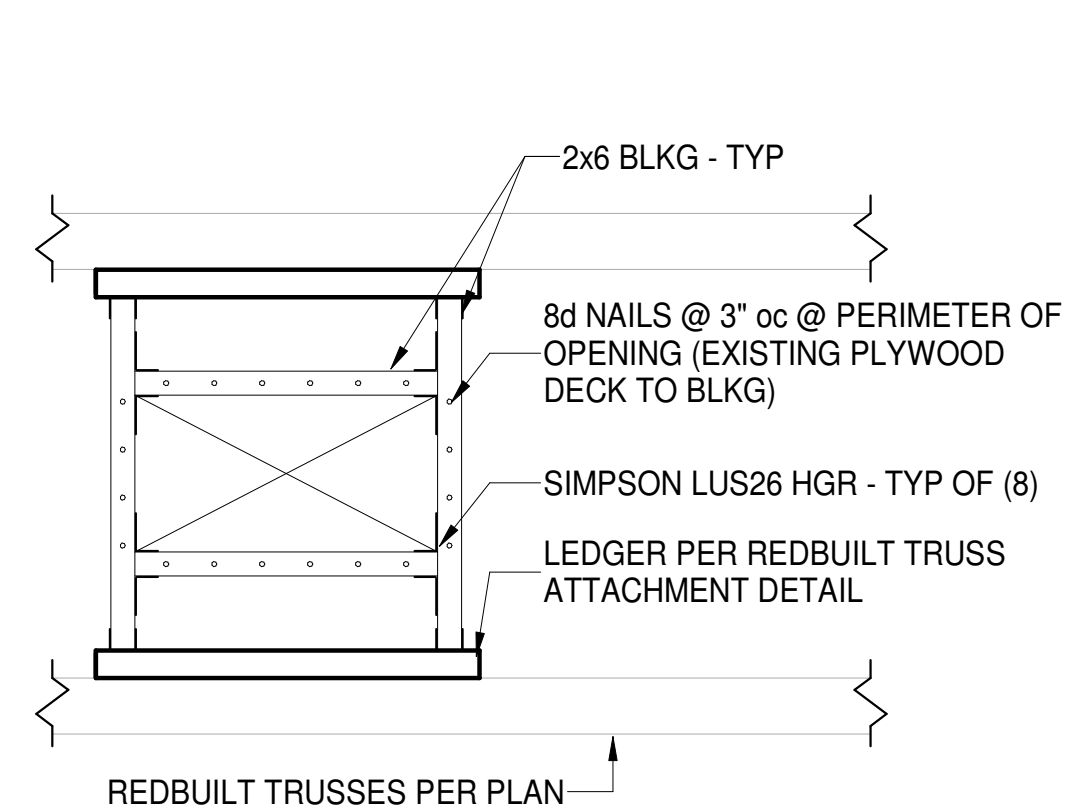
\* PANELS SHALL BE (SHEATHING) GRADE, SEE LUMBER SCHEDULE FOR REQUIREMENTS.

- NOTE:**
- DIAPHRAGM SHEATHING NAILS SHALL BE DRIVEN SO THAT THEIR HEADS ARE FLUSH WITH THE SURFACE OF THE SHEATHING.
  - PROVIDE T & G SHEATHING AT ALL ROOF. ALTERNATIVELY, USE PSCL 19/32 CLIPS BY SIMPSON STRONG-TIE OR APPROVED EQUAL.
  - 10d COMMON NAILS CAN BE SUBSTITUTED WITH #9 x 2" SCREW WSV2 BY SIMPSON STRONG-TIE.



**A TYP ROOF SHEATHING DETAIL - WOOD CONSTRUCTION**  
S1.6 N.T.S.

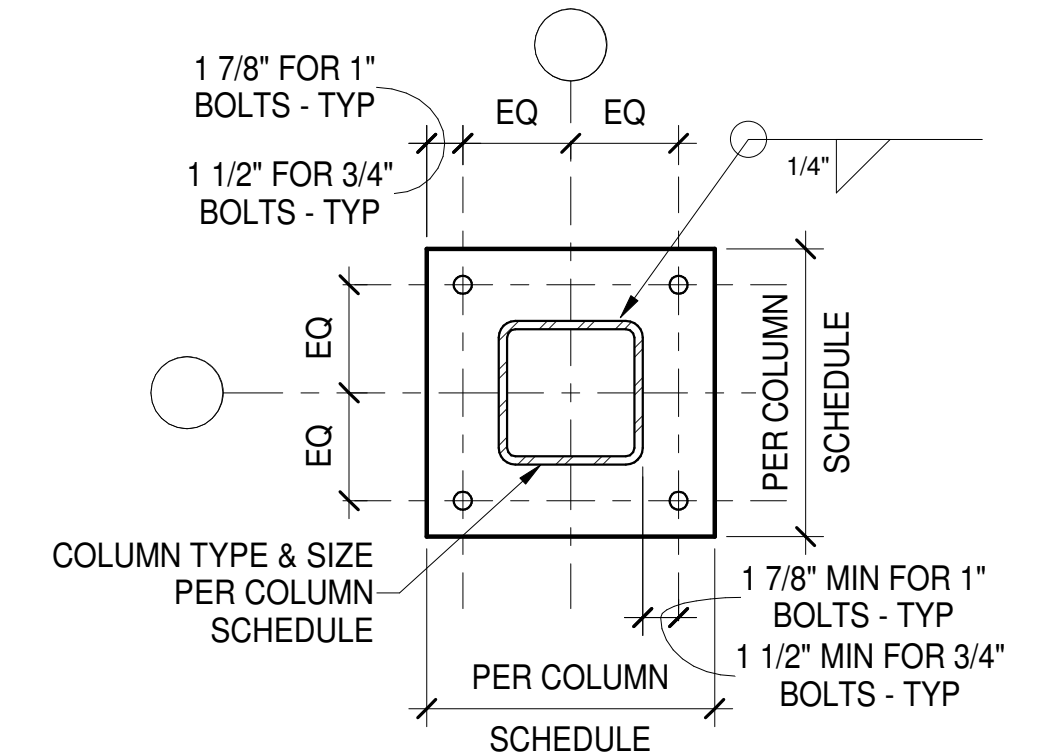
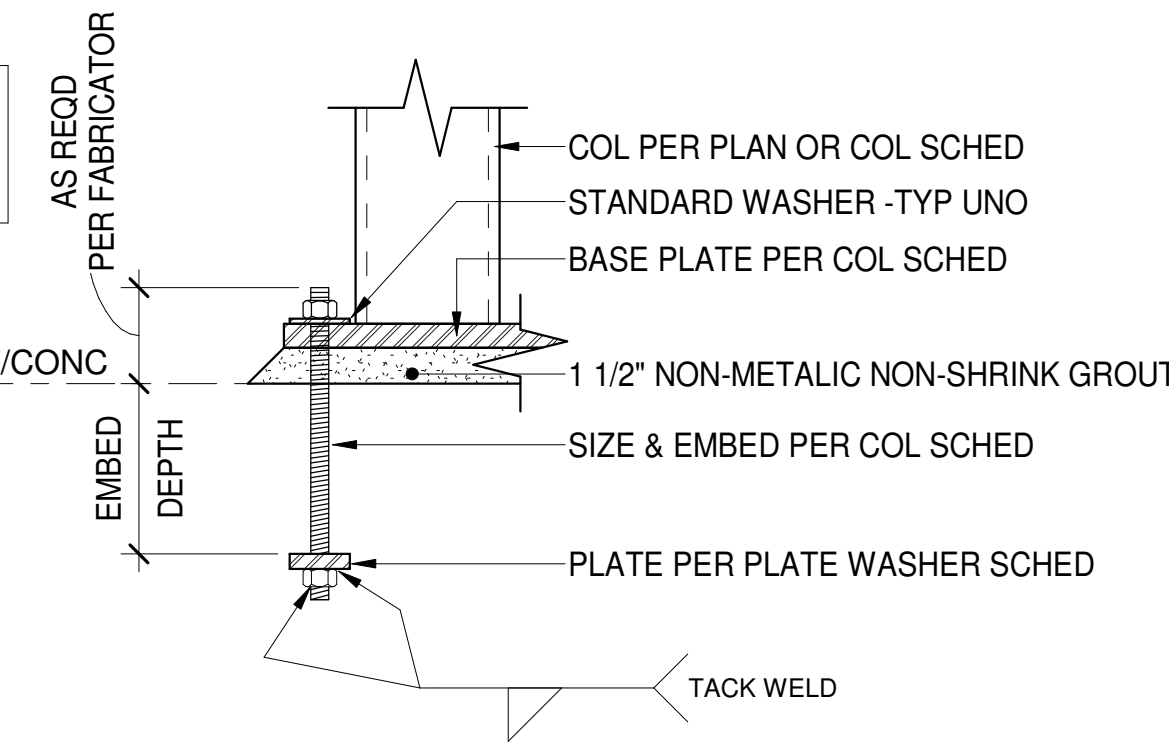
**B CURB - RED BUILT TRUSS**  
S1.6 N.T.S.



**NOTE:**  
ANCHOR RODS TO BE ASTM F1554, GRADE 36, FULLY-THREADED RODS w/ PLATE WASHER & NUT ON BOTTOM-TYP, UNO

ANCHOR ROD DIAMETER	PLATE WASHER SIZE
LESS THAN 3/4"	2 1/2" x 2 1/2" x 1"
3/4"	2 1/2" x 2 1/2" x 5/8"
1"	3" x 3" x 5/8"
1 1/4"	3 1/2" x 3 1/2" x 5/8"
1 1/2"	4" x 4" x 5/8"

\*1 = ANCHOR ROD DIAMETER, MIN

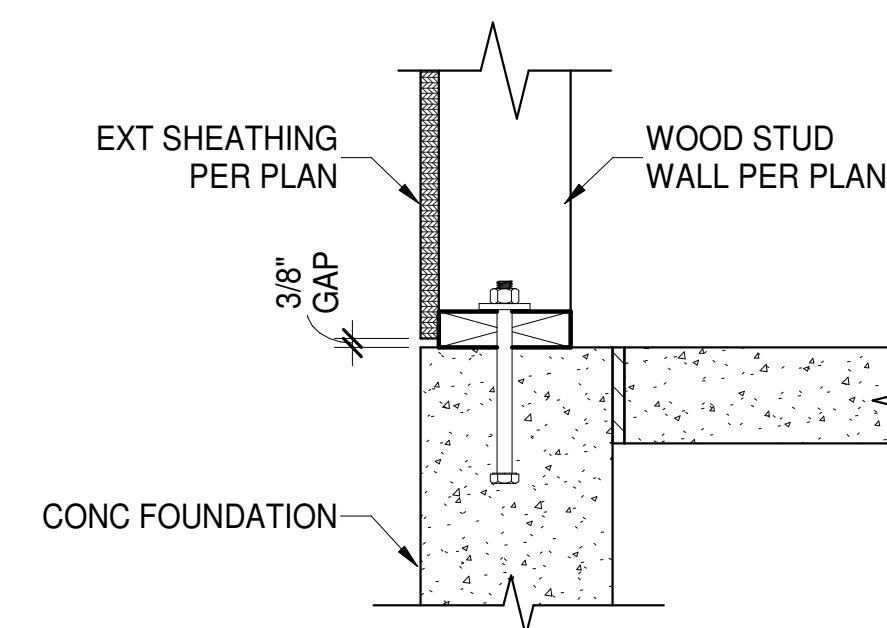
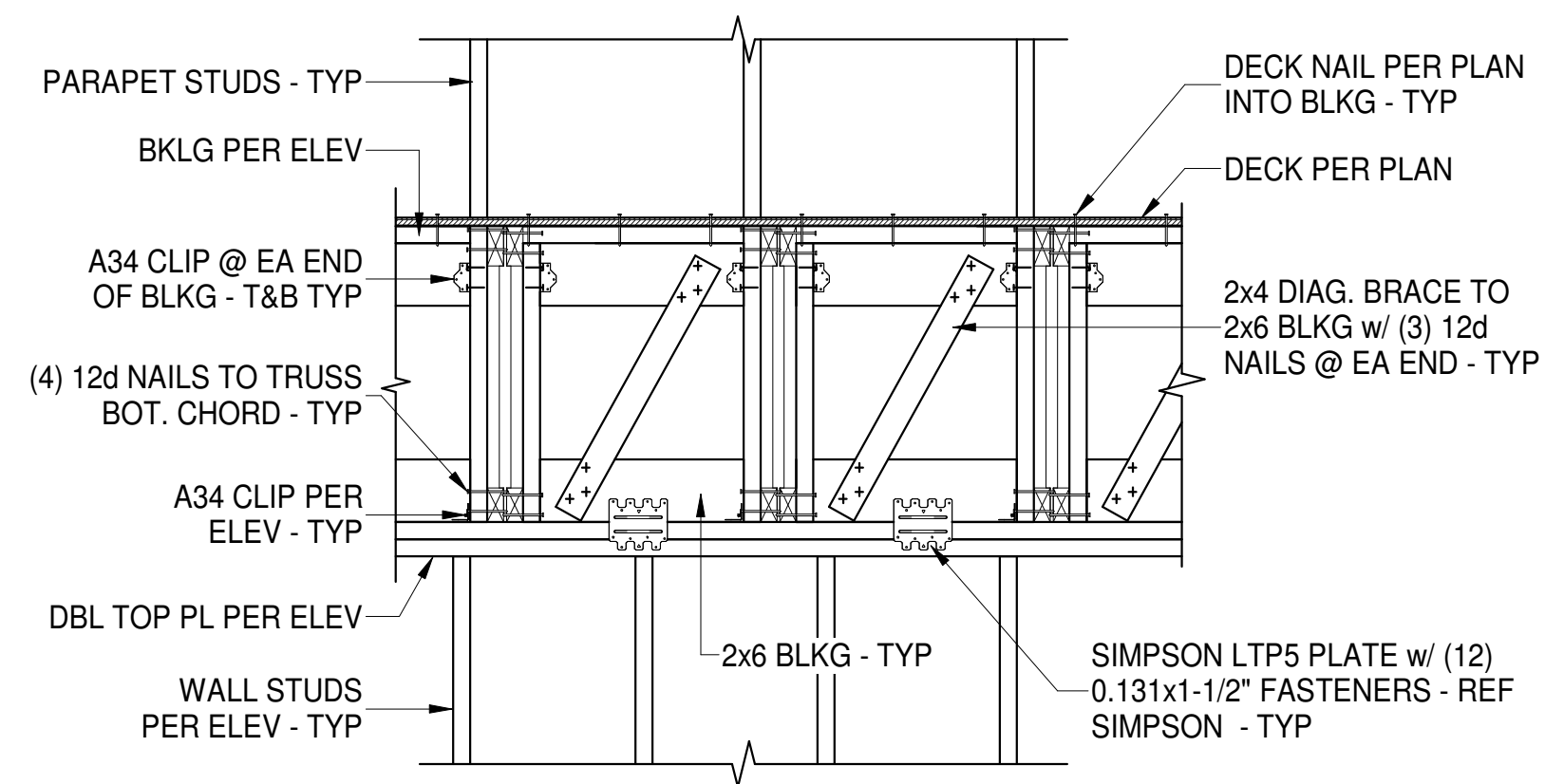
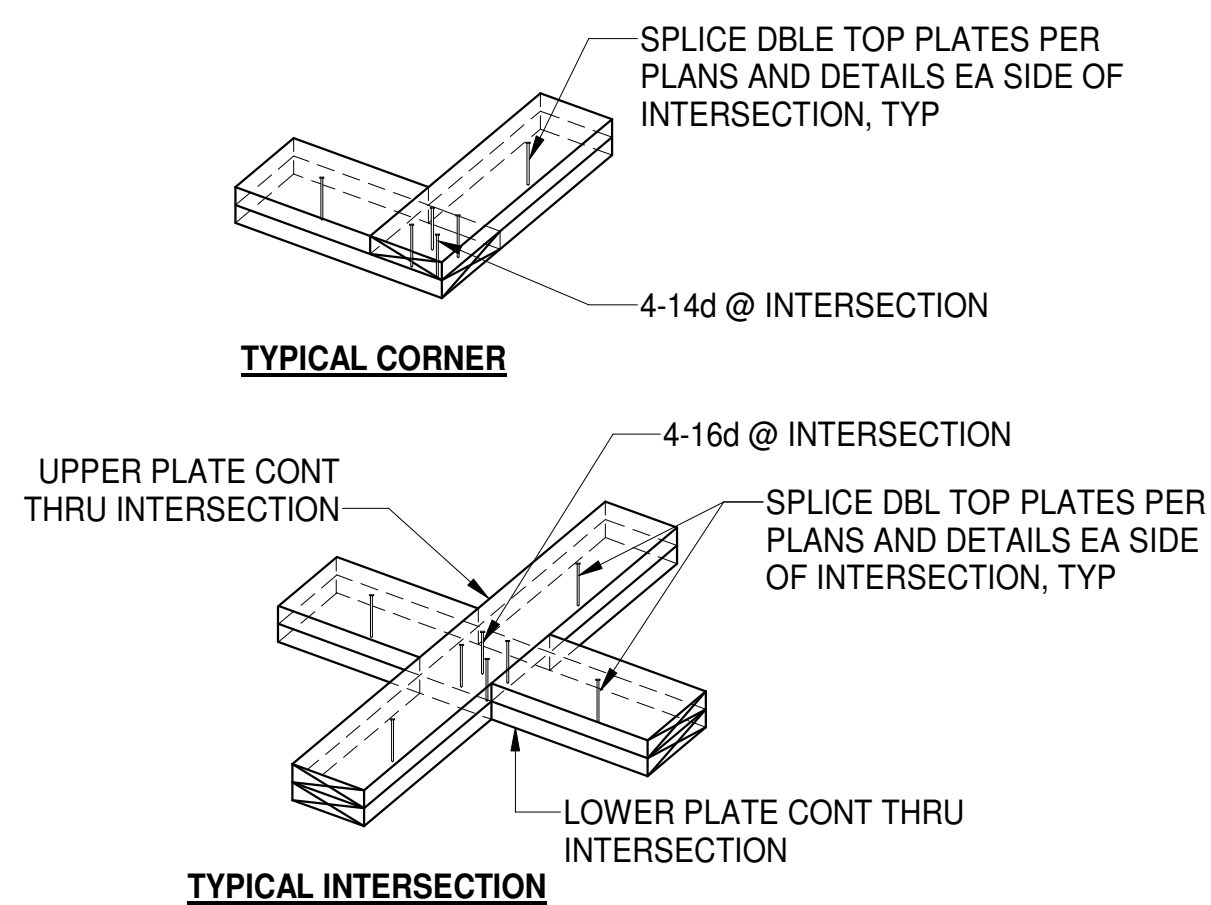


**C 2x6 BLKG - ROOF OPNG - REDBUILT TRUSSES**  
S1.6 N.T.S.

**D TYP HSS BM TO COL CONN DETAIL**  
S1.6 N.T.S.

**E TYP ANCHOR BOLT DETAIL**  
S1.6 N.T.S.

**F TYP BASE PLATE DETAIL**  
S1.6 N.T.S.



**G TYPICAL TOP PLATE CORNERS & INTERSECTION DETAIL**  
S1.6 N.T.S.

**H TRUSS BLKG DETAIL @ LOAD BEARING WALL**  
S1.6 N.T.S.

**J TYPICAL SHEATHING GAP DETAIL**  
S1.6 N.T.S.

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**SHERWIN WILLIAMS**

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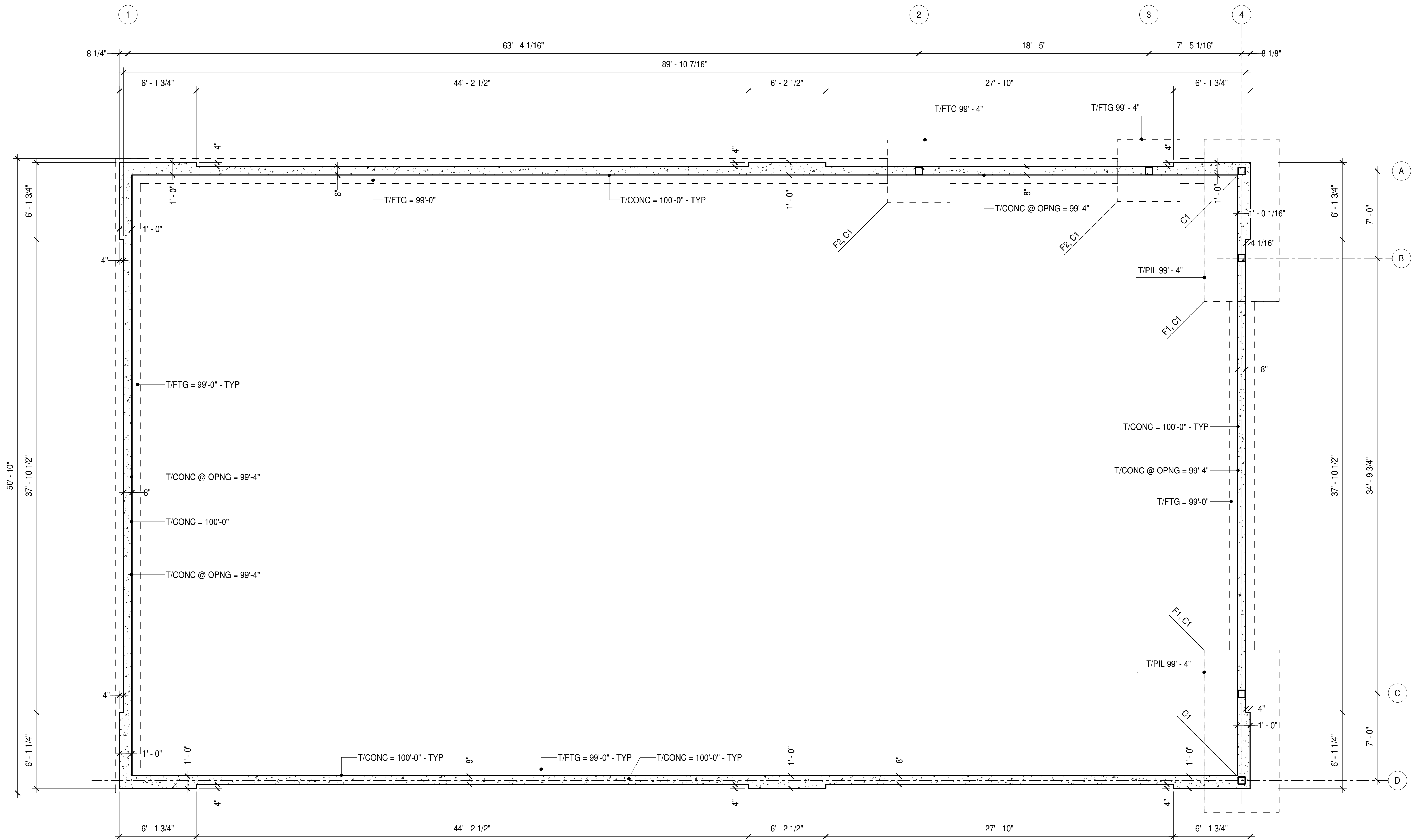
SHEET TITLE:

TYPICAL DETAILS

SHEET NUMBER:

**S1.6**





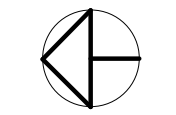
FOOTING SCHEDULE		
MARK	SIZE	REINFORCING
F1	13'-0" x 6'-0" x 1'-4"	(9) #5 SW & (8) #5 LW - EW T&B
F2	5'-0" x 5'-0" x 1'-4"	(7) #5 EW TOP & BOT

COLUMN SCHEDULE			
MARK	SIZE	BASE PLATE	ANCHOR BOLTS
C1	HSS 7" x 7" x 3/8"	13" x 13" x 1/2"	(4) - 3/4" dia. w/ 14" MIN EMBED

**FOUNDATION PLAN**

- PLAN NOTES**
- SEE SHEETS S1.1 - S1.6 FOR GENERAL NOTES AND TYPICAL DETAILS.
  - SEE ARCHITECTURAL DRAWINGS FOR DIMENSIONS, SECTIONS, AND ELEVATIONS NOT SHOWN HEREON.
  - COORDINATE SIZE AND LOCATION OF ROUGH OPENINGS IN FLOOR OR WALLS WITH ARCHITECTURAL DRAWINGS.
  - SEE SHEET S2.2 FOR BALANCE OF INFORMATION

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



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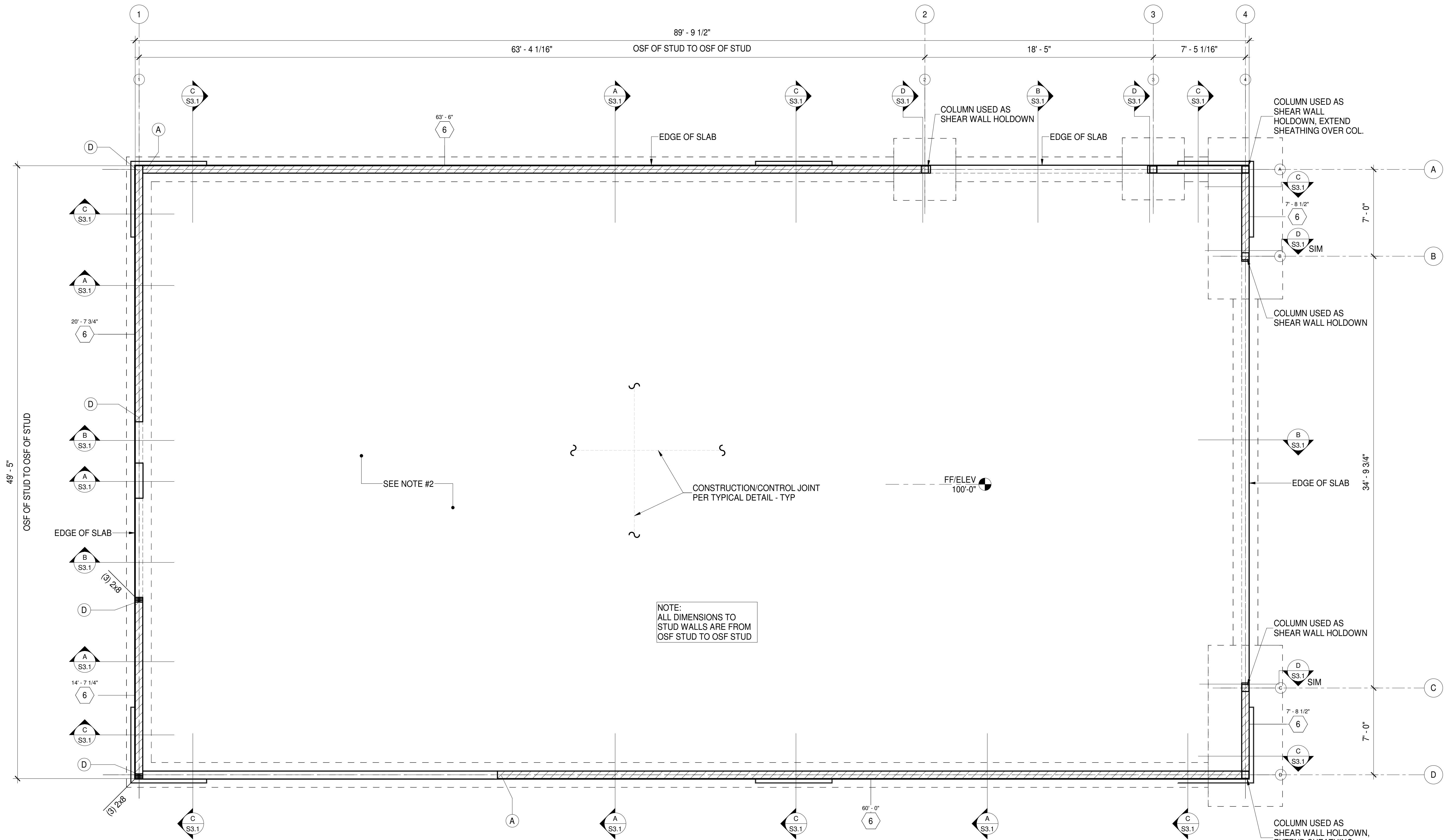
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SHEET TITLE:  
**STRUCTURAL FLOOR PLAN**

SHEET NUMBER:  
**S2.1**



SEE NOTE #2

NOTE:  
ALL DIMENSIONS TO  
STUD WALLS ARE FROM  
OSF STUD TO OSF STUD

FF/ELEV  
100'-0"

CONSTRUCTION/CONTROL JOINT  
PER TYPICAL DETAIL - TYP

**LEGEND - FOUNDATION PLAN**

- (X) INDICATES HOLDOWN PER TYPICAL DETAIL
- HATCH DENOTES SHEAR WALL LOCATION
- x-x' INDICATES SHEAR WALL LENGTH
- (X) INDICATES WOOD SHEAR WALL SIDE & SHEATHING PER TYPICAL DETAIL
- C<sub>1</sub> INDICATES POST OR COLUMN PER SCHEDULE (NOTE THAT SOME POSTS REQUIRE HOLDOWNS)
- INDICATES EDGE OF SLAB AT DOOR OPENING
- INDICATES EDGE OF FOOTING
- INDICATES STRUCTURAL WALL FRAMED WITH 2x8 STUDS @ 16"oc

**STRUCTURAL FLOOR PLAN**

**PLAN NOTES**

1. SEE SHEETS S1.1 - S1.6 FOR GENERAL NOTES AND TYPICAL DETAILS.
2. 6" CONCRETE SLAB REINFORCED WITH ONE LAYER OF 6x6 - W2.9xW2.9 WWR ON 10 MIL. POLY VAPOR BARRIER OVER 6" MINIMUM COMPACTED SUB-BASE AS RECOMMENDED BY THE SOILS REPORT. REINFORCEMENT TO BE LOCATED IN THE MIDDLE OF THE SLAB.
3. SEE ARCHITECTURAL DRAWINGS FOR DIMENSIONS, SECTIONS, AND ELEVATIONS NOT SHOWN HEREON.
4. COORDINATE SIZE AND LOCATION OF ROUGH OPENINGS IN FLOOR OR WALLS WITH ARCHITECTURAL DRAWINGS.
5. ALL ELEVATIONS ARE REFERENCED FROM FINISHED MAIN FLOOR = 100'-0"
  - T/FTG = TOP OF FOOTING = PER PLAN
  - T/CONC = TOP OF CONCRETE ELEVATION = PER PLAN
6. ALL EXTERIOR WALL SHEATHING NOT SPECIFIED AS "SHEAR WALL SHEATHING" IS TO BE 1/2" OSB SHEATHING AND ATTACHED PER IBC TABLE 2304.9.1 UNLESS OTHERWISE INDICATED BY ARCHITECT.
7. ALL DIMENSIONS ARE OUTSIDE FACE OF STUD TO OUTSIDE FACE OF STUD
8. SEE SHEET S2.1 FOR BALANCE OF INFORMATION

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

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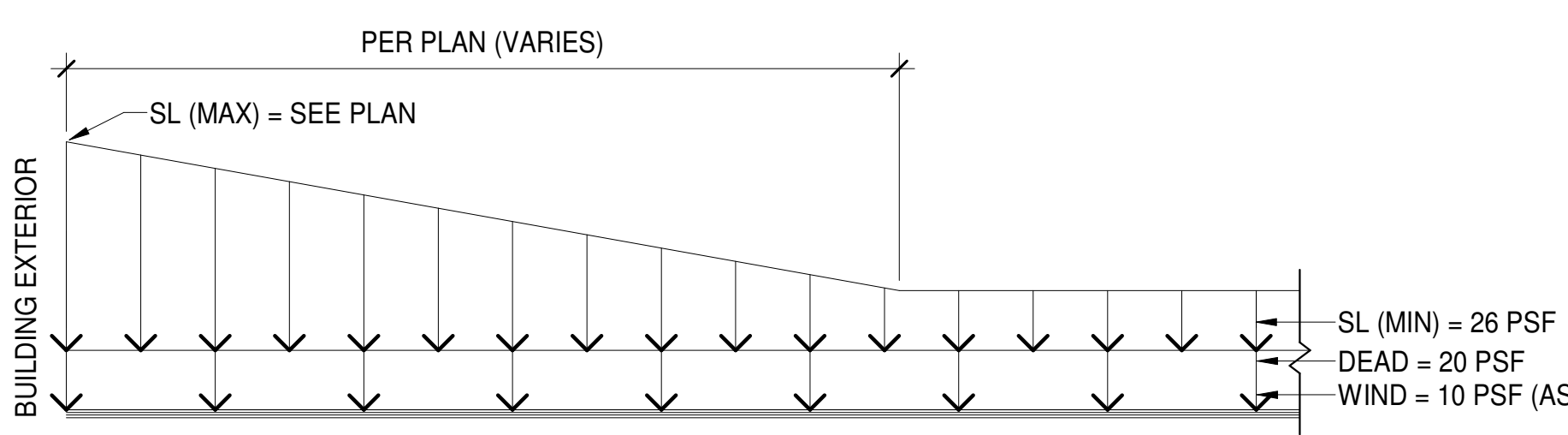
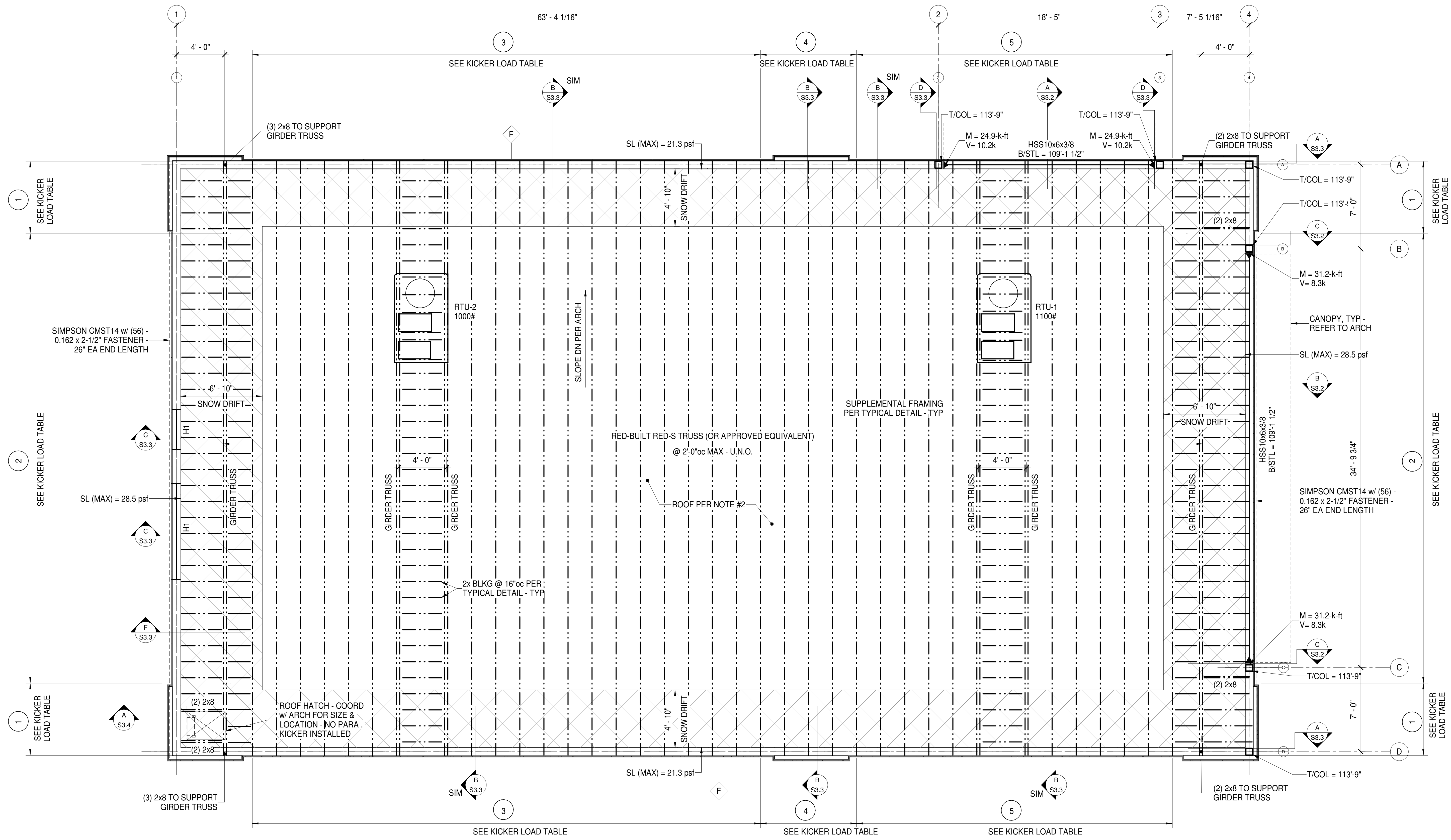
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SHEET TITLE:  
**FOUNDATION PLAN**

SHEET NUMBER:  
**S2.2**



### ROOF FRAMING PLAN

#### PLAN NOTES

- SEE SHEETS S1.1 - S1.6 FOR GENERAL NOTES AND TYPICAL DETAILS.
- ROOF CONSTRUCTION: PER MARK "R1" IN TYPICAL ROOF SHEATHING DETAIL.
- PROVIDE TRUSS BRIDGING AND SPACING PER TRUSS SUPPLIER.
- TRUSS MANUFACTURER TO COORDINATE WITH CONTRACTORS TO DETERMINE RTU AND TRANSFORMER LAYOUTS, WEIGHTS, AND FOOTPRINTS. MANUFACTURER TO COORDINATE WITH ROOF HATCH SUPPLIER FOR SIZE AND LOCATION. RTU AND EXHAUST HOOD LOADS ARE TO BE IN ADDITION TO OTHER DESIGN LOADS.
- MAXIMUM TRUSS SPACING = 2'-0" UNO
- SEE ARCHITECTURAL DRAWINGS FOR DIMENSIONS, SECTIONS, AND ELEVATIONS NOT SHOWN HEREON.
- ALL ELEVATIONS ARE REFERENCED FROM FINISHED MAIN FLOOR = 100'-0"
  - B/S TL = BOTTOM OF STEEL ELEVATION = PER PLAN
  - TRUSS/BRG = TRUSS BEARING = 14'-0"
- ▶ SYMBOL INDICATES MOMENT CONNECTION

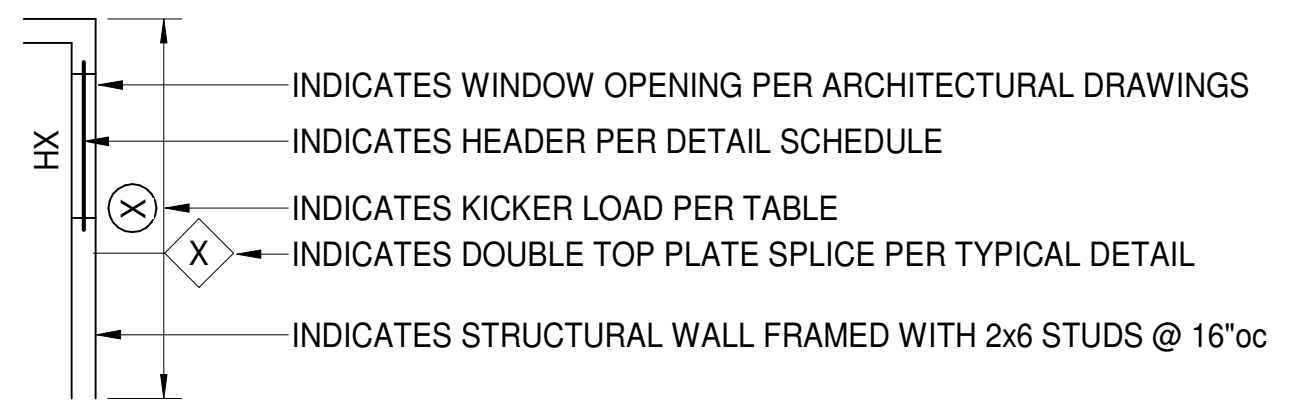
HEADER SCHEDULE				
MARK	SIZE	TRIM STUDS	KING STUDS	CONNECTION
H1	(4) 2x8	(1) 2x8	(2) 2x8	PER TYP DETAIL

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

#### PARAPET KICKER LOADS KEY NOTES:

#	KEY NOTE
1	TRUSS DESIGNER TO DESIGN FOR 215-PLF AXIAL & 310-PLF SHEAR DUE TO WIND AT KICKER REACTION
2	TRUSS DESIGNER TO DESIGN FOR 175-PLF AXIAL & 272-PLF SHEAR DUE TO WIND AT KICKER REACTION
3	TRUSS DESIGNER TO DESIGN FOR 175-LB AXIAL & 340-LB SHEAR DUE TO WIND AT KICKER REACTION
4	TRUSS DESIGNER TO DESIGN FOR 320-LB AXIAL & 265-LB SHEAR DUE TO WIND AT KICKER REACTION
5	TRUSS DESIGNER TO DESIGN FOR 265-LB AXIAL & 410-LB SHEAR DUE TO WIND AT KICKER REACTION

#### LEGEND - FRAMING PLAN



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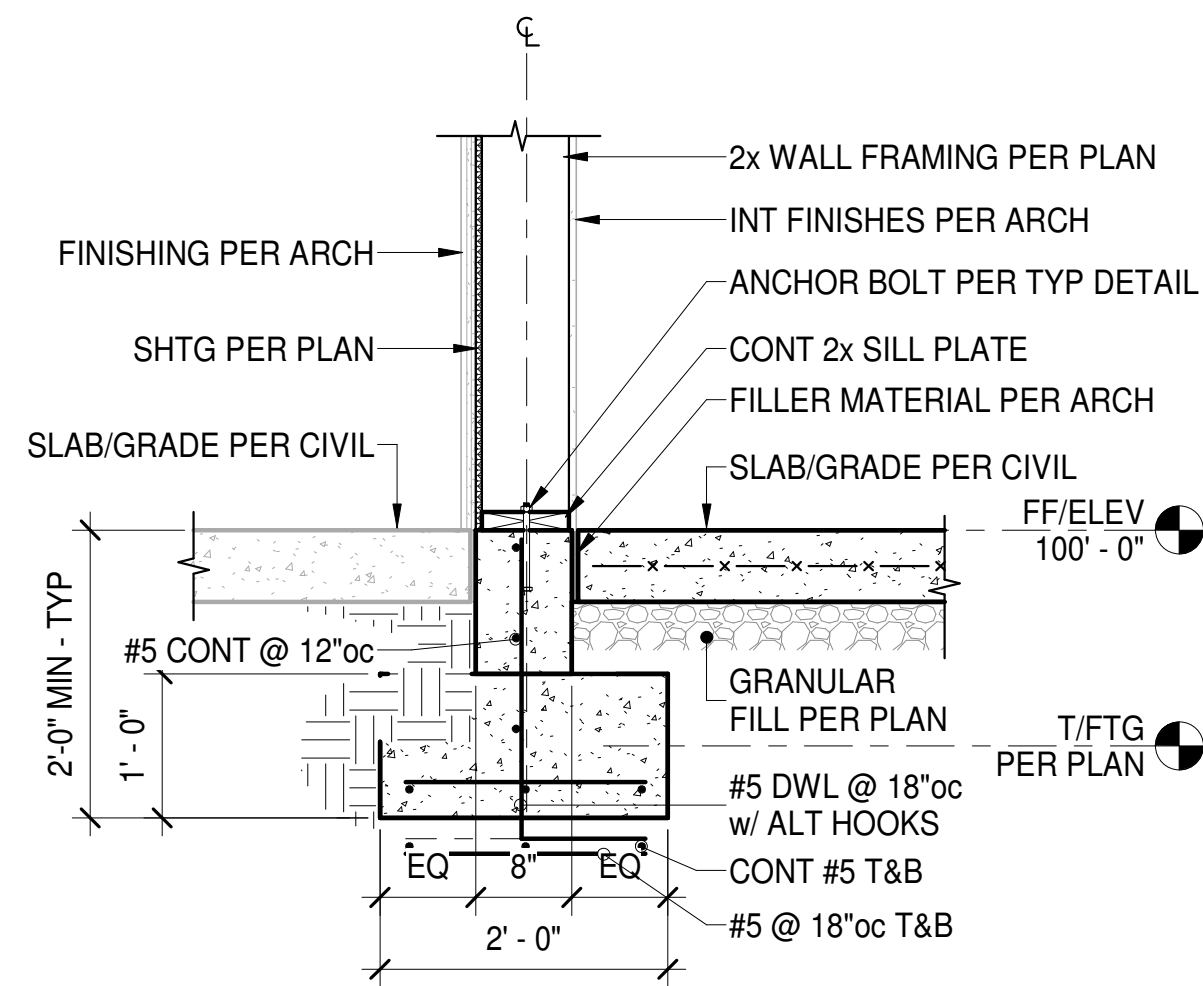
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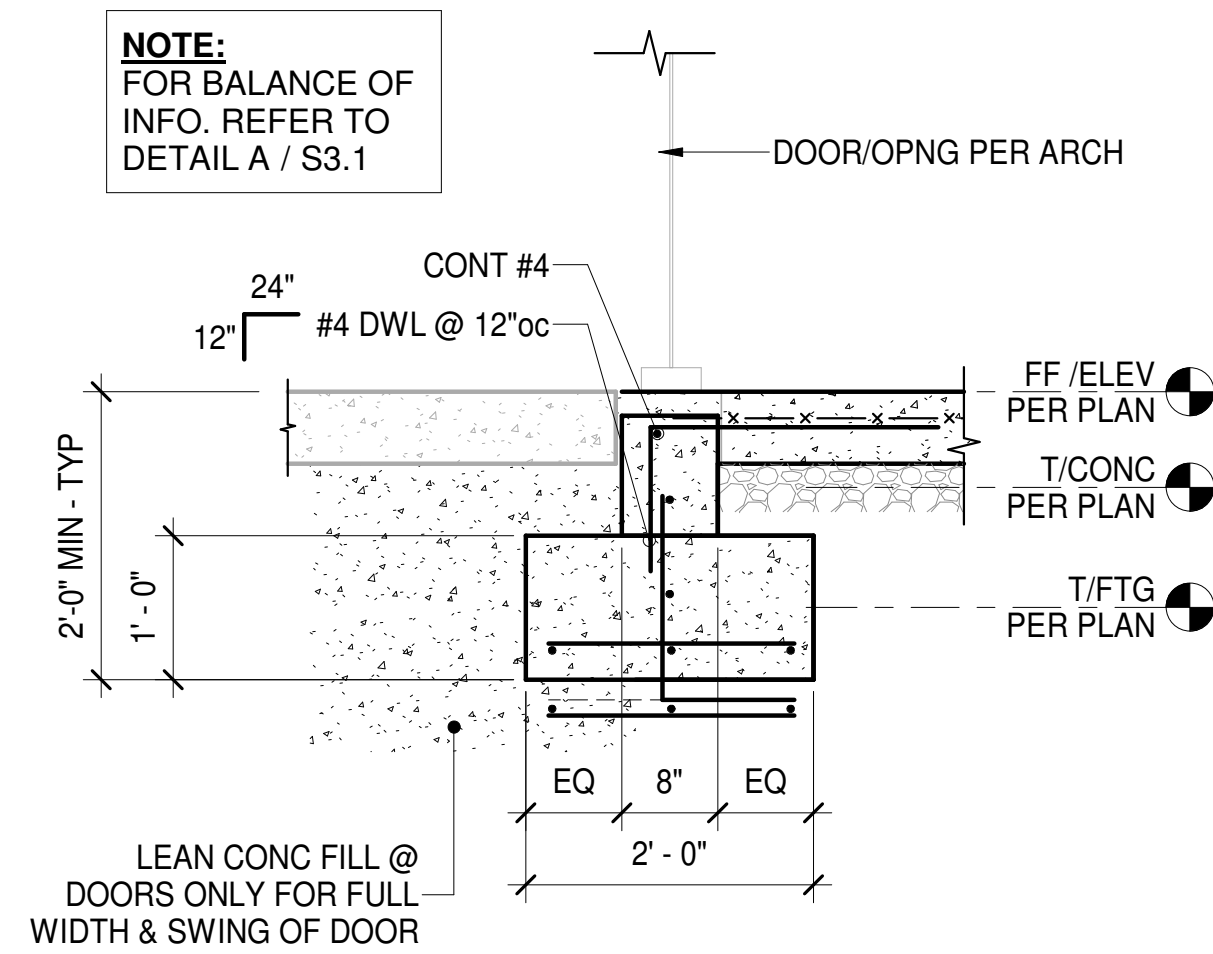
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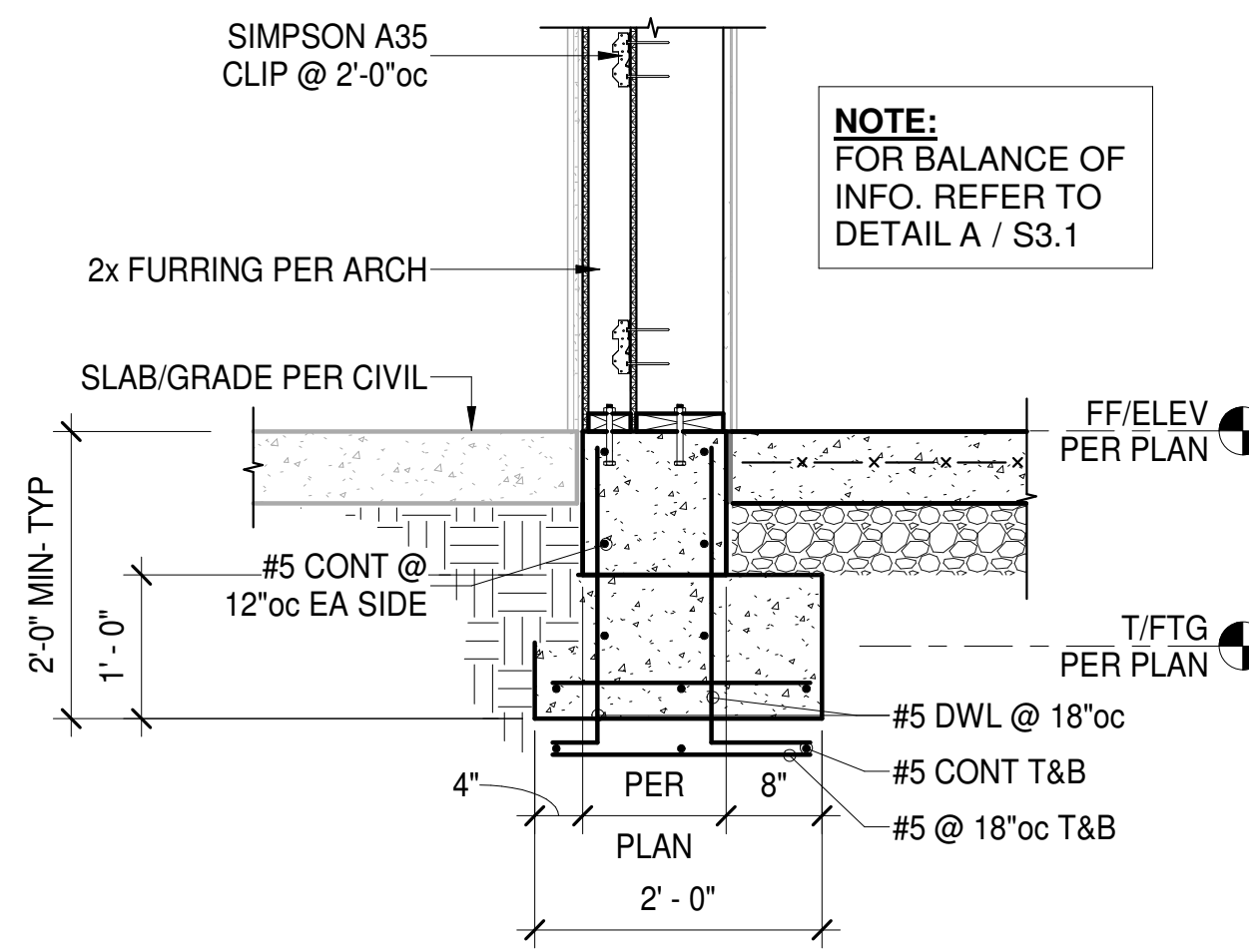
SHEET TITLE:  
**ROOF FRAMING PLAN**  
SHEET NUMBER:  
**S2.3**



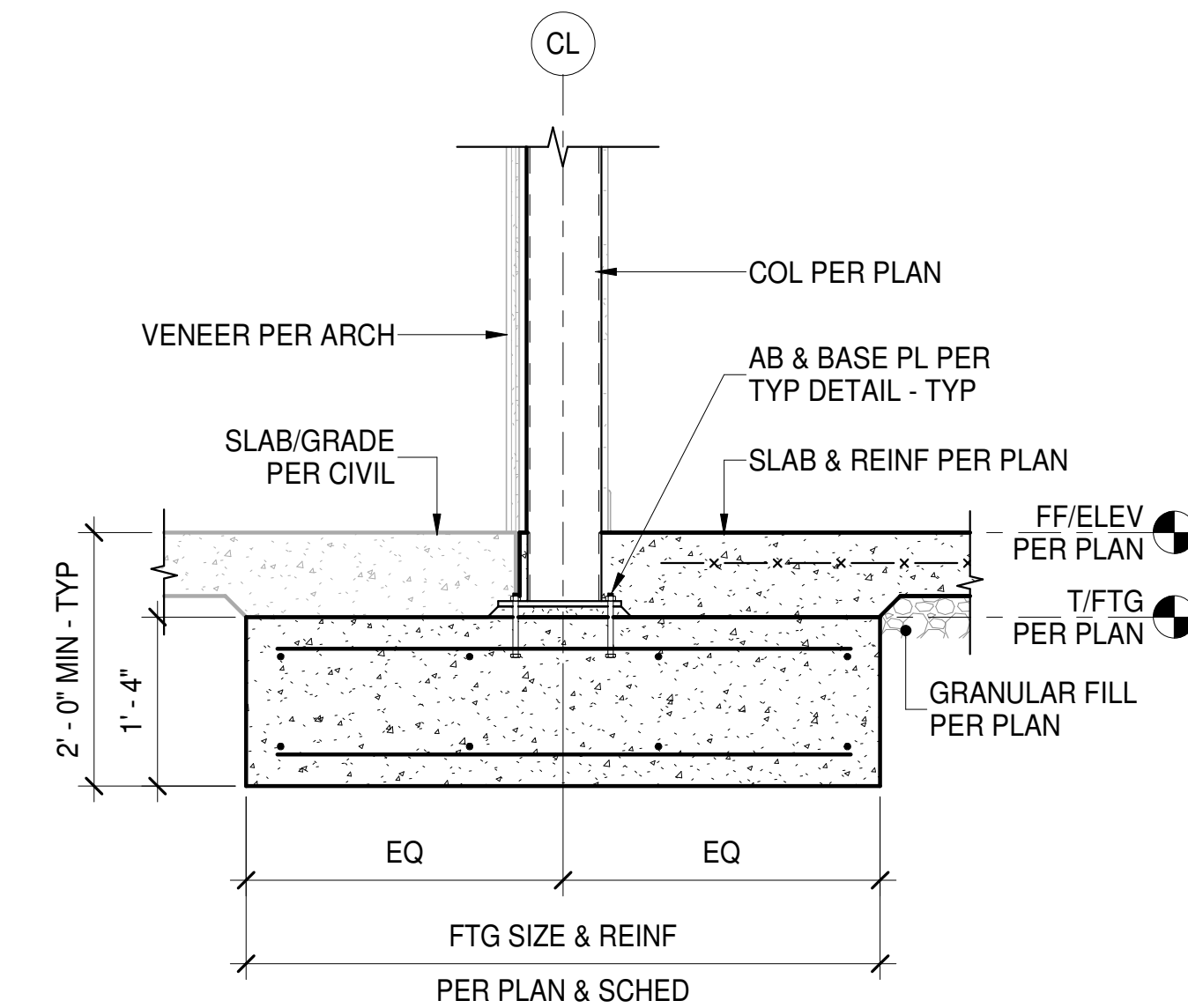
**A FOUNDATION SECTION**  
S3.1 3/4" = 1'-0"



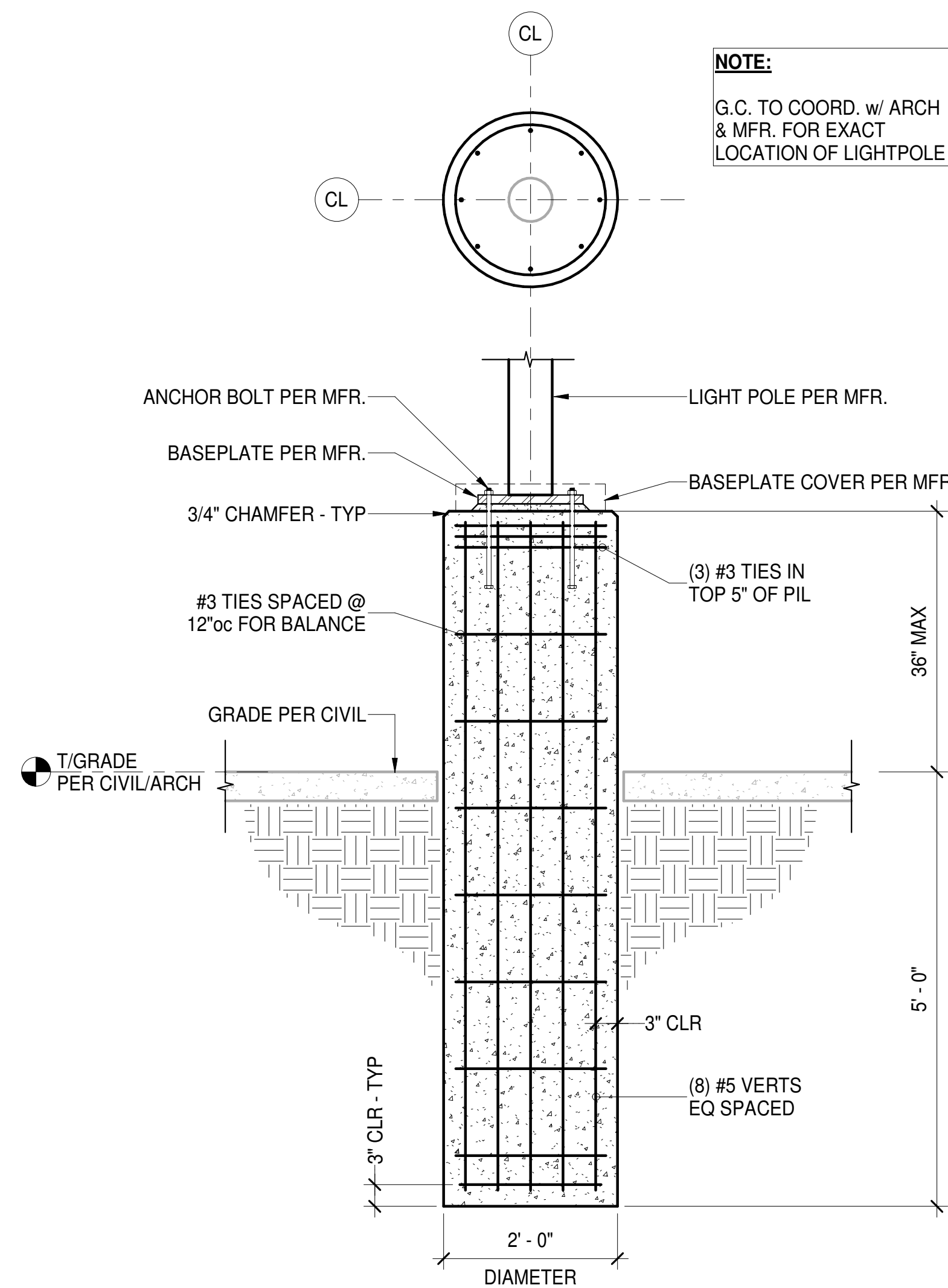
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S3.1 3/4" = 1'-0"



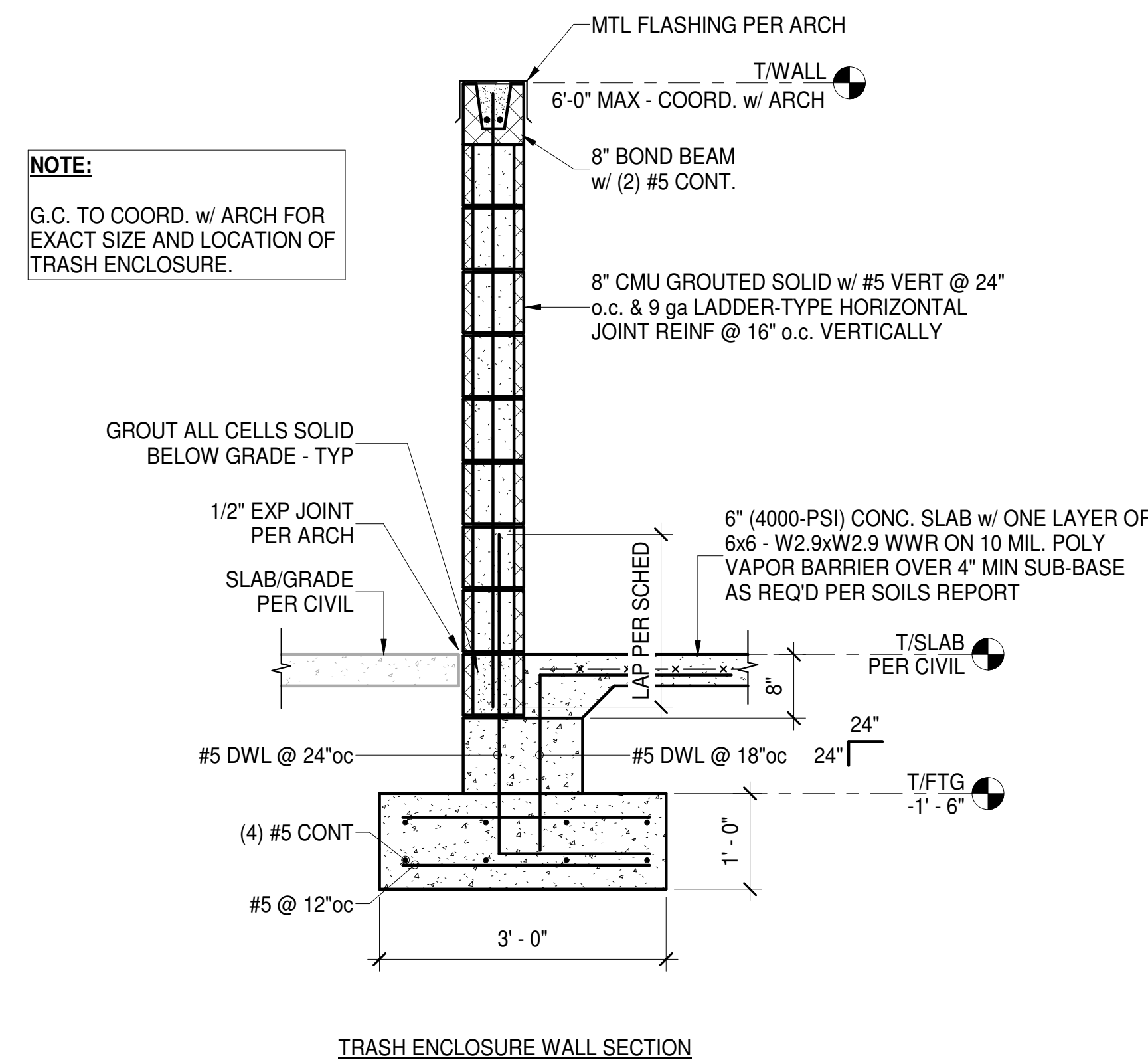
**C FOUNDATION SECTION**  
S3.1 3/4" = 1'-0"



**D FOUNDATION SECTION**  
S3.1 3/4" = 1'-0"



**E FOUNDATION SECTION**  
S3.1 3/4" = 1'-0"



**F FOUNDATION SECTION**  
S3.1 3/4" = 1'-0"

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158 WEST MAIN STREET  
LENA, IL 61048  
815.369.9155  
1764 BLAKE ST  
DENVER, CO 80202  
303.974.5875  
WWW.LINGLEDISIGN.COM

**CASE**  
Engineering Inc.

796 Merus Court St. Louis, MO 63026 T 636.349.1600 F 636.349.1730  
CERTIFICATE OF AUTHORITY NO. F-20080

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LDG-TX-04-23  
DRAWN BY: MLW CHECKED BY: RR

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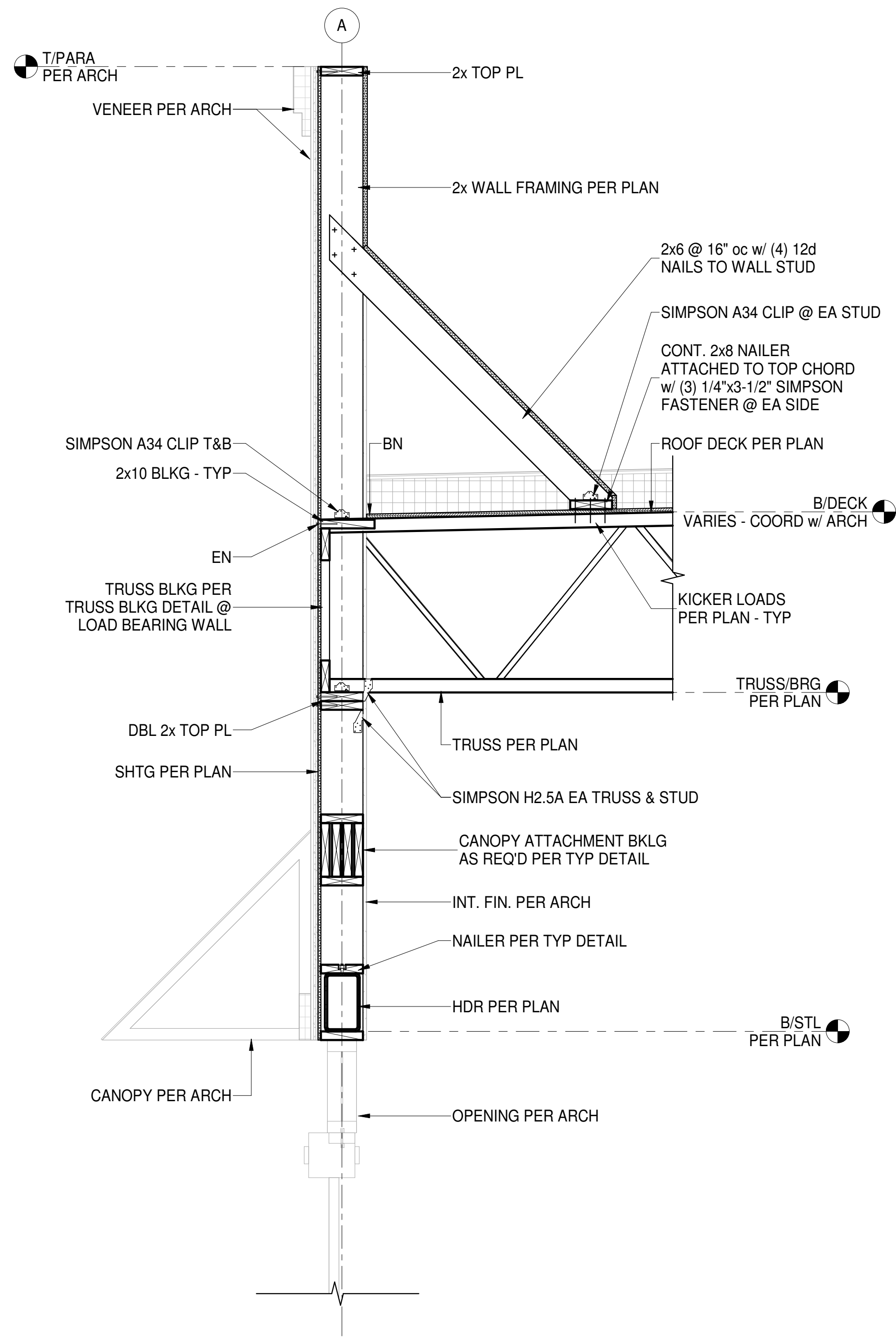
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**SHERWIN WILLIAMS**

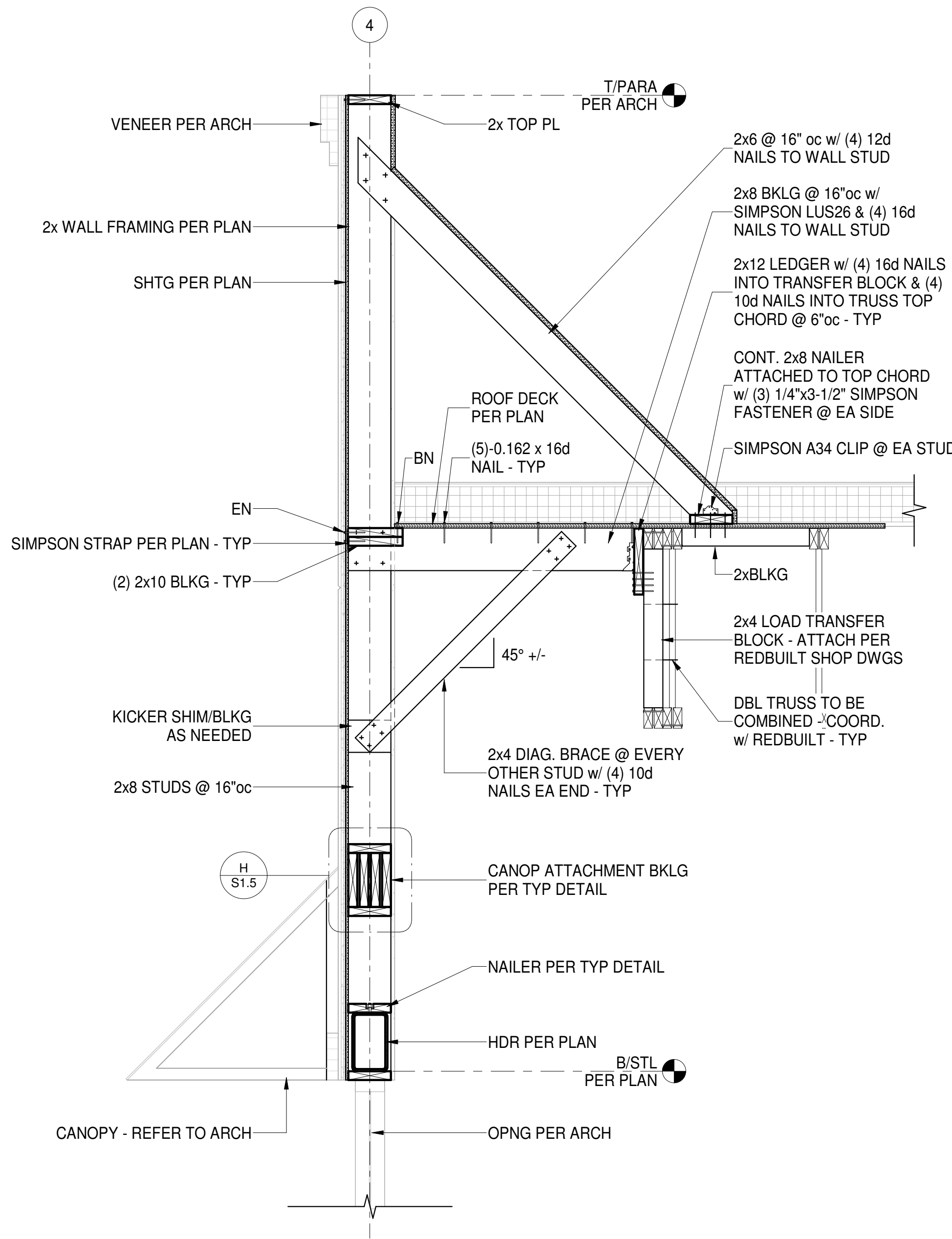
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ADDRESS:  
12360 W. SH 29, LIBERTY HILL, TX, 78642

SHEET TITLE:  
**FOUNDATION SECTIONS**

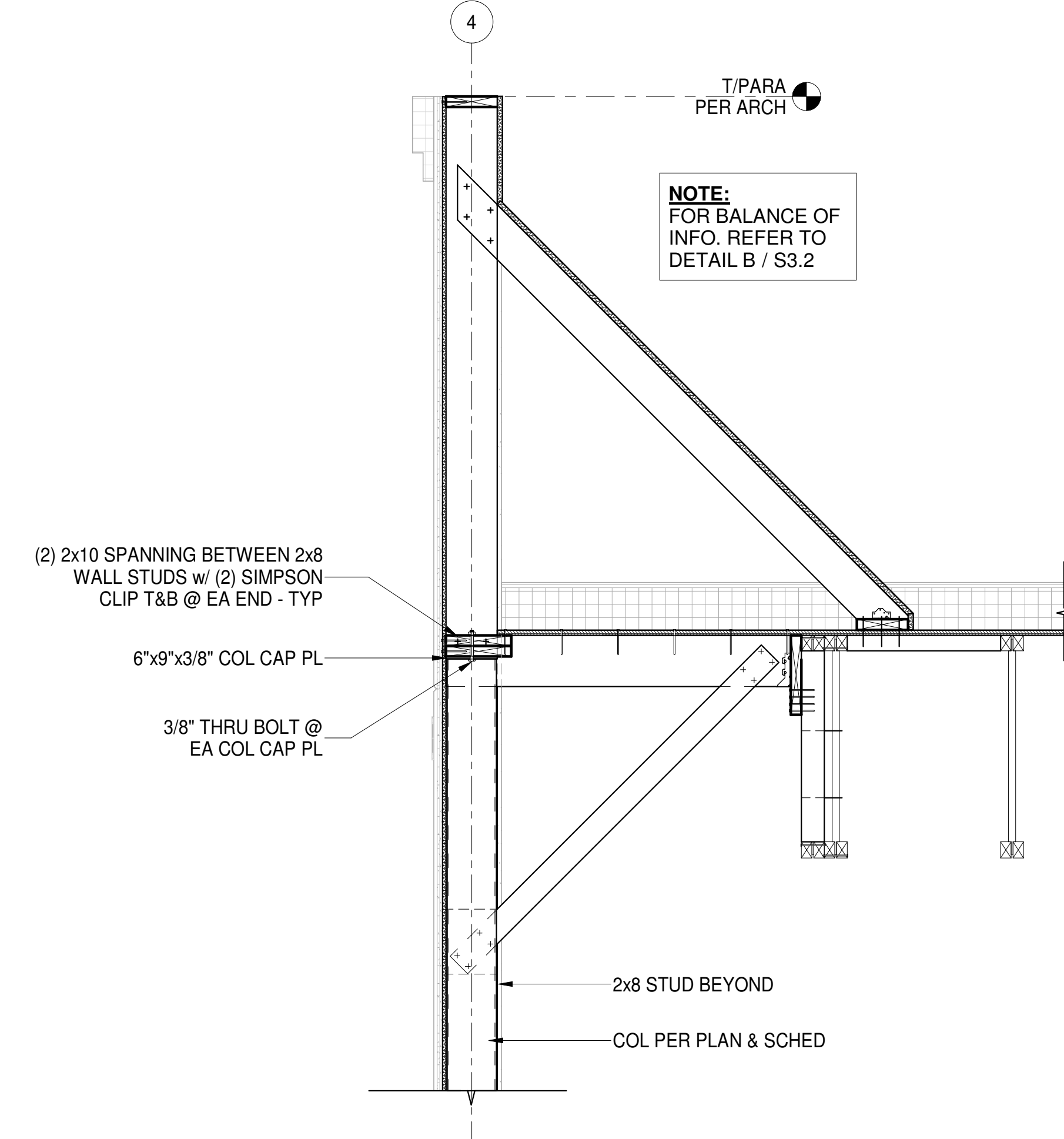
SHEET NUMBER:  
**S3.1**



**A FRAMING SECTION**  
S3.2 3/4" = 1'-0"



**B FRAMING SECTION**  
S3.2 3/4" = 1'-0"



**C FRAMING SECTION**  
S3.2 3/4" = 1'-0"

**NOTE:**  
FOR BALANCE OF  
INFO. REFER TO  
DETAIL B / S3.2

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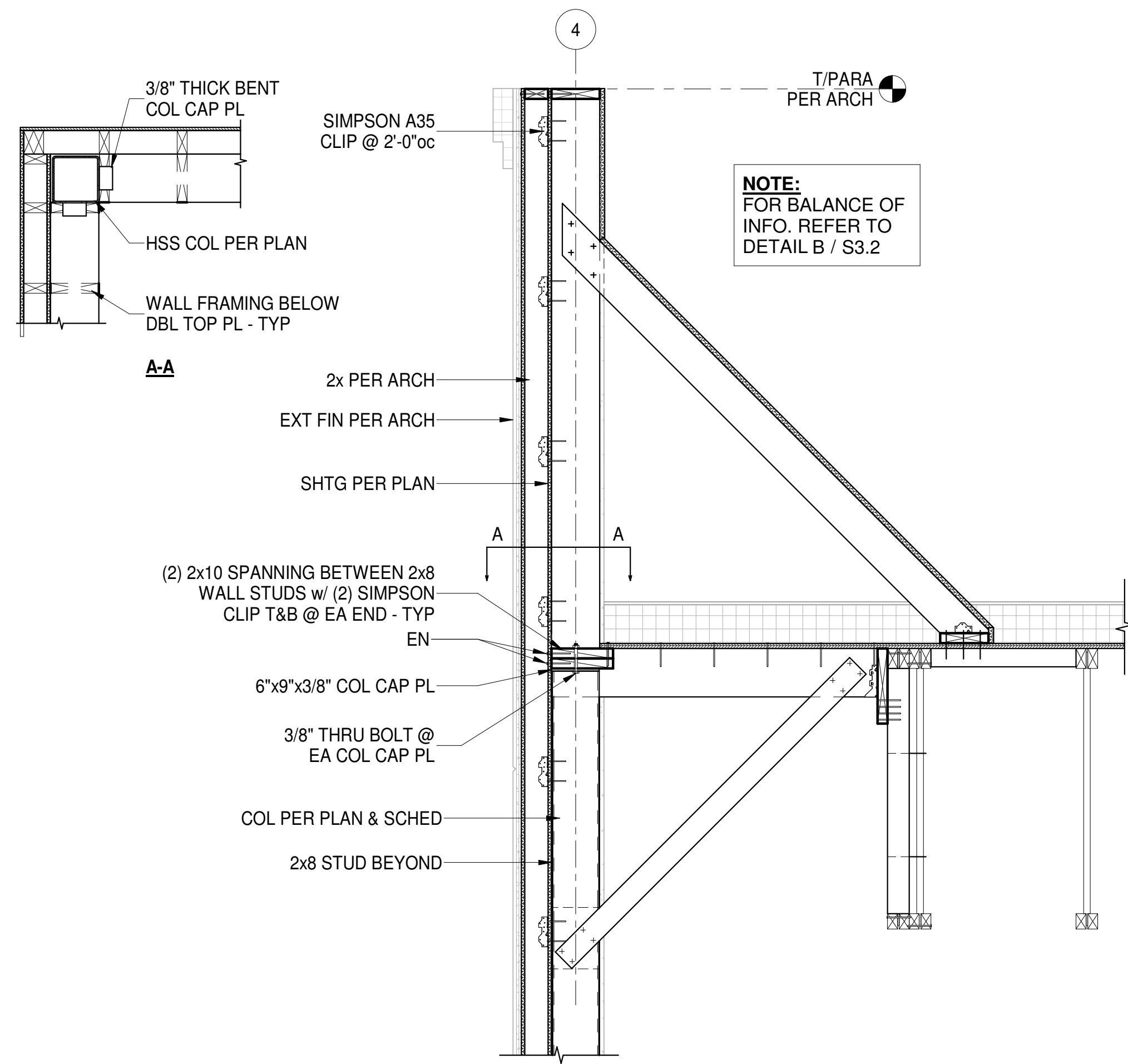
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**SHERWIN WILLIAMS**

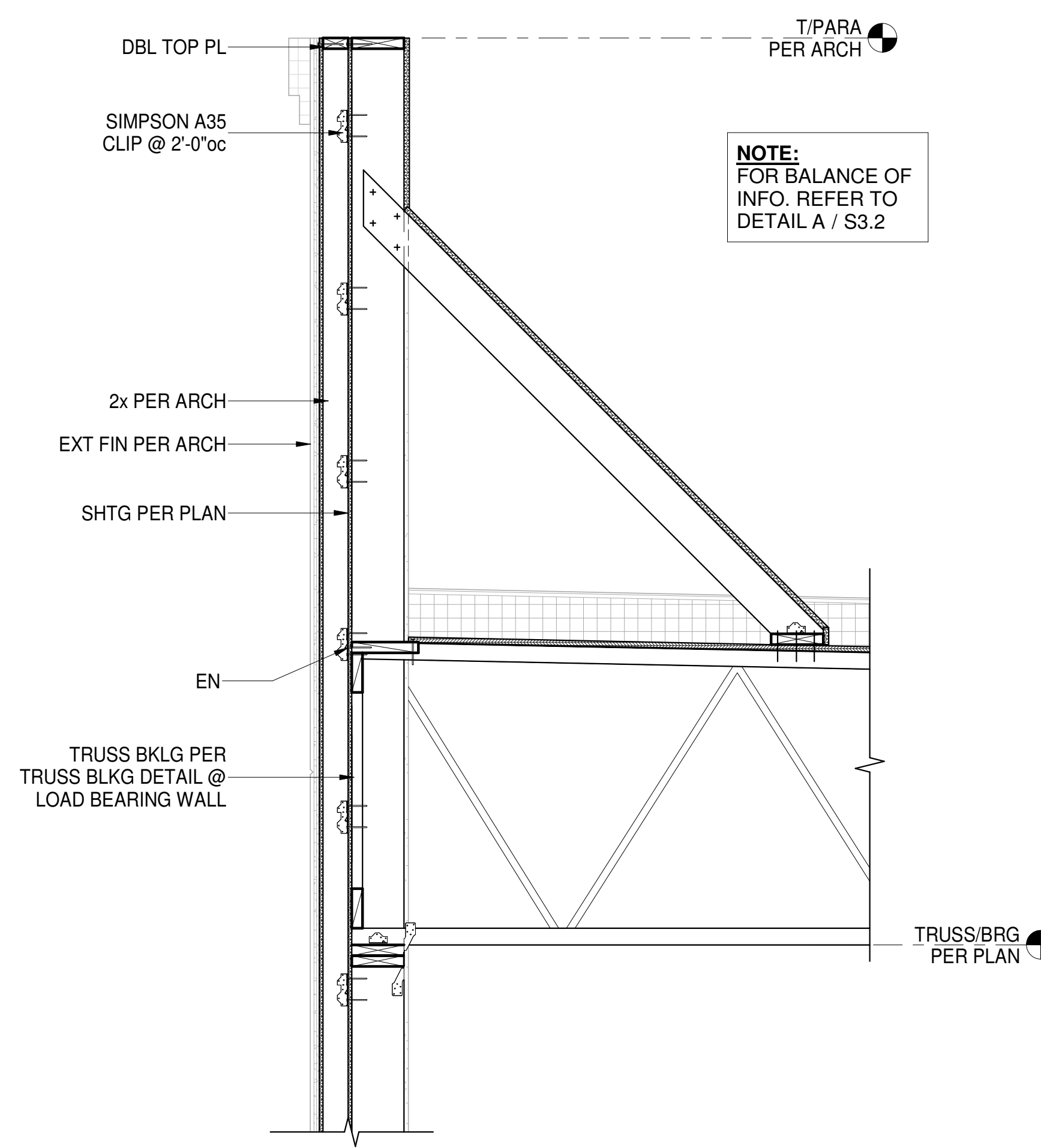
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ADDRESS:  
12360 W. SH 29, LIBERTY  
HILL, TX, 78642

SHEET TITLE:  
**FRAMING SECTIONS**

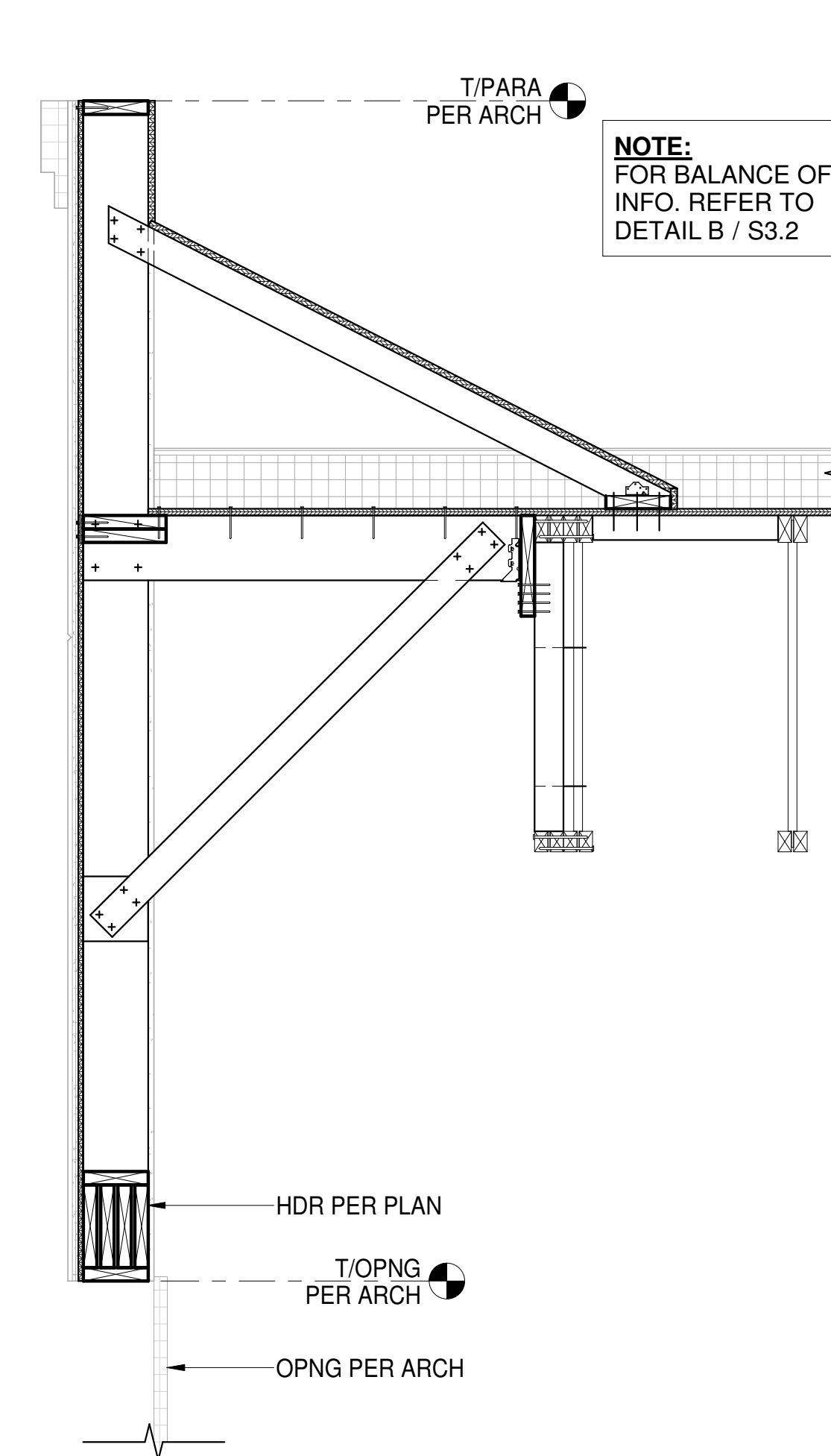
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**S3.2**



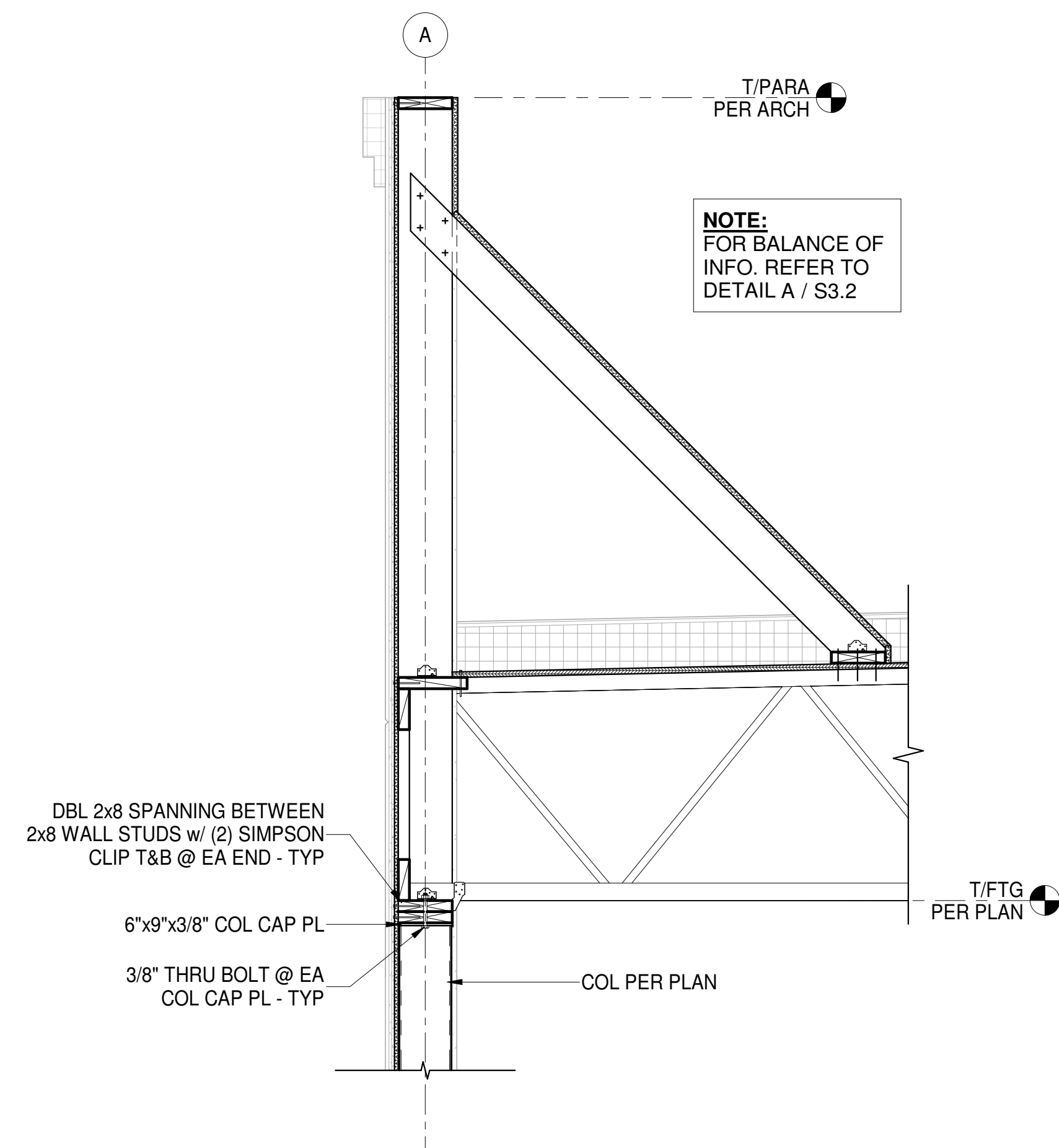
**A FRAMING SECTION**  
S3.3 3/4" = 1'-0"



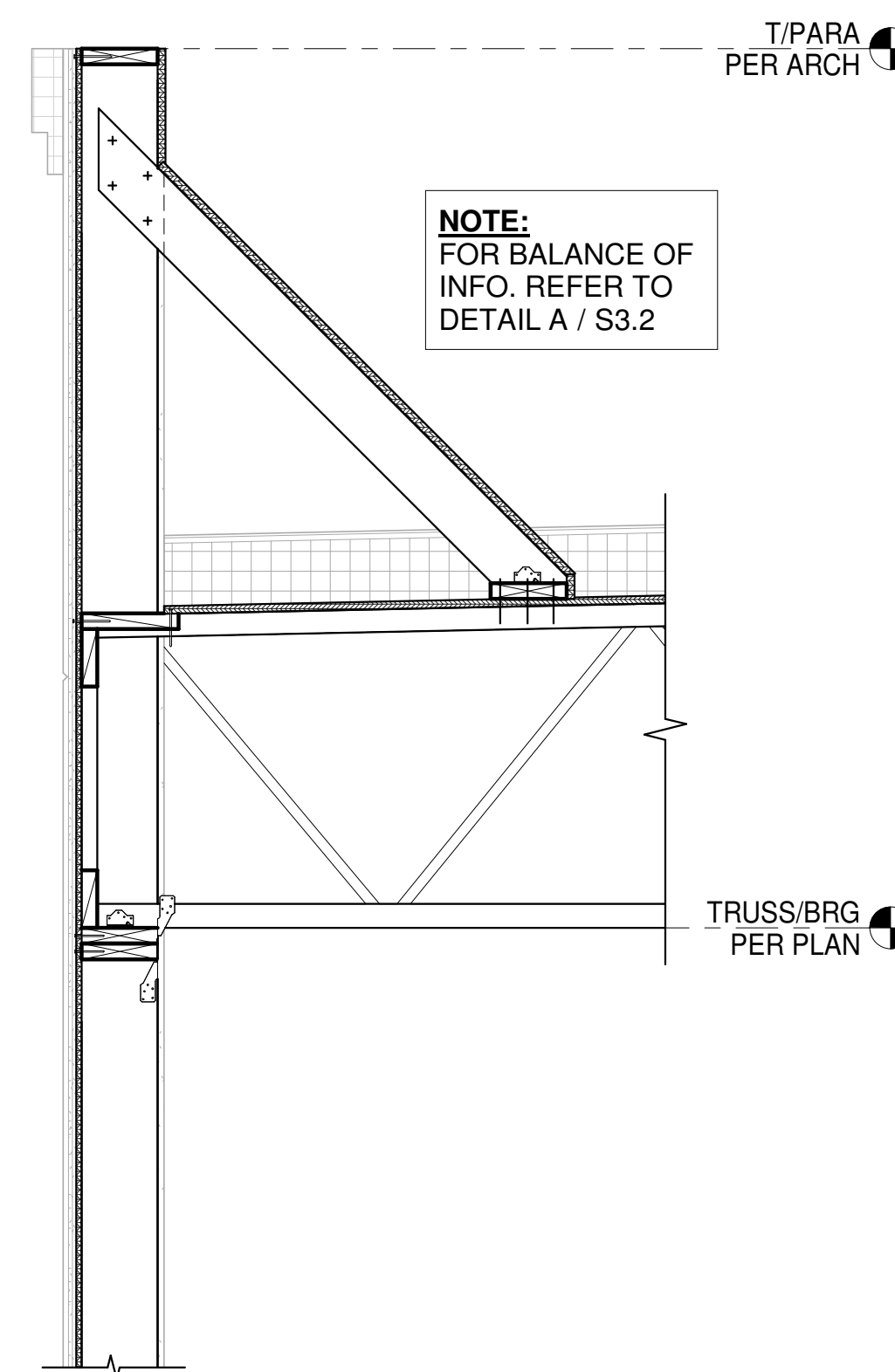
**B FRAMING SECTION**  
S3.3 3/4" = 1'-0"



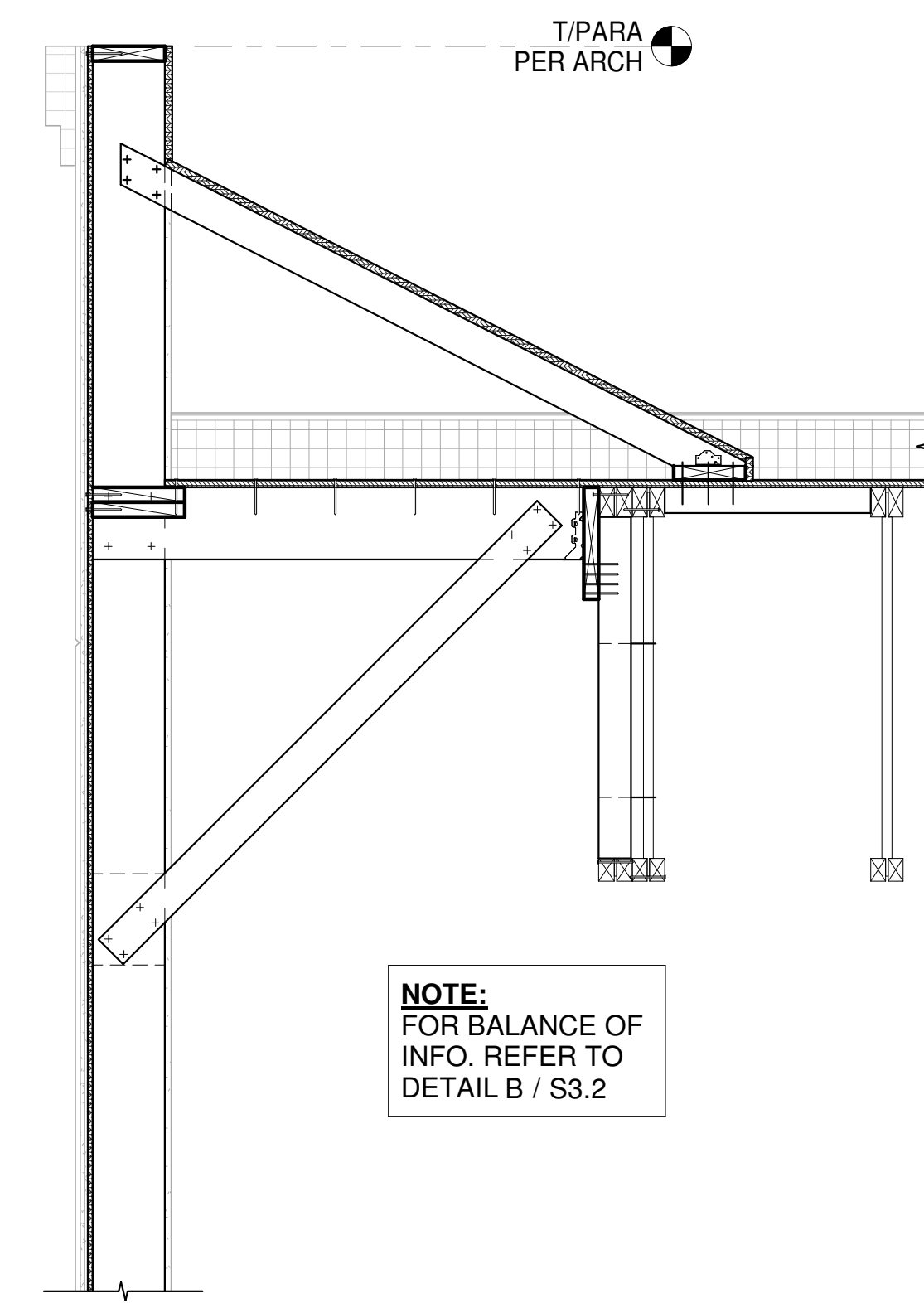
**C FRAMING SECTION**  
S3.3 3/4" = 1'-0"



**D FRAMING SECTION**  
S3.3 3/4" = 1'-0"



**E FRAMING SECTION**  
S3.3 3/4" = 1'-0"



**F FRAMING SECTION**  
S3.3 3/4" = 1'-0"

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**CASE**  
Engineering Inc.  
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T 636.349.1600  
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CERTIFICATE OF AUTHORITY NO. F-20080

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CHECKED BY: Checker

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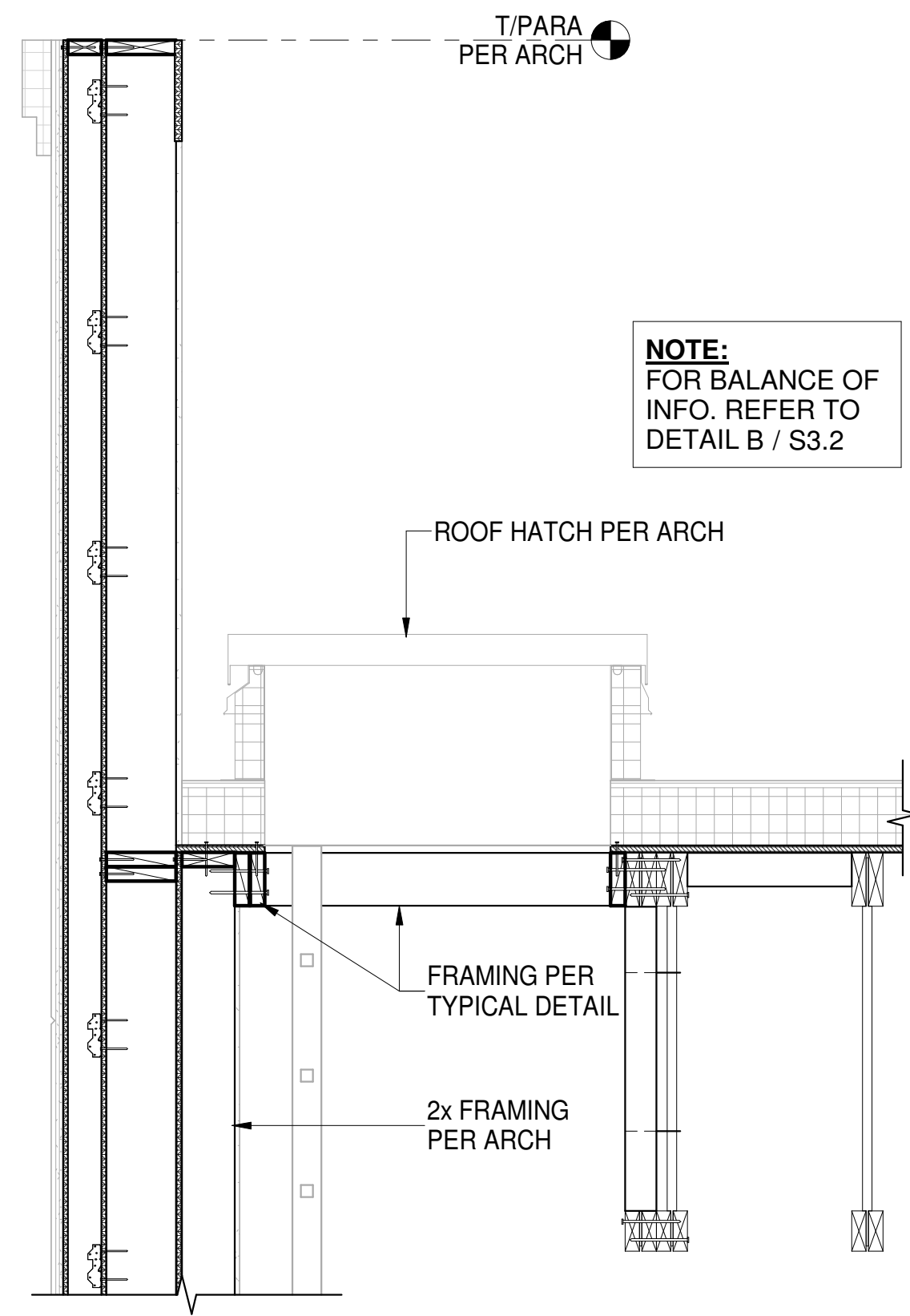
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HILL, TX, 78642

SHEET TITLE:  
**FRAMING SECTIONS**

SHEET NUMBER:  
**S3.3**



**A** **FRAMING SECTION**  
 S3.4 3/4" = 1'-0"

**NOTE:**  
 FOR BALANCE OF  
 INFO. REFER TO  
 DETAIL B / S3.2

ROOF HATCH PER ARCH

FRAMING PER  
 TYPICAL DETAIL

2x FRAMING  
 PER ARCH

T/PARA  
 PER ARCH

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 DRAWN BY: Author CHECKED BY: Checker

CHECK SET - 10/XX/23

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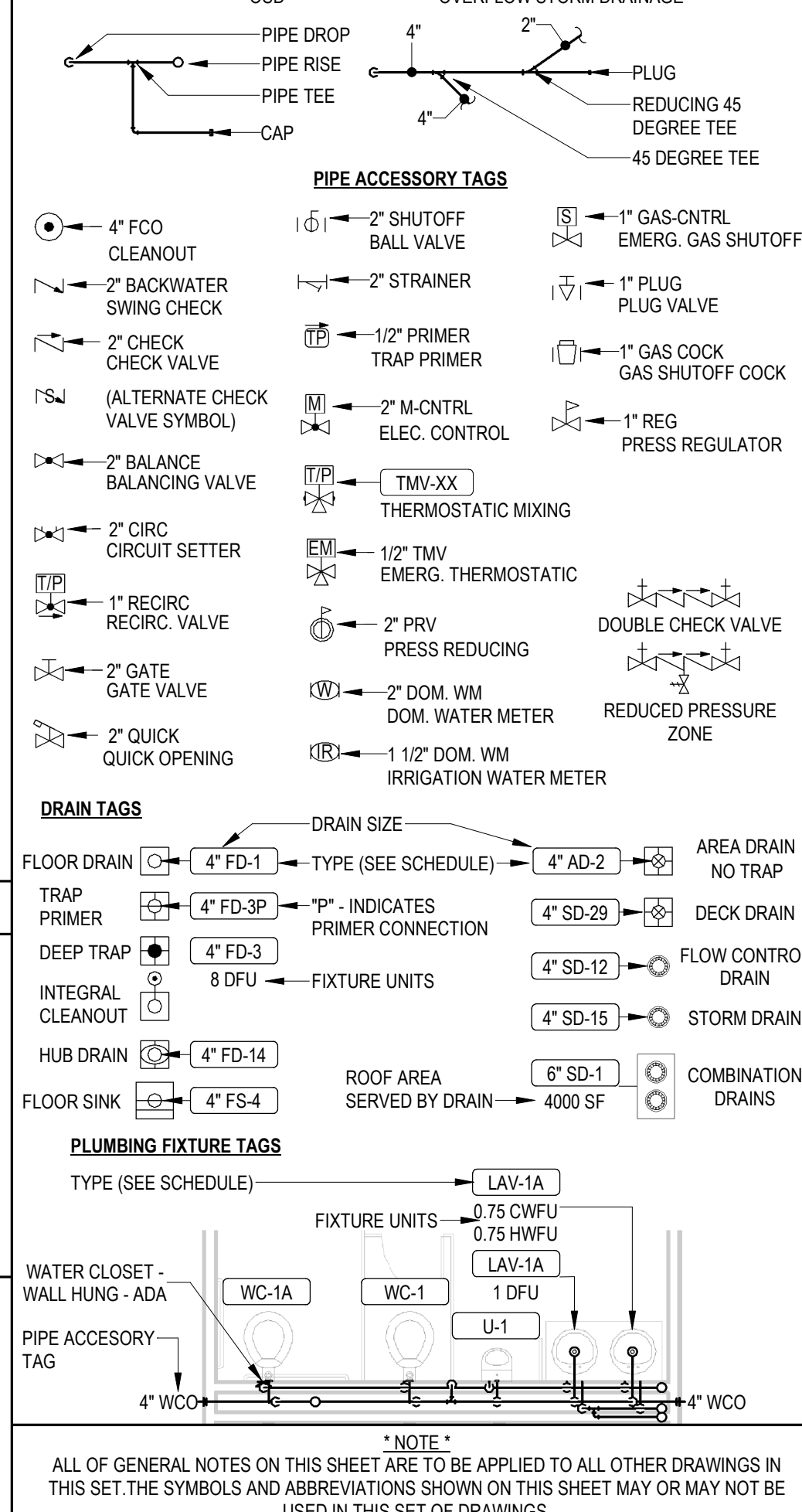
STORE #:  
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 ADDRESS:  
 12360 W. SH 29, LIBERTY  
 HILL, TX, 78642

SHEET TITLE:  
**FRAMING  
 SECTIONS**

SHEET NUMBER:  
**S3.4**

GENERAL MECHANICAL SYMBOLS		PLUMBING AND PIPING SYMBOLS	
	REVISION NUMBER - SHOWN ON PLANS		CHWR CHILLED WATER RETURN
	POINT WHERE NEW CONNECTS TO EXISTING		CHWS CHILLED WATER SUPPLY
	NUMBER OF DETAIL ON SHEET		CD CONDENSATE DRAINAGE
	NUMBER OF SHEET WHERE DETAIL APPEARS		CWR CONDENSER WATER RETURN
	KEYNOTE		CWS CONDENSER WATER SUPPLY
	CONTINUATION SYMBOL		GWR GEOTHERMAL WATER RETURN
	ROOM NAME AND NUMBER		GWS GEOTHERMAL WATER SUPPLY
	ITEM TO BE DEMOLISHED		HWR HEATING WATER RETURN
	AREA NOT IN CONTRACT		HWS HEATING WATER SUPPLY
	PIPE SIZE TAG (DIAMETER)		G NATURAL GAS
	ABOVE GROUND PIPING		PG PROPANE GAS
	PIPE SLOPE TAG		REF-L REFRIGERANT-LIQUID
	BELOW GROUND PIPING		REF-S REFRIGERANT-SUCTION
	PIPE INVERT ELEVATION TAG		REF-HG REFRIGERANT-HOT GAS
	EXISTING PIPE TAG		STM STEAM
	PIPING BEING DEMOLISHED		CDR CONDENSATE RETURN
<b>ABBREVIATIONS</b>			CWV COMBINATION WASTE & VENT
Ø	ROUND		CA COMPRESSED AIR
ABV	ABOVE		CW DOMESTIC COLD WATER
AC	AIR CONDITIONING		H-CW HARD COLD WATER
AD	AREA DRAIN		S-CW SOFT COLD WATER
ADD	ADDENDUM		F-CW FILTERED COLD WATER
AFF	ABOVE FINISHED FLOOR		RO REVERSE OSMOSIS WATER
AFUE	ANNUAL FUEL UTILIZATION EFFICIENCY		HW HOT WATER
ALT	ALTERNATE		HW 140° HOT WATER 140°
AP	ACCESS PANEL		HW-R HOT WATER RECIRCULATION
ARCH	ARCHITECT/ARCHITECTURAL		HW-R 140° HOT WATER RECIRCULATION 140°
BFF	BELOW FINISHED FLOOR		GV GREASE VENT
BLW	BELOW		GW GREASE WASTE
BTU	BRITISH THERMAL UNITS		IW INDIRECT WASTE
BTUH	BRITISH THERMAL UNITS PER HOUR		OV OIL VENT
CAP	CAPACITY		OW OIL WASTE
CB	CATCH BASIN		PD PUMP DISCHARGE
CFM	CUBIC FEET PER MINUTE		SV SANITARY VENT
CLG	CEILING		SS SANITARY SEWER
CO	CLEAN OUT		SHWR SOLAR HOT WATER RETURN
CW	COLD WATER		SHWS SOLAR HOT WATER SUPPLY
D	DEGREE		SD STORM DRAINAGE
DB	DRY BULB		OSD OVERFLOW STORM DRAINAGE
DIA	DIAMETER		PIPE DROP
DN	DOWN		PIPE RISE
DW	DISTILLED WATER		PIPE TEE
EA	EACH		CAP
EAT	ENTERING AIR TEMPERATURE		PLUG
ELEC	ELECTRICAL		REDUCING 45 DEGREE TEE
EQUIP	EQUIPMENT		45 DEGREE TEE
EWIC	ELECTRIC WATER COOLER		4" FCO CLEANOUT
EWT	ENTERING WATER TEMPERATURE		2" BACKWATER SWING CHECK
E/A	EXHAUST AIR		2" CHECK CHECK VALVE
EXIST	EXISTING		1/2" PRIMER TRAP PRIMER
F	DEGREES FAHRENHEIT		1" GAS COCK GAS SHUTOFF COCK
FOO	FLOOR CLEAN OUT		1" GAS-CNTRL EMERG. GAS SHUTOFF
FD	FLOOR DRAIN		2" STRAINER
FDC	FIRE DEPARTMENT CONNECTION		2" CHECK CHECK VALVE
FL	FLOOR		1/2" PRIMER TRAP PRIMER
FO	FUEL OIL		2" M-CNTRL ELEC. CONTROL
FOV	FUEL OIL VENT		2" BALANCE BALANCING VALVE
FOR	FUEL OIL RETURN		2" CIRC. CIRCUIT SETTER
FOS	FUEL OIL SUPPLY		1" RECIRC. RECIRC. VALVE
FFM	FEET PER MINUTE		2" PRV PRESS REDUCING
FS	FLOOR SINK		2" GATE GATE VALVE
FT	FOOT/FEET		2" QUICK QUICK OPENING
FTR	FIN TUBE RADIATION		1" GAS-CNTRL EMERG. GAS SHUTOFF
GAL	GALLON		1" PLUG PLUG VALVE
GF	GAS-FIRED		1" GAS COCK GAS SHUTOFF COCK
GC	GENERAL CONTRACTOR		1" REG. PRESS REGULATOR
GPM	GALLONS PER MINUTE		2" TMV-XX THERMOSTATIC MIXING
GW	GREASE WASTE		1/2" TMV EMERG. THERMOSTATIC
HB	HOSE BIB		2" PRV PRESS REDUCING
HP	HORSE POWER		2" GATE GATE VALVE
HTG	HEATING		2" QUICK QUICK OPENING
HTR	HEATER		1 1/2" DOM. WM IRRIGATION WATER METER
HW	HOT WATER		2" GATE GATE VALVE
HYD	HYDRANT		2" QUICK QUICK OPENING
ID	INDIRECT		1 1/2" DOM. WM IRRIGATION WATER METER
IN	INCH		2" GATE GATE VALVE
INV	INVERT		2" QUICK QUICK OPENING
LB	POUND		1 1/2" DOM. WM IRRIGATION WATER METER
LB/HR	POUNDS PER HOUR		2" GATE GATE VALVE
LAT	LEAVING AIR TEMPERATURE		2" QUICK QUICK OPENING
LP	LOW PRESSURE		1 1/2" DOM. WM IRRIGATION WATER METER
LPG	LIQUEFIED PETROLEUM GAS		2" GATE GATE VALVE
<b>EQUIPMENT ABBREVIATIONS</b>			2" GATE GATE VALVE
AC	AIR CONDITIONING UNIT		2" QUICK QUICK OPENING
ACCU	AIR COOLING CONDENSING UNIT		1 1/2" DOM. WM IRRIGATION WATER METER
AHU	AIR HANDLING UNIT		2" GATE GATE VALVE
AS	AIR SEPARATOR		2" QUICK QUICK OPENING
B	BOILER		1 1/2" DOM. WM IRRIGATION WATER METER
CH	CHILLER		2" GATE GATE VALVE
CT	COOLING TOWER		2" QUICK QUICK OPENING
CUH	CABINET UNIT HEATER		1 1/2" DOM. WM IRRIGATION WATER METER
CHWP	CHILLED WATER PUMP		2" GATE GATE VALVE
DBP	DOMESTIC WATER BOOSTER PUMP		2" QUICK QUICK OPENING
DC	DUCT MOUNTED COIL		1 1/2" DOM. WM IRRIGATION WATER METER
DCP	DOMESTIC WATER CIRCULATING PUMP		2" GATE GATE VALVE
EF	EXHAUST FAN		2" QUICK QUICK OPENING
EDC	ELECTRIC DUCT COIL		1 1/2" DOM. WM IRRIGATION WATER METER
ET	EXPANSION TANK		2" GATE GATE VALVE
EWH	ELECTRIC WATER HEATER		2" QUICK QUICK OPENING
FCU	FAN COIL UNIT		1 1/2" DOM. WM IRRIGATION WATER METER
FP	FIRE PUMP		2" GATE GATE VALVE
GI	GREASE INTERCEPTOR		2" QUICK QUICK OPENING
GRV	GRAVITY ROOF VENTILATOR		1 1/2" DOM. WM IRRIGATION WATER METER
HWP	HEATING WATER PUMP		2" GATE GATE VALVE
HRU	HEAT RECOVERY UNIT		2" QUICK QUICK OPENING
PRV	POWER ROOF VENTILATOR		1 1/2" DOM. WM IRRIGATION WATER METER
RE	RETURN/EXHAUST FAN		2" GATE GATE VALVE
RTU	ROOFTOP UNIT		2" QUICK QUICK OPENING
SP	SUMP PUMP		1 1/2" DOM. WM IRRIGATION WATER METER
UH	UNIT HEATER		2" GATE GATE VALVE
WH	WATER HEATER		2" QUICK QUICK OPENING

PLUMBING SHEET INDEX	
P000	PLUMBING TITLE SHEET
P001	PLUMBING PLAN - WASTE & VENT
P002	PLUMBING FLOOR PLAN - SUPPLY
P003	PLUMBING DETAILS
P004	PLUMBING SPECIFICATIONS
P005	PLUMBING RISERS PLAN



\*NOTE\*

ALL OF GENERAL NOTES ON THIS SHEET ARE TO BE APPLIED TO ALL OTHER DRAWINGS IN THIS SET. THE SYMBOLS AND ABBREVIATIONS SHOWN ON THIS SHEET MAY OR MAY NOT BE USED IN THIS SET OF DRAWINGS.

LINGLE DESIGN GROUP, INC.

LINGLEDESIGNGROUP, INC.  
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11/06/2023

PROJECT #:  
Project Number:  
DRAWN BY: DM CHECKED BY: NH

CHECK SET - 10/XX/23

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**SHERWIN WILLIAMS**

STORE #:  
XXXX

ADDRESS:  
12360 W. SH 29, LIBERTY  
HILL, TX, 78642

SHEET TITLE:  
**PLUMBING TITLE SHEET**

SHEET NUMBER:  
**P000**



# SHEET NOTES:

- 1" DOMESTIC CW PIPE FROM OUTSIDE OF BUILDING. SEE CIVIL FOR CONTINUATION.
- FURNISH AND INSTALL 1" BACKFLOW PREVENTER AND STRAINER FOR DOMESTIC WATER SERVICE. ROUTE RELIEF PIPING TO DISCHARGE INDIRECTLY IN TO SERVICE SINK DRAIN. SEE DOMESTIC WATER ENTRY DETAIL FOR MORE INFORMATION. ROUTE DOMESTIC WATER ENTRY ASSEMBLY EITHER ABOVE OR BELOW FIRE SPRINKLER RISER. CONTRACTOR TO COORDINATE IN FIELD.
- MOUNT WATER HEATER ABOVE UTILITY SINK ON PLATFORM.
- PROVIDE AND INSTALL ANTI-SCALD MIXING VALVE AT LAVATORY AND UTILITY SINK TO TEMPER HOT WATER FOR PUBLIC USE. SET VALVE TO DISCHARGE A MAXIMUM OF 110°F.
- COLD WATER CONNECTION TO COFFEE MAKER. PROVIDE SHUTOFF VALVE AND BACKFLOW PREVENTER IN WALL IN A RECESSED VALVE BOX PRIOR TO CONNECTION TO EQUIPMENT.
- ROUTE CW PIPING CONCEALED IN WALL ON WARM SIDE OF INSULATION. PIPING SHALL NOT BE EXPOSED IN SALES FLOOR.
- ROUTE CW/HW PIPING DOWN TO EYEWASH MIXING VALVE. REFER TO DETAIL 6 ON P004.
- ROUTE TEMPERATURE AND PRESSURE RELIEF VALVE DOWN AND INDIRECTLY DRAIN TO UTILITY SINK BELOW.
- 4" SANITARY WASTE LINE OUT OF BUILDING. SEE CIVIL FOR CONTINUATION. PC TO VERIFY EXACT SIZE, LOCATION AND INVERT ELEVATION PRIOR TO WORK. CONTACT ENGINEER IF ANY DISCREPANCIES ARE DISCOVERED.
- ALL VENT PIPING FROM ALL FIXTURES ARE 2" DIAMETER UNLESS SPECIFIED OTHERWISE.
- ROUTE 3" SANITARY VENT UP THROUGH ROOF. MAINTAIN A MINIMUM CLEARANCE OF 10' FROM NEAREST AIR INTAKE. VERIFY EXACT LOCATION IN FIELD.
- INSTALL 2" FLOOR DRAIN IN BATHROOM FLOOR AS SHOWN.
- ROUTE 6" PRIMARY STORM DOWN EXTERIOR WALL TO BELOW GRADE. PROVIDE WITH CLEANOUT PRIOR TO FLOOR PENETRATION. ROUTE BELOW GRADE STORM PIPING AT 2% TO SITE STORM SEWER CONNECTION. VERIFY ROUTING IN FIELD WITH EXISTING FIELD CONDITIONS AND LOCAL UTILITY REQUIREMENTS.
- ROUTE 6" OVERFLOW STORM DOWN EXTERIOR WALL TO DISCHARGE 12" ABOVE GRADE VIA A SCUPPER.

GENERAL NOTES:

- PLUMBING DRAWINGS ARE DIAGRAMMATIC AND DO NOT NECESSARILY INDICATE EVERY REQUIRED OFFSET, FITTING, ETC. DRAWINGS ARE NOT TO BE SCALED FOR DIMENSIONS. TAKE ALL DIMENSIONS FROM ARCHITECTURAL DRAWINGS, CERTIFIED EQUIPMENT DRAWINGS AND FROM THE STRUCTURE ITSELF BEFORE FABRICATING ANY WORK. VERIFY ALL SPACE REQUIREMENTS COORDINATING WITH OTHER TRADES, AND INSTALL THE SYSTEMS IN THE SPACE PROVIDED WITHOUT EXTRA CHARGES TO THE OWNER.
- CONTRACTOR SHALL COORDINATE WORK INDICATED WITH MECHANICAL, ELECTRICAL, FIRE PROTECTION, STRUCTURAL, CIVIL, AND ARCHITECTURAL DIVISIONS. CONTRACTOR SHALL VERIFY SIZE & LOCATION OF EXISTING UTILITIES PRIOR TO COMMENCING WORK. COORDINATE WITH OTHER TRADES AND MAKE FINAL CONNECTION. SUBMIT 1/4" SCALE SHOP DRAWINGS FOR PLUMBING SYSTEMS, DIMENSIONED TO INCORPORATE THE WORK OF OTHER TRADES. INDICATE SPACES RESERVED FOR FIRE SPRINKLER, PLUMBING PRIOR TO FABRICATION. COORDINATE ALL CHASE, SLEEVE, AND SLAB BLOCKOUTS BEFORE CONCRETE IS POURED OR BLOCK SET.
- PROVIDE ACCESSIBLE SHUT-OFF VALVES ON ALL NEW FIXTURE HW & CW BRANCHES.
- ALL WATER SUPPLY LINES LESS THAN 1" IN DIAMETER SHALL BE COPPER OR COPPER ALLOY. USE ONLY CAST AND WROUGHT COPPER AND COPPER ALLOY PRESS-CONNECT PRESSURE FITTINGS: ASME B16.51, DO NOT USE SOLDER OR BRAZED CONNECTIONS. PRESS-CONNECT JOINTS: PRESS-CONNECT JOINTS SHALL BE MADE IN ACCORDANCE WITH THE FITTING MANUFACTURER'S WRITTEN INSTALLATION INSTRUCTIONS USING A PRESS-CONNECT TOOL AND JAWS APPROVED FOR USE FOR THE MANUFACTURER'S SPECIFIC FITTING CONFIGURATION. COPPER ALLOY TUBE SHALL BE MECHANICALLY CLEANED AND REAMED PRIOR TO JOINING TO REMOVE ALL BURRS (INTERIOR AND EXTERIOR) AND RESTORE FULL INSIDE DIAMETER AND A SMOOTH, CHAMFERED EXTERIOR SURFACE. FITTINGS SHALL HAVE EPDM SEALING ELEMENTS.
- PROVIDE TRAP PRIMERS FOR ALL FLOOR AND HUB DRAINS.

FOUNTAIN SCHEDULE					ACCEPTABLE MANUFACTURERS AND MODELS				
MARK	FIXTURE	SAN.	VENT	C.W.	VOLT/PHASE	MANUFACTURER	MODEL#	REMARKS	
EWC-1	ELECTRIC WATER COOLER WALL MOUNT HIGH EFFICIENCY VANDAL RESISTANT BLEVELADA COOLER	2"	2"	1/2"	115V/60Hz	ELKAY	VRCGRNTL8C		

PLUMBING FIXTURE SCHEDULE									
MARK	FIXTURE	SAN.	VENT	C.W.	H.W.	REMARKS			
WC-1	WATER CLOSET - ADA FLOOR SET	4"	2"	1/2"	-	WATER CLOSET, TOTO, ELONGATED BOWL, TWO PIECE, FLUSH VALVE PROVIDED BY BRADLEY, WHITE, TRIP LEVER INSTALLED ON WIDE SIDE OF STALL, ASSEMBLY CODE D2010300			
LAV-1	LAVATORY - ADA	2"	2"	1/2"	1/2"	LAVATORY: AMERICAN STANDARD "COMRADE" O124.024.020 WHITE, WALL HUNG OR EQUAL. FAUCET: BRADLEY CORP 853-315 "NERADA 1200 SERIES CS FAUCET", PLUG IN ADAPTER, CAPACITIVE SENSING ACTIVATION NO SUBSTITUTIONS.			
MV	THERMOSTATIC MIXING VALVE POINT OF USE	-	-	1/2"	1/2"	ACORN ST-70 SET TO 105°			
EEW-1	EMERGENCY EYE WASH	2"	2"	1/2" (MIXED)	-	EYE WASH: BRADLEY S19224DC WALL MOUNTED WITH EMERGENCY MIXING VALVE BRADLEY S19-20000EFX OR EQUAL			
MS-1	UTILITY SINK	3"	2"	1/2"	1/2"	UTILITY SINK: ELKAY B1C24X24X STAINLESS STEEL FAUCET: CHICAGO FAUCET 897 WITH WALL BRACE, PAIL HOOK, AND MALE HOSE THREADED OUTLET			
FD-1	FLOOR DRAIN	2"	2"	-	-	J.R. SMITH 2010Y, CAST IRON FLANGED, ROUND			
WH-1	WATER HEATER	-	-	3/4"	3/4"	AO SMITH MODEL DEL-20-4 ELECTRIC WATER HEATER, 20 GALLON STORAGE CAPACITY WITH 4 KW SINGLE HEATING ELEMENT, HEATING ELEMENT POWERED AT 120 V 1/3 PH. PROVIDE 1/2" DRAIN PAN AND ROUTE 3/4" DRAIN LINE TO SERVICE SINK BELOW.			
RP-1	CIRCULATING PUMP	-	-	3/4"	-	VARIABLE SPEED CONTROLLER PROVIDE WITH ALL ACCESSORIES, VALVES, AND INSTALL PER MANUFACTURER'S GUIDELINES			

WATER HEATER SCHEDULE							
MFR	MODEL	STORAGE	RECOVERY	F. RISE	VOLT/PHASE	HEAT INPUT	REMARKS
A.O. SMITH	DEL-20	20 GAL	12 GPH	100	120V/1PH	3KW	1,2,3

1. SET WATER HEATER TEMPERATURE TO 140°F.  
2. CONSULT MANUFACTURER PRIOR TO PURCHASE FOR EXACT MODEL AND ALL ACCESSORIES FOR A COMPLETE SYSTEM.  
3. CONFIRM VOLTAGE WITH ELECTRICAL CONTRACTOR PRIOR TO PURCHASE AND ROUGH IN.

PLUMBING SYMBOLS LEGEND

CA	COMPRESSED AIR PIPING
G	NATURAL GAS PIPING
CD	CONDENSATE DRAIN PIPING
---	COLD WATER PIPING
---	HOT WATER PIPING (140°F)
---	HOT WATER RETURN PIPING
---	SANITARY DRAIN PIPING
---	UNDERGROUND SANITARY PIPING
---	SANITARY VENT PIPING
VTR	VENT THROUGH ROOF
→	PIPE TURNING DOWN
↻	PIPE TURNING UP
↔	CHECK VALVE
— —	UNION
AFF	ABOVE FINISHED FLOOR
CO	CLEAN OUT
⊗	PRESSURE REGULATING VALVE (PRV)
+	BALL VALVE
GCO	GRADE CLEAN OUT
⊙	POINT OF CONNECTION
⊗	BALANCE VALVE

ZURN Z100 FLOFORCE DATA

6" DRAIN					
1 X 5 OFFSET PIPE OUTLET		2 X 5 OFFSET PIPE OUTLET		4FT VERTICAL PIPE OUTLET	
ROOF PONDING DEPTH (IN.)	FLOW RATE (GPM)	ROOF PONDING DEPTH (IN.)	FLOW RATE (GPM)	ROOF PONDING DEPTH (IN.)	FLOW RATE (GPM)
1.00	92.08	1.00	102.10	1.01	102.46
2.01	384.97	2.00	405.17	2.00	397.65
3.01	710.94	3.01	770.96	3.00	757.11
4.00	726.79	4.03	1106.19	4.01	1164.82
5.00	741.10	5.01	1123.76	5.03	1489.41
5.99	753.63	5.91	1136.69	6.03	1505.44

NOTE: INFORMATION IN THIS TABLE IS PERFORMANCE DATA PROVIDED BY ZURN INDUSTRIES, LLC AS PART OF THE MANUFACTURER'S SPECIFICATION DOCUMENTS AND IS SHOWN ON THIS SET OF DRAWINGS FOR REFERENCE.

ROOF DRAIN CALCULATIONS

TOTAL OF FLAT ROOF AREA (SQ. FT.) =	4,256
PARAPET WALL LENGTH (FT.) =	280
PARAPET WALL HEIGHT (FT.) =	4
HALF OF TOTAL PARAPET AREA =	560.0
VERTICAL WALL AREAS ABOVE =	0.0
HALF OF VERTICAL WALL AREAS ABOVE =	0.0
TOTAL OF ROOF AND VERTICAL AREAS =	4,816.0
RAINFALL RATE (IN. PER HR.) =	7.0 in.
GPM PER SQ. FT. =	0.0728
TOTAL GPM =	350.6 GPM

- PLUMBING CONTRACTOR SHALL ABIDE BY THE LOCAL CODES AND ORDINANCES.
- PLUMBING CONTRACTOR SHALL FIELD VERIFY THE EXACT LOCATIONS AND SIZES OF ALL UTILITIES, INCLUDING THE DEPTHS OF ALL BELOW GRADE SANITARY SEWERS, PRIOR TO START OF WORK. THIS DRAWING IS NOT INTENDED TO INDICATE ALL EXISTING UTILITIES.
- CONTRACTOR SHALL BE FAMILIAR WITH LANDLORD'S STANDARDS, RULES AND REGULATIONS. ALL LANDLORD'S CRITERIA SHALL BE COMPILED WITH AND INCLUDED IN THIS BID.
- CONTRACTOR SHALL VISIT SITE PRIOR TO SUBMITTING BID AND FIELD VERIFY EXISTING CONDITIONS TO ENSURE THAT THE WORK REPRESENTED ON THE DRAWINGS AND IN THESE SPECIFICATIONS CAN BE INSTALLED AS INDICATED. CONTRACTOR SHALL TAKE ALL INTERFERENCES INTO CONSIDERATION. PROVIDE ALL NECESSARY OFFSETS TO SUIT FIELD CONDITIONS AS REQUIRED.
- CONTRACTOR SHALL VERIFY AND COORDINATE ALL UTILITY CONNECTION POINTS, INCLUDING SIZES AND INVERTS WITH EXISTING FIELD CONDITIONS PRIOR TO START OF WORK.
- MAKE ALL UTILITY CONNECTIONS AND INSTALLATIONS IN FULL ACCORDANCE WITH ALL UTILITY REGULATIONS. PROVIDE ALL ADDITIONAL APPURTENANCES AS REQUIRED BY UTILITY COMPANY. THE COMPLETED INSTALLATION SHALL BE IN ACCORDANCE WITH ALL APPLICABLE INDUSTRY STANDARDS OF GOOD PRACTICE AND SAFETY, AND THE MANUFACTURER'S STRICTEST RECOMMENDATIONS FOR EQUIPMENT AND PRODUCT APPLICATION AND INSTALLATION.
- THE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL PERMITS AND INSPECTIONS RELATED TO THE INSTALLATION OF THE WORK.
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- CUTTING OF ROOF AND FLASHING OF PIPE CURBS, SANITARY VENT THROUGH ROOF, ETC. SHALL BE COORDINATED WITH AND PERFORMED BY LANDLORD'S ROOFING CONTRACTOR, AT THIS CONTRACTOR'S EXPENSE, TO MAINTAIN ROOF WARRANTY. ALL VENT OUTLETS SHALL BE A MINIMUM OF 10'-0" AWAY FROM OR 3'-0" ABOVE ANY AIR INTAKES ON HVAC EQUIPMENT.
- ALL HORIZONTAL FIRE PROTECTION SPRINKLER PIPING AND ALL ABOVE GRADE EXPOSED HORIZONTAL PIPING IS TO BE INSTALLED AS HIGH AS POSSIBLE.
- CONTRACTOR SHALL COORDINATE TIMES TO WORK IN SPECIFIC AREA OF THE EXISTING BUILDING WITH THE BUILDING MANAGER AND WITH THE OCCUPANTS OF THE AREA AFFECTED BY THE WORK.
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- ALL DOMESTIC COLD, HOT AND TEMPERED WATER PIPING TO BE INSULATED WITH RIGID FIBERGLASS INSULATION WITH TYPE "ASF" JACKET. COLD WATER PIPES TO HAVE 3/4" THICK INSULATION. DOMESTIC HOT AND TEMPERED WATER PIPES TO HAVE 1" THICK INSULATION.
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11/06/2023

PROJECT #  
Project Number  
DRAWN BY: DM  
CHECKED BY: NH

CHECK SET - 10/XX/23

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SHERWIN WILLIAMS

STORE #  
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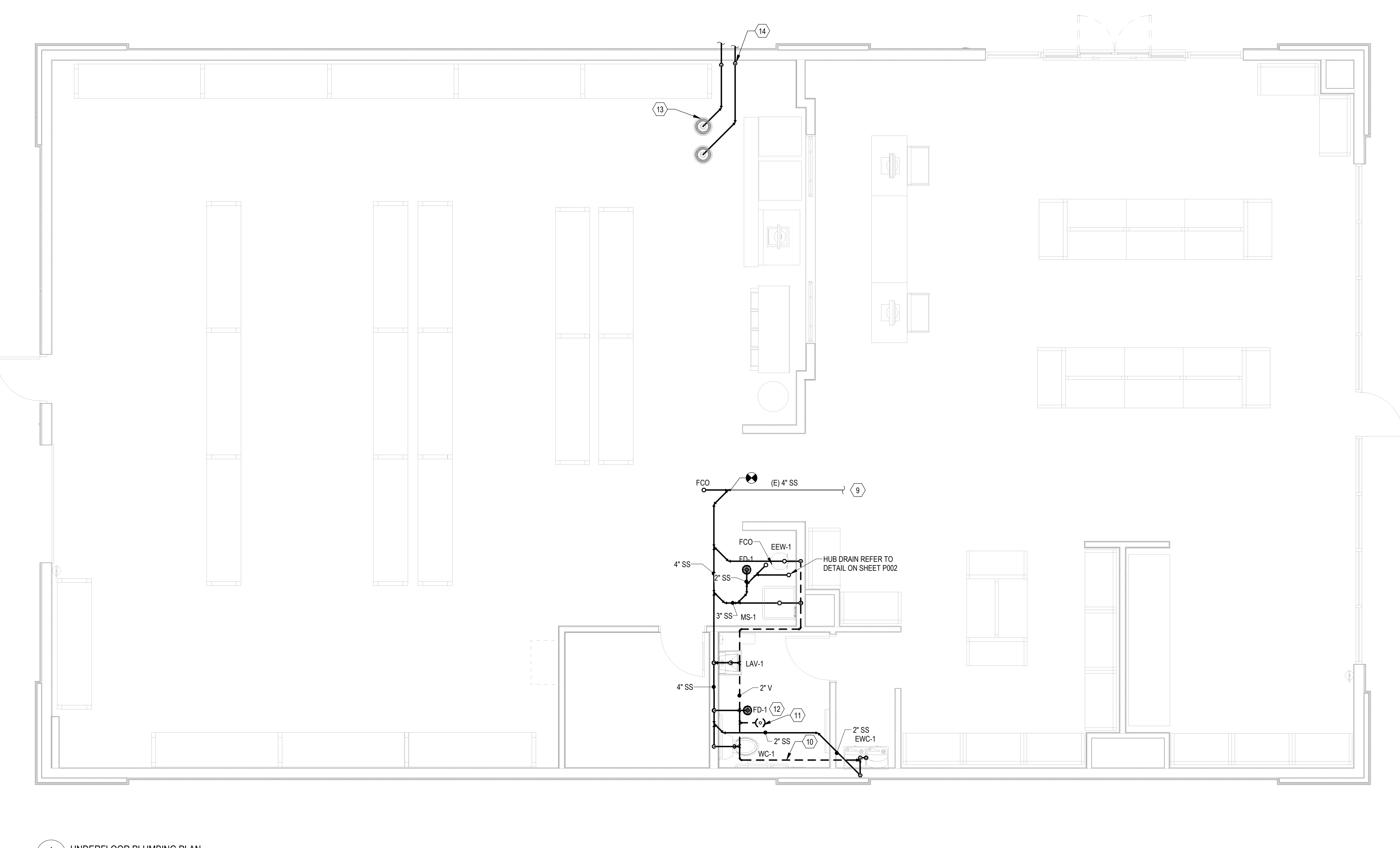
ADDRESS:  
12360 W. SH 29, LIBERTY  
HILL, TX, 78642

SHEET TITLE:

PLUMBING PLAN - WASTE & VENT

SHEET NUMBER:

P001



# SHEET NOTES:

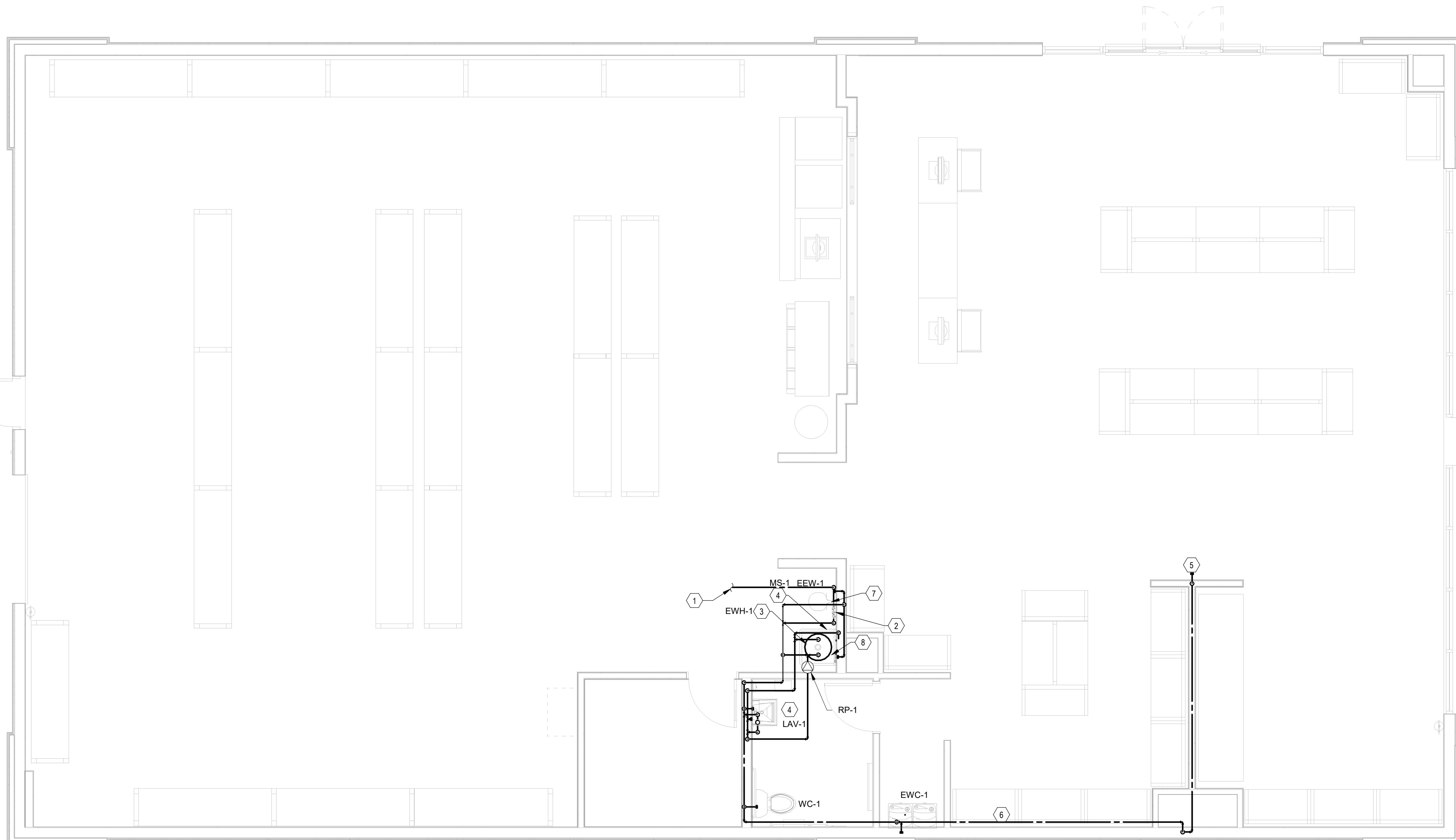
1. 1" DOMESTIC CW PIPE FROM OUTSIDE OF BUILDING. SEE CIVIL FOR CONTINUATION.
2. FURNISH AND INSTALL 1" BACKFLOW PREVENTER AND STRAINER FOR DOMESTIC WATER SERVICE. ROUTE RELIEF PIPING TO DISCHARGE INDIRECTLY INTO SERVICE SINK DRAIN. SEE DOMESTIC WATER ENTRY DETAIL FOR MORE INFORMATION. ROUTE DOMESTIC WATER ENTRY ASSEMBLY EITHER ABOVE OR BELOW FIRE SPRINKLER RISER. CONTRACTOR TO COORDINATE IN FIELD.
3. MOUNT WATER HEATER ABOVE UTILITY SINK ON PLATFORM.
4. PROVIDE AND INSTALL ANTI-SCALD MIXING VALVE AT LAVATORY AND UTILITY SINK TO TEMPER HOT WATER FOR PUBLIC USE. SET VALVE TO DISCHARGE A MAXIMUM OF 110°F.
5. COLD WATER CONNECTION TO COFFEE MAKER. PROVIDE SHUTOFF VALVE AND BACKFLOW PREVENTER IN WALL IN A RECESSED VALVE BOX PRIOR TO CONNECTION TO EQUIPMENT.
6. ROUTE CW PIPING CONCEALED IN WALL ON WARM SIDE OF INSULATION. PIPING SHALL NOT BE EXPOSED IN SALES FLOOR.
7. ROUTE CW/HW PIPING DOWN TO EYEWASH MIXING VALVE. REFER TO DETAIL 6 ON P004.
8. ROUTE TEMPERATURE AND PRESSURE RELIEF VALVE DOWN AND INDIRECTLY DRAIN TO UTILITY SINK BELOW.
9. 4" SANITARY WASTE LINE OUT OF BUILDING. SEE CIVIL FOR CONTINUATION. PC TO VERIFY EXACT SIZE, LOCATION AND INVERT ELEVATION PRIOR TO WORK. CONTACT ENGINEER IF ANY DISCREPANCIES ARE DISCOVERED.
10. ALL VENT PIPING FROM ALL FIXTURES ARE 2" DIAMETER UNLESS SPECIFIED OTHERWISE.
11. ROUTE 3" SANITARY VENT UP THROUGH ROOF. MAINTAIN A MINIMUM CLEARANCE OF 10' FROM NEAREST AIR INTAKE. VERIFY EXACT LOCATION IN FIELD.
12. INSTALL 2" FLOOR DRAIN IN BATHROOM FLOOR AS SHOWN.
13. ROUTE TEMPERATURE AND PRESSURE RELIEF VALVE DOWN AND INDIRECTLY DRAIN TO UTILITY SINK BELOW.

GENERAL NOTES:

1. PLUMBING DRAWINGS ARE DIAGRAMMATIC AND DO NOT NECESSARILY INDICATE EVERY REQUIRED OFFSET, FITTING, ETC. DRAWINGS ARE NOT TO BE SCALED FOR DIMENSIONS. TAKE ALL DIMENSIONS FROM ARCHITECTURAL DRAWINGS, CERTIFIED EQUIPMENT DRAWINGS AND FROM THE STRUCTURE ITSELF BEFORE FABRICATING ANY WORK. VERIFY ALL SPACE REQUIREMENTS COORDINATING WITH OTHER TRADES, AND INSTALL THE SYSTEMS IN THE SPACE PROVIDED WITHOUT EXTRA CHARGES TO THE OWNER.
2. CONTRACTOR SHALL COORDINATE WORK INDICATED WITH MECHANICAL, ELECTRICAL, FIRE PROTECTION, STRUCTURAL, CIVIL, AND ARCHITECTURAL DIVISIONS. CONTRACTOR SHALL VERIFY SIZE & LOCATION OF EXISTING UTILITIES PRIOR TO COMMENCING WORK. COORDINATE WITH OTHER TRADES AND MAKE FINAL CONNECTION. SUBMIT 1/4" SCALE SHOP DRAWINGS FOR PLUMBING SYSTEMS, DIMENSIONED TO INCORPORATE THE WORK OF OTHER TRADES. INDICATE SPACES RESERVED FOR FIRE SPRINKLER, PLUMBING PRIOR TO FABRICATION. COORDINATE ALL CHASE, SLEEVE, AND SLAB BLOCKOUTS BEFORE CONCRETE IS POURED OR BLOCK SET.
3. PROVIDE ACCESSIBLE SHUT-OFF VALVES ON ALL NEW FIXTURE HW & CW BRANCHES.
4. ALL WATER SUPPLY LINES LESS THAN 1" IN DIAMETER SHALL BE COPPER OR COPPER ALLOY. USE ONLY CAST AND WROUGHT COPPER AND COPPER ALLOY PRESS-CONNECT PRESSURE FITTINGS: ASME B16.51. DO NOT USE SOLDER OR BRAZED CONNECTIONS. PRESS-CONNECT JOINTS: PRESS-CONNECT JOINTS SHALL BE MADE IN ACCORDANCE WITH THE FITTING MANUFACTURER'S WRITTEN INSTALLATION INSTRUCTIONS USING A PRESS-CONNECT TOOL AND JAWS APPROVED FOR USE FOR THE MANUFACTURER'S SPECIFIC FITTING CONFIGURATION. COPPER ALLOY TUBE SHALL BE MECHANICALLY CLEANED AND REAMED PRIOR TO JOINING TO REMOVE ALL BURRS (INTERIOR AND EXTERIOR) AND RESTORE FULL INSIDE DIAMETER AND A SMOOTH, CHAMFERED EXTERIOR SURFACE. FITTINGS SHALL HAVE EPDM SEALING ELEMENTS.
5. PROVIDE TRAP PRIMERS FOR ALL FLOOR AND HUB DRAINS.

PLUMBING SYMBOLS LEGEND

CA	COMPRESSED AIR PIPING
G	NATURAL GAS PIPING
CD	CONDENSATE DRAIN PIPING
- - -	COLD WATER PIPING
- · - · -	HOT WATER PIPING (140°F)
- · - · -	HOT WATER RETURN PIPING
---	SANITARY DRAIN PIPING
---	UNDERGROUND SANITARY PIPING
---	SANITARY VENT PIPING
VTR	VENT THROUGH ROOF
→	PIPE TURNING DOWN
○	PIPE TURNING UP
+	CHECK VALVE
+	UNION
AFF	ABOVE FINISHED FLOOR
CO	CLEAN OUT
○	PRESSURE REGULATING VALVE (PRV)
+	BALL VALVE
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○	POINT OF CONNECTION
○	BALANCE VALVE



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CERTIFICATE OF AUTHORITY NO. F-20080

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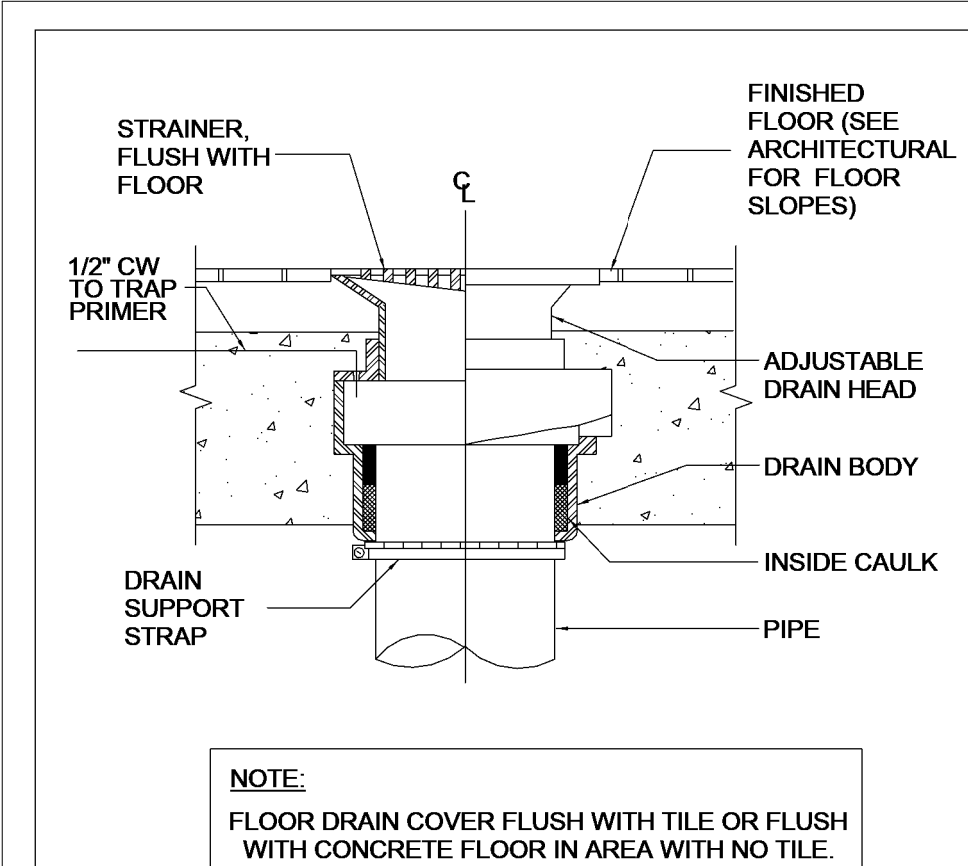
12360 W. SH 29, LIBERTY HILL, TX, 78642

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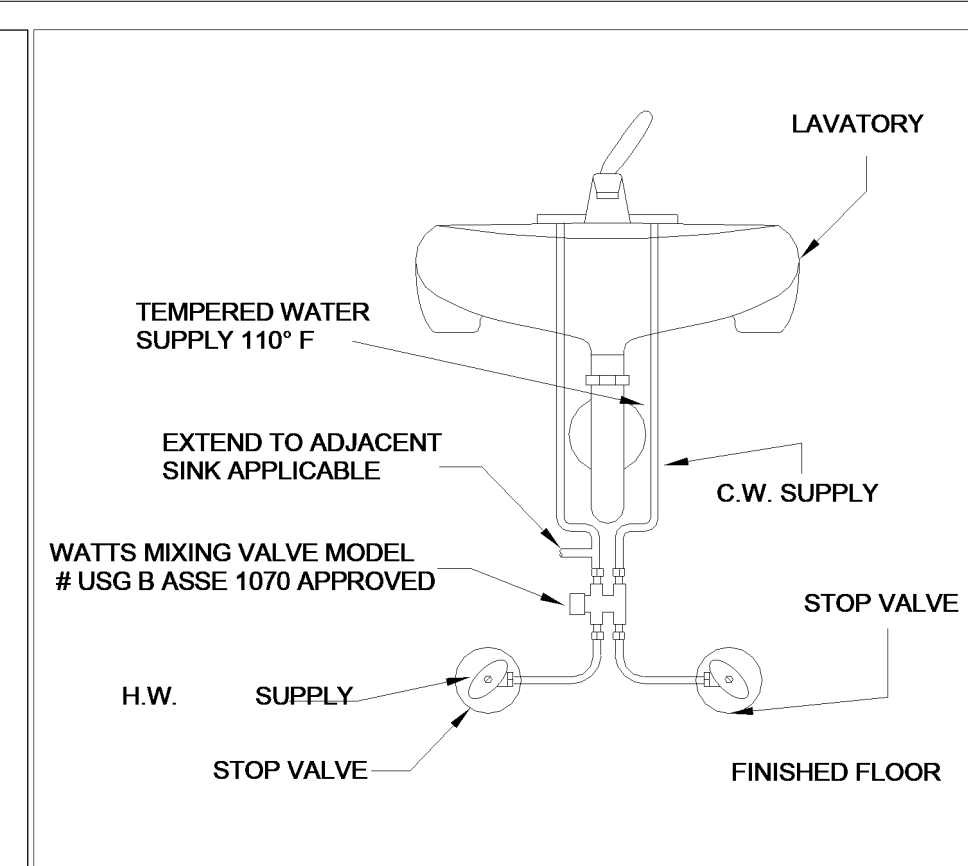
PLUMBING FLOOR PLAN - SUPPLY

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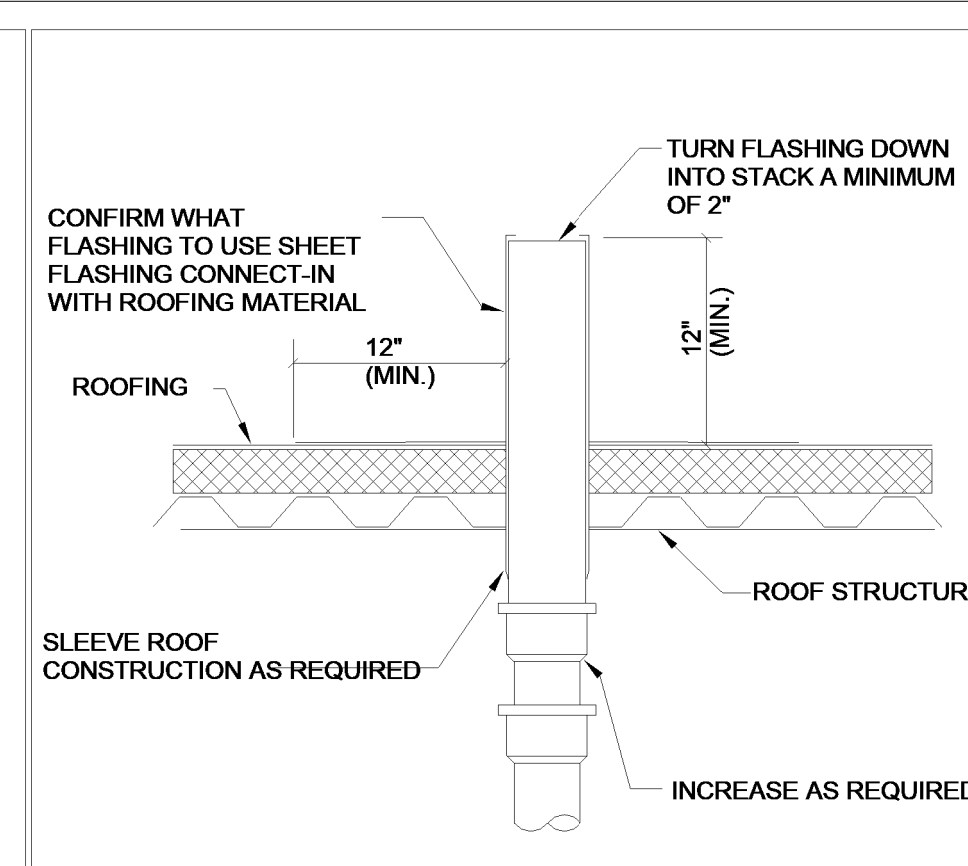
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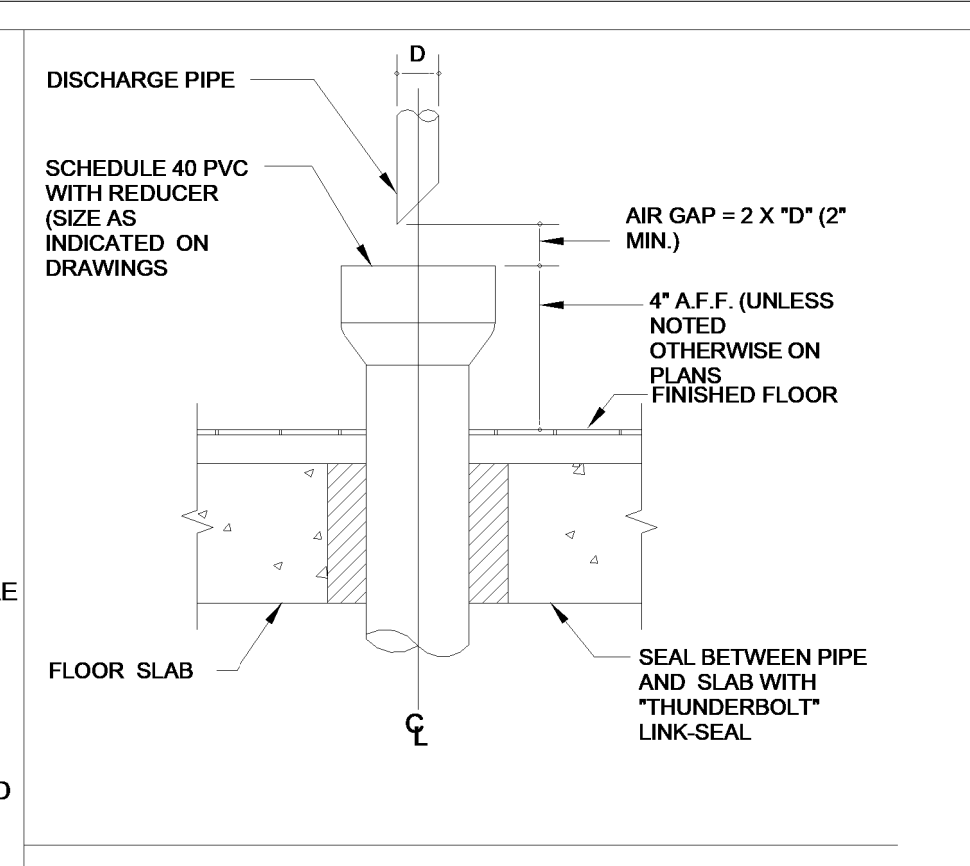
**FLOOR DRAIN DETAIL**  
SCALE: NONE



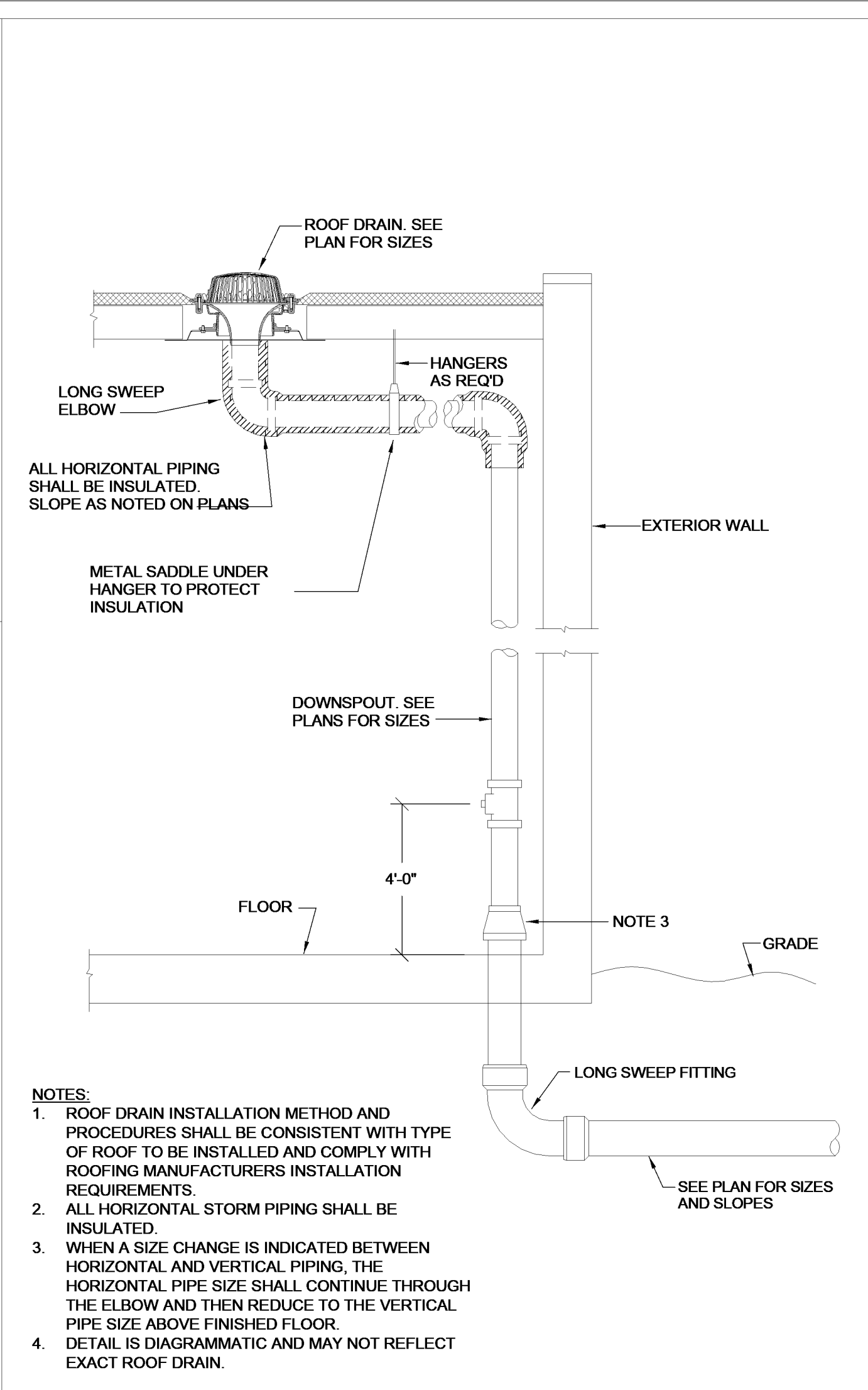
**MIXING VALVE DETAIL**  
SCALE: NONE



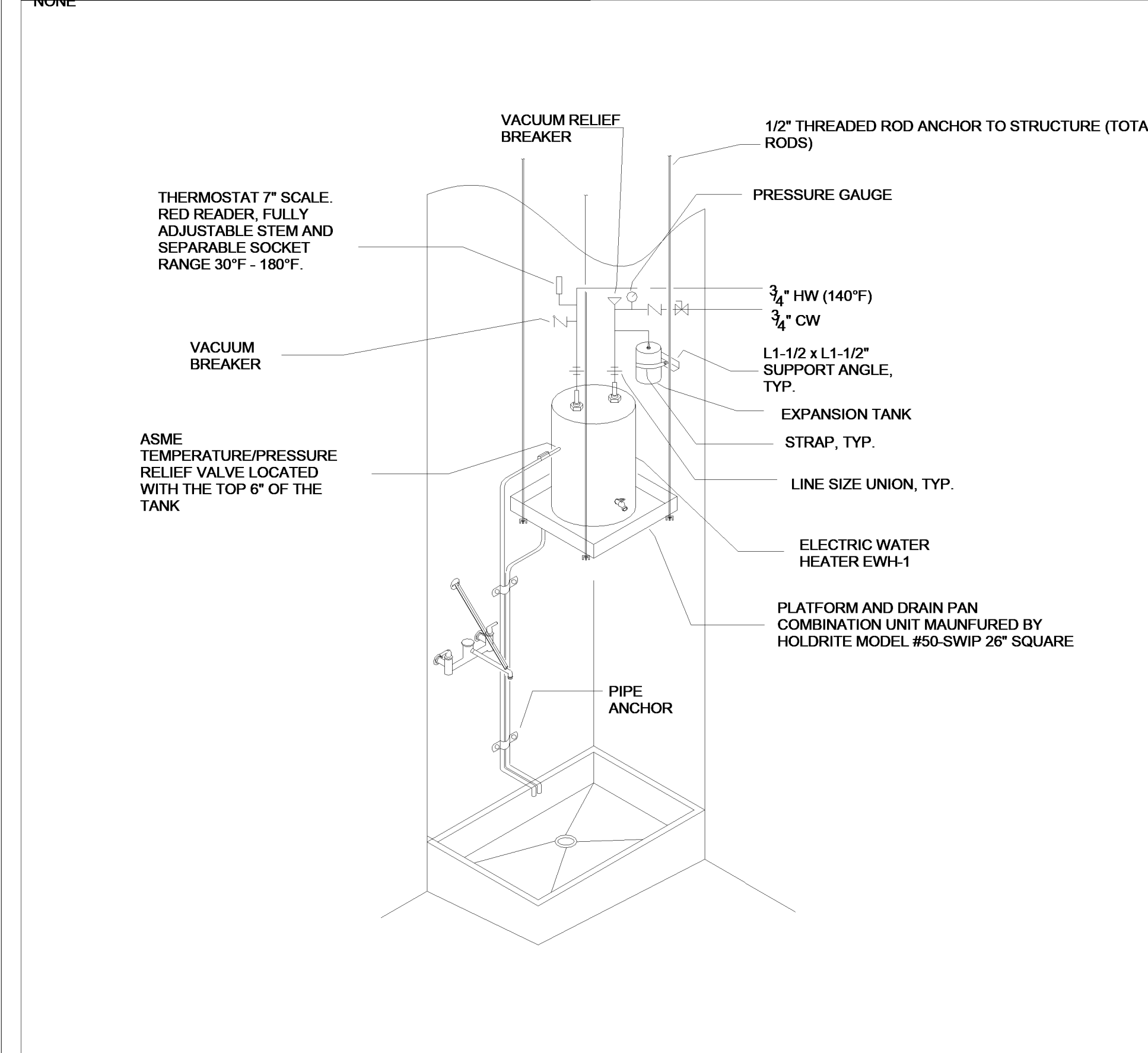
**VENT THROUGH THE ROOF DETAIL**  
SCALE: NO SCALE



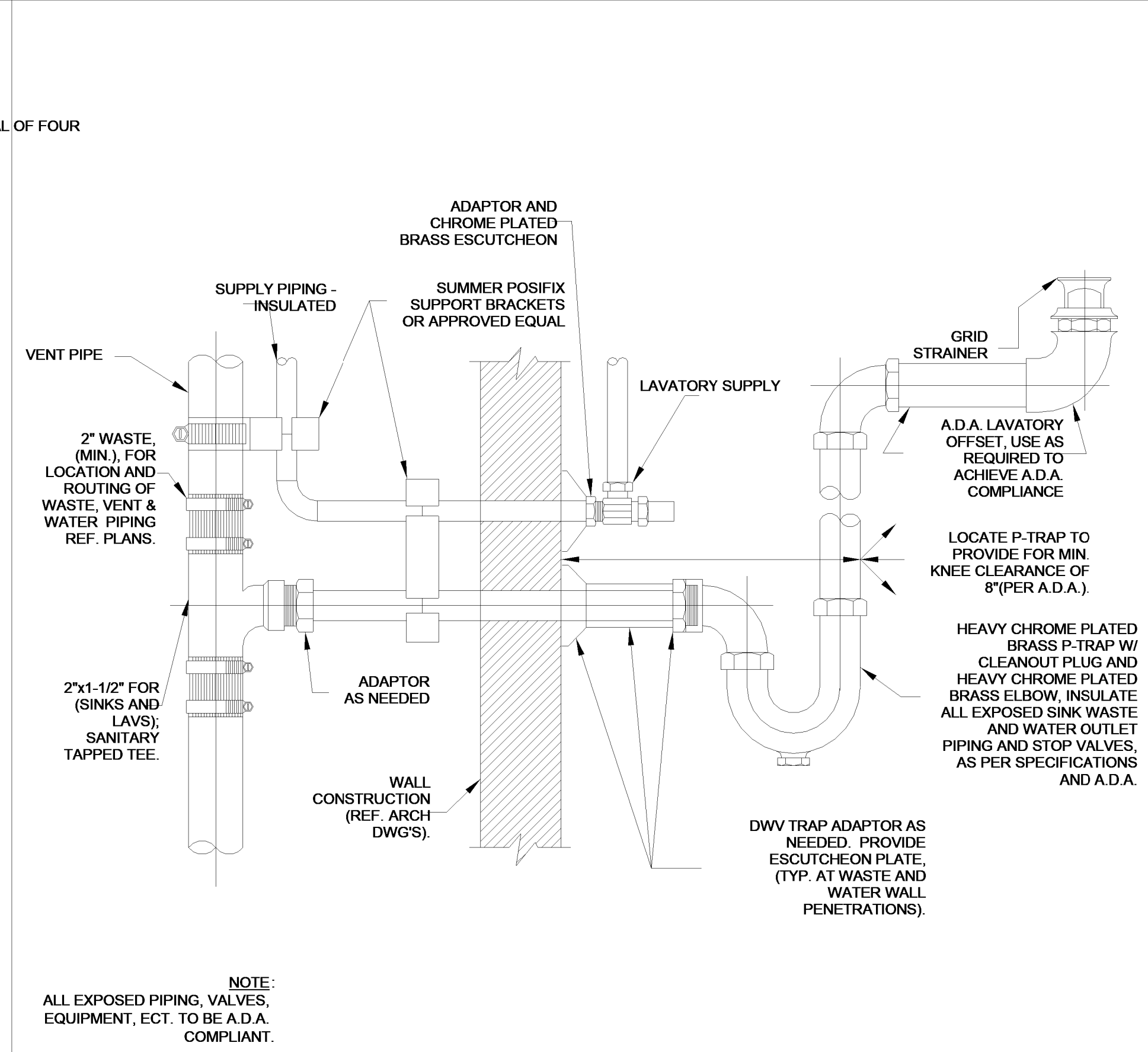
**HUB DRAIN DETAIL**  
SCALE: NO SCALE



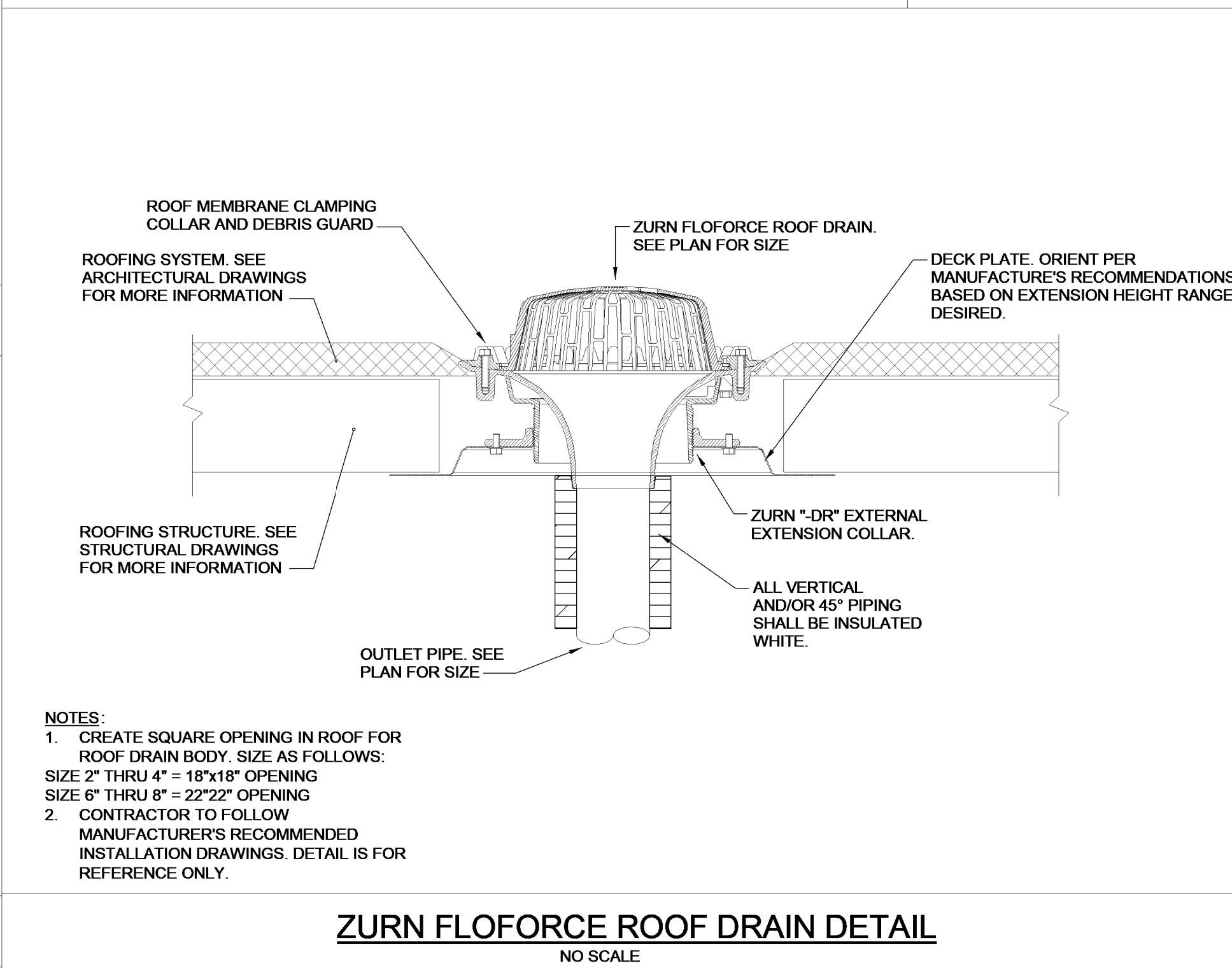
**ROOF DRAIN PIPING WITH HORIZONTAL OUTLET PIPING**  
NO SCALE



**ELECTRIC WATER HEATER DETAIL**  
SCALE: NO SCALE



**TYPICAL LAVATORY & SINK CONNECTION DETAIL**  
SCALE: NONE

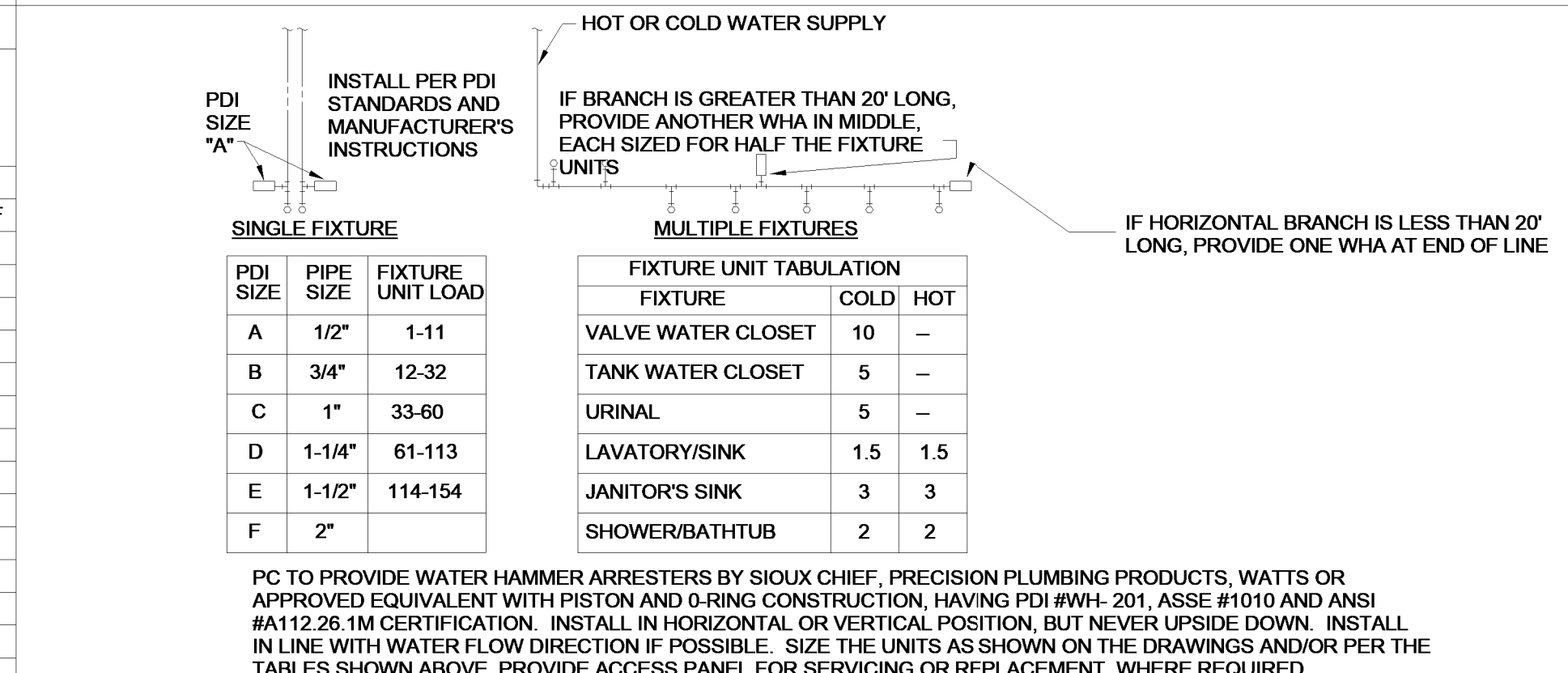


**ZURN FLOFORCE ROOF DRAIN DETAIL**  
NO SCALE

**PIPE SUPPORT SCHEDULE**

NOMINAL PIPE DIAMETER (IN)	MAXIMUM SUPPORT SPACING (FEET)							
	CAST IRON	COPPER	STEEL	SCH 40 PVC	SCH 40 CPVC			
				60°F	73°F	100°F	120°F	140°F
1/2		8		-	5	4.5	4.5	4
3/4		9		5	5	5	4.5	4
1	5	9		5.5	5.5	5.5	5	4.5
1 1/4	5	12	7	5.5	5.5	5.5	5.5	5
1 1/2	5	12	9	6	6	5.5	5.5	5
2	5	13	10	6	6	6	5.5	5
2 1/2	5	14	11	7	7	6.5	6.5	6
3	5	15	12	7	7	7	7	6
4	5	17	12	7.5	7.5	7.5	7	6.5
6	5	21	12	8.5	8.5	8	7.5	7
8	5	24	12	9	9.5	9.5	8.5	7.5
10	5	26	12	10	10.5	10.5	9.5	8
12	5	30	12	11.5	11.5	10.5	10	8.5

- SUPPORT SPACING ABOVE IS FOR STRAIGHT HORIZONTAL PIPE. PROVIDE SUPPORTS ON EACH SIDE OF ELBOWS, FLANGES, VALVES, SPECIALTIES, ETC.
- ALL PIPING SUPPORTS, THREADED ROD SIZES AND HANGERS SHALL BE PER MSS SP-69



**HAMMER ARRESTER DETAIL**  
SCALE: NONE

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SHEET TITLE:

PLUMBING DETAILS

SHEET NUMBER:

**P003**

## PLUMBING SPECIFICATIONS

1. **GENERAL**  
THE ARCHITECTURAL GENERAL CONDITIONS GOVERN WORK UNDER THIS SECTION.

BEFORE SUBMITTING A PROPOSAL, THIS CONTRACTOR SHALL VISIT THE SITE OF THE WORK AND SHALL CAREFULLY EXAMINE THE DRAWINGS AND SPECIFICATIONS. IT IS EXPRESSLY UNDERSTOOD THAT THIS PROPOSAL IS BASED ON THE ABOVE REQUIREMENTS AND THAT IT COVERS EVERYTHING NECESSARY TO DO AND COMPLETE THE WORK.

2. **INSPECTION AND COOPERATION**  
NO INFORMATION FROM THE DRAWINGS AND/OR SPECIFICATIONS WILL BE ALLOWED WITHOUT PRIOR WRITTEN APPROVAL OF ARCHITECT OR ENGINEER. THIS CONTRACTOR SHALL COOPERATE WITH THE OTHER CONTRACTORS TO ALLOW FOR THE INSTALLATION OF THEIR WORK AS WELL AS HIS OWN.

THIS CONTRACTOR SHALL BE RESPONSIBLE FOR HIS WORK FITTING IN PLACE WITHOUT CONFLICT WITH THE OTHER TRADES, WHERE PROPER PLANNING COULD AVOID INTERFERENCE.

3. **CODES AND PERMITS**  
NOTHING IN THE DRAWINGS AND/OR SPECIFICATIONS SHALL BE INTERPRETED TO CONFLICT WITH ANY CITY OR PROVINCIAL LAW, REGULATION, CODE, ORDINANCE, RULING, OR FIRE UNDERWRITER'S REQUIREMENT APPLICABLE TO THIS CLASS OF WORK.

SHOULD THE DRAWINGS AND/OR SPECIFICATIONS CONFLICT WITH SUCH LAWS OR ORDINANCES, THE CONFLICTING PORTION OF THE WORK SHALL BE INSTALLED STRICTLY IN ACCORDANCE WITH SUCH LAWS AND ORDINANCES WITHOUT EXTRA COST.

THIS CONTRACTOR SHALL SECURE AND PAY FOR ALL NECESSARY PERMITS AND INSPECTIONS REQUIRED FOR THIS INSTALLATION OF HIS WORK.

4. **ACCURACY OF DATA**  
THE INFORMATION FROM THE DRAWINGS AND ON THE DRAWINGS IS AS EXACT AS COULD BE SECURED, BUT ITS EXTREME ACCURACY IS NOT GUARANTEED. THIS CONTRACTOR SHALL EXAMINE THE LOCATIONS AND VERIFY ALL MEASUREMENTS, DISTANCES, ELEVATIONS AND EXISTING PIPE SIZES BEFORE STARTING THE WORK AS ALL PIPING SYSTEMS SHOWN ON THE DRAWINGS ARE DIAGRAMMATIC ONLY.

THIS CONTRACTOR SHALL PROVIDE ALL NECESSARY OFFSETS, RAISED AND DROPS IN PIPING AND DUCTWORK AS REQUIRED BY BUILDING CONDITIONS AT NO ADDITIONAL COST.

MECHANICAL DRAWINGS SHALL NOT BE USED FOR GENERAL CONSTRUCTION DIMENSIONS OR FOR TYPE OF MATERIAL USED. FOR EXACT BUILDING LAYOUT, DIMENSIONS AND BUILDING MATERIAL USED, THIS CONTRACTOR SHALL REFER TO THE ARCHITECTURAL DRAWINGS.

5. **SHOP DRAWINGS**  
SHOP OR INSTALLATION DRAWINGS, FOUNDATION PLANS, EQUIPMENT OR APPARATUS DRAWINGS SHALL BE FURNISHED BY THIS CONTRACTOR. THESE DRAWINGS SHALL BE CLEARLY MARKED INDICATING WHICH ITEMS ARE TO BE SUPPLIED AND SHALL SETATE CAPACITIES, SIZES AND GENERAL DESCRIPTION OF ALL EQUIPMENT. ANY CHANGES FROM THE SPECIFIED ITEMS SHALL BE NOTED ON THE SUBMITTALS.

SHOP DRAWINGS OF SPECIAL APPARATUS OR EQUIPMENT WHICH IS TO BE FABRICATED INDIVIDUALLY FOR THIS PROJECT AND IS NOT DESCRIBED BY STANDARD MANUFACTURER'S DRAWINGS OR BULLETINS SHALL BE SUBMITTED FOR PROCESSING BEFORE FABRICATION.

THESE DRAWINGS SHALL BE SUBMITTED IN A TIMELY MANNER.

IT SHALL BE THIS CONTRACTORS RESPONSIBILITY TO MAINTAIN LIAISON WITH ALL PARTIES CONCERNED WITH THE MATERIAL SUBMITTED. THIS CONTRACTOR SHALL NOT PURCHASE ANY EQUIPMENT UNTIL SHOP DRAWINGS HAVE BEEN PROCESSED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY FEES ACCRUED FROM THE RETURN OF AND CORRECTED WITH ALL DISCIPLINES PRIOR TO PURCHASE. INFORMATION THAT PERTAINS SOLELY TO THE REVIEW OF SHOP DRAWINGS AND THAT ARE NOT APPROVED.

THIS CONTRACTOR SHALL SUBMIT NO DRAWINGS WITHOUT NOTATION INDICATING DATE OF CONTRACTOR'S REVIEW AND SIGNATURE OF CHECK FOR CONFORMANCE TOGETHER WITH CONTRACTOR'S NAME AND PROJECT IDENTIFICATION.

ARCHITECT'S PROCESSING WILL NOT CONSTITUTE A COMPLETE CHECK BUT WILL INDICATE ONLY THAT GENERAL METHOD OF CONSTRUCTION AND DETAILING IS SATISFACTORY.

ARCHITECT'S PROCESSING WILL NOT RELIEVE THE CONTRACTOR OF RESPONSIBILITY FOR ERRORS SINCE THIS CONTRACTOR IS SOLELY RESPONSIBLE FOR DIMENSIONS AND DESIGNS OF ADEQUATE CONNECTIONS, DETAILS AND SATISFACTORY CONSTRUCTION OF ALL WORK, AS WELL AS FURNISHING MATERIALS AND WORKMANSHIP REQUIRED BY DRAWINGS AND SPECIFICATIONS WHICH MAY NOT BE INDICATED ON THE SUBMITTALS WHEN APPROVED.

CORRECTIONS OR COMMENTS MADE ON THE SHOP DRAWINGS DURING ENGINEER REVIEW DO NOT RELIEVE THE CONTRACTOR FROM COMPLIANCE WITH THE REQUIREMENTS OF THE PLANS AND SPECIFICATIONS. REVIEW OF A SPECIFIC ITEM SHALL NOT INCLUDE REVIEW OF AN ASSEMBLY OF WHICH THE ITEM IS A COMPONENT. THE CONTRACTOR IS RESPONSIBLE FOR: EQUIPMENT VOL TAGES AND DIMENSIONS TO BE CONFIRMED AND CORRELATED WITH ALL DISCIPLINES PRIOR TO PURCHASE; INFORMATION THAT PERTAINS SOLELY TO THE FABRICATION PROCESSES OR TO THE MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES OF CONSTRUCTION, COORDINATION OF THE WORK WITH THAT OF ALL OTHER TRADES AND PERFORMING ALL WORK IN A SAFE AND SATISFACTORY MANNER.

## 6. SUBSTITUTIONS OF EQUIPMENT OR MATERIAL

THE BRAND NAMES OF EQUIPMENT OR MATERIALS SPECIFIED HEREIN SHALL ESTABLISH QUALITY, CAPACITY, TYPE AND DIMENSIONS TO BE INCLUDED IN THE BASE BID.

APPROVAL OF SUBSTITUTED ITEMS WILL BE BASED ON ABILITY AND CAPACITY TO PERFORM FUNCTION SERVED, QUALITY AND AVAILABILITY OF PARTS AND SERVICE, QUALITY OF EQUIPMENT, DELIVERY SCHEDULE, ETC. THE ARCHITECT SHALL REVIEW ALL SUCH REQUESTS BUT RESERVES THE SOLE RIGHT OF JUDGEMENT TO APPROVE OR REJECT THE PROPOSED SUBSTITUTIONS.

ACCEPTANCE OR REJECTION OF PROPOSED SUBSTITUTIONS SHALL NOT CAUSE ADDITIONAL COST. ANY CHANGES OF PIPING, DUCTWORK, ELECTRICAL CONTROLS OR INSTALLATION REQUIRED BECAUSE OF THE SUBSTITUTION OR EQUIPMENT SHALL BE PAID FOR BY THIS CONTRACTOR PROPOSING THE SUBSTITUTION.

## 7. ERECTION OF APPARATUS

ALL WORK SHALL BE DONE UNDER THE PERSONAL SUPERVISION OF THIS CONTRACTOR WHO SHALL PROVIDE A COMPETENT FOREMAN TO LAY OUT ALL WORK. ALL WORK SHALL BE LAID OUT WITH DUE REGARD FOR THE SPACE REQUIREMENTS OF THE OTHER CONTRACTORS. THIS CONTRACTOR SHALL REPORT ANY CONFLICTS OR DIFFICULTIES IN REGARD TO THE INSTALLATION IMMEDIATELY.

WHERE CROWDED LOCATIONS EXIST OR WHERE THERE IS A POSSIBILITY OF CONFLICT BETWEEN TRADES, THIS CONTRACTOR SHALL MAKE COMPOSITE DRAWINGS SHOWING THE EXACT LOCATIONS OF PIPES, DUCT, CONDUIT AND EQUIPMENT. DRAWINGS SHALL BE BASED ON FIELD MEASUREMENTS AND AFTER CONSULTATION AND AGREEMENT BETWEEN THE TRADES, SHALL BE APPROVED BY ARCHITECT AND ENGINEER BEFORE INSTALLATION OF THE WORK.

EQUIPMENT OF A TYPE TO REQUIRE REPLACEMENT, SERVICING, ADJUSTING OR MAINTENANCE SHALL BE LOCATED TO ALLOW EASY ACCESS AND SPACE FOR REMOVAL OF INTERNAL ASSEMBLIES, IT REQUIRED.

## 8. EXCAVATION AND BACKFILL

THIS CONTRACTOR SHALL DO ALL EXCAVATION REQUIRED TO INSTALL PIPES AND EQUIPMENT SHOWN ON THE PLANS OR REQUIRED FOR PROPER OPERATION. EXCESS EXCAVATION BELOW THE REQUIRED LEVEL SHALL BE BACKFILLED WITH EARTH AND THOROUGHLY TAMPED. UTILITIES SERVICES LINES SHALL BE INSPECTED AND APPROVED BY THE PROPER INSPECTION AUTHORITY BEFORE BACKFILLING.

INSTALL PLASTIC PIPE AND FITTINGS IN STRICT ACCORDANCE WITH THE STANDARD RECOMMENDATIONS OF THE PIPE AND FITTINGS MANUFACTURER, APPENDIX X1 OF ASTM D2285 (STORAGE AND INSTALLATION PROCEDURES FOR PLASTIC DRAIN, WASTE, AND VENT PIPING) AND FOR BURIED PIPE ASTM D2221 (STANDARD PRACTICE FOR UNDERGROUND INSTALLATION OF THERMOPLASTIC PIPE FOR SEWERS AND OTHER GRAVITY-FLOW APPLICATIONS), SUCH INSTRUCTIONS SHALL INCLUDE BUT ARE NOT LIMITED TO CUTTING, SOLVENT CEMENTING AND PRIMING, JOINTS, CONNECTIONS, TRANSITIONS, ALIGNMENT AND GRADE, TRENCHING, BEDDING, BACKFILL AND COMPACTION, SUPPORTS AND SPACING AND ALLOWANCE FOR THERMAL EXPANSION.

CAST IRON PIPING TRENCHING SHALL BE IN ACCORDANCE TO THE CAST IRON SOIL, PIPE AND FITTINGS HANDBOOK ISSUED BY THE CAST IRON SOIL PIPE INSTITUTE.

THE BOTTOM OF TRENCHES SHALL BE TAMPED HARD AN GRADED TO SECURE THE REQUIRED FALL. ROCK, WHERE ENCOUNTERED SHALL BE EXCAVATED TO A DEPTH OF SIX INCHES (6") BELOW THE BOTTOM OF THE PIPE, AND BEFORE THE PIPE IS LAID, THE SPACE BETWEEN BOTTOM PIPE AND ROCK SURFACE SHALL BE FILLED WITH GRAVEL. IF TRENCHES ARE DEEPER THAN BOTTOM OF FLOORING OR CLOSER THAN THREE FEET (30") TO FOOTING THEY MUST BE FILLED WITH COHESIVE SOIL AND COMPACTED TO 95% OF MAXIMUM DENSITY, STANDARD PROCTOR, ASTM D-698. ALL OTHER EXCAVATIONS UNDER FLOOR SLABS COMPACTED TO 95% STANDARD PROCTOR.

WHEN EXCESS DIRT HAS BEEN REMOVED, THE TRENCH SHALL BE BROUGHT TO THE REQUIRED LEVEL WITH SAND AND GRAVEL FIRMLY COMPACTED.

TRENCHES AND EXCAVATION SHALL BE BACKFILLED IN 6" LAYERS OF EARTH, FREE FROM CLODS, AND STONES THOROUGHLY TAMPED TO A DEPTH OF 12" ABOVE THE PIPE. AFTER THAT DEPTH HAS BEEN REACHED, BACKFILLING SHALL BE DONE IN 12" LAYERS, THOROUGHLY TAMPED.

THIS CONTRACTOR SHALL BE RESPONSIBLE FOR ANY REPAIRS TO ANY DAMAGES OR SAGS TO THE PIPING SYSTEMS THAT OCCUR FROM THE IMPROPER EXCAVATION AND BACKFILL METHODS.

## 9. EQUIPMENT SUPPORTS

ANY STRUCTURAL STEEL MEMBERS REQUIRED TO ADAPT THE EQUIPMENT AND PIPING AS FURNISHED BY THIS CONTRACTOR, TO THE BUILDING STEEL OR STRUCTURE, SHALL BE INCLUDED IN THE BID OF THE CONTRACTOR FURNISHING THE EQUIPMENT OR PIPING. HANGING OF ALL EQUIPMENT AND REQUIRED SUPPORTING STEEL AND BRACING SHALL BE FURNISHED BY THE CONTRACTOR WHO SUPPLIES THE EQUIPMENT.

## 10. CUTTING AND PATCHING

THIS CONTRACTOR SHALL INCLUDE ALL CUTTING, PATCHING AND PAINTING OF PATCHED AREAS REQUIRED FOR AND RESULTING FROM THE INSTALLATION OF ALL OF THIS CONTRACTOR'S WORK, EXCEPT WHERE NOTED OTHERWISE.

ALL OPENINGS AROUND PIPE PENETRATIONS THROUGH SMOKE OR FIRE-RATED FLOORS, CEILINGS OR WALLS SHALL BE SEALED AIRTIGHT WITH MATERIAL HAVING A RATING EQUAL TO THE MATERIAL OF THE WALL, CEILING AND/OR FLOOR PENETRATED.

ALL PATCHING SHALL BE NEATLY FINISHED TO THE SATISFACTION OF THE ARCHITECT.

## 11. ACCESS PANELS

THIS CONTRACTOR SHALL LOCATE AND FURNISH FOR INSTALLATION BY THE GENERAL CONTRACTOR, ALL ACCESS PANELS AS REQUIRED FOR ACCESS TO VALVES, AND THE PROPER SERVICING OF EQUIPMENT AND LINES INSTALLED UNDER THE CONTRACT.

ALL PANELS SHALL BE MILCOR, STYLE "M" FOR MASONRY, "A" FOR ACOUSTICAL TILE AND "K" FOR PLASTER; EXCEPT FOR FIRE-RATED UL 1-1/2 HOUR AND "B" LABEL ACCESS PANELS SHALL BE FURNISHED IN FIRE-RATED WALLS AND CEILINGS AS INDICATED ON THE DRAWINGS. ACCESS DOORS SHALL BE 12" X 12" MINIMUM SIZE FOR VALVES.

## 12. DIELECTRIC UNIONS

FOR THE PREVENTION OF ELECTROLYTIC CORROSION AT CONNECTIONS BETWEEN PIPE OF DISSIMILAR METALS OR BETWEEN PIPE AND EQUIPMENT CONNECTIONS OF DISSIMILAR METALS, PROVIDE DIELECTRIC UNIONS OR FLANGES.

## 13. MOTORS, STARTERS AND DISCONNECTS

UNLESS SPECIFIED TO BE FURNISHED WITH EQUIPMENT, ALL MOTOR STARTERS AND DISCONNECT SWITCHES SHALL BE FURNISHED AND INSTALLED BY THE ELECTRICAL CONTRACTOR.

## 14. JOINTS AND FITTINGS

THREADS ON SCREWED PIPE SHALL BE STANDARD, CLEAN BUTT AND TAPERED. PIPE SHALL BE REAMED OF BURRS AND KEPT CLEAN OF SCALE, DIRT AND SHAVINGS. TRENCHES SHALL BE MADE WITH FLAKED GRAPHITE AND LUBRICATING OIL, OR APPROVED PIPE COMPOUND ON THE MALE THREAD ONLY.

COPPER-TO-STEEL AND COPPER-TO-BRASS JOINTS SHALL BE MADE WITH SILVER SOLDER. ALL OTHER COPPER-TO-COPPER JOINTS ABOVE GROUND SHALL BE MADE WITH LEAD FREE SOLDER. COPPER PIPE SHALL BE CUT SQUARE, BURRS REMOVED AND CARE SHALL BE GIVEN TO KEEP THE LINES FREE OF DIRT AND MOISTURE. ALL TUBING AND FITTINGS SHALL BE THOROUGHLY CLEANED.

WELDED PIPE SHALL HAVE BUTT WELDED SINGLE "V" TYPE JOINTS FOR WHICH PIPE HAS BEEN BEVELED TO 45 DEGREES. WELD SHALL BE ONE-FOURTH GREATER THICKNESS THAN THE PIPE. CONNECTIONS TO EQUIPMENT, ACCESSORIES, ETC. SHALL BE MADE BY MEANS OF FLANGES AND/OR ADAPTERS.

UNIONS SHALL BE PROVIDED AT EACH SCREWED VALVE AND UNIONS OR FLANGES AT EACH EQUIPMENT CONNECTION.

## 15. EXPANSION JOINTS

FURNISH AND INSTALL FLEXONICS EXPANSION JOINTS IN PIPING SYSTEM WHERE SHOWN OR NECESSARY FOR EXPANSION AND CONTRACTION.

EXPANSION JOINTS IN PIPE 4" AND GREATER SHALL BE THE PACKLESS TYPE WITH STAINLESS STEEL BELLOW AND HAVE WELDED OR FLANGED END. JOINTS SHALL HAVE GASKETS AS INDICATED ON THE PLANS. EXPANSION JOINTS SHALL BE OF THE CONTROLLED FLEXING TYPE.

EXPANSION JOINTS IN COPPER PIPE UNDER 4" IN SIZE SHALL BE OF THE COMPENSATOR TYPE CONSTRUCTED OF TWO-PLY STAINLESS STEEL BELLOW AND CARBON STEEL SHOULDERS AND END FITTINGS, INTERNAL GUIDES AND ANTI-TORQUE DEVICES.

EXPANSION JOINTS IN STEEL PIPE UNDER 4" IN SIZE SHALL BE OF THE COMPENSATOR TYPE CONSTRUCTED OF TWO-PLY STAINLESS STEEL ELBOWS AND CARBON STEEL SHOULDERS AND END FITTINGS, INTERNAL GUIDES AND ANTI-TORQUE DEVICES.

PROVIDE GUIDES ON EACH SIDE OF EXPANSION JOINT, AT 4 PIPE DIAMETERS, 14 PIPE DIAMETERS, AND A THIRD GUIDE AS RECOMMENDED BY THE MANUFACTURER.

## 16. PIPE FLEXIBLE CONNECTIONS

FLEXIBLE PIPE CONNECTIONS SHALL BE RESISTOFLEX #R6904 OR APPROVED EQUAL FLEXIBLE CONNECTIONS MADE FROM TEFLON.

PROVIDE FOR MOVEMENT IN PIPING BY USE OF SWING JOINTS AT CONNECTION OF ALL BRANCHES TO MAINS AND RISERS. ALL BRANCHES FROM MAINS AND RISERS SHALL HAVE 14" CLEARANCE BETWEEN PIPE INSULATION AND SLEEVE TO PERMIT PIPE MOVEMENT.

## 17. VALVES

THIS CONTRACTOR SHALL FURNISH AND INSTALL ALL VALVES OF ONE MANUFACTURER, FIGURE NUMBER AND TYPE THROUGHOUT THE ENTIRE INSTALLATION OF THE WORK, UNLESS OTHERWISE SPECIFIED. THE FOLLOWING NUMBERS ARE FROM THE CRANE CATALOG. EQUAL VALVES OF REPUTABLE MANUFACTURERS, SUCH AS HAMMOND, NIBCO-EQUAL AND/OR JENKINS WILL BE CONSIDERED EQUIVALENT.

ALL VALVES SHALL BE BUILT FOR A MINIMUM OF 125 PSIG WORKING PRESSURE.

ISOLATION VALVES SHALL BE PROVIDED ON ALL INDIVIDUAL FIXTURES AND FIXTURE GROUPS.

CHECK VALVES 2-1/2" AND SMALLER SHALL BE #36 (SCREWED ENDS) OR #142 (SOLDER-JOINT ENDS) SWING-TYPE WITH BRONZE BODY AND BRONZE TRIM.

BUTTERFLY VALVES 2" AND LARGER SHALL BE #12F, IRON BODY, CAST-IRON WAFER WLOCK LEVER.

BALL VALVE UP TO 3" IN SIZE SHALL BE APOLLO SERIES #70 BRONZE VALVE WITH CHROME-PLATED BALL AND TEFLON SEAT.

GAS LINE COCKS UP TO 4" SHALL BE #320, 12 PSI FOR INDOOR APPLIANCE CONNECTIONS SHALL CONFORM TO ANSI Z11.15 AND CSA 9.1, 5 PSI FOR INDOOR SHUTOFF SHALL CONFORM TO GAS 91-002 AND ASME B16.44

HOSE END VALVES SHALL BE #38 GATE VALVES WITH HOSE END NIPPLES.

## 18. PIPE SLEEVES AND COLLARS

THIS CONTRACTOR SHALL LAY OUT ALL HIS WORK AND SET SLEEVES IN NEW CONSTRUCTION AS CONCRETE FORMS AND WALL ARE ERECTED SO AS TO BE ABLE TO INSTALL HIS WORK WITHOUT CUTTING OR BREAKING OF FLOORS OR WALLS. ALL SLEEVES FOR INSULATED PIPING SHALL BE LARGE ENOUGH TO ALLOW INSULATION TO PASS THROUGH SLEEVE.

ALL SLEEVES PASSING THROUGH FLOORS WHICH ARE WATERPROOFED SHALL BE COPPER TUBING SLEEVES EXTENDING 1" ABOVE FINISHED FLOOR. ALL OTHER SLEEVES SHALL BE 24 GAUGE GALVANIZED PIPES AND SLEEVES TO BE THOROUGHLY PACKED WITH WATERPROOF SEALANT AND THE REMAINING SPACE FILLED WITH MASTIC AND MUST BE WATERTIGHT.

ALL SLEEVES PASSING THROUGH INNER WALLS SHALL BE STANDARD PIPE THIMBLES EQUAL TO THE THICKNESS OF THE WALL.

SPACES BETWEEN PIPES AND SLEEVES THROUGH OUTSIDE WALLS, ABOVE GRADE, SHALL BE CAULKED WITH CAULKING COMPOUND; THOSE BELOW GRADE SHALL BE MADE WATERTIGHT.

SPACE AROUND ALL PIPING THROUGH FIRE OR SMOKE RATED PARTITIONS OR FLOORS SHALL BE SEALED AIRTIGHT WITH MATERIALS OR EQUIPMENT AS SPECIFIED UNDER FIRESTOPPING.

ALL PIPE PENETRATIONS OF SLABS ON GRADE SHALL BE WRAPPED WITH #15 BUILDING FELTS OR FOAM WRAP.

## 19. HANGERS

- PIPE HANGER AND SUPPORT PRODUCTS INSTALLATION  
VERTICAL PIPING: MSS TYPE 8 OR 42 CLAMPS
  - INDIVIDUAL, STRAIGHT, HORIZONTAL PIPING RUNS: 100 FEET AND LESS: MSS TYPE 1, ADJUSTABLE, STEEL CLEVIS HANGERS. LONGER THAN 100 FEET: MSS TYPE 43, ADJUSTABLE ROLLER HANGERS. LONGER THAN 100 FEET IF INDICATED: MSS TYPE 46, SPRING CUSHION ROLLS
  - MULTIPLE, STRAIGHT, HORIZONTAL PIPING RUNS: 100 FEET OR LONGER/MSS TYPE 44, PIPE ROLLS. SUPPORT PIPE ROLLS ON TRAPEZE
  - BASE OF VERTICAL PIPING: MSS TYPE 52, SPRING HANGERS.
- SUPPORT VERTICAL PIPING AND TUBING AT BASE AND AT EACH FLOOR.
- ROD DIAMETER MAY BE REDUCED ONE SIZE FOR DOUBLE-ROD HANGERS, TO A MINIMUM OF 3/8 INCH
- INSTALL HANGERS FOR ALL PIPING PER MSS SP-69, MANUFACTURERS MANUALS AND AS PER HANGER SUPPORT DETAIL ON DRAWINGS
- INSTALL SUPPORTS FOR VERTICAL COPPER TUBING EVERY 10 FEET.
- INSTALL SUPPORTS FOR VERTICAL STEEL PIPING EVERY 15 FEET.
- SUPPORT PIPING AND TUBING NOT LISTED IN THIS ARTICLE ACCORDING TO MSS SP-69 AND MANUFACTURERS WRITTEN INSTRUCTIONS.

## 20. DAMAGE BY LEAKS

THIS CONTRACTOR SHALL BE RESPONSIBLE FOR DAMAGES TO THE GROUNDS, WALKS, ROADS, ALL BUILDING COMPONENTS AND FINISHES, PIPING SYSTEMS, ELECTRICAL SYSTEMS AND THEIR EQUIPMENT AND CONTENT, CAUSED BY LEAKS IN THE PIPING SYSTEMS BEING INSTALLED OR HAVING BEEN INSTALLED HEREIN. ALL REPAIRS WILL BE MADE AT THIS CONTRACTOR'S EXPENSE.

## 21. PIPE MARKERS

FURNISH AND INSTALL BRADY #B-350 THIN FILM OR APPROVED EQUAL PIPE MARKERS. MARKERS SHALL BE 1-1/8" HIGH FOR PIPES 3" AND UNDER AND 2-1/4" HIGH FOR PIPES OVER 3". MARKERS SHALL INDICATE TYPE OF SERVICE AND DIRECTION OF FLOW.

PIPE MARKERS SHALL BE LOCATED:

- AT EQUIPMENT CONNECTIONS
- AT ACCESS DOORS
- AT BRANCH MAINS
- ON ALL ACCESSIBLE PIPE A MAXIMUM OF 75' BETWEEN MARKERS.
- AT ALL PENETRATIONS ON EITHER SIDE OF PENETRATION

## 22. FLOOR, WALL AND CEILING PLATES

PIPES PASSING THROUGH FLOORS AND FINISHED CEILINGS, FITTED WITH CHROME-PLATED PLATES OR ESCUTCHEONS LARGE ENOUGH TO COMPLETELY CLOSE OPENING AROUND PIPE OR PIPE COVERING AND FLOOR SUPPORT IN THE CASE OF VERTICAL PIPING, SECURELY HELD IN PLACE, CAULK WATERTIGHT AROUND PIPE IN UNFINISHED ROOMS.

## 23. FIRE STOPPING

THE PENETRATIONS OF FIRE AND/OR SMOKE RATED WALLS OR FLOORS SHALL BE PROTECTED BY A UL APPROVED MATERIAL TO RETAIN THE INTEGRITY OF THE TIME-RATED CONSTRUCTION BY MAINTAINING AS EFFECTIVE BARRIER AGAINST THE SPREAD OF FLAME, SMOKE AND GASES. IT SHALL BE USED IN ALL DUCT CABLE, CONDUIT AND PIPING PENETRATIONS THROUGH FLOOR SLABS AND TIME-RATED WALLS, AND/OR FLOORS. THE RATING OF THE FIRESTOPPING SHALL EQUAL THE RATING OF THE TIME-RATED ASSEMBLY.

FIRESTOPPING MATERIAL SHALL BE 3M FIRE BARRIER SEALING SYSTEM OF APPROVED EQUAL. FIRESTOPPING MATERIAL SHALL CONSTITUTE ONE OR MORE OF THE FOLLOWING PRODUCTS:

- CAULK CP-25
- PUTTY #303
- WRAPSTRIP FS195
- COMPOSITE SHEET: CS195
- PENETRATING SEALING SYSTEMS: 7900 SERIES

INSTALLATION OF FIRESTOPPING SHALL BE INSTALLED IN ACCORDANCE WITH AND IN STRICT CONFORMITY WITH MANUFACTURERS PRINTED INSTRUCTIONS AS TO SURFACE PREPARATION, INSTALLATION AND QUALITY CONTROL. AREAS OF WORK SHALL REMAIN ACCESSIBLE UNTIL INSPECTION AND APPROVAL BY THE APPLICABLE CODE AUTHORITIES.

ON INSULATED PIPES, THE FIRE-RATING CLASSIFICATION SHALL NOT REQUIRE REMOVAL OF THE INSULATION.

QUALITY ASSURANCE:

SUBMIT MANUFACTURER'S PRODUCT DATA, LETTER OF CERTIFICATION OR CERTIFIED LABORATORY TEST REPORT THAT THE MATERIAL OR COMBINATION OF MATERIALS MEET THE REQUIREMENTS SPECIFIED IN ASTM E814 AND ARE SO CLASSIFIED IN UL'S BUILDING MATERIALS DIRECTORY. MATERIALS SHALL MEET AND BE ACCEPTABLE FOR USE BY ALL MODEL BUILDING CODES. MATERIALS SHALL MEET THE REQUIREMENTS OF NFPA6E1- LIFE SAFETY CODE AND NFPA 70 NATIONAL ELECTRICAL CODE.

SUBMITTALS:  
SUBMIT SHOP DRAWINGS, PRODUCT DATA, CERTIFICATES AND MANUFACTURER'S INSTALLATION INSTRUCTIONS. SUBMIT MANUFACTURER'S PRODUCT DATA FOR ALL MATERIALS AND PREFABRICATED DEVICES, PROVIDING DESCRIPTIONS SUFFICIENT FOR IDENTIFICATION AT THE JOB SITE. INCLUDE MANUFACTURER'S INSTRUCTIONS FOR INSTALLATION.

SUBMIT SHOP DRAWINGS SHOWING PROPOSED MATERIAL, REINFORCEMENT, ANCHORAGE, FASTENINGS, AND METHOD OF INSTALLATION. CONSTRUCTION DETAILS SHALL ACCURATELY REFLECT ACTUAL JOY CONDITIONS.

## 24. CLEANUP AND ADJUSTMENT

ALL PARTS WORK LEFT CLEAN, EQUIPMENT, FIXTURES, VALVES, PIPES AND FITTINGS CLEANED OF GREASE AND METAL CUTTINGS. ANY DISCOLORATION OR OTHER DAMAGE TO PORTIONS OF BUILDING CORES. CONTRACTOR SHALL MAKE TO THIS CONTRACTOR'S CARE TO PROPERLY CLEAN INTERIOR OF PIPING REPAIRED AT THIS CONTRACTOR'S EXPENSE. ALL AUTOMATIC CONTROL DEVICES ADJUSTED FOR PROPER OPERATION. ALL SURPLUS MATERIALS AND ANY RUBBISH REMOVED AS IT ACCUMULATES. ALL EQUIPMENT LEFT IN SAFE, PROPER OPERATING CONDITION.

DAMAGE TO ANY PORTIONS MUST BE REPAIRED OF THE PART REPLACED BY THIS CONTRACTOR AND ALL PARTS LEFT WITHOUT DENTS, SCRATCHES, THROUGH THE FINISH PAINT, LOOSE PLASTER, STAINS OR OTHER BLEMISHES.

## 25. PIPE TESTING AND START-UP

ALL PIPING TO BE TESTED IN ACCORDANCE WITH THE FOLLOWING:

- WATER - 100 PSI WATER PRESSURE
- ALL TESTING MUST HOLD FOR AT LEAST 24 HOURS WITHOUT LOSS OF PRESSURE OR VACUUM. ALL CONCEALED PIPING SHALL BE TESTED IN THE PRESENCE OF THE OWNER'S REPRESENTATIVE PRIOR TO COVERING. BEFORE STARTING ANY SYSTEM, ALL EQUIPMENT SHALL BE LUBRICATED PER MANUFACTURERS REQUIREMENTS BY THIS CONTRACTOR. TEST ENTIRE BUILDING SYSTEMS UNDER FULL LOAD CONDITIONS FOR A PERIOD OF NOT LESS THAT ONE (1) WEEK DURING WHICH TIME THE OPERATING PERSONNEL SHALL BE FULLY INSTRUCTED IN THE OPERATION AND MAINTENANCE OF THE PLANT. AFTER THE PLANT IS IN FULL OPERATION, THIS CONTRACTOR IS TO FURNISH WHATEVER ADDITIONAL SERVICE IS REQUIRED TO RECALIBRATE AND RESET CONTROLS, VALVES, BALANCING COCKS, ETC. TO ENSURE PROPER OPERATION OF THIS SYSTEM.

## 26. TESTING AND BALANCING

THIS CONTRACTOR SHALL AT THE TIME OF INSTALLATION ENSURE THAT ALL DEVICES TO COMPLETE TESTING AND BALANCING AS DIRECTED HEREIN ARE FURNISHED AND INSTALLED DURING FABRICATION AND INSTALLATION OF WORK. THIS WORK SHALL BE PERFORMED PRIOR TO TURNOVER TO BUILDING OCCUPANT AND WITH AMPLE TIME TO MAKE ANY NECESSARY REPAIRS OR CHANGES TO ACHIEVE A PROPERLY OPERATING SYSTEM.

## 27. SEISMIC RESTRAINTS ON MECHANICAL EQUIPMENT

ALL PLUMBING EQUIPMENT SHALL BE PROVIDED WITH SEISMIC RESTRAINING SERVICES AS REQUIRED BY LOCAL CODES. CONTRACTOR SHALL HAVE LOCAL BUILDING OFFICE REVIEW EACH PIECE OF EQUIPMENT WHEN INSTALLED AND THE CONTRACTOR SHALL INSTALL ALL REQUIRED THE DOWN, ANCHORS, STRAPS OR OTHER DEVICES REQUIRED.

## 28. GUARANTEE

THIS CONTRACTOR SHALL GUARANTEE ALL EQUIPMENT, MATERIALS, AND LABOR FURNISHED UNDER THIS CONTRACT TO BE FREE FROM DEFECTS FOR A PERIOD OF ONE (1) YEAR FROM THE DATE OF SUBSTANTIAL COMPLETION AND SHALL REPAIR OR REPLACE ANY EQUIPMENT OR MATERIAL WHICH IS DEFECTIVE OR IMPROPERLY INSTALLED. IN ADDITION, THIS CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR ANY DAMAGE TO THE BUILDINGS AND ITS CONTENTS OR OTHER EQUIPMENT, CAUSED BY DEFECTS OR IMPROPER INSTALLATION OF EQUIPMENT OR MATERIALS INSTALLED UNDER THIS SECTION OF THE SPECIFICATIONS.

## 29. TEMPORARY WATER

TEMPORARY WATER SERVICE (IF REQUIRED) TO THE BUILDING SHALL BE PROVIDED BY THIS CONTRACTOR TO THE BUILDING FOR CONSTRUCTION PURPOSES. THIS CONTRACTOR TO MAINTAIN WATER SERVICE AS REQUIRED DURING CONSTRUCTION.

## 30. DOMESTIC WATER SERVICE

THIS CONTRACTOR SHALL COORDINATE EXACT AVAILABLE DELIVERY PRESSURE AND PROVIDE ALTERNATE FEE FOR A PRESSURE BOOSTING SYSTEM IF PRESSURE IS LESS THAN 60PSI STATIC. PROVIDE PRESSURE REDUCING VALVE AND STRAINER IN SERVICE LINE IF REQUIRED BY LOCAL CODES OR PRESSURE IS ABOVE 80 PSI.

JOINTS SHALL BE CLEANED AND DEBURRED AS RECOMMENDED BY THE MANUFACTURER AND FEDERAL, STATE, AND LOCAL CODES AND PRESS FITTINGS ARE AN ACCEPTABLE IF ALLOWED BY LOCAL AHI. WHERE PRESS FITTINGS ARE NOT ALLOWED SOLDERED AS LISTED BELOW. FLUX SHALL BE NON-CORROSIVE. VICTAULQ GROUVED COUPLINGS ARE ACCEPTABLE ALTERNATE IF ALLOWED BY LOCAL AHI.

ABOVE GRADE - WHERE FITTINGS ARE SOLDERED BOTH FITTINGS AND TUBING SHALL BE CLEANED AS DESCRIBED ABOVE. UNDER NO CIRCUMSTANCES SHALL DISSIMILAR METALS COME INTO DIRECT CONTACT WITH COPPER TUBING, E.G., GALVANIZED STRAPPING, HANGERS, OR CLAMPS TO SECURE THE TUBING.

BELOW GRADE, OR FLOOR SLAB ON EARTH OR STONE FILL - HIGH TEMPERATURE, SOLDER, 1200 DEG. F OR GREATER MELTING POINT.

NOTE: WATER PIPE TO BE PROPERLY SECURED AND ALIGNED SO AS NOT TO EXERT VERTICAL OR HORIZONTAL STRESSES ON THE SEATING OF THE MATING (MALE AND FEMALE) SURFACES OF THE UNIONS.

MATERIALS - UNDERGROUND: TYPE "K" COPPER TUBE, SOFT TEMPER MATERIALS - ABOVEGROUND: TYPE "L" COPPER TUBE, HARD DRAWN. ALTERNATE MATERIALS - PEX-A PIPING IS AN ACCEPTABLE ALTERNATE IF NOT INSTALLED IN A PLENUM AND APPROVED BY LOCAL CODE OFFICIALS. VIEGA, PROGRESS COPPER 1/2-INCH THROUGH 4-INCH WITH EPDM SEALING ELEMENT AND/OR VIEGA, PROGRESS 3/4 OR 3/16 STAINLESS 1/2-INCH THROUGH 4-INCH WITH EPDM OR FKM SEALING ELEMENT IS ACCEPTABLE IF ALLOWED BY LOCAL CODE.

## 31. STERILIZATION OF DOMESTIC WATER SYSTEM

THE ENTIRE DOMESTIC WATER DISTRIBUTION SYSTEM SHALL BE FLUSHED CLEAR OF ANY DEBRIS AND/OR ESCUTCHEONS LARGE ENOUGH TO COMPLETELY NOT LESS THAN 100 PARTS PER MILLION OF AVAILABLE CHLORINE. THE SOLUTION SHALL REMAIN IN THE SYSTEM FOR TWO (2) HOURS DURING WHICH TIME ALL VALVES AND FAUCETS SHALL BE OPENED AND CLOSED SEVERAL TIMES. AFTER STERILIZATION, THE SOLUTION SHALL BE FLUSHED FROM THE SYSTEM WITH CLEAN WATER UNTIL THE RESIDUE CHLORINE CONTENT IS NOT GREATER THAN THE CHLORINE LEVEL OF THE AVAILABLE WATER SUPPLY.

STERILIZATION SHALL BE PERFORMED PRIOR TO TURNOVER TO OCCUPANT AS TO NOT ALLOW FOR THE WATER SYSTEM TO REMAIN STAGNANT FOR LONGER THAN 24 HOURS.

THIS CONTRACTOR SHALL HAVE THE WATER TESTED AND APPROVED BY THE HEALTH DEPARTMENT.

## 32. SANITARY SEWERS

THIS CONTRACTOR SHALL CONNECT SANITARY SEWER AS INDICATED ON THE DRAWINGS. VERIFY DIRECTION OF FLOW PRIOR TO ANY ROUGH-IN WORK.

EACH PIPE SHALL BE LAID TO THE LINE AND GRADE INDICATED ON THE PLANS AND SUCH A MANNER AS TO FORM A CLOSE CONCENTRIC JOINT WITH THE ADJOINING PIPE AND TO PRESENT OFFSETS IN FLOW LINE. ALL PIPE SHALL BE LAID WITH THE BELLS UPHILL.

THE SUB-GRASSES SHALL BE KEPT FREE FROM WATER WHILE PIPES ARE BEING LAID. ALL PIPE SHALL BE LAID WITH ENDS ABUTTING AND TRUE TO THE LINE AND GRADE. THEY SHALL BE FITTED AND MATCHED SO THAT THEY WILL FORM A SEWER WITH A SMOOTH AND UNIFORM INVERT.

EACH JOINT SHALL BE CLEANED AS IT IS LAID AND ALL BELLS SHALL BE CLEANED BEFORE PIPES ARE JOINED.

PVC SEWER PIPE MAY BE USED IN LIEU OF THAT SPECIFIED ABOVE IF ALLOWED BY LOCAL CODES.

ABS AND FOAM CORE PVC ARE NOT ACCEPTABLE MATERIALS.

SDR 35 IS NOT ACCEPTABLE FOR UNDER BUILDING USE.

## 33. WASTE, SOIL, DRAIN AND VENT PIPING

THE DRAINS, SOIL WASTE AND VENT PIPE AND FITTINGS INCLUDING EXTENSIONS TO SEWERS SHALL BE OF THE SIZES INDICATED ON THE DRAWINGS. PIPE AND FITTINGS TO BE, CYLINDRICAL AND FREE FROM CRACKS OR OTHER DEFECTS. ALL TRENCHES TO BE DUG WITH GRADUAL FALL, THE PIPING TO BE STRAIGHT AND FREE FROM ANY SAGS.

THE ARRANGEMENT OF THE SYSTEM SHALL BE AS SHOWN ON THE DRAWINGS AND AS DIRECT AS POSSIBLE, AVOIDING ALL UNNECESSARY OFFSETS. THE STACKS SHALL BE FIRMLY SECURED IN POSITION WITH WROUGHT IRON CLAMPS AT EACH FLOOR.

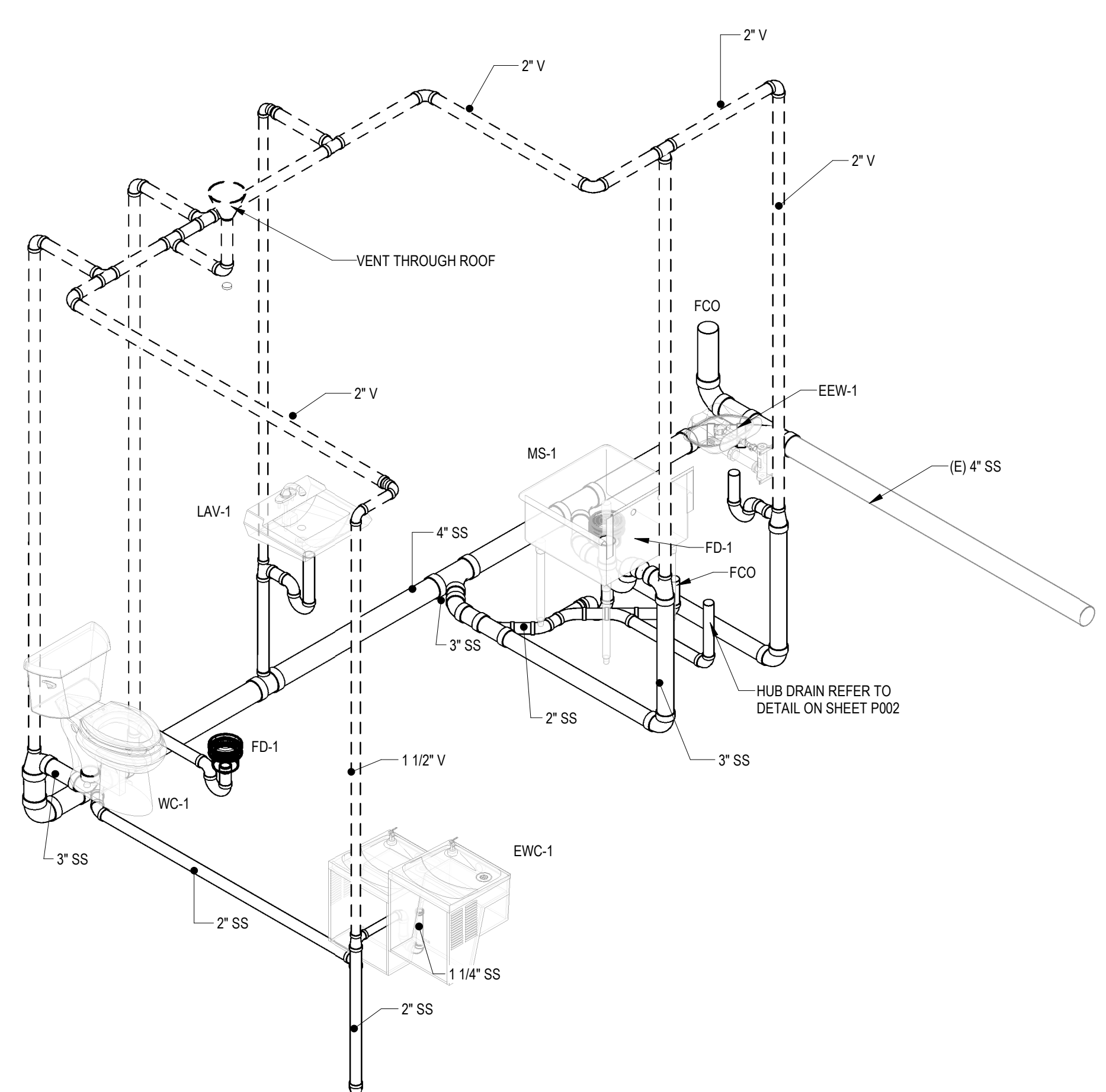
ALL CHANGES IN DIRECTION OF SOIL OR WASTE PIPE SHALL BE MADE BY MEANS OF "Y" BRANCHES AND 1/8 BENDS. NINETY DEGREE SHORT TURN FITTINGS WILL NOT BE PERMITTED EXCEPT TO INDIVIDUAL FIXTURE CONNECTIONS OR WHERE THE FLOW IS FROM THE HORIZONTAL TO THE VERTICAL.

SANITARY CLEANOUTS ARE TO BE PROVIDED AT EVERY TURN GREATER THAN 45°, AT INTERVALS OF NO GREATER THAN 50'. AT ANY STACK ROUTING BELOW GRADE. NOT ALL CLEANOUTS LOCATIONS MAY BE SHOWN ON THE DRAWING.

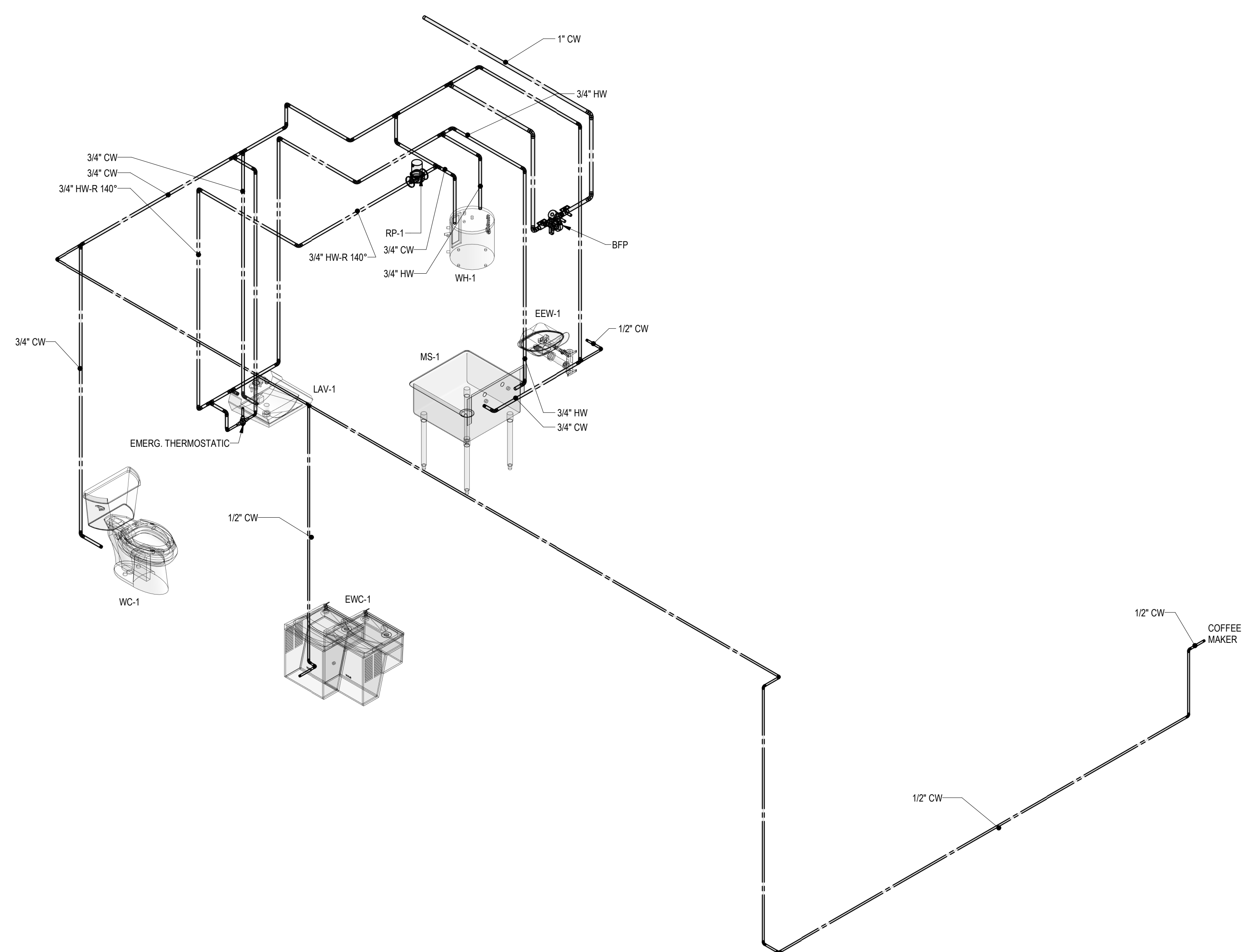
ALL TRAP SEWERS MUST BE OF FULL SIZE OF PIPE UP TO 4" AND 4" FOR ALL OVER THIS SIZE. CONNECTIONS BETWEEN OUTLETS OF FIXTURES AND SOIL OR WASTE PIPE SHALL BE MADE WITH "Y" BRANCHES TO "Y" BRANCHES WHEREVER POSSIBLE. ALL HORIZONTAL SOIL WASTE AND VENT PIPE SHALL BE GRADED TOWARD OUTLETS AND PIPE NOT BURIED SHALL BE INSTALLED ABOVE THE CEILING OR CLOSE AS POSSIBLE TO THE CONSTRUCTION ABOVE WHERE THERE IS NO CEILING.

THE STACKS SHALL BE EXTENDED THROUGH ROOF OF BUILDING TO POINTS NOT LESS THAN 12" ABOVE ROOF. EXTENSIONS THROUGH ROOF SHALL BE MADE WATER-TIGHT BY MEANS OF A LEAD FLASHING OF FOUR POINTS SHEET LEAD SPREAD OVER A DISTANCE OF NOT LESS THAN TWELVE INCHES (12") AROUND PIPE. THIMBLE TO BE SOLDERED TO BASE AND EXTENDED OVER AND TURNED DOWN INTO END OF PIPE IN AN APPROVED MANNER.

ALL CLEANOUTS IN FLOORS TO BE JOSAM #8360 OR EQUAL. ADJUSTABLE CLEANOUT WITH BODY TO MATCH THE PIPING MATERIAL. CAST BRASS SCRATORIED COVER



1 PLUMBING WASTE AND VENT ISOMETRIC  
P005



2 PLUMBING WATER SUPPLY ISOMETRIC  
P005

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11/06/2023

PROJECT #:  
 Project Number  
 DRAWN BY: DM CHECKED BY: NH

CHECK SET - 10/XX/23

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**SHERWIN WILLIAMS**

STORE #:  
 XXXX

ADDRESS:  
 12360 W. SH 29, LIBERTY  
 HILL, TX, 78642

SHEET TITLE:  
 PLUMBING RISERS  
 PLAN

SHEET NUMBER:  
**P005**



## GENERAL SPECIFICATIONS

### 1. SCOPE:

PROVIDE ALL MATERIALS, LABOR, TOOLS AND INCIDENTALS NECESSARY TO INSTALL AND MAKE READY FOR OWNER'S USE COMPLETE SYSTEMS OF HEATING, VENTILATION, AIR CONDITIONING (HVAC), PLUMBING, FOR THE PROPOSED WORK AND BUILDING RENOVATIONS AS SHOWN ON THE DRAWINGS AND CALLED FOR IN THESE SPECIFICATIONS.

VISIT THE SITE TO OBTAIN DIMENSIONS, EXISTING LAYOUTS AND LOCATIONS AND EXISTING CONSTRUCTION DETAILS NOT SHOWN ON THESE DRAWINGS.

THE CONTRACTOR IS RESPONSIBLE FOR THE COORDINATION WITH OTHER DIVISIONS OF WORK FOR THE FULL EXTENT OF THE SCOPE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY ALL ASPECTS, COMPONENTS, SYSTEMS, ETC. AND ACCOMMODATE THE PERFORMANCE INTENT OF THE CONSTRUCTION DOCUMENTS THROUGHOUT THE PROJECT SCOPE.

### 2. BIDDERS RESPONSIBILITY:

EXAMINE THE DRAWINGS AND SPECIFICATIONS AND VISIT THE WORK SITE. BECOME FAMILIAR WITH THE CHARACTER OF THE WORK, THE COORDINATION WITH OTHER TRADES REQUIRED, AND ANY OTHER CONDITIONS THAT AFFECT THE COMPLETION OF THIS WORK.

### 3. PERMITS, CODES AND LAWS:

APPLY FOR ALL PERMITS AND PAY ALL FEES.

ALL WORK SHALL BE IN ACCORDANCE WITH LATEST EDITIONS OF THE FOLLOWING RULES AND REGULATIONS, HEREIN REFERRED TO AS "CODES":

THE LATEST OR ADOPTED EDITION OF THE APPLICABLE LOCAL, STATE, AND FEDERAL BUILDING, MECHANICAL, SANITATION, PLUMBING, ETC. CODES.  
UNDERWRITERS LABORATORIES, INC. (U.L.)  
NATIONAL FIRE PROTECTION ASSOCIATION (N.F.P.A.)  
OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (O.S.H.A)

WHERE ANY OF THESE CODES ARE AT VARIANCE WITH THE DRAWINGS AND SPECIFICATIONS, THEIR REQUIREMENTS SHALL TAKE PRECEDENCE, UNLESS THE DRAWINGS AND SPECIFICATIONS REQUIREMENTS EXCEED THESE CODES. INCLUDE ANY COST NECESSARY TO MEET THESE CODES IN THE BID PRICE.

### 4. MECHANICAL PLANS:

THE MECHANICAL PLANS ARE DIAGRAMMATIC AND BASED ON ONE MANUFACTURER'S EQUIPMENT. THEY ARE NOT INTENDED TO SHOW EVERY ITEM IN ITS EXACT LOCATION, THE EXACT DIMENSIONS, OR ALL THE DETAILS OF THE EQUIPMENT. VERIFY THE ACTUAL DIMENSIONS OF THE EQUIPMENT PROPOSED TO BE USED.

INSTALLATION SHALL BE WITHIN THE LIMITATIONS IMPOSED BY THE ARCHITECTURAL, STRUCTURAL, HVAC, ELECTRICAL, AND PLUMBING REQUIREMENTS WITH ADEQUATE SPACE FOR MAINTENANCE.

### 5. QUESTIONS AND CLARIFICATIONS OF BID DOCUMENTS:

BIDDERS SHALL NOT RELY ON ANY ORAL CLARIFICATION OF THE DRAWINGS OR SPECIFICATIONS. ANY QUESTIONS OR CLARIFICATIONS SHALL BE REFERRED IN WRITING TO THE ARCHITECT.

### 6. GUARANTEES:

ALL EQUIPMENT, MATERIALS, AND WORKMANSHIP SHALL BE GUARANTEED IN WRITING. WARRANTIES SHALL INCLUDE FACTORY WARRANTIES FOR EACH PIECE OF EQUIPMENT. PROVIDE A CERTIFICATE FOR EACH PIECE OF EQUIPMENT. CLEARLY INDICATE ON EACH WARRANTY CERTIFICATE THE MODEL NO., SERIAL NO., LOCATION, AND OWNER'S NAME UNLESS OTHERWISE REQUIRED BY THE OWNER.

ALL WARRANTIES SHALL BE FULLY TRANSFERABLE TO ANY AND ALL SUBSEQUENT BUILDING AND/OR CONDOMINIUM OWNERS, AND THEIR AGENTS, FOR THE LIFE OF EACH WARRANTY.

BIND THE ORIGINAL COPIES OF WARRANTIES FOR EACH PIECE OF EQUIPMENT IN A RING BINDERS, FOR THE BUILDING AND CONDOMINIUM UNIT, AND TURN OVER TO THE BUILDING OWNER AT FINAL ACCEPTANCE OF THE PROJECT. FOR DISTRIBUTION TO THE CONDOMINIUM OWNERS. ORGANIZE THE WARRANTIES WITHIN THE BINDER USING INDEX AND TABS, AS TO LOCATION WITHIN THE BUILDING.

INCLUDE COPIES OF THESE WARRANTIES IN THE MAINTENANCE MANUALS, SEE OPERATION AND MAINTENANCE MANUAL SPECIFICATION SECTION.

### 7. COMPLETE SYSTEM:

ALL PRODUCTS, MATERIALS AND ACCESSORIES SHALL BE FURNISHED AND INSTALLED AS REQUIRED FOR A COMPLETE SYSTEM READY FOR OWNER'S BENEFICIAL USE.

### 8. WORKMANSHIP:

ALL WORK SHALL BE PERFORMED BY COMPETENT MECHANICS USING PROPER TOOLS AND EQUIPMENT TO PRODUCE FIRST QUALITY WORK. ALL WORK SHALL BE NEATLY INSTALLED, ACCESSIBLE FOR MAINTENANCE, AND COMPLETE WITH ALL ACCESSORIES REQUIRED.

### 9. ACCESSIBILITY:

INSTALL ALL EQUIPMENT AND THEIR APPURTENANCES SUCH AS, BUT NOT LIMITED TO, VALVES, COILS, DRAIN PANS, DRAINS, DAMPERS, CONTROLS, MOTORS, CONTROLLERS, ETC., SO THAT THEY CAN BE SERVICED, RESET, RECALIBRATED, ETC. INSTALL ALL NECESSARY ACCESS PANELS AND BUILDING ACCESS DOORS, AS BELOW, WHERE REQUIRED TO ACCOMPLISH THIS. IF ANY EQUIPMENT OR COMPONENTS DO NOT FIT WHERE INTENDED, THE CONTRACTOR SHALL NOTIFY THE ARCHITECT IN WRITING, REQUESTING FURTHER GUIDANCE.

PROVIDE BUILDING ACCESS DOORS FOR ALL MECHANICAL EQUIPMENT REQUIRING SERVICE, INCLUDING BUT NOT LIMITED TO, AHU'S, FANS, DAMPERS, DUCT ACCESS PANELS, CONTROLS, PIPING, VALVES, REGULATORS, TRAPS, ETC., INSTALLED ABOVE HARD CEILINGS, BEHIND WALLS, AND BELOW FLOORS. FOR INSTALLATION BY OTHER DIVISIONS OF THE WORK. BUILDING ACCESS DOORS ARE NOT REQUIRED WHERE THE MECHANICAL EQUIPMENT IS INSTALLED ABOVE LAY-IN AND ACCESSIBLE SPLINE CEILINGS. OTHER TYPES OF SPLINE CEILINGS REQUIRE BUILDING ACCESS DOORS.

SIZE THE BUILDING ACCESS DOORS FOR THE USE INTENDED, BUT NOT LESS THAN 12 INCHES BY 12 INCHES. WHERE HUMAN ACCESS IS REQUIRED, PROVIDE 24 INCHES BY 24 INCHES, OR LARGER.

WHERE BUILDING ACCESS DOORS CANNOT BE INSTALLED FOR STRUCTURAL OR ARCHITECTURAL REASONS, NOTIFY THE ARCHITECT.

PRIME COAT BUILDING ACCESS DOORS IN PAINTED AREAS WITH FINISH PAINTING AS SPECIFIED IN OTHER DIVISIONS.

IN WET AREAS, TOILET ROOMS, OR AREAS WITH CERAMIC TILE FLOORS OR WALLS, PROVIDE STAINLESS STEEL BUILDING ACCESS DOORS.

PROVIDE BUILDING ACCESS DOORS WITH A CONCEALED KEY OPERATED LOCK AND CONCEALED HINGES. ALL LOCKS SHALL BE KEYED ALIKE.

PROVIDE BUILDING ACCESS DOORS AS SPECIFIED IN OTHER DIVISIONS OF THE WORK OR PROVIDE MILCOR DOORS, OR EQUIVALENT, SUITABLE FOR THE INSTALLATION INTENDED. PROVIDE FIRE RATED DOORS FOR ALL FIRE RATED WALLS, PARTITIONS, AND CEILINGS.

### 10. WORK BY OTHER TRADES:

FURNISH ALL SLEEVE FRAMES, BUILDING ACCESS DOORS, PREFABRICATED EQUIPMENT CURBS, ROOF CURBS, ETC. FOR INSTALLATION BY OTHER TRADES.

INSTALL ALL MOTORS AND FURNISH THE STARTING EQUIPMENT AND DISCONNECTS TO THE ELECTRICAL SUBCONTRACTOR FOR INSTALLATION. CONTROL WIRING, INCLUDING SWITCHES, THERMOSTATS, INTERLOCKS, ETC. SHALL BE FURNISHED BY MECHANICAL SUBCONTRACTOR. ENSURE THAT THE ELECTRICAL EQUIPMENT MOUNTED NEAR THE MECHANICAL EQUIPMENT DOES NOT BLOCK ACCESS TO SERVICE AREAS OF THE MECHANICAL EQUIPMENT. DO NOT ALLOW ANY EQUIPMENT TO BE INSTALLED ON THE HVAC EQUIPMENT ENCLOSURES.

### 11. FIRE STOPPING

ALL PENETRATIONS OF FLOORS AND OTHER FIRE-RATED ASSEMBLIES SHALL BE FIRE AND SMOKE-STOPPED IN STRICT ACCORDANCE WITH THE APPLICABLE CODES.

### 12. FOUNDATIONS AND SPECIAL SUPPORTS:

FURNISH AND INSTALL ALL SPECIAL FOUNDATIONS AND SUPPORTS REQUIRED FOR EQUIPMENT INSTALLED UNDER THIS SECTION, UNLESS THEY ARE A PART OF THE BUILDING STRUCTURE AND ARE SHOWN IN OTHER SECTIONS.

### 13. CLEANING AND PAINTING:

THOROUGHLY CLEAN ALL EQUIPMENT AND REMOVE ALL TRASH, CARTONS, ETC. MAKE ANY NECESSARY CORRECTIONS OR REPAIR/REPLACE ANY DAMAGED MATERIALS OR EQUIPMENT. LEAVE THE ENTIRE SYSTEM IN A THOROUGHLY CLEAN AND ORDERLY MANNER.

ANY FINISHED SURFACES THAT HAVE BEEN SCRATCHED OR DISCOLORED SHALL BE TOUCHED-UP OR REPAINTED BREAK TO BREAK WITH PAINT TO MATCH THE ORIGINAL COLOR. TOUCH UP PAINTED SURFACES OR REPAINT THE ENTIRE PAINTED SURFACE IF TOUCH UP IS UNACCEPTABLE. SEE ARCHITECTURAL PAINTING SPECIFICATIONS.

ALL METAL ITEMS SUBJECT TO RUSTING, INSIDE OR EXPOSED TO WEATHER SHALL BE GIVEN ONE COAT OF PROPER TYPE RUST PREVENTATIVE PRIMER AS SOON AS INSTALLED. APPLY TWO FINISH COATS WITH COLOR TO BE SELECTED BY THE ARCHITECT.

FOR ALL INTERIOR OR EXTERIOR STRUCTURAL GALVANIZED STEEL, COLD GALVANIZE ALL EXPOSED METAL CUT ENDS, HOLES, WELDS, SCRATCHES, ETC., OR HOT DIP GALVANIZE THE ENTIRE STRUCTURE OR FRAME AFTER FABRICATION AND MOUNTING HOLES ARE CUT.

UPON COMPLETION OF THE INSTALLATION, BUT NOT BEFORE, AND BEFORE ACCEPTANCE, THOROUGHLY CLEAN ALL EXPOSED EQUIPMENT, PIPING, DUCTWORK, INSULATION JACKETS, ETC., REMOVING ALL STICKERS, LABELS, MARKING, WRITING, FABRICATION MARKINGS, IDENTIFICATION, ADHESIVE, SEALER, GLUE, RUST, CORROSION, ETC., FROM THEIR EXTERIOR SURFACES.

THE CLEANLINESS AND PAINTING ACCEPTABILITY IS AT THE SOLE DISCRETION OF THE ARCHITECT AND MAY REQUIRE ADDITIONAL CLEANING AND COATS OF PAINT BEFORE ANY SURFACE IS ACCEPTED.

### 14. SUBMITTALS:

#### SUBMITTAL AND SHOP DRAWINGS:

SUBMIT MANUFACTURER'S CERTIFIED DATA RELATIVE TO ALL EQUIPMENT, PIPING, DUCTWORK, CONTROLS, ETC. REQUIRED FOR THE INSTALLATION OF THE HVAC, PLUMBING AND FIRE PROTECTION SYSTEMS. SUBMIT FOR REVIEW ALL NECESSARY ENGINEERING, PRODUCT AND INSTALLATION DATA, SHOP DRAWINGS, SAMPLES ETC. FOR ALL EQUIPMENT, MATERIAL, AND SYSTEMS TO ASCERTAIN COMPLIANCE WITH THE TECHNICAL REQUIREMENTS OF THE CONTRACT DOCUMENTS.

SUBMIT ELECTRONIC (PDF) COPIES OF ALL NECESSARY DATA, CUTS, MANUFACTURER'S SELECTIONS, CATALOGS, BULLETINS, INSTALLATION INSTRUCTIONS, DRAWINGS, DIAGRAMS, CURVES, ETC. CLEARLY INDICATE ON THE SUBMITTED DATA, THE MANUFACTURER'S NAME, PRODUCT NUMBER(S), OPTIONS, EQUIPMENT CAPACITY, DIMENSIONAL DATA, WEIGHTS, AND OTHER APPLICABLE TECHNICAL DATA FOR THE PROJECT.

TRADE NAMES, MANUFACTURERS, AND CATALOGUE NUMBERS ARE MENTIONED HEREIN AND ON THE DRAWINGS SOLELY IN ORDER TO ESTABLISH A STANDARD FOR THE TYPE, GENERAL DESIGN, AND QUALITY OF PRODUCT REQUIRED. OTHER PRODUCTS SIMILAR IN DESIGN OF EQUIVALENT QUALITY CAPABLE OF FITTING WITHIN THE SPACES ALLOCATED AND COMPLYING WITH THE DRAWINGS AND SPECIFICATIONS WILL BE CONSIDERED AFTER THE CONTRACT IS LET UNLESS "PRIOR APPROVAL" REQUIREMENTS ARE SET FORTH IN THESE DOCUMENTS.

WHERE TWO OR MORE MANUFACTURERS OR MATERIALS ARE NAMED, THE CONTRACTOR MAY SUBMIT ANY OF THOSE NAMES, PROVIDED THEY CONFORM TO THE SPECIFICATIONS AND DESIGN INTENT. CONTRACTOR SHALL INCLUDE WITH THE SUBMITTAL A LIST OF ALL COMPARATIVE FEATURES INDICATING COMPLIANCE WITH THE SPECIFICATIONS.

THE ARCHITECT AND/OR ENGINEER MAY REQUIRE THE SUBMISSION OF SAMPLES, PARTICULARLY WHEREVER EQUIPMENT OR APPLIANCES ARE VISIBLE IN FINISHED AREAS, SUCH AS CEILINGS, INTERIOR AND EXTERIOR WALLS. THE CONTRACTOR AND SUPPLIER SHALL ARRANGE FOR DEMONSTRATIONS OF THE INSTALLATION OF ANY OF THESE PRODUCTS AND THEIR ABILITY TO PERFORM AS SPECIFIED, IF REQUIRED.

REVIEW OF SUBMITTALS AND SHOP DRAWINGS DOES NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY FOR FITTING THE EQUIPMENT IN THE SPACE ALLOTTED WITH SPACE FOR ALL CONNECTIONS AND SERVICING AND FOR THE COORDINATION OF THE WORK WITH WORK OF OTHER TRADES.

THE CONTRACTOR SHALL REVIEW ALL SUBMITTALS AND SHOP DRAWINGS AND INDICATE BY STAMP OR LETTER THAT HE HAS REVIEWED THEM, BEFORE FORWARDING THEM TO THE ARCHITECT AND/OR ENGINEER. SUBMITTALS AND DRAWINGS WILL BE RETURNED AFTER REVIEW INDICATING WHETHER EXCEPTIONS ARE TAKEN, THE SUBMITTAL RETURNED WITH CORRECTIONS, OR IS COMPLETELY REJECTED. RESUBMISSION OF REVISED SUBMITTALS AND SHOP DRAWINGS, IF REQUIRED, SHALL BE DONE BEFORE INSTALLATION AND CONSTRUCTION IS BEGUN.

CORRECTIONS OR COMMENTS MADE ON THE SUBMITTALS AND DRAWINGS DURING THIS REVIEW DOES NOT RELIEVE THE CONTRACTOR FROM COMPLIANCE WITH THE REQUIREMENTS OF THE CONTRACT DOCUMENTS. THIS REVIEW IS FOR GENERAL CONFORMANCE WITH THE DESIGN CONCEPT OF THE PROJECT AND GENERAL COMPLIANCE WITH THE INFORMATION GIVEN IN THE CONTRACT DOCUMENTS. THE CONTRACTOR IS RESPONSIBLE FOR CONFIRMING AND CORRELATING ALL QUANTITIES AND DIMENSIONS, FABRICATION PROCESSES, TECHNIQUES OF CONSTRUCTION, COORDINATING THE WORK WITH THAT OF ALL OTHER TRADES, AND PERFORMING WORK IN A SAFE AND SATISFACTORY MANNER. REVIEW OF THE SUBMITTALS SHALL NOT PERMIT ANY DEVIATION FROM PLANS AND SPECIFICATIONS.

SUBMITTALS FOR A SPECIFIC CLASS OF PRODUCTS, SYSTEMS, INSTALLATION PROCEDURES, SHOP DRAWINGS, ETC. WILL BE REVIEWED BY THE ENGINEER ONE TIME AND ITS RESUBMITTAL ONE TIME, IF NECESSARY, AS ABOVE, AT NO COST TO THE CONTRACTOR. THE CONTRACTOR WILL BEAR THE FULL COST FOR ALL SUBSEQUENT RESUBMITTAL REVIEWS AT THE ENGINEER'S STANDARD HOURLY RATES. PAYMENT WILL BE REQUIRED AT COMPLETION OF RESPECTIVE REVIEW.

#### REQUIRED SHOP DRAWINGS:

SUBMIT THE FOLLOWING SHOP DRAWINGS BEFORE ANY MECHANICAL DUCTWORK, PIPING, EQUIPMENT, ETC. IS FABRICATED AND INSTALLED. SUBMIT THESE SHOP DRAWINGS IN 1/4 INCH PER FOOT MINIMUM SCALE WITH NECESSARY PLANS, ELEVATIONS, SECTIONS, DETAILS, AND ISOMETRICS. SUBMIT SIX (6) PAPER COPIES AND ONE (1) CD-ROM WITH ALL THESE DRAWINGS IN AUTOCAD DRAWING DWG FILES, LATEST AUTOCAD FORMAT.

SOON AFTER AWARD OF THE CONTRACT, DETERMINE WHERE THERE MAY BE INSTALLATION, SPACE CONCERNS, AND/OR WHERE OTHER CONFLICTS MAY OCCUR. SUBMIT COORDINATION DRAWINGS, RELATING TO THESE CONFLICTS WITH THE MECHANICAL EQUIPMENT, DUCT, PIPING, ELECTRICAL, STRUCTURAL, AND ARCHITECTURAL SYSTEMS, ETC., SHOWING CLEARANCES AND RELATIONSHIP TO STRUCTURAL MEMBERS, PIPING, LIGHTS, CONDUITS, ELECTRICAL EQUIPMENT, AND BUILDING COMPONENTS. IN PREPARING THESE SHOP DRAWINGS, ESTABLISH LINES AND LEVELS FOR ALL DIVISIONS OF THE WORK IN THE AFFECTED AREA. IMMEDIATELY CALL TO THE ATTENTION OF THE ARCHITECT ANY INTERFERENCE OR CONFLICT FOR CLARIFICATION IN WRITING.

#### SUBMIT SHOP DRAWINGS FOR ALL DUCTWORK.

SUBMIT LAYOUT DRAWINGS OF EACH MECHANICAL SYSTEM SHOWING THE LOCATION, ARRANGEMENT, ETC. OF ALL EQUIPMENT, ALL TRADES, ETC. TO BE INSTALLED RELATED TO THE RESPECTIVE SYSTEM.

MAINTAIN DAILY UPDATED DRAWINGS SHOWING DEVIATIONS FROM CONSTRUCTION DOCUMENTS. AT THE END OF THE PROJECT, PROFESSIONALLY PREPARE AS-BUILT DRAWINGS AND SUBMIT THREE COPIES, ONE REPRODUCIBLE.

#### 15. AS-BUILT DRAWINGS:

MAINTAIN DAILY UPDATED DRAWINGS SHOWING DEVIATIONS FROM CONSTRUCTION DOCUMENTS. AT THE END OF THE PROJECT, PROFESSIONALLY PREPARE AS-BUILT DRAWINGS AND SUBMIT THREE COPIES, ONE REPRODUCIBLE.

#### 16. OPERATION AND MAINTENANCE MANUALS:

UPON COMPLETION OF THE PROJECT, SUBMIT THREE COPIES OF ALL OPERATION AND MAINTENANCE MANUALS, WARRANTIES, SPARE PARTS LIST, AS-BUILT DRAWINGS, TEST AND BALANCE REPORTS, AND LETTER OF GUARANTEE ALL BOUND IN THREE RING BINDERS, CLEARLY SHOWING WHICH EQUIPMENT WAS SUPPLIED TO THE JOB.

#### 17. PROJECT COMPLETION:

BEFORE STARTING AND TESTING ANY SYSTEM, HVAC, OR PLUMBING, TO PREVENT INADVERTENT OPERATION OF THE MECHANICAL EQUIPMENT BEFORE THE MANUFACTURER'S INSPECTION AND TESTING, THE CONTRACTOR SHALL:

VERIFY THAT ALL ELECTRICAL POWER IS OFF TO ALL MECHANICAL EQUIPMENT, INCLUDING THE AHU'S, ACCU'S, BOOSTER PUMPS, FIRE PUMPS, ETC.

LOCK OUT EACH SYSTEM USING SETON MODEL NUMBER 70329; "DO NOT OPERATE" LOCK ON LOCKOUT TAGS, OR EQUIVALENT. INSTALL LOCKOUT TAGS AT EACH PIECE OF EQUIPMENT, ELECTRICAL DISCONNECTS, STARTERS, SWITCHES, ETC.

REMOVE THESE TAGS ONLY WHEN THE MANUFACTURER APPROVES OF THE EQUIPMENT INSTALLATION IN WRITING.

EACH MANUFACTURER OR THEIR REPRESENTATIVE SHALL INSPECT THEIR EQUIPMENT FOR COMPLIANCE TO THEIR INSTALLATION REQUIREMENTS AND RECOMMENDATIONS.

IN ADDITION, THE COMPRESSOR MANUFACTURER SHALL INSPECT EACH REFRIGERANT PIPING INSTALLATION FOR ADHERENCE TO THE APPROVED REFRIGERANT PIPING DIAGRAMS, ROUTING.

EACH MANUFACTURER SHALL PREPARE A PUNCH LIST OF ALL DEFICIENCIES, IN WRITING WITH COPIES TO THE ARCHITECT AND CONTRACTOR.

EACH MANUFACTURER SHALL REINSPECT THE EQUIPMENT AFTER THE CONTRACTOR HAS CORRECTED ALL DEFICIENCIES.

WHEN THE MANUFACTURER HAS GIVEN THEIR WRITTEN APPROVAL WITH COPIES TO THE ARCHITECT AND CONTRACTOR, THE CONTRACTOR MAY REMOVE THE LOCKOUT TAGS, SAFELY START, AND TEST THE EQUIPMENT, AS REQUIRED HEREIN.

CONTRACTOR SHALL PROVIDE FOR ALL NECESSARY DRILLING OF WALL STUDS, CEILING JOISTS, PLATES, FINISHES, ETC. TO ACCOMMODATE ROUTING AND INSTALLATION OF ALL PIPING, DUCT, ETC.

#### 18. VALUE ENGINEERING

IF THE OWNER, ARCHITECT, OR CONTRACTOR RETAINS THE SERVICES OF A VALUE ENGINEER (VE) TO REVIEW THESE PLANS PREPARED BY THE CONSULTANT, THESE SERVICES SHALL BE AT THEIR SOLE EXPENSE AND SHALL BE PERFORMED IN A TIMELY MANNER SO AS NOT TO DELAY THE ORDERLY PROGRESS OF THE CONSULTANT 'S SERVICES. THE CONSULTANT SHALL BE NOTIFIED IN WRITING OF THE VE AND THE VE SCOPE OF SERVICES. ALL RECOMMENDATIONS OF THE VE SHALL BE GIVEN TO THE CONSULTANT FOR REVIEW, AND ADEQUATE TIME WILL BE PROVIDED FOR THE CONSULTANT TO RESPOND TO THESE RECOMMENDATIONS.

IF THE CONSULTANT OBJECTS TO ANY RECOMMENDATIONS MADE BY THE VE, IS SHALL SO STATE IN WRITING, ALONG WITH THE REASONS FOR OBJECTING. IF, IN SPITE OF THE CONSULTANT 'S OBJECTIONS, CHANGES IN THE CONSTRUCTION DOCUMENTS ARE ORDERED BY THE OWNER, ARCHITECT, OR CONTRACTOR, THEY AGREE, TO THE FULLEST EXTENT PERMITTED BY LAW, TO WAIVE ALL CLAIMS AGAINST THE CONSULTANT AND TO INDEMNIFY AND HOLD HARMLESS THE CONSULTANT FROM ANY DAMAGES, LIABILITIES OR INCORPORATION OF SUCH DESIGN CHANGES ORDERED.

IN ADDITION, THE CONSULTANT SHALL BE COMPENSATED FOR SERVICES NECESSARY TO INCORPORATE RECOMMENDED VALUE ENGINEERING CHANGES INTO REPORTS, DRAWINGS, SPECIFICATIONS, BIDDING OR OTHER DOCUMENTS. THE CONSULTANT SHALL BE COMPENSATED AS ADDITIONAL SERVICE FOR ALL TIME SPENT TO PREPARE FOR, REVIEW AND RESPOND TO THE RECOMMENDATIONS OF THE VE. THE CONSULTANTS TIME PERFORMANCE OF ITS SERVICES SHALL BE EQUITABLY ADJUSTED.

#### DIVISION 23 SPECIFICATIONS:

##### HVAC EQUIPMENT, METHODS AND MATERIALS

#### 19. DUCTWORK GENERAL:

DUCT SIZES SHOWN ON THE DRAWINGS ARE INSIDE DIMENSIONS AND DO NOT TAKE INTO ACCOUNT LINING THICKNESS. DUCTWORK SHALL BE GALVANIZED SHEET METAL WITH GAUGES, CONSTRUCTION DETAILS AND INSTALLATION ACCORDING TO N.F.P.A. STANDARD 90A, ASHRAE, AND SMACNA DUCT CONSTRUCTION MANUALS AND REQUIREMENTS.

PROVIDE FLEXIBLE CONNECTIONS AT AIR HANDLING UNITS AND FANS.

PROVIDE SINGLE THICKNESS TURNING VANES IN ELBOWS.

ALL DUCTS 18" AND OVER SHALL BE CROSSBROKEN.

PAINT DUCTS, SLEEVES, PLENUMS, ETC., INTERIORS VISIBLE THROUGH AIR DEVICES WITH A MINIMUM OF ONE COAT OF PROPER TYPE RUST PREVENTATIVE PRIMER, SUITABLE FOR GALVANIZED STEEL, AND TWO FINISH COATS OF FLAT BLACK PAINT.

#### 20. DUCT CONSTRUCTION MATERIALS:

RECTANGULAR SUPPLY, RETURN, OUTSIDE AIR, AND EXHAUST: LINED GALVANIZED SHEET METAL. ROUND DUCT AND RUN-OUTS: EXTERNALLY INSULATED GALVANIZED SHEET METAL DUCTS WITH SPIRAL LOCK SEAMS.  
FLEXIBLE DUCT: PRE-INSULATED FLEXIBLE DUCT. NO FLEXIBLE DUCT RUNS LONGER THAN 5 FEET.

PROVIDE DRYER VENT PIPING INSTALLED AS REQUIRED BY THE MANUFACTURER AND PER CODE USING 4 INCH ROUND GALVANIZED STEEL, SEALED AND SUPPORTED. THE USE OF FLEXIBLE DRYER VENT PIPE IS PROHIBITED.

#### 21. FABRICATION, ERECTION, AND SUPPORT:

ALL DUCTWORK SHALL BE FABRICATED, ERECTED, BRACED, AND SUPPORTED IN STRICT ACCORDANCE WITH THE LATEST EDITIONS OF SMACNA AND ASHRAE REQUIREMENTS.

#### 22. ACOUSTIC LINED DUCTWORK:

ACOUSTICALLY AND THERMALLY LINE 10' OF RECTANGULAR SUPPLY, RETURN, OUTSIDE AIR, AND EXHAUST DUCT AND PLENUMS WITH 1-1/2" THICK, 1-1/2" PCF FIBERGLASS DUCT LINER (R-6 MIN.), APPLIED PER THE MANUFACTURER'S AND NAIMA REQUIREMENTS. DUCT LINER SHALL MEET OR EXCEED ASHRAE'S I.A.Q. STANDARD 62 AND IECC. USE WELDED STICK CLIPS, IN LIEU OF ADHESIVE TYPE FASTENERS AND FULL COVERAGE ADHESIVE. PROVIDE EDGE NOSINGS WERE REQUIRED. COAT ALL EXPOSED FIBERGLASS WITH HARDCAST "LAG-GRIP 671".

#### 23. JOINT SEALING:

SEAL ALL DUCT JOINTS AND SEAMS (LONGITUDINAL AND TRANSVERSE) WITH HIGH PRESSURE DUCT SEALER, HARDCAST "IRON-GRIP 601" OR APPROVED EQUIVALENT. REINFORCED FOIL BACKED TAPES, CLOTH OR PLASTIC BACKED TAPES (DUCT TAPE) ARE NOT ACCEPTABLE.

#### 24. FLEXIBLE AIR DUCT:

DUCT SHALL BE UL LISTED UL-181, CLASS I AIR DUCT MATERIAL AND SHALL COMPLY WITH N.F.P.A. 90A AND 90B AND ALL LOCAL REQUIREMENTS DUCT SHALL HAVE AN OPERATING AIR PRESSURE OF 6 INCHES WG POSITIVE AND 4 INCHES WG NEGATIVE, ACOUSTICAL DOUBLE LAMINATED INNER FABRIC BONDED TO A STEEL HELIX WIRE. OUTER JACKET FIRE RETARDANT REINFORCED ALUMINIUM NYLAR WITH FIBER GLASS INSULATION. FLEXMASTER TYPE "8M" ACOUSTICAL INSULATED OR EQUIVALENT.

MAKE ALL FLEXIBLE DUCT CONNECTIONS TO HARD DUCT USING STAINLESS STEEL SCREW CLAMPING BANDS AND SEALED AIR TIGHT WITH HIGH PRESSURE DUCT SEALER. PLASTIC BANDS ARE NOT ACCEPTABLE.

SEAL FLEXIBLE DUCT VAPOR BARRIER TO HARD DUCT AND/OR ADJACENT INSULATION. NO EXPOSED FIBERGLASS SHALL BE VISIBLE.

#### 25. AIR DISTRIBUTION DEVICES:

COORDINATE THE EXACT LOCATIONS OF ALL AIR DEVICE NEEDS WITH THE ARCHITECTURAL DRAWINGS PRIOR TO INSTALLATION. COORDINATE THE EXACT LOCATION OF EACH OUTLET WITH THE ARCHITECT WITH REGARD TO CEILING AND WALL SPACING, CENTERING ALONG SOFFITS, WALLS, ETC.

FURNISH AND INSTALL WHERE SHOWN ON THE DRAWINGS ALL DIFFUSERS, GRILLES, AND REGISTERS OF THE SIZE, TYPE, AND CAPACITY AS INDICATED IN THE AIR DEVICE SCHEDULE.

#### ELBOWS:

#### 26. TURNING VANES AND SMOOTH RADIUS ELBOW (WITHOUT VANES):

AT ALL DUCT TURNS OF 45 DEGREES OR MORE, PROVIDE SINGLE THICKNESS TURNING VANES PER SMACNA REQUIREMENTS. ALTERNATIVELY, USE SMOOTH RADIUS ELBOW (R/W = 1.5).

#### 27. BRANCH TAKEOFF FITTINGS:

AT ALL MAIN TO BRANCH DUCT TAPS, TAKEOFFS, OR RUN-OUTS PROVIDE 45 DEGREE ENTRANCE TAPS, AS DETAILED BY SMACNA STANDARDS.

#### 28. DUCT MOUNTED ACCESS PANELS:

INSTALL ACCESS PANELS AS FOLLOWS:

AT INLET OF EACH DUCT MOUNTED FIRE AND MOTORIZED DAMPER.

FOR DUCT MOUNTED CONTROLS.

AS REQUIRED AND DIRECTED BY THE TEST AND BALANCE CONTRACTOR.

WHERE REQUIRED FOR DUCT INSPECTION, MAINTENANCE, AND CLEANING.

ACCESS PANELS SHALL BE 18 INCHES X 18 INCHES OR LARGEST DUCT WILL ALLOW. NORMALLY CENTER THE ACCESS PANEL IN THE BOTTOM OF THE DUCT AS CLOSE AS POSSIBLE TO THE DUCT MOUNTED DEVICE. ACCESS PANELS MAY BE INSTALLED ON THE SIDE OF THE DUCT, WHERE NECESSARY.

ACCESS PANELS SHALL BE DOUBLE WALL INSULATED HINGED WITH NEOPRENE GASKETS AND CAM LOCKS ON EACH UNHINGED SIDE. WHERE REQUIRED BECAUSE OF PANEL OPENING CLEARANCE, SUBSTITUTE UNHINGED ACCESS PANELS WITH CAM LOCKS ON EACH SIDE AND CAPTIVE CHAIN. ACCESS PANELS SHALL BE FLEXMASTER "TBSM-TAB DOOR" GREENHECK MODEL "HAD-10", OR EQUIVALENT.

#### REFRIGERANT PIPING

#### 29. GENERAL

REFRIGERANT PIPING SHALL CONFORM TO THE REQUIREMENTS OF THE SAFETY CODES FOR MECHANICAL REFRIGERATION AND REFRIGERANT PIPING AND THE MANUFACTURER REQUIREMENTS.

RUN ALL PIPING SQUARE TO BUILDING LINES WHEREVER POSSIBLE. FIELD ROUTE PIPING IN ORDER TO PROVIDE FOR EASE OF ACCESS TO VALVES AND OTHER APPURTENANCES.

SUPPORT INTERIOR PIPING FROM THE BUILDING STRUCTURE USING COPPER OR PVC COATED HANGERS. SUPPORT REFRIGERANT PIPING 4 FOOT ON CENTER AND AT EACH CHANGE OF DIRECTION. PROVIDE 4" WIDE INSULATION SADDLES.

SUBMIT REFRIGERANT PIPING LAYOUT SHOP DRAWINGS FOR EACH UNIQUE SYSTEM, REVIEWED AND APPROVED BY THE MANUFACTURER, IN WRITING. SHOW ALL FILTERS, DRIERS, SIGHT-GLASSES, VALVES, ETC. AS REQUIRED BY THE MANUFACTURER.

#### 30. MATERIAL AND INSTALLATION

USE REFRIGERANT GRADE, TYPE "K" HARD DRAWN COPPER PIPE WITH LONG RADIUS ELBOWS. NO CAST FITTINGS ARE ACCEPTABLE.

INSTALL FILTER DRIER EQUIVALENT TO SPORLAN CATCH-ALL.

INSTALL SIGHT GLASSES WITH MOISTURE INDICATORS COVERED BY A PROTECTIVE CAP. LOCATE THE SIGHT GLASSES INSIDE THE BUILDINGS, CLOSE TO THE FAN COIL IN THEIR RESPECTIVE MECHANICAL CLOSETS.

PROVIDE EXTERNAL FRONT SEATED BRASS SERVICE VALVES WITH SWEAT CONNECTIONS, WITH SERVICE PORTS FOR CHECKING OPERATING REFRIGERANT PRESSURES.

COPPER SHALL BE CLEANED AND SHINED BEFORE BRAZING. BRAZE USING J.W. HARRIS "DYNAFLOW" 6% SILVER BRAZING ALLOY.

#### 31. PURGING

PIPING SHALL BE PURGED WITH DRY NITROGEN WHILE BRAZING TO PREVENT OXIDATION. UPON COMPLETION OF A WELD, THE WELD SHALL BE WIPED WITH A DAMP RAG TO REMOVE FLUX WHILE STILL HOT.

#### 32. TESTING

ALL PIPING SHALL BE TESTED FOR 24 HOURS IN ACCORDANCE WITH THE FOLLOWING SCHEDULE AND PROVEN TIGHT:

DISCHARGE AND LIQUID REFRIGERANT PIPING—300 PSIG, NITROGEN.

SUCTION REFRIGERANT PIPING—150 PSIG NITROGEN.

REFRIGERANT PIPING, AFTER PROVEN TIGHT, SHALL BE EVACUATED BY MEANS OF AN APPROVED VACUUM PUMP TO A VACUUM OF 2.5 MM HG ABSOLUTE. SYSTEMS SHALL STAND UNDER VACUUM WITH VACUUM PUMP OFF FOR A MINIMUM OF 12 HOURS. SYSTEMS MAY BE CHARGED WITH PROPER REFRIGERANT AFTER ARCHITECT'S APPROVAL OF VACUUM TEST. A DEHYDRATOR SHALL BE USED IN CHARGING HOSE DURING CHARGING OF SYSTEMS WITH REFRIGERANT.

#### INSULATION:

#### 33. GENERAL

THIS SECTION APPLIES TO ALL MECHANICAL WORK.

ALL INSULATION SHALL BE IN STRICT ACCORDANCE WITH ASHRAE STANDARDS AND ALL LOCAL AND STATE ENERGY CODES.

THE INSULATION WORK SHALL BE PERFORMED BY A FIRM REGULARLY ENGAGED IN THIS TYPE WORK USING MECHANICS SKILLED IN THE TRADE.

INSTALL ALL MATERIALS AS RECOMMENDED BY THE MANUFACTURER FOR THE SERVICE INTENDED. ALL INSULATION MATERIAL, INCLUDING SEALER MATERIAL, ADHESIVES, COVERING MATERIAL, FINISH, ETC. SHALL HAVE A U.L. LISTED FLAME SPREAD RATINGS NOT OVER 24 WITHOUT EVIDENCE OF CONTINUED PROGRESSIVE COMBUSTION AND WITH A SMOKE DEVELOPED RATINGS NOT HIGHER THAN 50. ALL COATINGS AND COVERINGS FOR HOT SERVICE SHALL BE BREATHER TYPE AND VAPOR BARRIER TYPE FOR COLD SERVICE.

#### 34. HVAC PIPING

INSULATE REFRIGERANT SUCTION LINES AND ALL CONDENSATE DRAIN LINES WITH (CODE REQUIRED THICKNESS) CLOSE CELLED ELASTOMERIC INSULATION INSTALLED PER THE MANUFACTURERS REQUIREMENTS. PAINT EXTERIOR INSULATION WITH TWO COATS PAINT AS REQUIRED BY THE INSULATION MANUFACTURER.

#### 35. EXTERNALLY INSULATED DUCTS:

EXTERNALLY INSULATE ALL SUPPLY AND RETURN DUCTWORK WITH 1-1/2" THICK (R-6 MIN.) DUCT WRAP FOR DUCTS LOCATED IN UNCONDITIONED SPACES AND A 2" THICK (R-8 MIN.) DUCT WRAP FOR DUCTS LOCATED OUTSIDE THE BUILDING, EXCEPT PRE-INSULATED FLEXIBLE DUCT. EXTERNALLY INSULATE ALL OUTSIDE AIR DUCTWORK WITH 2" THICK (R-8) DUCT WRAP WITH ALUMINIUM ALL SERVICE JACKET, VAPOR BARRIER, ALL DUCT WRAPS SHALL MEET OR EXCEED ASHRAE'S I.A.Q. STANDARD 62 AND IECC.

#### 36. CHILLED WATER PIPING

INSULATE INDOOR CHILLED WATER PIPING WITH 1" THINK HEAVY DENSITY FIBERGLASS PIPE INSULATION WITH FLAME SAFE, ALL-PURPOSE BARRIER JACKET. INSULATE EXTERIOR CHILLED WATER PIPING AS SPECIFIED ABOVE, BUT DOUBLE THICKNESS WITH ALUMINIUM JACKET BANDED IN PLACE. INSULATE INDOOR, SMALL RUN OUT, CHILLED WATER PIPING WITH 1" THICK FIRE RETARDANT INSULATION.

#### 37. EQUIPMENT:

CAPACITY, PERFORMANCE AND CHARACTERISTICS OF EQUIPMENT SHALL BE AS INDICATED ON THE DRAWINGS AND AS SPECIFIED OR IMPLIED HEREIN. CONTRACTOR SHALL BE

GENERAL SPECIFICATIONS (CONTINUED)

40. AGENCY QUALIFICATIONS:

TEST & BALANCE AGENCY (TBA) SHALL BE PERFORMED BY AN INDEPENDENT AGENCY ENGAGED SOLELY IN TEST AND BALANCE WORK. AGENCY SHALL BE MEMBER OF THE ASSOCIATED AIR BALANCE COUNCIL (AABC) OR NATIONAL ENVIRONMENTAL BALANCING BUREAU, (NEBB).

SUBMIT A WRITTEN REPORT WITHIN 30 DAYS OF COMMENCING WORK, WITH ANY RECOMMENDED CHANGES TO INSURE BALANCING CAPABILITY.

SUBMIT A DETAILED TEST PLAN TO THE ARCHITECT ILLUSTRATING ALL FORMATS, DRAWINGS, AND TEST PROCEDURE TO BE USED FOR TESTING THE COMPLETED SYSTEM. THE APPROVED PLAN WILL BE USED FOR TESTING THE SYSTEMS. PROCEDURES SHALL INCLUDE REQUIREMENTS LISTED IN AABC / NEBB STANDARDS, LATEST EDITION AND ANY SPECIAL REQUIREMENTS FOR THIS PROJECT.

MAKE PROJECT VISITS AS REQUIRED DURING CONSTRUCTION PERIOD INSPECTING FOR PROPER INSTALLATION OF THE SYSTEM AND RELATED BALANCING DEVICES. PROJECT VISIT REPORTS SHALL BE MADE TO THE ARCHITECT IN WRITING.

41. CONTRACTORS REQUIREMENTS PRIOR TO TEST & BALANCE:

THE CONTRACTOR SHALL PERFORM ALL REQUIRED PRELIMINARY TESTS AND OTHER PREPARATORY WORK, INCLUDING BUT NOT LIMITED TO:

- MAKE SURE ALL FANS ARE OPERATING, CHECK ROTATION, RPM, AND AMPS.
- CHECK ALL DAMPERS FOR OPERATION.
- PUT ALL HVAC EQUIPMENT IN FULL OPERATION INCLUDING AIR UNITS, ACCU'S AND FANS.
- MAKE SURE ALL HVAC CONTROLS ARE INSTALLED AND FULLY OPERATIONAL.
- CLEAN/REPLACE FILTERS JUST PRIOR TO TESTING.
- PROVIDE ALL BALANCING DEVICES AND DRIVE CHANGES THAT ARE DEEMED NECESSARY BY T & B AGENCY FOR BALANCE AT NO ADDITIONAL COST TO THE OWNER.

42. TEST AND BALANCE:

TEST & BALANCE AGENCY SHALL BALANCE ALL AIR SYSTEMS FOR OPERATION WITHIN DESIGN CRITERIA. PRIME MOVERS SHALL BE WITHIN 5% OF DESIGN AND TERMINALS WITHIN 10% OF DESIGN.

AIR SYSTEMS SHALL BE BALANCED AS DESCRIBED HEREIN.

43. TEST REPORT:

THE TBA SHALL PROVIDE AN ELECTRONIC (PDF) COPY OF A FINAL COMPREHENSIVE TEST REPORT IN THE FOLLOWING FORMAT.

REPORT SHALL BE BOUND 8-1/2 X 11" WITH SUBSTANTIAL COVERS USING APPROVED FORMS, TYPED OR COMPUTER GENERATED REPORTS ARE ACCEPTABLE.

REPORT SHALL BE INDEXED.

TABLE OF CONTENTS SHALL LIST ALL REPORTS.

ALL AIR OUTLETS SHALL BE LOCATED ON CODED DRAWINGS PREPARED BY THE T&B AGENCY. AIR OUTLETS FORMS SHALL BE PREPARED AND CORRELATED TO THE CODED DRAWINGS.

TEST SUMMARY SHALL DESCRIBE FINAL TEST PROCEDURES AND SPECIAL CONDITIONS DURING TESTS (SUCH AS THERMOSTAT OUTSIDE/RETURN AIR RELATIONSHIP, AND DUCT STATIC PRESSURE.

DESCRIBE OTHER DATA THAT MAY ASSIST OPERATING PERSONNEL IN THE CONTINUING OPERATION OF THE SYSTEM.

T&B CONTRACTOR SHALL TAKE AND RECORD ALL NECESSARY READINGS AT THE FINAL BALANCE POINTS, SUCH AS BUT NOT LIMITED TO: AIR QUANTITIES, PRESSURES, SETPOINTS, ENTERING AND LEAVING COIL TEMPERATURES, SPACE INDOOR AND OUTSIDE WET AND DRY BULB TEMPERATURES, OUTDOOR WEATHER CONDITIONS, ELECTRICAL READINGS OF ALL NEW AND EXISTING MOTORS, COMPRESSORS, ETC.

TEST REPORT SHALL CONTAIN TBA CERTIFICATION OF TEST DATA AND SYSTEM CONDITIONS.

SUBMIT THE TEST REPORTS, FOR REVIEW, BEFORE SUBSTANTIAL COMPLETION.

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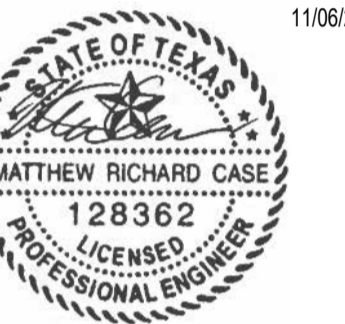
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## SHERWIN WILLIAMS

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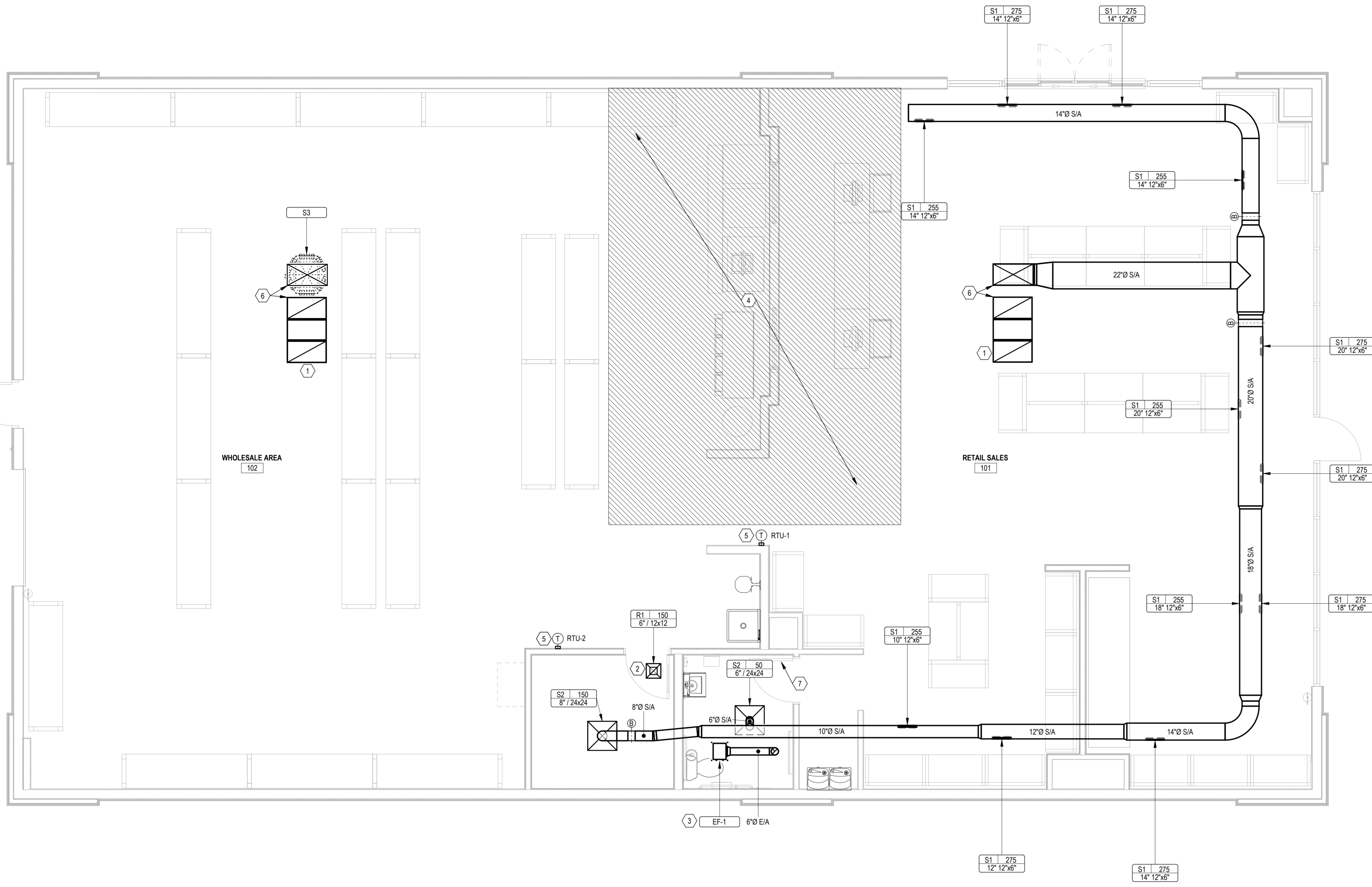
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### MECHANICAL SPECIFICATIONS

SHEET NUMBER:

# M002





#	MECHANICAL KEYNOTES
1	INSTALL TWO 90° ELBOWS TO TURN DUCT UP TOWARDS STRUCTURE. TERMINATE RA DUCT WITH 1/2" WIRE MESH APPROX. 18" BELOW STRUCTURE.
2	INSTALL RETURN GRILLE IN OFFICE CEILING AS SHOWN. LEAVE OPEN TO SPACE ABOVE CEILING.
3	INSTALL EF-1 IN BATHROOM CEILING AS SHOWN. ROUTE 6" DUCT FROM FAN UP THROUGH ROOF ABOVE. TERMINATE WITH RA INCAP AND BIRDSCREEN. VERIFY LOCATION IN FIELD.
4	DO NOT INSTALL ANY DUCTWORK, PLENUMS, ETC. IN THIS AREA.
5	FURNISH AND INSTALL 24/7 PROGRAMMABLE THERMOSTAT WITH AUTO CHANGEOVER AND RELATED WIRING TO CONTROL ROOFTOP UNIT. MOUNT AT 42" AFF IN LOCATION SHOWN. THERMOSTAT TO BE HONEYWELL VISIONPRO 8000 WITH REDLINK OR APPROVED EQUAL. VERIFY FINAL MOUNTING LOCATION WITH OWNER/ARCH. VERIFY PROPER OPERATION IN FIELD. REFER TO DATABOARD DETAIL 2, E300. PROVIDE 100' T-STAT WIRE.
6	33"x18" SA AND 32"x18" RA DOWN FROM RTU ON ROOF. SEE ROOF PLAN ON SHEET M200.
7	GENERAL CONTRACTOR TO UNDERCUT DOOR 3/4" ABOVE THRESHOLD FOR TRANSFER AIR.

**GENERAL NOTES**

- MECHANICAL DRAWINGS ARE DIAGRAMMATIC AND DO NOT NECESSARILY INDICATE EVERY REQUIRED OFFSET, FITTING, ETC. DRAWINGS ARE NOT TO BE SCALED FOR DIMENSIONS. TAKE ALL DIMENSIONS FROM ARCHITECTURAL DRAWINGS. CERTIFIED EQUIPMENT DRAWINGS AND FROM THE STRUCTURE ITSELF BEFORE FABRICATING ANY WORK. VERIFY ALL SPACE REQUIREMENTS COORDINATING WITH OTHER TRADES, AND INSTALL THE SYSTEMS IN THE SPACE PROVIDED WITHOUT EXTRA CHARGES TO THE OWNER.
- CONTRACTOR SHALL COORDINATE WORK INDICATED WITH PLUMBING, ELECTRICAL, FIRE PROTECTION, STRUCTURAL, AND ARCHITECTURAL DIVISIONS. SUBMIT 1/4" SCALE SHOP DRAWINGS FOR MECHANICAL SYSTEMS, DIMENSIONED TO INCORPORATE THE WORK OF OTHER TRADES. INDICATE SPACES RESERVED FOR PLUMBING PIPING, MECHANICAL PIPING, MECHANICAL DUCTWORK, & ELECTRICAL CONDUIT MAINS. VERIFY FIT OF MECHANICAL SYSTEMS PRIOR TO FABRICATION. COORDINATE ALL CHASE, SLEEVE, AND SLAB BLOCKOUT REQUIREMENTS BEFORE CONCRETE IS POURED OR BLOCK IS SET.
- BOTTOM OF ALL DUCTWORK SHALL NOT BE LOWER THAN 12'-0" AFF.
- FURNISH AND INSTALL GALVANIZED STEEL DUCTWORK, SIZES AS NOTED ON DRAWINGS. SIZES SHOWN ARE CLEAR, INSIDE DIMENSIONS. SEE ARCHITECTURAL DRAWINGS FOR EXTERNAL FINISH. SUSPEND WITH AIRCRAFT CABLE.

1 MECHANICAL FLOOR PLAN  
M100 1/4" = 1'-0"

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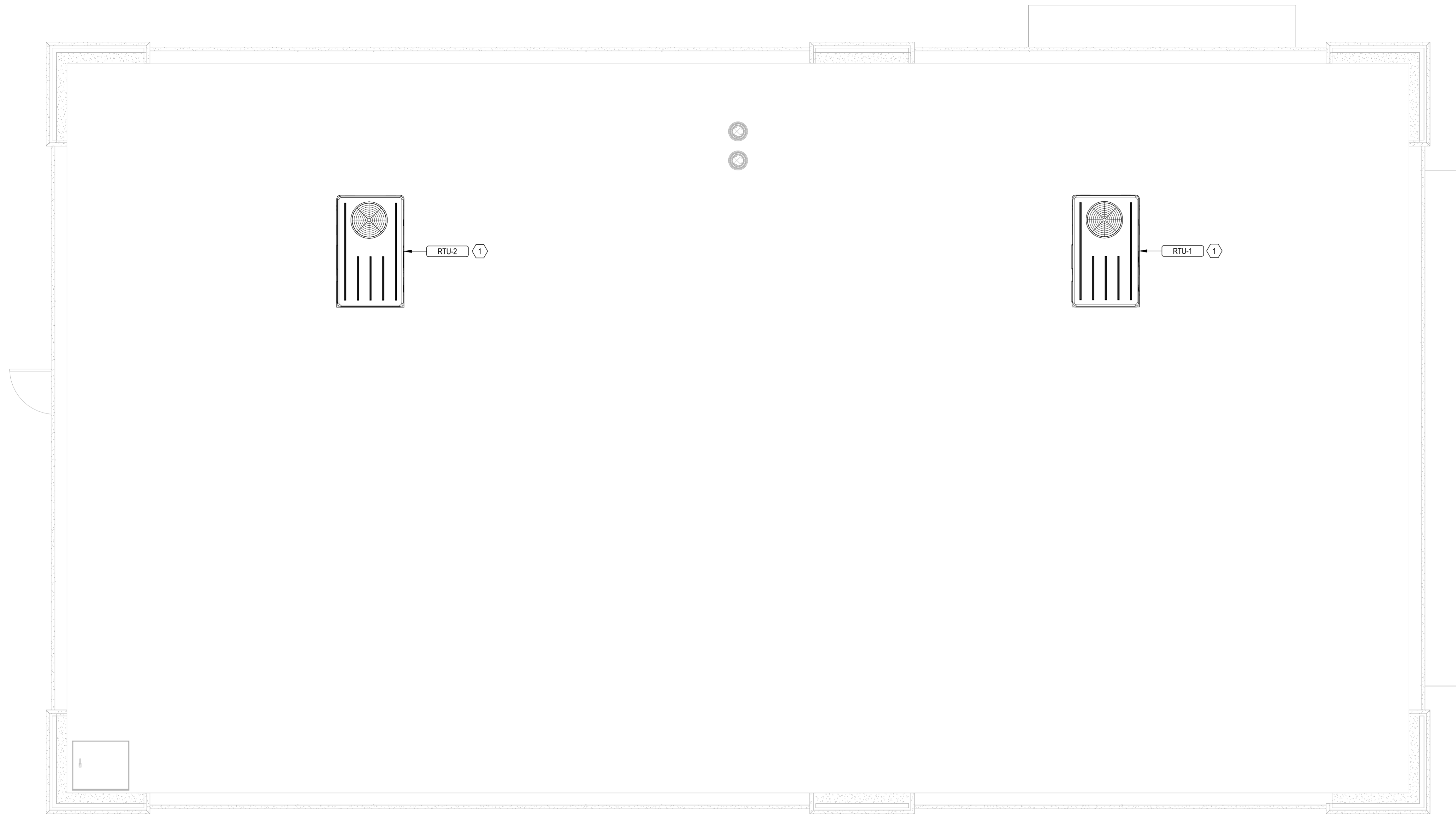
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SHEET TITLE:  
**MECHANICAL  
FLOOR PLAN**

SHEET NUMBER:  
**M100**



#	MECHANICAL KEYNOTES
1	INSTALL RTU IN LOCATION SHOWN PER MANUF. SPECIFICATIONS. RTU LOCATIONS ARE APPROXIMATE. ACTUAL LOCATIONS ARE TO BE VERIFIED WITH STRUCTURAL ENGINEER PRIOR TO INSTALLATION.
2	EXHAUST FAN DUCT UP THROUGH ROOF TO APPROVED VENT CAP & BIRDSCREEN.

GENERAL NOTES
1. MECHANICAL DRAWINGS ARE DIAGRAMMATIC AND DO NOT NECESSARILY INDICATE EVERY REQUIRED OFFSET, FITTING, ETC. DRAWINGS ARE NOT TO BE SCALED FOR DIMENSIONS. TAKE ALL DIMENSIONS FROM ARCHITECTURAL DRAWINGS, CERTIFIED EQUIPMENT DRAWINGS AND FROM THE STRUCTURE ITSELF BEFORE FABRICATING ANY WORK. VERIFY ALL SPACE REQUIREMENTS COORDINATING WITH OTHER TRADES, AND INSTALL THE SYSTEMS IN THE SPACE PROVIDED WITHOUT EXTRA CHARGES TO THE OWNER.
2. CONTRACTOR SHALL COORDINATE WORK INDICATED WITH PLUMBING, ELECTRICAL, FIRE PROTECTION, STRUCTURAL, AND ARCHITECTURAL DIVISIONS. SUBMIT 1/4" SCALE SHOP DRAWINGS FOR MECHANICAL SYSTEMS, DIMENSIONED TO INCORPORATE THE WORK OF OTHER TRADES. INDICATE SPACES RESERVED FOR PLUMBING PIPING, MECHANICAL PIPING, MECHANICAL DUCTWORK, & ELECTRICAL CONDUIT MAINS. VERIFY FIT OF MECHANICAL SYSTEMS PRIOR TO FABRICATION. COORDINATE ALL CHASE, SLEEVE, AND SLAB BLOCKOUT REQUIREMENTS BEFORE CONCRETE IS POURED OR BLOCK IS SET.

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1 MECHANICAL ROOF PLAN  
 M200 1/4" = 1'-0"

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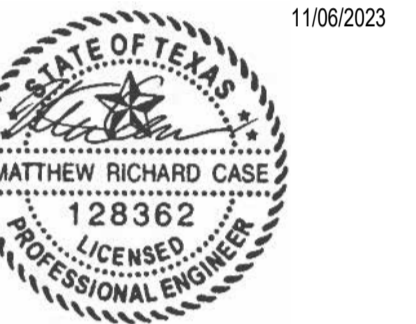
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 ROOF MECHANICAL  
 PLAN

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**M200**

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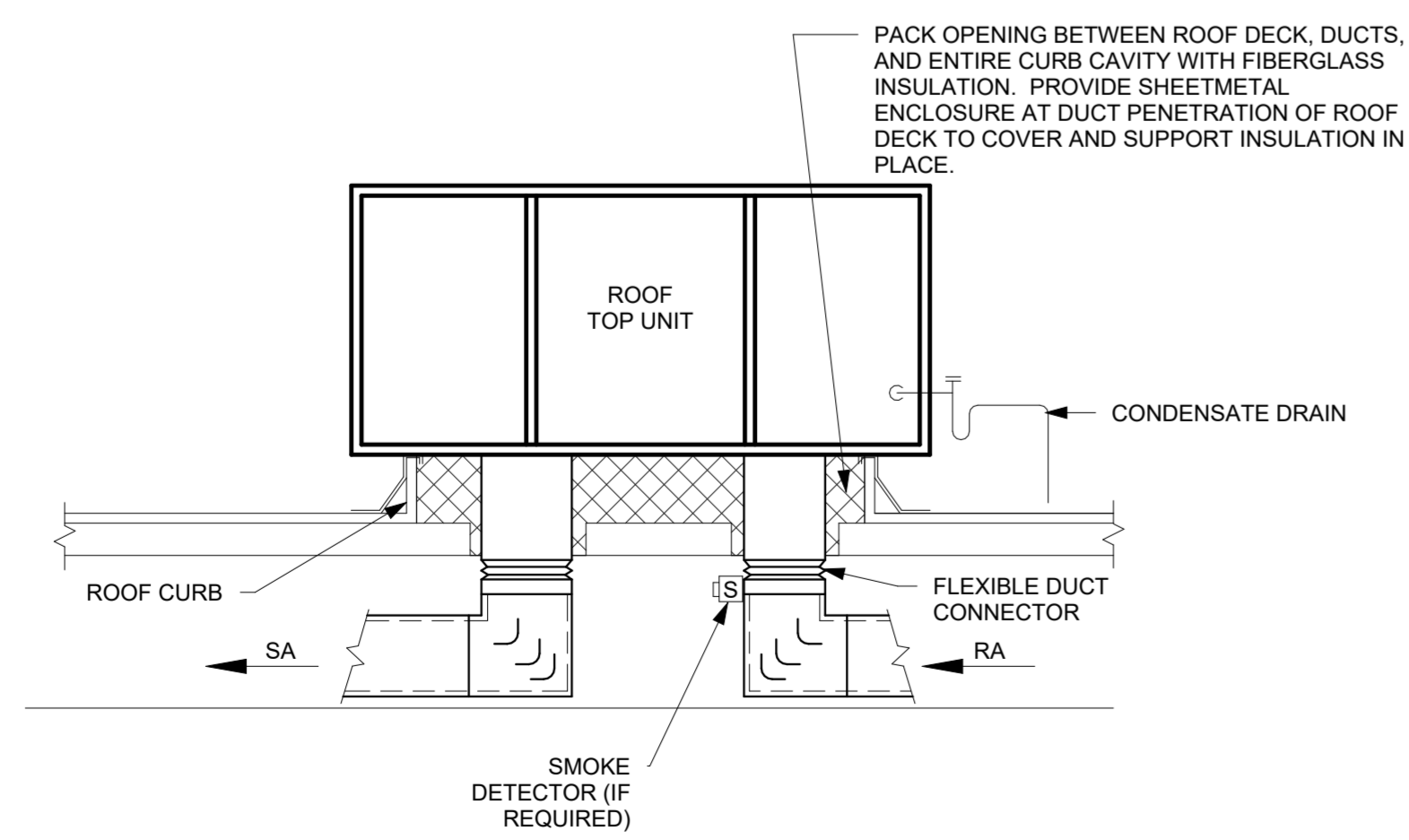
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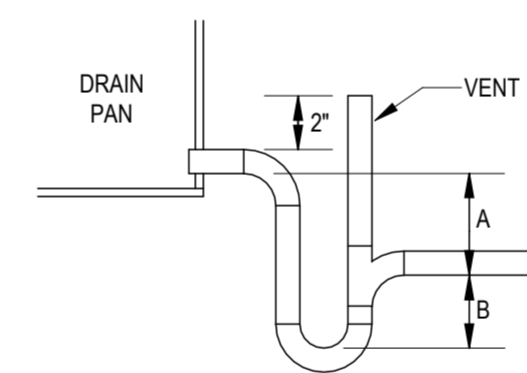
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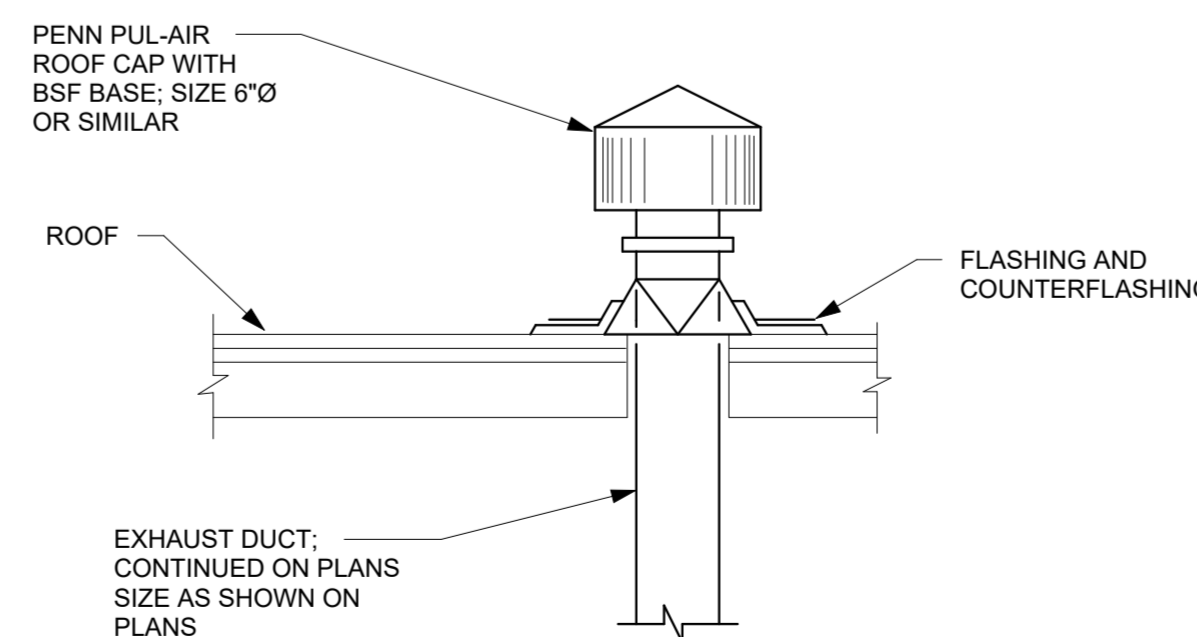
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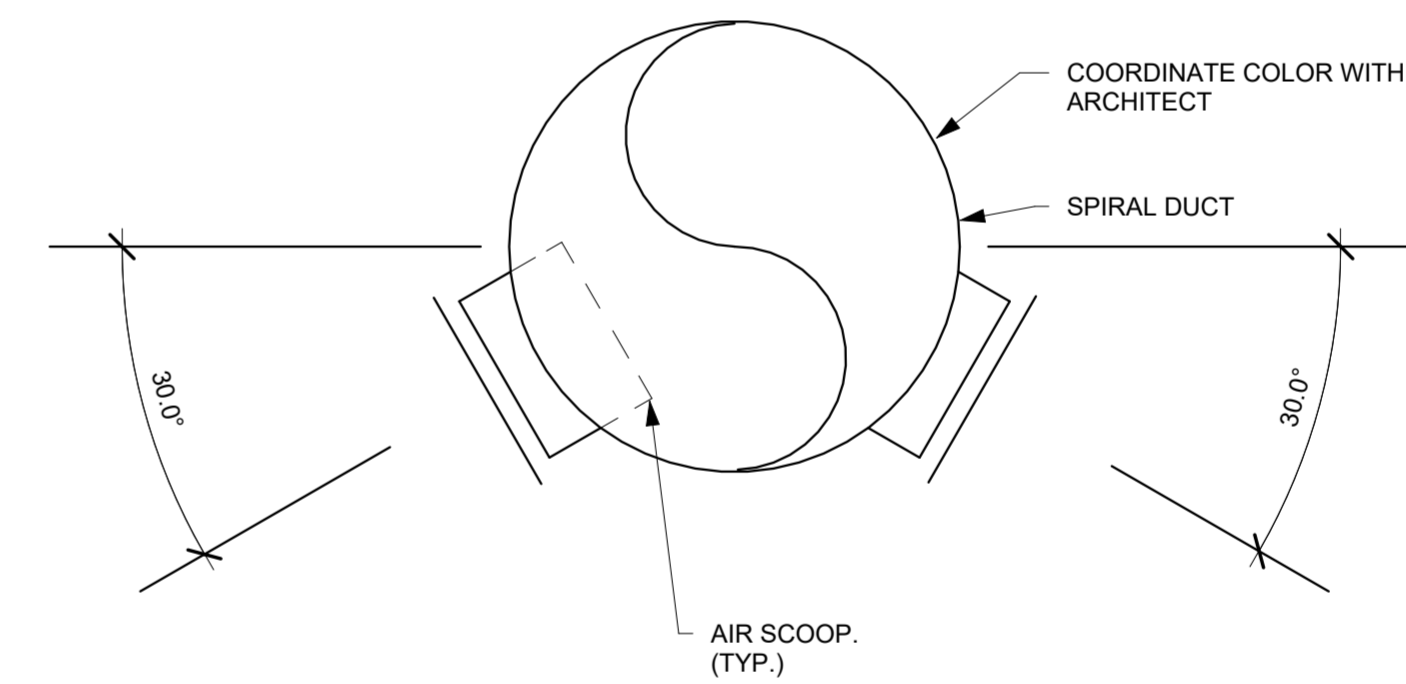
3 ROOFTOP UNIT DETAIL  
 M400 NOT TO SCALE



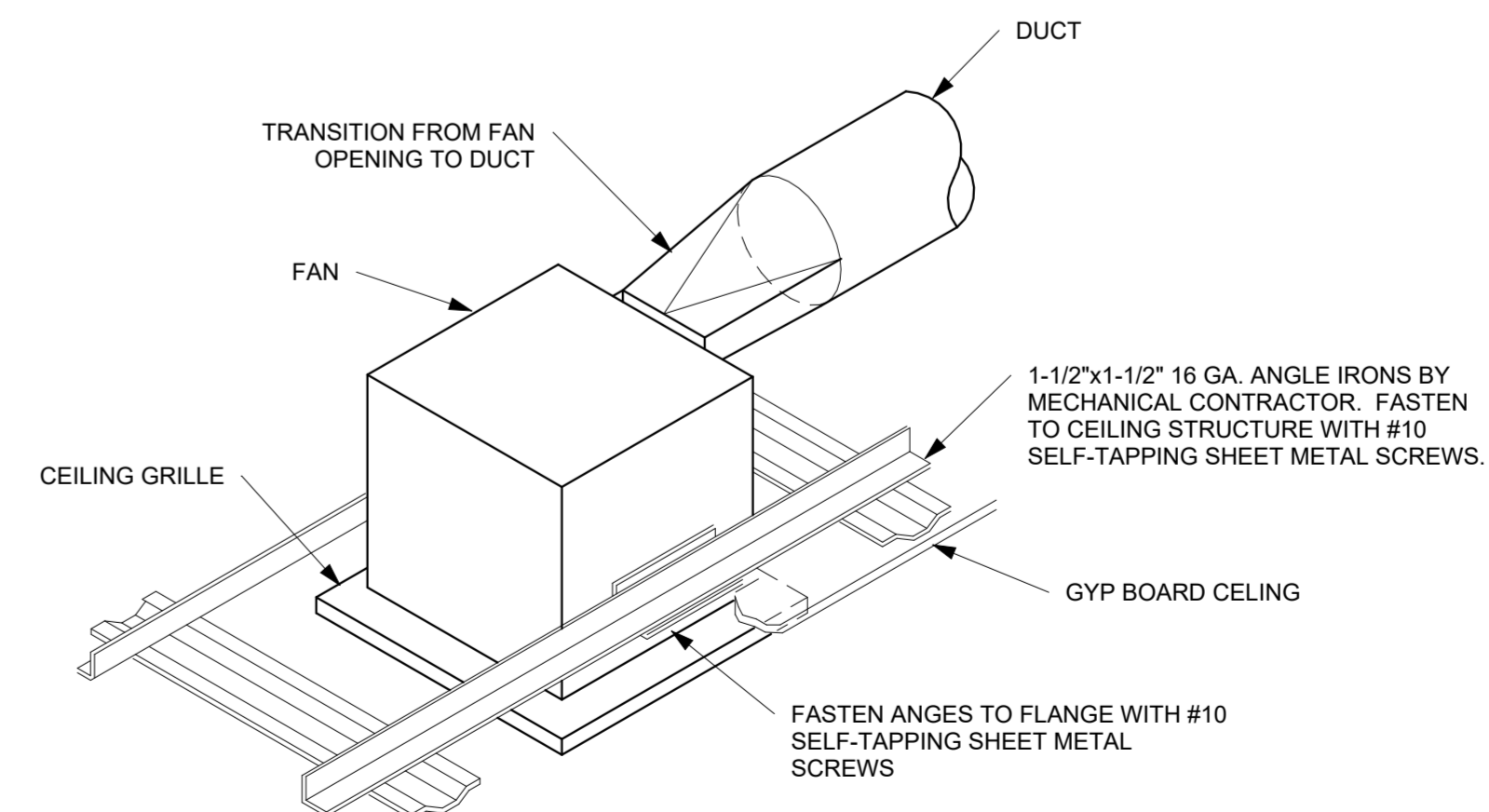
5 COOLING COIL CONDENSATE DRAIN DETAIL  
 M400 NO SCALE



2 EXHAUST THROUGH ROOF DETAIL  
 M400 NOT TO SCALE



4 SPIRAL DUCT DIFFUSER TAKE OFF DETAIL  
 M400 NOT TO SCALE



1 CEILING EXHAUST FAN DETAIL  
 M400 NOT TO SCALE

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SHEET TITLE:

## MECHANICAL DETAILS

SHEET NUMBER:

# M400

## ROOFTOP UNIT SCHEDULE (ELECTRIC HEATING - DX COOLING)

TAG	MANUFACTURER/ MODEL	LOCATION/ SERVICE	UNIT TON	SUPPLY FAN				ELECTRIC HEATING CAPACITY				COOLING CAPACITY					EFFICIENCY (IEER)	MCA	MOCP	VOLT/PH/Hz	WEIGHT* (LBS)	OVERALL DIMENSIONS	NOTES	
				TOTAL CFM	OUTDOOR AIR CFM	SUPPLY ESP (IN W.C.)	DRIVE	MAX FAN MOTOR RPM	HEATING KW	OUTPUT (MBH)	EAT	LAT	TOTAL MBH	SENSIBLE MBH	EER	EAT (DB/WB)								LAT (DB/WB)
RTU-1	TRANE/ TSJ102A	ROOF/ SALES AREA	8.5	3400	550	0.89	DIRECT	1225	36	122.9	58.8	91.3	94.75	86.03	11.20	78.1/62.7	53.6/52.4	14.8	107	110	208/3/60	1100	SEE MANUF.	1-7
RTU-2	TRANE/ TSJ090A	ROOF/ WHOLESALE AREA	7.5	3000	525	0.81	DIRECT	1118	36	122.9	53.3	90.2	83.0	83.0	11.20	79.6/62.5	53.2/52.4	14.8	107	110	208/3/60	1000	SEE MANUF.	1-7

OR EQUIVALENT BY OTHERS

**NOTES:**

1. FURNISH AND INSTALL ROOFTOP UNIT. PROVIDE WITH 100% OA ECONOMIZER, 2" MERV 8 FILTERS, MODULATING OA DAMPER, STANDARD EFFICIENCY UNIT, TWO STAGE HEATING, BAROMETRIC RELIEF, COIL HAIL GUARD, AND MANUF. RECOMMENDED ROOF CURB. VERIFY LOCATION IN FIELD WITH STRUCTURAL ENGINEER.
2. VERIFY ELECTRICAL VOLTAGE WITH ELECTRICAL CONTRACTOR PRIOR TO ORDERING EQUIPMENT.
3. PROVIDE WITH 24/7 PROGRAMABLE THERMOSTAT. THERMOSTAT TO BE HONEYWELL VISIONPRO 8000 WITH REDLINK OR APPROVED EQUAL. SEE FLOOR PLAN FOR MORE INFORMATION.
4. PROVIDE WITH RA MOUNTED SMOKE DETECTOR WITH UNIT CONTROLS AND WIRE TEST STATION INSTALLED PER LOCAL CODE.
5. PROVIDE WITH ETL OR UL LISTED NON-FUSED DISCONNECT SWITCH.
6. PROVIDE UN-POWERED CONVENIENCE OUTLET TO BE WIRED ON SEPERATE CIRCUIT BY ELECTRICAL CONTRACTOR.
7. FAN MOTORS ARE TO BE PROVIDED WITH NEMA PREMIUM EFFICIENCY MOTORS RATED.

\*WEIGHT INCLUDES WEIGHT OF ADDED ACCESSORIES

## FAN SCHEDULE

TAG	MANUFACTURER/ MODEL	LOCATION/ SERVICE	CFM	ESP (IN. WC)	AMPS	VOLT/Hz/ PHASE	WEIGHT (LBS)	OVERALL DIMENSIONS	METHOD OF CONTROL	NOTES
EF-1	GREENHECK/ SP-A125	CEILING/ RESTROOM	100	0.25	0.62	115/60/1	17	SEE MANUF.	LIGHT SWITCH	1-2

OR EQUIVALENT BY COOK, ACME, AND S&P

**NOTES:**

1. PROVIDE WITH BACKDRAFT DAMPER, ROOF PORTAL, TALL FLASHING CONE, STORM COLLAR, RAFCAP AND BIRDSCREEN.
2. INTERLOCK OPERATION WITH LIGHT SWITCH.

## GRILLE, DIFFUSER, AND REGISTER SCHEDULE

TAG	USE	PATTERN	ACCESSORIES	FINISH	MAKE & MODEL	REMARKS
S1	SPIRAL DUCT DIFFUSER	AS SHOWN	AIR SCOOP	BY ARCH	PRICE SDG	NOMINAL SIZE VARIES, SEE DRAWINGS
S2	CEILING DIFFUSER	4-WAY	O.B.D.	BY ARCH	PRICE SCD	24"x24" FACE NECK SIZE VARIES, SEE DRAWINGS
S3	CONCENTRIC DIFFUSER	6-WAY		BY ARCH	UNITED ENERTECH DPD6-7.5T	12"x6" GRILLE SIZE 3000 CFM
R1	CEILING RETURN GRILLE	N/A	RA BOOT	BY ARCH	PRICE PDDR	12"x12" FACE NECK SIZE VARIES, SEE DRAWINGS

OR EQUIVALENT BY TITUS, KRUEGER, METAL-AIRE, OR NAILOR

**NOTES:**

1. UNLESS SPECIFICALLY INDICATED ON PLANS, GRILLE, REGISTER AND DIFFUSER RUN-OUT SIZES ARE AS FOLLOWS:  

RUN-OUT	CFM
4"Ø	<40
6"Ø	41-100
8"Ø	101-210
10"Ø	211-375
12"Ø	376-600
14"Ø	601-910

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11/08/2023



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## SHERWIN WILLIAMS

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HILL, TX, 78642

SHEET TITLE:

## MECHANICAL SCHEDULES

SHEET NUMBER:

# M500

# SYMBOL LEGEND

## LIGHTING, BATTERY BACK-UP AND LIGHTING CONTROL SYSTEM

	2X4 LIGHTING FIXTURE, SEE FIXTURE SCHEDULE FOR EXACT TYPE
	2X4 LIGHTING FIXTURE-LIFE SAFETY BRANCH, SEE FIXTURE SCHEDULE FOR EXACT TYPE
	2X2 LIGHTING FIXTURE, SEE FIXTURE SCHEDULE FOR EXACT TYPE
	2X2 LIGHTING FIXTURE-LIFE SAFETY BRANCH POWERED, SEE FIXTURE SCHEDULE FOR EXACT TYPE
	FIXTURE, SEE FIXTURE SCHEDULE FOR EXACT TYPE
	FIXTURE WITH EMERGENCY BATTERY BACK-UP BALLAST, SEE FIXTURE SCHEDULE FOR EXACT TYPE
	EMERGENCY FIXTURE W/BATTERY BACKUP,SEE FIXTURE SCHEDULE FOR EXACT TYPE
	POLE BASE, POLE AND POLE MOUNTED LIGHT FIXTURE, SEE FIXTURE SCHEDULE FOR EXACT TYPE
	RECESSED LIGHTING FIXTURE, SEE FIXTURE SCHEDULE FOR EXACT TYPE
	RECESSED LIGHTING FIXTURE WITH EMERGENCY BATTERY BACK-UP BALLAS, SEE FIXTURE SCHEDULE FOR EXACT TYPE
	RECESSED WALL WASHER LIGHTING FIXTURE, SEE FIXTURE SCHEDULE FOR EXACT TYPE
	WALL MOUNTED LIGHTING FIXTURE, SEE FIXTURE SCHEDULE FOR EXACT TYPE
	TRACK LIGHTING, SEE FIXTURE FOR EXACT TYPE
	CEILING MOUNTED EXIT LIGHT FIXTURE, SEE FIXTURE SCHEDULE FOR EXACT TYPE. PROVIDE ARROWS WHERE SHOWN
	WALL MOUNTED EXIT LIGHT FIXTURE, SEE FIXTURE SCHEDULE FOR EXACT TYPE. PROVIDE ARROWS WHERE SHOWN
	WALL MOUNTED EXIT LIGHT FIXTURE – SELF-CONTAINED, BATTERY OPERATED WITH EMERGENCY HEADS. SEE FIXTURE SCHEDULE FOR EXACT TYPE
	SINGLE POLE SWITCH (MOUNTED AT 48" A.F.F.)
	THREE WAY SWITCH (MOUNTED AT 48" A.F.F.)
	FOUR WAY SWITCH (MOUNTED AT 48" A.F.F.)
	DIMMER SWITCH (MOUNTED AT 48" A.F.F.)
	WALL MOUNTED PIR OCCUPANCY SENSOR (MOUNTED AT 48" A.F.F.)
	WALL MOUNTED DUAL TECHNOLOGY OCCUPANCY DIMMABLE SENSOR (MOUNTED AT 48" A.F.F.)
	WALL MOUNTED DUAL TECHNOLOGY OCCUPANCY SENSOR (MOUNTED AT 48" A.F.F.)
	WALL MOUNTED DIGITAL TIMER SWITCH (MOUNTED AT 48" A.F.F.)
	WALL MOUNTED ULTRASONIC OCCUPANCY SENSOR (MOUNTED AT 48" A.F.F.)
	WALL MOUNTED OVERRIDE SWITCH (MOUNTED AT 48" A.F.F.)
	WALL MOUNTED LOW VOLTAGE SWITCH (MOUNTED AT 48" A.F.F.)
	WALL MOUNTED 5 BUTTON SCENE CONTROLLER (MOUNTED AT 48" A.F.F.)
	CEILING MOUNTED PIR OCCUPANCY SENSOR
	DLM CEILING MOUNTED DUAL TECHNOLOGY OCCUPANCY SENSOR
	CEILING MOUNTED DUAL TECHNOLOGY OCCUPANCY SENSOR
	CEILING MOUNTED ULTRASONIC OCCUPANCY SENSOR
	CEILING MOUNTED PHOTOSENSOR
	CEILING MOUNTED PHOTOCCELL
	LIGHTING CONTACTOR
	LIGHTING CONTROL DEVICE

## RECEPTACLES

	DUPLEX RECEPTACLE (MOUNTED AT 18" A.F.F.)
	GROUND FAULT CIRCUIT INTERRUPTED DUPLEX RECEPTACLE
	TAMPER PROOF DUPLEX RECEPTACLE
	DUPLEX RECEPTACLE WITH USB
	DUPLEX RECEPTACLE MOUNTED ABOVE COUNTERTOP BACK SPLASH
	DUPLEX RECEPTACLE MOUNTED HORIZONTAL (MOUNTED ABOVE COUNTER BACKSPLASH)
	GROUND FAULT CIRCUIT INTERRUPTED DUPLEX RECEPTACLE MOUNTED ABOVE COUNTERTOP BACK SPLASH
	DUPLEX RECEPTACLE (MOUNTED XX" A.F.F.)
	DEDICATED DUPLEX RECEPTACLE (MOUNTED THAT 18" A.F.F.)
	DUPLEX RECEPTACLE ON EMERGENCY POWER
	DUPLEX RECEPTACLE WITH WATERPROOF COVER (MOUNTED 18" A.F.F.) FS BOX WITH WATERPROOF COVER
	DUPLEX RECEPTACLE MOUNTED BEHIND ELECTRICAL WATER COOLER
	DUPLEX RECEPTACLE MOUNTED AND CEILING
	DOUBLE DUPLEX (QUAD) RECEPTACLE (MOUNTED AT 18" A.F.F.)
	GROUND FAULT CIRCUIT INTERRUPTED DOUBLE DUPLEX (QUAD) RECEPTACLE
	TAMPER PROOF DOUBLE DUPLEX (QUAD) RECEPTACLE
	DOUBLE DUPLEX (QUAD) RECEPTACLE WITH USB
	DOUBLE DUPLEX (QUAD) RECEPTACLE MOUNTED ABOVE COUNTERTOP BACK SPLASH
	GROUND FAULT CIRCUIT INTERRUPTED DOUBLE DUPLEX (QUAD) RECEPTACLE MOUNTED ABOVE COUNTERTOP BACK SPLASH
	DOUBLE DUPLEX (QUAD) RECEPTACLE (MOUNTED XX" A.F.F.)
	SPECIAL-PURPOSE OUTLET - SEE PLANS FOR TYPE VERIFY

	SINGLE RECEPTACLE - AMPERAGE/PHASE AS NOTED
	POWER POLE PROVIDED BY SYSTEM FURNITURE
	WIREMOLD - SEE PLANS FOR EXACT SPECIFICATIONS AND MOUNTING HEIGHT. TYPE W/ EQUIPMENT SHOP DRAWINGS PRIOR TO ROUGH-IN

## ELECTRICAL CONNECTIONS

	120V, SINGLE PHASE ELECTRICAL CONNECTION, DISCONNECT PROVIDED WITH EQUIPMENT.
	208V, SINGLE PHASE ELECTRICAL CONNECTION, DISCONNECT PROVIDED WITH EQUIPMENT.
	208V, THREE PHASE ELECTRICAL CONNECTION, DISCONNECT PROVIDED WITH EQUIPMENT.
	277V, SINGLE PHASE ELECTRICAL CONNECTION, DISCONNECT PROVIDED WITH EQUIPMENT.
	480V, SINGLE PHASE ELECTRICAL CONNECTION, DISCONNECT PROVIDED WITH EQUIPMENT.
	480V, THREE PHASE ELECTRICAL CONNECTION, DISCONNECT PROVIDED WITH EQUIPMENT.

## MOTOR CONNECTIONS

	120V, SINGLE PHASE ELECTRICAL CONNECTION, DISCONNECT PROVIDED WITH EQUIPMENT.
	208V, SINGLE PHASE ELECTRICAL CONNECTION, DISCONNECT PROVIDED WITH EQUIPMENT.
	208V, THREE PHASE ELECTRICAL CONNECTION, DISCONNECT PROVIDED WITH EQUIPMENT.
	277V, SINGLE PHASE ELECTRICAL CONNECTION, DISCONNECT PROVIDED WITH EQUIPMENT.
	480V, SINGLE PHASE ELECTRICAL CONNECTION, DISCONNECT PROVIDED WITH EQUIPMENT.
	480V, THREE PHASE ELECTRICAL CONNECTION, DISCONNECT PROVIDED WITH EQUIPMENT.
	MOTOR AND DISCONNECT. DISCONNECT SHALL BE FURNISHED AND INSTALL BY E.C.
	MOTOR AND COMBINATION MOTOR STARTER. COMBINATION MOTOR STARTER SHALL BE FURNISHED AND INSTALL BY E.C.
	MOTOR AND VFD. VFD SHALL BE FURNISHED BY OTHERS AND INSTALL BY E.C.
	JUNCTION BOX OR PULL BOX.

## ELECTRICAL DISTRIBUTION EQUIPMENT

	RECESSED 120/208V PANELBOARD
	RECESSED 277/480V PANELBOARD
	SURFACE 277/480V PANELBOARD
	SURFACE 277/480V PANELBOARD
	METER
	TRANSFORMER
	NON FUSED DISCONNECT SWITCH
	FUSED DISCONNECT SWITCH
	COMBINATION MAGNETIC MOTOR STARTER
	VARIABLE FREQUENCY DRIVE (FURNISHED BY OTHERS AND INSTALLED BY E.C.)
	MANUAL MOTOR STARTER
	CEILING FAN
	SMOKE DAMPER - 120V (PROVIDED BY OTHERS)

## RACEWAY ABBREVIATIONS

	C - INDICATES CONDUIT.
	P - INDICATES SCHEDULE 40 PVC
	E - INDICATES EMT
	RACEWAY IN GRADE OR CONCEALED IN FLOOR SLAB.
	RACEWAY - LONG STROKE INDICATES NEUTRAL CONDUCTORS, SHORT STROKE INDICATES PHASE OR SWITCHED WIRES. LONG STROKE WITH HOOK INDICATES GROUNDING CONDUCTOR. LONG STROKE WITH HOOK AND CROSS INDICATES ISOLATED GROUND. HOMERUN TO BE #12 THHN IN 1/2" EMT UNLESS NOTED OTHERWISE
	MC CABLE INSTALLED IN CEILING OR DRYWALL PARTITIONS. (90° THHN) ALL MC CABLE IS #12 AWG U.N.O.
	MODULAR SYSTEM CABLE INSTALLED IN CEILING OR EXPOSED FOR LIGHTING ONLY.
	CONDUIT UP, CONDUIT DOWN
	3/4" x 10'-0" COPPER CLAD GROUND ROD OR AS NOTED.

## FIRE ALARM HORN/STROBE SYSTEM

	FIRE ALARM HORN - WALL MOUNTED
	FIRE ALARM PULL STATION
	FIRE ALARM STROBE - WALL MOUNTED. 15/75 CANDELLA UNLESS OTHERWISE NOTED.
	FIRE ALARM HORN/STROBE - WALL MOUNTED. 15/75 CANDELLA UNLESS OTHERWISE NOTED.
	FIRE ALARM STROBE - CEILING MOUNTED. 15/75 CANDELLA UNLESS OTHERWISE NOTED.
	FIRE ALARM HORN - CEILING MOUNTED.
	FIRE ALARM HORN/STROBE - CEILING MOUNTED. 15/75 CANDELLA UNLESS OTHERWISE NOTED.
	FIRE ALARM DUCT DETECTOR
	FIRE ALARM WATER FLOW SWITCH (FBO)
	FIRE ALARM TAMPER SWITCH - VALVE SUPERVISION (FBO)
	FIRE ALARM SMOKE DETECTOR
	FIRE ALARM SMOKE DETECTOR - ELEVATOR RECALL
	FIRE ALARM HEAT DETECTOR
	FIRE ALARM MONITORING MODULE
	FIRE ALARM CONTROL MODULE (RELAY)
	FIRE ALARM DOOR HOLD OPEN DEVICE
	FIRE ALARM CONTROL PANEL
	FIRE ALARM ANNUNCIATOR PANEL
	FIRE ALARM FIREMAN'S JACK

## TELE/DATA SYSTEMS

	TELE/DATA WALL-MOUNTED ROUGH-IN BOX (18" A.F.F.). DOUBLE GANG BOX WITH A SINGLE GANGE FRAME AND A 3/4" BUSHED CONDUIT STUB UP 6" AFC
	TELE/DATA WALL-MOUNTED ROUGH-IN BOX ABOVE COUNTER TOP OR BY HEIGHT. DOUBLE GANGE BOX WITH A SINGLE GANG FRAME AND A 3/4" BUSHED CONDUIT STUB UP 6" AFC
	TELE/DATA OUTLET CEILING MOUNTED. DOUBLE GANGE BOX WITH A SINGLE GANG FRAME AND A 3/4" BUSHED CONDUIT KNOCKOUT.
	TELEPHONE OUTLET WALL-MOUNTED ROUGH-IN BOX (48" A.F.F. - U.N.O.) DOUBLE GANG BOX WITH A SINGLE GANG FRAME AND A 3/4" BUSHED CONDUIT STUB UP 6" AFC.
	WIRELESS ACCESS POINT ROUGH IN ABOVE CEILING.
	EQUIPMENT DESIGN, LOADS, ROUGH-IN BASED ON UNVERIFIED OR ASSUMED INFORMATION. VERIFY ALL REQUIRED INFO. W/ VENDOR, SHOP DRAWINGS AND SCOPE OF WORK PRIOR TO ROUGH-IN.

ELECTRICAL SHEET INDEX	
SHEET	DESCRIPTION
E000	ELECTRICAL TITLE SHEET
E001	ELECTRICAL SITE PLAN
E002	SITE PHOTOMETRIC PLAN
E100	ELECTRICAL SPECIFICATIONS
E101	ELECTRICAL SPECIFICATIONS
E200	LIGHTING PLAN
E300	POWER PLAN
E400	ELECTRICAL RISER & SCHEDULES
SHEET COUNT: 8	

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CERTIFICATE OF AUTHORITY NO. F-20080

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11/06/2023

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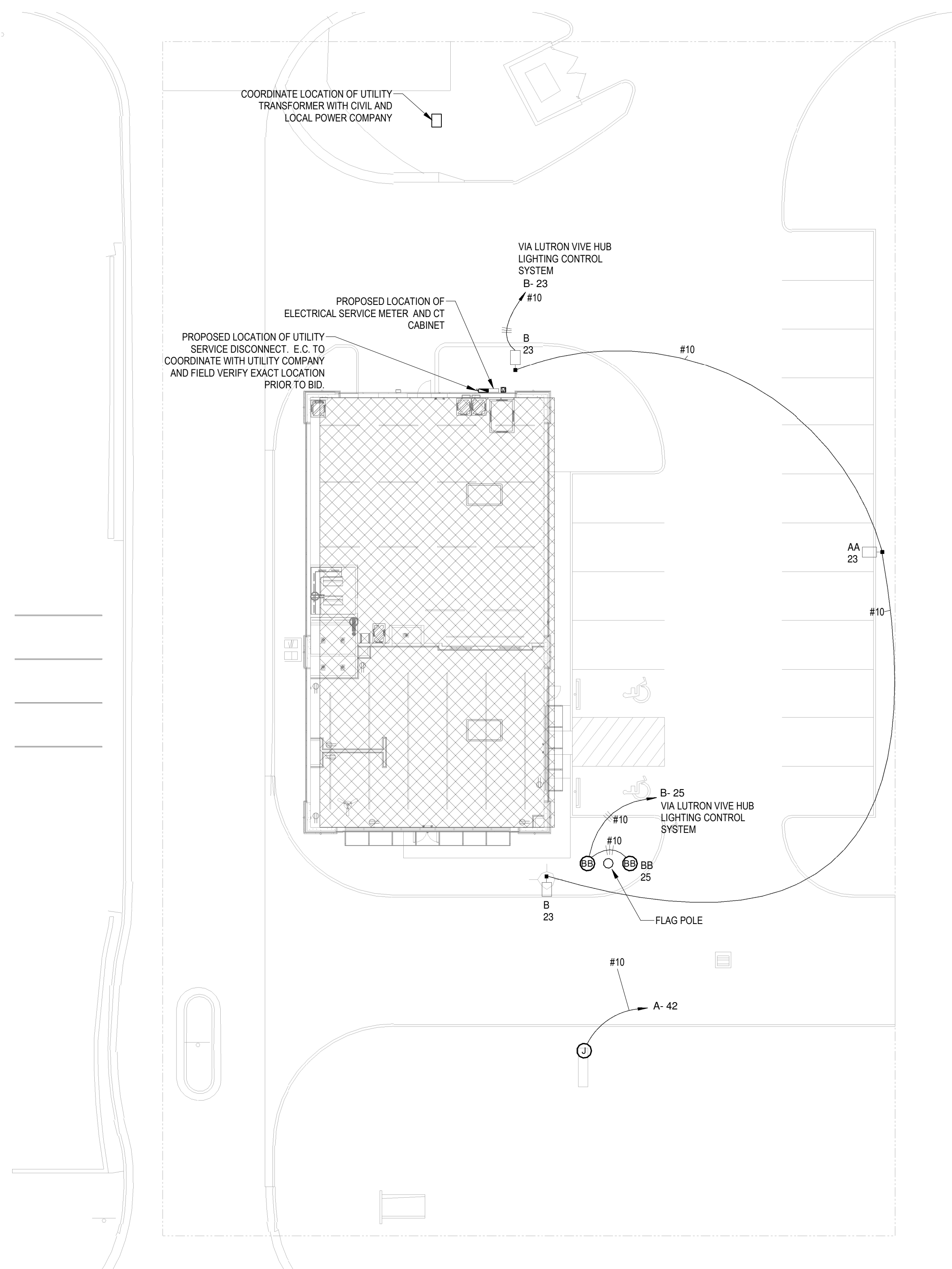
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## SHERWIN WILLIAMS

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ADDRESS:	12360 W. SH 29, LIBERTY HILL, TX, 78642

SHEET TITLE:  
**ELECTRICAL TITLE SHEET**

SHEET NUMBER:  
**E000**



1  
E001 ELECTRICAL SITE PLAN  
1/16" = 1'-0"

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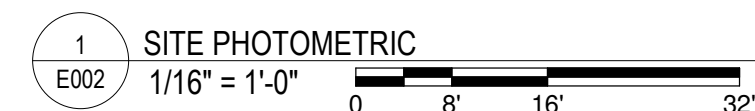
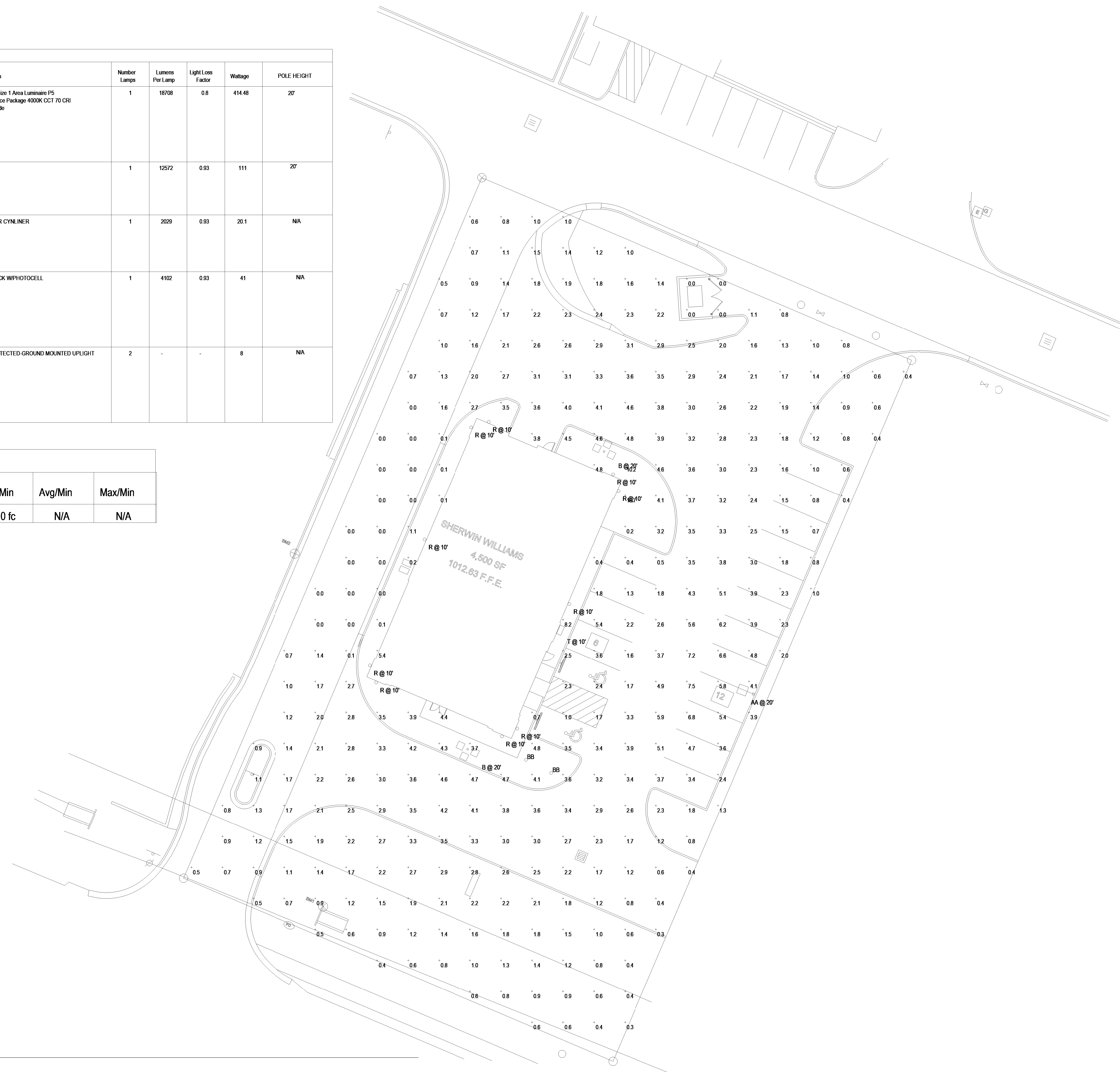
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 XXXX  
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SHEET TITLE:  
**ELECTRICAL SITE  
 PLAN**

SHEET NUMBER:  
**E001**

Symbol	Label	Image	Quantity	Manufacturer	Catalog Number	Description	Number Lamps	Lumens Per Lamp	Light Loss Factor	Wattage	POLE HEIGHT
	B		2	Lithonia Lighting	DSX1 LED P5 40K 70CRI TSW	D-Series Size 1 Area Luminaire P5 Performance Package 4000K CCT 70 CRI Type 5 Wide	1	18708	0.8	414.48	20'
	AA		1	LSI INDUSTRIES, INC.	MRS-LED-19L-SIL-3-40-70CRI-IH		1	12572	0.93	111	20'
	H		10	PROGRESS	P5641-2020K BZ	OUTDOOR CYNLINER	1	2029	0.93	20.1	N/A
	G		1	GE CURRENT	EWL-S02140AF740N3C00R9Z	WALL PACK W/PHOTOCELL	1	4102	0.93	41	N/A
	BB		2	COOPER	BOCA 606 - 4000 KELVINS	WET PROTECTED-GROUND MOUNTED UPLIGHT	2	-	-	8	N/A

Statistics						
Description	Symbol	Avg	Max	Min	Avg/Min	Max/Min
Calc Zone #3	+	2.2 fc	16.7 fc	0.0 fc	N/A	N/A



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 HILL, TX, 78642

SHEET TITLE:  
 SITE PHOTOMETRIC  
 PLAN

SHEET NUMBER:  
**E002**

## CONDUCTORS

- ALL CONDUCTORS SHALL BE SOFT DRAWN, ANNEALED COPPER, #12 AWG MINIMUM.
- CONDUCTORS #12 AND #10 AWG SHALL BE SOLID; #8 AWG AND LARGER SHALL BE STRANDED.
- THE USE OF ALUMINUM CONDUCTORS IS NOT ACCEPTABLE.
- EXPOSED, INTERIOR FEEDERS: TYPE THHN-THWN, SINGLE CONDUCTORS IN CONDUIT.
- FEEDERS INSTALLED CONCEALED IN CEILINGS, WALLS, PARTITIONS: TYPE THHN-THWN, SINGLE CONDUCTORS IN CONDUIT.
- FEEDERS INSTALLED CONCEALED IN CONCRETE, BELOW SLABS-ON-GRADE AND UNDERGROUND: TYPE THHN-THWN, SINGLE CONDUCTORS IN PVC CONDUIT.
- EXPOSED, INTERIOR, BRANCH CIRCUITS: TYPE THHN-THWN, SINGLE CONDUCTORS IN CONDUIT.
- BRANCH CIRCUITS CONCEALED IN EXISTING AND NEW CEILINGS, WALLS, AND PARTITIONS: TYPE THHN-THWN, SINGLE CONDUCTORS IN CONDUIT.
- BRANCH CIRCUITS CONCEALED BELOW SLABS-ON-GRADE, AND UNDERGROUND: TYPE THHN-THWN, SINGLE CONDUCTORS IN CONDUIT.
- ACCEPTABLE MANUFACTURERS FOR CONDUCTORS: GENERAL CABLE COMPANY, CAROL, ANACONDA, ROME, SOUTHWIRE.
- CLASS 1 CONTROL CIRCUITS: TYPE THHN-THWN, IN CONDUIT.
- CLASS 2 CONTROL CIRCUITS: POWER-LIMITED PLENUM RATED CABLE, CONCEALED IN BUILDING FINISHES.
- THE USE OF NON-METALLIC-SHEATHED CABLE (TYPE NM) AND ARMORED CABLE (TYPE AC OR BX) IS NOT ACCEPTABLE
- WIRE CONNECTORS SHALL BE EQUAL TO SCOTCH LOCK FOR #8 AWG AND SMALLER, THOMAS AND BETTS LOCK-TITE FOR #6 AND LARGER.
- PROVIDE #10 AWG CONDUCTORS FOR BRANCH CIRCUITS HAVING A CONDUCTOR LENGTH LONGER THAN 75 FEET.
- SIZE OF CONDUCTORS AND CABLES INDICATED OR SPECIFIED ARE IN AMERICAN WIRE GAGE (AWG - BROWN AND SHARPE).
- TYPE MC CABLE: 600V, UNJACKETED: ANSI E119 AND E814, UL STANDARDS 44 OR 83 (AS APPLICABLE), AND 1569, NFPA 70 ARTICLE 330; ALUMINUM OR GALVANIZED STEEL INTERLOCKED ARMOR; THHN- OR XHHW-INSULATED CONDUCTORS; COLOR CODE: ICEA METHOD 1, WITH GREEN INSULATED GROUNDING CONDUCTOR.
- INSTALL ALL WIRING IN APPROVED RACEWAY AND ENCLOSURES, EXCEPT WHERE SPECIFIED OR INDICATED, FOR LOW-VOLTAGE WIRING OR, WHERE TYPE MC CABLE IS INDICATED, SPECIFIED AS ACCEPTABLE, OR BOTH.
- SUPPORT ALL CONDUCTORS AND CABLES IN VERTICAL INSTALLATIONS, AS REQUIRED BY NFPA-70, BY INSTALLING CABLE SUPPORTS OR PLUG-TYPE CONDUIT RISER SUPPORTS, OR WIRE-MESH SAFETY GRIPS.
- INSTALL ALL CONDUCTORS AND CABLE IN RACEWAYS CONTINUOUS WITHOUT TAPS OR SPLICES. SPLICE OR TAP ONLY IN APPROVED BOXES AND ENCLOSURES WITH APPROVED SOLDERLESS CONNECTORS, OR CRIMP CONNECTORS AND TERMINAL BLOCKS FOR CONTROL WIRING, AND KEEP TO THE MINIMUM REQUIRED. INSULATE ALL SPLICES, TAPS, AND JOINTS AS REQUIRED BY CODE.
- ALL MATERIALS USED TO TERMINATE, SPLICE OR TAP CONDUCTORS: DESIGNED, PROPERLY SIZED, AND UL LISTED FOR THE SPECIFIC APPLICATION AND CONDUCTORS INVOLVED, AND INSTALLED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS, USING THE MANUFACTURER'S RECOMMENDED TOOLS.
- WHERE WIRING IS INDICATED AS INSTALLED, BUT THE CONNECTION IS INDICATED "FUTURE" OR "BY OTHER DIVISION, TRADES, OR CONTRACTS", LEAVE A MINIMUM OF 3" FOOT "PIG-TAIL" AT THE BOX, TAPE THE ENDS OF CONDUCTORS, AND COVER THE BOX.
- VOLTAGE DROP IN BRANCH CIRCUITS SHALL NOT EXCEED 3 PERCENT.

## TYPE MC CABLE MAY ONLY BE USED

- IN LIEU OF FLEXIBLE CONDUIT AND WIRING FROM LIGHT FIXTURES IN ACCESSIBLE CEILINGS TO JUNCTION BOXES (ATTACHED TO BUILDING STRUCTURE) ABOVE THE CEILING. PROVIDE CABLE WHIPS OF SUFFICIENT LENGTHS TO ALLOW FOR RELOCATING EACH LIGHT FIXTURE WITHIN A 5' FOOT RADIUS OF ITS INSTALLED LOCATION, BUT NOT EXCEEDING 6' FEET IN UNSUPPORTED LENGTHS.
- FOR VERTICAL DROPS IN STUD WALLS.
- DO NOT USE MC CABLE FOR THE FOLLOWING:
  - HOMERUNS TO PANELBOARDS.
  - WHERE EXPOSED TO VIEW.
  - WHERE EXPOSED TO DAMAGE.
  - HAZARDOUS LOCATIONS.
  - WET LOCATIONS.
  - WHEN RESTRICTED OTHERWISE ABOVE, AND WHEN SPECIFICALLY DISALLOWED BY THE LOCAL AHJ, OWNER OR BOTH.
- PROPERLY IDENTIFY ALL TERMINAL BLOCKS AND WIRE TERMINALS FOR CONTROL WIRING WITH VINYL STICK-ON MARKERS OR EQUIVALENT. PROVIDE ENGINEER WITH A LIST OF PROPOSED IDENTIFYING NUMBERS FOR REVIEW PRIOR TO INSTALLING MARKERS.
- PROVIDE AN EQUIPMENT-GROUNDING CONDUCTOR, OR BONDING JUMPER, AS APPLICABLE, IN ALL FEEDER AND NON-LIGHTING BRANCH CIRCUITS, SIZED IN ACCORDANCE WITH NFPA 70 TABLES 250.66 OR 250.122, AS APPLICABLE, UNLESS INDICATED AS LARGER ON THE DRAWINGS.
- PROVIDE AN EQUIPMENT-GROUNDING CONDUCTOR, OR BONDING JUMPER, AS APPLICABLE, IN ALL BRANCH CIRCUITS AND FEEDERS, SIZED IN ACCORDANCE WITH NFPA 70 TABLES 250.66 OR 250.122, AS APPLICABLE, UNLESS INDICATED AS LARGER ON THE DRAWINGS.
- VOLTAGE DROP IN BRANCH CIRCUITS SHALL NOT EXCEED 3 PERCENT.

## CONDUCTOR COLOR CODING

- PROVIDE COLOR CODING SYSTEM AS LISTED BELOW FOR ALL FEEDERS AND BRANCH CIRCUITS AND USED AS A BASIS FOR BALANCING LOAD ON PANELS.
- COLOR CODING FOR CONDUCTOR #12 AWG THROUGH #6 AWG SHALL CONSIST OF COLOR CODED THERMOPLASTIC INSULATION OF THE COLORS SPECIFIED HEREIN.
- COLOR CODING FOR CONDUCTORS #8 AWG AND LARGER SHALL BE FIELD APPLIED SELF ADHESIVE TAPE OF THE COLOR SPECIFIED HEREIN FOR THE PARTICULAR PHASE.
- 120/208V: PHASE A-BLACK, PHASE B-RED, PHASE C-BLUE, NEUTRAL-WHITE, EQUIPMENT GROUND-GREEN, ISOLATED GROUND-GREEN WITH DISTINCTIVE WHITE OR YELLOW MARKINGS.

## BOXES AND FITTINGS

- ALL OUTLET BOXES SHALL BE UL LISTED AND LABELED FOR USE IN THE SPACE THEY OCCUPY AND THE PURPOSE THEY SERVE.
- SHEET METAL OUTLET AND DEVICE BOXES FOR DRY, INTERIOR APPLICATIONS: COMPLY WITH NEMA OS 1 AND UL 514A.
- CAST-METAL OUTLET AND DEVICE BOXES FOR EXTERIOR APPLICATIONS: COMPLY WITH NEMA FB 1, FERROUS ALLOY, TYPE FS OR FD, WITH GASKETED COVER.
- OUTLET BOXES INSTALLED WITHIN FIRE RATED ASSEMBLIES SHALL HAVE A FIRE RATING EQUAL TO OR GREATER THAN THE RATING OF THE WALL IN WHICH IT IS INSTALLED.
- OUTLET BOXES SHALL BE 4 INCHES SQUARE BY 2 1/8 INCHES DEEP , EXCEPT FOR 2" PARTITIONS SHALL BE AT LEAST 1-1/2" DEEP.
- OUTLET BOXES FOR VOICE AND DATA DEVICES SHALL BE 4 11/16 INCHES SQUARE BY 2 1/8 INCHES DEEP.
- ALL PULLBOXES SHALL BE CONSTRUCTED OF GALVANIZED STEEL, OF METAL GAUGE AND PHYSICAL SIZE AS REQUIRED BY THE N.E.C. FOR THE NUMBER AND SIZE OF CONDUITS AND CONDUCTORS ASSOCIATED WITH THE PULLBOX.

- FIXTURE OUTLET BOXES IN/OR ON CEILINGS SHALL NOT BE LESS THAN 1-1/2" DEEP OR LESS THAN 4" SQUARE. ALL OUTLET BOXES INTENDED TO SUPPORT FIXTURES SHALL BE EQUIPPED WITH 3/8" FIXTURE STUDS FASTENED THROUGH THE BOTTOM OF THE BOX WITH FOUR BOLTS.
- NEW OUTLET BOXES INSTALLED WITHIN NEW OR EXISTING STUD WALL CONSTRUCTION SHALL BE MOUNTED TO A STUD OR MOUNTED IN A BRACKET THAT SPANS STUD-TO-STUD, CADDY T5GB BRACKET OR APPROVED EQUAL.
- ACCEPTABLE MANUFACTURERS FOR BOXES: APPLETON, STEEL CITY, RACO.

## PANELBOARDS

- PANELBOARDS SHALL BE LIGHTING AND APPLIANCE TYPE, DEAD FRONT, SAFETY TYPE, FURNISHED WITH BRANCH CIRCUIT BREAKER OVERCURRENT PROTECTIVE DEVICES, COPPER PHASE, NEUTRAL AND EQUIPMENT GROUNDING BUS BARS, MAIN CIRCUIT BREAKER OR MAIN LUG ONLY AS NOTED ON THE DRAWINGS. MAIN BUSES AND CONNECTORS SHALL BE HARD DRAWN COPPER OF 98% CONDUCTIVITY, LOAD CENTERS ARE NOT ACCEPTABLE FOR USE.
- CIRCUIT BREAKERS SHALL BE MOLDED CASE, BOLT-ON TYPE SUITABLE FOR REFERENCE AND AMPERE RATINGS INDICATED ON DRAWINGS AND IN PANEL SCHEDULES. REFER TO THE PANEL SCHEDULES ON THE DRAWINGS FOR ADDITIONAL ACCESSORIES TO BE PROVIDED AT SELECT CIRCUIT BREAKERS.
- CIRCUIT BREAKERS SHALL HAVE A MINIMUM AMPERE INTERRUPTING CAPACITY (AIC) OF 10,000 AMPERES FOR 120/208V SYSTEMS.
- WHERE THE POWER SYSTEM STUDY IDENTIFIES AVAILABLE FAULT CURRENT VALUES AT EXISTING AND NEW PANELS THAT ARE HIGHER THAN THE MINIMUM AIC RATINGS SPECIFIED HEREIN, PROVIDE CIRCUIT BREAKERS IN THE PANELS THAT HAVE AIC RATINGS GREATER THAN THE AVAILABLE FAULT CURRENT AT THE PANEL AS DETERMINED BY THE POWER SYSTEM STUDY.
- PROVIDE NEMA 1 ENCLOSURES FOR INTERIOR PANELS.
- PANELBOARDS SHALL BE EQUIPPED WITH FLUSH TYPE LOCK AND CATCH. ALL LOCKS SHALL BE KEVED ALIKE, WITH TWO KEYS SUPPLIED WITH EACH LOCK.
- CIRCUIT BREAKERS SERVING LIGHTING CIRCUITS SHALL BE RATED FOR SWITCH DUTY.
- CIRCUIT BREAKERS SERVING HVAC EQUIPMENT SHALL BE HACR RATED.
- ALL LUGS SHALL BE OF THE SOLDERLESS TYPE AND RATED AT A MINIMUM OF 75°C.
- PROVIDE NEW CIRCUIT DIRECTORIES WITHIN NEW PANELS TO REFLECT THE WORK OF THIS CONTRACT. DIRECTORY SHALL BE TYPEWRITTEN OR COMPUTER GENERATED. HANDWRITTEN CIRCUIT DIRECTORIES ARE NOT ACCEPTABLE.
- UTILIZE FINAL, OWNER ASSIGNED ROOM NAMES AND NUMBERS TO IDENTIFY SPACES WITHIN THE CIRCUIT DIRECTORIES.
- PANEL CIRCUITS SHALL BE CONFIGURED SUCH THAT THE LOAD IS DISTRIBUTED EVENLY ACROSS ALL THREE PHASES TO WITHIN 10% IN ACCORDANCE WITH N.E.C. REQUIREMENTS.
- ALL NEW PANELBOARDS SHALL BE LABELED TO IDENTIFY THE AMOUNT OF FAULT CURRENT AVAILABLE AT THE PANEL AS DETERMINED BY THE POWER SYSTEM STUDY TO BE PERFORMED. LABEL SHALL BE MACHINE PRINTED, BLACK TEXT ON CLEAR, SELF ADHESIVE TAPE. INSTALL LABEL ADJACENT TO PANELBOARDS ENGRAVED NAMEPLATE.
- ALL NEW PANELBOARDS SHALL BE LABELED TO IDENTIFY THE ARC FLASH HAZARD CHARACTERISTICS AT THE PANEL AS DETERMINED BY THE POWER SYSTEM STUDY TO BE PERFORMED.
- ALL "SPARE" CIRCUIT BREAKERS SHALL BE SET TO THE "OFF" POSITION.
- PROVIDE THREE (3) EMPTY 1 INCH CONDUITS FROM EACH FLUSH MOUNTED PANEL STUBBED UP TO ABOVE ACCESSIBLE CEILING.
- ACCEPTABLE MANUFACTURERS FOR PANELBOARDS BY SCHNEIDER, ABB, SIEMENS OR EATON.
- BASIS OF DESIGN PRODUCT: SCHNEIDER TYPE NQOD WITH TYOE QO-VH (22,000 AIC) BOLT ON CIRCUIT BREAKERS.

## SWITCHES

- TOGGLE SWITCHES SHALL BE SINGLE POLE, 3-WAY OR 4-WAY AS NOTED ON THE DRAWINGS, 20 AMPERES, 120/277 VOLT AC TYPE. SPECIFICATION GRADE WITH SCREW TERMINALS. HUBBELL 1221-X, 1223-X OR 1224-X OR APPROVED EQUIVALENT BY ONE OF THE ADDITIONAL MANUFACTURERS SPECIFIED HEREIN.
- TOGGLE SWITCHES SHALL BE MOUNTED AT DOORS, INSTALLED ADJACENT TO THE TRIM ON THE STRIKING SIDE OF THE DOOR, REGARDLESS OF THE LOCATION INDICATED ON THE DRAWINGS. VERIFY ALL DOOR SWINGS PRIOR TO INSTALLATION OF OUTLET BOXES FOR SWITCHES.
- DEVICE COLOR SHALL BE AS SELECTED BY THE OWNER/ARCHITECT.
- ADDITIONAL ACCEPTABLE MANUFACTURERS FOR SWITCHES: LEGRAND, LEVITON.

## RECEPTACLES

- RECEPTACLES SHALL BE 20 AMP, 125 VOLT, 2-POLE, 3-WIRE, GROUNDING TYPE, NEMA 5-20R WITH SCREW TERMINALS. HUBBELL 5362-W OR APPROVED EQUAL BY ONE OF THE ADDITIONAL MANUFACTURERS SPECIFIED HEREIN.
- GFCI RECEPTACLES SHALL BE 20 AMP, 125 VOLT, 2-POLE, 3-WIRE, GROUNDING TYPE, FEED THROUGH TYPE CAPABLE OF PROTECTING DOWNSTREAM RECEPTACLES ON A SINGLE CIRCUIT, SOLID STATE GROUND FAULT SENSING AND SIGNALING, 5 MILLIAMP TRIP LEVEL, NEMA 5-20R WITH SCREW TERMINALS. HUBBELL GF5362-X OR APPROVED EQUAL BY ONE OF THE ADDITIONAL MANUFACTURERS SPECIFIED HEREIN.
- ISOLATED GROUND RECEPTACLES SHALL BE ORANGE, 20 AMP, 125 VOLT, 2-POLE, 3-WIRE, GROUNDING TYPE, NEMA 5-20R WITH SCREW TERMINALS. HUBBELL IG-5362-W OR APPROVED EQUAL BY ONE OF THE ADDITIONAL MANUFACTURERS SPECIFIED HEREIN.
- PROVIDE SPECIAL PURPOSE RECEPTACLES HAVING NEMA CONFIGURATIONS THAT MATE AND MATCH THE NEMA PLUG CONFIGURATION PROVIDED WITH THAT MATE AND BE CONNECTED.
- COVER PLATES FOR EXTERIOR RECEPTACLES SHALL BE RATED FOR "WEATHERPROOF WHILE IN USE".
- DEVICE COLOR SHALL BE AS SELECTED BY THE OWNER/ARCHITECT.
- ADDITIONAL ACCEPTABLE MANUFACTURERS FOR SWITCHES AND RECEPTACLES: LEGRAND, LEVITON.

## COVER PLATES FOR TOGGLE SWITCHES AND RECEPTACLES

- COVER PLATES WITHIN NON-FOOD SERVICE AREAS SHALL BE NYLON, OF CONFIGURATION TO MATCH THE WIRING DEVICE.
- COVER PLATES WITHIN THE FOOD SERVICE AREA SHALL BE STAINLESS STEEL WITH STAINLESS STEEL HARDWARE, UNLESS OTHERWISE NOTED.
- CONFIGURATION AND COLOR OF COVER PLATE SHALL MATCH THAT OF THE WIRING DEVICE THAT THE PLATE WILL BE INSTALLED ON.
- COVER PLATE COLOR SHALL BE AS SELECTED BY THE OWNER/ARCHITECT.
- ADDITIONAL ACCEPTABLE MANUFACTURERS FOR COVER PLATES: LEGRAND, LEVITON.

## MOUNTING HEIGHTS FOR ELECTRICAL DEVICES AND EQUIPMENT

- DEVICES AND EQUIPMENT SHALL BE INSTALLED AT THE MOUNTING HEIGHTS NOTED BELOW UNLESS NOTED OTHERWISE ON THE DRAWINGS OR REQUIRED BY APPLICABLE CODES AND STANDARDS:
  - TOGGLE SWITCHES, WALL SWITCH OCCUPANCY SENSORS AND DIMMERS FOR LIGHTING CONTROL - TOP OF DEVICE 48" AFF
  - CONVENIENCE RECEPTACLES -TOP OF DEVICE 18" AFF
  - CONVENIENCE RECEPTACLES AT COUNTERTOPS - BOTTOM OF DEVICE 44" AFF OR AS NOTED ON THE DRAWINGS
  - RECEPTACLES AT FOOD SERVICE EQUIPMENT - AS INDICATED ON THE FINAL, APPROVED FOOD SERVICE SHOP DRAWINGS.

- TELEPHONE AND DATA OUTLETS - TOP OF DEVICE 18" AFF OR AS REQUIRED BY THE ADJACENT CASEWORK
- DISCONNECT SWITCHES - TOP OF ENCLOSURE 66" AFF
- PANELBOARDS - TOP OF ENCLOSURE 72" AFF

## DISCONNECT SWITCHES

- DISCONNECT SWITCHES SHALL BE HEAVY DUTY TYPE, UL LISTED AND LABELED, EQUIPPED WITH A LUG FOR TERMINATION OF THE EQUIPMENT GROUNDING CONDUCTOR.
- DISCONNECT SWITCHES SHALL HAVE NEMA 1 ENCLOSURES FOR DRY, INDOOR APPLICATIONS; NEMA 3R ENCLOSURES FOR OUTDOOR OR WET LOCATION APPLICATIONS.
- DISCONNECT SWITCHES INSTALLED EXPOSED IN FLOOR SERVICE AREAS SHALL BE NEMA 4X STAINLESS STEEL.
- ALL DISCONNECT SWITCHES SHALL BE EQUIPPED WITH AN ENGRAVED NAMEPLATE TO IDENTIFY THE SERVING PANEL, CIRCUIT NUMBERS AND THE LOAD SERVED BY THE SWITCH.
- ACCEPTABLE MANUFACTURERS FOR DISCONNECT SWITCHES: SCHNEIDER, ABB, SIEMENS OR EATON.

## MOTOR CONTROLLERS

- PROVIDE ENCLOSED MOTOR CONTROLLERS AS SPECIFIED HEREIN FOR CONTROL OF MOTORS RATED FOR 600 VOLTS AND LESS.
- FRACTIONAL HORSEPOWER MANUAL CONTROLLERS: "QUICK-MAKE, QUICK-BREAK" TOGGLE OR PUSH-BUTTON ACTION; PILOT LIGHT TO INDICATE "MOTOR RUNNING", MARKED TO SHOW WHETHER UNIT IS OFF, ON, OR TRIPPED.
  - CONFIGURATION: NON-REVERSING.
  - OVERLOAD RELAYS: INVERSE-TIME-CURRENT CHARACTERISTICS; NEMA ICS 2, CLASS 10 TRIPPING CHARACTERISTICS; HEATERS MATCHED TO NAMEPLATE FULL-LOAD CURRENT OF ACTUAL PROTECTED MOTOR; EXTERNAL RESET PUSH BUTTON.
  - FLUSH MOUNTED WITHIN FINISHED SPACES; SURFACE MOUNTED WITHIN UNFINISHED SPACES.
  - ACCEPTABLE MANUFACTURERS: SCHNEIDER, ABB, SIEMENS, EATON.

## FUSES

- PROVIDE CARTRIDGE FUSES RATED FOR 250 VAC AND 600 VAC AND LESS FOR USE AS SPECIFIED HEREIN.
- COORDINATE FUSE RATINGS WITH UTILIZATION EQUIPMENT NAMEPLATE LIMITATIONS OF MAXIMUM FUSE SIZE AND WITH SYSTEM SHORT-CIRCUIT CURRENT LEVELS.
- CARTRIDGE FUSE APPLICATIONS:
  - FEEDERS, UP TO AND INCLUDING 600 AMPS: CLASS RK1, BUSSMANN LPN-RK-SP FOR 250 VOLTS, BUSSMANN LPS-RK-SP FOR 600 VOLTS .
  - CONTROL POWER TRANSFORMER (CPT) CIRCUITS: CLASS CC, TIME DELAY, CONTROL TRANSFORMER DUTY.
  - BASIS OF DESIGN FOR FUSES SHALL BE BUSSMANN. ADDITIONAL ACCEPTABLE MANUFACTURERS FOR SPECIFIED FUSES SHALL BE LITTLEFUSE AND MERSEN.

## LIGHTING FIXTURES

- ALL LIGHTING FIXTURES AND LIGHT SOURCES SHALL BE FURNISHED, INSTALLED AND CONNECTED BY THE ELECTRICAL CONTRACTOR, UNLESS NOTED OTHERWISE.
- THIS CONTRACTOR SHALL INSTALL LIGHTING FIXTURES AND LIGHT SOURCES AS INDICATED ON THE DRAWINGS AND AS SPECIFIED BELOW. PROVIDE LIGHTING FIXTURES COMPLETE WITH HANGERS, PLASTER FRAMES, AND ALL OTHER NECESSARY ACCESSORIES
- LED DRIVERS SHALL BE SOLID STATE AND ACCEPT 120 THROUGH 277 VAC AT 60 HZ INPUT.
- THE LED LIGHT SOURCE SHALL BE FULLY DIMMABLE WITH USE OF COMPATIBLE DIMMER SWITCH DESIGNATED FOR LOW VOLTAGE LOADS.
- THE CONTRACTOR SHALL PROVIDE LIGHTING CONTROL DEVICES (DIMMERS) THAT ARE COMPATIBLE WITH LED DRIVER BEING PROVIDED WITH THE FIXTURE.

## LIGHTING CONTROLS

- TIME SWITCHES, PHOTOCELLS AND CONTACTORS SHALL BE AS DETAILED ON DRAWINGS.
- WALL SWITCH OCCUPANCY SENSORS SHALL BE WATT STOPPER WS-250 OR APPROVED EQUAL.

## ROUGH-IN SYSTEM FOR VOICE AND DATA

- PROVIDE A ROUGH-IN SYSTEM AS SPECIFIED HEREIN FOR SERVICE TO THE OWNER'S VOICE AND DATA NETWORK.
- PROVIDE A PLYWOOD BACKBOARD FOR TERMINATION OF TELEPHONE SERVICE AND DISTRIBUTION COMPONENTS. PLYWOOD BACKBOARD SHALL BE 2' X 3' X 3/4", FIRE RATED, PAINTED WITH TWO (2) COATS OF LIGHT GRAY ENAMEL PAINT. MASK FIRE RATED LABEL TO PREVENT THE LABEL FROM BEING PAINTED OVER.
- OUTLET BOXES FOR TELEPHONE AND DATA DEVICES SHALL CONSIST OF 4 11/16 IN SQUARE BY 2 1/8 INCH DEEP OUTLET BOXES WITH SINGLE DEVICE COVER.
- PROVIDE A 3" EMPTY CONDUIT WITH PULLSTRING FROM THE WALL MOUNTED PLYWOOD TELEPHONE TERMINAL BOARD IN THE TENANT SPACE TO THE LANDLORDS TELEPHONE DISTRIBUTION OR POINT OF SERVICE DELIVERY. PROVIDE A NYLON BUSHING ON EACH END OF CONDUIT FOR CABLE PROTECTION.
- ROUGH-IN FOR WIRING DROPS TO WALL MOUNTED VOICE AND DATA DEVICES SHALL BE INSTALLED WITHIN EMT CONDUIT, 1", PROVIDE A CONDUIT STUB FROM THE DEVICE BOX TO ABOVE ACCESSIBLE CEILING. PROVIDE A PLENUM RATED NYLON BUSHING ON THE END OF THE CONDUIT STUB FOR PROTECTION OF THE WIRING.
- PRIOR TO BEGINNING WORK, THIS CONTRACTOR SHALL FULLY COORDINATE HIS CONSTRUCTION OPERATIONS AND ALL TERMINATION LOCATIONS WITH AUTHORIZED REPRESENTATIVE OF THE TELEPHONE UTILITY COMPANY AND THE OWNER'S DATA NETWORK PROVIDER BY TIMELY NOTICE OR SCHEDULING OF SERVICE EQUIPMENT DATES, SERVICE MODIFICATION DATES AND NOTIFICATION OF REQUIRED OWNER AUTHORIZATIONS INVOLVING THE UTILITY COMPANY.

## DUCT MOUNTED SMOKE DETECTORS

- PROVIDE A 120 VOLT POWER SOURCE TO ALL DUCT MOUNTED SMOKE DETECTORS INSTALLED WITHIN NEW AND EXISTING ROOF TOP UNITS.
- PROVIDE A DUCT MOUNTED SMOKE DETECTORS WITHIN NEW AND EXISTING MECHANICAL EQUIPMENT AS REQUIRED BY APPLICABLE CODES. FINAL ELECTRICAL CONNECTION AND ALL INTERLOCK WIRING BY THE ELECTRICAL CONTRACTOR.
- PROVIDE ALL INTERLOCK WIRING IN CONDUIT BETWEEN ALL DUCT DETECTORS SUCH THAT UPON DETECTING SMOKE IN ANY ONE DETECTOR, ALL ROOF TOP UNITS SHALL BE SHUT DOWN.
- PROVIDE TEST/RESET SWITCH AND PIEZO ALERT SOUNDER AND REMOTE ANNUNCIATOR ALARM LED MOUNTED AS DIRECTED BY LOCATION AHJ. EC TO PROVIDE ALL REQUIRED INTERLOCK WIRING BETWEEN DUCT DETECTOR AND REMOTE SWITCH.
- REFER TO DETAILS ON MECHANICAL DRAWINGS FOR ADDITIONAL INFORMATION.

## TESTING

- PROVIDE ALL TESTS AS REQUIRED BY THE AUTHORITY HAVING JURISDICTION.
- PROVIDE THE TESTS AS OUTLINED HEREINAFTER AND OTHER TESTS REQUIRED TO ESTABLISH THE ADEQUACY, QUALITY, SAFETY, COMPLETED STATUS AND SUITABLE OPERATION OF EACH SYSTEM.
- PROMPTLY CORRECT ANY FAILURES, DEFICIENCIES AND/OR DEFECTS REVEALED BY THESE TESTS. AFTER CORRECTING FAILURES, DEFICIENCIES OF DEFECTS, CONDUCT NEW TESTING TO VERIFY THAT THE DEFICIENCY HAS BEEN RECTIFIED AND THE SYSTEM IS FUNCTIONING

PROPERLY.

- NEW PANELBOARDS SHALL HAVE PHASE CURRENTS BALANCED TO WITHIN +/- 10% VARIATION BETWEEN AVERAGE PHASE CURRENT AND MEASURED INDIVIDUAL PHASE.
- AN OPERATIONAL TEST OF THE EMERGENCY LIGHTING/EXIT SIGNAGE SYSTEM SHALL BE PERFORMED IN THE PRESENCE OF THE OWNER AND THE AUTHORITY HAVING JURISDICTION TO DEMONSTRATE PROPER OPERATION AND COMPLIANCE WITH APPLICABLE CODES AND SPECIFIED REQUIREMENTS.

## OPERATION AND MAINTENANCE MANUALS

- THIRTY (30) DAYS PRIOR TO SUBSTANTIAL COMPLETION, SUBMIT OPERATING AND MAINTENANCE MANUALS FOR EQUIPMENT TO ENGINEER FOR APPROVAL. INCLUDE ONE COPY OF EACH FINAL APPROVED SUBMITTAL FOR RECORD PURPOSES, INDICATING THE ACTUAL PRODUCT INSTALLED. INCLUDE SIGNIFICANT CHANGES IN THE PRODUCT DELIVERED TO PROJECT SITE AND CHANGES IN MANUFACTURER'S WRITTEN INSTRUCTIONS FOR INSTALLATION.
- PROVIDE COMPREHENSIVE CONTACT LIST INCLUDING CONTRACTOR AND SUBCONTRACTOR'S NAMES, ADDRESSES, TELEPHONE AND CONTACT PERSON FOR OWNER'S USE.

## TRAINING OF OWNER'S DESIGNATED PERSONNEL

- PREPARE AND SUBMIT OPERATING INSTRUCTIONS AND PROVIDE ON-SITE TRAINING OF OWNER'S PERSONNEL IN USE AND MAINTENANCE OF OPERATING EQUIPMENT.

## WARRANTY

- THE CONTRACTOR SHALL GUARANTEE ALL MATERIALS, EQUIPMENT AND THE INSTALLATION TO BE FREE OF DEFECTS THAT MAY DEVELOP IN ANY PART OF THEIR WORK CAUSED BY FAULTY WORKMANSHIP, MATERIAL OR EQUIPMENT FAILURES, FOR A MINIMUM OF ONE (1) YEAR FROM THE DATE OF SUBSTANTIAL COMPLETION OR FOR AS LONG AS NORMAL EQUIPMENT MANUFACTURER WARRANTIES ARE IN EFFECT FROM THE DATE OF OWNER ACCEPTANCE OF THE PROJECT, WHICHEVER IS LATER.
- DURING THE ONE (1) YEAR WARRANTY PERIOD, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO THE PREMISES CAUSED BY DEFECTS IN WORKMANSHIP OR DEFECTS IN THE WORK OR EQUIPMENT FURNISHED AND/OR INSTALLED UNDER THE WORK OF THE ELECTRICAL CONTRACT.

LINGLE DESIGN GROUP, INC



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# CASE


## Engineering Inc.

796 Menus Court  
St. Louis, MO 63026  
CERTIFICATE OF AUTHORITY NO. F-20080

T 636.349.1600  
F 636.349.1730

ALL DRAWINGS AND WRITTEN MATERIAL CONTAINED HEREIN ARE THE PROPERTY OF THE LINGLE DESIGN GROUP, INC. THEY MAY NOT BE REVISED, COPIED, REPRODUCED, OR DISCLOSED IN ANY MANNER WITHOUT WRITTEN AUTHORIZATION FROM THE ARCHITECT.

11/06/2023



PROJECT #:	
Project Number	
DRAWN BY: Author	CHECKED BY: Checker

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# SHERWIN WILLIAMS

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STORE #:  
XXXX

ADDRESS:  
  
12360 W. SH 29, LIBERTY  
HILL, TX, 78642

SHEET TITLE:  
  
ELECTRICAL  
SPECIFICATIONS

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SHEET NUMBER:  
  

# E100



## SUMMARY

- A. GENERAL AND SUPPLEMENTARY CONDITIONS WITHIN THE SPECIFICATIONS ARE HEREBY INCORPORATED AND BECOME PART OF THESE SPECIFICATIONS AND AS SUCH SHALL BE APPLICABLE TO THE WORK OF THE ELECTRICAL CONTRACT.
- B. PRIOR TO SUBMISSION OF A BID PROPOSAL, THE CONTRACTOR SHALL VISIT THE SITE AND BECOME FAMILIAR WITH ALL CONDITIONS AND LIMITATIONS THAT IMPACT THE WORK OF THIS CONTRACT. NO ADDITIONAL COSTS TO THE OWNER SHALL BE PERMITTED FOR CHANGES TO THE WORK AS A RESULT OF THE CONTRACTORS FAILURE TO VISIT THE SITE PRIOR TO BIDDING AND IDENTIFY ITEMS THAT WERE ABLE TO BE VERIFIED DURING A SITE VISIT PRIOR TO THE SUBMISSION OF A BID PROPOSAL.
- C. CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIAL, EQUIPMENT, RIGGING, AND MISCELLANEOUS ITEMS AS REQUIRED FOR A COMPLETE, OPERATIONAL, FUNCTIONAL AND CODE COMPLIANT ELECTRICAL INSTALLATION AS SHOWN ON THE DRAWINGS AND AS SPECIFIED IN THESE SPECIFICATIONS.

## LANDLORDS REQUIREMENTS

- A. ALL WORK OF THIS CONTRACT SHALL BE COMPLETED IN STRICT ACCORDANCE WITH THE REQUIREMENTS OF THE LANDLORD'S CONSTRUCTION CRITERIA AND/OR THE TENANT/LANDLORD AGREEMENT. THIS CONTRACTOR SHALL EXAMINE THE LANDLORD CRITERIA AND THE TENANT/LANDLORD AGREEMENT PRIOR TO THE SUBMISSION OF A BID PROPOSAL.
- B. ALL APPLICABLE REQUIREMENTS OF THE LANDLORDS CONSTRUCTION CRITERIA AND/OR THE TENANT/LANDLORD AGREEMENT DOCUMENTS SHALL BE CONSIDERED PART OF THESE SPECIFICATIONS.

## EXISTING CONDITIONS

- A. THE CONTRACT DOCUMENTS ARE BASED ON INFORMATION PROVIDED TO THE CONSULTANT AT THE TIME OF DESIGN. THIS CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS.

## BIDS AND SUBSTITUTIONS

- A. PRIOR TO SUBMISSION OF A BID PROPOSAL, CONTRACTOR SHALL THOROUGHLY REVIEW THE BID INSTRUCTIONS AND ALL CIVIL, ARCHITECTURAL, STRUCTURAL, AND MEPP CONSTRUCTION DOCUMENTS.
- B. SHOULD THE CONTRACTOR WISH TO SUBMIT AN ALTERNATE PRODUCT TO THE MANUFACTURERS NAMED IN THESE SPECIFICATIONS OR ON THE DRAWINGS FOR ANY EQUIPMENT, THE CONTRACTOR SHALL SUBMIT A VOLUNTARY ALTERNATIVE A MINIMUM OF SEVEN (7) CALENDAR DAYS PRIOR TO BID, STATING THE MANUFACTURER'S NAME, MODEL NUMBER, WRITTEN, DETAILED PRODUCT DATA.
- C. WORK PERFORMED OR CONSTRUCTED WITH UNAPPROVED EQUALS IS AT CONTRACTOR'S RISK AND ANY REQUIRED CORRECTION OF WORK INCORPORATING UNAPPROVED EQUALS SHALL BE AT CONTRACTOR'S SOLE COST AND EXPENSE.
- D. NO SUBSTITUTIONS PERMITTED FOR LIGHTING FIXTURES.

## QUALITY ASSURANCE

- A. ALL MATERIALS AND EQUIPMENT SHALL BE NEW.
- B. PROVIDE PERMITS, INSPECTIONS, FINAL CERTIFICATES OF INSPECTION BY THE AUTHORITY HAVING JURISDICTION, PERMIT AND INSPECTION FEES AND ALL MATERIALS, EQUIPMENT AND LABOR AS REQUIRED FOR A COMPLETE, FUNCTIONAL, FULLY OPERATIONAL AND CODE COMPLIANT ELECTRICAL SYSTEM.
- C. THIS CONTRACTOR SHALL PROVIDE ALL MATERIALS AND ACCESSORIES FOR CODE COMPLIANT SUPPORT OF THE ELECTRICAL WORK, WHETHER OR NOT SHOWN ON THE DRAWINGS OR SPECIFIED IN THESE SPECIFICATIONS.
- D. REQUIREMENTS OF REGULATORY AGENCIES:
- PERMITS: ARRANGE AND PAY FOR ALL PERMITS, INSPECTIONS AND UTILITY CONNECTIONS REQUIRED.
  - PROVIDE ALL TESTS AND INSPECTIONS REQUIRED BY THE AUTHORITY HAVING JURISDICTION.
  - PROVIDE A SIGNED CERTIFICATE OF INSPECTION AT THE COMPLETION OF THE PROJECT. INCLUDE IN OPERATION AND MAINTENANCE MANUALS.
- E. CODES AND STANDARDS
- COMPLY WITH SPECIFIED CODES AND STANDARDS. IF CONFLICT EXISTS BETWEEN CODES OR STANDARDS AND DRAWINGS, PROJECT MANUAL OR ADDENDA REQUIREMENTS, REQUEST CLARIFICATION FROM ARCHITECT/ENGINEER.
  - CONFORM TO THE INSTALLATION RULES AND REGULATIONS OF THE CODES AND STANDARDS LISTED INCLUDING ALL SUBSEQUENTLY PUBLISHED AMENDMENTS THERETO ISSUED PRIOR TO THE DATE OF THE BIDDING DOCUMENTS.
  - CONFORM TO THE REQUIREMENTS OF ALL LOCAL, STATE AND FEDERAL AGENCIES WHICH HAVE AUTHORITY OVER THIS PROJECT.
  - COMPLY WITH THE APPLICABLE EDITION OF THE FOLLOWING CODES AND STANDARDS THAT HAVE BEEN ADOPTED BY AND ARE ENFORCED BY THE AUTHORITY HAVING JURISDICTION:
    - INTERNATIONAL BUILDING CODE.
    - INTERNATIONAL ENERGY CONSERVATION CODE
    - INTERNATIONAL MECHANICAL CODE
    - NATIONAL ELECTRICAL CODE
    - INTERNATIONAL FIRE CODE
    - LIFE SAFETY CODE, NFPA 101
    - AMERICANS WITH DISABILITIES ACT ACCESSIBILITY GUIDELINES
    - ALL LOCAL CODES AND ORDINANCES ADOPTED AND ENFORCED BY THE AUTHORITY HAVING JURISDICTION.
- F. REFERENCED STANDARDS:
- ALL EQUIPMENT, APPARATUS, MATERIALS AND SYSTEMS SHALL BE RATED, TESTED, FABRICATED AND INSTALLED WITH THE APPLICABLE INDUSTRY STANDARDS.
  - ALL EQUIPMENT, APPARATUS, MATERIALS AND SYSTEMS SHALL BE LISTED AND LABELED BY A NATIONALLY RECOGNIZED TESTING LABORATORY (UL, ETL, ETC)

## ELECTRICAL CONTRACT DOCUMENTS

- A. THE ELECTRICAL DRAWINGS (DRAWINGS) AND THE SPECIFICATIONS SHALL TOGETHER FORM A SET OF CONTRACT DOCUMENTS FOR THE ELECTRICAL WORK. NEITHER THE DRAWINGS OR THE SPECIFICATIONS SHALL BE COMPLETE WITHOUT THE OTHER. ANY ITEM SHOWN ONLY ON THE DRAWINGS OR SPECIFIED ONLY IN THE SPECIFICATIONS SHALL BE CONSIDERED AS IF SHOWN AND SPECIFIED IN BOTH.
- B. ELECTRICAL DRAWINGS AND SPECIFICATIONS: COMPLY WITH THE FOLLOWING REQUIREMENTS:
- CONTRACTOR SHALL FAMILIARIZE THEMSELVES WITH ALL DRAWINGS AND SPECIFICATIONS WITHIN THE CONTRACT DOCUMENTS, INCLUDING, BUT NOT NECESSARILY LIMITED TO, GEOTECHNICAL, LANDSCAPE, CIVIL, ARCHITECTURAL, STRUCTURAL, FOOD SERVICE, MECHANICAL, PLUMBING AND FIRE PROTECTION DRAWINGS AND SPECIFICATIONS.
  - THE ELECTRICAL DRAWINGS ARE DIAGRAMMATIC IN NATURE AND ARE INTENDED TO INDICATE APPROXIMATE LOCATION ONLY OF ELECTRICAL WORK. THE ACTUAL LOCATION OF ANY ELECTRICAL WORK SHALL NOT INTERFERE WITH THE LOCATION, CLEARANCES, ETC. REQUIRED BY THE WORK OF OTHER TRADES.
  - PRIOR TO ROUGH-IN, CONTRACTOR SHALL COORDINATE ALL DEVICE LOCATIONS WITH THE ARCHITECTURAL WALL ELEVATIONS AND THE FINAL, APPROVED FOOD SERVICE SHOP DRAWINGS.
- C. DEFINITIONS: THE FOLLOWING TERMS ARE USED ON THE ELECTRICAL DRAWINGS AND IN THE SPECIFICATIONS AND SHALL BE DEFINED AS FOLLOWS:
- CONTRACTOR - THE ELECTRICAL CONTRACTOR OR ANY OF THEIR SUB-CONTRACTORS.
  - WORK - ALL MATERIAL, LABOR, TRANSPORTATION OF THE ELECTRICAL CONTRACTOR OR ANY OF THEIR SUB-CONTRACTORS.
  - FURNISH - PURCHASE, SUBMIT FOR REVIEW AND APPROVAL, COORDINATE WITH THE CONTRACT DOCUMENTS AND DELIVER TO THE PROJECT SITE IN NEW, UNDAMAGED CONDITION, STORE AS DIRECTED, PROTECT FROM DAMAGE
  - INSTALL - INSTALL IN PLACE, MAKE READY FOR CONNECTION TO THE REQUIRED SERVICE.

- CONNECT - CONNECT TO THE REQUIRED SERVICE AS REQUIRED FOR PROPER OPERATION, TEST FOR PROPER OPERATION AND FUNCTIONALITY IN ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS AND REQUIREMENTS SPECIFIED WITHIN THESE SPECIFICATIONS AND TURN OVER TO THE OWNER IN FULL OPERATING CONDITION.
- PROVIDE - FURNISH, INSTALL AND CONNECT AS DEFINED HEREIN FOR A COMPLETE, FUNCTIONAL AND CODE COMPLIANT INSTALLATION READY FOR INTENDED USE.
- FINISHED SPACE - SPACES HAVING WALLS PAINTED OR FINISHED WITH WALL COVERING, LAY-IN OR DRYWALL CEILING, AND FINISHED FLOORING MATERIALS. EXAMPLES OF FINISHED SPACES INCLUDE, BUT ARE NOT NECESSARILY LIMITED TO, ALL SPACES IN A DWELLING UNIT, OFFICES, LOBBIES, CORRIDORS, TOILET ROOMS, ETC.
- UNFINISHED SPACES - SPACES WITH UNFINISHED WALLS AND FLOORS AND TYPICALLY ARE NOT EQUIPPED WITH A CEILING. EXAMPLES INCLUDE, BUT ARE NOT NECESSARILY LIMITED TO, MECHANICAL ROOMS, ELECTRICAL ROOMS, SERVICE AREAS, ETC.
- SHALL - ACTION THAT IS REQUIRED WITHOUT OPTION OR QUALIFICATION.

## SUBMITTALS

- A. REVIEW OF THE SHOP DRAWINGS IS RENDERED AS A SERVICE ONLY AND SHALL NOT BE CONSIDERED AS A GUARANTEE OF MEASUREMENTS OR OF BUILDING CONDITIONS; NOR SHALL IT BE CONSTRUED AS RELIEVING THE CONTRACTOR'S OF BASIC RESPONSIBILITIES UNDER HIS CONTRACT. ARCHITECT/ENGINEER WILL REVIEW SHOP DRAWINGS ONLY FOR CONFORMANCE WITH DESIGN CONCEPT OF THE PROJECT. REVIEW BY THE ARCHITECT/ENGINEER SHALL NOT BE CONSTRUED:

- AS PERMITTING ANY DEPARTURE FROM THE CONTRACT REQUIREMENTS.
  - AS RELIEVING THE CONTRACTOR OF THE RESPONSIBILITY FOR ANY ERROR IN DETAILS, DIMENSIONS OR OTHERWISE THAT MAY EXIST.
  - AS APPROVED DEPARTURES FROM ADDITIONAL DETAILS OR INSTRUCTIONS PREVIOUSLY FURNISHED BY THE ARCHITECT/ENGINEER.
- B. SHOP DRAWINGS:
- THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS AND DESCRIPTIVE LITERATURE OF EQUIPMENT TO BE FURNISHED UNDER THIS CONTRACT. DRAWINGS SHALL STATE CAPACITIES, SIZES, ETC., OF ALL EQUIPMENT AND SHALL BE CERTIFIED. SEE GENERAL CONDITIONS AND SUPPLEMENTARY CONDITIONS FOR ADDITIONAL REQUIREMENTS.
  - PROVIDE SUBMITTALS FOR LIGHTING FIXTURES, PANELBOARDS, LIGHTING CONTROL DEVICES, CONTACTORS, WIRING DEVICES, POWER SYSTEM STUDY.
- C. THE CONTRACTOR SHALL PERFORM NO PORTION OF THE WORK REQUIRING SUBMITTAL AND REVIEW OF SHOP DRAWINGS, PRODUCT DATA, SAMPLES OR SIMILAR SUBMITTALS UNTIL THE RESPECTIVE SUBMITTALS HAS BEEN APPROVED BY THE ENGINEER.

## ELECTRICAL COORDINATION DRAWINGS

- A. PREPARE ELECTRICAL COORDINATION DRAWINGS AS REQUIRED BY THE WORK AND AS DIRECTED BY THE GENERAL CONTRACTOR.
- B. MEET WITH REPRESENTATIVES OF THE OTHER DISCIPLINES/TRADES TO COORDINATE THE ELECTRICAL WORK WITH THE WORK OF EACH DISCIPLINE AND TO OBTAIN INFORMATION REGARDING THEIR WORK THAT IS TO BE INDICATED ON THE COORDINATION DRAWINGS.

## POWER SYSTEM STUDIES - GENERAL

- A. PROVIDE COMPUTER-BASED, POWER SYSTEM STUDIES THAT INCLUDES:
- A SHORT CIRCUIT STUDY TO DETERMINE THE MINIMUM INTERRUPTING CAPACITY OF CIRCUIT PROTECTIVE DEVICES;
  - AN ARC-FLASH STUDY TO DETERMINE THE ARC-FLASH HAZARD DISTANCE AND THE INCIDENT ENERGY TO WHICH PERSONNEL COULD BE EXPOSED DURING WORK ON OR NEAR ELECTRICAL EQUIPMENT.
- B. STUDIES SHALL BE PERFORMED UTILIZING COMPUTER PROGRAMS THAT ARE DISTRIBUTED NATIONALLY AND ARE IN WIDE USE. SOFTWARE ALGORITHMS SHALL COMPLY WITH REQUIREMENTS OF STANDARDS AND GUIDES SPECIFIED IN THIS SECTION. MANUAL CALCULATIONS ARE UNACCEPTABLE.
- C. SOFTWARE DEVELOPERS: SUBJECT TO COMPLIANCE WITH SPECIFIED REQUIREMENTS, PERFORM STUDIES UTILIZING SOFTWARE PRODUCTS BY ONE OF THE FOLLOWING:
- EASY POWER
  - POWER ANALYTICS CORPORATION
  - SKM SYSTEMS ANALYSIS
- D. ALL STUDIES SHALL BE BASED ON THE DEVICE CHARACTERISTICS OF ACTUAL EXISTING COMPONENTS AND THE NEW COMPONENTS BEING INSTALLED.
- E. PROVIDE ALL FIELD LABOR AS REQUIRED TO OBTAIN ALL DATA NECESSARY TO CONDUCT THE STUDIES SPECIFIED HEREIN.
- F. SUBMIT STUDIES FOR REVIEW BEFORE SUBMITTING THE SYSTEM OVERCURRENT PROTECTIVE DEVICE AND POWER DISTRIBUTION EQUIPMENT SUBMITTALS. SUBMIT STUDY REPORT FOR REVIEW PRIOR TO RECEIVING FINAL APPROVAL OF THE OVERCURRENT PROTECTIVE DEVICE AND DISTRIBUTION EQUIPMENT SUBMITTALS.
- G. WHERE FORMAL COMPLETION OF STUDIES WILL CAUSE A DELAY IN THE ORDERING AND MANUFACTURING OF OVERCURRENT PROTECTIVE DEVICES AND POWER DISTRIBUTION EQUIPMENT, OBTAIN APPROVAL FROM ENGINEER FOR PRELIMINARY SUBMITTAL OF SUFFICIENT STUDY DATA TO ENSURE THAT THE SELECTION OF DEVICES AND ASSOCIATED CHARACTERISTICS IS SATISFACTORY AND IN COMPLIANCE WITH THE RESULTS OF THE STUDIES BEING PERFORMED.

## SHORT CIRCUIT STUDY

- A. PROVIDE A COMPUTER-BASED, SHORT CIRCUIT STUDY TO DETERMINE THE MINIMUM INTERRUPTING CAPACITY OF CIRCUIT PROTECTIVE DEVICES.
- B. FOR NEW EQUIPMENT, USE CHARACTERISTICS SUBMITTED UNDER THE PROVISIONS OF ACTION SUBMITTALS AND INFORMATION SUBMITTALS FOR THIS PROJECT.
- C. FOR EXISTING RELOCATED EQUIPMENT AND EXISTING EQUIPMENT THAT IS EXISTING TO REMAIN, OBTAIN REQUIRED ELECTRICAL DISTRIBUTION SYSTEM DATA BY FIELD INVESTIGATION AND SURVEYS, CONDUCTED BY QUALIFIED TECHNICIANS AND ENGINEERS. THE QUALIFICATIONS OF TECHNICIANS AND ENGINEERS SHALL BE QUALIFIED AS DEFINED BY NFPA 70E.
- D. GATHER AND TABULATE ALL REQUIRED DATA TO SUPPORT THE SHORT-CIRCUIT STUDY. COMPLY WITH RECOMMENDATIONS IN IEEE 551 AS TO THE AMOUNT OF DETAIL THAT IS REQUIRED TO BE ACQUIRED IN THE FIELD.
- E. BEGIN SHORT-CIRCUIT CURRENT ANALYSIS AT THE SERVICE, EXTENDING DOWN TO THE SYSTEM OVERCURRENT PROTECTIVE DEVICES AS FOLLOWS:

- TO NORMAL SYSTEM LOW-VOLTAGE LOAD BUSES WHERE FAULT CURRENT IS 10 KA OR LESS.

## ARC FLASH HAZARD STUDY

- A. PROVIDE A COMPUTER-BASED, ARC-FLASH HAZARD STUDY TO DETERMINE THE ARC-FLASH HAZARD DISTANCE AND THE INCIDENT ENERGY TO WHICH PERSONNEL COULD BE EXPOSED DURING WORK ON OR NEAR EXISTING AND NEW ELECTRICAL EQUIPMENT.
- B. ELECTRICAL SURVEY DATA: GATHER AND TABULATE ALL REQUIRED INPUT DATA TO SUPPORT STUDY. COMPLY WITH RECOMMENDATIONS IN IEEE 1584 AND NFPA 70E AS TO THE AMOUNT OF DETAIL THAT IS REQUIRED TO BE ACQUIRED IN THE FIELD.
- C. FOR NEW EQUIPMENT, USE CHARACTERISTICS SUBMITTED UNDER THE PROVISIONS OF ACTION SUBMITTALS AND INFORMATION SUBMITTALS FOR THIS PROJECT.
- D. FOR EXISTING EQUIPMENT, WHETHER OR NOT RELOCATED, OBTAIN REQUIRED ELECTRICAL DISTRIBUTION SYSTEM DATA BY FIELD INVESTIGATION AND SURVEYS, CONDUCTED BY QUALIFIED TECHNICIANS AND ENGINEERS.
- E. HAZARD LABELS SHALL HAVE AN ORANGE HEADER WITH THE WORDING, "WARNING, ARC-FLASH HAZARD," AND SHALL INCLUDE THE FOLLOWING INFORMATION TAKEN DIRECTLY FROM THE ARC-FLASH HAZARD ANALYSIS:

- LOCATION DESIGNATION.

- NOMINAL VOLTAGE.
- FLASH PROTECTION BOUNDARY.
- HAZARD RISK CATEGORY.
- INCIDENT ENERGY.
- WORKING DISTANCE.
- ENGINEERING REPORT NUMBER, REVISION NUMBER, AND ISSUE DATE.

- F. ARC FLASH HAZARD WARNING LABELS SHALL BE A 3.5-BY-5-INCH THERMAL TRANSFER LABEL OF HIGH-ADHESION POLYESTER FOR EACH WORK LOCATION INCLUDED IN THE ANALYSIS.

- G. LABELS SHALL BE MACHINE PRINTED, WITH NO FIELD-APPLIED MARKINGS.

## RECORD DOCUMENTS

- A. DURING THE PROGRESS OF THE WORK, CONTRACTOR SHALL MAINTAIN A CURRENT (DAILY) AS-BUILT SET OF THE DRAWINGS AND SPECIFICATIONS, INDICATING THEREON ALL WORK INSTALLED AT VARIANCE WITH SUCH CONTRACT DOCUMENTS INCLUDING, WITHOUT LIMITATION, WORK COVERED BY ADDENDA, FIELD WORK ORDERS, CHANGE ORDERS, AND ENGINEERS
- B. CONTRACTOR SHALL PROVIDE THE TENANT WITH THE FINAL AS-BUILT SET OF DRAWINGS AT THE COMPLETION OF THE WORK.

## COORDINATION WITH LANDLORD AND UTILITY COMPANIES

- A. PRIOR TO COMMENCEMENT OF WORK, CONTRACTOR SHALL COORDINATE THE WORK OF THIS CONTRACT WITH THE LANDLORD'S AUTHORIZED REPRESENTATIVE AND AUTHORIZED REPRESENTATIVES OF EACH SERVING UTILITY THAT WILL PROVIDE SERVICE TO THIS SITE, INCLUDING BUT NOT NECESSARILY LIMITED TO, ELECTRIC, TELEPHONE AND CABLE/SATELLITE TV SERVICE PROVIDERS.
- B. CONTRACTOR SHALL MEET WITH AUTHORIZED REPRESENTATIVES OF THE LANDLORD AND EACH UTILITY TO DISCUSS UTILITY COMPANY SCOPE OF WORK, CONTRACTOR SCOPE OF WORK, POINT OF SERVICE PICK-UP, DETAILS REGARDING SYSTEM INTERFACE, UTILITY COMPANY STANDARDS TO BE COMPLIED WITH, ETC.

## COORDINATION WITH OTHER TRADES

- A. ELECTRICAL WORK SHALL BE INSTALLED SO AS TO NOT CONFLICT WITH THE WORK OF OTHER TRADES.
- B. SET ALL SLEEVES AND CUT AND PATCH ALL MISCELLANEOUS HOLES NECESSARY FOR THE CONVENIENT AND PROPER INSTALLATION OF THE WORK.
- C. CONFER WITH THE OTHER CONTRACTORS REGARDING THE LOCATION AND SIZE OF PIPES, EQUIPMENT, DUCTS, OPENINGS AND SPECIAL ARCHITECTURAL TREATMENTS IN ORDER THAT THERE MAY BE NO INTERFERENCES BETWEEN THE INSTALLATION OR THE PROGRESS OF THE WORK OF ANY CONTRACTOR ON THE PROJECT.
- D. ALL LINE VOLTAGE WIRING AND FINAL CONNECTIONS TO COMPLETE MECHANICAL SYSTEMS SHALL BE PROVIDED BY THE ELECTRICAL CONTRACTOR.
- E. PROVIDE FINAL ELECTRICAL CONNECTIONS TO EQUIPMENT FURNISHED/PROVIDED BY OTHERS, (HVAC EQUIPMENT, PLUMBING EQUIPMENT, COMMERCIAL KITCHEN EQUIPMENT, ETC.
- F. COORDINATE THE NEMA CONFIGURATION OF THE RECEPTACLE TO BE PROVIDED WITH THE NEMA PLUG CONFIGURATION OF THE CORD/PLUG ASSEMBLY FURNISHED WITH THE EQUIPMENT TO BE INSTALLED. PROVIDE RECEPTACLES HAVING A NEMA CONFIGURATION THAT MATCHES THE NEMA CONFIGURATION OF THE PLUG ON THE EQUIPMENT.
- G. PROVIDE FINAL COORDINATION OF AVAILABLE POWER (VOLTAGE/PHASE) WITH OTHER TRADES PRIOR TO THEIR ORDERING OF EQUIPMENT.

## TEMPORARY POWER

- A. THE CONTRACTOR SHALL PROVIDE ALL REQUIRED TEMPORARY POWER AND LIGHTING TO ALLOW ALL CONTRACTORS AND SUB-CONTRACTORS TO PERFORM THE WORK OF THEIR CONTRACTS.
- B. PRIOR TO THE SUBMISSION OF A BID PROPOSAL, THE CONTRACTOR SHALL CONTACT THE GENERAL CONTRACTOR TO COORDINATE THE TYPE OF EQUIPMENT TO BE UTILIZED DURING THE WORK OF THIS CONTRACT

## SEQUENCING AND SCHEDULING

- A. COORDINATE ELECTRICAL EQUIPMENT INSTALLATION WITH OTHER BUILDING COMPONENTS AND THE PROJECT PHASING PLAN.

## UTILITY COMPANY METERING EQUIPMENT

- A. PROVIDE ALL EQUIPMENT REQUIRED FOR ELECTRICITY METERING BY UTILITY COMPANY.
- B. ELECTRICAL SERVICE CONNECTIONS: COORDINATE WITH UTILITY COMPANIES AND COMPONENTS THEY FURNISH AS FOLLOWS:
- COMPLY WITH REQUIREMENTS OF UTILITIES PROVIDING ELECTRICAL POWER SERVICES.
  - COORDINATE INSTALLATION AND CONNECTION OF UTILITIES AND SERVICES, INCLUDING PROVISION FOR ELECTRICITY-METERING COMPONENTS.
- C. METERS SHALL BE FURNISHED BY UTILITY COMPANY; INSTALLED BY ELECTRICAL CONTRACTOR.
- D. METER SOCKETS: COMPLY WITH REQUIREMENTS OF ELECTRICAL-POWER UTILITY COMPANY.
- E. INSTALL ALL CONDUITS AND EQUIPMENT ACCORDING TO UTILITY COMPANY'S WRITTEN REQUIREMENTS. PROVIDE EMPTY CONDUITS FOR METERING LEADS AND EXTEND GROUNDING CONNECTIONS AS REQUIRED BY UTILITY COMPANY.

## FIRE STOPPING

- A. PROVIDE FIRE STOPPING FOR PENETRATIONS BY CONDUIT OR CABLES AND OTHER EQUIPMENT THROUGH FIRE-RATED VERTICAL BARRIERS (WALLS AND PARTITIONS), HORIZONTAL BARRIERS (FLOOR/CEILING ASSEMBLIES) AND VERTICAL SHAFT WALLS AND PARTITIONS.
- B. FIRESTOP SYSTEM INSTALLATION SHALL COMPLY WITH THE REQUIREMENTS OF ATME E 814 OR UL 1479 TESTED ASSEMBLIES THAT PROVIDE A FIRE RATING EQUAL TO OR GREATER THAN THAT OF THE CONSTRUCTION BEING PENETRATED.

## SEISMIC RESTRAINT

- A. PROVIDE SEISMIC RESTRAINT FOR ELECTRICAL WORK AND SYSTEMS AND EQUIPMENT IN STRICT ACCORDANCE WITH THE APPLICABLE BUILDING CODE AND THE REQUIREMENTS OF THE AUTHORITY HAVING JURISDICTION.
- B. SUBMIT ALL REQUIRED DETAILS TO THE AUTHORITY HAVING JURISDICTION FOR REVIEW AND APPROVAL.

## CUTTING & PATCHING

- A. CORE-DRILL OR SAW-CUT EXISTING FLOORS, WALLS, ROOF, ETC., AS REQUIRED FOR THE INSTALLATION OF THE ELECTRICAL WORK. STRUCTURAL COMPONENTS, INCLUDING BUT NOT NECESSARILY LIMITED TO, COLUMNS, BEAMS, GIRDS, PLATES OR JOISTS SHALL NOT BE CUT.
- B. PATCH SURROUNDING AREAS FLUSH WITH ADJACENT SURFACES AND PREPARE TO RECEIVE SPECIFIED FINISHES. PATCH AND REPAIR ROOF TO MATCH EXISTING ROOFING SYSTEM. ALL ROOF WORK SHALL BE PERFORMED TO MEET THE WARRANTY REQUIREMENTS OF THE EXISTING ROOFING SYSTEM.

## GROUNDING

- A. PROVIDE ELECTRICAL SYSTEM AND EQUIPMENT GROUNDING IN ACCORDANCE WITH APPLICABLE N.E.C. REQUIREMENTS.
- B. PROVIDE AN INSULATED EQUIPMENT GROUND CONDUCTOR WITHIN ALL FEEDERS AND BRANCH CIRCUITS.
- C. PROVIDE AN ISOLATED GROUND CONDUCTOR IN ADDITION TO THE EQUIPMENT

GROUNDING CONDUCTOR IN SELECT BRANCH CIRCUITS AS NOTED ON THE DRAWINGS.

- D. PROVIDE A #6 AWG GREEN INSULATED GROUNDING CONDUCTOR FROM THE GROUND BAR AT TELEPHONE TERMINAL BOARD TO THE ELECTRICAL SERVICE GROUND.

- E. PROVIDE A COPPER GROUNDING BAR AT THE TELEPHONE TERMINAL BACKBOARD. GROUNDING BAR SHALL BE ¼ INCH X 4 INCHES X 12 INCHES, PRE-DRILLED FOR CONDUCTOR TERMINATIONS, WITH NON-METALLIC STAND-OFF BRACKETS WITH INSULATORS. CHATSWORTH PRODUCTS 10622-012 OR APPROVED EQUAL.

## EQUIPMENT IDENTIFICATION

- A. PROVIDE EQUIPMENT LABELS ON PANELBOARDS, DISCONNECT SWITCHES, CONTACTORS, CONTROLS, ETC. EQUIPMENT LABELS SHALL BE ENGRAVED PHENOLIC RESIN NAMEPLATES ATTACHED TO ENCLOSURE WITH MECHANICAL FASTENERS. SELF-ADHESIVE NAMEPLATES ARE NOT ACCEPTABLE. LETTERING SHALL BE 1/2" HIGH, BLACK TEXT ON WHITE BACKGROUND.

- B. THE COVERS OF ALL OUTLET AND JUNCTION BOXES INSTALLED ABOVE CEILINGS AND INSTALLED EXPOSED IN UNFINISHED SPACES SHALL BE LABELED TO IDENTIFY THE SERVING PANEL, VOLTAGE, PHASE AND CIRCUIT NUMBERS CONTAINED WITHIN THE BOX. LABEL SHALL BE LEGIBLY HANDWRITTEN WITH BLACK, FELT TIP PERMANENT MARKER.

- C. THE COVER PLATES OF ALL WIRING DEVICES SHALL BE LABELED TO IDENTIFY THE SERVING PANEL AND THE CIRCUITS SERVING THE DEVICE. LABELS SHALL BE MACHINE PRINTED, BLACK TEXT ON A CLEAR, SELF-ADHESIVE LABEL.

## CONDUIT AND FITTINGS

- A. ALL INTERIOR AND EXTERIOR CONDUITS SHALL BE INSTALLED AND SUPPORTED IN ACCORDANCE WITH N.E.C. REQUIREMENTS.
- B. MINIMUM CONDUIT SIZE SHALL BE ¼" TRADE SIZE. SWITCH LEGS SHALL BE ¾" TRADE SIZE.
- C. WITHIN INTERIOR FINISHED AREAS, ALL CONDUIT SHALL BE INSTALLED CONCEALED WITHIN NEW AND EXISTING WALLS AND ABOVE NEW AND EXISTING CEILINGS.
- D. CONDUIT INSTALLED WITHIN THE INTERIOR OF THE BUILDING SHALL BE GALVANIZED ELECTRICAL METALLIC TUBING (EMT). CONDUIT FITTINGS FOR INDOOR EMT CONDUITS SHALL BE CAST METAL, COMPRESSION TYPE.
- E. EMT SHALL BE USED FOR INTERIOR FEEDERS AND BRANCH CIRCUITS INSTALLED CONCEALED ABOVE CEILINGS OR CONCEALED WITHIN EXISTING AND NEW INTERIOR PARTITIONS.
- F. CONDUITS INSTALLED EXPOSED ON THE EXTERIOR OF THE BUILDING SHALL BE GALVANIZED RIGID STEEL. FITTINGS SHALL BE THREADED TYPE.

- G. CONDUITS INSTALLED UNDER SLAB ON GRADE CONSTRUCTION SHALL BE RIGID NON-METALLIC (RNC), SCHEDULE 40 PVC. RNC COMPLYING WITH NEMA TC 2 AND UL 651 UNLESS OTHERWISE INDICATED. FITTINGS FOR RIGID NON-METALLIC CONDUIT SHALL COMPLY WITH NEMA TC 3; MATCH TO CONDUIT TYPE AND MATERIAL.
- H. PROVIDE CONDUIT EXPANSION FITTINGS IN ALL CONDUIT RUNS THAT EXTEND ACROSS BUILDING EXPANSION JOINTS AND WHERE MOVEMENT MAY BE ENCOUNTERED.

- I. CONDUIT SHALL BE SUPPORTED FROM STRUCTURE ONLY.
- J. PVC CONDUIT SHALL ONLY BE USED BELOW GRADE.
- K. PROVIDE FLEXIBLE METAL CONDUIT FOR CONNECTIONS TO VIBRATING EQUIPMENT. MAXIMUM CONDUIT LENGTH SHALL BE 36 INCHES.
- L. PROVIDE LIQUID-TIGHT FLEXIBLE METAL CONDUIT FOR CONNECTIONS TO VIBRATING EQUIPMENT IN WET OR OUTDOOR LOCATIONS. MAXIMUM CONDUIT LENGTH SHALL BE 36 INCHES.
- M. PROVIDE FLEXIBLE METAL CONDUIT FOR FINAL CONNECTIONS TO RECESSED LIGHT FIXTURES (FIXTURE WHIPS). MAXIMUM CONDUIT LENGTH SHALL BE 72 INCHES.
- N. PROVIDE LIQUID-TIGHT FLEXIBLE METAL CONDUIT FOR FINAL ELECTRICAL CONNECTIONS TO FOOD SERVICE EQUIPMENT.

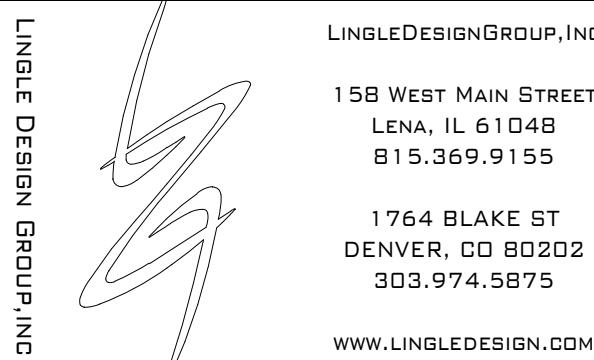
- O. CONDUITS THAT EXTEND UP TO THE ROOF LEVEL TO SERVE ROOF MOUNTED MECHANICAL EQUIPMENT INSTALLED ON A CURB SHALL BE ROUTED WITHIN THE EQUIPMENT CURB. COORDINATE ELECTRICAL WORK WITH MECHANICAL EQUIPMENT INSTALLER.

- P. PROVIDE CONDUIT SEALING FITTINGS IN ALL CONDUITS THAT EXTEND FROM NON-REFRIGERATED SPACES TO REFRIGERATED SPACES.

- Q. ALL CONDUITS INSTALLED IN ASSOCIATION WITH THE WALK-IN COOLER FREEZER SHALL BE INSTALLED IN ACCORDANCE WITH THE WALK-IN MANUFACTURERS RECOMMENDATIONS AND REQUIREMENTS. COORDINATE ALL CONDUIT INSTALLATION WITH WALK-IN EQUIPMENT INSTALLER.

- R. ACCEPTABLE MANUFACTURERS FOR GALVANIZED RIGID CONDUIT, EMT, FLEXIBLE METAL CONDUITS AND LIQUID-TIGHT FLEXIBLE METAL CONDUITS SHALL BE ALLIED, REPUBLIC, WHEATLAND, ELECTRI-FLEX AND ANACONDA.

- S. ACCEPTABLE MANUFACTURERS FOR CONDUIT FITTINGS SHALL BE THOMAS AND BETTS OR APPROVED EQUAL.



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PROJECT #:  
Project Number  
DRAWN BY: Author  
CHECKED BY: Checker

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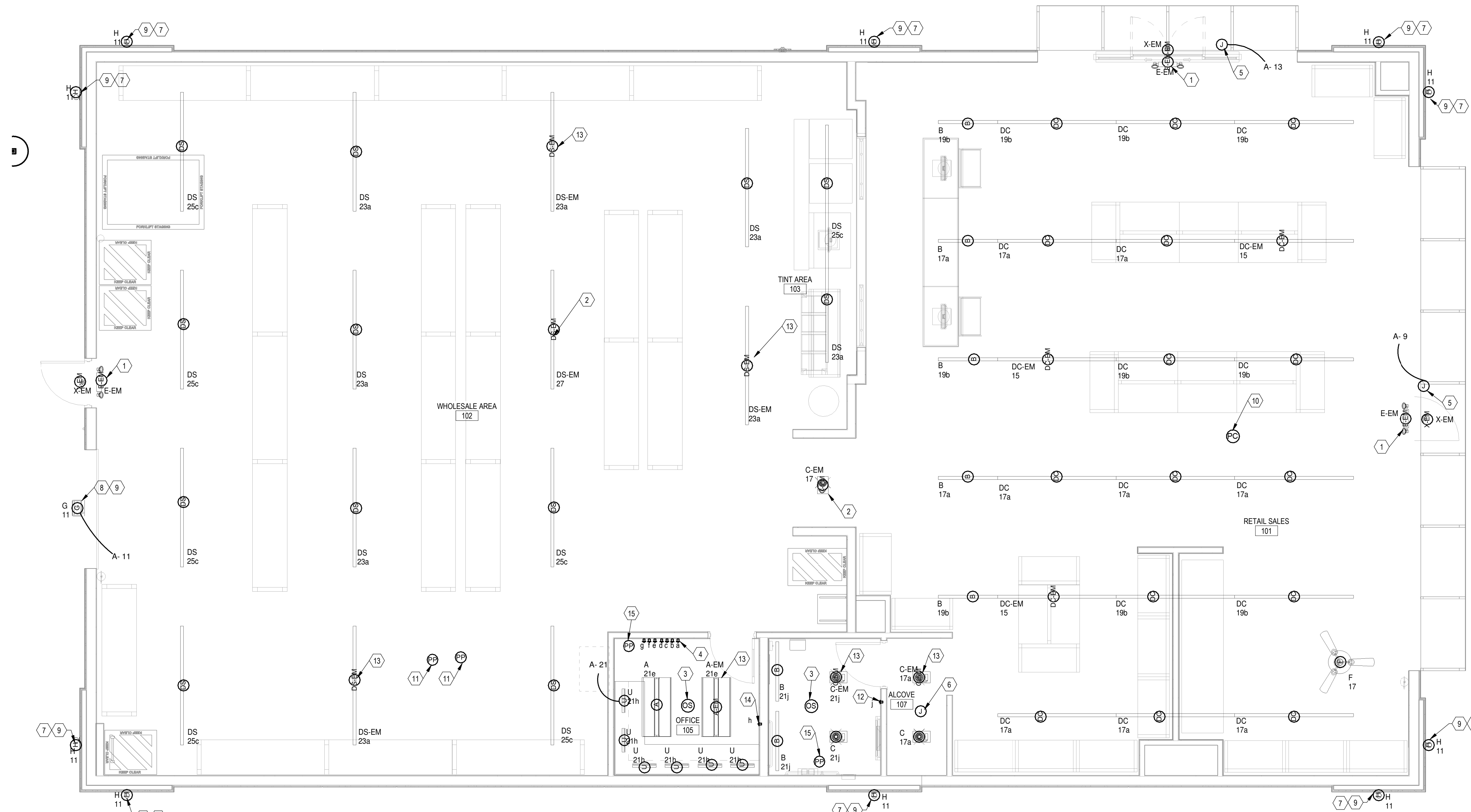
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HILL, TX, 78642

SHEET TITLE:

ELECTRICAL  
SPECIFICATIONS

SHEET NUMBER:

E101



1 Working-Lighting Plan-01  
E200 1/4" = 1'-0"

Type Mark	Count	Description	Manufacturer	Model	Lamp	Comments
A	1	2x4' Troffer	GE Current	LVT24B048MM840VQ L7WHITE	LED	To be sourced from Wesco
A-EM	1	2x4' Emergency Troffer	GE Current	LVT24B048MM840VQ L7WHITE	LED	To be sourced from Wesco - Connect to non-switched emergency circuit
B	7	48" Standalone Strip	GE Current	ALV204T041481DSQV QSTKQW	LED	To be sourced from Wesco
C	2	6" 1,000 Lumen LED Trim	GE Current	LXRBR61X9CVWQ	LED	To be sourced from Wesco
C-EM	3	6" 1,000 Recessed EM Can	GE Current	LXRFR610840MDEL	LED	To be sourced from Wesco - Connect to non-switched emergency circuit
DC	15	8" Continuous Strip	GE Current	ALV208T08T481DCQV QSTKQW	LED	To be sourced from Wesco
DC-EM	3	8" Continuous EM Strip	GE Current	ALV208T08T481DCQV QSTKQW	LED	To be sourced from Wesco - Connect to non-switched emergency circuit
DS	13	8" Standalone Strip	GE Current	ALV208T08T481DSQV QSTKQW	LED	To be sourced from Wesco
DS-EM	3	8" Standalone EM Strip	GE Current	ALV208T08T481DSQV QSTKQW	LED	To be sourced from Wesco - Connect to non-switched emergency circuit
E-EM	3	Exit signage w/ Emergency Lighting	COOPER	APCH7R	LED	Exit sign/ Emergency combo fixture with 90 minute battery backup
F	1	Ceiling Fan	Craftmade	MND54BNK3 - 54"		Mount @ 8'-0" A.F.F. -install "lighting box" for stability
G	1	Wall Pack W/Photocell	GE Current	EWL502140AF740N3 CBDKBZ	LED	
H	10	Outdoor Cylinder	PROGRESS	P56412030K BZ	LED	Mount @ 9'-0" A.F.F. -install "lighting box" for stability
U	6	22" Undercabinet	JUNO	UPLD 22IN SWW4 90CRI WH	LED	Use splice box & jumper connectors
X-EM	3	Remote LED Emergency Heads	COOPER	APWR2	LED	Remote from Exit sign/Emergency combo fixture

**LIGHTING CONTROL NOTES:**

RETAIL AND WHOLESALE SALES LIGHTING TO BE TIMELOCK ON/OFF WITH MANUAL OVERRIDE AT SWITCHBANK.

OFFICE AND RESTROOM LIGHTING TO BE OCCUPANCY SENSOR ON/OFF WITH MANUAL OVERRIDE SWITCH/DIMMER PER PLANS.

EXTERIOR LIGHTING AND SIGNAGE TO BE PHOTOCELL ON/TIMECLOCK OFF.

FLAG POLE LIGHTING TO BE PHOTOCELL ON/OFF.

COORDINATE TIMECLOCK ON/OFF TIMES WITH OWNER.

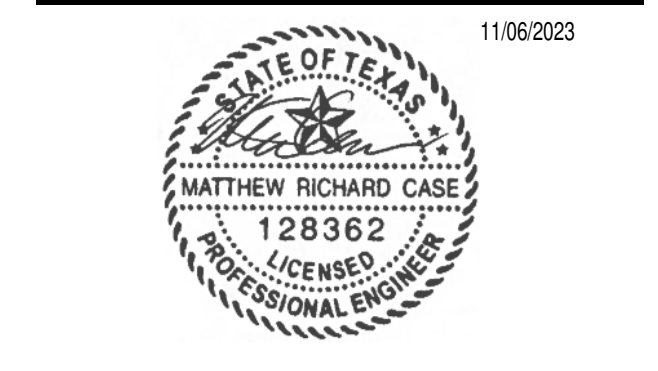
LIGHTING CONTROL DEVICES ON PLANS REPRESENT DESIGN INTENT ONLY. COORDINATE ALL DEVICES WITH LUTRON REPRESENTATIVE TO ENSURE A COMPLETE SYSTEM.

- KEYNOTES**
- CONNECT EMERGENCY EGRESS LIGHTING FIXTURES AHEAD OF ALL LIGHTING CONTROLS OF GENERAL LIGHTING CIRCUIT SERVING AREA.
  - NIGHT LIGHTING TO BE CONNECTED TO UNSWITCHED LEG OF CIRCUIT SERVING SPACE. VERIFY EXACT LOCATION PRIOR TO ROUGH-IN AND INSTALLATION.
  - E.C. TO PROVIDE LUTRON #LFR2-OCR28-0-WH OCCUPANCY SENSOR FOR CONTROL OF AREA LIGHTING AT CEILING MOUNTED HEIGHT OR AS DIRECTED BY G.C. INSTALL PER MANUFACTURER SPECIFICATIONS.
  - LOCATION OF MAIN LIGHTING SWITCHBANK. REFER TO SWITCHBANK DETAIL ON SHEET E400 FOR ADDITIONAL INFORMATION. PROVIDE PERMANENT LABELS.
  - E.C. TO PROVIDE 20A 1P, 120V POWER FOR SIGN. PROVIDE NON-FUSED DISCONNECT SWITCH ABOVE ACCESSIBLE CEILING. PROVIDE DEDICATED CIRCUIT #10 COPPER GROUND WIRE FROM EQUIPMENT GROUND BUS IN PANEL FOR CIRCUIT SERVING SIGN. SEE DETAIL ON SHEET E400 FOR VIVE LIGHTING CONTROL SYSTEM. DO NOT USE CONDUIT AS GROUND. FIELD VERIFY EXACT LOCATION OF ROUGH-IN WITH OWNER REPRESENTATIVE. COORDINATE AND VERIFY EXACT REQUIREMENTS WITH SIGNAGE VENDOR PRIOR TO ROUGH-IN. MOUNT ABOVE DOOR, SHOWN OFFSET FOR CLARITY.
  - E.C. TO PROVIDE LUTRON #HUS-0-FM HUB WITH INTEGRATED TIME CLOCK ABOVE CEILING AS REQUIRED TO CONTROL LIGHTING AND SIGNAGE. SEE VIVE LIGHTING CONTROL HUB DIAGRAM ON SHEET E400 FOR ADDITIONAL INFORMATION.
  - EXTERIOR LIGHTING CIRCUITS CONTROLLED THROUGH LUTRON VIVE HUB LIGHTING CONTROL SYSTEM. VERIFY EXACT FIXTURE MOUNTING HEIGHT PRIOR TO ROUGH-IN AND INSTALLATION.
  - EXTERIOR WALL MOUNTED LED FIXTURE TO BE INSTALLED ABOVE OVERHEAD DOOR. LIGHT SHALL BE CONTROLLED VIA PHOTO-EYE SWITCH. COORDINATE EXACT LOCATION WITH G.C. PRIOR TO INSTALLATION.
  - COORDINATE FIXTURE MOUNTING HEIGHT WITH ARCHITECTURAL PLANS AND G.C.
  - PROVIDE LUTRON EXTERIOR DAYLIGHT CONTROL PACKAGE FOR CONTROL OF EXTERIOR LIGHTING.
  - PROPOSED LOCATION OF LUTRON #RMUS-8T-DV-B DIMMING MODULE FOR 0-10V DIMMING CONTROL OF LIGHTING. COORDINATE WITH LUTRON SYSTEMS AND ASSOCIATED SWITCHING AS SHOWN.
  - E.C. TO PROVIDE LUTRON #R2-4B-GW-H-L1 (CW-1-WH) PICO 4 BUTTON CONTROL FOR LIGHTING CONTROL SWITCHING. CONNECT TO ASSOCIATED POWER PACK DIMMING MODULE FOR CONTROL DIMMING OF LIGHTING.
  - <varies>
  - E.C. TO PROVIDE LUTRON #MRF2S-6ELV120-WH WIRELESS DIMMING CONTROL SWITCHING FOR CONTROL OF UNDER COUNTER TASK LIGHTING. COORDINATE WITH LUTRON SYSTEMS AND MANUFACTURER SPECIFICATIONS.
  - PROPOSED LOCATION OF LUTRON #RMUS-SR-DV-B POWER PACK RELAY MODULE FOR CONTROL OF AREA LIGHTING. COORDINATE WITH LUTRON SYSTEMS AND ASSOCIATED SWITCHING AS SHOWN.

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CERTIFICATE OF AUTHORITY NO. F-20080

11/06/2023



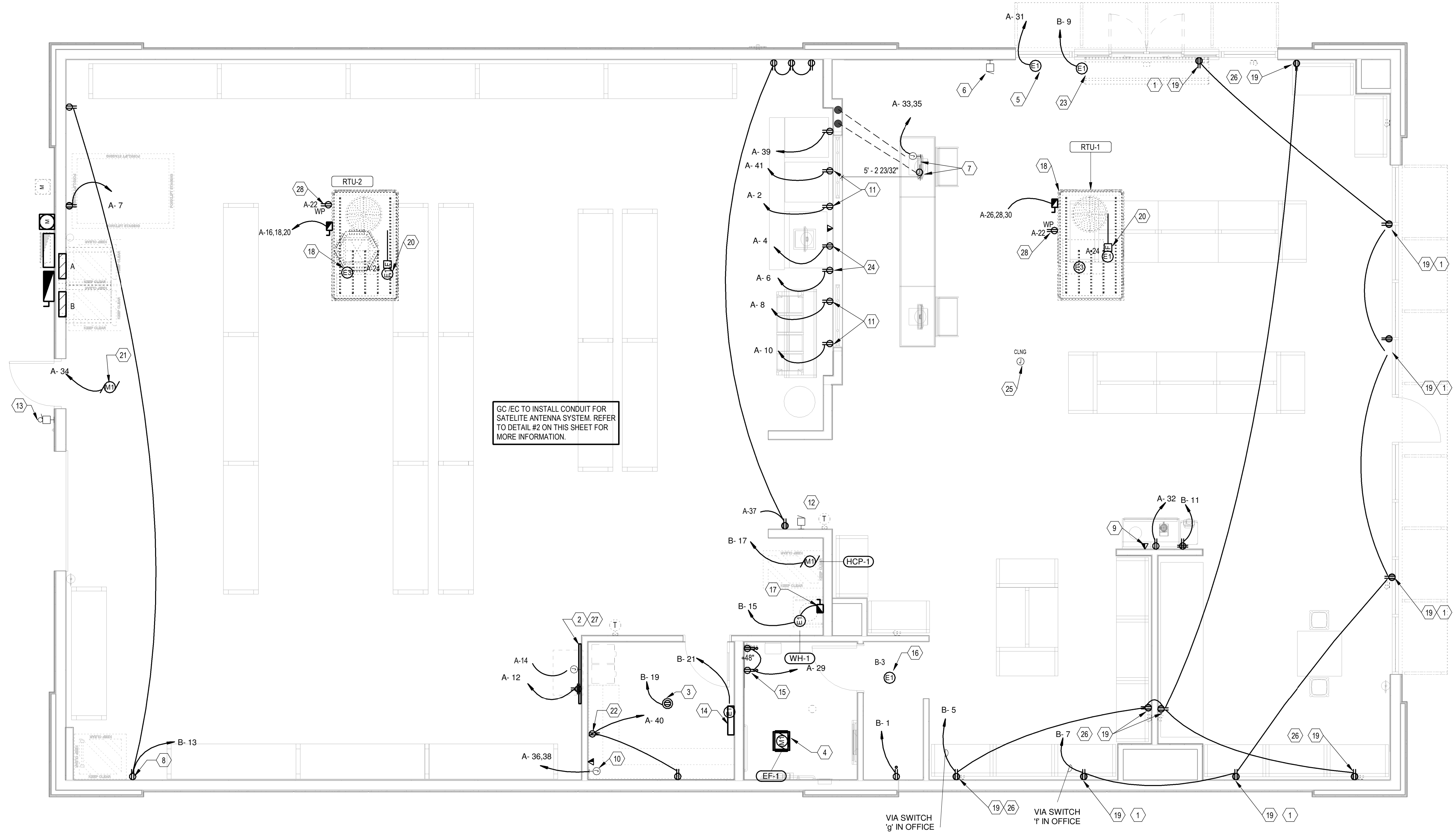
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Project Number  
DRAWN BY: Author CHECKED BY: Checker

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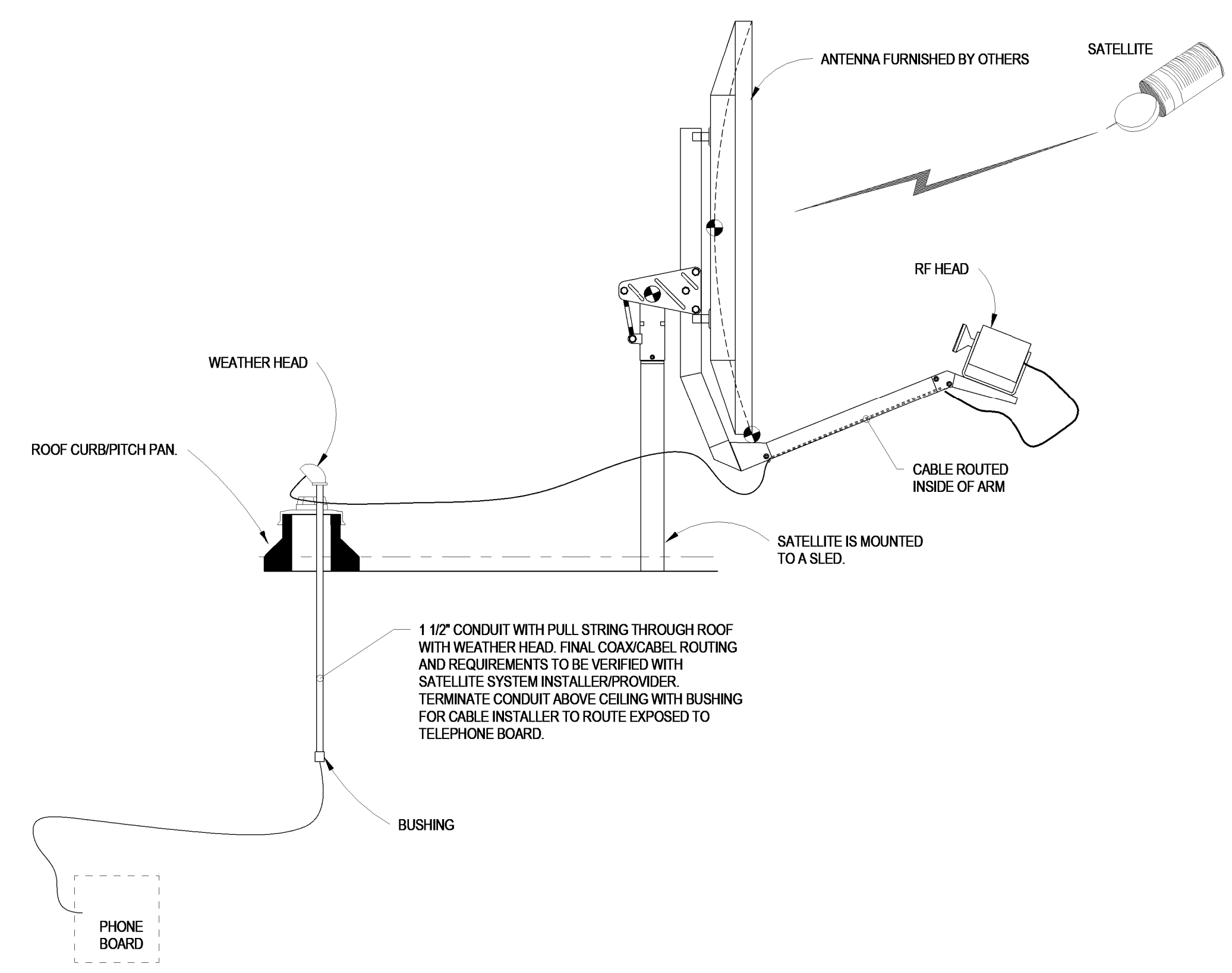
STORE #:  
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ADDRESS:  
12360 W. SH 29, LIBERTY  
HILL, TX, 78642

SHEET TITLE:  
**LIGHTING PLAN**  
SHEET NUMBER:  
**E200**



- KEYNOTES**
- E.C. TO PROVIDE DUPLEX RECEPTACLE MOUNTED IN SOFFIT ABOVE WINDOW FOR SHOW WINDOW REQUIREMENTS PER NEC 210.62. FIELD VERIFY EXACT LOCATION PRIOR TO ROUGH-IN AND INSTALLATION.
  - E.C. TO INSTALL TTB / PHONE BOARD FOR CONNECTION TO LOW VOLTAGE EQUIPMENT AND DATA REQUIREMENTS. VERIFY EXACT LOCATION PRIOR TO ROUGH-IN AND INSTALLATION. INSTALL PER MANUFACTURER RECOMMENDATIONS. SEE DETAIL ON SHEET E400 FOR MORE INFORMATION.
  - E.C. TO PROVIDE J-BOX IN OFFICE FOR INSTALLATION OF CEILING MOUNTED DUPLEX OUTLET. VERIFY EXACT LOCATION WITH G.C. PRIOR TO ROUGH-IN AND INSTALLATION.
  - BATHROOM EXHAUST FAN TO BE AUTOMATICALLY CONTROLLED WITH AREA OCCUPANCY LIGHTING SENSOR. COORDINATE INSTALLATION WITH M.C.
  - E.C. TO PROVIDE J-BOX AT 10'-0" A.F.F. OR AS DIRECTED BY G.C. FOR CONNECTION TO AUTOMATIC DOOR CONTROL. VERIFY CONNECTION REQUIREMENTS AND INSTALL PER MANUFACTURER SPECIFICATIONS.
  - E.C. TO PROVIDE LOW VOLTAGE CONDUIT FROM AUTOMATIC DOOR SENSOR TO OFFICE FOR FUNCTION OF DOOR CONTROL. COORDINATE EXACT REQUIREMENTS WITH MANUFACTURER SPECIFICATIONS.
  - E.C. TO PROVIDE J-BOXES RECESSED INTO SLAB IN SALES. PULL BOX 'A' SHALL RECEIVE TWO (2) DEDICATED 20A, 1P, 120V CIRCUITS ((1) 1-1/4" CONDUIT WITH PULL STRING TERMINATING AT TTB / PHONE BOARD).
  - E.C. TO PROVIDE DUPLEX AT 48" A.F.F. OR AS DIRECTED BY FOR CONNECTION TO FORKLIFT CHARGING STATION.
  - E.C. TO INSTALL DUPLEX AND DATA OUTLET AT 48" A.F.F. TO TOP OF RECESSED ELECTRICAL BOX. REFER TO NOTE #2 AND #3 ON SHEET A300 FOR ADDITIONAL INFORMATION. COORDINATE EXACT LOCATIONS WITH G.C. PRIOR TO ROUGH-IN AND INSTALLATION.
  - E.C. TO PROVIDE J-BOX AS DIRECTED BY G.C. ABOVE COUNTER FOR CONNECTION TO (2) OFFICE RACEWAYS.
  - RACEWAY TO BE INSTALLED BY G.C. / E.C. VERIFY SCOPE OF WORK PRIOR TO BID.
  - OUTLET MOUNTED AT 40" A.F.F. RECEPTACLE SHALL BE DEDICATED 20A, 1P, 120V CIRCUIT WITH GRAY DUPLEX RECEPTACLE AND COVER PLATE PER ARCHITECT SPECIFICATIONS.
  - INSTALL OPTEX CHIME SYSTEM RECEIVER UNIT. BUZZER AND REQUIRED STANDARD OUTLET ON STAGING WALL AT 48". PROVIDE CONNECTION TO EXTERIOR WEATHERPROOF BUZZER BUTTON AS SHOWN. CHIME RECEIVER SHALL BE OPTEX MODEL #RC7020J. BUZZER SHALL BE EDWARDS COMPANY MODEL #725.
  - EXTERIOR WEATHERPROOF BUZZER BUTTON TO BE INSTALLED AT 48" A.F.F. AS SHOWN. VERIFY CONNECTION REQUIREMENTS PRIOR TO ROUGH-IN AND INSTALLATION. BUZZER BUTTON SHALL BE EDWARDS COMPANY MODEL #1786-B.
  - E.C. TO COORDINATE WITH AUTOMATIC DOOR MANUFACTURER. MANUFACTURER SPECIFICATIONS FOR INSTALLATION OF AUTOMATIC DOOR CONTROL PANEL. VERIFY CONNECTION AND POWER REQUIREMENTS PRIOR TO ROUGH-IN AND INSTALLATION.
  - E.C. TO PROVIDE GFCI PROTECTED OUTLETS FOR CONNECTION TO AUTOMATIC FAUCETS BENEATH LAVATORY. COORDINATE WITH P.C. VERIFY CONNECTION AND POWER REQUIREMENTS PRIOR TO ROUGH-IN AND INSTALLATION.
  - E.C. TO PROVIDE LUTRON #HLS-Q-FM HUB WITH INTEGRATED TIMECLOCK ABOVE CEILING AS REQUIRED TO CONTROL LIGHTING AND SIGNAGE. SEE LIGHTING CONTROL PANEL DIAGRAM ON SHEET E400 FOR ADDITIONAL INFORMATION.
  - E.C. TO PROVIDE J-BOX AND 30A, 3P, 208V DISCONNECT SWITCH WITH 4#10 WIRE IN 3/4" CONDUIT TO ELECTRIC WATER HEATER. COORDINATE CONNECTION REQUIREMENTS PER MANUFACTURER RECOMMENDATIONS. VERIFY MOUNTING HEIGHT OF J-BOX WITH ARCHITECT PRIOR TO ROUGH-IN AND INSTALLATION.
  - E.C. TO COORDINATE PER MECHANICAL PLANS FOR ALL WORK REQUIRED FOR RTU-1 & RTU-2. VERIFY SCOPE OF WORK PRIOR TO ANY BID. PROVIDE NEW WEATHERPROOF GFCI PROTECTED RECEPTACLE.
  - E.C. TO INSTALL OUTLETS AT LOCATION AND HEIGHTS NOTED. OUTLETS SHALL BE WIRED TO ASSOCIATED LUTRON #RMS-20R-DV-B RECEPTACLE CONTROL RELAY MODULE AND CONTROLLED VIA MAIN SWITCH/BAK LOCATED INSIDE OFFICE AND BEHIND DOOR. OUTLETS SHALL BE WHITE DUPLEX RECEPTACLE AND COVER PLATE. SHALL BE INSTALLED HORIZONTALLY AND SHALL BE PAINTED TO MATCH SURROUNDING WALL. INSTALL SAME TYPE OF OUTLET IN HEADER OF EACH RUN OF STOREFRONT. ALL OUTLETS MOUNTED AT 18" A.F.F. UNLESS OTHERWISE NOTED.
  - RETURN-AIR DUCT SMOKE DETECTOR FURNISHED WITH RTU. EC TO CONNECT TO CIRCUIT NOTED. PROVIDE TEST/RESET SWITCH AND PIEZO ALERT SOUNDER AND REMOTE ANNUNCIATOR ALARM LED MOUNTED AS DIRECTED BY LOCATION AHJ.
  - E.C. TO PROVIDE CONNECTION FOR MOTORIZED DOOR. COORDINATE REQUIREMENTS WITH DOOR VENDOR AND VERIFY ALL CONNECTION AND DISCONNECTING REQUIREMENTS PRIOR TO INSTALLATION. VERIFY SCOPE OF WORK PRIOR TO BID.
  - UNDER COUNTER TYPICAL OF 2.
  - DEDICATED CIRCUIT FOR FUTURE AIR CURTAIN. COORDINATE LOCATION IN FIELD WITH MECHANICAL CONTRACTOR.
  - BLUE HUBBELL 4-PLEX SURGE SUPPRESSION RECEPTACLE.
  - J-BOX WITH CONDUIT AND PULL WIRES INSTALLED AT ROOF STRUCTURE.
  - MOUNT OUTLETS AT 86" A.F.F.
  - THE EC SHALL INSTALL A 4"x8"x3/4" INCH PLYWOOD BOARD TO SUPPORT SHERW IN-WILLIAMS PHONE, COMPUTER AND SATELLITE EQUIPMENT. PLYWOOD SHALL BE MINIMUM APA STRUCTURAL I RATED SHEATHING EXTERIOR C-C.
  - WEATHER PROOF GFCI DUPLEX RECEPTACLE FURNISHED WITH RTU. EC TO CONNECT TO CIRCUIT NOTED.

1 POWER PLAN  
E300 1/4" = 1'-0"



2 ELEC-DTAL-SATELLITE DETAIL  
E300 NOT TO SCALE

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CERTIFICATE OF AUTHORITY NO. F-20080

11/06/2023

STATE OF TEXAS  
MATTHEW RICHARD CASE  
128362  
LICENSED PROFESSIONAL ENGINEER

PROJECT #:  
Project Number  
DRAWN BY: Author CHECKED BY: Checker

CHECK SET - 10/XX/23

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**SHERWIN WILLIAMS**

STORE #:  
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12360 W. SH 29, LIBERTY HILL, TX, 78642

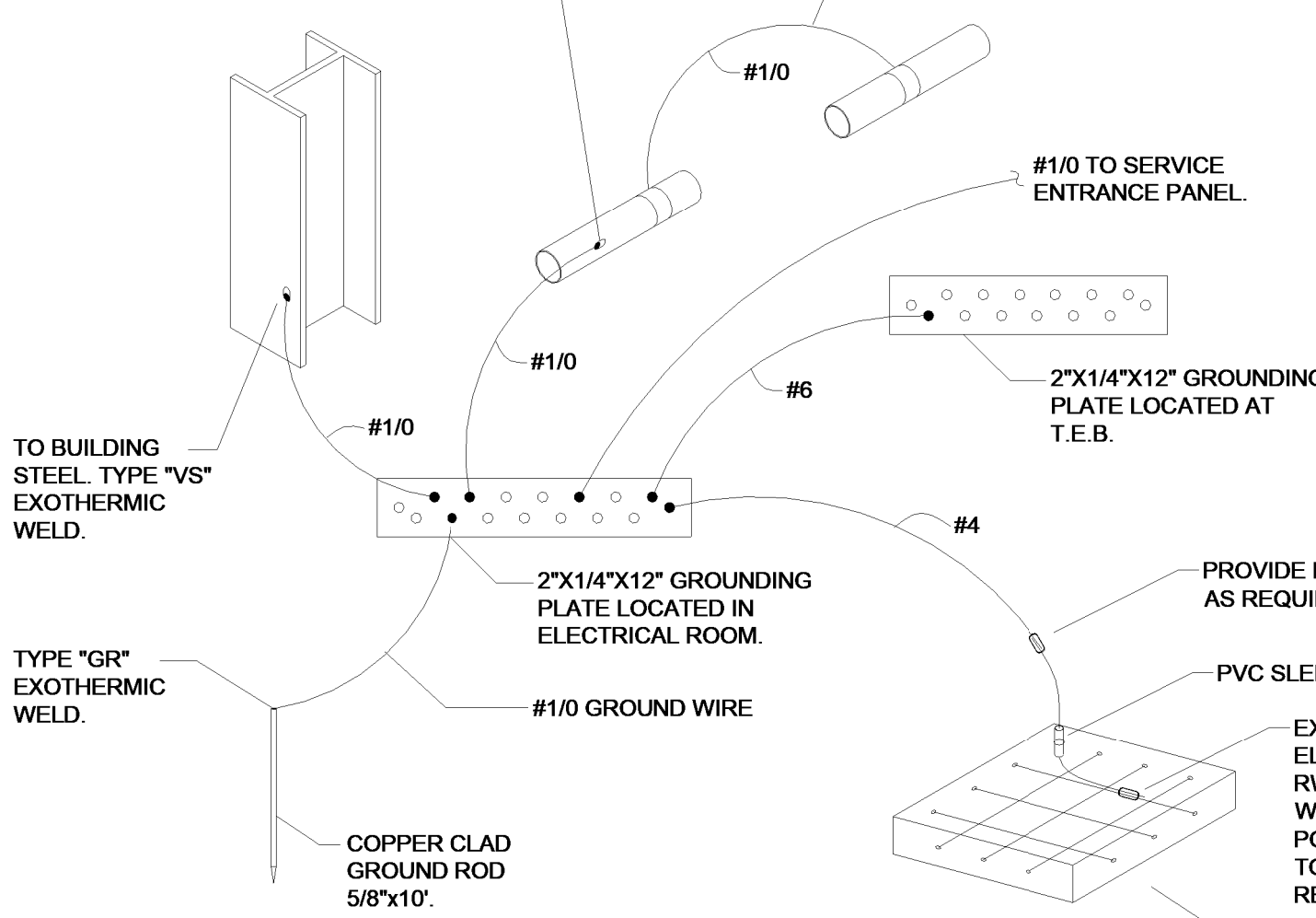
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POWER PLAN

SHEET NUMBER:  
E300

**MECHANICAL EQUIPMENT CONNECTION SCHEDULE**

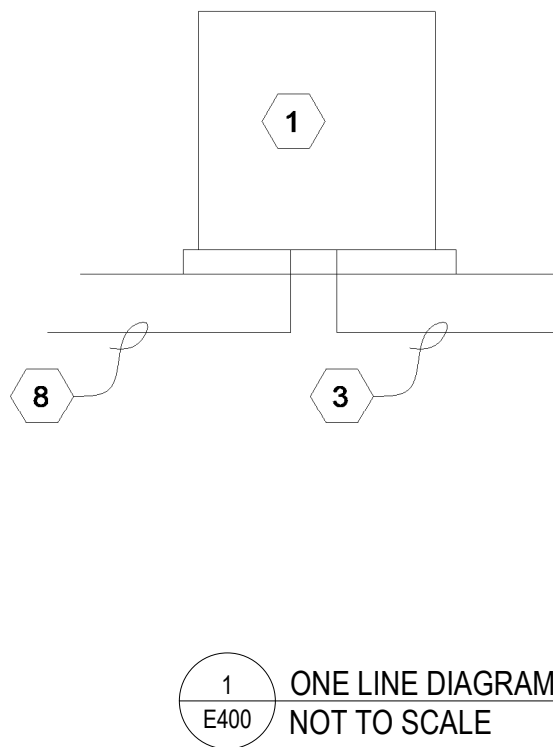
EQUIP	MOTOR / LOAD DATA			WIRE SIZE
	VA	VOLTS	PHASE	
EF-1	150 VA	120 V	1	2 #12, #12G, 3/4"C
HCP-1	200 VA	120 V	1	2 #12, #12G, 3/4"C
RTU-1	38520 VA	208 V	3	3 #6, #8G, 1"C
RTU-2	38520 VA	208 V	3	3 #6, #8G, 1"C
WH-1	3000 VA	120 V	1	2 #8, #10G, 3/4"C

TO MAIN WATER PIPE. CONNECT AHEAD OF MAIN SHUT OFF VALVE. TYPE "VN" EXOTHERMIC WELD.



- NOTE:**
- EXOTHERMIC WELD DESIGNATION INDICATED ABOVE ARE ERICO "CADWELD". APPROVED IUL LISTED MECHANICAL AND COMPRESSION GROUNDING DEVICES ARE ACCEPTABLE.
  - ALL GROUND BUS CONNECTIONS TO BE MADE WITH 2-HOLE COMPRESSION TYPE CONNECTORS. BUS SHALL BE INSULATED FROM ITS SUPPORT AND SHALL MAINTAIN A 2" SPACING FROM WALL.
  - ALL WIRING SHALL BE TYPE THHN/THWN.
  - MAIN GROUP RODS ARE TO BE LOCATED AT SERVICE ENTRANCE WITH SIZE AND QUANTITY PER SPECIFICATIONS.

**3** SERVICE ENTRANCE GROUND DETAIL  
E400 NOT TO SCALE

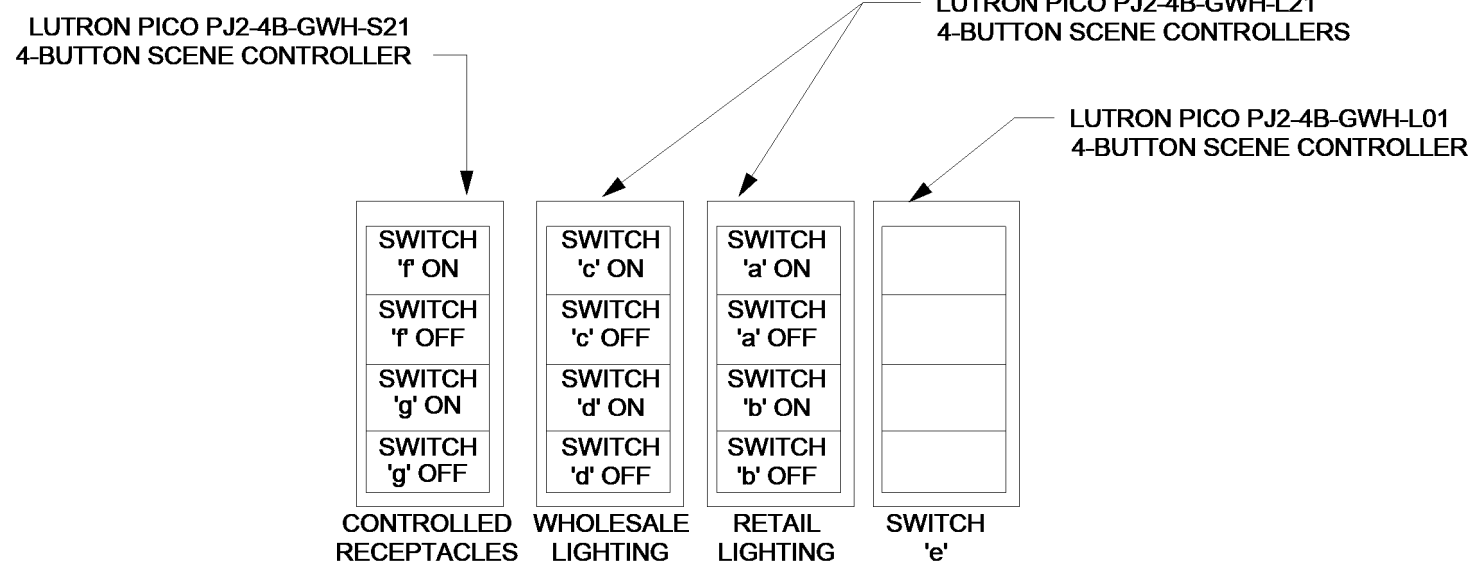


PROVIDE EXOTHERMIC OR COMPRESSION BOND AS REQUIRED.

EXOTHERMIC WELD TO CONCRETE-ENCASED ELECTRODE (REBAR), (ERICO MOLD TYPE RT, RV, RW OR SIMILAR). COORDINATE INSTALLATION WITH STRUCTURAL PRIOR TO FOUNDATION/SLAB POUR. CLEAN REBAR OF DIRT AND RUST PRIOR TO BONDING PER MANUFACTURE REQUIREMENTS.

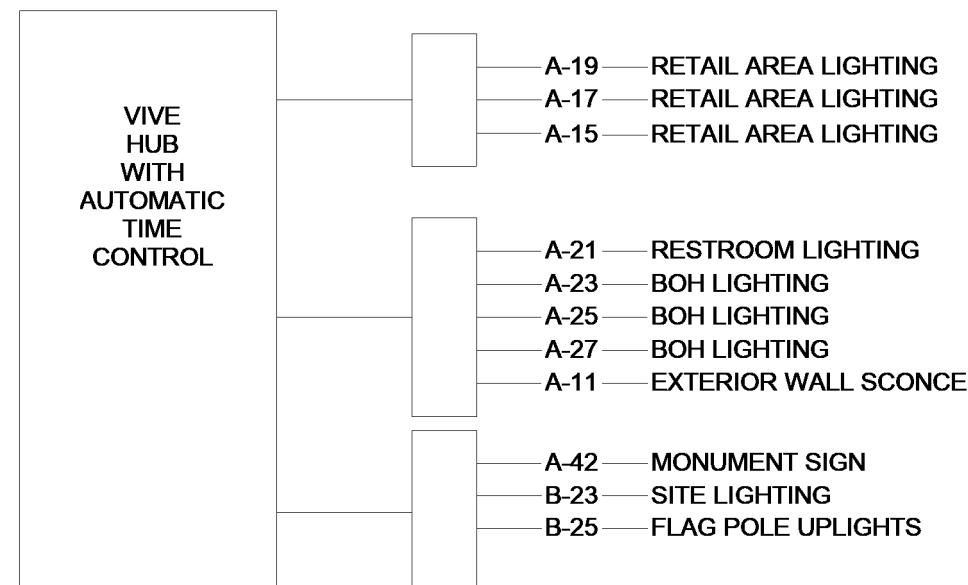
PROVIDE BOND AT FOUNDATION GRADE BEAM LOCATION WHERE CONCRETE HAS DIRECT CONTACT TO SOIL (TO MEET NEC 250.52(A)(3)). NOT ACCEPTABLE WITH CONCRETE ON VAPOR BARRIER, DAMPROOFING OR VOID CARTONS.

ENCASED ELECTRODE - #4 MIN. WIRE TIE REBAR, 20' LONG REBAR 5" DIAMETER OR BIGGER OR #4 MIN BAR COPPER 20' LONG



**KEYED NOTES**

- PROVIDE PAD FOR TRANSFORMER IN ACCORDANCE WITH UTILITY COMPANY REQUIREMENTS. 120/208V, 3F, 4W SERVICE. COORDINATE WITH UTILITY.
- PROVIDE NEW PANEL. SEE PANEL SCHEDULES FOR INFORMATION.
- PROVIDE 4 #500KCMIL IN 4" CONDUIT.
- PROVIDE UTILITY APPROVED 320 AMP, 120/208 VOLT METER. COORDINATE LOCATION WITH OWNER AND UTILITY PRIOR TO ROUGH-IN.
- PROVIDE 4 #500 KCMIL + 3 GRD IN 4" CONDUIT.
- PROVIDE 4 #3/0 & #6 GRD IN 2" CONDUIT.
- PROVIDE #1/0 GRD PER NEC.
- PROVIDE 4" PRIMARY CONDUIT AS DIRECTED BY UTILITY TO POINT OF SERVICE FROM UTILITY COMPANY. COORDINATE REQUIREMENTS AND LOCATION(S) WITH UTILITY PRIOR TO ROUGH-IN.
- PROVIDE 120/208V, 3F, 4W, 400AS/400AF DISCONNECT SWITCH. UL LISTED AND RATED FOR SERVICE ENTRANCE. LOCKABLE, NEMA 3R ENCLOSURE. PROVIDE 400A CLASS "J" FUSES.



**AVAILABLE INTERRUPTING CURRENT CALCULATION**

$$I_{sc} = 1.732 \times (\text{LENGTH OF FEEDER}) \times \frac{I_{sc}}{L} \times C \times E_{L-L}$$

(# of wires) x C x E<sub>L-L</sub>

I<sub>sc</sub> = SHORT CIRCUIT AMPS (FROM LANDLORD)

E<sub>L-L</sub> = LINE TO LINE VOLTAGE

C = VALUE FOR #1 = 7.292

**FAULT CURRENT AT PANEL A**

$$I_{sc} = \frac{1.732 \times 50 \times 43237}{1 \times 22185 \times 208} = .811$$

$$M = \frac{1}{1 + F} = \frac{1}{1.811} = .552$$

$$I_{sc} = I_{sc} \times M = 23874$$

**FAULT CURRENT AT PANEL B**

$$I_{sc} = \frac{1.732 \times 10 \times 23874}{1 \times 12844 \times 208} = .155$$

$$M = \frac{1}{1 + F} = \frac{1}{1.155} = .87$$

$$I_{sc} = I_{sc} \times M = 20770$$

**FAULT CURRENT NOTE**

FAULT CURRENT CALCULATIONS WERE PERFORMED BY CASE ENGINEERING BASED ON AN ASSUMED TRANSFORMER KVA RATING AND ASSUMED TRANSFORMER IMPEDANCE VALUE FOR THE UTILITY COMPANY TRANSFORMER TO ESTABLISH BASIS OF DESIGN AIC RATINGS AS IDENTIFIED ON THE DRAWINGS.

PRIOR TO SUBMITTING THE POWER DISTRIBUTION EQUIPMENT PRODUCT DATA FOR REVIEW, THE ELECTRICAL CONTRACTOR SHALL CONTACT THE SERVING UTILITY COMPANY TO VERIFY THE FAULT CURRENT VALUES AVAILABLE FROM THE UTILITY COMPANY. CONTRACTOR SHALL SUBMIT THE UTILITY COMPANY FAULT CURRENT INFORMATION TO THE ENGINEER FOR REVIEW AND EVALUATION.

AFTER THE UTILITY FAULT CURRENT INFORMATION HAS BEEN REVIEWED AND EVALUATED BY THE ENGINEER, ANY REVISIONS TO THE BASIS OF DESIGN AIC VALUES IDENTIFIED ON THE DRAWINGS THAT MAY BE REQUIRED SHALL BE COMMUNICATED BY THE ENGINEER TO THE ELECTRICAL CONTRACTOR.

CONTRACTOR SHALL NOT SUBMIT THE POWER DISTRIBUTION EQUIPMENT FOR REVIEW OR ORDER THE POWER DISTRIBUTION EQUIPMENT UNTIL THE FAULT CURRENT INFORMATION FROM THE UTILITY COMPANY HAS BEEN EVALUATED BY THE ENGINEER AND PROVIDED FINAL DIRECTION REGARDING THE AIC RATING OF THE POWER DISTRIBUTION EQUIPMENT HAS BEEN PROVIDED BY THE ENGINEER.

**Branch Panel: A**

Location: Space 251  
Supply From: A  
Mounting: Recessed  
Enclosure: Type 1

Volts: 208Y/120  
Phases: 3  
Wires: 4

A.I.C. Rating: 42K  
Mains Type: MLO  
Mains Rating: 400.0 A  
MCB Rating: 400.0 A

CKT	Circuit Description	Trip	Poles	A	B	C	Poles	Trip	Circuit Description	CKT
1	PANEL B	200.0 A	3	1996...	180 VA	4700...	180 VA	1613...	180 VA	2
7	-REC	20.0 A	1	360 VA	180 VA	1200...	180 VA	345 VA	360 VA	8
9	-LTG	20.0 A	1	1200...	180 VA	114 VA	1284...	551 VA	1284...	10
11	-LTG	20.0 A	1	360 VA	180 VA	114 VA	1284...	551 VA	1284...	12
13	-LTG	20.0 A	1	1200...	180 VA	114 VA	1284...	551 VA	1284...	14
15	-LTG	20.0 A	1	360 VA	180 VA	114 VA	1284...	551 VA	1284...	16
17	-LTG	20.0 A	1	360 VA	180 VA	114 VA	1284...	551 VA	1284...	18
19	-LTG	20.0 A	1	360 VA	180 VA	114 VA	1284...	551 VA	1284...	20
21	-LTG	20.0 A	1	360 VA	180 VA	114 VA	1284...	551 VA	1284...	22
23	-LTG	20.0 A	1	360 VA	180 VA	114 VA	1284...	551 VA	1284...	24
25	-LTG	20.0 A	1	504 VA	1284...	576 VA	100 VA	1	20.0 A	26
27	-LTG	20.0 A	1	504 VA	1284...	72 VA	1284...	360 VA	1284...	28
29	-REC	20.0 A	1	500 VA	180 VA	180 VA	500 VA	180 VA	500 VA	30
31	AUTO DOOR OPENER	20.0 A	1	500 VA	180 VA	180 VA	500 VA	180 VA	500 VA	32
33	POS RECEPTACLES	20.0 A	2	180 VA	500 VA	180 VA	500 VA	180 VA	500 VA	34
35	POS RECEPTACLES	20.0 A	2	180 VA	500 VA	180 VA	500 VA	180 VA	500 VA	36
37	TENT AREA RECEPTACLES	20.0 A	1	720 VA	500 VA	180 VA	360 VA	180 VA	360 VA	38
39	TINTING AREA	20.0 A	1	180 VA	360 VA	180 VA	360 VA	180 VA	360 VA	40
41	TINTING AREA	20.0 A	1	180 VA	360 VA	180 VA	360 VA	180 VA	360 VA	42
<b>Total Load:</b>				32560 VA	33992 VA	30633 VA				
<b>Total Amps:</b>				273.8 A	285.7 A	255.3 A				

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals
Lighting	180 VA	100.00%	180 VA	<b>Total Conn. Load:</b> 97185 VA
Receptacle	357 VA	100.00%	357 VA	
-PWR	180 VA	100.00%	180 VA	<b>Total Est. Demand:</b> 96592 VA
-LTG	2600 VA	100.00%	2600 VA	<b>Total Conn.:</b> 2688 A
-WTR	5428 VA	125.00%	6785 VA	<b>Total Est. Demand:</b> 273.7 A
-MTR	77040 VA	100.00%	77040 VA	
-REC	3000 VA	100.00%	3000 VA	
	200 VA	125.00%	250 VA	
	8200 VA	100.00%	8200 VA	

**Branch Panel: B**

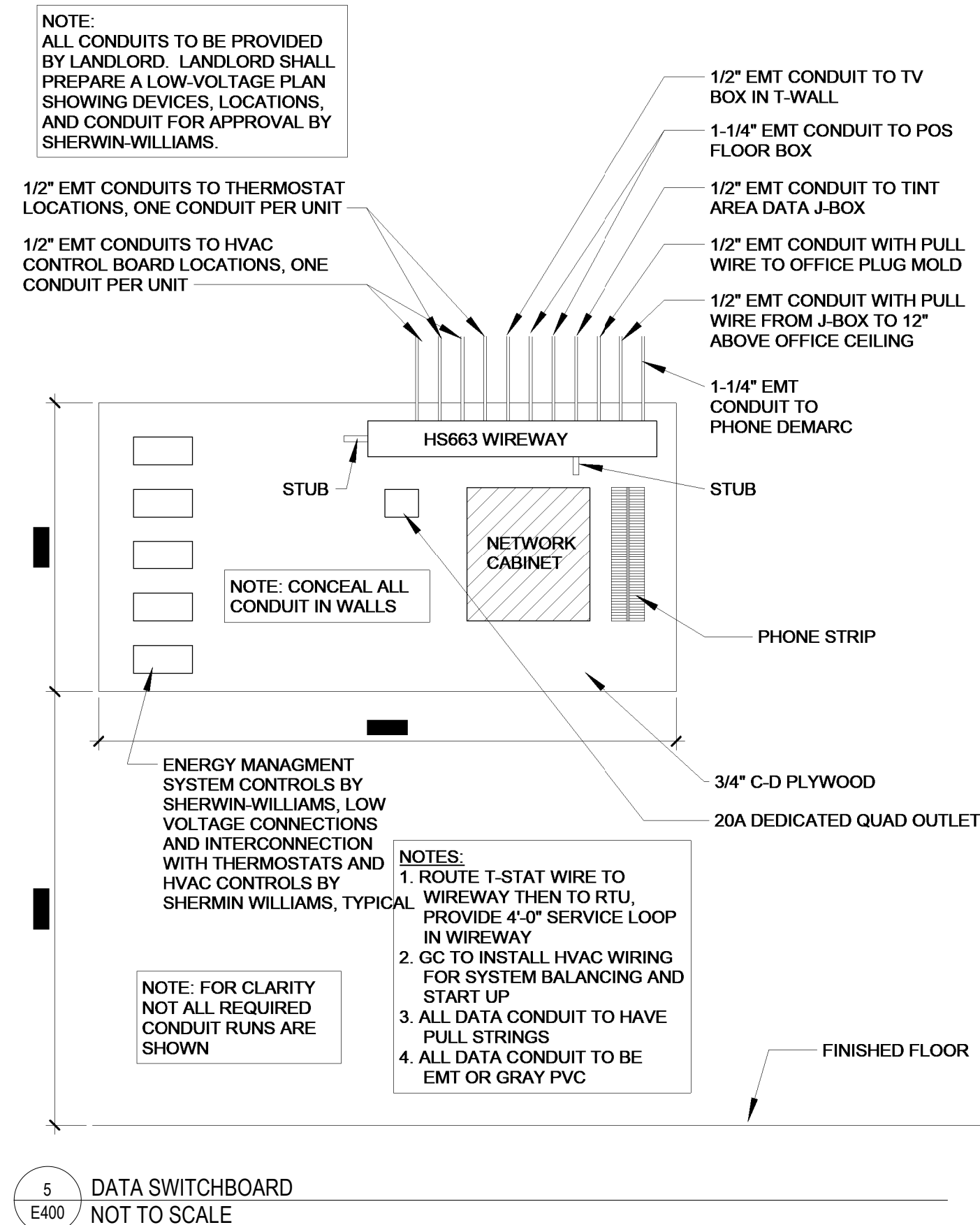
Location: Space 251  
Supply From: A  
Mounting: Recessed  
Enclosure: Type 1

Volts: 208Y/120  
Phases: 3  
Wires: 4

A.I.C. Rating: 42K  
Mains Type: MLO  
Mains Rating: 200.0 A  
MCB Rating: 100.0 A

CKT	Circuit Description	Trip	Poles	A	B	C	Poles	Trip	Circuit Description	CKT
1	WATER COOLER	20.0 A	1	180 VA	0 VA	900 VA	0 VA	1	20.0 A	2
3	LUTRON HUB	20.0 A	1	200 VA	0 VA	200 VA	0 VA	1	20.0 A	4
5	SALES AREA REC	20.0 A	1	1080...	0 VA	1000...	0 VA	1	20.0 A	6
7	SHOW WINDOW REC	20.0 A	1	1080...	0 VA	1000...	0 VA	1	20.0 A	8
9	AIR CURTIAN	20.0 A	1	1000...	0 VA	180 VA	0 VA	1	20.0 A	10
11	-REC	20.0 A	1	540 VA	0 VA	3000...	0 VA	1	20.0 A	12
13	-REC Space 251	20.0 A	1	540 VA	0 VA	200 VA	0 VA	1	20.0 A	14
15	-WTR Space 251	20.0 A	1	180 VA	0 VA	200 VA	0 VA	1	20.0 A	16
17	-MTR Space 251	20.0 A	1	180 VA	0 VA	500 VA	0 VA	1	20.0 A	18
19	Receptacle Space 250	20.0 A	1	180 VA	0 VA	500 VA	0 VA	1	20.0 A	20
21	-PWR	20.0 A	1	500 VA	0 VA	333 VA	0 VA	1	20.0 A	22
23	SITE LIGHTING	20.0 A	1	16 VA	0 VA	333 VA	0 VA	1	20.0 A	24
25	SITE LIGHTING	20.0 A	1	16 VA	0 VA	333 VA	0 VA	1	20.0 A	26
27	SPACE	--	1	--	--	--	--	1	--	28
29	SPACE	--	1	--	--	--	--	1	--	30
31	SPACE	--	1	--	--	--	--	1	--	32
33	SPACE	--	1	--	--	--	--	1	--	34
35	SPACE	--	1	--	--	--	--	1	--	36
37	SPACE	--	1	--	--	--	--	1	--	38
39	SPACE	--	1	--	--	--	--	1	--	40
41	SPACE	--	1	--	--	--	--	1	--	42
<b>Total Load:</b>				1996 VA	4700 VA	1613 VA				
<b>Total Amps:</b>				17.1 A	39.7 A	13.4 A				

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals
Lighting	349 VA	100.00%	349 VA	<b>Total Conn. Load:</b> 8309 VA
Receptacle	180 VA	100.00%	180 VA	
-PWR	1500 VA	100.00%	1500 VA	<b>Total Est. Demand:</b> 8409 VA
-LTG	200 VA	125.00%	250 VA	<b>Total Conn.:</b> 23.1 A
-WTR	3000 VA	100.00%	3000 VA	<b>Total Est. Demand:</b> 23.3 A
-MTR	200 VA	125.00%	250 VA	
-REC	2880 VA	100.00%	2880 VA	



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CERTIFICATE OF AUTHORITY NO. F-20080

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STATE OF TEXAS  
MATTHEW RICHARD CASE  
128362  
LICENSED PROFESSIONAL ENGINEER

PROJECT #:  
Project Number  
DRAWN BY: Author  
CHECKED BY: Checker

- CHECK SET - 10/XX/23
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**SHERWIN WILLIAMS**

STORE #:  
XXXX

ADDRESS:  
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**ELECTRICAL RISER & SCHEDULES**

SHEET NUMBER:  
**E400**