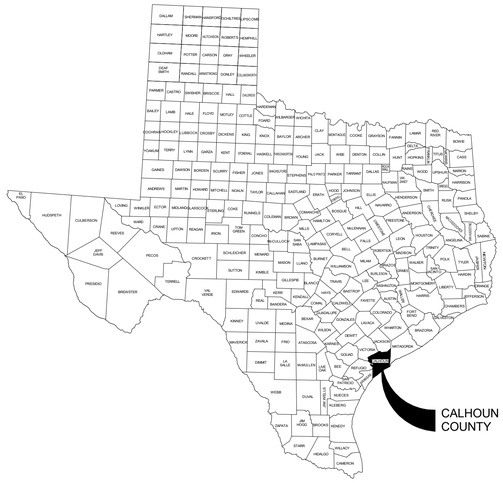
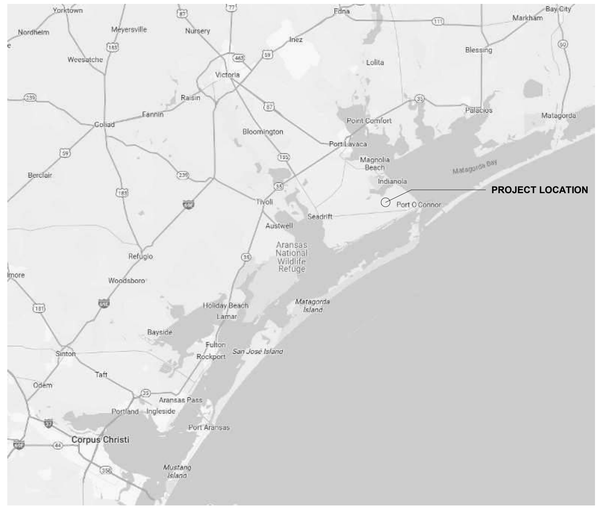


NORTH

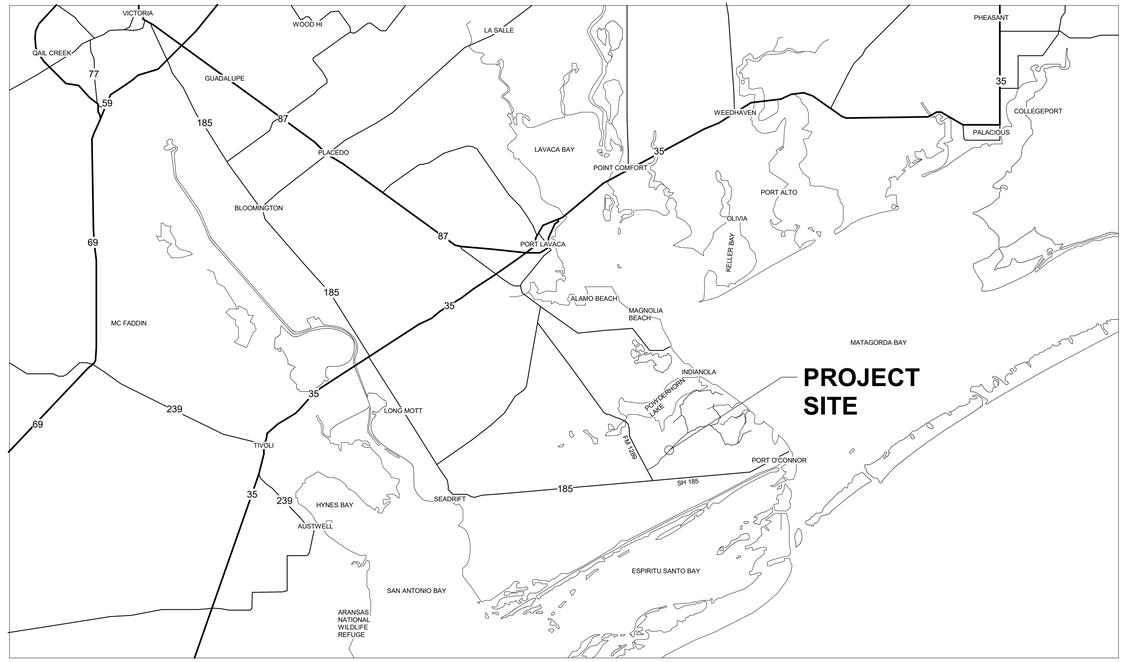
COUNTY LOCATION MAP

NOT TO SCALE



VICINITY MAP

SCALE: N.T.S.



SITE LOCATION MAP

SCALE: N.T.S

SITE ADDRESS:

10769 FM 1289,
PORT O'CONNOR, TEXAS

DESIGN TEAM

ARCHITECT:
RICHTER ARCHITECTS
201 SOUTH UPPER BROADWAY
CORPUS CHRISTI, TEXAS 78401
PHONE: 361-882-1248 FAX: 361-882-1388

CIVIL ENGINEER:
IMEG
100 GLASS STREET
DALLAS, TEXAS
TEL: (214) 752-9098 / FAX: (214) 752-8771

STRUCTURAL ENGINEER:
IMEG
100 GLASS STREET
DALLAS, TEXAS
TEL: (214) 752-9098 / FAX: (214) 752-8771

MEP ENGINEERS:
NRG ENGINEERING
5656 S. STAPLES STE. 312
CORPUS CHRISTI, TEXAS 78411
PHONE: 361-852-2727

TEXAS PARKS AND WILDLIFE

INFRASTRUCTURE DIVISION

4200 SMITH SCHOOL ROAD AUSTIN, TEXAS 78744-3292

TEXAS PARKS & WILDLIFE — RELEASED FOR SOLICITATION — INFRASTRUCTURE DIVISION

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REGISTERED ARCHITECT — 20463 — STATE OF TEXAS

05.22.26

PROJECT

POWDERHORN WILDLIFE MANAGEMENT AREA
NEW CONSERVATION EDUCATION CENTER

PROJECT # 1210264 **DATE:** MAY 22, 2026

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BUILDING CODE SUMMARY

Code Category – Standard Adopted

- Building Code – International Building Code (IBC) 2024
- Structural Code – International Building Code (IBC) 2024
- Plumbing Code – International Plumbing Code (IPC) 2024
- Mechanical Code – International Mechanical Code (IMC) 2024
- Fuel Gas Code – International Fuel Gas Code (IFGC) 2024
- Electrical Code – National Electrical Code NFPA 70 (2023)
- Fire Code – NFPA 1 (2021)
- Life Safety Code – NFPA 101 (2021)
- IECC - 2024
- TAS-2012 Texas Accessibility Standards

REFER TO DRAWING SHEET G101 FOR LIFE SAFETY PLAN

SCOPE OF WORK

CONTRACTOR SHALL FURNISH ALL LABOR, EQUIPMENT, TOOLS, MATERIALS AND INCIDENTAL NECESSARY TO CONSTRUCT A NEW BUILDING TO SERVE AS A CONSERVATION EDUCATION CENTER. THE FACILITY WILL FEATURE AN AIR-CONDITIONED GATHERING SPACE FOR EDUCATIONAL EVENTS, A LARGE STORAGE ROOM, BREAK ROOM, OFFICES AND RESTROOMS FOR STAFF AND VISITORS. IT WILL ALSO INCLUDE A COVERED GAME PROCESSING AREA WITH WALK-IN COOLER FOR HANGING GAME. FACILITY WILL ALSO INCLUDE A NEW PARKING LOT TO ACCOMMODATE VISITORS AND STAFF.

BID ALTERNATE NO. 1 - NORTH PORCH: CONTRACTOR SHALL FURNISH ALL LABOR, EQUIPMENT, TOOLS, MATERIALS, AND INCIDENTALS NECESSARY FOR CONSTRUCTION OF THE NORTH PORCH. WORK SHALL INCLUDE, BUT NOT BE LIMITED TO, SITE PREPARATION, FOUNDATION, STRUCTURAL FRAMING, ROOFING, EXTERIOR FINISHES, AND ANY ASSOCIATED HARDWARE OR INCIDENTALS REQUIRED TO COMPLETE THE NORTH PORCH INTEGRAL TO THE BUILDING.

BASE BID – DECOMPOSED GRANITE WALKWAY: IF BID ALTERNATE NO. 1 IS NOT SELECTED THEN THE CONTRACTOR SHALL FURNISH ALL LABOR, EQUIPMENT, TOOLS, MATERIALS, AND INCIDENTALS NECESSARY FOR CONSTRUCTION OF A 6'-0" WIDE BY 69'-0" LONG DECOMPOSED GRANITE WALKWAY . WORK SHALL INCLUDE, BUT NOT BE LIMITED TO, SITE PREPARATION, EXCAVATION, SUBGRADE PREPARATION AND COMPACTION, INSTALLATION OF 4" THICK COMPACTED LIMESTONE BASE, PLACEMENT AND COMPACTION OF DECOMPOSED GRANITE, FINE GRADING, AND ANY ASSOCIATED EDGE RESTRAINTS OR INCIDENTALS REQUIRED TO PROVIDE A COMPLETE AND FINISHED INSTALLATION. SEE LANSCAPE DETAILS FOR FURTHER DETAILS.

BUILD AMERICA, BUY AMERICA

GOODS AND SERVICES OF THIS PROJECT ARE TO COMPLY WITH 'BUILD AMERICA, BUY AMERICA' REQUIREMENTS. REFER TO TECHNICAL SPECIFICATIONS - SECTION 00 90 01 - BUILD AMERICA, BUY AMERICA FOR ADDITIONAL INFORMATION.

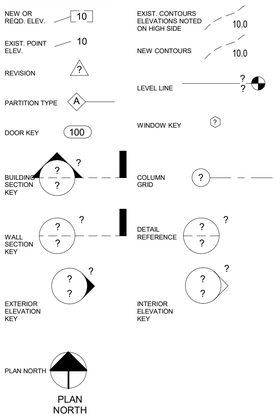
LEGEND OF ABBREVIATIONS

ABBREVIATIONS:

A.F.F.	ABOVE FINISHED FLOOR	D.L.	DEAD LOAD	FT'G	FOOTING	L.H.	LEFT HAND	PRK.	PARKING	S.C.	SOLID CORE
A.S.C.	ABOVE SUSPENDED CEILING	DEMO.	DEMOLISHED, DEMOLITION	FOUND.	FOUNDATION	L.	LENGTH	P.BD.	PARTICLE BOARD	SP.	SOUNDPROOF
		DMT.	DEMOUNTABLE	FR.	FRAME (D) (ING)	LT.	LIGHT	PART.	PARTITION	S.	SOUTH
A.P.	ACCESS PANEL	DEP.	DEPRESSED	FR.A.	FRESH AIR	L.C.	LIGHT CONTROL	PV.	PAVE (D), (ING)	SPC.	SPACER
ACOUST.	ACOUSTICAL	DTL.	DETAIL	F.S.	FULL SIZE	LP.	LIGHTPROOF	PVMT.	PAVEMENT	SPK.	SPEAKER
ADD.	ADDENDUM	DIAG.	DIAGONAL	F.B.O.	FURNISHED BY	LW.	LIGHTWEIGHT	PED.	PEDESTAL	SPL.	SPECIAL
ADJ.	ADJACENT	DIAM.	DIAMETER	OWNER		LW.C.	LIGHTWEIGHT CONCRETE	PERF.	PERFORATE (D)	SPEC.	SPECIFICATION (S)
AGG.	AGGREGATE	DIM.	DIMENSION	FURR.	FURR(ED), (ING)			PLAS.	PLASTER	SQ.	SQUARE
A / C	AIR CONDITIONING	DIV.	DIVISION	FUT.	FUTURE	LMST.	LIMESTONE	P.LAM.	PLASTIC LAMINATE	S.ST.	STAINLESS STEEL
ALT.	ALTERNATE	DR.	DOOR			LNTL.	LINTEL	PL.	PLATE	STD.	STANDARD
ALUM.	ALUMINUM	D.A.	DOUBLE-ACTING	GA	GAGE, GAUGE	L.L.	LIVE LOAD	P.G.	PLATE GLASS	STA.	STATION
A.B.	ANCHOR BOLT	D.H.	DOUBLE HUNG	GALV.	GALVANIZED	LVR.	LOUVER	PLYWD.	PLYWOOD	ST.	STEEL
APPROX.	APPROXIMATE	DTA.	DOVETAIL ANCHOR	G.I.	GALVANIZED IRON	L.PT.	LOW POINT	PT.	POINT	STG.	STORAGE
ARCH.	ARCHITECT (URAL)	DTS.	DOVETAIL ANCHOR SLOT	G.P.	GALVANIZED PIPE			PVC	POLYVINYL CHLORIDE	S.D.	STORM DRAIN
A.D.	AREA DRAIN			G.S.S.	GALVANIZED STEEL SHEET	M.B.	MACHINE BOLT	P.E.	PORCELAIN ENAMEL	STRUCT.	STRUCTURAL
ASB.	ASBESTOS	D.S.	DOWNSPOUT	GKT.	GASKET (ED)	MH.	MANHOLE	P.T.C.	POST-TENSIONED CONCRETE	S.C.T.	STRUCTURAL CLAY TILE
ASPH.	ASPHALT	DRBD.	DRAINBOARD	GEN.	GENERAL	MANUF.	MANUFACTURE (ER)			SUSP.	SUSPENDED
AUTO.	AUTOMATIC	D.	DRAWER	G.C.	GENERAL CONTRACTOR	MRB.	MARBLE	PCF	POUNDS PER CUBIC FOOT	SYM.	SYMMETRY (ICAL)
		DWG.	DRAWING			MAS.	MASONRY			SYS.	SYSTEM
		D.F.	DRINKING FOUNTAIN	GL	GLASS, GLAZING	M.O.	MASONRY OPENING	PFL	POUNDS PER LINEAR FOOT		
B.C.	BACK OF CURB	DW.	DUMBWAITER	GL.BLK.	GLASS BLOCK	MATL.	MATERIAL (S)				
BEAR'G	BEARING			G.C.M.U.	GLAZED CONCRETE MASONRY UNIT	MAX.	MAXIMUM	PSF	POUNDS PER SQUARE FOOT	TKBD.	TACKBOARD
B.M.	BENCH MARK					MECH.	MECHANICAL			TKS.	TACKSTRIP
BEL.	BELOW	E.F.	EACH FACE	G.S.T.	GLAZED STRUCTURAL TILE	M.C.	MEDICINE CABINET	PSI	POUNDS PER SQUARE INCH	TEL.	TELEPHONE
BET.	BETWEEN	ELEC.	ELECTRIC (AL)			MED.	MEDIUM			TV	TELEVISION
BVL.	BEVELED	E.P.	ELECTRICAL PANELBOARD	G.B.	GRAB BAR	MBR.	MEMBER	PC.C.	PRECAST CONCRETE	TERR.	TERRAZZO
BLK.	BLOCK			GD.	GRADE, GRADING	MEMB.	MEMBRANE	PFB.	PREFABRICATE (D)	THK.	THICK(NESS)
BLK'G	BLOCKING	E.W.C.	ELECTRIC WATER COOLER	GRN.	GRANITE	MTL.	METAL	PFN.	PREFINISHED	THR.	THRESHOLD
BD.	BOARD			GVL.	GRAVEL	M.F.D.	METAL FLOOR DECKING	PRF.	PREFORMED	T.PTN.	TOILET PARTITION
B.W.	BOTH WAYS	EL.	ELEVATION	G.F.	GROUND FACE			PS.C.	PRE-STRESSED CONCRETE	T.P.D.	TOILET PAPER DISPENSER
BTM.	BOTTOM	ELEV.	ELEVATOR	GT.	GROUT	MTL. FURR'G	METAL FURRING				
BLDG.	BUILDING	EMER.	EMERGENCY	G.	GUTTER	M.R.D.	METAL ROOF DECKING	P.L.	PROPERTY LINE	TOL.	TOLERANCE
B.U.R.	BUILT-UP ROOFING	ENC.	ENCLOSURE	GYP.BD.	GYPSUM DRY WALL	MTL. THR.	METAL THRESHOLD			T & G	TONGUE & GROOVE
BBD.	BULLETIN BOARD	EQ.	EQUAL	GYP.L.	GYPSUM LATH	M	METER			T.O.C.	TOP OF CURB
		EQUIP.	EQUIPMENT	GYP.PL.	GYPSUM PLASTER	MM	MILLIMETER	Q.T.	QUARRY TILE	T.O.S.	TOP OF STRUCTURE
		ESC.	ESCALATOR	GYP.TL.	GYPSUM TILE	M.WK.	MILLWORK			T.O.STL.	TOP OF STEEL
CAB.	CABINET	EST.	ESTIMATE			MIN.	MINIMUM			T.W.	TOP OF WALL
CAD.	CADMIUM	EXCA.	EXCAVATE			MIRR.	MIRROR	RBT.	RABBET, REBATE	T.B.	TOWEL BAR
CSMT.	CASEMENT	EXH.	EXHAUST	HH.	HANDHOLE	MISC.	MISCELLANEOUS	RAD.	RADIUS	TR.	TRANSOM
C.I.	CAST IRON	EXIST.	EXISTING	HBD.	HARDBOARD	MOD.	MODULAR	RAIL'G	RAILING	T.	TREAD
C.I.P.C.	CAST-IN-PLACE CONCRETE	E.J.	EXPANSION JOINT	HDW.	HARDWARE	MLD.	MOLDING, MOULDING	REF.	REFERENCE	TYP.	TYPICAL
		E.MTL.PL.	EXPANDED METAL PLATE	HD.WD.	HARDWOOD	M.R.	MOP RECEPTOR	RFL.	REFLECT (ED), (IVE), (OR)		
C.ST.	CAST STONE			H.JT.	HEAD JOINT	MTD.	MOUNT (ED), (ING)				
CLG.	CEILING	E.B.	EXPANSION BOLT	HDR.	HEADER	MULL.	MULLION	REFG.	REFRIGERATOR	UC.	UNDERCUT
CEM.	CEMENT	EXP.	EXPOSED	HTG	HEATING			REG.	REGISTER	UNF.	UNFINISHED
CM	CENTIMETER (S)	EXT.	EXTERIOR	HVAC	HEATING / VENTILATING / AIR CONDITIONING			REINF.	REINFORCE (D), (ING)	UR.	URINAL
CER.	CERAMIC					NL.	NAILABLE	R.C.P.	REINFORCED CONCRETE PIPE		
CH.BD.	CHALKBOARD					NAT.	NATURAL				
CHAM.	CHAMFER	F.B.	FACE BRICK	HT.	HEIGHT	NI.	NICKEL	REM.	REMOVE	VJ.	V-JOINT (ED)
CHNLS.	CHANNELS	F.O.C.	FACE OF CONCRETE	H.C.	HOLLOW CORE	N.R.	NOISE REDUCTION	RES.	RESILIENT	V.B.	VAPOR BARRIER
CIR.	CIRCLE	F.O.F.	FACE OF FINISH	H.M.	HOLLOW METAL	N.R.C.	NOISE REDUCTION COEFFICIENT	RET.	RETURN	VAR.	VARNISH
CIRC.	CIRCUMFERENCE	F.O.M.	FACE OF MASONRY	HO.	HOOKS			R.A.	RETURN AIR	VNR.	VENEER
CLR.	CLEAR(ANCE)	F.O.S.	FACE OF STUD	HOR.	HORIZONTAL	NOM.	NOMINAL	RVS.	REVERSE (SIDE)	VRM.	VERMICULITE
COL.	COLUMN	FAS.	FASTEN, FASTENER	H.B.	HOSE BIBB	N	NORTH	REV.	REVISION (S), REVISED	VERT.	VERTICAL
COMP.	COMPOSITION	F.BD.	FIBERBOARD			N.I.C.	NOT IN CONTRACT	R.H.	RIGHT HAND	V.G.	VERTICAL GRAIN
COMPR.	COMPRESS(ED) (ION) (IBLE)	F.GL.	FIBERGLASS			N.T.S.	NOT TO SCALE	R.O.W.	RIGHT OF WAY	VNL.	VINYL
		FIN.	FINISH(ED)	INCIN.	INCINERATOR			R.	RISER	V.A.T.	VINYL ASBESTOS TILE
CONC.	CONCRETE	F.F.E.	FINISH FLOOR ELEVATION	INCL.	INCLUDE(D) (ING)			RVT.	RIVET	V.B.	VINYL BASE
C.M.U.	CONCRETE MASONRY UNIT			I.D.	INSIDE DIAMETER	OBS.	OBSCURE	R.D.	ROOF DRAIN	V.T.	VINYL TILE
CONST.	CONSTRUCTION	F.L.	FINISH FLOOR LINE	INSUL.	INSULATE (D) (ING)	O.C.	ON CENTER	RF.H.	ROOF HATCH	VWC	VINYL WALL
CONT.	CONTINUOUS, CONTINUE	F.A.	FIRE ALARM	INT.	INTERIOR	OP.	OPAQUE	ROOF'G	ROOFING	COVERING	
CONTR.	CONTRACT (OR)	F.BRK.	FACE BRICK	I.LK.	INTERLOCK	OPEN'G	OPENING	RM.	ROOM		
C.JT.	CONTROL JOINT	F.E.	FIRE EXTINGUISHER	INTM.	INTERMEDIATE	O.J.	OPEN-WEB JOIST	R.O.	ROUGH OPENING		
CPR.	COPPER	F.E.C.	FIRE EXTINGUISHER CABINET	INV.	INVERT	OPP.	OPPOSITE	R.B.	RUBBER BASE	W.SCT.	WAINSCOT
C.G.	CORNER GUARD	W/	WITH			O.H.	OPPOSITE HAND	RB.T.	RUBBER TILE	W.T.W.	WALL TO WALL
CORR.	CORRUGATED	F.HS.	FIRE HOSE CABINET	J.C.	JANITOR'S CLOSET	O.H.M.S.	OVALHEAD MACHINE SCREW	RBL.	RUBBLE STONE	W.H.	WALL HUNG
CTR.	COUNTER	F.P.	FIREPROOF	JT.	JOINT			SF.GL.	SAFETY GLASS	W.C.	WATER CLOSET
CFL.	COUNTERFLASHING	F.R.C.	FIRE-RESISTANT COATING	J.F.	JOINT FILLER	O.H.W.S.	OVALHEAD WOOD SCREW	SCH.	SCHEDULE	W.HTR.	WATER HEATER
CS.	COUNTERSINK			J.	JOIST			SCR.	SCREEN	WP.	WATERPROOFING
C.F.	CUBIC FEET	F.RT.	FIRE-RETARDANT			OA.	OVERALL	SNT.	SEALANT	W.W.F.	WELDED WIRE FABRIC
C.Y.	CUBIC YARD	FLASH'G	FLASHING					SEAT'G	SEATING	W	WEST
		FH.M.S.	FLATHEAD MACHINE SCREW	K.PL.	KICKPLATE			SEC.	SECTION	W.H.B.	WHEEL BUMPER
				KIT.	KITCHEN			S.SK.	SERVICE SINK	W.W.	WIDTH WIDE
DPR.	DAMPER	FH.W.S.	FLATHEAD WOOD SCREW	K.O.	KNOCK OUT			SHEATH'G	SHEATHING	WNDW.	WINDOW
DMPRNG.	DAMPPROOFING					PNT.	PAINT, (ED)	W.G.	WIRE GLASS		
		FLEX.	FLEXABLE			PNL.	PANEL	SHT.	SHEET	W.M.	WIRE MESH
		FLR.	FLOOR (ING)	LBL.	LABEL	P.B.	PANIC BAR	S.G.	SHEET GLASS	W/	WITH
		FLCO	FLOOR CLEAN OUT	LAB.	LABORATORY	P.T.D.	PAPER TOWEL DISPENSER	SH.	SHELF, SHELVING	W/O	WITHOUT
		F.D.	FLOOR DRAIN	LAD.	LADDER	P.T.R.	PAPER TOWEL RECEPTOR	S.H.	SINGLE HUNG	WD.	WOOD
		F.PL.	FLOOR PLATE	L.B.	LAG BOLT			SIM.	SIMILAR	W.B.	WOOD BASE
		FLUOR.	FLUORESCENT	LAM.	LAMINATE (D)	PAR.	PARALLEL	SK.L.	SKYLIGHT	W.PT.	WORKING POINT
		F.JT.	FLUSH JOINT	LAV.	LAVATORY			SL.	SLEEVE		

ABBREVIATIONS / SYMBOLS

SYMBOL LEGEND:



PLAN NORTH

HATCH LEGEND:

- STRUCTURAL CONCRETE (CAST-IN-PLACE, PRECAST, CAST STONE)
- BRICK (COMMON OR FACE)
- CONCRETE MASONRY UNITS (CMU)
- METAL
- METAL LATHE
- EARTH
- POROUS FILL (STONE OR GRAVEL, ETC.)
- LIGHTWEIGHT CONCRETE (OR CONC. FILL)
- PLYWOOD (LARGE SCALE)
- WOOD FINISH
- INSULATION (LOOSE OR BATT)
- INSULATION (RIGID)
- GLASS (LARGE SCALE)
- CERAMIC TILE
- GYPSUM WALLBOARD (FIBERBOARD, ETC.)
- PLASTER, SAND, CEMENT, GROUT

LIFE SAFETY PLAN LEGEND

- 1 HR FIRE BARRIER (45 MIN DOORS) ALL WALLS NOT NOTED ARE TO BE NON-RATED PARTITION WALLS
- ARROW INDICATES POINT OF DISCHARGE AND DIRECTION OF TRAVEL
- FEC — FIRE EXTINGUISHER CABINET (RECESSED UNLESS OTHERWISE NOTED)
- EXIT EXIT — EXIT SIGNS

LIFE SAFETY PLAN

1. PROJECT: POWDERHORN WILDLIFE MANAGEMENT AREA
2. LOCATION: PORT O'CONNER, TEXAS
3. PRIMARY OCCUPANCY GROUP: GROUP B
4. SECONDARY OCCUPANCY: ASSEMBLY (A-3)
5. TYPE OF CONSTRUCTION: II-B UNPROTECTED, UNSPRINKLED
6. AUTOMATIC FIRE SUPPRESSION: NONE

8. BUILDING AREA & HEIGHT LIMITATIONS – TABLES 504.3, 504.4, AND 506.2
- STORIES ABOVE GRADE: 1
- MAXIMUM ALLOWABLE AREA PER STORY: 9,500 SF - ACTUAL BUILDING AREA 3,528 SQUARE FEET
- MAXIMUM ALLOWABLE HEIGHT: 55 FT - ACTUAL BUILDING HEIGHT 24'-4"
- MAXIUM STORYS ALLOWD 3 - ACTUAL 1 STORY

9. FIRE PROTECTION REQUIREMENTS

AUTOMATIC FIRE SPRINKLER SYSTEM IS NOT REQUIRED SECTION 903.2.1.3
THE B AND A-1 OCCUPANCY DOES NOT REACH THE THRESHOLD CRITERIA FOR REQUIRING A SPRINKLER SYSTEM.

FIRE EXTINGUISHERS: REQUIRED

FIRE ALARM: NOT REQUIRED (OCCUPANCY <300)

EXIT ACCESS TRAVEL DISTANCE: 200 FT MAX (PER TABLE 1017.2, NON-SPRINKLERED)

ROOF COVERING CLASSIFICATION: CLASS C

FIRE RESISTANCE:

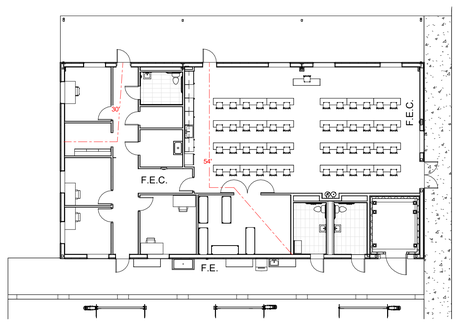
BUILDING ELEMENTS: 0-HOUR

EXTERIOR WALLS: 0-HOUR

COMMON PATH OF EGRESS: MAX 75 FT AND OVER 30 OCCUPANTS (UNSPRINKLERED) (1006.2.1)

DEAD ENDS: MAX 20 FT (1020.5)

CORRIDOR WIDTH: MINIMUM 44 INCHES (1020.3)



EGRESS REQUIREMENTS
OCCUPANT LOAD
BUSINESS / ASSEMBLY (BUSINESS 150 S.F) & ASSEMBLY 15 S.F
2,002 / 150 = 14 1,485 / 15 = 99 TOTAL OCCUPANTS 113

IECC REVIEW

IECC 2024 – Climate Zone 2
Metal Building Envelope Performance Checklist

Component	IECC 2024 Required CZ2 (Metal Building)	Actual Provided
Roof	R-19 + 11 LS	R-19 + 11 LS
Wall Insulation (Metal Building)	R-13 + R-5 c.i.	R-25 cavity + 1" continuous polyiso - used U factor calculatin
Slab-on-Grade (Unheated)	Not required (CZ 2)	Slab-on-grade
Vertical Fenestration U-Factor	U-0.75 max	U-0.30 (Low-E)
Vertical SHGC	≤ 0.25	0.25
Air Barrier	Continuous air barrier required (C402.5)	Yes – continuous air barrier detailed
Fenestration Area Limit	≤ 40% of gross above-grade wall area	13%

Building area for IECC vestibule determination equals 2,949 square feet, representing net floor area within the building thermal envelope. Exterior walk-in cooler and exterior restroom facilities are located outside the building envelope and are excluded from IECC building area calculation.

REGISTERED ARCHITECT — 10468 — STATE OF TEXAS
05.22.26

TEXAS PARKS & WILDLIFE

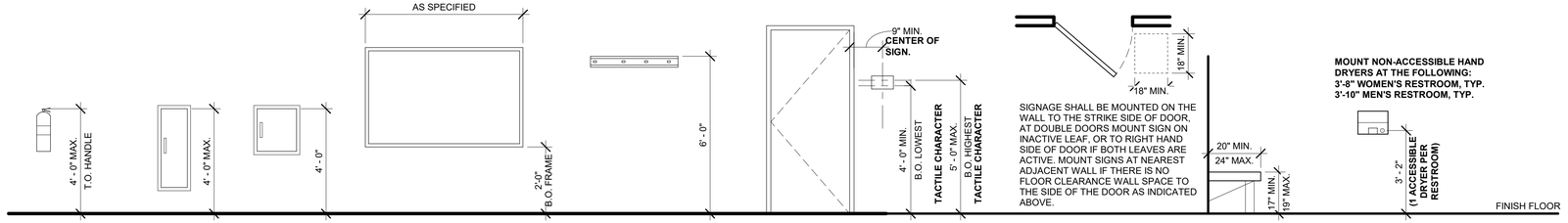
RICHTER ARCHITECTS

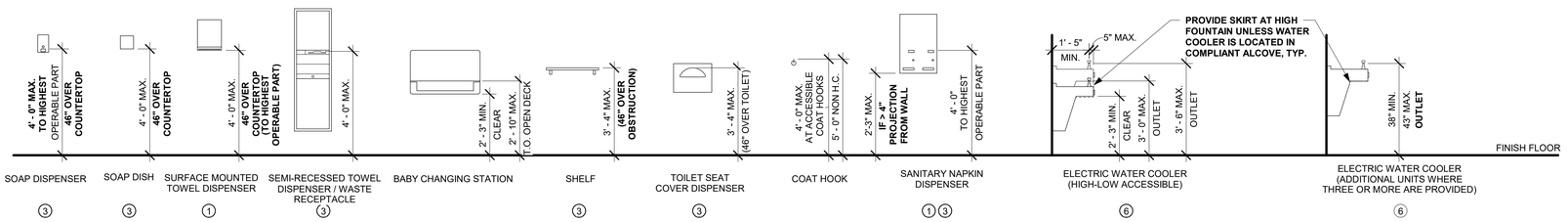
Powderhorn Wildlife Management Area
New Conservation Education Center
Project Number: #1210264

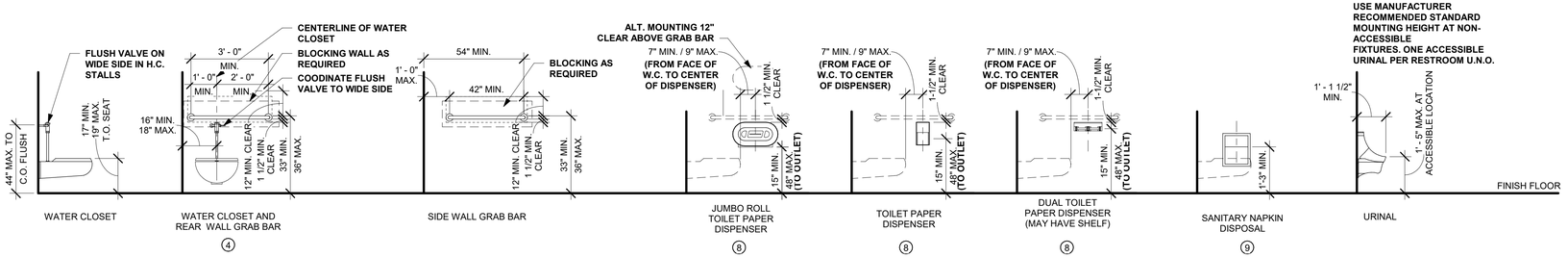
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DESIGNED BY:
DRAWN BY:
REVIEWED BY:
REVISED:

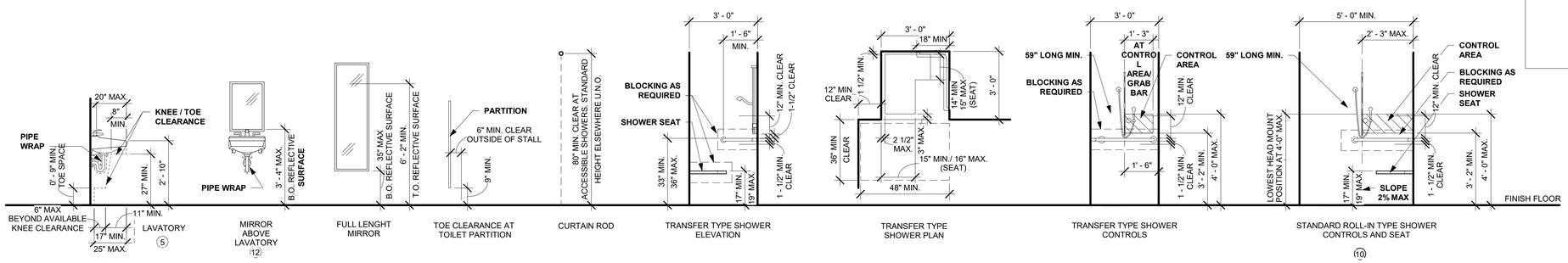
SHEET TITLE
LIFE SAFETY PLAN, ABBREVIATIONS

SHEET NUMBER
G101









TYPICAL MOUNTING HEIGHTS

NOT TO SCALE

05.22.26

TEXAS PARKS & WILDLIFE

RICHTER ARCHITECTS

GENERAL NOTES:

NOTES BELOW APPLY TO SHEETS G101 AND G102

1. NOT ALL DETAILS ON SHEETS G102 AND G103 APPLY TO THIS PROJECT.

2. COMPLIANCE TO 2012 TEXAS ACCESSIBILITY STANDARDS SHALL NOT BE LIMITED TO DETAILS SHOWN ON G102 AND G103.

EDITOR'S NOTES:

NOTES BELOW APPLY TO SHEETS G101 AND G102

1. IF LEADING EDGE (AKA LOWEST SURFACE) IS > 27" AND < 80" THEN OBJECT IS CONSIDERED PROTRUDING. IF > 4" DEEP VERIFY PRODUCT SPECIFIED IS <27" A.F.F. OR <4". HAND DRIERS CAN BE PROTECTED BY HAVING PERMANENTLY ATTACHED SURFACE MOUNTED TRASH RECEPTICLES TO THE OPEN SIDE(S).
2. BENCHES SHALL BE 42" LONG MIN. AND LONGER WHERE INDICATED.
3. 46" MAX. TO HIGHEST OPERABLE PART IF SIDE REACH IS OBSTRUCTED BY OBJECT 10"-24" DEEP AND < 34" HIGH. VERIFY LOCATION OF DISPENSER IN RELATION TO OTHER ACCESSORIES OR FIXTURES AND SHOW DIMENSION PER 308.
4. SKIRT IS NOT REQUIRED WHEN FOUNTAIN IS LOCATED WITHIN ALCOVE OR WHEN WING WALL PROVIDED. VERIFY ALCOVE CONDITIONS MEET REQUIREMENTS. IF 3 OR MORE FOUNDATIONS ARE PROVIDED, ADJUST ADDITIONAL AT STANDARD HEIGHT.
5. DUE TO REQUIREMENTS FOR AGES 3-4, AN L-SHAPED GRAB BAR MAY BE REQUIRED BUT MAY NOT BE ALLOWED - VERIFY WITH RAS HOW TO PROCEED.
6. USE CORRECT PAPER ROLL TYPE(S) FOR YOUR PROJECT. DO NOT SPEC TYPES WITH CONTROLLED DELIVERY (NOT TAS COMPLIANT) NOR LOCATE WITHIN REQUIRED CLEARANCE FOR 3 OR MORE BARS PROVICED GRAB BARS.
7. TYPICALLY DO NOT PROVIDE FOR ELEMENTARY AGE RESTROOMS. SHOW CORRECTLY IN PLAN AND IN WOMENS RESTROOMS ONLY.
8. IF NO SEAT IS PROVIDED, CONTROL AREA MAY RUN ENTIRE LENGTH OF WALL. GRAB BAR MUST ALSO BE C-SHAPED OR 3 BARS PROVICED ON ALL 3 WALLS.
9. 2012 TAS DOES NOT REQUIRE TOP OF MIRRORS OVER LAVATORIES TO BE 74" MIN. ADVISORY 603.3 RECOMMENDS THIS FOR FULL HEIGHT, BUT IS NOT REQUIRED.

REFERENCE:

2012 TEXAS ACCESSIBILTY STANDARDS

Powderhorn Wildlife Management Area
New Conservation Education Center
Project Number: #1210264

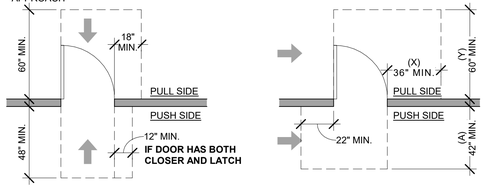
DATE: 05.22.2026
DESIGNED BY:
DRAWN BY:
REVIEWED BY:
REVISED:

SHEET TITLE
TEXAS ACCESSIBILITY STANDARDS

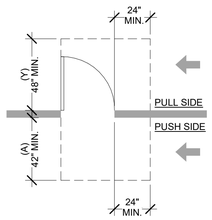
SHEET NUMBER
G102

NOTE: ALL DOORS SHALL COMPLY WITH ACCESIBLE DIMENSION MINIMUM REQUIREMENTS INDICATED BELOW

ARROW INDICATES PRIMARY DIRECTION OF APPROACH



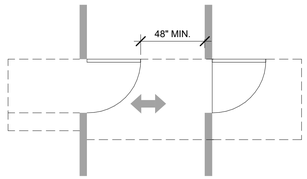
FRONT APPROACHES - MANUAL SWINGING DOORS AND GATES



LATCH SIDE APPROACHES - MANUAL SWINGING DOORS AND GATES
Y = 54" MIN. IF DOOR HAS CLOSER
A = 48" MIN. IF DOOR HAS CLOSER

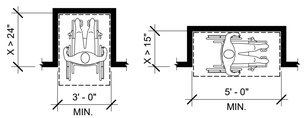
HINGE SIDE APPROACHES - MANUAL SWINGING DOORS AND GATES

X = 42" MIN. IF Y = 54" MIN.
A = 48" MIN. IF DOOR HAS BOTH CLOSER AND LATCH

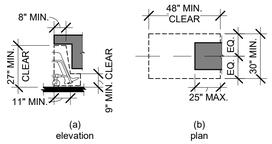


DOORS IN SERIES

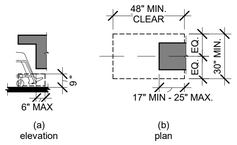
1 DOOR CLEARANCE REQUIREMENTS
1/4" = 1'-0"



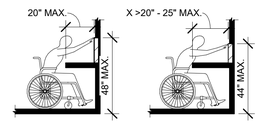
2 MANEUVERING CLEARANCE
1/4" = 1'-0"



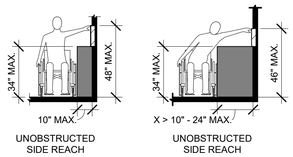
3 KNEE CLEARANCE
1/4" = 1'-0"



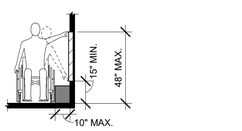
4 TOE CLEARANCE
1/4" = 1'-0"



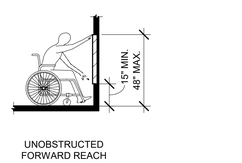
5 ADULT REACH RANGES
1/4" = 1'-0"



6 OBSTRUCTED SIDE REACH
1/4" = 1'-0"

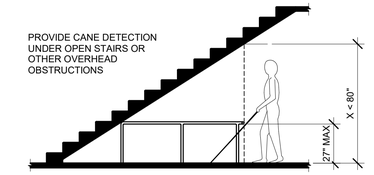


7 UNOBSTRUCTED SIDE REACH
1/4" = 1'-0"

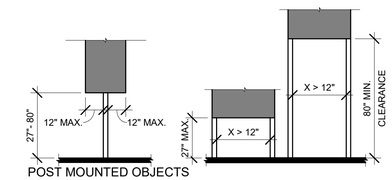


8 UNOBSTRUCTED FORWARD REACH
1/4" = 1'-0"

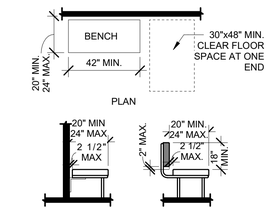
NOTE: HANDRAIL DETAILS ON THIS SHEET ARE GENERAL IN NATURE FOR MINIMUM HANDICAP ACCESSIBLE STANDARDS. HANDRAILS SHALL CONFORM TO THESE STANDARDS AND AS DETAILED ELSEWHERE IN DRAWINGS.



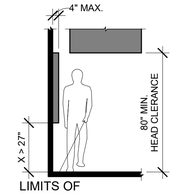
9 CANE DETECTION RAILS
1/4" = 1'-0"



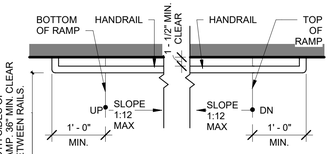
10 POST MOUNTED OBJECTS AT WALKING SURFACES
1/4" = 1'-0"



11 BENCH BACK SUPPORT
1/4" = 1'-0"

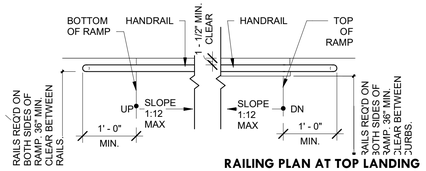


12 LIMITS OF PROTRUDING OBJECTS
1/4" = 1'-0"



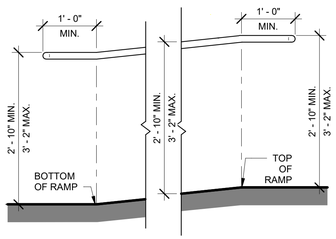
RAILING PLAN AT BOTTOM LANDING

RAILING PLAN AT TOP LANDING



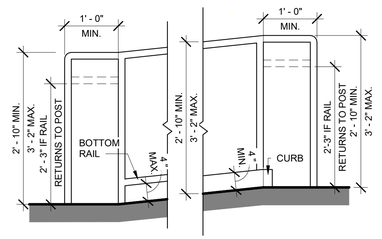
RAILING PLAN AT BOTTOM LANDING W/ RAIL AS EDGE PROTECTION

RAILING PLAN AT TOP LANDING W/ CURB AS EDGE PROTECTION



RAILING ELEVATION AT BOTTOM LANDING

RAILING ELEVATION AT TOP LANDING AT WALL, NO EDGE PROTECTION REQ'D.

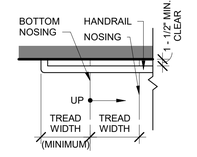


RAILING ELEVATION AT BOTTOM LANDING W/ RAIL AS EDGE PROTECTION

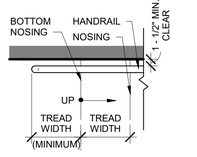
RAILING ELEVATION AT TOP LANDING W/ CURB AS EDGE PROTECTION

EDITOR NOTE: WHERE RAILING HAS GREATER RADIUS THAN MINIMUM BEND RADIUS, OR RETURNS AT ANGLE OTHER THAN 90 DEGREES, MEASURE HANDRAIL EXTENTIONS TO THE STARTING POINT OF THE BEND IN LIEU OF AS SHOWN HERE.

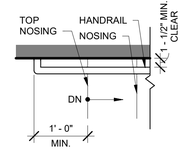
13 HANDRAIL AT RAMP
3/4" = 1'-0"



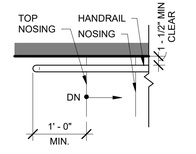
RAILING PLAN AT BOTTOM LANDING



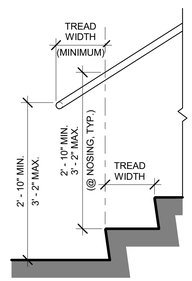
RAILING PLAN AT BOTTOM LANDING



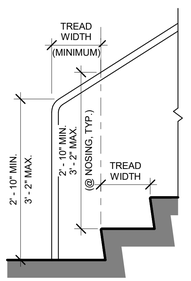
RAILING PLAN AT TOP LANDING



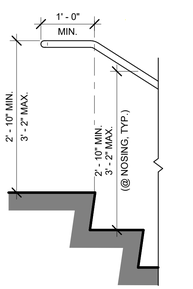
RAILING PLAN AT TOP LANDING



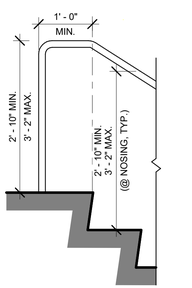
RAILING ELEVATION AT BOTTOM LANDING



RAILING ELEVATION AT BOTTOM LANDING



RAILING ELEVATION AT TOP LANDING



RAILING ELEVATION AT TOP LANDING

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NOTE: HAND RAILINGS SHALL RETURN TO WALL OR TO FLOOR. BENDS AT RETURNS SHALL BE MINIMUM RADIUSES AND SHALL BE SMOOTH; MITERED CORNERS NOT ACCEPTABLE.

14 HANDRAIL AT STAIR
3/4" = 1'-0"

REGISTERED ARCHITECT
JAMES A. RICHTER
20468
STATE OF TEXAS
05.22.26

TEXAS PARKS & WILDLIFE

RICHTER ARCHITECTS

Powderhorn Wildlife Management Area
New Conservation Education Center
Project Number: #1210264

DATE: 05.22.2026
DESIGNED BY:
DRAWN BY:
REVIEWED BY:
REVISED:

SHEET TITLE
TEXAS ACCESSIBILITY STANDARDS

SHEET NUMBER
G103

Site Demolition Plan Notes:

1. EXISTING TOPOGRAPHIC SURVEY AND LOCATION OF PHYSICAL FEATURES WERE OBTAINED FROM A TOPOGRAPHIC SURVEY PERFORMED BY **TPWD** DATED **OCTOBER, 2024.**
2. NO DEMOLITION ACTIVITIES SHALL COMMENCE UNTIL ALL PERMITS ARE OBTAINED AND PERIMETER EROSION CONTROL MEASURES ARE IN PLACE.
3. CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE LOCATION OF ALL UNDERGROUND UTILITIES WITHIN THE AREA OF CONSTRUCTION.
4. IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROTECT ALL MANHOLES, CLEANOUTS, VALVE BOXES, FIRE HYDRANTS, ETC. WITHIN THE AREA OF CONSTRUCTION.
5. EXISTING SANITARY SEWER AND WATER UTILITY LINES ARE TO REMAIN IN SERVICE AT ALL TIMES. CONTRACTOR TO MAKE PROVISIONS TO KEEP THESE UTILITIES IN SERVICE. ALL PROPOSED SHUT DOWNS OF UTILITIES MUST BE COORDINATED WITH THE OWNER.
6. ALL TRAFFIC CONTROL MEASURES, BARRICADES AND PROJECT SIGNS WITHIN THE PUBLIC RIGHT-OF-WAY SHALL CONFORM TO THE LATEST EDITION OF TEXAS DEPARTMENT OF TRANSPORTATION MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES AND THE LOCAL GOVERNING AGENCY REQUIREMENTS.
7. PROVIDE EROSION AND SEDIMENTATION CONTROLS AS SHOWN ON THE DRAWINGS AND MAINTAIN FOR THE DURATION OF THE PROJECT. PROVIDE ROUTINE MAINTENANCE AS REQUIRED BY THE SWPPP PLAN TO MAINTAIN THE INTEGRITY OF CONTROLS AND PROTECTION MEASURES AND REMOVE ANY ACCUMULATIONS OF MUD, SILT AND DEBRIS, WHICH WOULD JEOPARDIZE THE INTEGRITY OF THE CONTROL MEASURES. REFER TO DRAWINGS FOR DETAILS
8. CONTRACTOR SHALL EXERCISE CARE DURING OPERATIONS TO CONFINE DUST TO THE IMMEDIATE WORK AREA AND SHALL EMPLOY DUST CONTROL MEASURES TO ENSURE ADEQUATE DUST CONTROL THROUGHOUT DEMOLITION AND CONSTRUCTION OPERATIONS.
9. EXPOSED SUBGRADE BENEATH PAVED AREAS SHALL BE PROOF ROLLED TO DETECT WEAK SOIL SUPPORT AREAS. THESE AREAS WILL BE REMOVED AND REPLACED WITH SITE EXCAVATED MATERIALS OR IMPORTED MATERIALS HAVING THE SAME PROPERTIES AS SITE MATERIALS.
10. THE CONTRACTOR SHALL NOT DAMAGE ANY FENCES, DRIVES, PAVEMENT, UTILITIES OR OTHER EXISTING FACILITIES INTENDED TO REMAIN. DAMAGE TO ADJOINING PROPERTY OUTSIDE THE LIMITS OF DISTURBANCE OR OTHER ITEMS INTENDED TO REMAIN SHALL BE REPAIRED OR REPLACED AT THE EXPENSE OF THE CONTRACTOR.
11. THE CONTRACTOR SHALL COMPLY TO THE FULLEST EXTENT WITH ALL REGULATIONS GOVERNING AGENCIES REGARDING THE DEMOLITION, REMOVAL, TRANSPORTATION AND DISPOSAL OF ALL DEMOLITION DEBRIS.
12. THE CONTRACTOR SHALL REMOVE AND DISPOSE OF ANY ON-SITE TRASH, DEBRIS, OR DEMOLITION MATERIALS. DISPOSAL OF ALL DEMOLITION MATERIALS OR PRE-EXISTING ON-SITE TRASH AND DEBRIS SHALL NOT BE ITEMIZED AND PAID FOR AS SEPARATE ITEMS BUT SHALL BE SUBSIDIARY TO THE CONTRACT PRICE.
13. THE CONTRACTOR SHALL ASSUME RESPONSIBILITY FOR THE PROTECTION OF ALL PROPERTY CORNER MONUMENTS, BENCHMARKS, CONTROL POINTS, ETC, AND SHALL HAVE, AT HIS EXPENSE, ALL CORNER MONUMENTS REPLACED WHICH ARE DISTURBED BY CONSTRUCTION ACTIVITIES.
14. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING DISCONNECTION OF ALL UTILITIES SERVING THE EXISTING SITE WITH THE APPROPRIATE UTILITY COMPANY, AND SHALL OBTAIN APPROVAL FROM SAME TO COMMENCE DEMOLITION ACTIVITIES.
15. THE CONTRACTOR SHALL LOCATE AND REMOVE ALL UNDERGROUND UTILITY PIPING, CONDUIT, AND CABLES, REGARDLESS OF DEPTH, IN THE AREA OF THE PROPOSED BUILDING(S) FOUNDATIONS. (UNLESS NOTED OTHERWISE)
16. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PLUGGING, CAPPING, OR OTHERWISE TERMINATING UTILITY SERVICE LINES AT THE PROPERTY LINE; OR AT THE UTILITY MAIN AS REQUIRED BY THE UTILITY OWNER.
17. REFER TO LANDSCAPE DRAWINGS FOR TREE DEMOLITION AND PROTECTION.
18. REFER TO DEMOLITION ITEMS WITHIN OTHER DISCIPLINES' DOCUMENTS FOR COORDINATION NOTES.

Paving Plan Notes:

1. UNLESS OTHERWISE NOTED, REFER TO SPECIFICATION DETAILS FOR SUBGRADE COMPACTION AND MOISTURE CONTENT REQUIREMENTS.
2. REFER TO THE MOST RECENT GEOTECHNICAL REPORT FOR REQUIREMENTS REGARDING FILL COMPACTION AND MOISTURE CONTENT.
3. INSTALLATION AND PLACEMENT OF IRRIGATION SLEEVES AND UTILITY CONDUITS SHALL BE IN ACCORDANCE TO THE ARCHITECT'S LANDSCAPE PLANS AND/OR MEP PLANS. NEW IRRIGATION SLEEVES SHOWN HEREON ARE FOR REFERENCE ONLY AND SHOULD BE CONSIDERED APPROXIMATE. (REFER TO LANDSCAPE DRAWINGS FOR EXACT LOCATIONS.)
4. ALL PARKING STRIPING SHALL BE 4" WIDE UNLESS OTHERWISE NOTED.
5. INSTALL ACCESSIBLE PARKING STALLS, AISLES, SYMBOLS, SIGNAGE AND WHEELSTOPS IN ACCORDANCE WITH ADA/TAS STANDARDS. STRIPING WILL BE COLORED PER TAS APPROVED COLOR PAINT
6. SIDEWALKS SHALL HAVE A RUNNING SLOPE NOT GREATER THAN 5% AND A CROSS SLOPE NOT GREATER THAN 2%, UNLESS OTHERWISE NOTED.
7. SAWED JOINTS SHALL BE SPACED AT INTERVALS OF 15 FEET MAXIMUM AND AT ALL RADIUS RETURNS. SAWED JOINTS SHALL BE PERPENDICULAR TO ALL CURVES. JOINTS SHALL BE SAWED WITHIN 12 HOURS AFTER CONCRETE IS POURED.
8. SAWED JOINTS SHALL MATCH THE EXISTING PAVEMENT JOINT PATTERN WHERE NEW PAVEMENT IS CONSTRUCTED ADJACENT TO EXISTING CONCRETE PAVEMENT.
9. ALL MANHOLES, INLETS, LIGHT BASES, AND OTHER STRUCTURES SHALL BE ISOLATED FROM THE NEW PAVEMENT WITH PREFORMED ASPHALTIC EXPANSION MATERIAL.
10. ADJUST EXISTING TOP OF MANHOLE RIMS AND EXISTING WATERLINE VALVE BOXES TO FINISHED GRADE ELEVATIONS.
11. FOR PAVING PATTERNS, FINISHES AND MATERIALS REFER TO ARCHITECTURAL OR LANDSCAPE DRAWINGS.
12. NEW IRRIGATION SLEEVES SHOWN HEREON ARE FOR REFERENCE ONLY AND SHOULD BE CONSIDERED APPROXIMATE. REFER TO LANDSCAPE DRAWINGS FOR EXACT LOCATIONS.
13. CARE SHALL BE TAKEN NOT TO PLACE CONCRETE DURING INCLEMENT WEATHER. CONCRETE AGGREGATE THAT HAS BEEN EXPOSED DUE TO RAINFALL BEFORE THE CONCRETE HAS SET-UP SHALL NOT BE ACCEPTED AND MUST BE REPLACED.
14. EXPOSED SUBGRADE BENEATH PAVED AREAS SHALL BE PROOF ROLLED TO DETECT WEAK SOIL SUPPORT AREAS. WEAK AREAS WILL BE REMOVED AND REPLACED WITH SITE EXCAVATED MATERIALS OR IMPORTED MATERIALS HAVING THE SAME PROPERTIES AS SITE MATERIALS.

Site Plan General Notes:

1. THE CONTRACTOR MUST BE FAMILIAR WITH OWNER & OWNER CONSTRUCTION STANDARDS AND OTHER PROCEDURES PRIOR TO BIDDING AND CONSTRUCTION. IGNORANCE OF CONSTRUCTION SPECIFICATIONS SHALL NOT BE A BASIS FOR CHANGE ORDERS, WORK DELAYS, OR ADDITIONAL COMPENSATION.
2. ALL MATERIAL REQUIRED TO COMPLETE THE WORK AS SHOWN OR IMPLIED IN THE CONSTRUCTION PLANS AND AS SPECIFIED IN THE CONTRACT DOCUMENTS THAT ARE NOT LISTED AS A PAY ITEM IN THE PROPOSAL SHALL BE CONSIDERED SUBSIDIARY.
3. THE LOCATION, ELEVATIONS AND DIMENSIONS OF EXISTING UTILITIES SHOWN ON THE PLANS HAVE BEEN OBTAINED FROM FIELD MARKINGS, PHYSICAL APPURTENANCES AND UTILITY COMPANY RECORDS AND ARE CONSIDERED APPROXIMATE. THE ENGINEER DOES NOT CERTIFY THAT ALL UTILITIES ARE SHOWN. THE CONTRACTOR SHALL VERIFY EXACT LOCATIONS, SIZES AND DEPTHS OF EXISTING UTILITIES PRIOR TO CONSTRUCTION BY CONTACTING TEXAS811 AND RELEVANT UTILITY COMPANIES 48 HOURS PRIOR TO LOCATING EXISTING UTILITIES OR CONSTRUCTION ACTIVITIES.
4. THE CONTRACTOR SHALL PROTECT ALL ADJACENT ON & OFF-SITE PAVING, UTILITIES, TREES AND OTHER EXISTING STRUCTURES FROM DAMAGE PRIOR TO & DURING CONSTRUCTION. ANY DAMAGE THAT OCCURS FROM CONSTRUCTION OPERATIONS SHALL BE RESTORED AT THE CONTRACTOR'S EXPENSE.
5. THE CONTRACTOR SHALL COMPLY WITH OSHA REGULATIONS AND STATE OF TEXAS LAWS CONCERNING EXCAVATION, EMISSIONS, TRENCHING, SHORING, AND SITE SAFETY.
6. THE CONTRACTOR SHALL SUBMIT A CONSTRUCTION SEQUENCE TO THE ENGINEER PRIOR TO BEGINNING WORK.
7. THE CONTRACTOR SHALL PROTECT ALL PAVEMENT INCLUDING SIDEWALKS THAT ARE OUTSIDE THE LIMITS OF DISTURBANCE FROM DAMAGE ESPECIALLY AT CONSTRUCTION ENTRANCES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING ANY DAMAGED PAVEMENT.
8. THE CONTRACTOR MAY REMOVE ALL FENCING WITHIN THE LIMITS OF DISTURBANCE THAT INTERFERE WITH CONSTRUCTION OPERATIONS, EXCEPT IN AREAS WHERE LIVESTOCK IS PRESENT. WHERE TEMPORARY FENCING IS REQUIRED, IT SHALL BE OF SUFFICIENT DESIGN TO KEEP LIVESTOCK PENNED. ANY LOOSE LIVESTOCK THAT RESULT FROM INADEQUATE FENCING SHALL BE THE CONTRACTOR'S RESPONSIBILITY.
9. POSITIVE DRAINAGE MUST BE MAINTAINED FOR ALL DRAINAGE SWALES, CULVERTS AND CREEKS INCLUDING INTERMITTENT STREAMS AFFECTED BY CONSTRUCTION OPERATIONS. ANY WORK NECESSARY TO DAM OR DIVERT EXISTING DRAINAGE WAYS TO COMMENCE CONSTRUCTION SHALL BE CONSIDERED SUBSIDIARY.
10. ALL EXCAVATION IS UNCLASSIFIED AND SHALL INCLUDE ALL MATERIALS ENCOUNTERED TO INCLUDE BUT NOT BE LIMITED TO ROCK, RUBBLE, DEBRIS, TRASH, ETC. UNUSABLE EXCAVATED MATERIAL AND ALL WASTE RESULTING FROM SITE CLEARING AND GRUBBING SHALL BE DISPOSED OF OFF SITE AT THE CONTRACTOR'S EXPENSE. SPOILS MAY BE DISPOSED OF ON-SITE ONLY WITH PRIOR APPROVAL FROM THE ENGINEER AND ONLY IN LOCATIONS APPROVED BY THE ENGINEER.
11. AT SUBSTANTIAL COMPLETION, THE CONTRACTOR SHALL REMOVE ALL CONSTRUCTION DEBRIS, EXCESS MATERIAL, FORM-WORK, TRASH, EQUIPMENT, OR ANY OTHER SUPERFLUOUS OR WASTE MATERIAL FROM THE SITE, INCLUDING EROSION CONTROL DEVICES (SEE EROSION CONTROL AND SOIL MANAGEMENT NOTES).
12. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WORK INVOLVING FRANCHISE UTILITIES WITH UTILITY OWNERS.
13. IF A TRAFFIC CONTROL PLAN HAS NOT BEEN PROVIDED BY THE ENGINEER, THE CONTRACTOR SHALL BE RESPONSIBLE FOR TRAFFIC CONTROL INCLUDING THE USE OF ALL TRAFFIC CONTROL DEVICES USED TO WARN MOTORISTS OF THE CONSTRUCTION ACTIVITY. ALL TRAFFIC CONTROL MUST CONFORM TO THE LATEST EDITION OF THE TEXAS MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS AS PUBLISHED BY THE TEXAS DEPARTMENT OF TRANSPORTATION.
14. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS PRIOR TO AND THROUGHOUT CONSTRUCTION.
15. IT IS THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN NEAT AND ACCURATE CONSTRUCTION RECORDS FOR THE OWNER/CITY'S USE. THE CONTRACTOR SHALL PROVIDE THE CITY & OWNER CLEAN AND ACCURATE FULL SIZE REPRODUCIBLE RECORD DRAWINGS WHICH CLEARLY DESCRIBE ALL CONSTRUCTION AND ANY DEVIATIONS FROM THE PLANS.
16. THE CONTRACTOR SHALL TAKE ALL AVAILABLE PRECAUTIONS TO CONTROL DUST. CONTRACTOR SHALL CONTROL DUST BY SPRINKLING WATER, OR BY OTHER MEANS THAT ARE APPROVED BY THE CITY AND ENGINEER.
17. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL REQUIRED CONSTRUCTION SURVEYING, QUALITY CONTROL, AND MATERIALS TESTING.
18. ALL EFFORTS SHALL BE MADE TO AVOID DAMAGE TO EXISTING TREES THAT ARE TO REMAIN. TREES SHALL BE TRIMMED AND PAINTED ONLY IF NECESSARY FOR THE SAFE MANEUVERING OF CONSTRUCTION EQUIPMENT. CONTRACTOR SHALL REQUEST APPROVAL FROM THE OWNER FOR REMOVAL OF ANY TREES. WHEN EXCAVATING AROUND A TREE, THE ROOTS SHALL BE CLEAN CUT PRIOR TO ANY EXCAVATION WORK. DO NOT SNAG AND TEAR TREE ROOTS.
19. THE CONTRACTOR SHALL SUBMIT ALL SHOP DRAWINGS AND SUBMITTALS REQUIRED TO BE SUBMITTED BY THE CONTRACT SPECIFICATIONS. ANY WORK PERFORMED OR MATERIALS USED THAT ARE REQUIRED TO BE SUBMITTED BUT HAVE NOT BEEN REVIEWED AND ACCEPTED BY THE OWNER'S REPRESENTATIVE SHALL NOT BE PAID FOR OR SHALL BE PAID FOR AT A REDUCED RATE. ALL SHOP DRAWINGS AND SUBMITTALS SHALL BE PROOFREAD AND REVIEWED BY THE GENERAL CONTRACTOR FOR APPROVAL PRIOR TO SUBMITTAL TO THE ENGINEER. SUBCONTRACTOR / GENERAL CONTRACTOR SHALL CLEARLY INDICATE, MARK, HIGHLIGHT, AND PROPERLY CLARIFY PRODUCTS TO BE CONSIDERED FOR APPROVAL. SUBMITTALS NOT PROOFREAD OR REVIEWED OR CLARIFIED PROPERLY SHALL BE RETURNED UNREVIEWED. CONTRACTOR SHALL RESUBMIT SHOP DRAWINGS AND ALLOW FOR SUITABLE REVIEW TIME. SUITABLE REVIEW TIME SHALL BE NO MORE TEN (10) WORKING DAYS.

Dimension Control Notes:

1. EXISTING TOPOGRAPHIC SURVEY AND LOCATION OF PHYSICAL FEATURES, BENCHMARKS, MONUMENTS, ETC. WERE OBTAINED FROM A TOPOGRAPHIC SURVEY PERFORMED BY **TPWD** DATED **OCTOBER, 2024.**
2. CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER OF ANY QUESTIONS THAT MAY ARISE CONCERNING THE INTENT, PLACEMENT, OR LIMITS OF DIMENSIONS OR GRADES NECESSARY FOR CONSTRUCTION OF THIS PROJECT.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING AND MAINTAINING ALL SIGNS, BARRICADES, AND LIGHTING OR WARNING DEVICE(S) USED/REQUIRED WITH THIS WORK.
4. ALL UNLABELED CURB RADII SHALL BE 2.0 FEET TYPICAL.
5. ALL DIMENSIONS ARE FROM EDGE OF PAVEMENT OR FACE OF CURB UNLESS OTHERWISE NOTED.
6. ALL BUILDING DIMENSIONS ARE TO FACE OF BUILDING. REFER TO ARCHITECTURAL PLANS FOR BUILDING DIMENSION INFORMATION.
7. REFER TO LANDSCAPE ARCHITECT PLANS FOR DETAILS AND DIMENSIONS OF LANDSCAPE HARDSCAPE AREAS.

Striping and Accessible Notes:

1. ALL PARKING AND ACCESSIBLE STRIPING SHALL BE WHITE 4" SOLID LINES UNLESS NOTED OTHERWISE.
2. ANY ACCESSIBLE STALL OR AISLE MARKINGS AND IDENTIFICATION WILL BE ADDRESSED BY THE CITY OR STATE LAWS, TAS/ADA STANDARDS AND DETAILS UNLESS NOTED OTHERWISE.
3. PAVEMENT MARKING SYMBOL OF ACCESSIBILITY SHALL BE PLACED TOWARD THE FAR END OF THE PARKING STALL SO AS TO BE VISIBLE TO MOTORISTS IN THE TRAVEL LANE. SYMBOL OF ACCESSIBILITY MAY BE PAINTED OR PREFABRICATED MATERIAL AND SHALL BE 30"x30" MINIMUM. COLOR WILL BE PER LATEST TAS/ADA STANDARDS OR PER CITY STANDARDS.
4. ALL ACCESSIBLE STALLS SHALL BE 8 FEET WIDE MINIMUM AND BE ACCOMPANIED BY AN ACCESS AISLE THAT SHALL BE 5 FEET WIDE MINIMUM. VAN ACCESSIBLE PARKING SHALL BE A TOTAL OF 16 FEET WIDE MINIMUM WHEN INCLUDING THE ADJACENT ACCESS AISLE. (REFER TO TAS BULLETIN 68.104 FOR LATEST REQUIREMENTS).
5. ALL ACCESSIBLE STALLS SHALL HAVE A INTERNATIONAL APPROVED R7-8a SIGN MOUNTED AT A MINIMUM HEIGHT OF 60" ABOVE THE SURFACE OF THE FINISHED GROUND. IN ADDITION TO THE SIGN, EACH VAN ACCESSIBLE STALL SIGN SHALL CONTAIN A "VAN ACCESSIBLE" & A "VIOLATORS SUBJECT TO FINE AND TOWING" PLACARD ALONG WITH THE R7-8a SIGN.
6. POST MOUNTED SIGNS SHALL BE PLACED APPROXIMATELY 1 FOOT BEHIND THE CURB OR SIDEWALK. WHEEL STOPS WILL BE PLACED APPROXIMATELY 2 FEET IN FRONT OF FACE OF CURB AT CENTER. SALVAGE EXISTING SIGNS AND WHEEL STOPS FOR RE-USE.
7. ACCESSIBLE STALLS AND AISLES MUST NOT EXCEED 2% (1:48) IN ANY DIRECTION. CURB RAMPS MUST NOT EXCEED A LONGITUDINAL SLOPE OF 1:12 OR A CROSS SLOPE OF 1:48. ANY RAMPS EXCEEDING THESE SLOPES MUST BE REMOVED AND RE-POURED. USE CARE DURING PAVING OPERATIONS.
8. ALL CROSSWALK STRIPING SHALL BE WHITE, 12 to 24 INCHES WIDE AND SPACED 24 to 48 INCHES APART. THE CROSSWALK STRIPING SHALL BE SPACED TO AVOID WHEEL PATHS.
9. STOP BARS STRIPING SHALL BE WHITE, 12 to 24 INCHES WIDE AND PLACED A MINIMUM 4 FEET IN ADVANCE OF ALL CROSSWALK STRIPING.
10. CROSSHATCHING SHOWN ON THE PLANS SHALL BE 24" WIDE AND TYPICALLY SPACED 20 FEET APART. COLOR SHALL BE PER DETAILS UNLESS NOTED OTHERWISE.

Utility Plan Notes:

1. THE HORIZONTAL AND VERTICAL LOCATION OF EXISTING SUBSURFACE UTILITIES HAVE BEEN DETERMINED FROM DATA RECORDED BY OTHERS AND THE BEST INFORMATION SOURCES AVAILABLE AT THE TIME OF DESIGN. FIELD DATA IS LIMITED TO THAT WHICH IS VISIBLE AND CAN BE MEASURED. THIS DOES NOT PRECLUDE THE EXISTENCE OF OTHER UNDERGROUND ITEMS. THE COMPLETENESS AND/OR ACCURACY OF THESE RECORDS CANNOT BE GUARANTEED, EXCEPT INSOFAR AS THEY CAN BE VERIFIED BY FIELD MEASUREMENT. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO UNCOVER AND VERIFY THE ACTUAL DEPTH AND CONDITION OF ALL AFFECTED UNDERGROUND UTILITIES WITHIN THE AREA OF CONSTRUCTION PRIOR TO BEGINNING THE ACTUAL WORK.
2. REMOVE FROM THE SITE ALL SURFACE FEATURES AND UTILITIES INDICATED ON THE DRAWINGS TO BE DEMOLISHED OR REMOVED. BACKFILL TRENCHES EXCAVATED FOR UTILITY REMOVAL.
3. SUBMIT TO THE ARCHITECT/ENGINEER AND OWNER'S DESIGNATED REPRESENTATIVE A TRENCH SAFETY PLAN SEALED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF TEXAS. THIS PLAN SHALL MEET OSHA REQUIREMENTS. CONTRACTOR SUBMITTAL SHALL INCLUDE A TRENCH SAFETY PLAN IN COMPLIANCE WITH TEXAS HOUSE BILL 1569 AND MUST BE RECEIVED BEFORE BEGINNING WORK ON THE PROJECT.
4. THE CONTRACTOR IS RESPONSIBLE FOR ANY AND ALL DAMAGE TO EXISTING UTILITIES THAT ARE TO REMAIN. CONTRACTOR SHALL REPAIR OR REPLACE ANY AND ALL DAMAGED UTILITIES TO THEIR ORIGINAL CONDITION AT NO COST TO THE OWNER.
5. ALL WATER AND SANITARY SEWER PIPES MUST BE INSTALLED AND TESTED IN ACCORDANCE WITH TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ) REQUIREMENTS.
6. CONTRACTOR SHALL VERIFY ALL EXISTING SANITARY SEWER FLOW LINES BEFORE BEGINNING CONSTRUCTION.
7. ALL SANITARY SEWER PIPING SHALL BE SDR 26 AT MINIMUM. AND ALL SEWER SERVICE LINES TO BUILDINGS SHALL BE PROVIDED WITH CLEANOUTS NOT MORE THAN 100 FEET APART.
8. ALL MANHOLES, FIRE HYDRANTS, VALVE BOXES, ETC LOCATED IN LANDSCAPE AREAS SHALL HAVE A 12" MOW STRIP AROUND IT.
9. WHEN WATER LINES ARE INSTALLED IN THE VICINITY OF SEWER MAINS, SUCH INSTALLATION SHALL BE IN STRICT ACCORDANCE WITH THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ) REQUIREMENTS.
10. ALL DOMESTIC WATER SUPPLY AND FIRE PROTECTION MAINS SHALL RECEIVE CONCRETE THRUST BLOCKING AND JOINT RESTRAINTS PER THE DETAIL SHEETS.
11. THE CONTRACTOR SHALL NOTIFY ALL AFFECTED UTILITY COMPANIES OR AGENCIES IN WRITING AT LEAST 1 WEEK PRIOR TO BEGINNING CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR AND WILL MAKE ARRANGEMENTS FOR ANY AND ALL TEMPORARY UTILITIES, PERMITS, AND AGREEMENTS.
12. THE CONTRACTOR SHALL PROTECT ALL UTILITIES DURING THE CONSTRUCTION OF THIS PROJECT. ALL MANHOLES, CLEANOUTS, WATER VALVES, FIRE HYDRANTS, AND OTHER APPURTENANCES MUST BE ADJUSTED TO PROPER LINE AND GRADE BEFORE FINAL ACCEPTANCE BY THE CITY. THE CONTRACTOR SHALL GIVE THE CITY, RESIDENTS AND BUSINESSES AFFECTED BY ANY ANTICIPATED WATER OR SEWER SERVICE DISRUPTIONS AT LEAST FORTY-EIGHT (48) HOURS PRIOR WRITTEN NOTICE.
13. THE CONTRACTOR SHALL SALVAGE ALL EXISTING OWNER UTILITY APPURTENANCES SUCH AS SIGNS, VALVES, FIRE HYDRANTS, ETC. IN ACCORDANCE WITH OWNER REQUIREMENTS AND RETURN THE SALVAGED EQUIPMENT TO THE OWNER.
14. TESTING OF UTILITY TRENCH BACKFILL COMPACTION SHALL BE AT 75' INTERVALS AND EACH LIFT'S BACKFILL. BACKFILL SHALL BE PROCESSED SUCH THAT NO DIRT CLODS ARE IN EXCESS OF 4" DIAMETER. ALL SANITARY SEWER LINES AND STORM SEWER LINES SHALL BE TV TESTED AT THE COMPLETION OF THE PROJECT (IN ADDITION TO MINIMUM CODE OR OTHER REQUIREMENTS) TO CHECK FOR DAMAGE CAUSED BY OTHER TRADES, UTILITY CONFLICTS, TRENCH SETTLEMENT, ETC. THE COST OF SUCH SHALL BE INCLUDED IN THE CONTRACTORS BASE PRICE.
15. THE CONTRACTOR SHALL, PROVIDE ALL NECESSARY FITTINGS AND APPURTENANCES REQUIRED TO COMPLETE ALL CONNECTIONS, RESOLVE UTILITY CONFLICTS AND OTHER INCIDENTAL UTILITY WORK SHOWN ON THE PLANS OR CONTAINED IN THE SPECIFICATIONS OR REQUIRED BY GOVERNING AGENCIES TO INCLUDE, BUT NOT LIMITED TO TEMPORARY SERVICES: VALVES, BOXES, METERS, BACKFLOW PREVENTORS, FIRE DEPARTMENT CONNECTIONS, ETC. INCLUDING THE REPAIR OR REPLACEMENT OF ANY EXISTING IRRIGATION SYSTEM.

Grading Plan Notes:

1. POSITIVE DRAINAGE SHALL BE MAINTAINED ON ALL SURFACE AREAS WITHIN THE DISTURBED AREAS OF THIS PROJECT. DRAINAGE SHALL BE DIRECTED AWAY FROM ALL BUILDING FOUNDATIONS. CONTRACTOR SHOULD TAKE PRECAUTIONS NOT TO ALLOW ANY PONDING OF WATER.
2. NO ABRUPT CHANGE OF GRADE SHALL OCCUR IN THE DRIVEWAYS, PARKING AREAS OR SIDEWALKS.
3. UTILITIES SHOWN ON THE PLANS ARE FROM THE BEST INFORMATION SOURCES AVAILABLE AT THE TIME OF DESIGN BUT MAY NOT REPRESENT ALL EXISTING UTILITIES ON SITE. THE CONTRACTOR WILL BE RESPONSIBLE FOR DETERMINING THE EXACT LOCATION OF ALL UTILITIES AND DRAINAGE STRUCTURES WHETHER SHOWN ON THE PLANS OR NOT. THE CONTRACTOR SHALL UNCOVER EXISTING UTILITIES PRIOR TO CONSTRUCTION TO VERIFY SIZE, TYPE, GRADE AND LOCATION. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY OF ANY DEVIATIONS FROM THE PLANS PRIOR TO BEGINNING CONSTRUCTION. ANY DAMAGE TO EXISTING UTILITIES, WHETHER SHOWN ON THE PLAN OR NOT, SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO REPAIR, AT HIS OWN EXPENSE.
4. CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER OF ANY QUESTIONS THAT MAY ARISE CONCERNING THE INTENT, PLACEMENT, OR LIMITS OF DIMENSIONS OR GRADES NECESSARY FOR CONSTRUCTION OF THIS PROJECT.
5. ALL CONSTRUCTION AREAS WITHIN THE SITE SHALL BE STRIPPED OF VEGETATION AND LOOSE TOPSOIL. ANY POCKETS OF DEBRIS ENCOUNTERED SHOULD ALSO BE REMOVED.
6. REFER TO THE MOST RECENT GEOTECHNICAL REPORT FOR FILL COMPACTION AND MOISTURE CONTENT REQUIREMENTS.
7. CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS (USE OF SILT FENCES, ETC.) TO KEEP DRAINAGE AND SILT FROM WASHING OFFSITE AND ONTO ADJACENT PROPERTY OR CROSSING ADJACENT STREETS. CONTRACTOR SHALL IMMEDIATELY REMOVE SILT/DEBRIS THAT WASHES OFFSITE OR INTO EXISTING STORM DRAIN SYSTEMS.
8. IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROTECT ALL MANHOLES, CLEANOUTS, VALVE BOXES, FIRE HYDRANTS, ETC. WITHIN THE AREA OF CONSTRUCTION. THEY MUST BE ADJUSTED TO PROPERTY LINE AND GRADE BY THE CONTRACTOR PRIOR TO AND AFTER THE PALCEMENT OF PAVING AND GRADING AT NO ADDITIONAL COST TO THE OWNER.
9. SIDEWALKS SHALL HAVE A RUNNING SLOPE NOT GREATER THAN 5% AND A CROSS SLOPE NOT GREATER THAN 2%, UNLESS OTHERWISE NOTED.

Drainage Plan Notes:

1. EXISTING TOPOGRAPHIC SURVEY AND LOCATION OF PHYSICAL FEATURES WERE OBTAINED FROM A TOPOGRAPHIC SURVEY PERFORMED BY TPWD DATED OCTOBER 2024.
2. THE HORIZONTAL AND VERTICAL LOCATION OF EXISTING SUBSURFACE UTILITIES HAVE BEEN DETERMINED FROM DATA RECORDED BY OTHERS AND THE BEST AVAILABLE RECORDS. FIELD DATA IS LIMITED TO THAT WHICH IS VISIBLE AND CAN BE MEASURED. THIS DOES NOT PRECLUDE THE EXISTENCE OF OTHER UNDERGROUND ITEMS. THE COMPLETENESS AND/OR ACCURACY OF THESE RECORDS CANNOT BE GUARANTEED, EXCEPT INSOFAR AS THEY CAN BE VERIFIED BY THE FIELD MEASUREMENT. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO UNCOVER AND VERIFY THE ACTUAL DEPTH AND CONDITION OF ALL AFFECTED UNDERGROUND UTILITIES WITHIN THE AREA OF CONSTRUCTION PRIOR TO BEGINNING THE ACTUAL WORK.
3. REFER TO GEOTECHNICAL REPORT FOR REQUIREMENTS REGARDING FILL COMPACTION AND MOISTURE CONTENT.
4. UNLESS NOTED, STORM DRAIN LINES MAY BE MADE OF THE FOLLOWING MATERIALS:
   A. PIPE SIZE SMALLER THAN 12 INCH SHALL BE PVC
   B. PIPE SIZE 12 INCH OR GREATER SHALL BE RCP.
   C. RCP SHALL BE C-76, CLASS III
5. ALL PIPE SHALL BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS.
6. UNLESS NOTED, CATCH BASINS, CURB INLETS AND HEADWALLS SHALL BE PRECAST, SIZED AS SHOWN.

Erosion Control Plan Notes:

1. THE CONTRACTOR SHALL COMPLY WITH FEDERAL, STATE AND LOCAL REGULATIONS REGARDING STORM WATER DISCHARGE AND EROSION & SEDIMENT CONTROL.
2. EROSION CONTROL MEASURES MUST BE IN PLACE BEFORE BEGINNING SOILS DISTURBING ACTIVITIES.
3. CONTRACTOR TO PROVIDE ADDITIONAL EROSION CONTROL AREAS ON SITE THAT MAY NEED TO BE DISTURBED FOR LAY DOWN AREA, STAGING, ETC...
4. REFER TO SHEET C14.00 & C15.01 FOR ADDITIONAL EROSION CONTROL INFORMATION, NOTES AND DETAILS.

Sheet List Table	
Sheet Number	Sheet Title
C0.01	GENERAL NOTES
C1.00	EXISTING CONDITIONS PLAN
C2.00	DEMOLITION PLAN
C3.00	SITE PLAN
C4.00	DIMENSIONAL CONTROL PLAN
C6.00	PAVING PLAN
C7.00	GRADING PLAN
C8.00	PRE-DEVELOPMENT DRAINAGE AREA MAP
C9.00	POST-DEVELOPMENT DRAINAGE AREA MAP
C10.00	OVERALL UTILITY PLAN
C10.01	UTILITY PROFILE
C14.00	EROSION CONTROL PLAN
C15.00	CIVIL DETAILS
C15.01	CIVIL DETAILS
C15.02	CIVIL DETAILS

CONTROL POINT
POINT 100
N: 13356639.051
E: 2767818.611
ELEV: 11.07
DESC: CP 3" IRW/ALUM CAP

POINT 101
N: 13355487.708
E: 2766775.034
ELEV: 10.60
DESC: CP 3" IRW/ALUM CAP

05.22.2026

STATE OF TEXAS
BRIANA C. CAMPBELL
105905
LICENSED
PROFESSIONAL ENGINEER

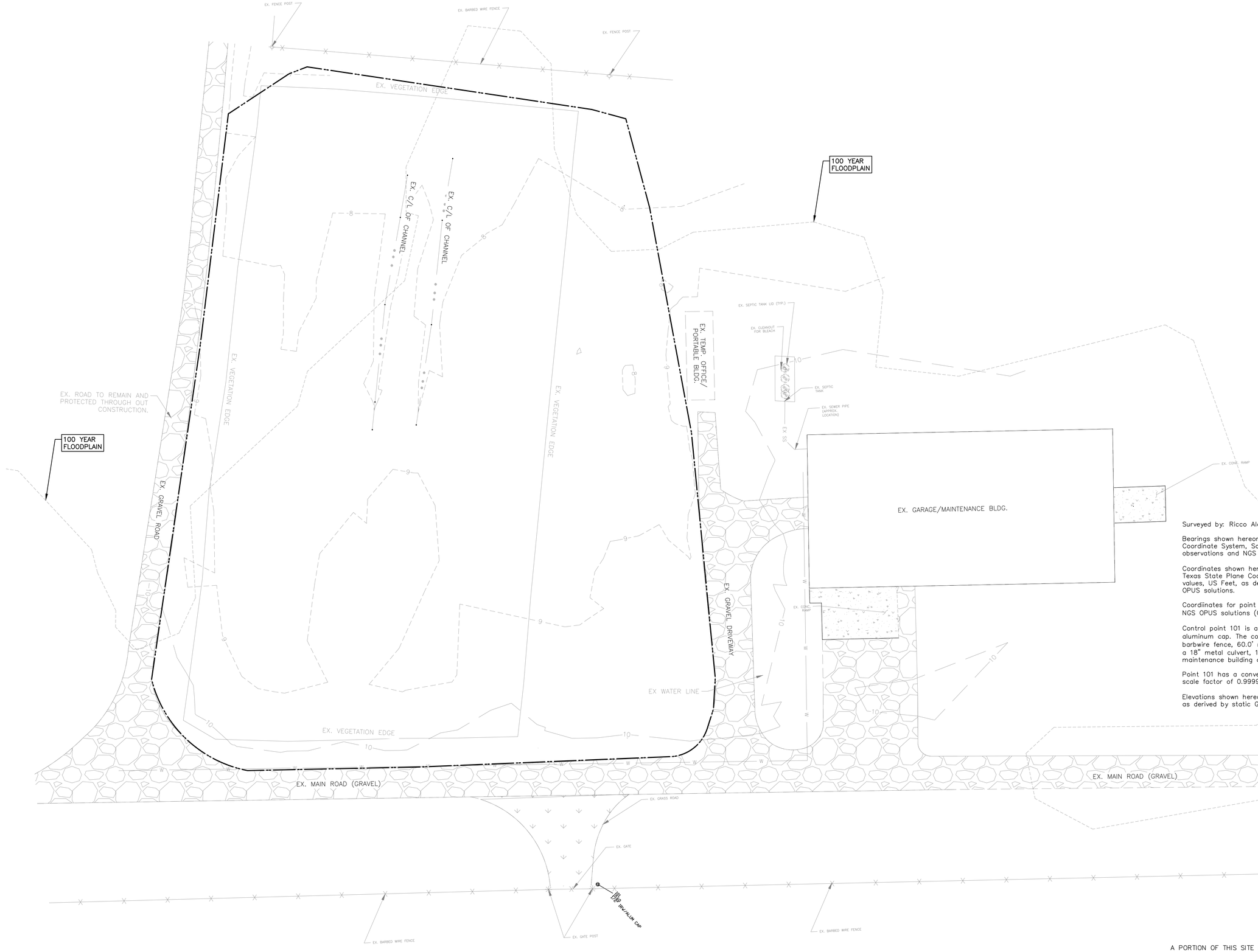
JQ-IMEG 100 GLASS STREET SUITE 202 DALLAS, TX 75207 P: 972.392.7340 TBPELS FIRM F-26651

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TEXAS PARKS & WILDLIFE

RICHTER ARCHITECTS

Powderhorn Wildlife Management Area
New Conservation Education Center
Project Number: #1210



GRAPHIC SCALE

0 20 40

(IN FEET)
1 inch = 20 ft.

Survey Legend

- LIMITS OF CONSTRUCTION/SITE LIMITS
- GRAVEL
- CONCRETE
- EXISTING GRASS ROAD
- EXISTING MINOR CONTOUR LINES
- EXISTING MAJOR CONTOUR LINES
- HW — EXISTING HOT WIRE FENCE
- X — EXISTING BARBED WIRE FENCE
- SS — EXISTING SANITARY SEWER LINE
- W — EXISTING WATER LINE (DOM.)

Surveyed by: Ricco Alaniz

Bearings shown hereon are based on the Texas State Plane Coordinate System, South Central Zone, as derived by GPS static observations and NGS OPUS solutions.

Coordinates shown hereon are NAD83 (2011)(EPOCH: 2010.0000), Texas State Plane Coordinate System South Central Zone, grid values, US Feet, as derived by static GPS observations and NGS OPUS solutions.

Coordiinates for point 101 were derived by static observations and NGS OPUS solutions (01-29-2019).

Control point 101 is a 1/2" rebar set 0.3' below grade with a TPWD aluminum cap. The control point is 2.7' northwesterly from a barbwire fence, 60.0' northeasterly from the southern most end of a 18" metal culvert, 167' southerly from the nearest TPWD maintenance building corner.

Point 101 has a convergence factor of 1.21706944 degrees, a point scale factor of 0.99998194, and a combined factor of 0.99998567.

Elevations shown hereon are NAVD 88 (computed using Geiod12B), as derived by static GPS observations and NGS OPUS solutions.

CONTROL POINT
POINT 100
N: 13356639.051
E: 2767818.611
ELEV: 11.07
DESC: CP 1/2" IRW/ALUM CAP

POINT 101
N: 13355487.708
E: 2766775.034
ELEV: 10.60
DESC: CP 1/2" IRW/ALUM CAP

05.22.2026

STATE OF TEXAS
BRIANA C. CAMPBELL
105905
LICENSED PROFESSIONAL ENGINEER

A PORTION OF THIS SITE IS LOCATED WITHIN THE FLOODPLAIN ZONE AE (11 FEET) PER FEMA PANEL 48057C0375J EFFECTIVE 10/16/2014. THE NEW BUILDING AND SITE FEATURES ARE LOCATED OUTSIDE OF ZONE AE.

JQ-IMEG
100 GLASS STREET
SUITE 202
DALLAS, TX 75207
P: 972.392.7340
TBPELS FIRM F-26651

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TEXAS PARKS & WILDLIFE

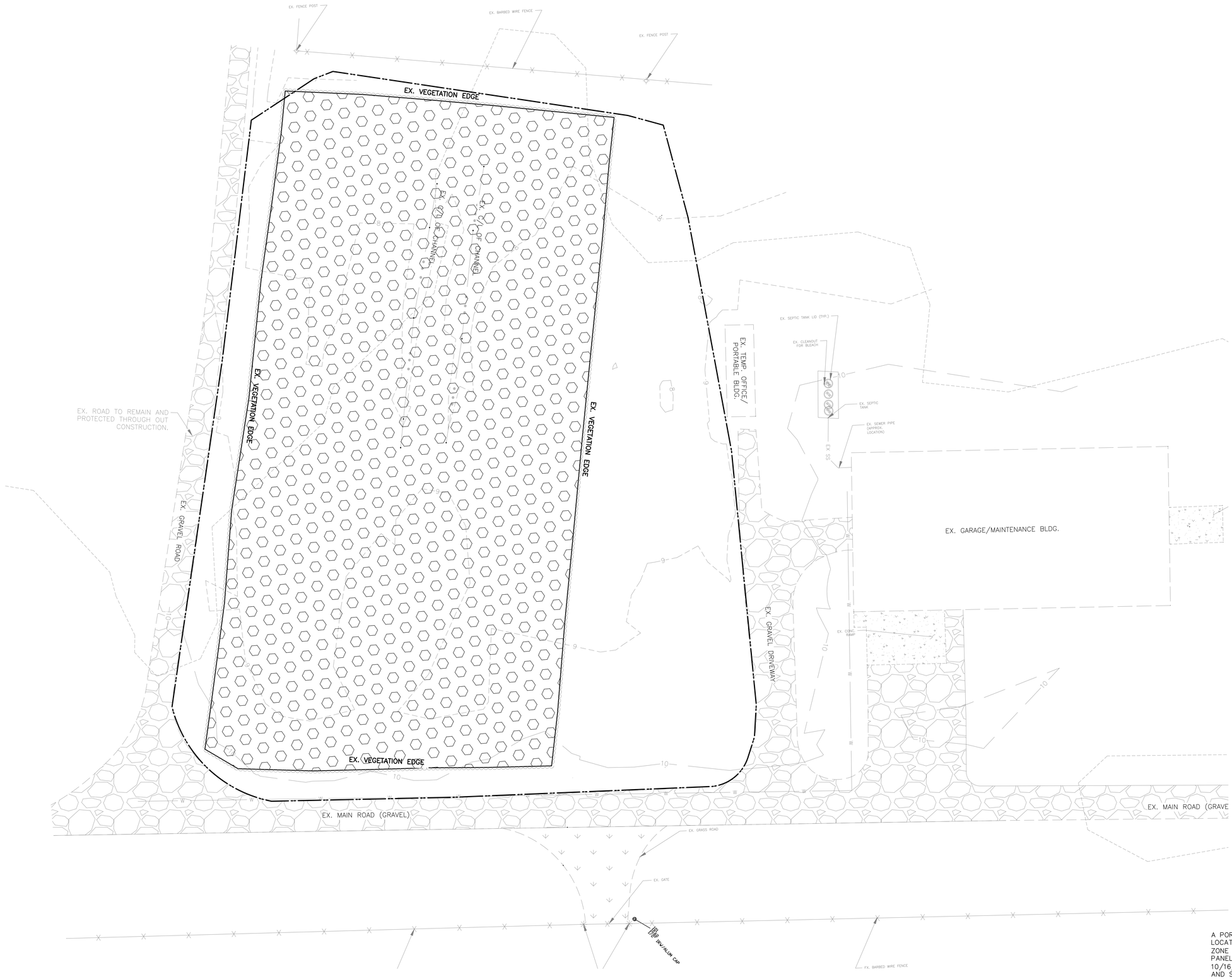
RICHTER ARCHITECTS

Powderhorn Wildlife Management Area
New Conservation Education Center
Project Number: #1210264

DATE: 05.22.2026
DESIGNED BY: PG
DRAWN BY: PG/RR
REVIEWED BY: BC
REVISED:

SHEET TITLE
EXISTING CONDITIONS PLAN

SHEET NUMBER
C1.00



GRAPHIC SCALE

0 20 40

(IN FEET)
1 inch = 20 ft.

Legend

- APPROXIMATE LIMITS OF VEGETATION REMOVAL.
- GRAVEL
- CONCRETE
- EXISTING GRASS ROAD
- EXISTING MINOR CONTOUR LINES
- EXISTING MAJOR CONTOUR LINES
- EXISTING BARBED WIRE FENCE
- EXISTING VEGETATION
- LIMITS OF CONSTRUCTION/SITE LIMITS
- SS — EXISTING SANITARY SEWER LINE
- W — EXISTING WATER LINE (DOM.)
- EXISTING TEE POST

Notes

1. ALL EXISTING TOPSOIL TO BE DISTURBED SHALL BE SCRAPED, STORED ON SITE AND RE-USED.

CONTROL POINT
POINT 100
N: 13356639.051
E: 2767818.611
ELEV: 11.07
DESC: CP ½" IRW/ALUM CAP

POINT 101
N: 13355487.708
E: 2766775.034
ELEV: 10.60
DESC: CP ½" IRW/ALUM CAP

05.22.2026

STATE OF TEXAS
BRIANA C. CAMPBELL
105935
LICENSED
PROFESSIONAL ENGINEER

A PORTION OF THIS SITE IS LOCATED WITHIN THE FLOODPLAIN ZONE AE (11 FEET) PER FEMA PANEL 48057C0375J EFFECTIVE 10/16/2014. THE NEW BUILDING AND SITE FEATURES ARE LOCATED OUTSIDE OF ZONE AE.

JQ-IMEG
100 GLASS STREET
SUITE 202
DALLAS, TX 75207
P: 972.392.7340
TBPELS FIRM F-26651

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TEXAS PARKS & WILDLIFE

RICHTER ARCHITECTS

Powderhorn Wildlife Management Area
New Conservation Education Center
Project Number: #1210264

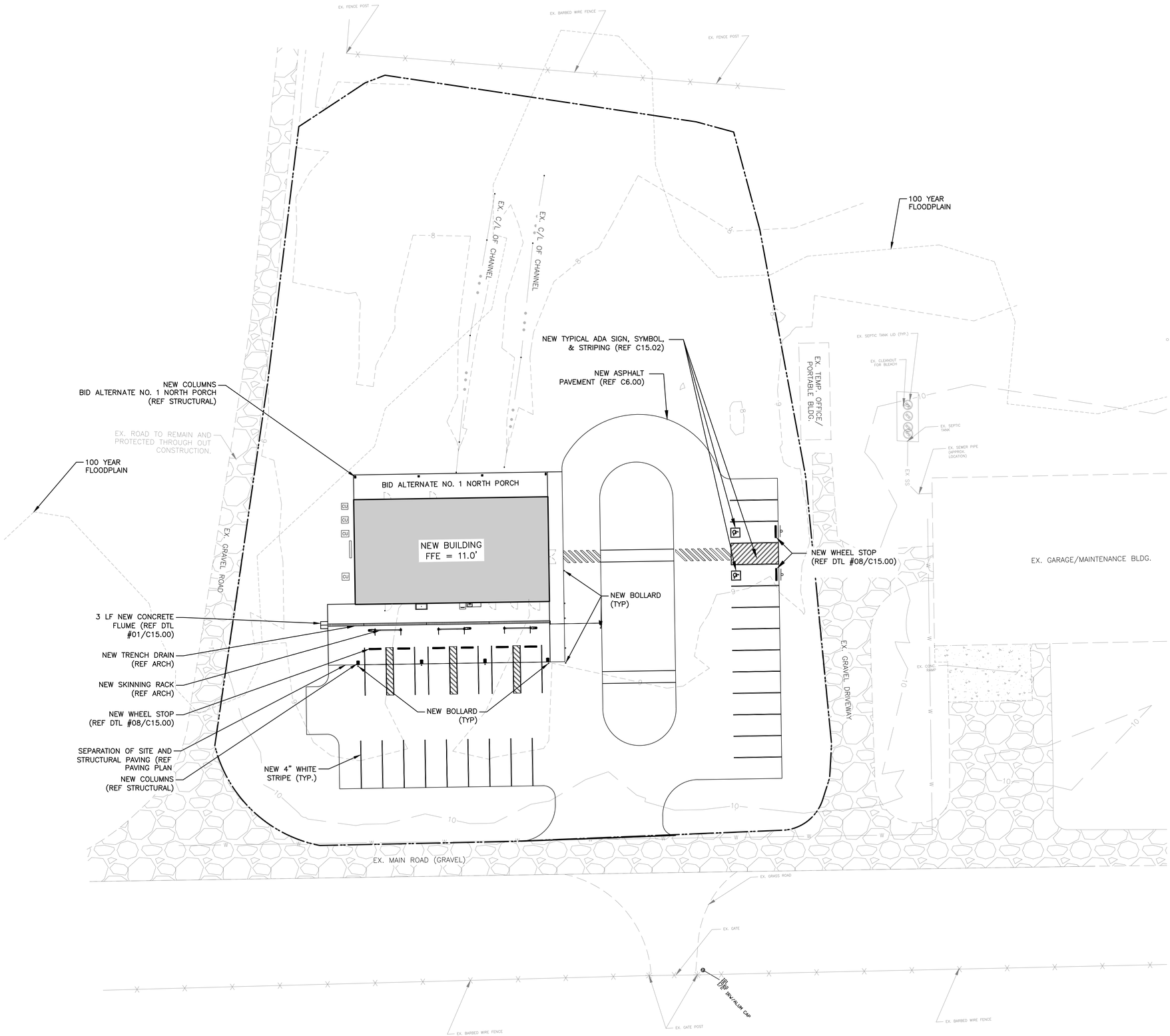
DATE: 05.22.2026
DESIGNED BY: PG
DRAWN BY: PG/RR
REVIEWED BY: BC
REVISED:

SHEET TITLE

DEMOLITION PLAN

SHEET NUMBER

C2.00



GRAPHIC SCALE

0 20 40

(IN FEET)
1 inch = 20 ft.

Legend

- PROPOSED BUILDING
- EXISTING GRAVEL
- EXISTING BARBED WIRE FENCE
- CONSTRUCTION LIMITS/SITE LIMITS
- EXISTING MINOR CONTOUR LINES
- EXISTING MAJOR CONTOUR LINES
- EXISTING CHANNEL
- EXISTING SANITARY SEWER LINE
- EXISTING WATER LINE (DOM.)
- EXISTING OR PROPOSED SIGN

CONTROL POINT
POINT 100
N: 13356639.051
E: 2767818.611
ELEV: 11.07
DESC: CP ½" IRW/ALUM CAP

POINT 101
N: 13355487.708
E: 2766775.034
ELEV: 10.60
DESC: CP ½" IRW/ALUM CAP

05.22.2026

STATE OF TEXAS
BRIANA C. CAMPBELL
105905
LICENSED PROFESSIONAL ENGINEER

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DALLAS, TX 75207
P: 972.392.7340
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RICHTER ARCHITECTS

Powderhorn Wildlife Management Area
New Conservation Education Center
Project Number: #1210264

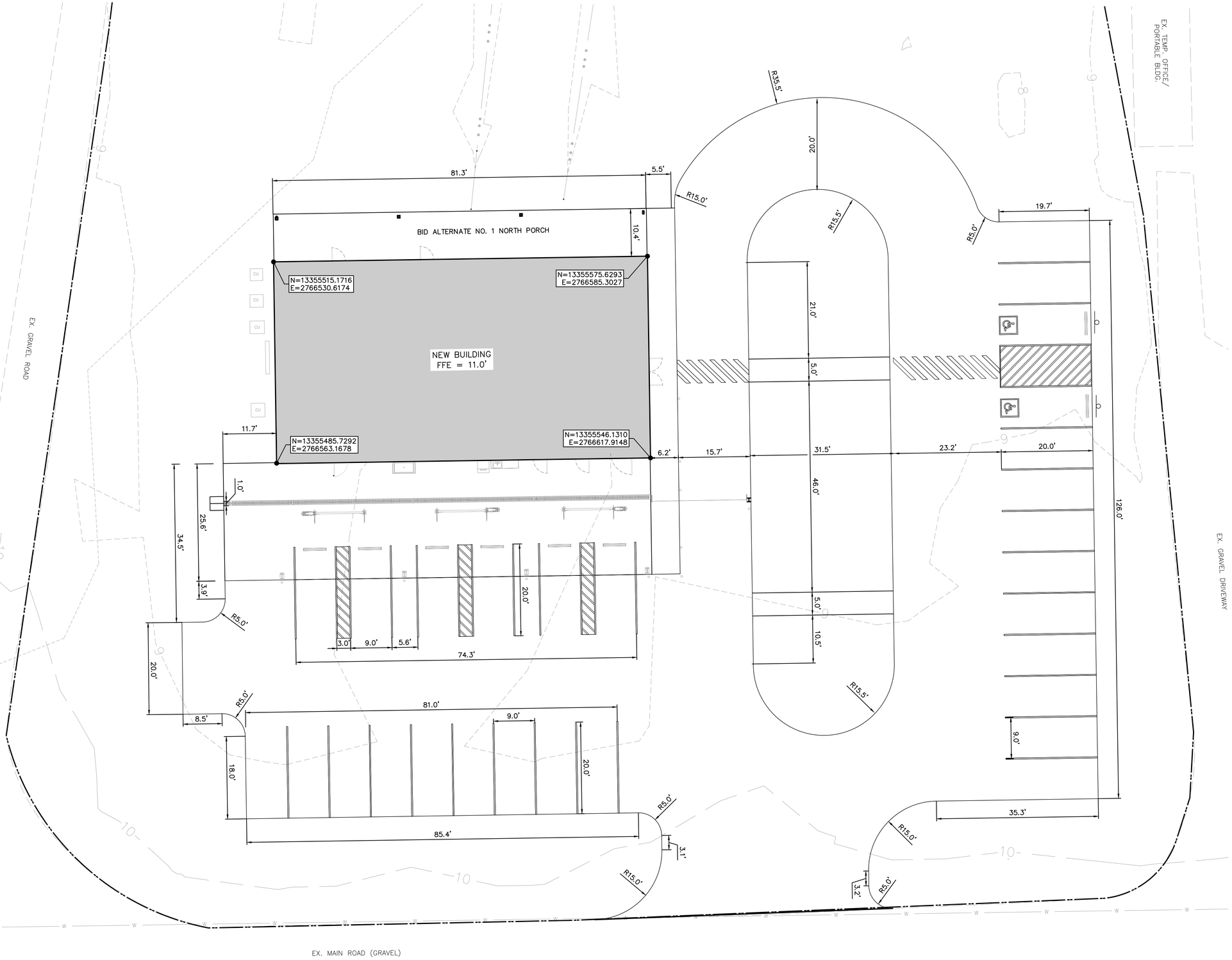
DATE: 05.22.2026
DESIGNED BY: PG
DRAWN BY: PG/RR
REVIEWED BY: BC
REVISED:

SHEET TITLE

SITE PLAN

SHEET NUMBER

C3.00



CONTROL POINT
POINT 100
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E: 2767818.611
ELEV: 11.07
DESC: CP ½" IRW/ALUM CAP

POINT 101
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E: 2766775.034
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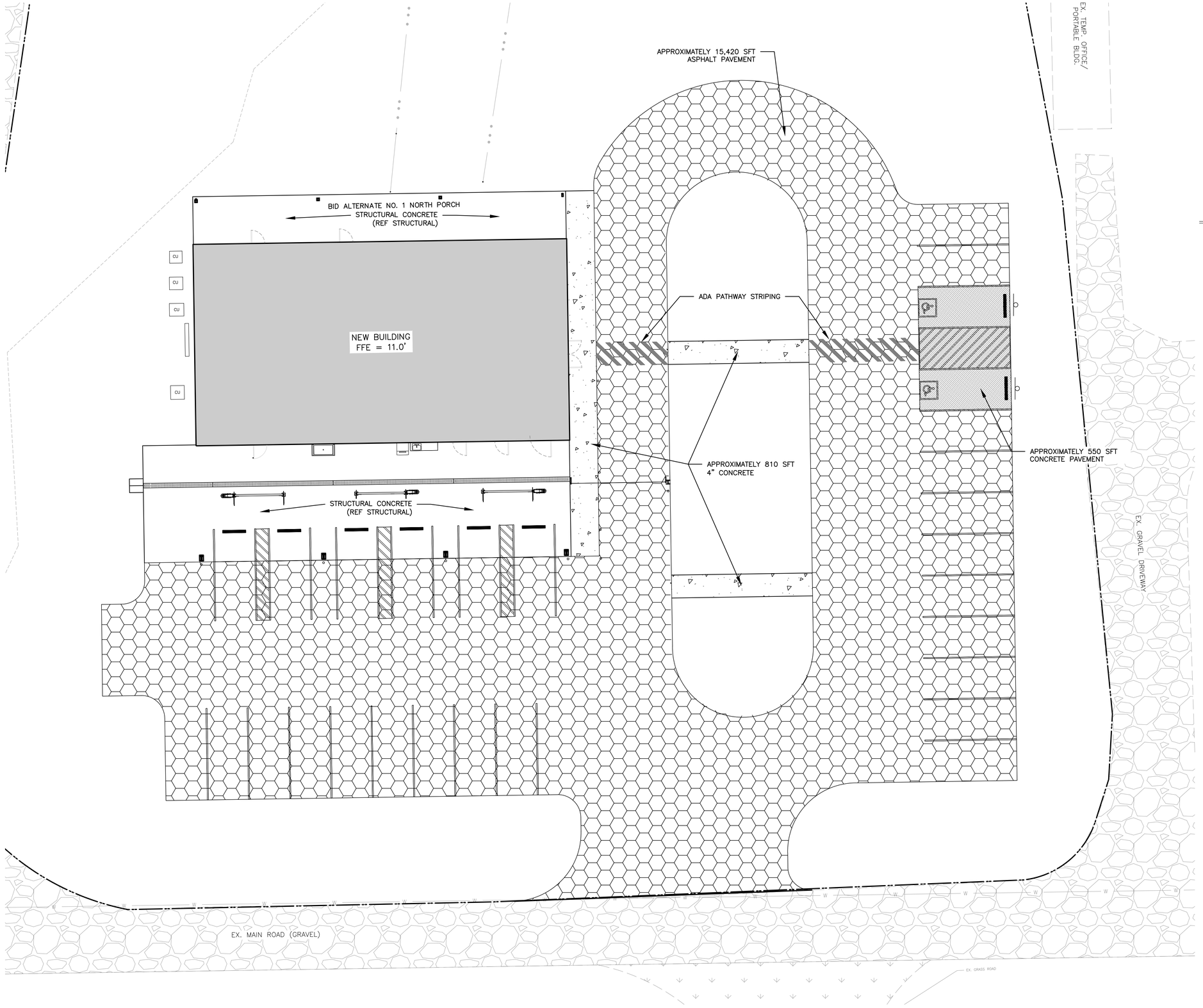
RICHTER ARCHITECTS

Powderhorn Wildlife Management Area
New Conservation Education Center
Project Number: #1210264

DATE: 05.22.2026
DESIGNED BY: PG
DRAWN BY: PG/RR
REVIEWED BY: BC
REVISED:

SHEET TITLE
DIMENSIONAL CONTROL PLAN

SHEET NUMBER
C4.00



GRAPHIC SCALE

0 10 20

(IN FEET)
1 inch = 10 ft.

Legend

- NEW 4" CONCRETE (SEE DETAIL 04/C15.00)
- NEW 5" REINFORCED PORTLAND CEMENT CONCRETE W/ 8" PROPERLY COMPACTED CEMENT STABILIZED SUBGRADE (SEE DETAIL 08/C15.00)
- NEW ASPHALT PAVEMENT (SEE DETAIL 03/C15.00)
- FULL DEPTH SAWCUT
- CONSTRUCTION LIMITS/SITE LIMITS
- ADA PATHWAY
- EXISTING GRAVEL

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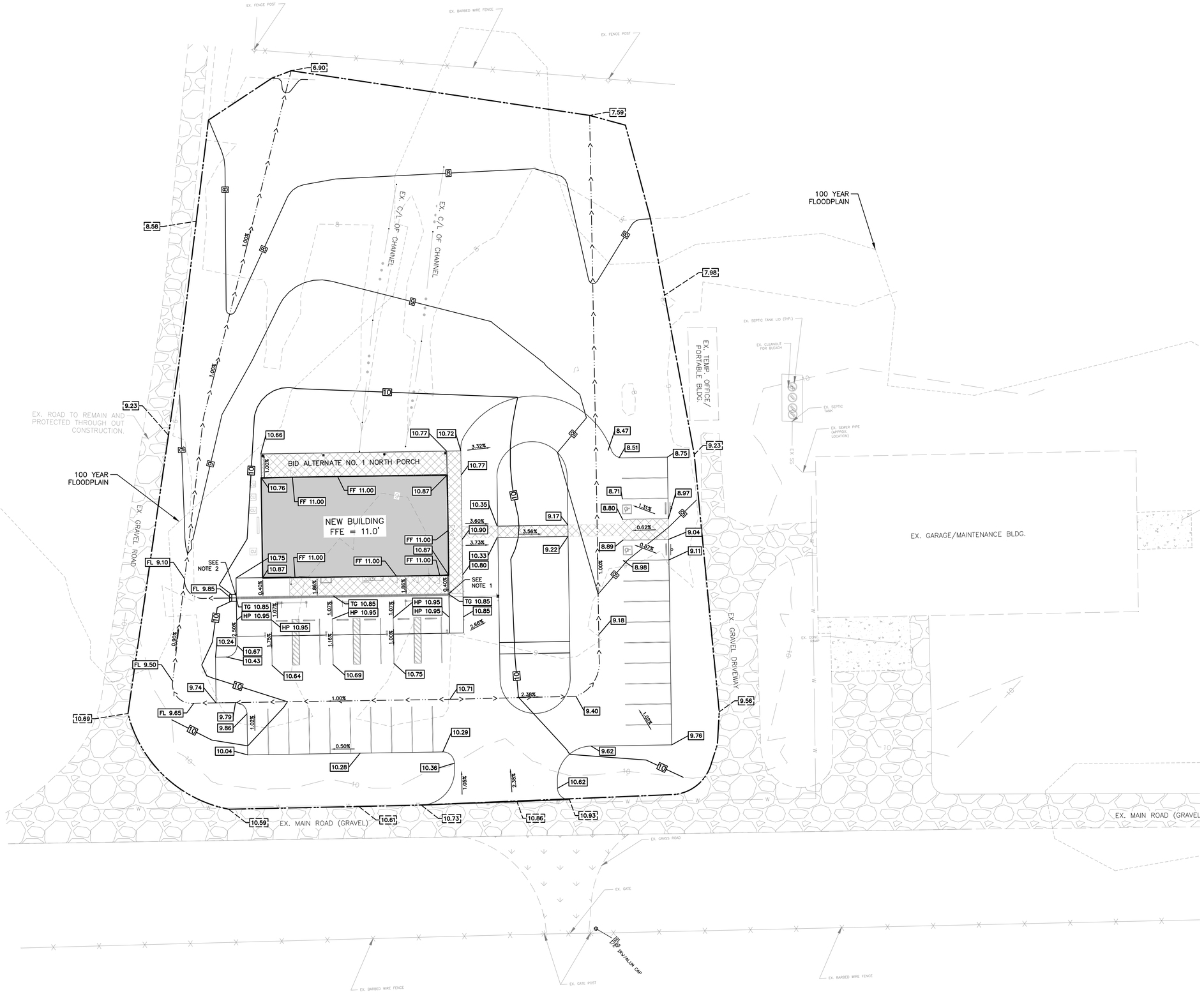
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New Conservation Education Center
Project Number: #1210264

DATE: 05.22.2026
DESIGNED BY: PG
DRAWN BY: PG/RR
REVIEWED BY: BC
REVISED:

SHEET TITLE
PAVING PLAN

SHEET NUMBER
C6.00



GRAPHIC SCALE

0 20 40

(IN FEET)
1 inch = 20 ft.

Legend

	MATCH EXISTING AT SAWCUT
	SWALE/LOW POINT FLOW DIRECTION
	LIMITS OF DISTURBANCE
478	EXISTING CONTOUR AND ELEVATION
478	PROPOSED CONTOUR AND ELEVATION
0.0%	% SLOPE/GRADE
	FLOW DIRECTION
	PROPOSED DRAINAGE SWALE
N: #### E: ####	LOCATION BY **STATE PLANE COORDINATES**
477.09 +	MATCH EXISTING ELEVATION
477.09 +	PROPOSED SPOT GRADE
	ADA PATHWAY
	EXISTING CHANNEL
TG	TOP OF GRATE
FL	CHANNEL/SWALE FLOWLINE
FF	FINISHED FLOOR ELEVATION
HP	HIGH POINT

Notes

1. BOTTOM OF TRENCH DRAIN IS 4" BELOW CONCRETE. BOTTOM OF TRENCH DRAIN SHALL SLOPE AT ONE PERCENT.
2. BOTTOM OF TRENCH DRAIN IS 12" BELOW CONCRETE.

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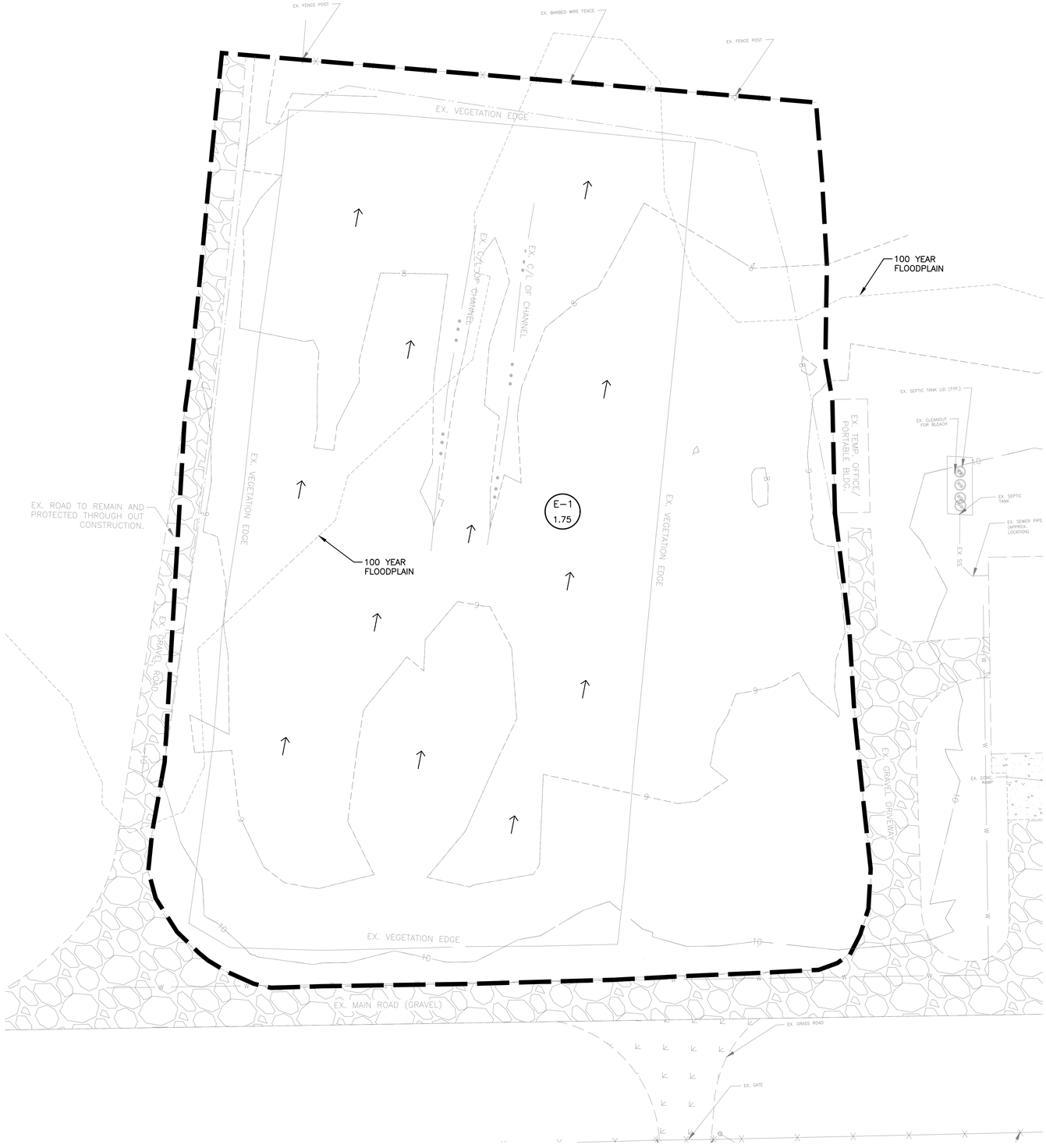
RICHTER ARCHITECTS

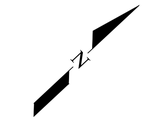
Powderhorn Wildlife Management Area
New Conservation Education Center
Project Number: #1210264

DATE: 05.22.2026
DESIGNED BY: PG
DRAWN BY: PG/RR
REVIEWED BY: BC
REVISED:

SHEET TITLE
GRADING PLAN

SHEET NUMBER
C7.00





Legend

- 478 — EXISTING CONTOUR AND ELEVATION
- DRAINAGE FLOW ARROWS
- X–X / X.XX — DRAINAGE AREA NO. / AREA (ACRES)
- DRAINAGE AREA BOUNDARY

PRE-DEVELOPMENT RUNOFF CALCULATIONS

Area No.	Area (AC)	C	Tc (min)	I5 (in/hr)	I10 (in/hr)	I25 (in/hr)	I100 (in/hr)	Q5 (CFS)	Q10 (CFS)	Q25 (CFS)	Q100 (CFS)
E-1	1.75	0.30	10	6.81	7.82	9.24	11.50	3.57	4.10	4.85	6.04

Weighted "C" Calculation

Area No.	Weighted Coefficients "C"	Pervious Area (SF)	Impervious Area (SF)	Total Area (SF)
E-1	0.30	76,204	0	76,204

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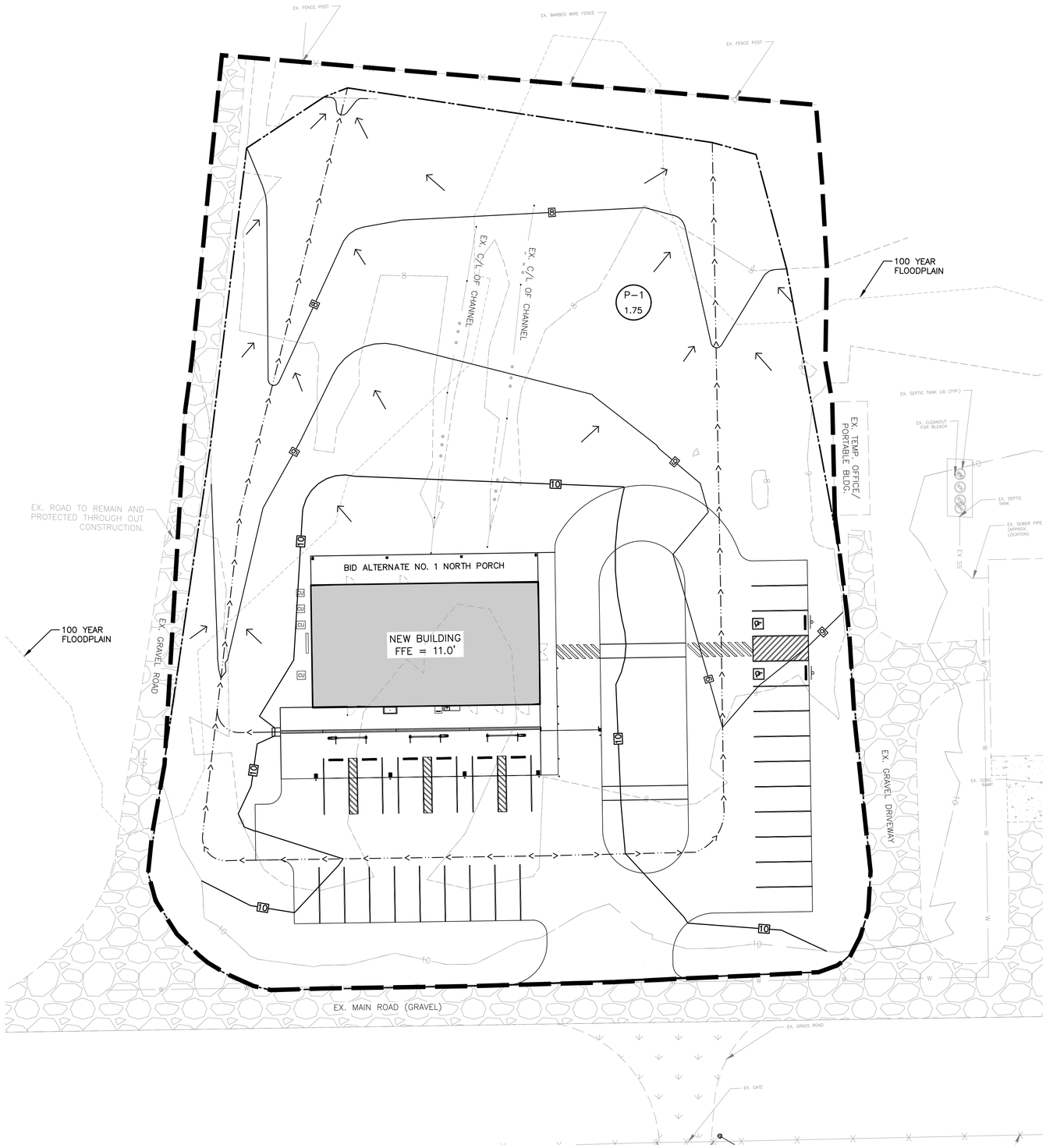
RICHTER ARCHITECTS

Powderhorn Wildlife Management Area
New Conservation Education Center
Project Number: #1210264

DATE: 05.22.2026
DESIGNED BY: PG
DRAWN BY: PG/RR
REVIEWED BY: BC
REVISED:

SHEET TITLE
PRE-DEVELOPMENT DRAINAGE AREA MAP

SHEET NUMBER
C8.00



GRAPHIC SCALE

0 20 40

(IN FEET)
1 inch = 20 ft.

POST-DEVELOPMENT RUNOFF CALCULATIONS

Area No.	Area (AC)	C	Tc (min)	I5 (in/hr)	I10 (in/hr)	I25 (in/hr)	I100 (in/hr)	Q5 (CFS)	Q10 (CFS)	Q25 (CFS)	Q100 (CFS)
P-1	1.75	0.50	10	6.81	7.82	9.24	11.5	6.02	6.91	8.16	10.16

Weighted "C" Calculation

Area No.	Weighted Coefficients "C"	Pervious Area (SF)	Impervious Area (SF)	Total Area (SF)
P-1 Post	0.50	50,186	26,018	76,204

Legend

- 478 — EXISTING CONTOUR AND ELEVATION
- 478 — PROPOSED CONTOUR AND ELEVATION
- → DRAINAGE FLOW ARROWS
- X-X / X.XX — DRAINAGE AREA NO. / AREA (ACRES)
- DRAINAGE AREA BOUNDARY

POST-DEVELOPED DRAINAGE STATEMENT:

EXISTING DRAINAGE PATTERNS ARE BEING MAINTAINED IN THE POST-DEVELOPED CONDITION. RUNOFF SHEETFLOWS NORTHERLY TOWARD POWDERHORN LAKE AND ITS ASSOCIATED TRIBUTARIES. THE STORMWATER DESIGN IMPLEMENTS LOW IMPACT DEVELOPMENT STRATEGIES SUCH AS DRAINAGE SWALES, AND OVERLAND FLOW, TO SHEET FLOW WHILE PROVIDING FILTRATION AND SEDIMENT CONTROL.

THE FINISH FLOOR ELEVATION OF THE BUILDING IS SET TO COMPLY WITH FLOODPLAIN MANAGEMENT REGULATIONS.

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RICHTER ARCHITECTS

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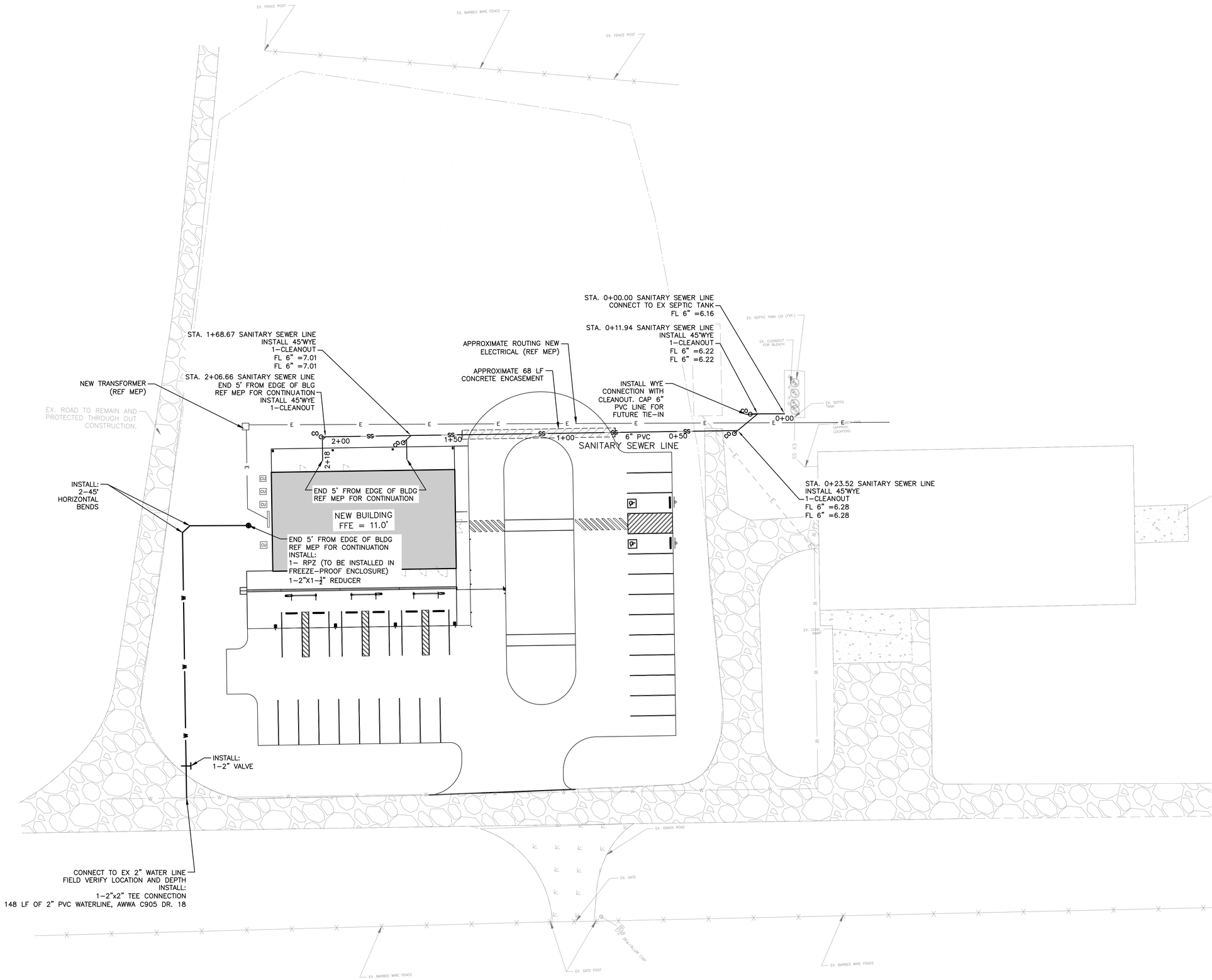
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REVISED:

SHEET TITLE

POST-DEVELOPMENT DRAINAGE AREA MAP

SHEET NUMBER

C9.00



GRAPHIC SCALE

0 10 20

(IN FEET)
1 inch = 10 ft.

Legend

- SS — EXISTING SANITARY SEWER LINE
- W — EXISTING WATER LINE (DOM.)
- 8" W — PROP. WATER LINE
- PROP. WATER VALVE
- PROP. FIRE HYDRANT
- 8" SS — PROP. SANITARY SEWER LINE
- PROP. SANITARY MANHOLE
- PROP. SANITARY CLEANOUT
- 8" SD — PROP. STORM SEWER LINE
- PROP. JUNCTION BOX OR MANHOLE
- O/H — OVERHEAD ELECTRIC LINE
- EXISTING / PROPOSED POWER POLE
- PROPOSED WASTE WATER LINE

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TEXAS PARKS & WILDLIFE

RICHTER ARCHITECTS

Powderhorn Wildlife Management Area
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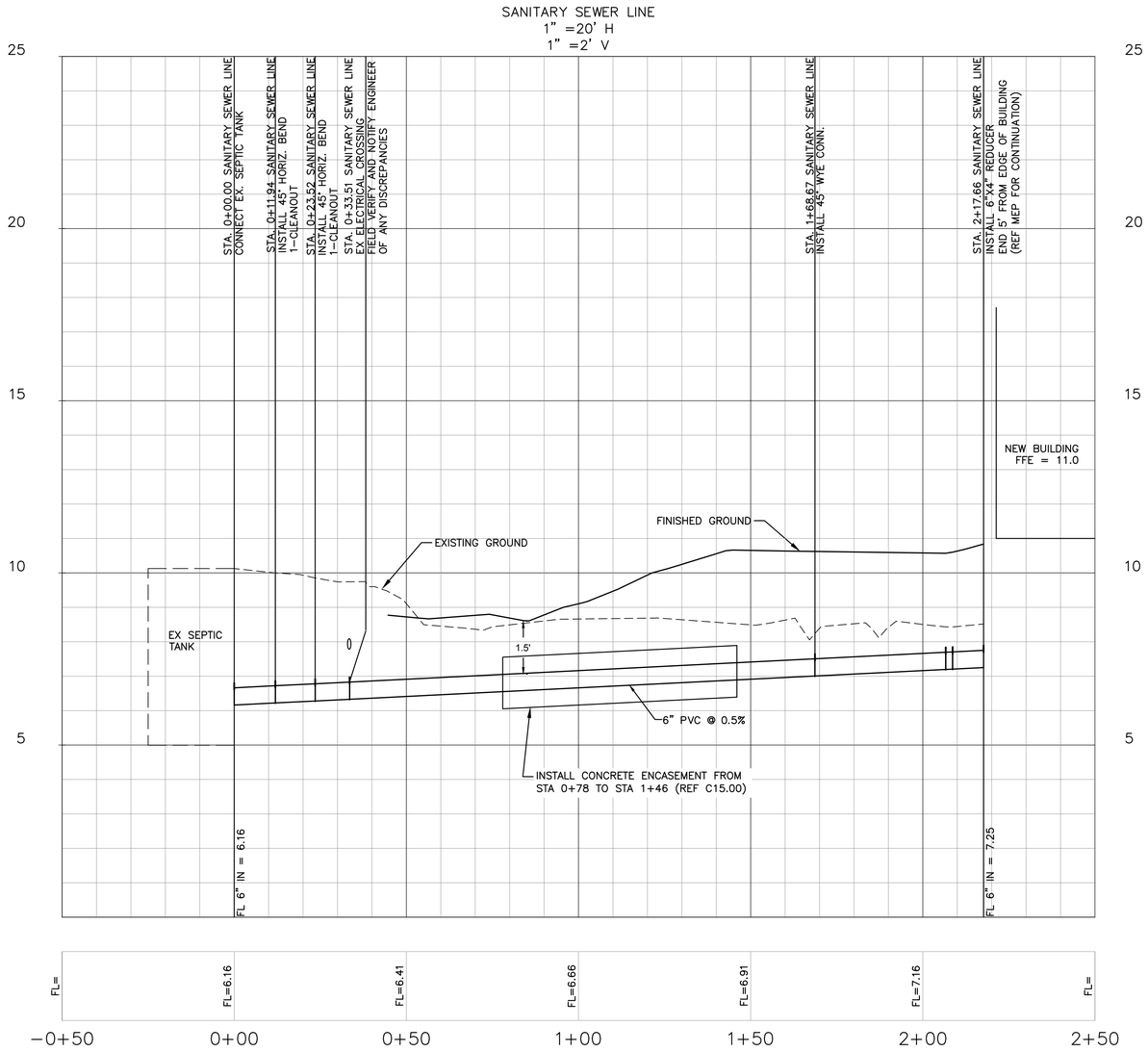
SHEET TITLE

OVERALL
UTILITY PLAN

SHEET NUMBER

C10.00

SANITARY SEWER LINE
1" =20' H
1" =2' V



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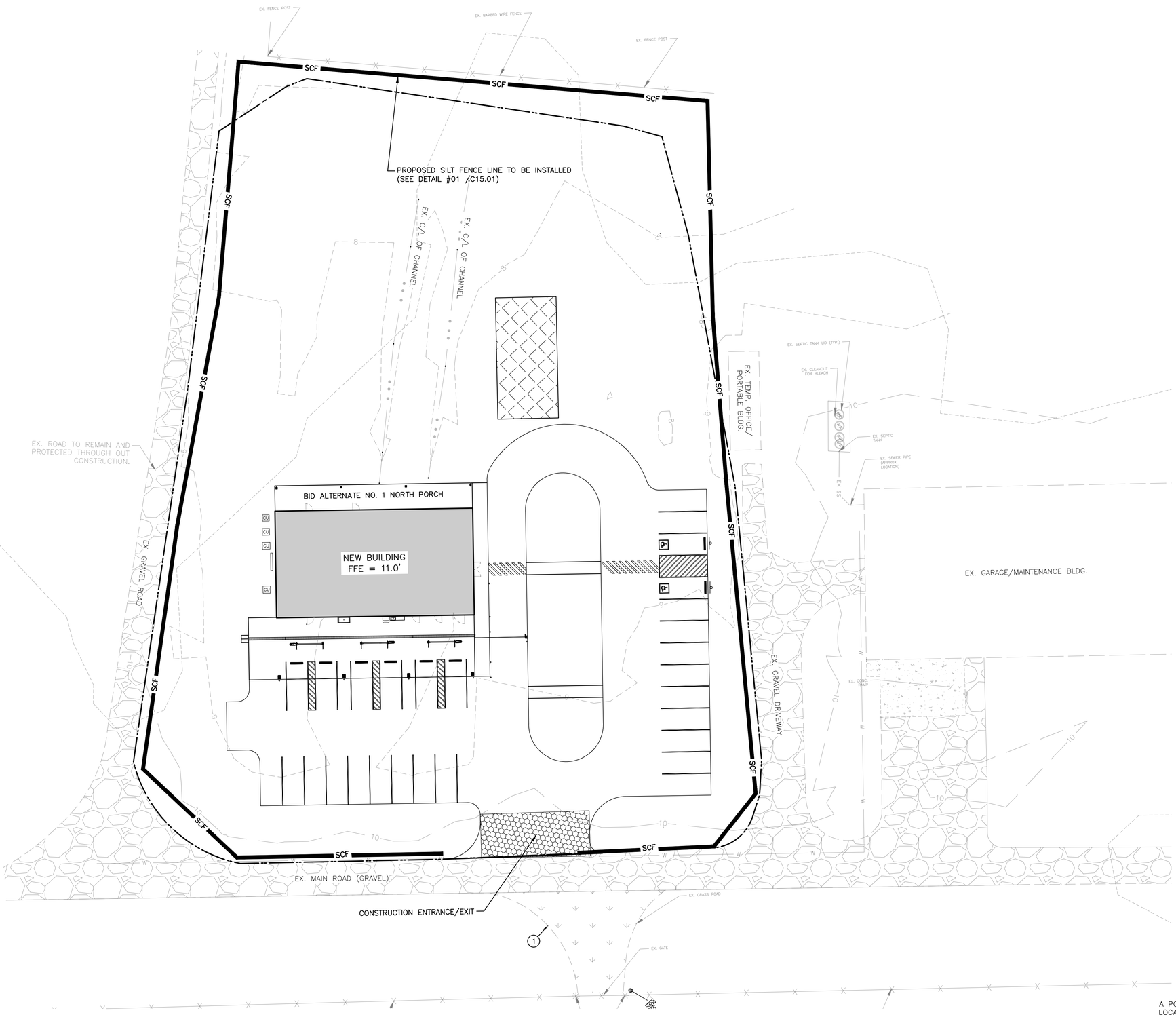
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DESIGNED BY: PG
DRAWN BY: PG/RR
REVIEWED BY: BC
REVISED:

SHEET TITLE
UTILITY PROFILE

SHEET NUMBER
C10.01



GRAPHIC SCALE

0 20 40

(IN FEET)
1 inch = 20 ft.

Legend

- 478 — EXISTING CONTOUR AND ELEVATION
- CONSTRUCTION ENTRANCE **(SEE DETAIL 02/C15.01)**
- TRUCK WASHDOWN AREA **(SEE DETAIL 03/C15.01)**
- SCF — SILT FENCE **(SEE DETAIL 01/C15.01)**

Keynotes

1. THE CONTRACTOR SHALL NOT DAMAGE ANY FENCES, DRIVES, PAVEMENT, UTILITIES OR OTHER EXISTING FACILITIES INTENDED TO REMAIN. DAMAGE TO ADJOINING PROPERTY OUTSIDE THE LIMITS OF DISTURBANCE OR OTHER ITEMS INTENDED TO REMAIN SHALL BE REPAIRED OR REPLACED AT THE EXPENSE OF THE CONTRACTOR.

CONTROL POINT
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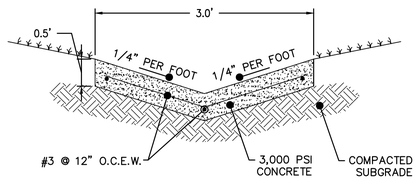
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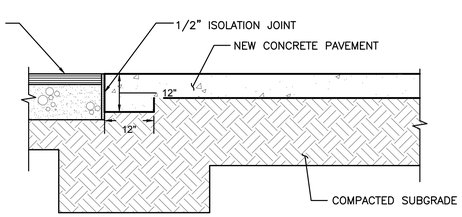
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REVIEWED BY: BC
REVISED:

SHEET TITLE
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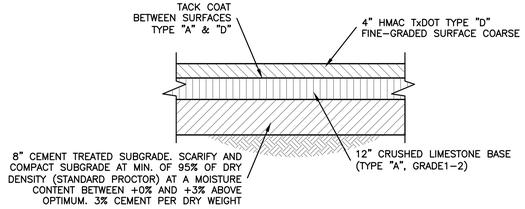
SHEET NUMBER
C14.00



01 CONCRETE FLUME
N.T.S.

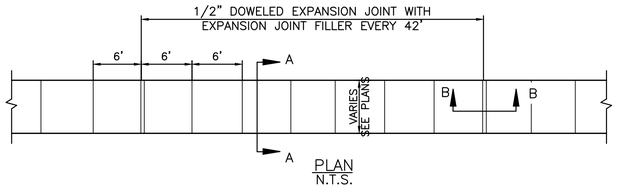


02 PAVEMENT JUNCTION DETAIL CONCRETE TO ASPHALT
N.T.S.

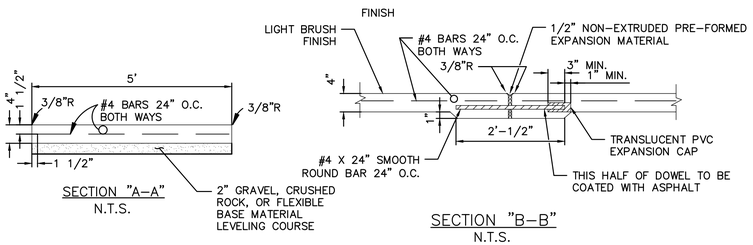


03 ASPHALT PAVEMENT SECTION
N.T.S.

NOTE:
1. HMAC, TYPE D SHOULD CONFORM TO ITEM 340, "DENSE-GRADED HOT-MIX ASPHALT" OF THE TxDOT 2004 STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MAINTENANCE OF HIGHWAYS, STREETS AND BRIDGES. THE HMAC SHOULD PROVIDE A MINIMUM TENSILE STRENGTH (DRY) OF 85 TO 200 PSI WHEN TESTED IN ACCORDANCE WITH TxDOT TEST METHOD TEX-226-F, AND SHOULD BE COMPACTED AT 96% OF THE THEORETICAL DENSITY AS DETERMINED FROM THE ASPHALTIC MIXTURE DESIGN PREPARED IN ACCORDANCE WITH TxDOT TEST METHOD TEX-207-F "DETERMINING DENSITY OF COMPACTED BITUMINOUS MIXTURES". IN PLACE DENSITY SHOULD MEET TxDOT ITEM 340.4 REQUIREMENTS.
2. CRUSHED LIMESTONE BASE SHOULD CONFORM TO TxDOT, ITEM NO. 247 "FLEXIBLE BASE", TYPE A, GRADE 1-2 AND SHOULD BE COMPACTED TO 100% OF THE MAXIMUM DRY DENSITY DETERMINED BY TxDOT TEST METHOD TEX-113-E WITHIN -2 TO +2% OF OPTIMUM MOISTURE CONTENT.
3. CEMENT STABILIZATION SHALL BE IN CONFORMANCE WITH TxDOT ITEM 275 "CEMENT TREATMENT (ROAD-MIXED)". THE APPROPRIATE QUANTITY OF CEMENT REQUIRED SHOULD BE DETERMINED AFTER THE ROADWAY ALIGNMENT IS STRIPPED AND SUBGRADE SOILS ARE EXPOSED BY USE OF A LABORATORY SOIL TREATABILITY STUDY IN ACCORDANCE WITH TEX-120-E "CEMENT TREATED MATERIALS" BUT NO LESS THAN 3% CEMENT BY DRY WEIGHT SHOULD BE USED. CEMENT SHOULD MEET THE REQUIREMENTS OF DMS-4600, "HYDRAULIC CEMENT" AND TxDOT'S "HYDRAULIC CEMENT QUALITY MONITORING PROGRAM (HCQMP)". THE CEMENT STABILIZED SUBGRADE SHOULD BE COMPACTED TO A MINIMUM 95% OF THE MAXIMUM DRY DENSITY AS DETERMINED BY STANDARD PROCTOR (ASTM D 698) AT A MOISTURE CONTENT WITHIN THE RANGE OF 0 TO +3% ABOVE OPTIMUM.
4. SUBGRADE TREATMENT SHALL EXTEND 2' BEYOND THE EDGE OF PAVEMENT.



PLAN
N.T.S.

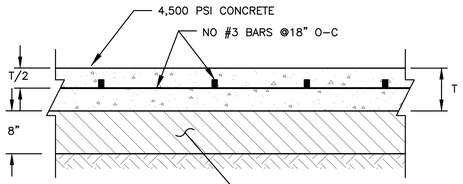


SECTION "A-A"
N.T.S.

SECTION "B-B"
N.T.S.

NOTE:
1. CROSS SLOPE OF SIDEWALK SHALL BE 1:50 MAXIMUM.
2. SEE PLANS FOR WIDTH.
3. SIDEWALK SHALL BE 4" 3000 PSI CONCRETE UNLESS OTHERWISE SPECIFIED BY OWNER.
4. ALL HONEYCOMB IN BACK OF CURB TO BE TROWEL-PLASTERED BEFORE POURING SIDEWALK.
5. LUG MAY BE FORMED BY SHAPING SUBGRADE TO APPROXIMATE DIMENSIONS SHOWN.
6. DOWEL INTO EXISTING SIDEWALK WITH NO.4 X 24" ON CENTER.
7. REFERENCE LANDSCAPE DRAWINGS FOR ADDITIONAL INFORMATION.
8. SIDEWALKS LESS THAN 5 FEET IN WIDTH SHALL BE PROVIDED WITH A PASSING SPACE AT A MAXIMUM SPACING OF 200 FEET.
9. ALL JOINTS TO BE SEALED.

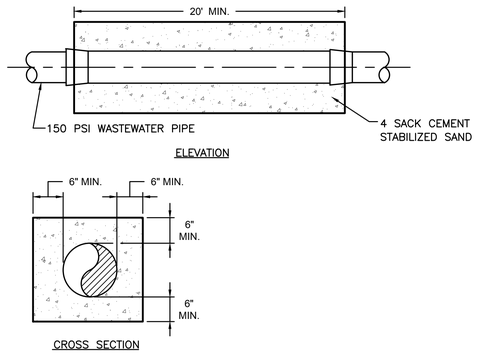
04 REINFORCED CONCRETE SIDEWALK
N.T.S.



T= 5"

NOTE:
1. SUBGRADE TREATMENT SHALL EXTEND 2' BEYOND THE EDGE OF PAVEMENT.

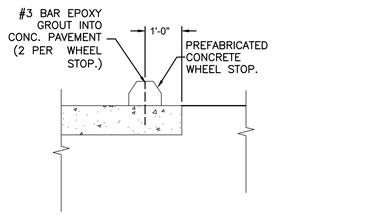
08 CONCRETE PAVEMENT SECTION
N.T.S.



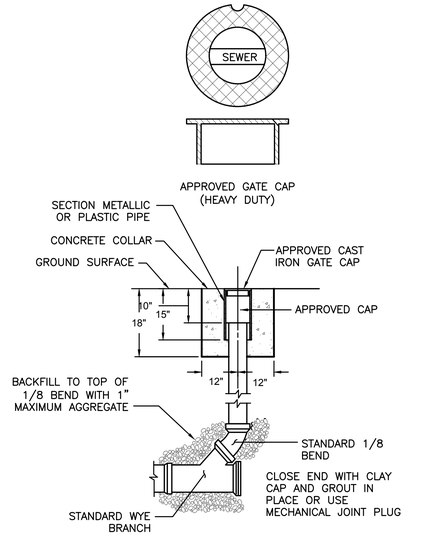
ELEVATION

CROSS SECTION

05 WASTEWATER ENCASEMENT DETAIL
N.T.S.



06 WHEEL STOP DETAIL
N.T.S.



07 TYPICAL CLEANOUT DETAIL
N.T.S.

PVC SANITARY SEWER
BEDDING MATERIAL
BEDDING MATERIAL SHALL BE COMPOSED OF SAND MEETING THE REQUIREMENTS OF ASTM C33.

INITIAL BACKFILL
INITIAL BACKFILL SHALL CONSIST OF SAND WHICH CONFORMS TO THE REQUIREMENTS FOR BEDDING MATERIAL.

SECONDARY BACKFILL
SECONDARY BACKFILL SHALL CONSIST OF MATERIAL REMOVED FROM THE TRENCH AND SHALL BE FREE OF BRUSH, DEBRIS AND TRASH. NO ROCK OR STONES HAVING ANY DIMENSION LARGER THAN SIX INCHES (6") AT THE LARGEST DIMENSION SHALL BE USED IN THE SECONDARY BACKFILLING ZONE. SECONDARY BACKFILL SHALL BE PRIMARILY COMPOSED OF COMPACTIBLE SOIL MATERIALS.

PVC WATER
BEDDING MATERIAL
BEDDING MATERIAL SHALL BE COMPOSED OF SAND WHICH CONFORMS TO THE REQUIREMENTS OF ASTM C33.

INITIAL BACKFILL
INITIAL BACKFILL SHALL CONSIST OF SAND WHICH CONFORMS TO THE REQUIREMENTS FOR BEDDING MATERIAL.

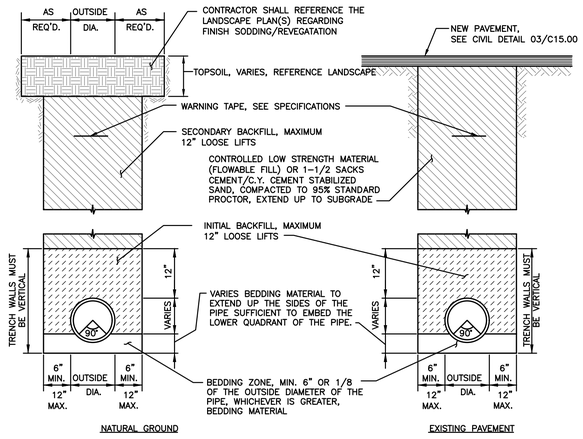
SECONDARY BACKFILL
SECONDARY BACKFILL SHALL CONSIST OF MATERIAL REMOVED FROM THE TRENCH AND SHALL BE FREE OF BRUSH, DEBRIS AND TRASH. NO ROCK OR STONES HAVING ANY DIMENSION LARGER THAN SIX INCHES (6") AT THE LARGEST DIMENSION SHALL BE USED IN THE SECONDARY BACKFILLING ZONE. SECONDARY BACKFILL SHALL BE PRIMARILY COMPOSED OF COMPACTIBLE SOIL MATERIALS.

RCP STORM SEWER
BEDDING MATERIAL
BEDDING MATERIAL SHALL BE COMPOSED OF CRUSHED STONE OR CRUSHED GRAVEL.

INITIAL BACKFILL
INITIAL BACKFILL SHALL CONSIST OF CRUSHED STONE OR CRUSHED GRAVEL.

SECONDARY BACKFILL
SECONDARY BACKFILL SHALL CONSIST OF MATERIAL REMOVED FROM THE TRENCH AND SHALL BE FREE OF BRUSH, DEBRIS AND TRASH. NO ROCK OR STONES HAVING ANY DIMENSION LARGER THAN SIX INCHES (6") AT THE LARGEST DIMENSION SHALL BE USED IN THE SECONDARY BACKFILLING ZONE. SECONDARY BACKFILL SHALL BE PRIMARILY COMPOSED OF COMPACTIBLE SOIL MATERIALS.

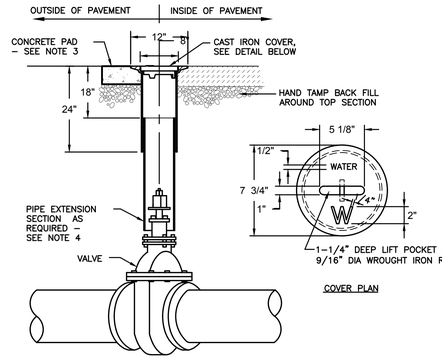
PVC STORM SEWER
BEDDING AND BACK FILL TO CONFORM TO PVC SANITARY SEWER AND WATER REQUIREMENTS



NATURAL GROUND

EXISTING PAVEMENT

09 TYPICAL TRENCH BACKFILL DETAIL
N.T.S.



COVER PLAN

NOTES:
1. VALVE TYPE, SIZE AND ENDS AS SPECIFIED OR SHOWN ON PLANS.
2. ALL VALVES THAT ARE 2-INCH AND LARGER SHALL HAVE AN OPERATING NUT.
3. WHEN USED IN NON-PAVED AREAS, PROVIDE AN 18-INCH SQUARE OR 24-INCH DIAMETER ROUND BY 4-INCH THICK PORTLAND CEMENT CONCRETE PAD.
4. FOR PIPE EXTENSION SECTION: USE A 6-INCH O.D. 12 GAUGE STEEL OR 6-INCH AWWA C900 PVC PIPE IN ONE-PIECE CONSTRUCTION WITH NO LONGITUDINAL CUTS.
5. THE CAST IRON COVER IS TO HAVE WATER OR W CAST WITH RAISED LETTERING INTO TOP SURFACE.
6. ALL VALVE OPERATORS ARE TO EITHER BE WITHIN 18 INCHES OF THE FINAL GRADE OR EXTENDED TO WITHIN 18 INCHES OF FINAL GRADE.
7. FOR 18-INCHES OF VALVE BOX, FLANGED UPPER SECTION OF VALVE BOX AND COVER, USE OLYMPIC FOUNDRY VB 910.

10 TYPICAL WATER VALVE SETTING AND BOX
N.T.S.

05.22.2026

STATE OF TEXAS
BRIANA C. CAMPBELL
105905
PROFESSIONAL LICENSED LANDSCAPE ARCHITECT

JQ-IMEG
100 GLASS STREET
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DALLAS, TX 75207
P: 972.392.7340
TBPELS FIRM F-26651

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TEXAS PARKS & WILDLIFE

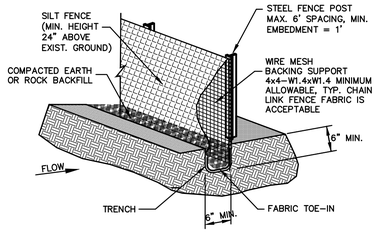
RICHTER ARCHITECTS

Powderhorn Wildlife Management Area
New Conservation Education Center
Project Number: #1210264

DATE: 05.22.2026
DESIGNED BY: PG
DRAWN BY: PG/RR
REVIEWED BY: BC
REVISED:

SHEET TITLE
CIVIL DETAILS

SHEET NUMBER
C15.00

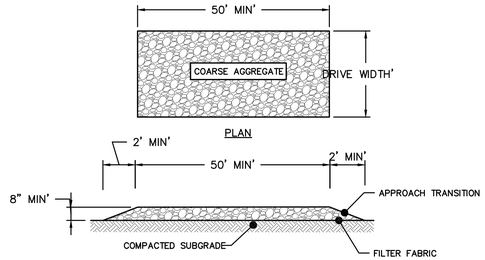


ISOMETRIC PLAN VIEW

SILT FENCE GENERAL NOTES

1. STEEL POSTS WHICH SUPPORT THE SILT FENCE SHALL BE INSTALLED ON A SLIGHT ANGLE TOWARD THE ANTICIPATED RUNOFF SOURCE. POST MUST BE EMBEDDED A MINIMUM OF ONE FOOT.
2. THE TOE OF THE SILT FENCE SHALL BE TRENCHED IN WITH A SPADE OR MECHANICAL TRENCHER, SO THAT THE DOWNSLOPE FACE OF THE TRENCH IS FLAT AND PERPENDICULAR TO THE LINE OF FLOW. WHERE FENCE CANNOT BE TRENCHED IN (e.g. PAVEMENT), WEIGHT FABRIC FLAP WITH ROCK ON UPHILL SIDE TO PREVENT FLOW FROM SEEPING UNDER FENCE.
3. THE TRENCH MUST BE A MINIMUM OF 6 INCHES DEEP AND 6 INCHES WIDE TO ALLOW FOR THE SILT FENCE FABRIC TO BE LAID IN THE GROUND AND BACKFILLED WITH COMPACTED MATERIAL.
4. SILT FENCE SHOULD BE SECURELY FASTENED TO EACH STEEL SUPPORT POST OR TO WOVEN WIRE, WHICH IN TURN IS ATTACHED TO THE STEEL FENCE POST. THERE SHALL BE A 3 FOOT OVERLAP, SECURELY FASTENED WHERE ENDS OF FABRIC MEET.
5. INSPECTION SHALL BE MADE EVERY TWO WEEKS AND AFTER EACH 1/2" RAINFALL. REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.
6. SILT FENCE SHALL BE REMOVED WHEN THE SITE IS COMPLETELY STABILIZED SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.
7. ACCUMULATED SILT SHALL BE REMOVED WHEN IT REACHES A DEPTH OF HALF THE HEIGHT OF THE FENCE. THE SILT SHALL BE DISPOSED OF AT AN APPROVED SITE AND IN SUCH A MANNER AS TO NOT CONTRIBUTE TO ADDITIONAL SILTATION.

01 SILT FENCE INSTALLATION
N.T.S.

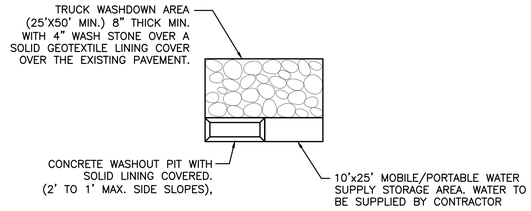


PROFILE

CONSTRUCTION ENTRANCE NOTES

1. UNTIL PERMANENT PAVEMENT HAS BEEN PLACED WITHIN DESIGNATED CONSTRUCTION ENTRANCE AREA, CONTRACTOR SHALL PROVIDE AGGREGATE BASE AS PER THIS DRAWING.
2. STONE SIZE: 3" TO 5" OPEN GRADED ROCK; LENGTH: AS EFFECTIVE BUT NOT LESS THAN 50 FEET IN LENGTH.
3. FILTER FABRIC INSTALLED PRIOR TO INSTALLATION OF ROCK, ON TOP OF EXISTING SOIL OR COMPACTED BASE MATERIAL.
4. WASHING: WHEN NECESSARY, VEHICLE WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO A PUBLIC ROADWAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE AND DRAINS INTO AN APPROVED TRAP OR SEDIMENT BASIN. ALL SEDIMENT SHALL BE PREVENTED FROM ENTERING ANY STORM DRAIN, DITCH, WATERCOURSE OR ROADWAY USING APPROVED METHODS.
5. MAINTENANCE: THE EXIT SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO A PUBLIC ROADWAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND, AS WELL AS REPAIR AND CLEAN OUT OF ANY MEASURE DEVICES USED TO TRAP SEDIMENT. ALL SEDIMENT THAT IS SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC ROADWAY MUST BE REMOVED IMMEDIATELY.
6. DRAINAGE: EXIT MUST BE PROPERLY GRADED OR INCORPORATE A DRAINAGE SWALE TO PREVENT RUNOFF FROM LEAVING THE CONSTRUCTION SITE.
7. LOCATION OF SEDIMENT BASIN TO BE DETERMINED BY SLOPE OF AREA WHERE STABILIZED EXIT IS LOCATED. TO BE INSTALLED DOWNSTREAM OF STABILIZED CONSTRUCTION ENTRANCE.

02 CONSTRUCTION ENTRANCE
N.T.S.



03 TRUCK WASHDOWN AREA DETAIL
N.T.S.

TEXAS PARKS & WILDLIFE

RICHTER ARCHITECTS

Powderhorn Wildlife Management Area
New Conservation Education Center
Project Number: #1210264

CONTROL POINT
POINT 100
N: 13356639.051
E: 2767818.611
ELEV: 11.07
DESC: CP 1/2" IRW/ALUM CAP

POINT 101
N: 13355487.708
E: 2766775.034
ELEV: 10.60
DESC: CP 1/2" IRW/ALUM CAP

05.22.2026

STATE OF TEXAS
BRIANA C. CAMPBELL
105905
LICENSED
PROFESSIONAL ENGINEER

Briana Campbell

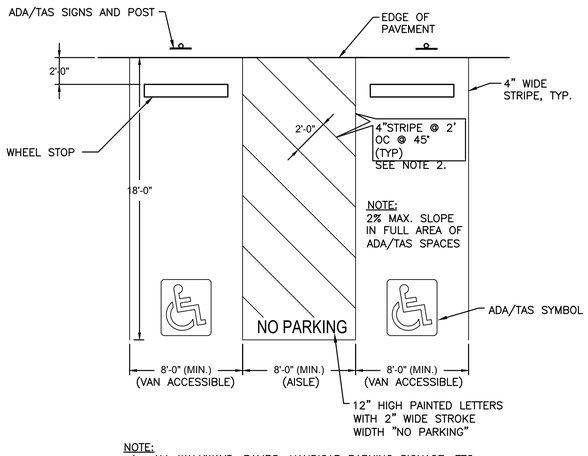
DATE: 05.22.2026
DESIGNED BY: PG
DRAWN BY: PG/RR
REVIEWED BY: BC
REVISED:

SHEET TITLE
CIVIL DETAILS

SHEET NUMBER
C15.01

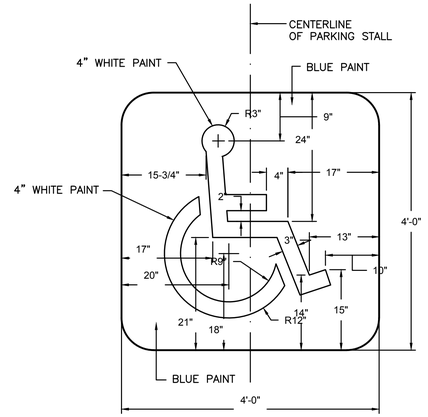
JQ-IMEG 100 GLASS STREET SUITE 202 DALLAS, TX 75207 P: 972.392.7340 TBPELS FIRM F-26651

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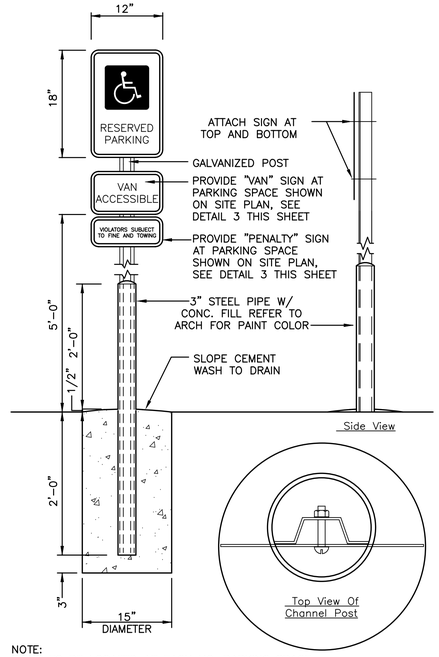


NOTE:
1. ALL WALKWAYS, RAMPS, HANDICAP PARKING SIGNAGE, ETC. SHALL MEET APPROVED ADA/TAS STANDARDS.
2. ALL STRIPING WITHIN ADA/TAS SPACES TO BE BLUE TRAFFIC PAINT.

01 TYPICAL ACCESSIBLE PARKING LAYOUT
N.T.S.

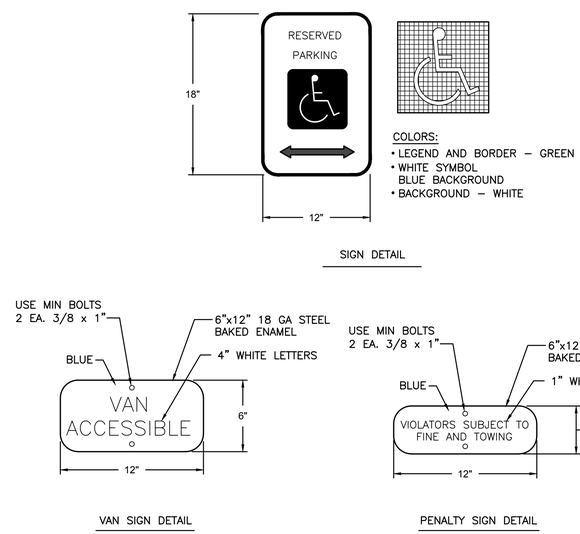


02 PARKING SPACE ACCESSIBLE SYMBOL DETAIL
N.T.S.



NOTE:
SIGNS TO BE LOCATED AT EACH HC. PARKING SPACE EMBLEM SIZE, COLOR AND EXACT LOCATION WITHIN PARKING SPACE TO COMFORM TO LOCAL GOVERNING CODES. SEE DETAIL 3/ THIS SHEET.

03 ACCESSIBLE PARKING SIGNAGE
N.T.S.



04 ADA/TAS SIGNAGE DETAIL
N.T.S.

TEXAS PARKS & WILDLIFE

RICHTER ARCHITECTS

Powderhorn Wildlife Management Area
New Conservation Education Center
Project Number: #1210264

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REVISED:

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CIVIL DETAILS

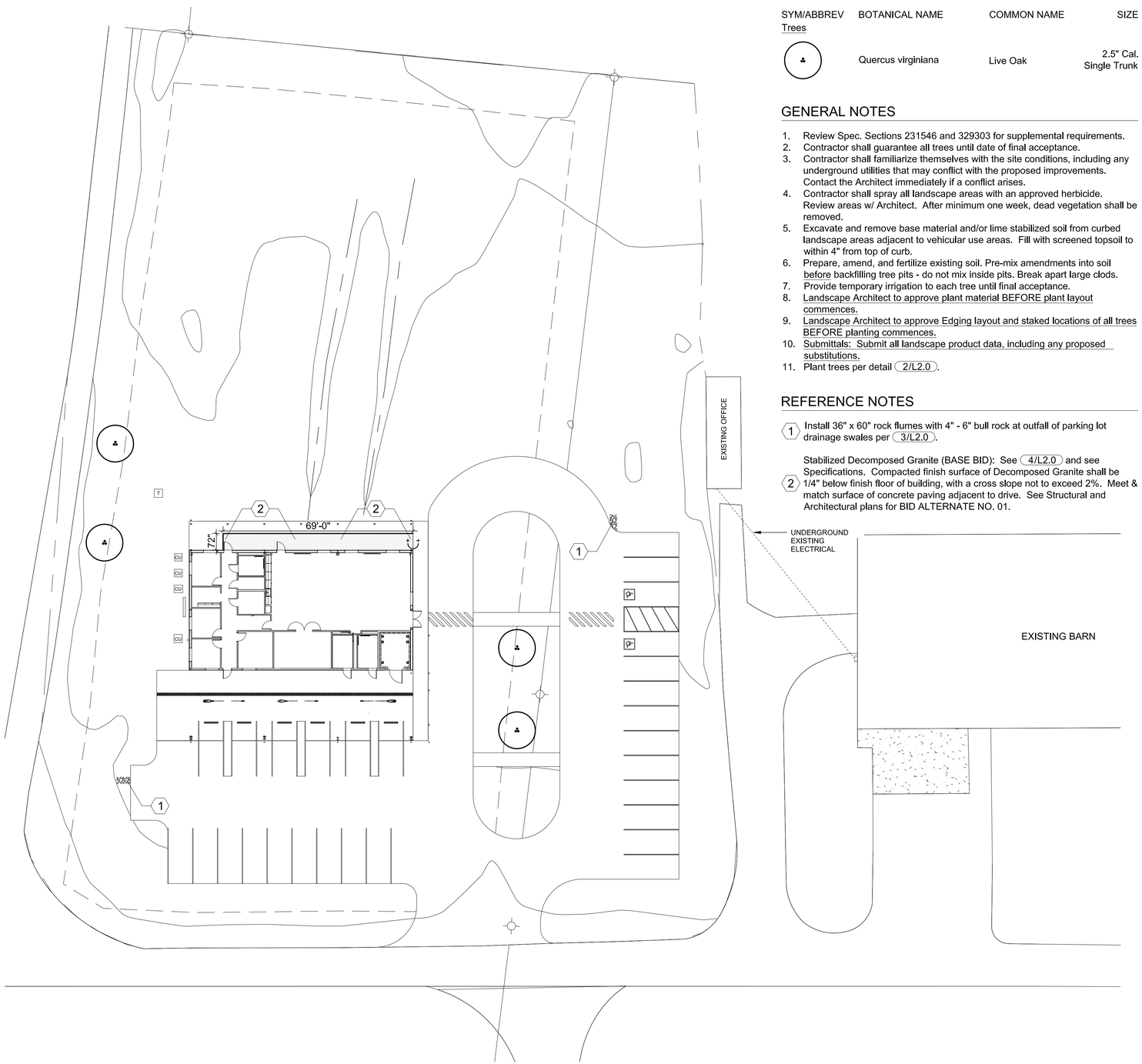
SHEET NUMBER
C15.02

05.22.2026

STATE OF TEXAS
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LICENSED PROFESSIONAL ENGINEER

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1 Overall Site Plan
1" = 20'-0"

PLANT LEGEND

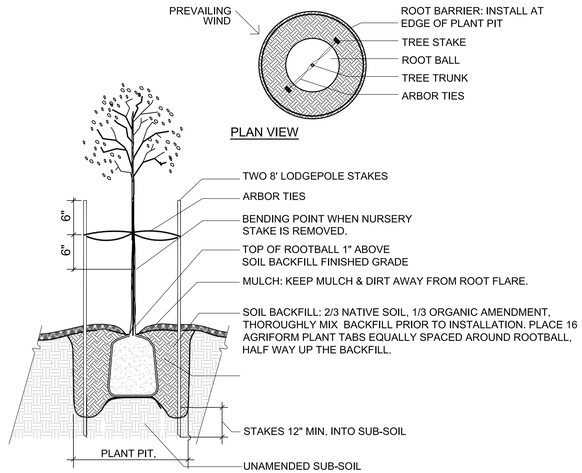
SYM/ABBREV	BOTANICAL NAME	COMMON NAME	SIZE
Trees			
♣	Quercus virginiana	Live Oak	2.5" Cal. Single Trunk

GENERAL NOTES

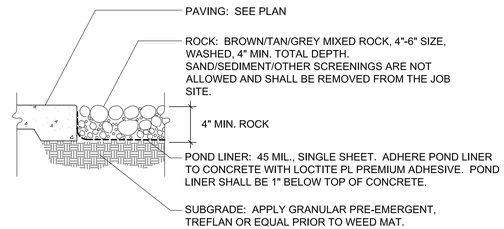
1. Review Spec. Sections 231546 and 329303 for supplemental requirements.
2. Contractor shall guarantee all trees until date of final acceptance.
3. Contractor shall familiarize themselves with the site conditions, including any underground utilities that may conflict with the proposed improvements. Contact the Architect immediately if a conflict arises.
4. Contractor shall spray all landscape areas with an approved herbicide. Review areas w/ Architect. After minimum one week, dead vegetation shall be removed.
5. Excavate and remove base material and/or lime stabilized soil from curbed landscape areas adjacent to vehicular use areas. Fill with screened topsoil to within 4" from top of curb.
6. Prepare, amend, and fertilize existing soil. Pre-mix amendments into soil before backfilling tree pits - do not mix inside pits. Break apart large clods.
7. Provide temporary irrigation to each tree until final acceptance.
8. Landscape Architect to approve plant material BEFORE plant layout commences.
9. Landscape Architect to approve Edging layout and staked locations of all trees BEFORE planting commences.
10. Submittals: Submit all landscape product data, including any proposed substitutions.
11. Plant trees per detail (2/L2.0).

REFERENCE NOTES

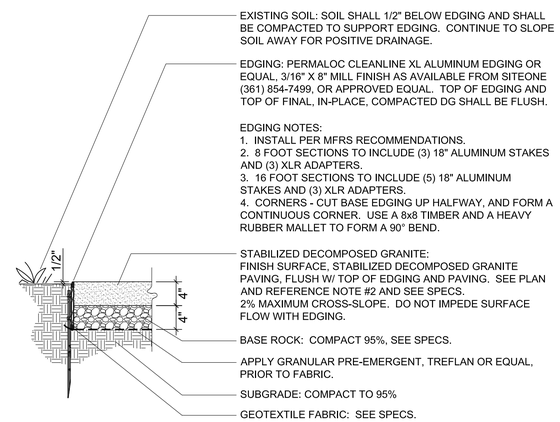
1. Install 36" x 60" rock flumes with 4" - 6" bull rock at outfall of parking lot drainage swales per (3/L2.0).
2. Stabilized Decomposed Granite (BASE BID): See (4/L2.0) and see Specifications. Compacted finish surface of Decomposed Granite shall be 1/4" below finish floor of building, with a cross slope not to exceed 2%. Meet & match surface of concrete paving adjacent to drive. See Structural and Architectural plans for BID ALTERNATE NO. 01.



2 Tree Planting & Staking
NTS



3 Rock
NTS



4 Stabilized Decomposed Granite
1" = 1'-0"

20 0 20 40

ADLA INC LANDSCAPE ARCHITECTURE
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Corpus Christi, TX 78413
PH 361.288.2335
FX 361.288.7312
EM adlandarch@gmail.com
www.adlainc.com

REGISTERED LANDSCAPE ARCHITECT ALEX M. DOMINGUEZ 2668 STATE OF TEXAS
05/22/26

TEXAS PARKS & WILDLIFE

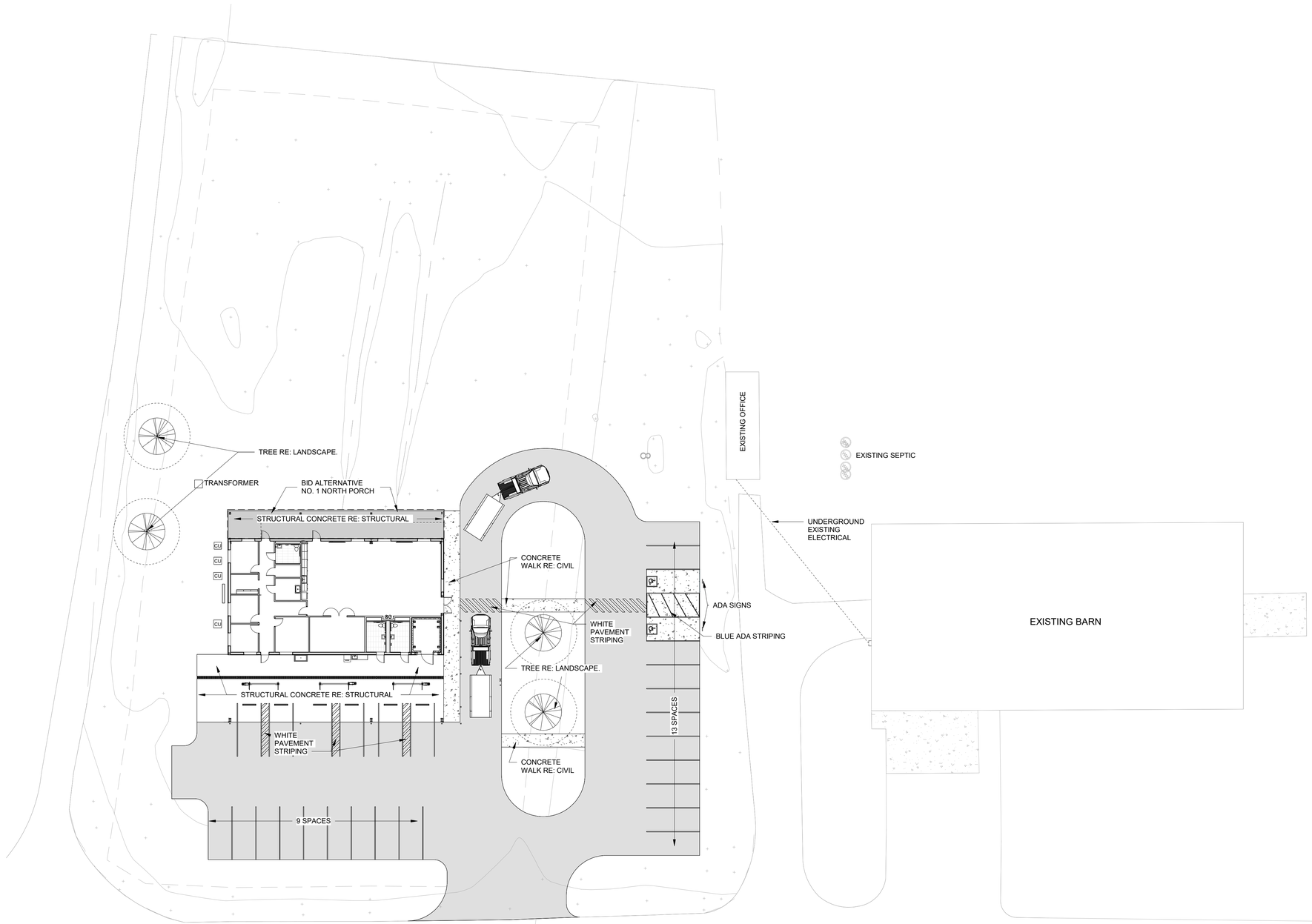
RICHTER ARCHITECTS

Powderhorn Wildlife Management Area
New Conservation Education Center
Project Number: #1210264

DATE: 05.22.2026
DESIGNED BY: AMD
DRAWN BY: AMD
REVIEWED BY: AMD
REVISED:

SHEET TITLE
LANDSCAPE PLAN

SHEET NUMBER
L2.0



1 OVERALL SITE PLAN
1" = 20'-0"

TRUE NORTH

PLAN NORTH

0 30' 60' 90'

SITE LEGEND:

CONCRETE WALK RE: CIVIL

ASPHALT PAVING RE: CIVIL

REGISTERED ARCHITECT
DAVID RICHTER
20468
STATE OF TEXAS
05.22.26

TEXAS PARKS & WILDLIFE

RICHTER ARCHITECTS

Powderhorn Wildlife Management Area
New Conservation Education Center
Project Number: #1210264

DATE: 05.22.2026
DESIGNED BY:
DRAWN BY:
REVIEWED BY:
REVISED:

SHEET TITLE
SITE PLAN

SHEET NUMBER
A101

TREES RE: LANDSCAPE

TRANSFORMER

BID ALTERNATIVE NO. 01 NORTH PORCH

81' - 6 1/4"

6' - 1"

ROOF OVERHANG

STRUCTURAL CONCRETE RE: STRUCTURAL

DECOMPOSED GRANITE AS BASE BIDE 6'X69'. RE: LANDSCAPE DRAWINGS

10' - 4 7/8"

CU

CU

CU

CU

43' - 8 1/4"

9' - 6"

11' - 7 7/8"

ADA SINK

ICE

CONCRETE WALK RE: CIVIL

TRENCH DRAIN

TRENCH DRAIN

TRENCH DRAIN

SLOPE

SLOPE

SLOPE

SLOPE

SLOPE

SLOPE

SKINNING STATIONS

ADA SKINNING STATIONS

SKINNING STATIONS

6' - 2"

STRUCTURAL CONCRETE RE: STRUCTURAL

WHEEL TIRE STOPS RE: CIVIL

3 3/4"

25' - 6 7/8"

PIPE BOLLARDS

PIPE BOLLARDS

PIPE BOLLARDS

8' - 11 1/8"

R 5' - 0"

WHITE PAVEMENT STRIPING

20' - 0"

21' - 11"

2' - 10"

9' - 0"

3' - 0"

9' - 0"

2' - 2' - 4 1/4"

9' - 5 3/4"

3' - 0"

9' - 0"

2' - 10 2' - 10"

9' - 0"

3' - 0"

9' - 0"

2' - 10"

ASPHALT PAVING RE: CIVIL

19' - 0 1/8"

20' - 0"

R 5' - 0"

23' - 0"

13' - 8 7/8"

9' - 0"

9' - 0"

9' - 0"

9' - 0"

9' - 0"

9' - 0"

9' - 0"

9' - 0"

9' - 0"

9' - 2"

20' - 0"

45' - 0"

PARKING (9) SPACES

R 5' - 0"

R 15' - 0"

R 5' - 0"

21' - 8 7/8"

31' - 6"

23' - 3"

20' - 0"

R 35' - 9"

R 15' - 9"

PLANTING BY OWNER

CONCRETE WALK RE: CIVIL

5' - 0"

ACCESSIBLE ROUTE

WHITE PAVEMENT STRIPING

PIPE BOLLARDS

TREES RE: LANDSCAPE

CONCRETE WALK RE: CIVIL

5' - 0"

PLANTING BY OWNER

R 15' - 9"

15' - 9"

6' - 0"

6' - 0"

6' - 0"

6' - 0"

6' - 0"

6' - 0"

6' - 0"

9' - 0"

9' - 0"

9' - 0"

9' - 0"

9' - 0"

9' - 0"

9' - 0"

9' - 0"

PARKING (13) SPACES

ADA SIGNS

TRUE NORTH

PLAN NORTH

1 ENLARGED SITE PLAN
1/8" = 1'-0"

0 10' 30' 60'

SITE LEGEND:

CONCRETE WALK RE: CIVIL

ASPHALT PAVING RE: CIVIL

REGISTERED ARCHITECT
DANIEL J. WALKER
20468
STATE OF TEXAS
05.22.26

TEXAS PARKS & WILDLIFE

RICHTER ARCHITECTS

Powderhorn Wildlife Management Area
New Conservation Education Center
Project Number: #1210264

DATE: 05.22.2026
DESIGNED BY:
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REVIEWED BY:
REVISED:

SHEET TITLE
ENLARGED SITE PLAN

SHEET NUMBER
A102

BID ALTERNATE NO. 1
NORTH PORCH

DECOMPOSED GRANITE AS BASE BIDE 6'X69'. RE: LANDSCAPE DRAWINGS

GYP. FURR OUT - PAINT

2'-0" WALL BLOCKING ALL WALLS 5'-0" UP

OFFICE 110

RR3 111

ELEC. 112

MECH. / JAN 114

STORAGE 109

OFFICE 108

HALLWAY 115

OFFICE 107

OFFICE 106

STORAGE 105

RR1 104

RR2 103

COOLER 102

MULTI-PURPOSE 101

TABLE AND CHAIRS BY OWNER

CU

2% SLOPE

F.E.C.

F.E.

SINK

ICE

EQUIPMENT BY OWNER

FEATHER CONCRET TO MEET GRADE - TYPICAL

SLOPE FLOOR

COOLER FLAPS

TRENCH DRAIN RE: STRUCTURAL

ADA COMPLIANT 11W4 - GALVANIZED TRENCH DRAINAGE GRATE 1"X12"X36"

BRACE TO STRUCTURE

SKINNING STATION

ADA ELECTRIC WINCH SKINNING STATION

PIPE BOLLARD

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

TRUE NORTH

PLAN NORTH

0 5' 10' 30'

05.22.26

TEXAS PARKS & WILDLIFE

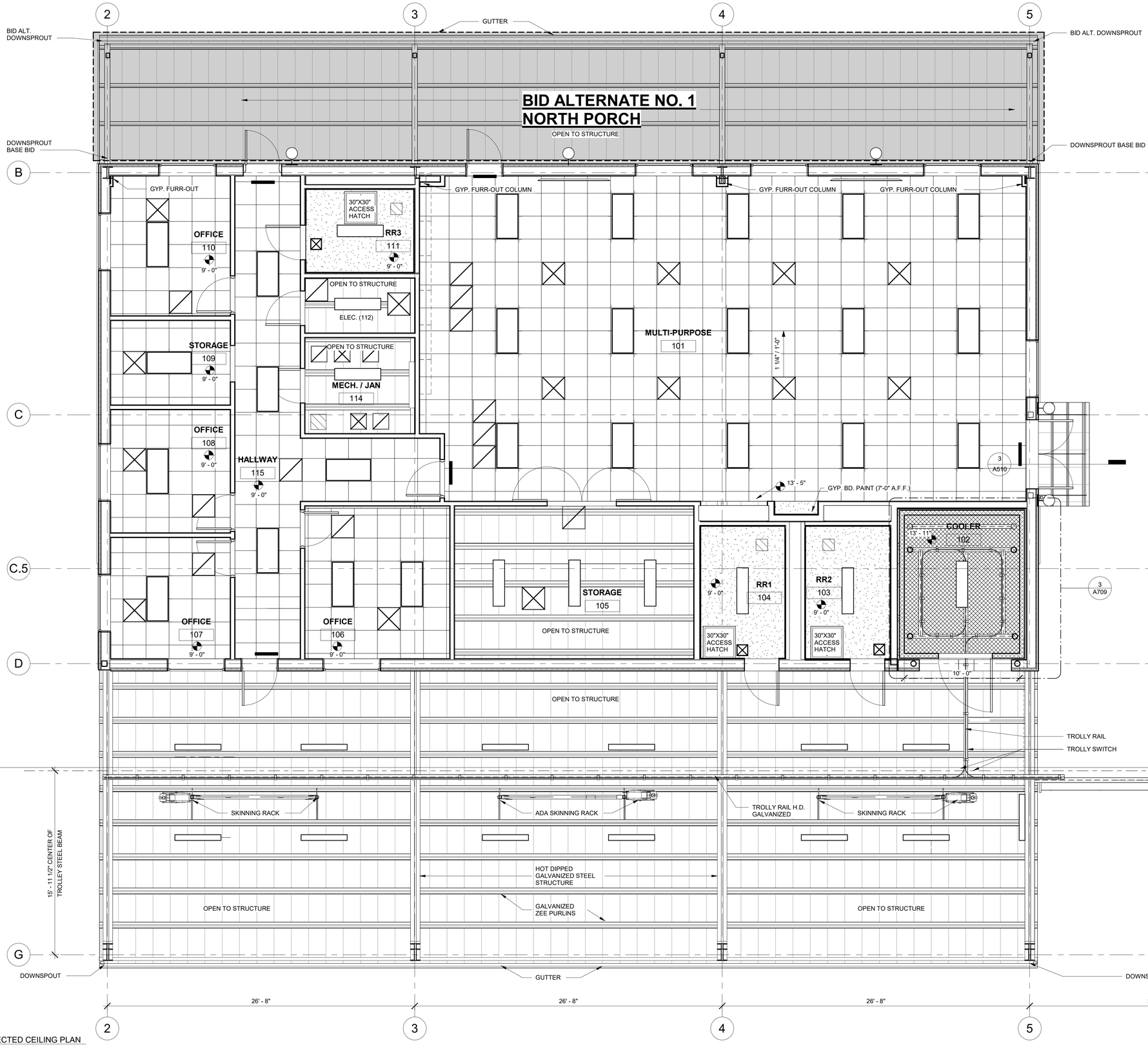
RICHTER ARCHITECTS

Powderhorn Wildlife Management Area
New Conservation Education Center
Project Number: #1210264

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REVIEWED BY:
REVISED:

SHEET TITLE
FLOOR PLAN

SHEET NUMBER
A202



CEILING LEGEND:

- 2X2 SUSPENDED ACOUSTICAL CEILING
- GYP BD. CEILING - ALL G.B CEILINGS TO BE PAINTED UNLESS NOTED OTHERWISE.
- COOLER CEILING
- 2X2 SUPPLY GRILLE RE: MECH.
- 1X1 SUPPLY GRILLE RE: MECH.
- RETURN AIR GRILLE RE: MECH.
- 2X4 LIGHT FIXTURE RE: ELEC. DWGS &SCHEDULES
- 1X4 LIGHTING FIXTURE RE: ELEC. DWGS &SCHEDULES
- 6"X4 LIGHTING FIXTURE RE: ELEC. DWGS &SCHEDULES
- WALL SCONCE RE: ELEC.
- EXHAUST FAN RE: MECH.
- EXIT SIGN RE: ELEC.

TRUE NORTH

PLAN NORTH

1 REFLECTED CEILING PLAN
1/4" = 1'-0"

0 5' 10' 30'

REGISTERED ARCHITECT
20468
STATE OF TEXAS
05.22.26

TEXAS PARKS & WILDLIFE

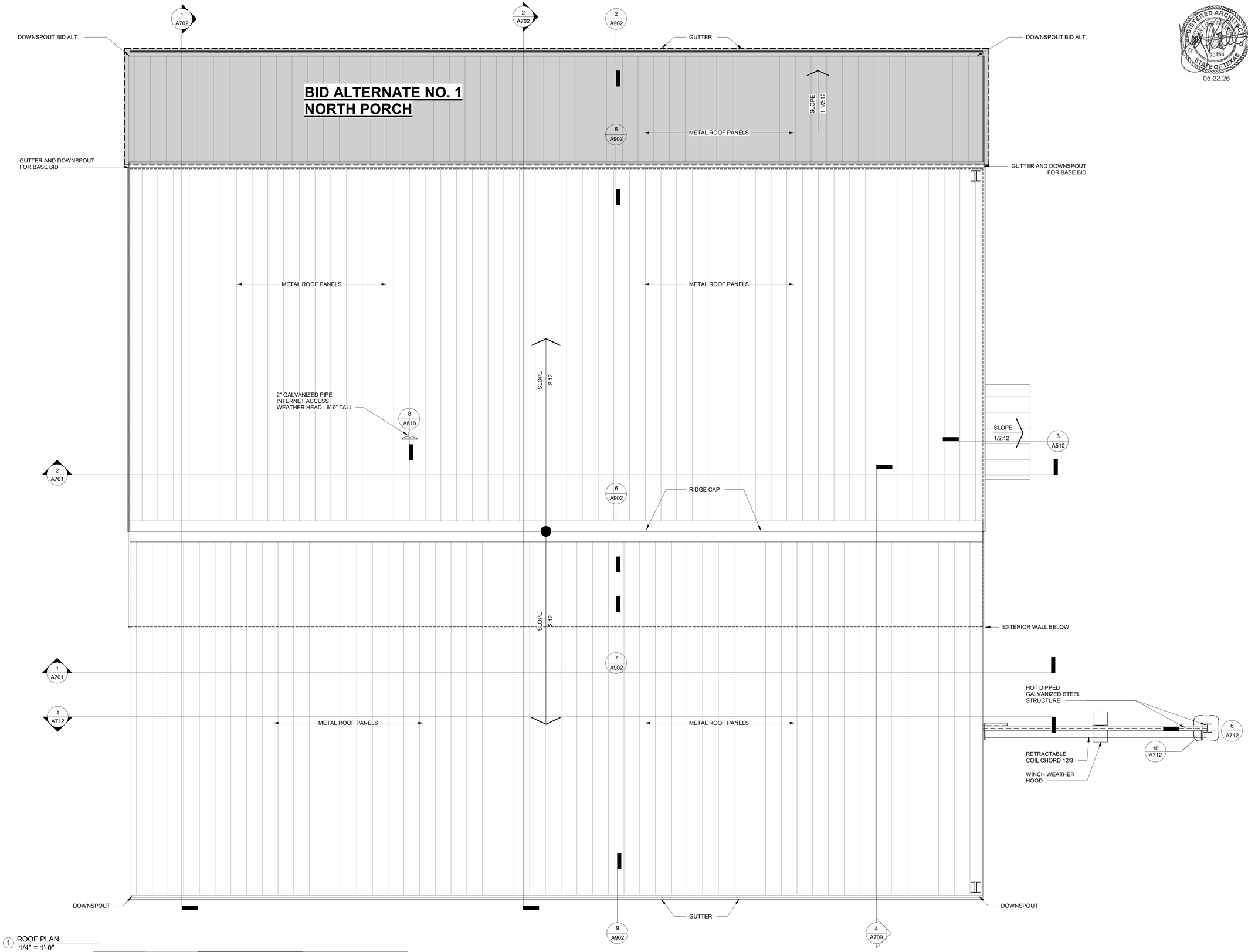
RICHTER ARCHITECTS

Powderhorn Wildlife Management Area
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SHEET TITLE
CEILING PLAN

SHEET NUMBER
A203



TRUE NORTH

PLAN NORTH

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

0 5' 10' 30'

REGISTERED ARCHITECT
STATE OF TEXAS
20468
05.22.26

TEXAS PARKS & WILDLIFE

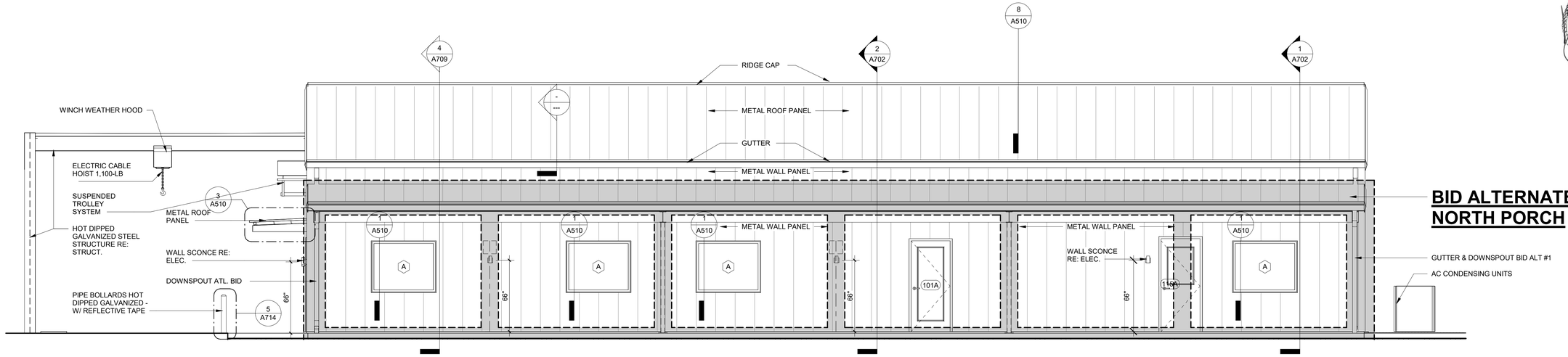
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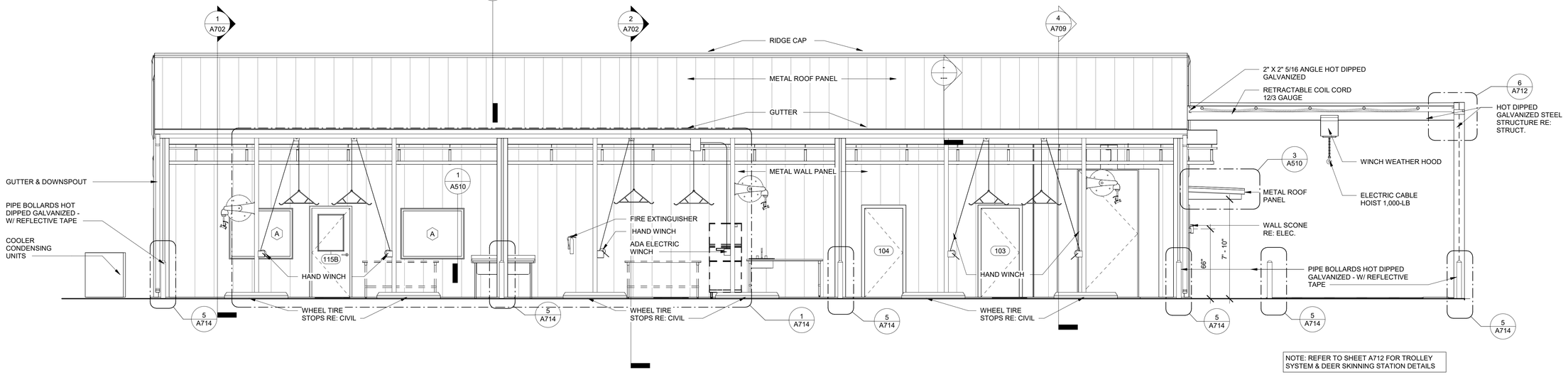
SHEET TITLE
ROOF PLAN

SHEET NUMBER
A204



BID ALTERNATE NO. 1
NORTH PORCH

1 NORTH ELEVATION
1/4" = 1'-0"



NOTE: REFER TO SHEET A712 FOR TROLLEY SYSTEM & DEER SKINNING STATION DETAILS

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

05.22.26

TEXAS PARKS & WILDLIFE

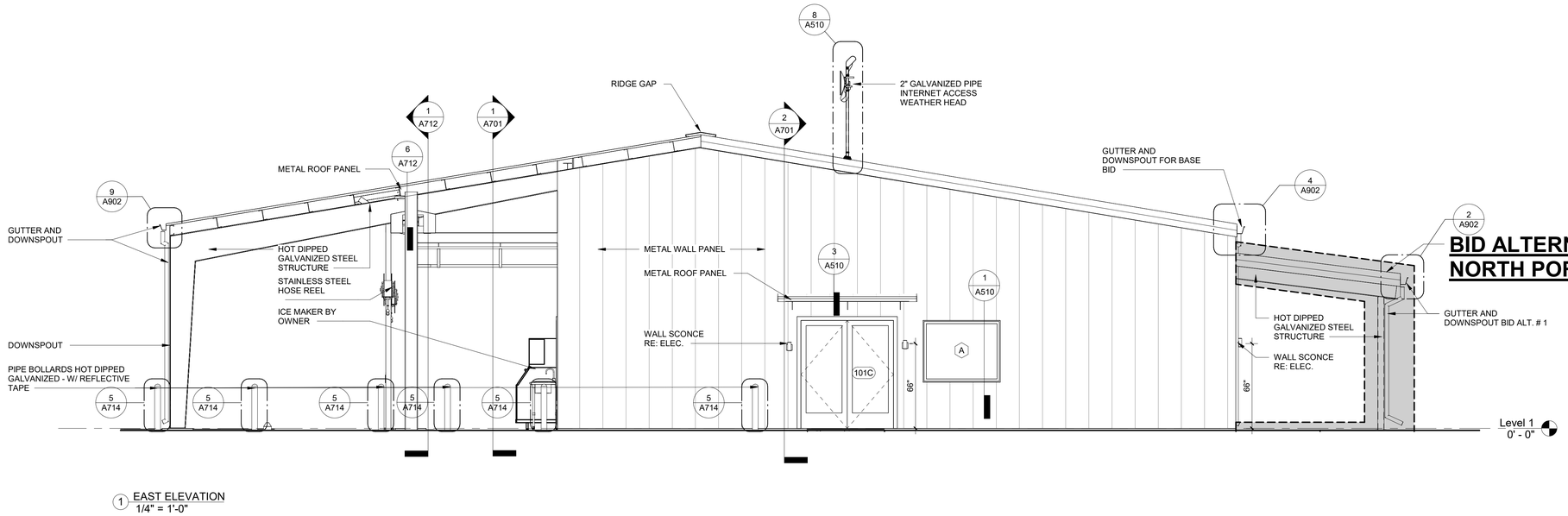
RICHTER ARCHITECTS

Powderhorn Wildlife Management Area
New Conservation Education Center
Project Number: #1210264

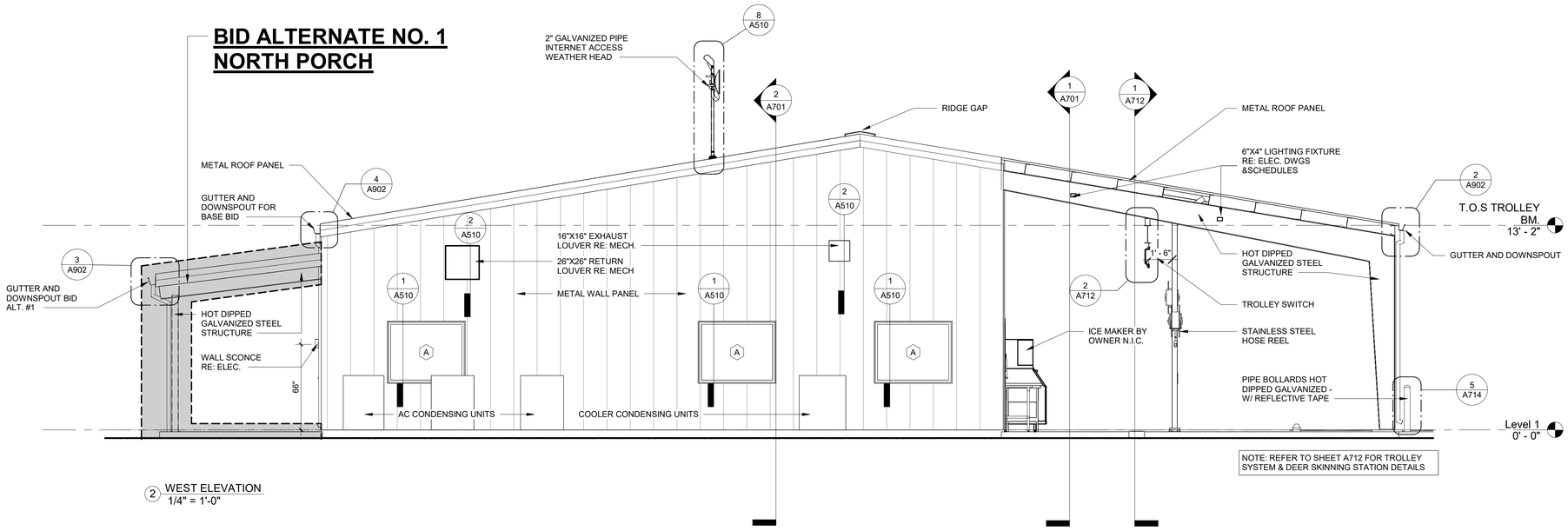
DATE: 05.22.2026
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REVIEWED BY:
REVISED:

SHEET TITLE
EXTERIOR ELEVATIONS

SHEET NUMBER
A501



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



2 WEST ELEVATION
1/4" = 1'-0"

REGISTERED ARCHITECT
STATE OF TEXAS
20468
05.22.26

TEXAS PARKS & WILDLIFE

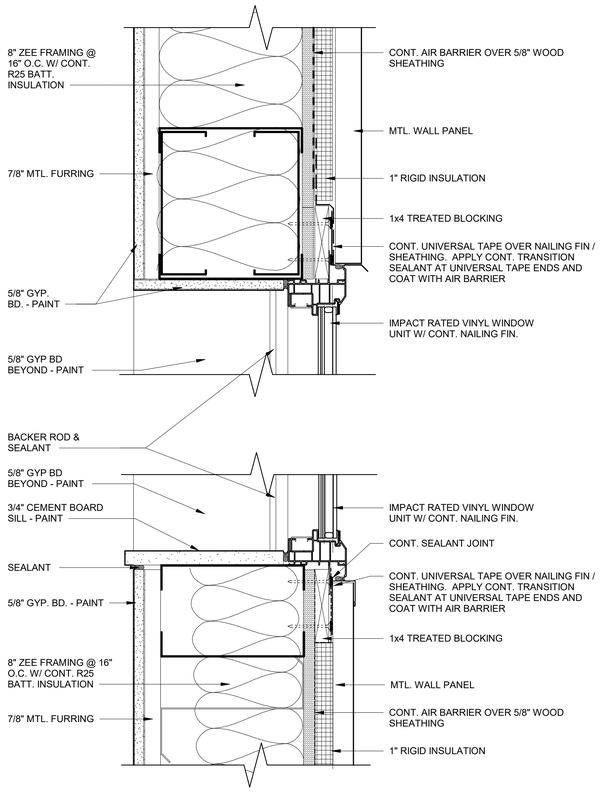
RICHTER ARCHITECTS

Powderhorn Wildlife Management Area
New Conservation Education Center
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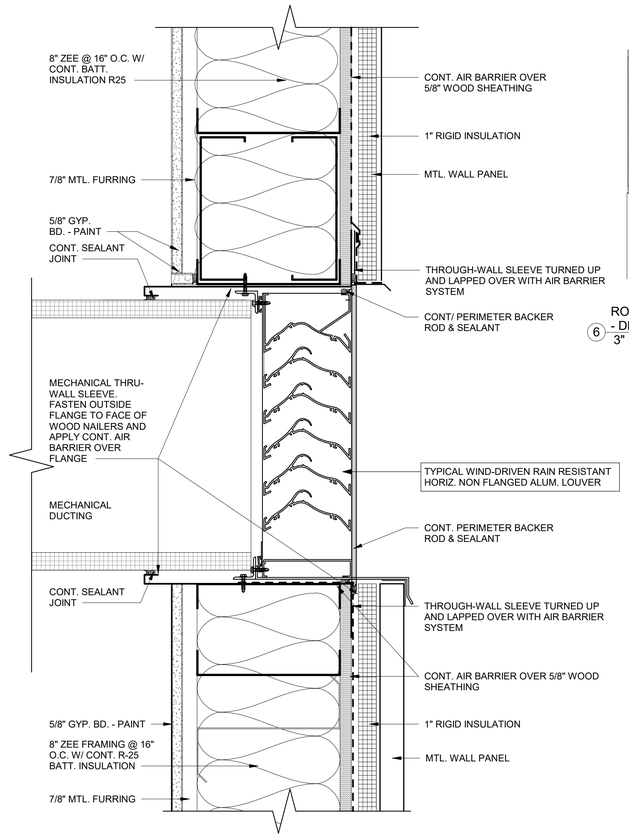
DATE: 05.22.2026
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REVISED:

SHEET TITLE
EXTERIOR ELEVATIONS

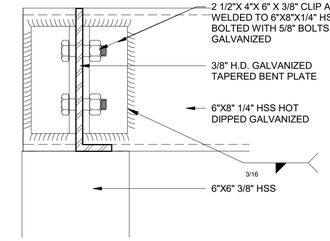
SHEET NUMBER
A502



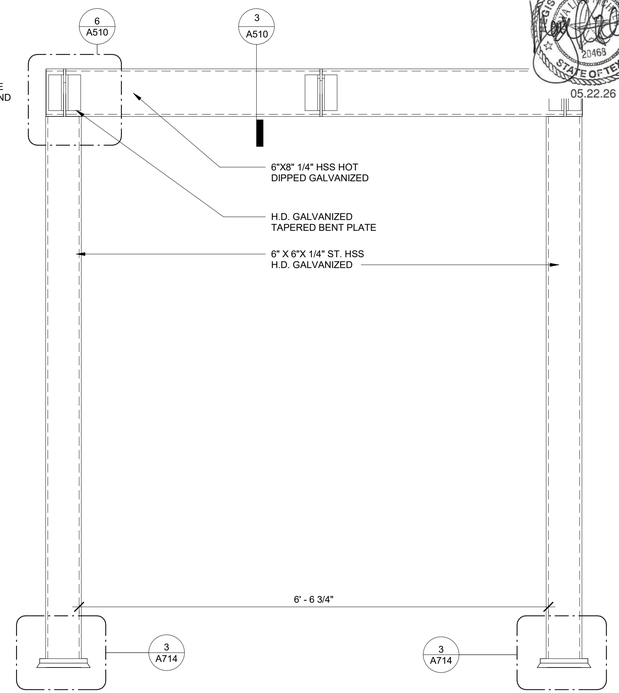
1 WINDOW DETAILS
3" = 1'-0"



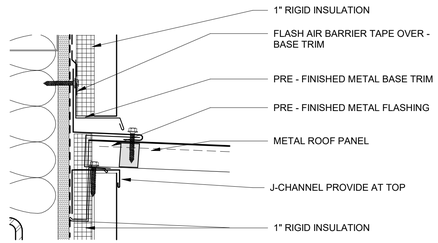
2 16" x 16" LOUVER DETAIL
3" = 1'-0"



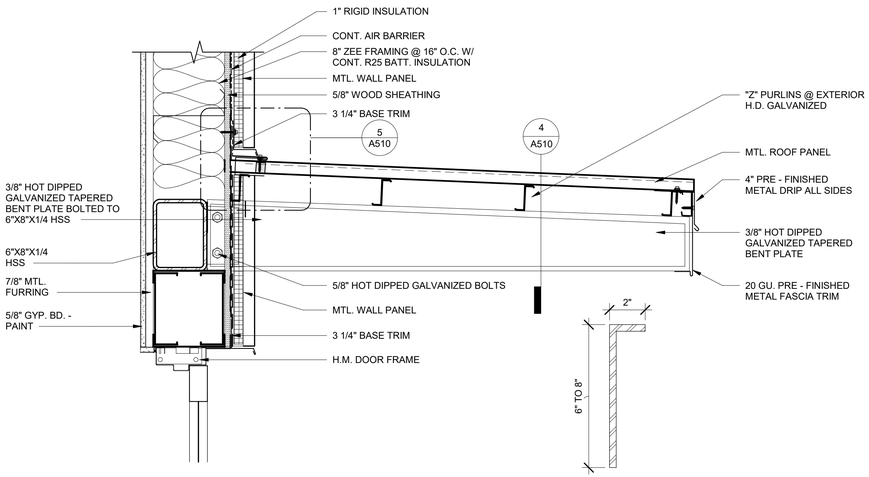
6 ROOF CANOPY STRUCTURE ELEVATION - DETAIL
3" = 1'-0"



7 ROOF CANOPY STRUCTURE ELEVATION
1" = 1'-0"

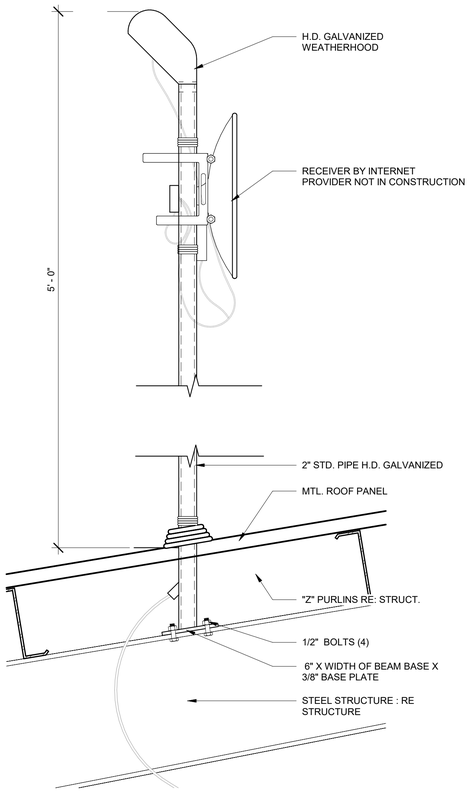


5 ROOF CANOPY FLASHING DETAIL
3" = 1'-0"



3 ROOF CANOPY DETAIL
1 1/2" = 1'-0"

4 H.D. GALVANIZED TAPERED BENT PLATE
3" = 1'-0"



8 DETAIL - ELECTRIC ROOF
1 1/2" = 1'-0"

REGISTERED ARCHITECT
JAMES A. RICHTER
20468
STATE OF TEXAS
05.22.26

TEXAS PARKS & WILDLIFE

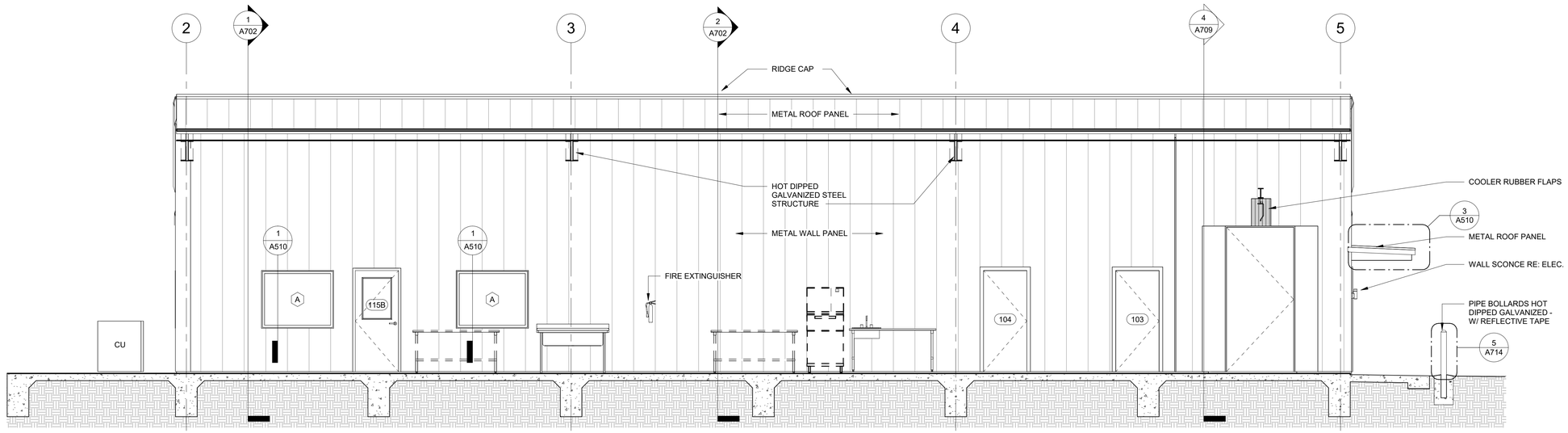
RICHTER ARCHITECTS

Powderhorn Wildlife Management Area
New Conservation Education Center
Project Number: #1210264

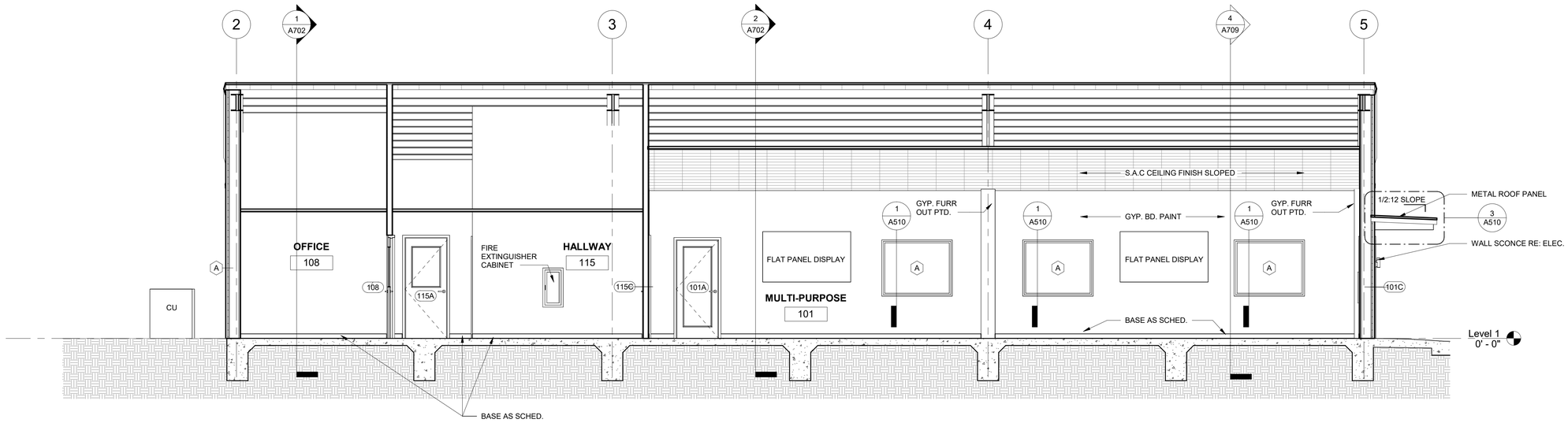
DATE: 05.22.2026
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REVISED:

SHEET TITLE
EXTERIOR DETAILS

SHEET NUMBER
A510



1 E/W SECTION A
1/4" = 1'-0"



2 E/W SECTION B
1/4" = 1'-0"

05.22.26

TEXAS PARKS & WILDLIFE

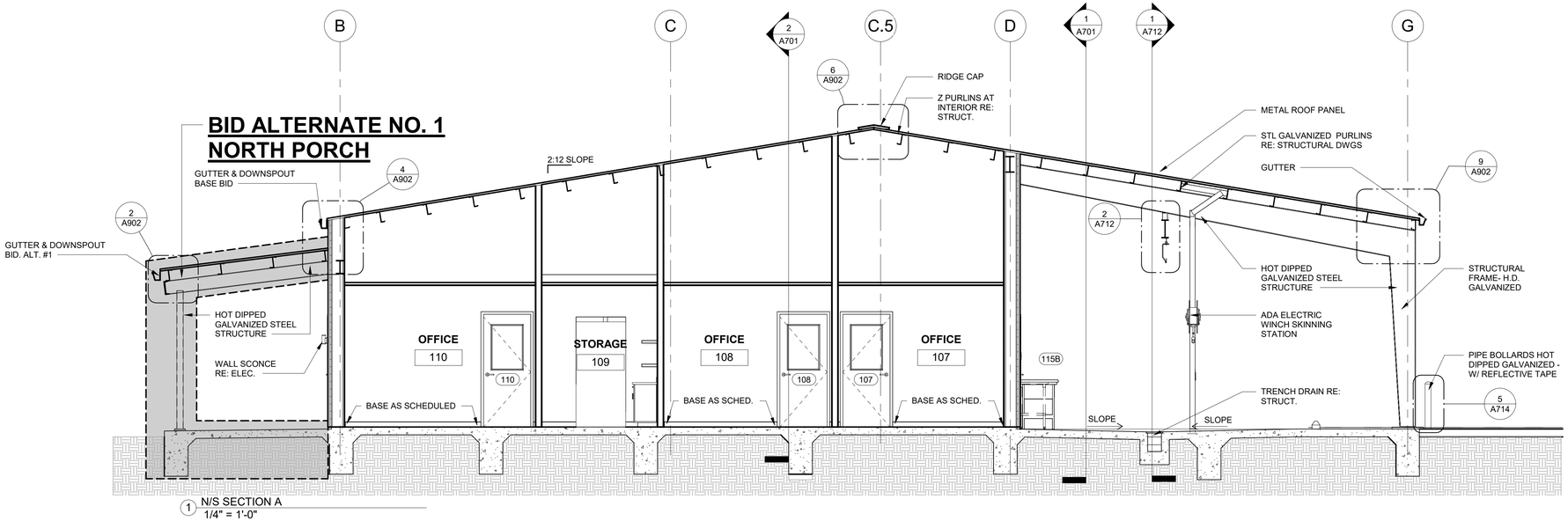
RICHTER ARCHITECTS

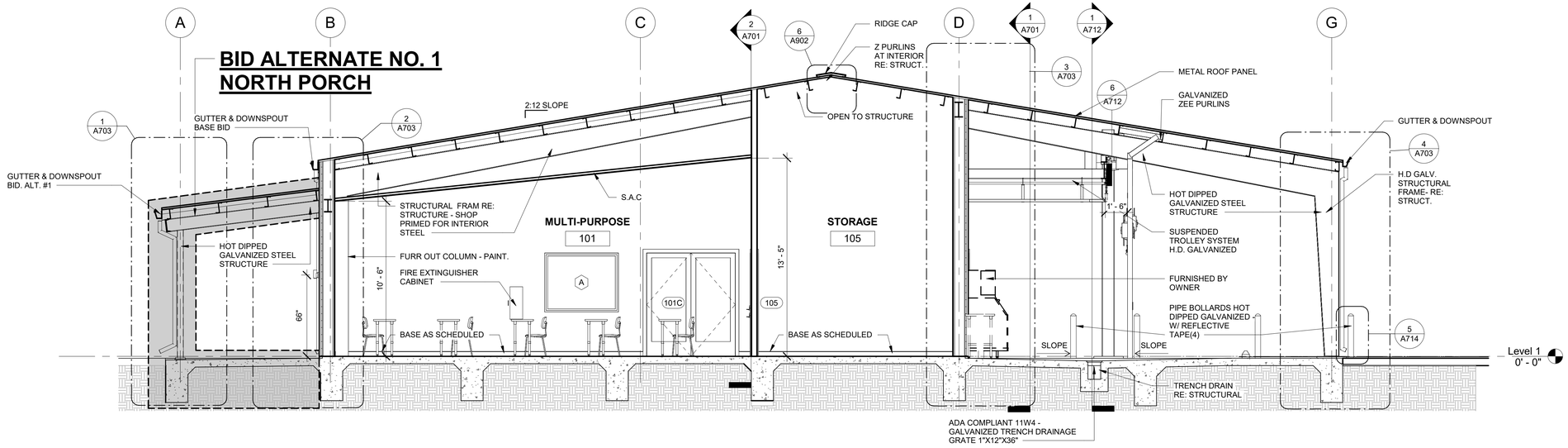
Powderhorn Wildlife Management Area
New Conservation Education Center
Project Number: #1210264

DATE: 05.22.2026
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DRAWN BY:
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REVISED:

SHEET TITLE
BUILDING SECTIONS

SHEET NUMBER
A701





2 N/S SECTION B
1/4" = 1'-0"

REGISTERED ARCHITECT
JAMES W. RICHTER
20468
STATE OF TEXAS
05.22.26

TEXAS PARKS & WILDLIFE

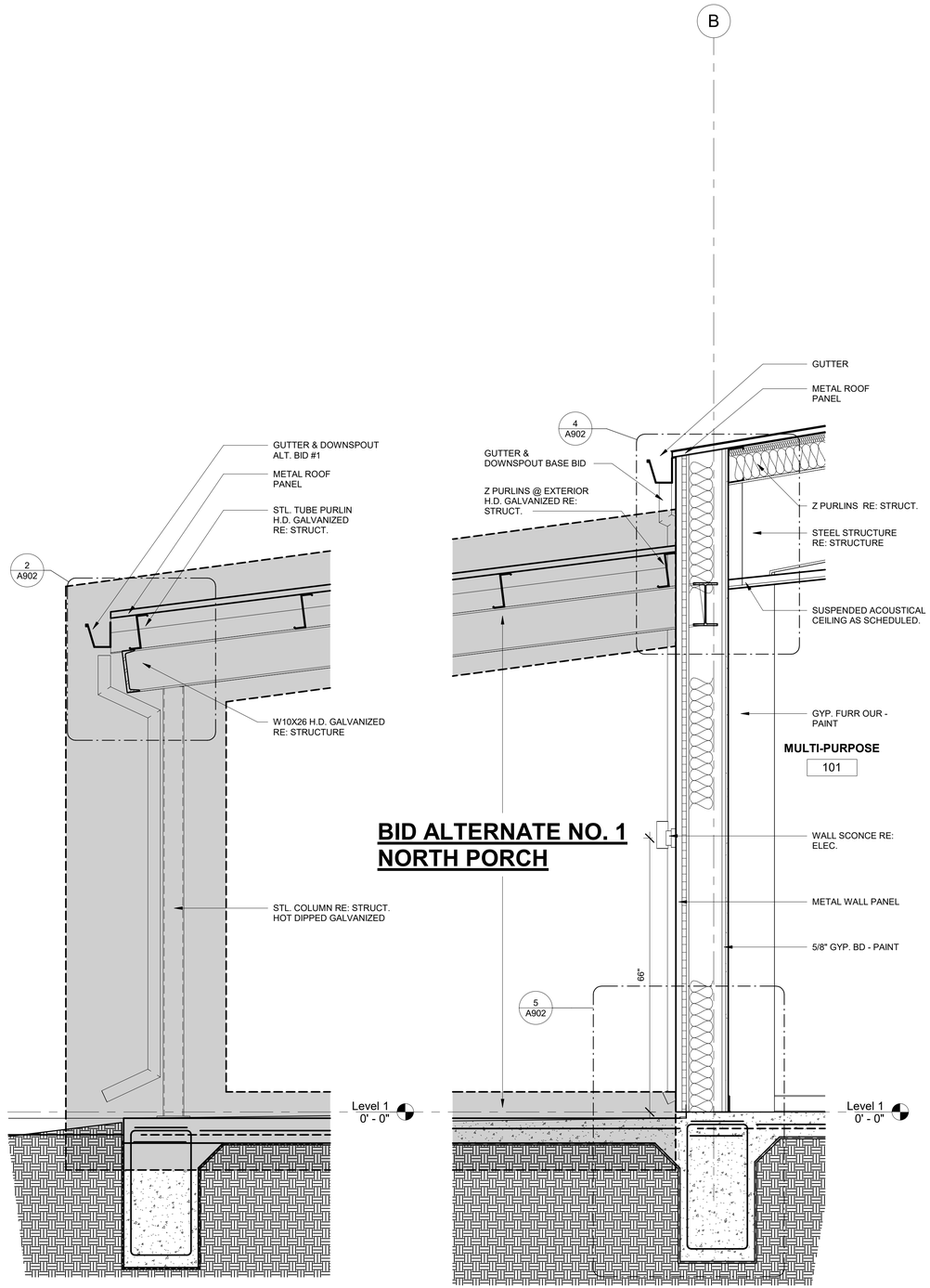
RICHTER ARCHITECTS

Powderhorn Wildlife Management Area
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SHEET TITLE
BUILDING SECTIONS

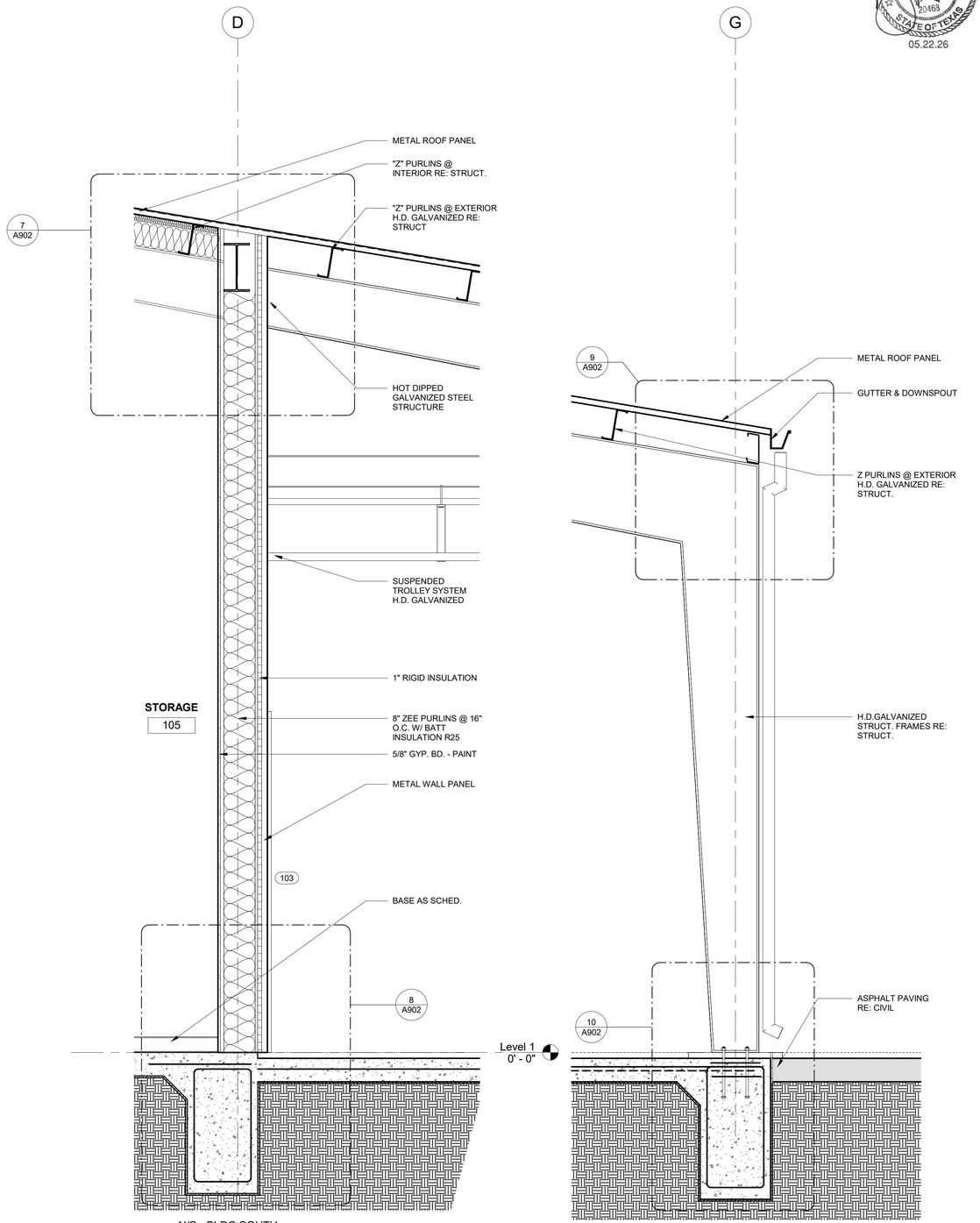
SHEET NUMBER
A702



BID ALTERNATE NO. 1 NORTH PORCH

1 N/S - NORTH PORCH
3/4" = 1'-0"

2 N/S - BLDG NORTH
3/4" = 1'-0"



3 N/S - BLDG SOUTH
3/4" = 1'-0"

4 N/S - PROCESSING SOUTH
3/4" = 1'-0"

REGISTERED ARCHITECT
STATE OF TEXAS
20466
05.22.26

TEXAS PARKS & WILDLIFE

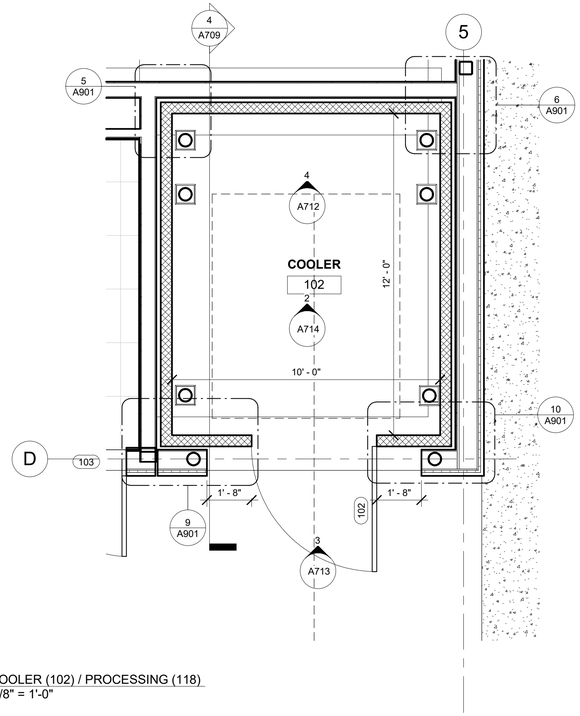
RICHTER ARCHITECTS

Powderhorn Wildlife Management Area
New Conservation Education Center
Project Number: #121026264

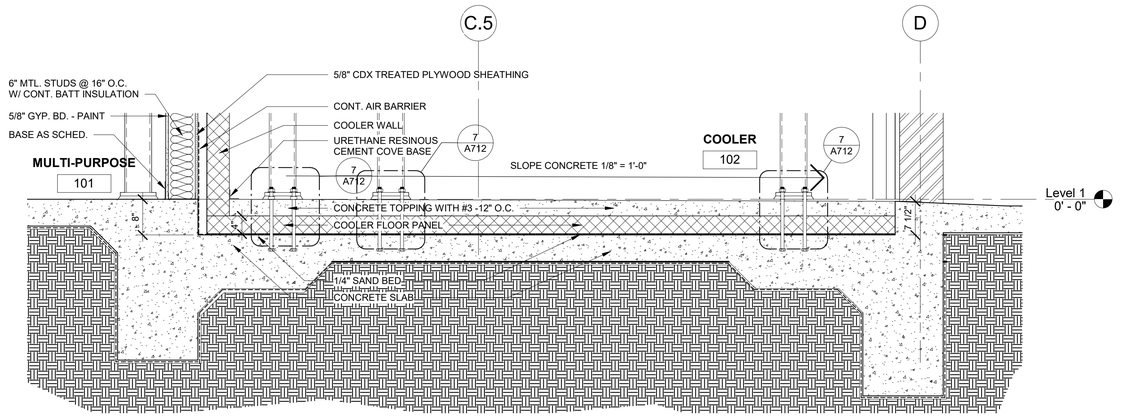
DATE: 05.22.2026
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SHEET TITLE
WALL SECTIONS

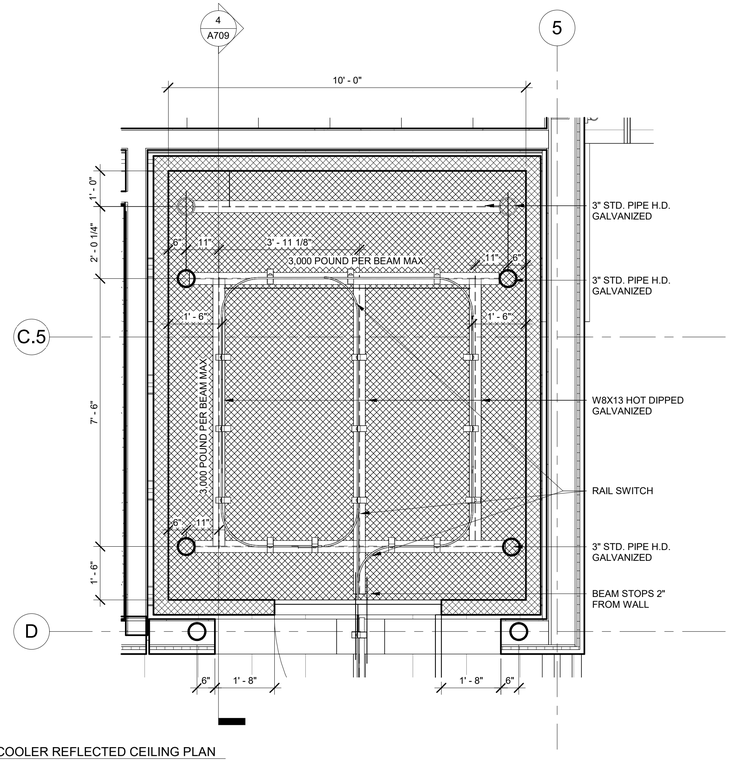
SHEET NUMBER
A703



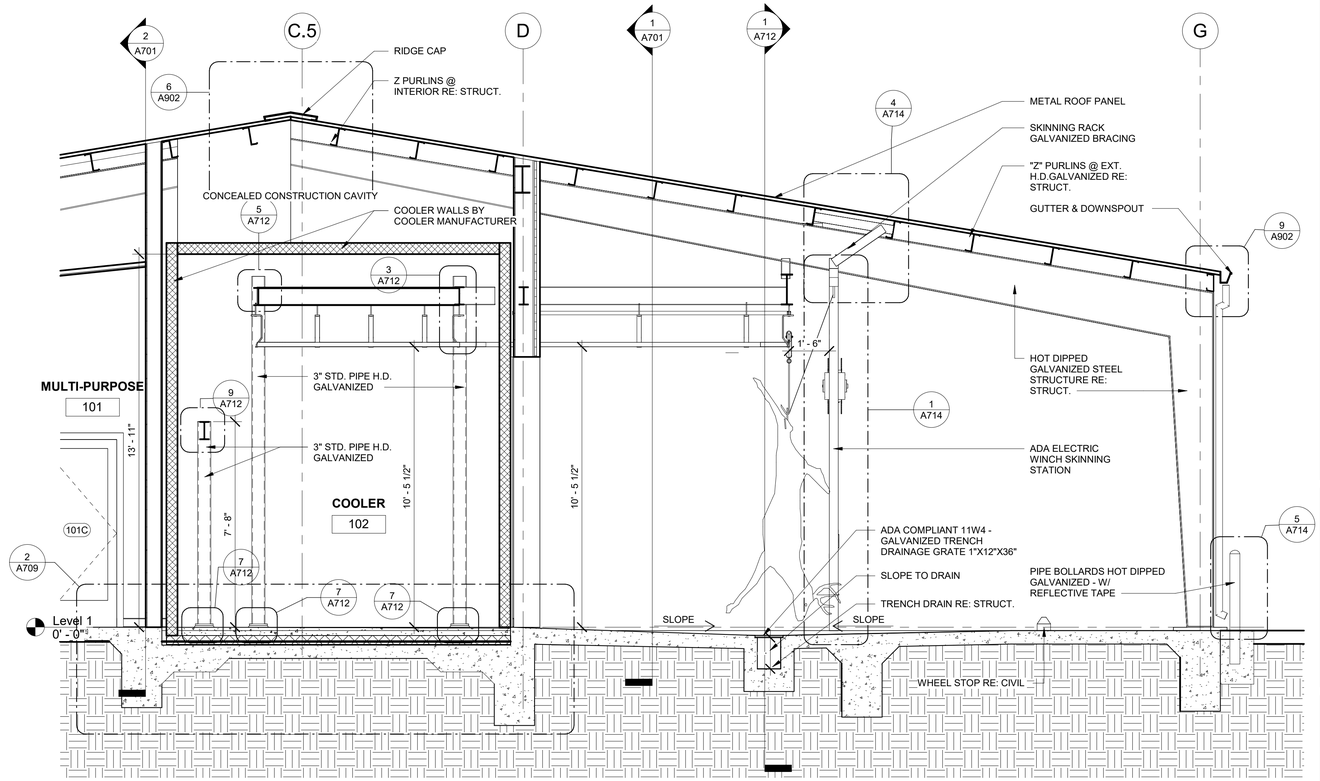
1 COOLER (102) / PROCESSING (118)
3/8" = 1'-0"



2 COOLER FLOOR DETAIL
3/4" = 1'-0"



3 COOLER REFLECTED CEILING PLAN
1/2" = 1'-0"



4 WORKING N/S SECTION C
3/8" = 1'-0"

REGISTERED ARCHITECT
ALAN W. RICHTER
20468
STATE OF TEXAS
05.22.26

TEXAS PARKS & WILDLIFE

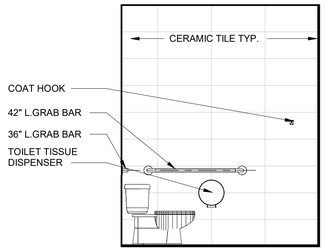
RICHTER ARCHITECTS

Powderhorn Wildlife Management Area
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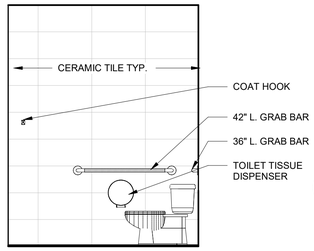
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SHEET TITLE
ENLARGED PLANS & DETAILS

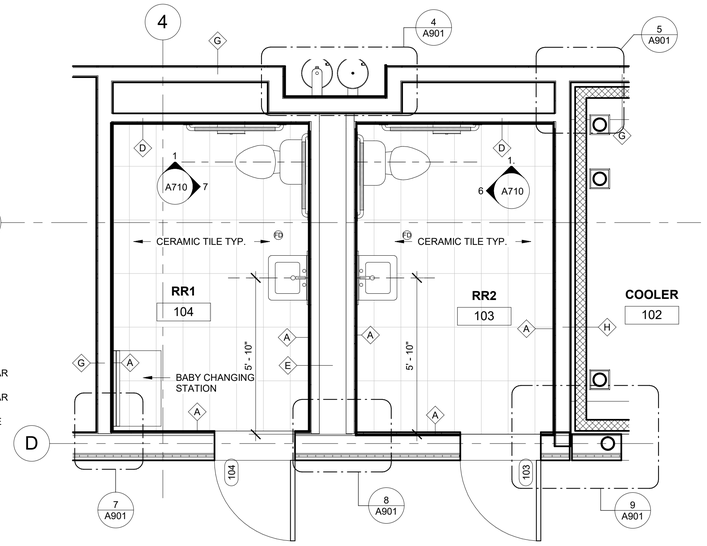
SHEET NUMBER
A709



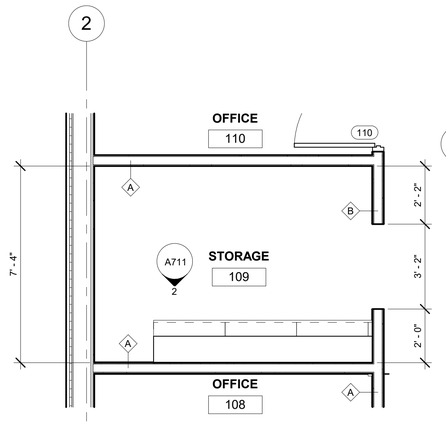
1. RR2 (103) - NORTH
3/8" = 1'-0"



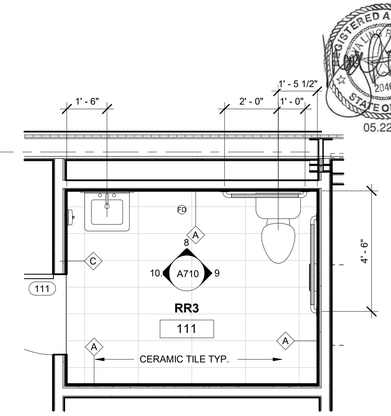
1 RR1 (104) - NORTH
3/8" = 1'-0"



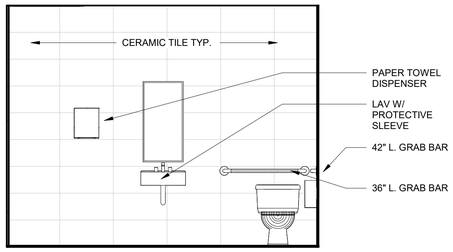
3 RR1 (104) & RR2 (103) ENLARGED PLAN
3/8" = 1'-0"



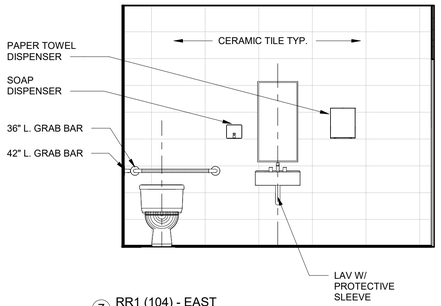
4 STORAGE (109) ENLARGED PLAN
3/8" = 1'-0"



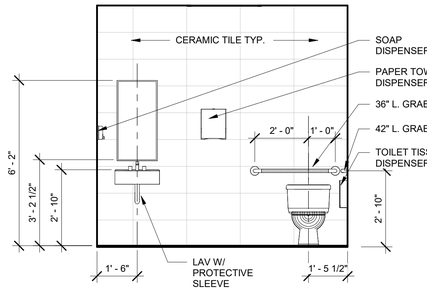
5 RR3 (111) ENLARGED PLAN
3/8" = 1'-0"



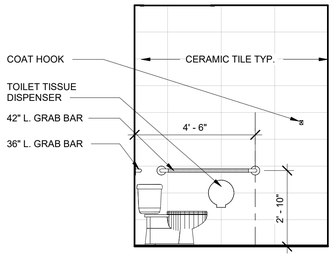
6 RR2 (103) - WEST
3/8" = 1'-0"



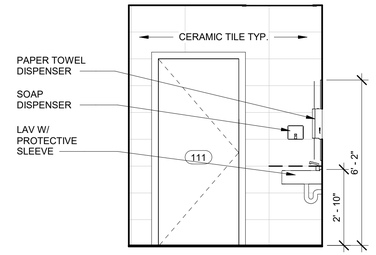
7 RR1 (104) - EAST
3/8" = 1'-0"



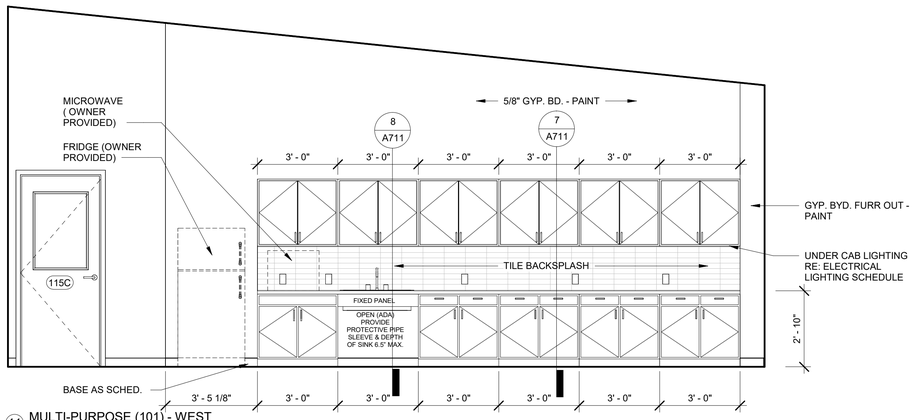
8 RR3 (111) - NORTH
3/8" = 1'-0"



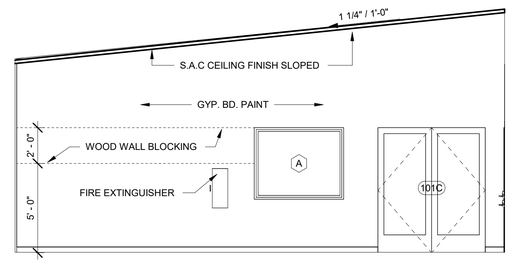
9 RR3 (111) - EAST
3/8" = 1'-0"



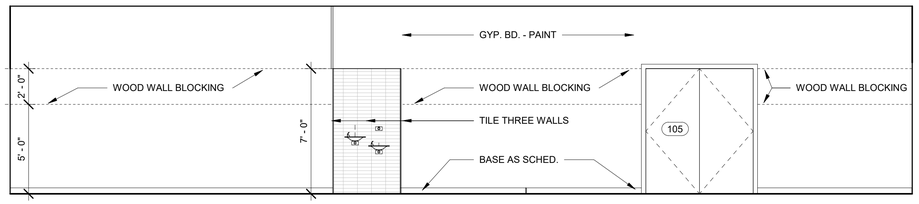
10 RR3 (111) -
3/8" = 1'-0"



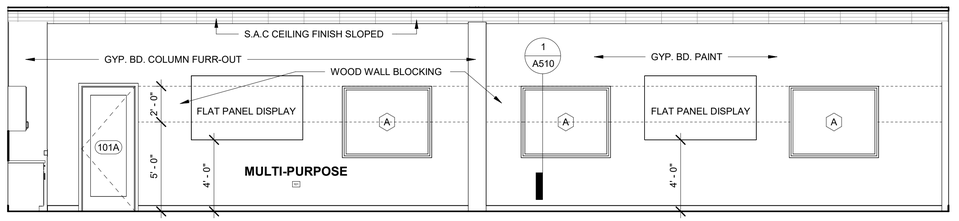
11 MULTI-PURPOSE (101) - WEST
3/8" = 1'-0"



12 MULTI-PURPOSE (101) EAST
1/4" = 1'-0"



13 MULTI-PURPOSE (101) - SOUTH
1/4" = 1'-0"



14 MULTI-PURPOSE (101) - NORTH
1/4" = 1'-0"

TEXAS PARKS & WILDLIFE

REGISTERED ARCHITECT
JOHN RICHTER
23463
STATE OF TEXAS
05.22.26

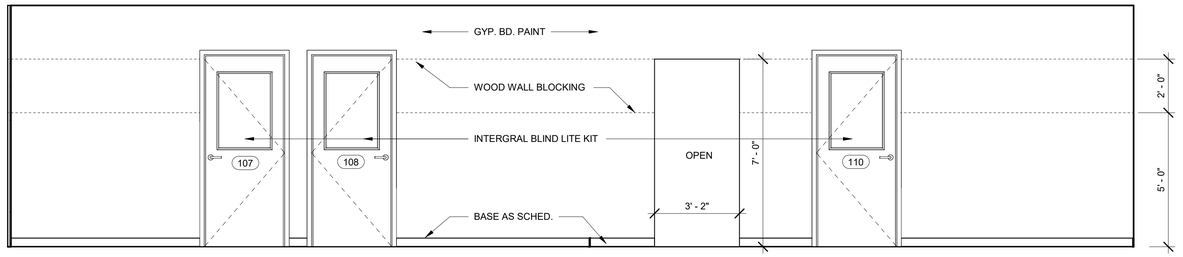
RICHTER ARCHITECTS

Powderhorn Wildlife Management Area
New Conservation Education Center
Project Number: #1210264

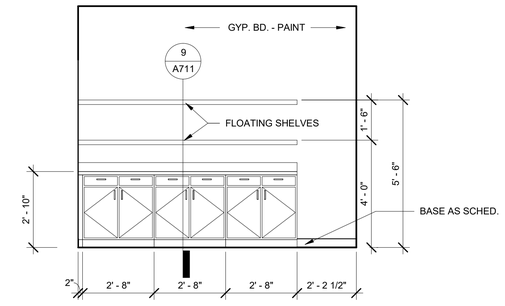
DATE: 05.22.2026
DESIGNED BY:
DRAWN BY:
REVIEWED BY:
REVISED:

SHEET TITLE
ENLARGED PLANS / INTERIOR ELEVATIONS

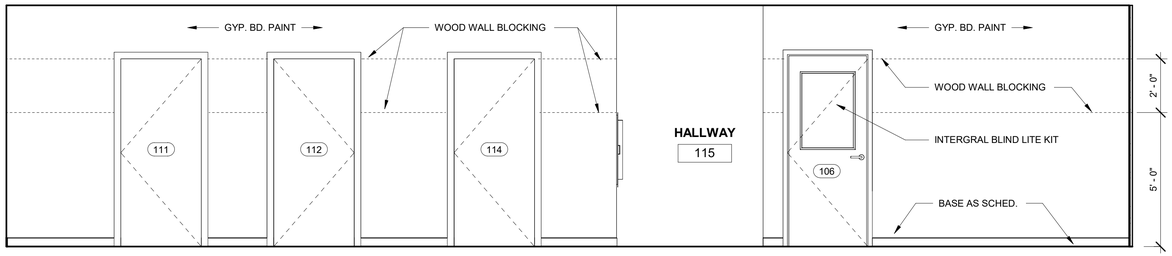
SHEET NUMBER
A710



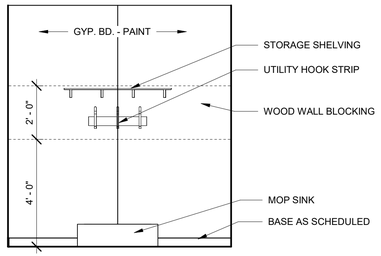
1 HALLWAY (115) - WEST
3/8" = 1'-0"



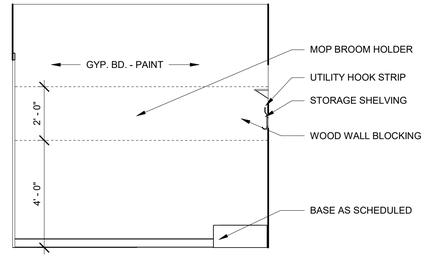
2 STORAGE (109) - SOUTH
3/8" = 1'-0"



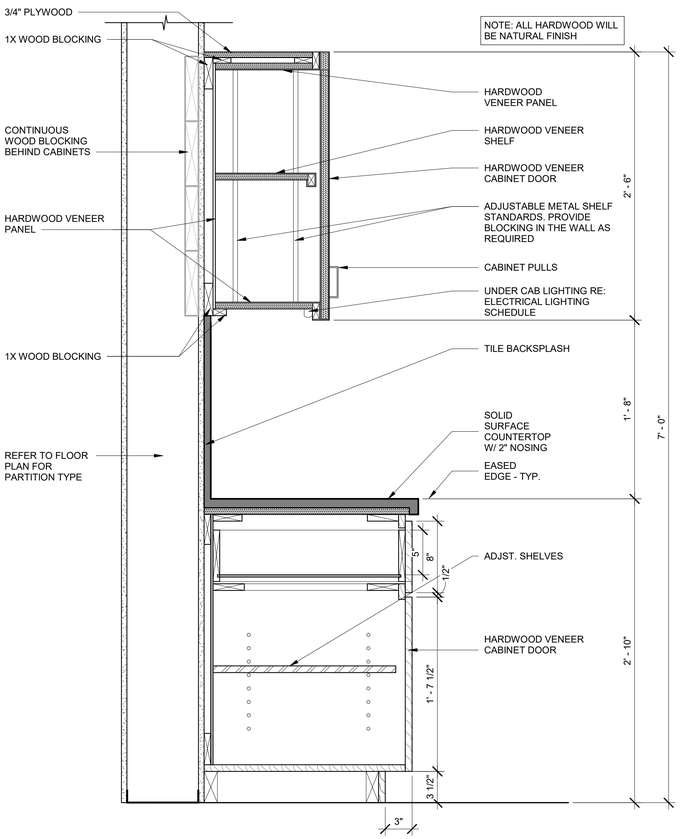
3 HALLWAY (115) - EAST
3/8" = 1'-0"



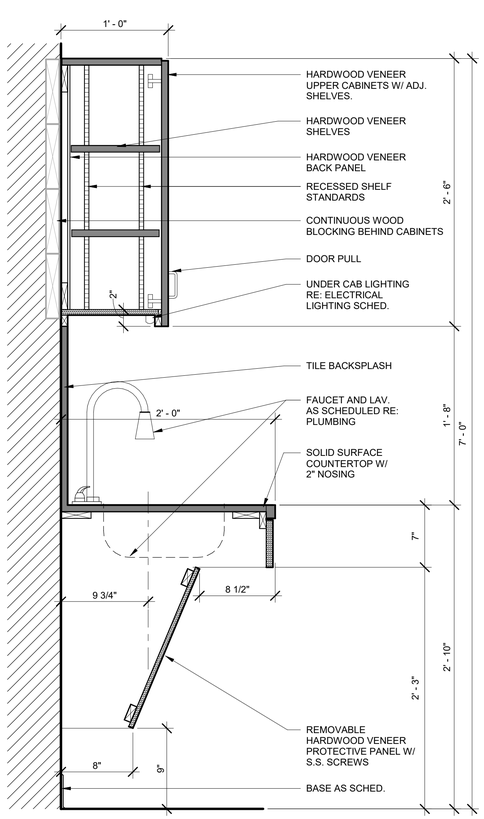
4 MECH / JAN (114) - EAST
3/8" = 1'-0"



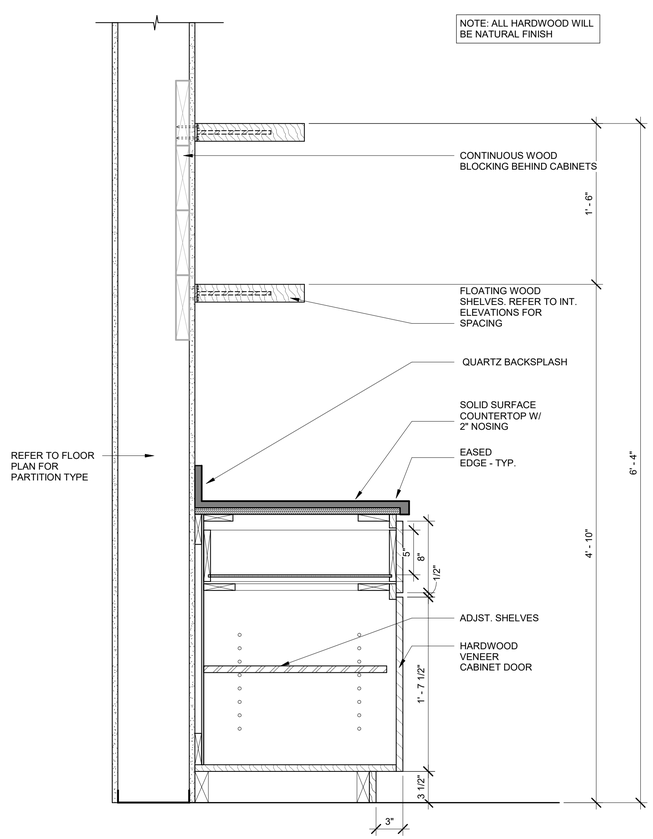
5 MECH / JAN (114) - NORTH
3/8" = 1'-0"



7 CABINET DETAILS
1 1/2" = 1'-0"



8 CABINET SINK DETAIL
1 1/2" = 1'-0"



9 CABINET DETAILS W/ SHELVES
1 1/2" = 1'-0"

REGISTERED ARCHITECT
BRIAN T. RICHTER
20468
STATE OF TEXAS
05.22.26

TEXAS PARKS & WILDLIFE

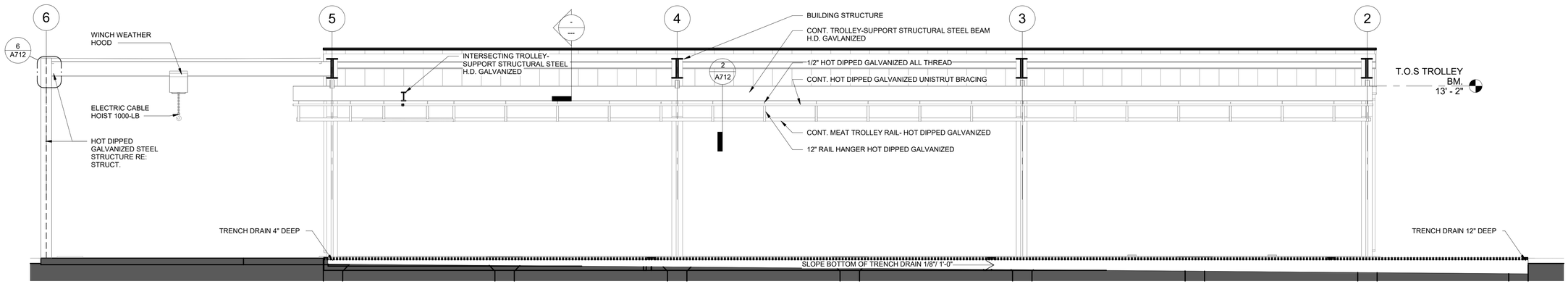
RICHTER ARCHITECTS

Powderhorn Wildlife Management Area
New Conservation Education Center
Project Number: #1210264

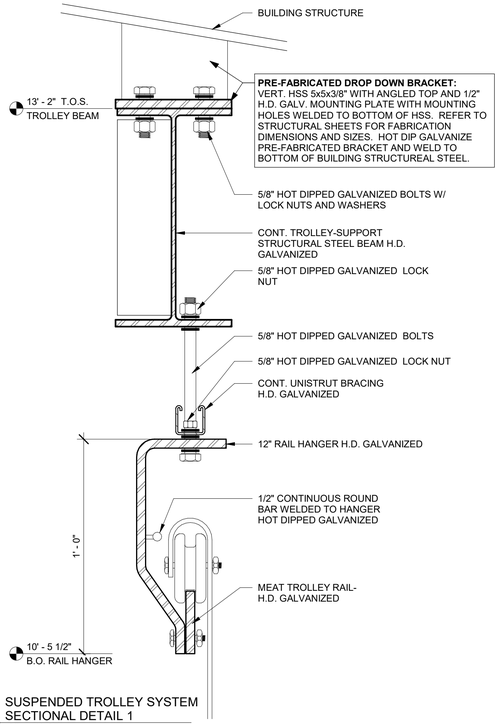
DATE: 05.22.2026
DESIGNED BY:
DRAWN BY:
REVIEWED BY:
REVISED:

SHEET TITLE
INTERIOR ELEVATIONS

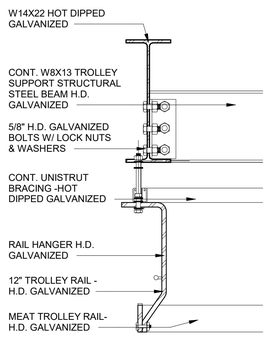
SHEET NUMBER
A711



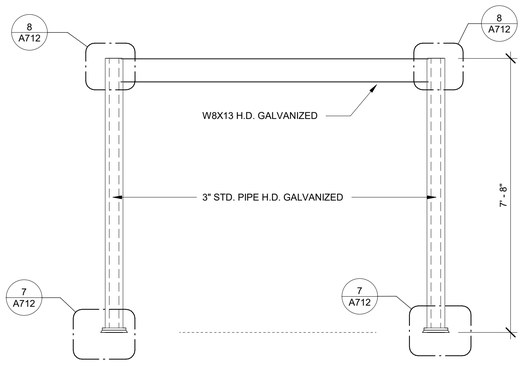
1 SUSPENDED TROLLEY SYSTEM CROSS-SECTION
1/4" = 1'-0"



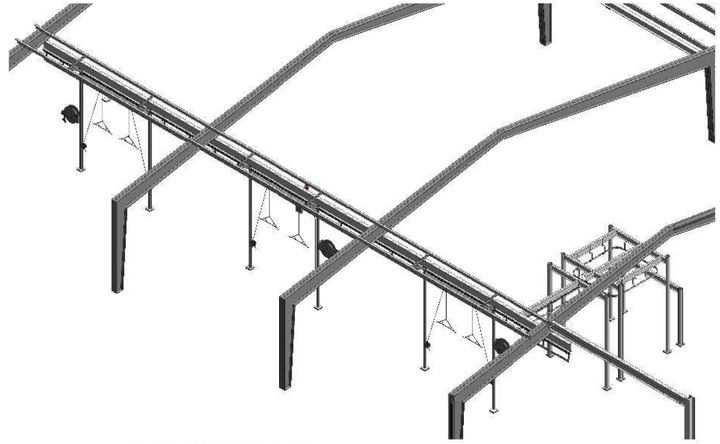
2 SUSPENDED TROLLEY SYSTEM SECTIONAL DETAIL 1
3" = 1'-0"



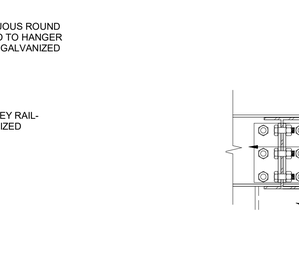
3 SUSPENDED TROLLEY SYSTEM SECTIONAL DETAIL 2
1 1/2" = 1'-0"



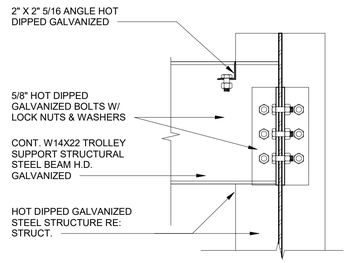
4 COOLER HANGING RACK
1/2" = 1'-0"



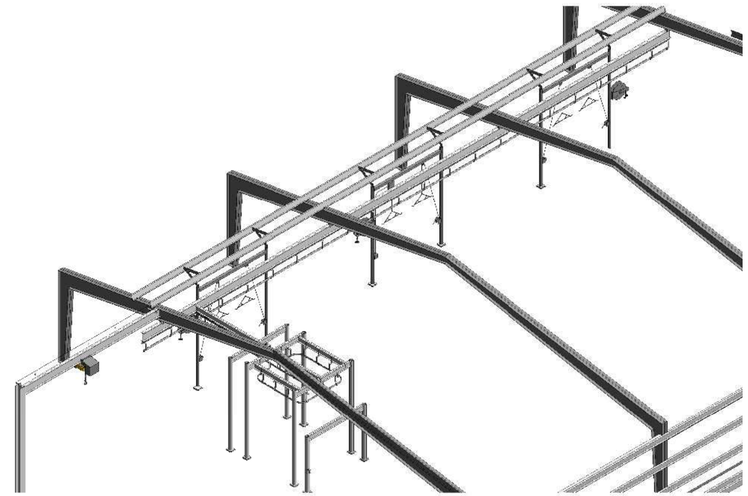
11 SUSPENDED TROLLEY SYSTEM ISOMETRIC VIEW 1



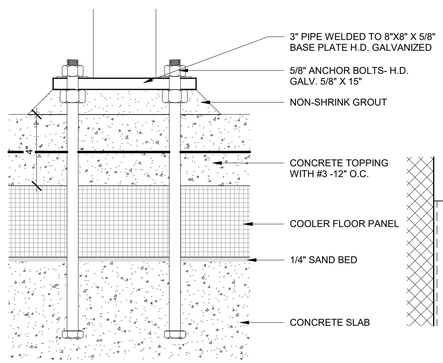
5 CONNECTION DETAIL 1
1 1/2" = 1'-0"



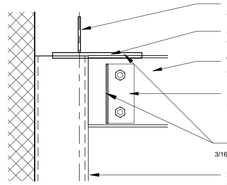
6 CONNECTION DETAIL 2
1 1/2" = 1'-0"



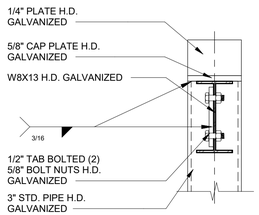
12 SUSPENDED TROLLEY SYSTEM ISOMETRIC VIEW 2



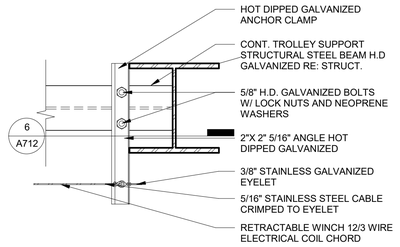
7 BASE DETAIL AT COOLER
3" = 1'-0"



8 CONNECTION DETAIL 3
1 1/2" = 1'-0"



9 CONNECTION ELEVATION DETAIL 4
1 1/2" = 1'-0"



10 CONNECTION DETAIL 5
1 1/2" = 1'-0"

REGISTERED ARCHITECT
BRIAN W. RICHTER
20468
STATE OF TEXAS
05.22.26

TEXAS PARKS & WILDLIFE

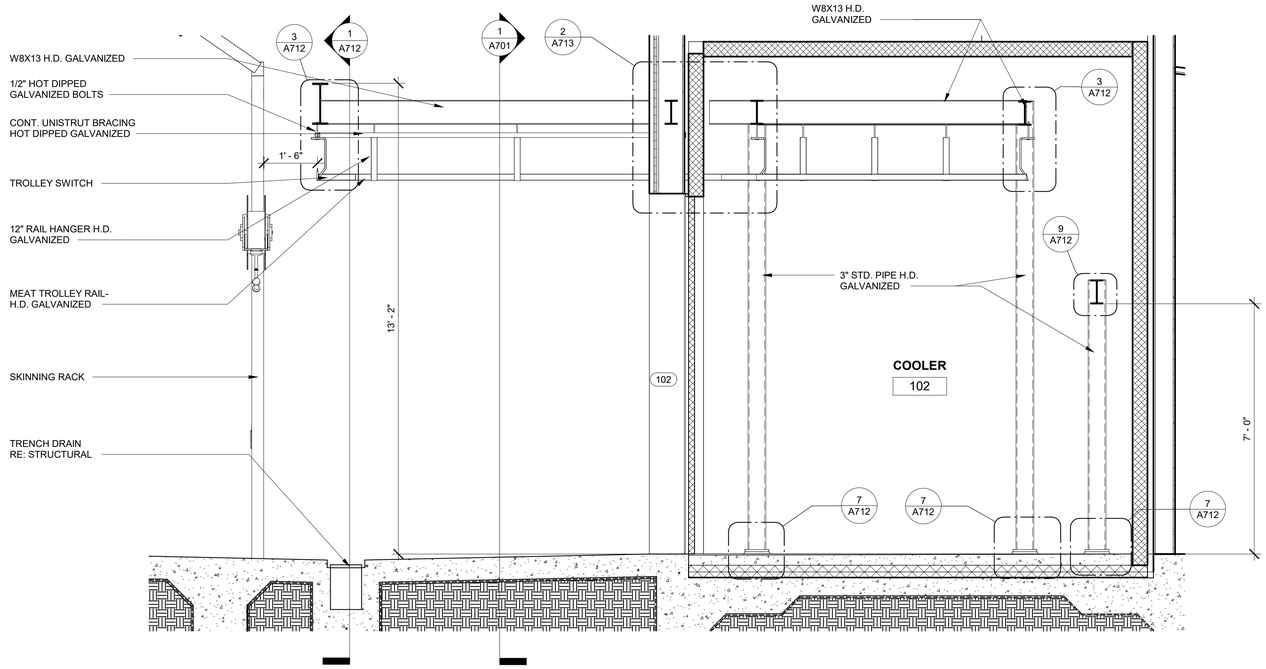
RICHTER ARCHITECTS

Powderhorn Wildlife Management Area
New Conservation Education Center
Project Number: #1210264

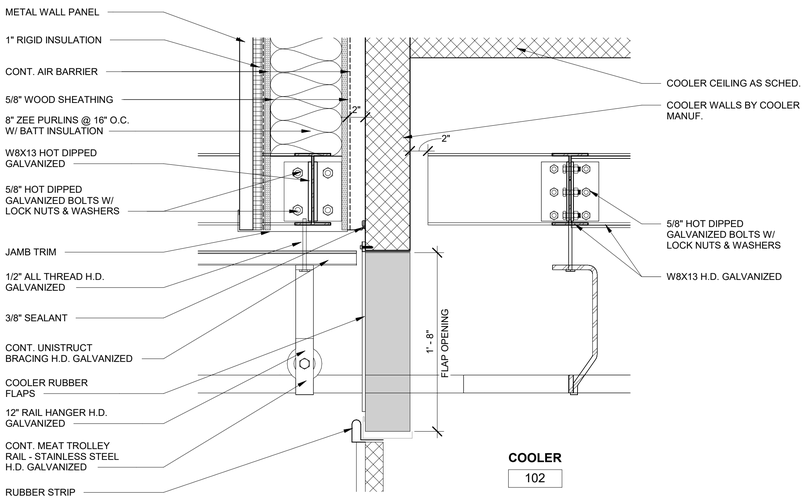
DATE: 05.22.2026
DESIGNED BY:
DRAWN BY:
REVIEWED BY:
REVISED:

SHEET TITLE
TROLLEY DETAILS

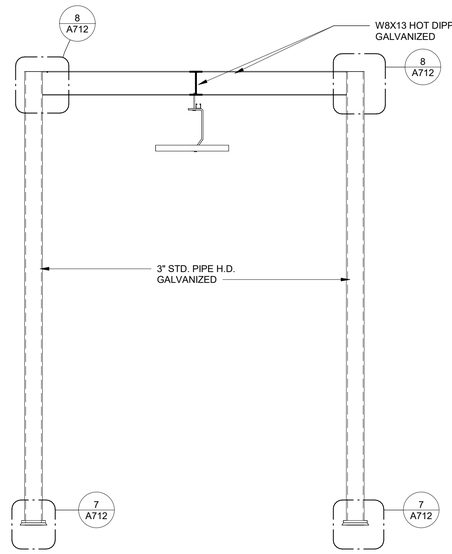
SHEET NUMBER
A712



1 TROLLEY WALK IN COOLER SECTION
1/2" = 1'-0"



2 CONNECTION DETAIL 5 - TROLLEY TO COOLER HANGING RACK
1 1/2" = 1'-0"



3 TROLLEY WALK IN COOLER SECTION 2
1/2" = 1'-0"

REGISTERED ARCHITECT
STATE OF TEXAS
20468
05.22.26

TEXAS PARKS & WILDLIFE

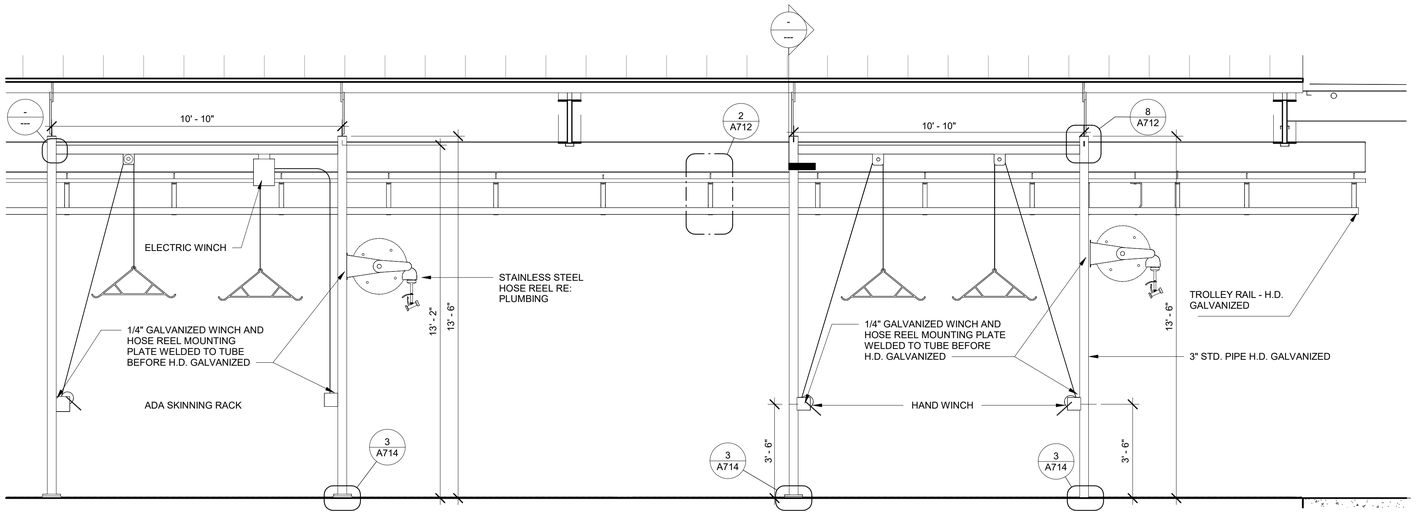
RICHTER ARCHITECTS

Powderhorn Wildlife Management Area
New Conservation Education Center
Project Number: #1210264

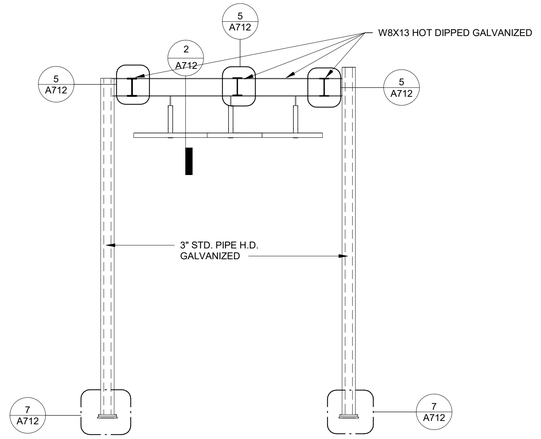
DATE: 05.22.2026
DESIGNED BY:
DRAWN BY:
REVIEWED BY:
REVISED:

SHEET TITLE
COOLER HANGING RACK DETAILS

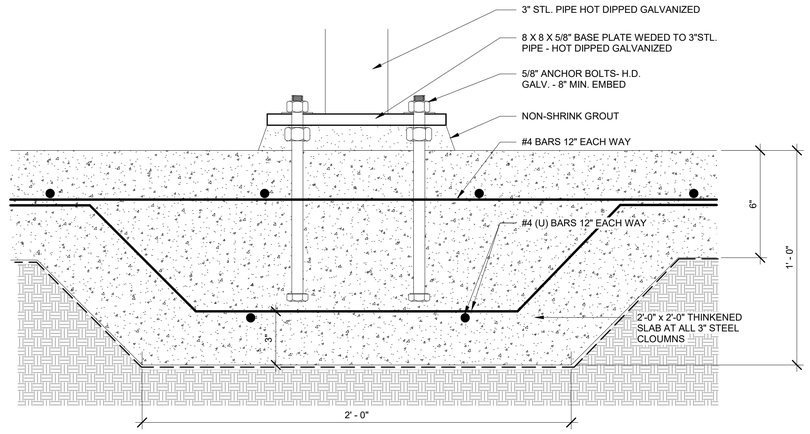
SHEET NUMBER
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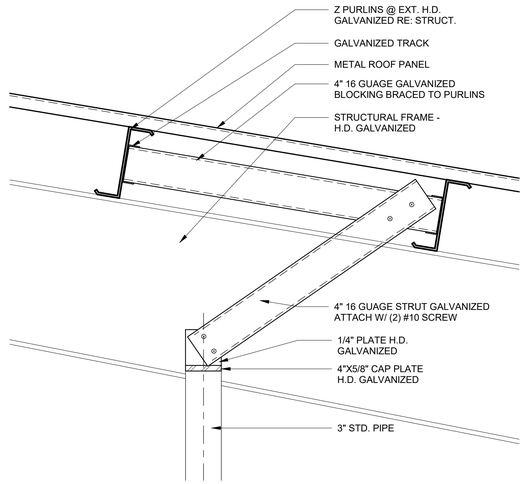
1 SKINNING RACK ELEVATION
3/8" = 1'-0"



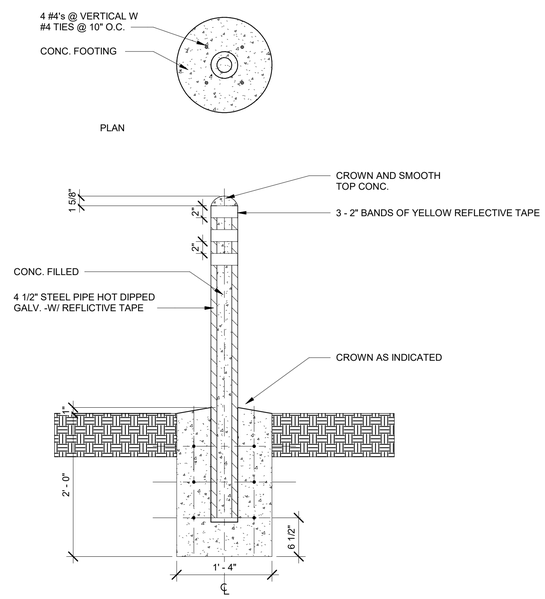
2 COOLER HANGING RACK1
3/8" = 1'-0"



3 BASE PLATE
3" = 1'-0"



4 SKINNING RACK BRACE CONNECTION
1 1/2" = 1'-0"



5 BOLLARD DETAIL
1" = 1'-0"

05.22.26

TEXAS PARKS & WILDLIFE

RICHTER ARCHITECTS

Powderhorn Wildlife Management Area
New Conservation Education Center
Project Number: #1210264

DATE: 05.22.2026
DESIGNED BY:
DRAWN BY:
REVIEWED BY:
REVISED:

SHEET TITLE
SKINNING STATION DETAILS

SHEET NUMBER
A714



05.22.26

TEXAS PARKS & WILDLIFE

RICHTER ARCHITECTS

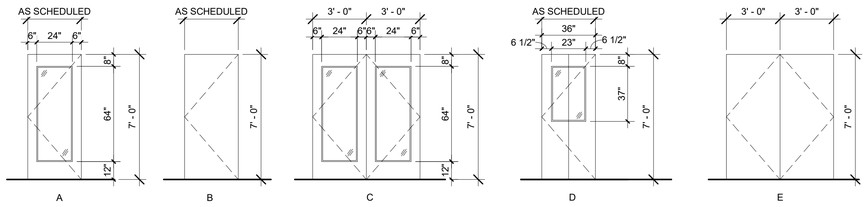
Room Finish Schedule

Number	Name	Floor Finish	Base Finish	Wall Finish - North	Wall Finish - South	Wall Finish - East	Wall Finish - West	Ceiling Finish	Ceiling Height	Comments
101	MULTI-PURPOSE	POLISHED CONCRETE	VINYL	GYP. BD. - PNT	GYP. BD. - PNT	GYP. BD. - PNT	GYP. BD. - PNT / TILE BACKSPLASH	S.A.C	SLOPED	
102	COOLER	SEALED CONC	URETHANE RESINOUS	ACRYLUME	ACRYLUME	ACRYLUME	ACRYLUME	ACRYLUME	13'-7"	
103	RR2	TILE	TILE	TILE	TILE	TILE	TILE	GYP. BD. - PAINT	9'-0"	
104	RR1	TILE	TILE	TILE	TILE	TILE	TILE	GYP. BD. - PAINT	9'-0"	
105	STORAGE	SEALED CONC	VINYL	GYP. BD. - PNT	GYP. BD. - PNT	GYP. BD. - PNT	GYP. BD. - PNT	OPEN TO STRUCT.	9'-0"	
106	OFFICE	POLISHED CONCRETE	VINYL	GYP. BD. - PNT	GYP. BD. - PNT	GYP. BD. - PNT	GYP. BD. - PNT	S.A.C	9'-0"	
107	OFFICE	POLISHED CONCRETE	VINYL	GYP. BD. - PNT	GYP. BD. - PNT	GYP. BD. - PNT	GYP. BD. - PNT	S.A.C	9'-0"	
108	OFFICE	POLISHED CONCRETE	VINYL	GYP. BD. - PNT	GYP. BD. - PNT	GYP. BD. - PNT	GYP. BD. - PNT	S.A.C	9'-0"	
109	STORAGE	POLISHED CONCRETE	VINYL	GYP. BD. - PNT	GYP. BD. - PNT	GYP. BD. - PNT	GYP. BD. - PNT	OPEN TO STRUCT.	--	
110	OFFICE	POLISHED CONCRETE	VINYL	GYP. BD. - PNT	GYP. BD. - PNT	GYP. BD. - PNT	GYP. BD. - PNT	S.A.C	9'-0"	
111	RR3	TILE	TILE	TILE	TILE	TILE	TILE	GYP. BD. - PAINT	9'-0"	
112	ELEC.	SEALED CONC	VINYL	GYP. BD. - PNT	GYP. BD. - PNT	GYP. BD. - PNT	GYP. BD. - PNT	OPEN TO STRUCT.	--	DOOR LOUVER 24X18 BY DOOR MANUFACTURE
114	MECH. / JAN	SEALED CONC	VINYL	GYP. BD. - PNT	GYP. BD. - PNT	GYP. BD. - PNT	GYP. BD. - PNT	OPEN TO STRUCT.	--	
115	HALLWAY	POLISHED CONCRETE	VINYL	GYP. BD. - PNT	GYP. BD. - PNT	GYP. BD. - PNT	GYP. BD. - PNT	S.A.C	9'-0"	

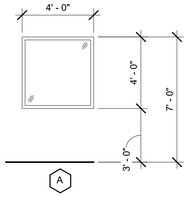
Door Schedule

Mark	Door Width	Door Height	Frame Material	Door Finish	Door Type	HARDWARE SET	Comments
101A	3'-0"	7'-0"	H.M.	H.M.	A	1	
101C	3'-0"	7'-0"	H.M.	H.M.	C	1	
102							BY COOLER MANUFACTURER
103	3'-0"	7'-0"	H.M.	H.M.	B	2	
104	3'-0"	7'-0"	H.M.	H.M.	B	2	
105	6'-0"	7'-0"	H.M.	WOOD	E	4	
106	3'-0"	7'-0"	H.M.	WOOD	D	5	IMPACT RATED LITE KIT
107	3'-0"	7'-0"	H.M.	WOOD	D	5	IMPACT RATED LITE KIT
108	3'-0"	7'-0"	H.M.	WOOD	D	5	IMPACT RATED LITE KIT
110	3'-0"	7'-0"	H.M.	WOOD	D	5	IMPACT RATED LITE KIT
111	3'-0"	7'-0"	H.M.	WOOD	B	3	
112	3'-0"	7'-0"	H.M.	WOOD	B	6	
114	3'-0"	7'-0"	H.M.	WOOD	B	6	
115A	3'-0"	7'-0"	H.M.	H.M.	D	1	
115B	3'-0"	7'-0"	H.M.	H.M.	D	1	
115C	3'-0"	7'-0"	H.M.	WOOD	D	7	

DOOR TYPES



EXTERIOR WINDOW TYPE



HARDWARE SCHEDULE:

Hardware Set 1

Door Mark: 101A,101C, 115A & 115B
(Exterior Single Doors, Hollow Metal)

Each to receive:

3	EA	Hinge	14 4-1/2" x 4-1/2"	US32D	MC
1	EA	Mortise Exit Device	11-21-43-8313-ETL	US32D	SA
1	EA	Core	11 6300	US15	SA
1	EA	Closer	1431-UO – Universal Mount	EN	SA
1	EA	Weather-stripping	9002A	NA	
1	EA	Door Bottom	345-A-V-36	US27	PEM
1	EA	Threshold	896HDV x 36"	US27	NA
1	EA	Kick Plate	K1050 10"h x 2" L.D.W.	US32D	Rockwood

(Note: Doors and hardware to be coordinated for TDI windstorm compliance.) Non-removable pin for hindges

Hardware Set 2
DOOR MARK: 103,104 *(Restrooms)*

Each to receive:

3	EA	Hinge	T2314 4-1/2" x 4-1/2"	US32D	MC
1	EA	Privacy	28-10U65 LL	US26D	SA
1	EA	Core	11 6300	US15	SA
1	EA	Closer	1431-UO – Universal Mount	EN	SA
1	EA	Kick Plate	K1050 10"h x 2" L.D.W.	US32D	Rockwood
2	EA	Door Stop	441CU	US26D	Rockwood
3	EA	Silencer 608		Rockwood	
1	EA	Weather-stripping	9002A	NA	
1	EA	Drip Strip	16A	US27	NG

(Note: Doors and hardware to be coordinated for TDI windstorm compliance.)

Hardware Set 3
DOOR MARK: 111 *(Staff Rooms)*

Each to Receive:

3	EA	Hinge	T2314 4-1/2" x 4-1/2"	US32D	MC
1	EA	Privacy	28-10U65 LL	US26D	SA
1	EA	Core	11 6300	US15	SA
1	EA	Closer	1431-UO – Universal Mount	EN	SA
1	EA	Kick Plate	K1050 10"h x 2" L.D.W.	US32D	Rockwood
1	EA	Wall Stop	404	US26D	Rockwood
3	EA	Silencer 608			

Hardware Set 4
DOOR MARK:105 *(Storage)*

Each to Receive:

3	EA	Hinge	T2314 4-1/2" x 4-1/2"	US32D	MC
1	EA	Storeroom Lock	28 64 10G04 LL	US26D	SA
1	EA	Core	11 6300	US15	SA
1	EA	Closer	1431-UO – Universal Mount	EN	SA
3	EA	Silencer 608			
1	EA	Wall Stop	404	US26D	Rockwood
1	EA	Gasketing	S88BL x Length required	PEM	
1	EA	Kick Plate	K1050 10"h x 2" L.D.W.	US32D	Rockwood

Hardware Set 5
DOOR MARK:106,107,108 & 110 *(OFFICES)*

3	EA	Hinge	T2314 4-1/2" x 4-1/2"	US32D	MC
1	EA	Office Lock	28 53 10G05 LL	US26D	SA
1	EA	Core	11 6300	US15	SA
1	EA	Wall Stop	404	US26D	Rockwood
3	EA	Silencer 608			

Hardware Set 6
DOOR MARK: 112 & 114 *(MECHANICAL)*

Mechanical / Electrical, WD./H.M.)

3	EA	Hinge	T2314 4-1/2" x 4-1/2"	US32D	MC
1	EA	Storeroom Lock	28 64 10G04 LL	US26D	SA
1	EA	Core	11 6300	US15	SA
1	EA	Closer	351 CPS EN 581-1 63-0191	EN	SA
1	EA	Door Bottom	345-A-V-36	US27	PEM
1	EA	Threshold	896HDV x 72"	US27	NA
1	EA	Gasketing	S88BL x Length required	PEM	
1	EA	Kick Plate	K1050 10"h x 2" L.D.W.	US32D	Rockwood

**Provide with TORX screw fasteners*

Hardware Set 7
DOOR MARK:115C *(HALLWAY)*

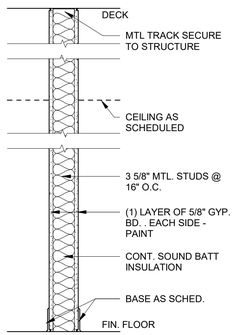
3	EA	Hinge	T2314 4-1/2" x 4-1/2"	US32D	MC
1	EA	Keyed Entry	28 63 10G05 LL	US26D	SA
1	EA	Core	11 6300	US15	SA
1	EA	Wall Stop	404	US26D	Rockwood
3	EA	Silencer 608			
1	EA	Hold open	494	US26D	Rockood

Powderhorn Wildlife Management Area
New Conservation Education Center
Project Number: #1210264

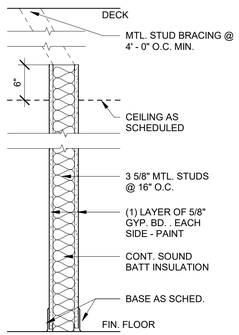
DATE: 05.22.2026
DESIGNED BY:
DRAWN BY:
REVIEWED BY:
REVISED:

SHEET TITLE
SCHEDULES

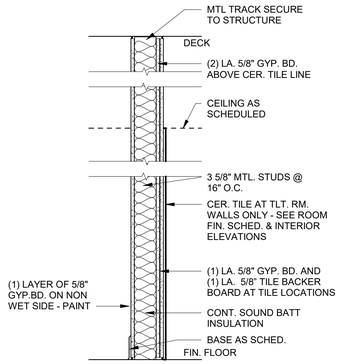
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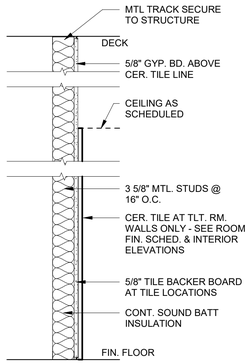
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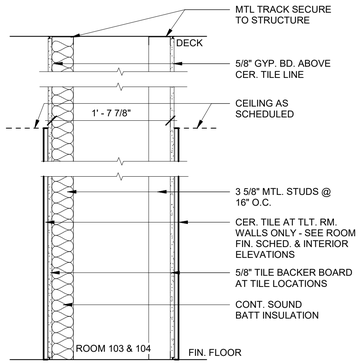
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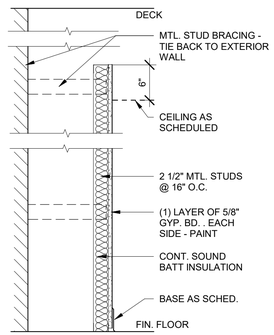
C



D



E



F

G

H

1 PARTITION TYPES
1" = 1'-0"

REGISTERED ARCHITECT
DAVID W. RICHTER
20468
STATE OF TEXAS
05.22.26

TEXAS PARKS & WILDLIFE

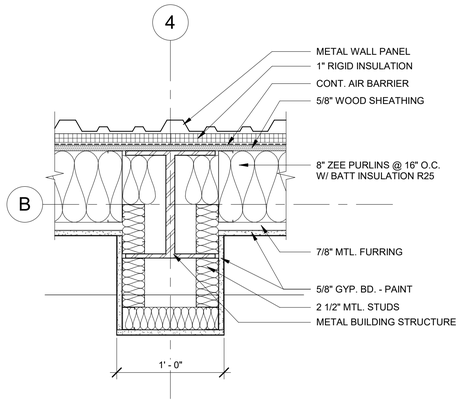
RICHTER ARCHITECTS

Powderhorn Wildlife Management Area
New Conservation Education Center
Project Number: #1210264

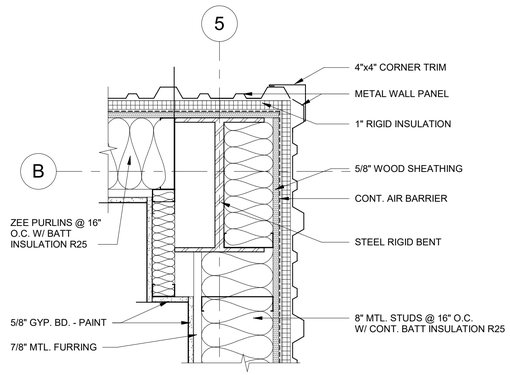
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DRAWN BY:
REVIEWED BY:
REVISED:

SHEET TITLE
PARTITION TYPES

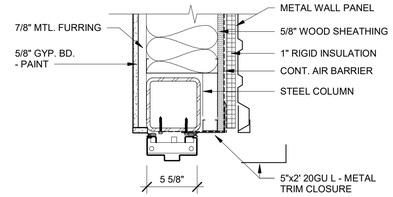
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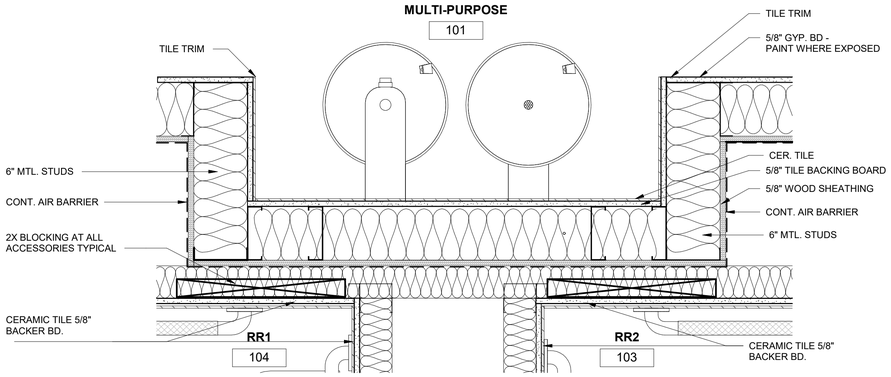
1 EXT. WALL @ COLUMN
1 1/2" = 1'-0"



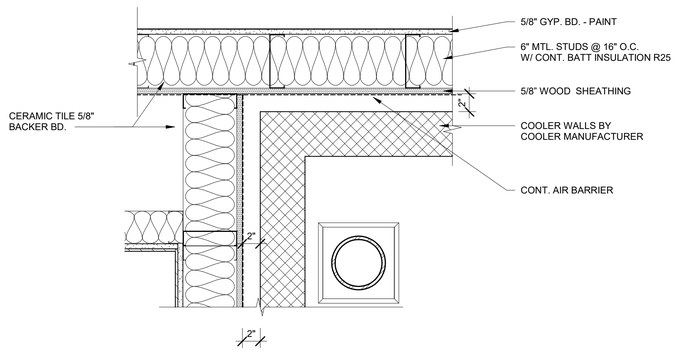
2 BLDG. CORNER N/E - TYP.
1 1/2" = 1'-0"



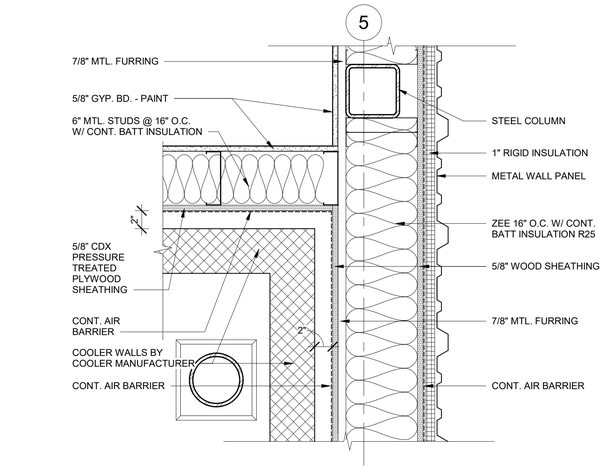
3 EXT. WALL EAST @ COLUMN
1 1/2" = 1'-0"



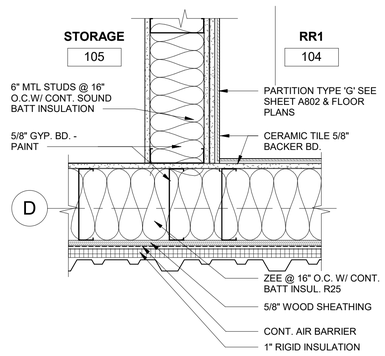
4 PLUMBING CHASE INT.
1 1/2" = 1'-0"



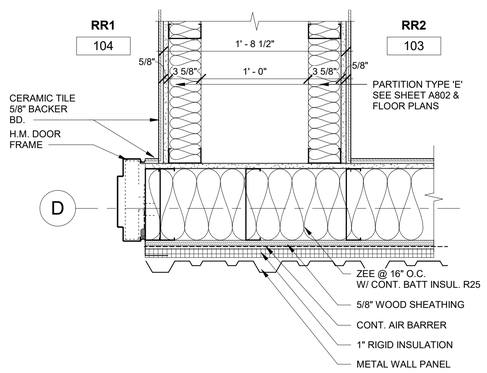
5 COOLER N/W CORNER
1 1/2" = 1'-0"



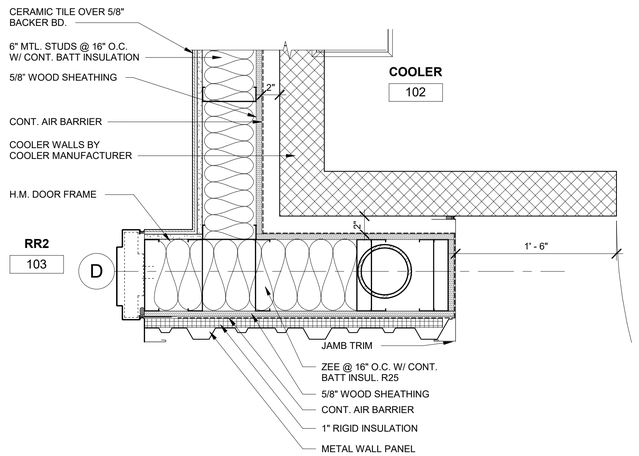
6 COOLER N/E CORNER
1 1/2" = 1'-0"



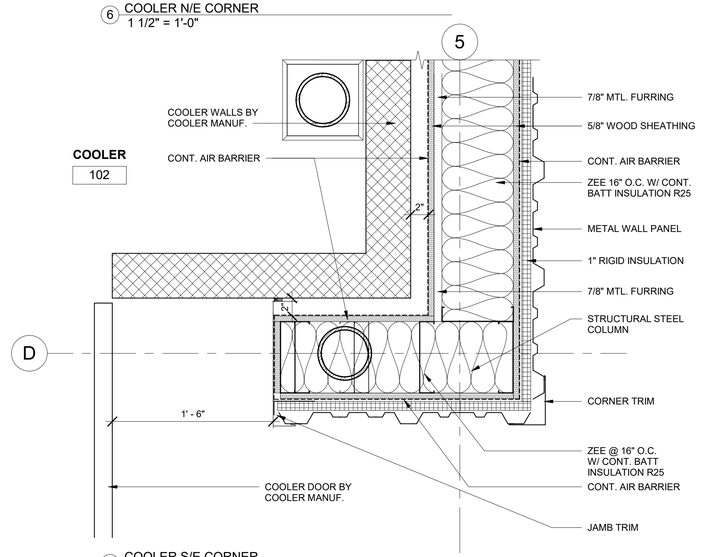
7 EXT. WALL SOUTH
1 1/2" = 1'-0"



8 PLUMBING CHASE EXT.
1 1/2" = 1'-0"



9 COOLER S/W CORNER
1 1/2" = 1'-0"



10 COOLER S/E CORNER
1 1/2" = 1'-0"

REGISTERED ARCHITECT
DAVID RICHTER
20468
STATE OF TEXAS
05.22.26

TEXAS PARKS & WILDLIFE

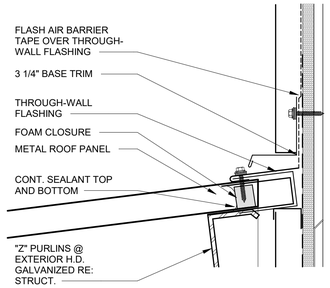
RICHTER ARCHITECTS

Powderhorn Wildlife Management Area
New Conservation Education Center
Project Number: #1210264

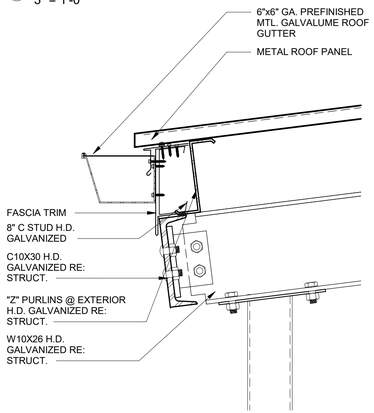
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DRAWN BY: NC/LG
REVIEWED BY:
REVISED:

SHEET TITLE
PLAN DETAILS

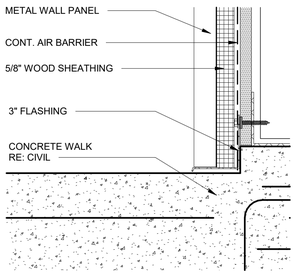
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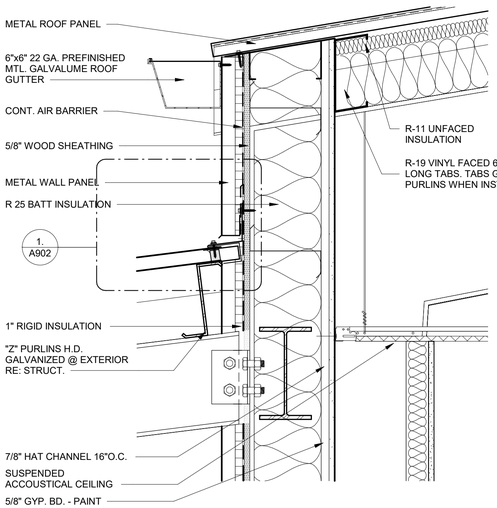
1. ROOF FLASHING DETAIL
3" = 1'-0"



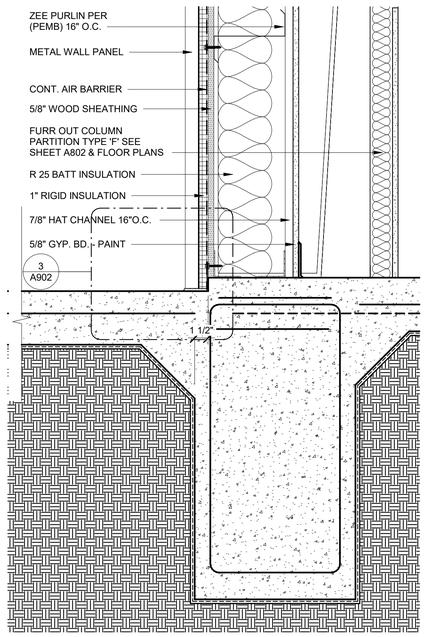
2 NORTH PORCH EAVE/GUTTER DTL.
1 1/2" = 1'-0"



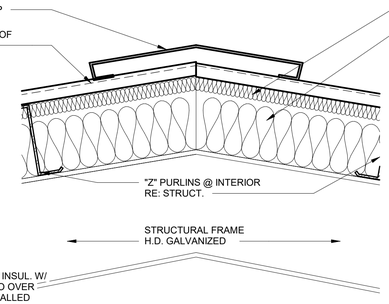
3 FLASHING DETAIL
3" = 1'-0"



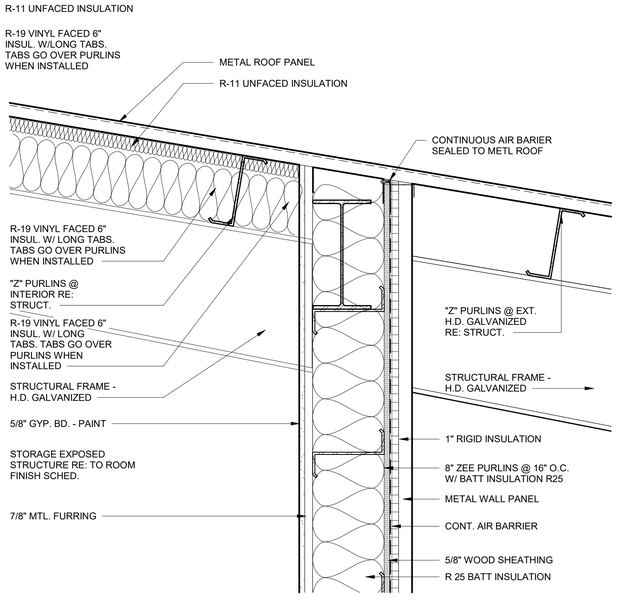
4 ROOF TO WALL CONNECTION
1 1/2" = 1'-0"



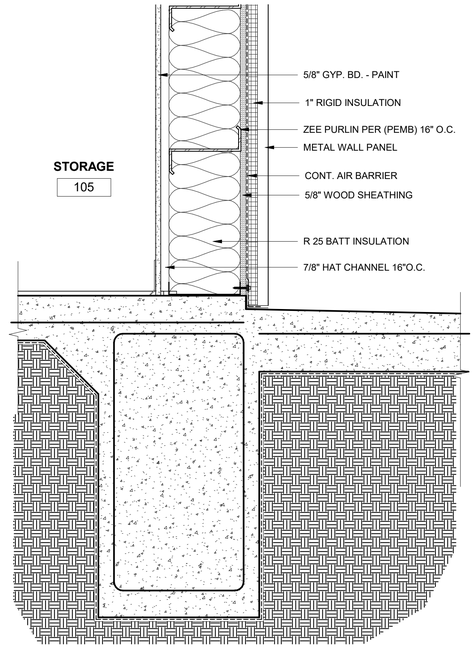
5 NORTH EDGE BASE DETAIL
1 1/2" = 1'-0"



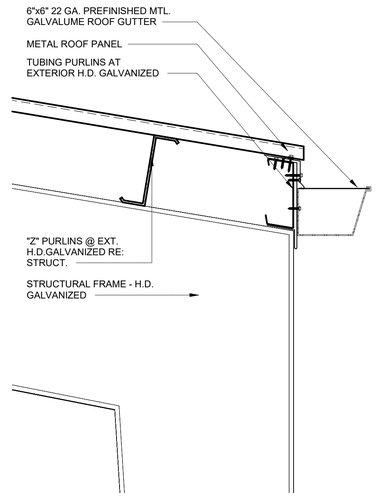
6 RIDGE DETAIL
1 1/2" = 1'-0"



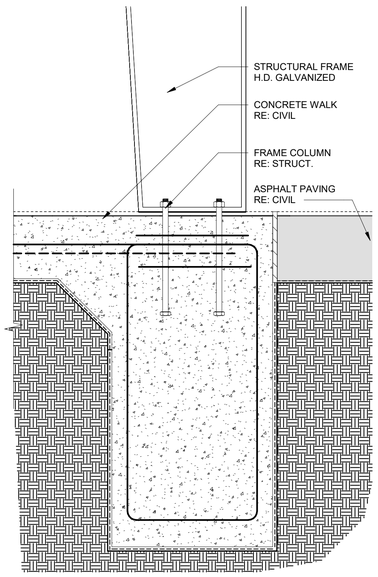
7 SOUTH EAVE DETAIL
1 1/2" = 1'-0"



8 SOUTH EDGE BASE DETAIL
1 1/2" = 1'-0"



9 PROCESSING SOUTH - GUTTER DTL.
1 1/2" = 1'-0"



10 PROCESSING SOUTH - BASE DTL.
1 1/2" = 1'-0"

REGISTERED ARCHITECT
JAMES A. RICHTER
20468
STATE OF TEXAS
05.22.26

TEXAS PARKS & WILDLIFE

RICHTER ARCHITECTS

Powderhorn Wildlife Management Area
New Conservation Education Center
Project Number: #1210264

DATE: 05.22.2026
DESIGNED BY:
DRAWN BY:
REVIEWED BY:
REVISED:

SHEET TITLE
DETAILS

SHEET NUMBER
A902

GENERAL NOTES:

DESIGN CRITERIA

1. **DESIGN LOADS,** TEXAS DEPARTMENT OF INSURANCE REQUIREMENTS SHALL BE BASED UPON THE FOLLOWING:
   a. INTERNATIONAL BUILDING CODE 2024 EDITION AND
   b. ASCE 7-22:
2. **DESIGN WIND LOADS** BASED ON ASCE 7-22:
   WIND SPEED: 155 MPH
   WIND EXPOSURE: C
   IMPORTANCE FACTOR II
   COMPONENTS AND CLADDING – *SEE TABLE*
   (THE PRESSURES SHOWN ON THE DRAWINGS ARE ULTIMATE)

SITE INSPECTIONS

THE ITEMS LISTED BELOW NEED TO BE INSPECTED FOR COMPLIANCE OF THE TEXAS DEPARTMENT OF INSURANCE REQUIREMENTS. THE CONTRACTOR NEEDS TO NOTIFY **CALVETTI & ASSOCIATES** 4 DAYS PRIOR TO INSPECTIONS. THE CONTRACTOR NEEDS TO HAVE ALL ITEMS NEEDING INSPECTION AT THE TIME OF THE INSPECTION. PHOTOGRAPHS WILL NOT BE ACCEPTED AS FORM OF INSPECTION UNLESS IT IS PERMITTED IN WRITING BY **CALVETTI & ASSOCIATES**.

SITE INSPECTION SCHEDULE

Anchor Bolt
Building Frame and Components
Windows, doors and Louver
Facades and Finishes
Final Inspection

PRE-ENGINEERED METAL BUILDING SYSTEM

1. THE METAL BUILDING AND COMPONENTS SHALL BE DESIGNED AS PER LOAD REQUIMENTS IN GENERAL NOTES SHEET (S001)
2. PRIOR TO FABRICATION THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FROM THE MANUFACTURER FOR USE BY **CALVETTI & ASSOCIATES** FOR INCORPORATING THE BUILDING SYSTEM INTO THE CONSTRUCTION PROJECT. INFORMATION TO INCLUDE:
   A. ANCHOR BOLT PLAN SHOWING LOCATION, DIAMETER, PROJECTION OF BOLTS, AND OTHER INFORMATION REQUIRED TO DESIGN THE ANCHORAGE OF THE BUILDING SYSTEM AND PREPARE CONSTRUCTION DRAWINGS FOR THE FOUNDATION.
   B. FOUNDATION DESIGN DATA INCLUDING FORCES IMPOSED BY THE BUILDING SYSTEM ON THE FOUNDATION AND OTHER FOUNDATION DESIGN CRITERIA REQUIRED FOR ANCHORAGE OF THE BUILDING SYSTEM.
   C. FORCES IMPOSED BY THE BUILDING SYSTEM ON COLLATERAL WALLS, LATERAL FRAME DEFLECTIONS, AND OTHER DESIGN CRITERIA IMPOSED BY THE BUILDING SYSTEM.
   D. LETTER OF DESIGN INTENT ISSUED AND SEALED BY THE MANUFACTURER'S ENGINEER. THE LETTER OF INTENT SHALL INCLUDE THE FOLLOWINGS:
   a. ORDER OR QUOTATION NUMBER.
   b. IDENTIFICATION OF DEALER.
   c. STATEMENT THAT THE STRUCTURAL DESIGN OF THE BUILDING SYSTEM IS UNDER THE RESPONSIBLE SUPERVISION OF THE MANUFACTURER'S ENGINEER.
   d. STATEMENT THAT THE DESIGN OF THE BUILDING SYSTEM CONFORMS TO THE REQUIREMENTS OF THE ORDER DOCUMENTS.
   e. SYSTEM TYPE(S) AND DIMENSIONS.
   f. SUMMARY OF DESIGN CRITERION SPECIFIED ON THE QUOTATION/ORDER DOCUMENTS.
3. THE EMBEDMENT OF THE ANCHOR BOLTS CONNECTING THE MANUFACTURED BUILDING SYSTEM TO THE FOUNDATION WILL BE DESIGNED BY **CALVETTI & ASSOCIATES** BASED UPON DETAILS AND REACTIONS OBTAINED FROM THE MANUFACTURER. THE CONTRACTOR SHALL COORDINATE THE CONNECTION OF THE BUILDING SYSTEM WITH THE MANUFACTURER AND **CALVETTI & ASSOCIATES** PRIOR TO CONSTRUCTION.

SHOP DRAWING AND SUBMITTAL REVIEW

1. **LAWRENCE CALVETTI & ASSOCIATES PROFESSIONAL ENGINEERS, INC. (CALVETTI & ASSOCIATES)** WILL REVIEW AND APPROVE **CONTRACTOR'S** SHOP DRAWINGS AND RELATED SUBMITTALS (AS INDICATED BELOW) WITH RESPECT TO THE ABILITY OF THE DETAILED WORK, WHEN COMPLETE, TO A PROPERLY FUNCTIONING INTEGRAL ELEMENT OF THE OVERALL SYSTEM DESIGNED BY **CALVETTI & ASSOCIATES. A MINIMUM OF ONE HARD COPY SET OF SHOP DRAWINGS MUST BE SUBMITTED IF AN ELECTRONIC SET IS TO BE SUBMITTED.**
2. A SUBMITTAL MADE FROM A REPRODUCTION OF CONSTRUCTION DOCUMENTS PRODUCED BY CALVETTI & ASSOCIATES WILL NOT BE ACCEPTABLE AND WILL BE RETURNED WITHOUT REVIEW.
3. BEFORE SUBMITTING A SHOP DRAWING OR ANY RELATED MATERIAL TO **CALVETTI & ASSOCIATES, CONTRACTOR** SHALL: REVIEW EACH SUCH SUBMISSION FOR CONFORMANCE WITH THE MEANS, METHODS, TECHNIQUES, SEQUENCES, AND OPERATIONS OF CONSTRUCTION, AND SAFETY PRECAUTIONS AND PROGRAMS INCIDENTAL THERETO, ALL OF WHICH ARE THE SOLE RESPONSIBILITY OF THE **CONTRACTOR;** REVIEW SUBMITTALS FOR DIMENSIONS AND MATERIALS, APPROVE EACH SUCH SUBMISSION BEFORE SUBMITTING IT; AND SO STAMP EACH SUCH SUBMISSION BEFORE SUBMITTING IT. **CALVETTI & ASSOCIATES** SHALL ASSUME THAT NO SHOP DRAWING OR RELATED SUBMITTAL COMPRISES A VARIATION UNLESS **CONTRACTOR** ADVISES **CALVETTI & ASSOCIATES** OTHERWISE VIA A WRITTEN INSTRUMENT, WHICH IS ACKNOWLEDGED BY **CALVETTI & ASSOCIATES** IN WRITING. THE SHOP DRAWING AND RELATED MATERIAL (IF ANY) CALLED FOR ARE INDICATED BELOW. IN THE EVENT THAT **CALVETTI & ASSOCIATES** WILL REQUIRE MORE THAN SEVEN (7) WORKING DAYS TO PERFORM REVIEW, **CALVETTI & ASSOCIATES** SHALL SO NOTIFY THE **CONTRACTOR**.
4. **SUBMITTALS**

Concrete Mix Designs
Anchor bolt Size and Layout
PEMB and Components
-Purlins
-Gurts
-Metal Wall Panels
-Roof Panel
-Windows, doors and Louver etc

5. **CALVETTI & ASSOCIATES** SHALL RETURN SHOP DRAWINGS AND RELATED MATERIALS WITH COMMENTS PROVIDED THAT EACH SUBMISSION HAS BEEN CALLED FOR AND IS STAMPED BY THE **CONTRACTOR. CALVETTI & ASSOCIATES** SHALL RETURN WITHOUT COMMENT MATERIAL NOT CALLED FOR OR WHICH HAS NOT BEEN APPROVED BY THE **CONTRACTOR. CALVETTI & ASSOCIATES** SHALL NOT REVIEW PARTIAL SUBMISSIONS OR THOSE WHICH SUBMISSIONS FOR CORRELATED ITEMS HAVE NOT BEEN RECEIVED.

COMPONENTS AND CLADDING WIND LOAD NOTES:

1. WIND PRESSURES SHOWN IN TABLES CORRESPOND TO WIND PRESSURE DIAGRAMS SHOWN. INTERPOLATING BETWEEN TRIBUTARY AREAS IS PERMITTED.
2. POSITIVE NUMBERS ARE TOWARDS THE SURFACE AND NEGATIVE NUMBERS ARE AWAY FROM THE SURFACE.

COMPONENT AND CLADDING WIND PRESSURE SCHEDULE (PSF)

ROOF TYPE 1

ZONE	EFFECTIVE WIND AREA (FT^2) 10 OR LESS	100	200	300 OR MORE
1	18.66 -96.87	8.44 -51.55	5.33 -39.10	5.33 -30.22
2	18.66 -127.98	8.44 -70.21	5.33 -52.43	5.33 -52.43
3	18.66 -168.0	8.44 -88.0	5.33 -88.0	5.33 -88.0

COMPONENT AND CLADDING WIND PRESSURE

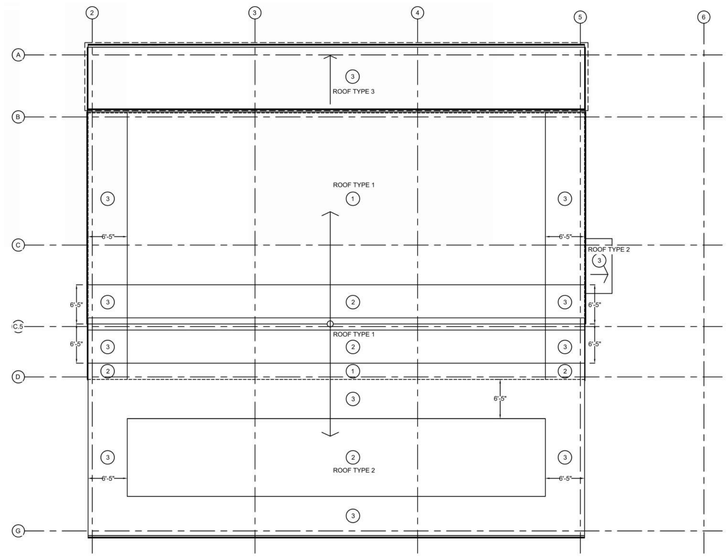
ROOF TYPE 2

ZONE	EFFECTIVE WIND AREA (FT^2) 41 OR LESS	164 OR LESS	MORE THAN 164
1	18.89 -63.08	18.89 -63.08	18.89 -63.08
2	30.22 -95.56	30.22 -95.56	18.89 -61.57
3	37.77 -168.5	30.22 -95.6	18.89 -61.6

COMPONENT AND CLADDING WIND PRESSURE

ROOF TYPE 3

ZONE	EFFECTIVE WIND AREA (FT^2) 41 OR LESS	164 OR LESS	MORE THAN 164
1	18.89 -57.41	18.89 -57.41	18.89 -57.41
2	30.22 -86.12	30.22 -86.12	18.89 -57.41
3	37.77 -114.8	30.22 -86.1	18.89 -57.4

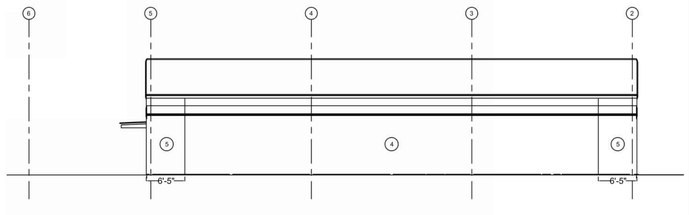


COMPONENTS AND CLADDING WIND LOADS (ROOF)

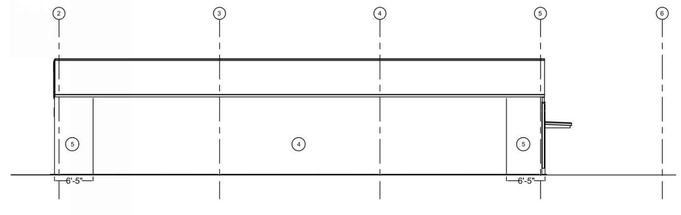
COMPONENT AND CLADDING WIND PRESSURE SCHEDULE (PSF)

WALLS

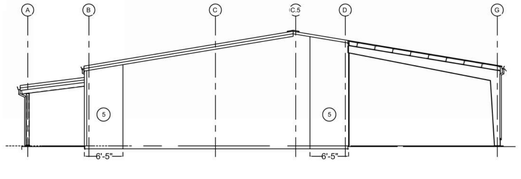
ZONE	EFFECTIVE WIND AREA (FT^2) 10 OR LESS	20	50	100	200	500 OR MORE
4	36.44 -56.88	33.33 -54.66	30.66 -52.43	29.33 -47.99	25.77 -49.32	23.11 -43.55
5	36.44 -70.21	33.33 -65.77	30.66 -59.10	29.33 -54.66	25.77 -46.66	23.11 -43.55



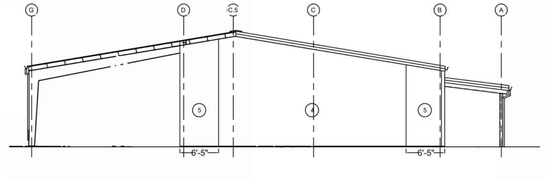
COMPONENTS & CLADDING WIND LOADS
NORTH ELEVATION (WALL)



COMPONENTS & CLADDING WIND LOADS
SOUTH ELEVATION (WALL)



COMPONENTS & CLADDING WIND LOADS
WEST ELEVATION (WALL)



COMPONENTS & CLADDING WIND LOADS
EAST ELEVATION (WALL)

TEXAS PARKS & WILDLIFE

RICHTER ARCHITECTS

Powderhorn Wildlife Management Area
New Conservation Education Center
Project Number: #1210264

DATE: 05.22.2026
DESIGNED BY: KS
DRAWN BY: SEC
REVIEWED BY: DRW
REVISED:

PHASE: CD

SHEET TITLE
GENERAL NOTES + COMPONENT AND CLADDING WIND LOADS

SHEET NUMBER
SW01

100% CD SUBMISSION

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DON R. WIJERATNE
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DESIGN CRITERIA

1. STRUCTURE HAS BEEN DESIGNED TO COMPLY WITH IBC 2024 AND SUBSEQUENT REFERENCE STANDARDS.
2. RISK CATEGORY: II
3. SUPERIMPOSED LIVE LOADS: LIVE LOAD REDUCTION USED AS ALLOWED PER CODE

ROOF	TYPICAL	20 PSF

4. SUPERIMPOSED DEAD LOADS:

ROOF	TYPICAL	10 PSF
TROLLY SYSTEM	TYPICAL	1200 POUNDS PER TROLLY SEGMENT

5. SEISMIC:

SEISMIC DESIGN CATEGORY	A
IMPORTANCE FACTOR	1.0
SITE CLASS	D
SS	0.062 g
S1	0.033 g
SDS	0.056 g
SD1	0.05 g
SEISMIC DOES NOT GOVERN	

6. WIND:

BASIC WIND SPEED	VULT = 155 MPH
EXPOSURE CLASS	C
INTERNAL PRESSURE COEFFICIENT, GCpi	±0.18
SEE PEMB DRAWINGS FOR MWFRS AND COMPONENTS & CLADDING WIND PRESSURE AND ZONE DIAGRAM.	

7. RAIN:

RAIN INTENSITY, i	9.68 IN/HR (15 MINUTE INTENSITY RATE)

8. ALL LATERAL LOAD RESISTANCE AND STABILITY OF THE BUILDING IN THE COMPLETED STRUCTURE IS PROVIDED BY MOMENT FRAMES IN EACH ORTHOGONAL DIRECTION. SEE PLANS FOR LOCATIONS. THE METAL ROOK DECK SERVE AS HORIZONTAL DIAPHRAGMS DISTRIBUTING THE LATERAL FORCES TO THE VERTICAL LATERAL ELEMENTS WHICH IN TURN CARRY THE LOAD TO THE BUILDING FOUNDATIONS.

GENERAL

1. DURING THE CONSTRUCTION PERIOD, THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SAFETY OF PERSONNEL AND PROPERTY ON AND AROUND THE JOBSITE. THE CONTRACTOR SHALL PROVIDE ADEQUATE SHORING, BRACING, GUYS, ETC. IN ACCORDANCE WITH ALL NATIONAL, STATE, AND LOCAL SAFETY ORDINANCES. TEMPORARY BRACING, SHORING, GUYING, ETC. SHALL AVOID EXCESSIVE STRESSES AND HOLD STRUCTURAL ELEMENTS IN PLACE DURING CONSTRUCTION. THE STRUCTURE SHOULD NOT BE CONSIDERED STABLE UNTIL ALL STRUCTURAL ELEMENTS HAVE BEEN CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
2. ALL DRAWINGS AND SPECIFICATIONS ARE CONSIDERED TO BE A PART OF THE CONTRACT DOCUMENTS. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE REVIEW AND COORDINATION OF ALL DRAWINGS PRIOR TO THE START OF CONSTRUCTION. ANY DISCREPANCIES OR OMISSIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT PRIOR TO THE START OF CONSTRUCTION SO A CLARIFICATION CAN BE ISSUED. ANY WORK THAT DEVIATES FROM OR IS PERFORMED IN CONFLICT WITH THE CONTRACT DOCUMENTS OR ANY CODE REQUIREMENTS SHALL BE CORRECTED BY THE CONTRACTOR AT THEIR OWN EXPENSE AND AT NO EXPENSE TO THE OWNER OR THE DESIGN PROFESSIONALS.
3. THE CONTRACT DOCUMENTS REPRESENT THE FINISHED STRUCTURE. THEY DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING ALLOWABLE CONSTRUCTION LOADS AND FOR DETERMINING SEQUENCES OF CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE ALL MEASURES NECESSARY TO PROTECT THE STRUCTURE AND SAFETY OF WORKERS DURING CONSTRUCTION. SUCH MEASURES SHALL INCLUDE, BUT NOT BE LIMITED TO: FALSEWORK, FORMWORK, STAGING, BRACING, AND SHORING FOR LOADS DUE TO CONSTRUCTION EQUIPMENT, ETC. OBSERVATION VISITS TO THE SITE BY THE ARCHITECT SHALL NOT INCLUDE INSPECTION OR APPROVAL OF THE ABOVE ITEMS AND DO NOT IN ANY WAY RELIEVE THE CONTRACTOR OF THEIR RESPONSIBILITIES FOR THE ABOVE. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO MAINTAIN AND ENSURE THE INTEGRITY OF THE STRUCTURE AT ALL STAGES OF CONSTRUCTION.
4. ALL DIMENSIONS AND SITE CONDITIONS SHALL BE VERIFIED BY THE CONTRACTOR AT THE JOBSITE PRIOR TO BID SUBMITTAL, START OF SHOP DRAWINGS, START OF CONSTRUCTION, AND/OR FABRICATION OF MATERIALS. IF DISCREPANCIES ARE ENCOUNTERED, OR CONDITIONS DEVELOP THAT ARE NOT COVERED BY THE CONTRACT DOCUMENTS, THE ARCHITECT SHALL BE NOTIFIED FOR CLARIFICATION.
5. STRUCTURAL SUBSTITUTIONS MAY BE ALLOWED WITH THE APPROVAL OF THE STRUCTURAL ENGINEER. SUPPLIER SHALL PROVIDE SIGNED AND SEALED DESIGN CALCULATIONS OR SUITABLE PRODUCT LITERATURE FOR THE COMPONENTS. ALL PRODUCT SUBSTITUTIONS SHALL INCLUDE A CODE EVALUATION REPORT SPECIFIC TO THE BUILDING CODE LISTED IN THE DESIGN CRITERIA.
6. STRUCTURAL DRAWINGS INCLUDE DESIGN REQUIREMENTS AND DIMENSIONS FOR STRUCTURAL INTEGRITY BUT DO NOT SHOW ALL DETAIL DIMENSIONS TO FIT INTRICATE ARCHITECTURAL AND MECHANICAL DETAILS. CONTRACTOR SHALL CONSTRUCT THE WORK SO IT WILL CONFORM TO THE CLEARANCES REQUIRED BY ARCHITECTURAL, MECHANICAL, AND ELECTRICAL DESIGN.
7. ALL SYMBOLS AND ABBREVIATIONS USED ON THE DRAWINGS ARE CONSIDERED TO BE CONSTRUCTION STANDARDS. IF CLARIFICATION IS REQUIRED, THE CONTRACTOR SHALL NOTIFY THE ARCHITECT PRIOR TO PROCEEDING WITH THE WORK.
8. DO NOT SCALE DRAWINGS. PRINTED DIMENSIONS HAVE PRECEDENCE OVER SCALED DRAWINGS AND LARGE-SCALE OVER SMALL-SCALE DRAWINGS. CONTRACTOR TO DETERMINE FINAL DIMENSION WITH ARCHITECT.
9. TYPICAL DETAILS SHALL APPLY TO SITUATIONS OCCURRING ON THE PROJECT THAT ARE THE SAME OR SIMILAR TO THOSE SPECIFICALLY REFERENCED. WHERE NO DETAILS ARE GIVEN, CONSTRUCTION SHALL BE AS SHOWN FOR SIMILAR WORK.
10. SEE ARCHITECTURAL, ELECTRICAL, AND MECHANICAL DRAWINGS FOR DETAILS, CONDITIONS, PITS, TRENCHES, PADS, DEPRESSIONS, ROOF / FLOOR OPENINGS, TOP OF WALL ELEVATIONS, STAIRS, SLEEVES, ITEMS TO BE EMBEDDED OR ATTACHED TO STRUCTURAL ELEMENTS, ETC., NOT SHOWN ON THE STRUCTURAL DRAWINGS. FOR THESE NON-STRUCTURAL ELEMENTS SHOWN ON STRUCTURAL DRAWINGS, THEY ARE FOR GENERAL INFORMATION ONLY.
11. COORDINATE FLOOR FINISH INCLUDING, BUT NOT LIMITED TO THE "FLATNESS" AND "LEVELNESS" REQUIREMENTS, WITH THE FLOOR FINISH CONTRACTOR. PROVIDE UNDERLAYMENT / TOPPING WHERE REQUIRED TO PROVIDE A SURFACE ACCEPTABLE FOR INSTALLATION OF FLOOR FINISHES. SEE ARCHITECTURAL DRAWINGS AND SPECIFICATIONS FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
12. ESTABLISH AND VERIFY ALL OPENINGS AND INSERTS FOR MECHANICAL, ELECTRICAL, AND PLUMBING WITH APPROPRIATE TRADE CONTRACTORS. OPENING SIZES AND LOCATIONS SHOWN FOR DUCTS, PIPE, INSERTS, AND OTHER PENETRATIONS WHEN SHOWN ARE FOR GENERAL INFORMATION ONLY AND SHALL BE VERIFIED PRIOR TO FORMING.
13. THE EXACT WEIGHTS, DIMENSIONS, AND LOCATIONS OF ALL MECHANICAL UNITS AND ELECTRICAL GEAR SUPPORTED ON STRUCTURAL FRAMING SHALL BE DETERMINED AND COORDINATED BY THE CONTRACTOR PRIOR TO DETAILING THE STRUCTURAL FRAMING SUPPORTING THOSE UNITS. IF THE UNIT WEIGHTS ARE GREATER THAN THE WEIGHTS SHOWN ON THE STRUCTURAL DRAWINGS, THE STRUCTURAL ENGINEER SHALL BE NOTIFIED PRIOR TO DETAILING THE STRUCTURE. UNIT WEIGHTS, DIMENSIONS, AND LOCATIONS SHOWN ON THE STRUCTURAL DRAWINGS ARE APPROXIMATE ONLY AND SHALL NOT BE USED FOR DETAILING THE STRUCTURE.
14. PROVIDE TEMPORARY BLOCKOUTS AND TEMPORARY OPENINGS IN THE STRUCTURE AS REQUIRED TO PERMIT INSTALLATION OF ALL WORK. BLOCKOUTS AND TEMPORARY OPENINGS SHALL BE LOCATED, CONFIGURED, DETAILED, AND INFILLED IN A MANNER THAT ALTERS NEITHER THE STRENGTH OF THE STRUCTURAL FRAMING NOR THE STRENGTH OF CONNECTIONS. INFILL ALL BLOCKOUTS AND TEMPORARY OPENINGS USING THE MATERIALS SPECIFIED FOR THE FRAMING AT THE LOCATIONS WHERE THE BLOCKOUTS AND OPENINGS OCCUR. SUBMIT DRAWINGS INDICATING THE LOCATIONS, DIMENSIONS, AND DETAILS OF ALL PROPOSED BLOCKOUTS AND OPENINGS AND DETAILS INDICATING THE MANNER IN WHICH THE BLOCKOUTS AND OPENINGS WILL BE INFILLED.
15. PENETRATIONS IN CONCRETE SHALL BE CAST-IN-PLACE AND SHALL NOT BE PERMITTED EXCEPT AS SHOWN IN THE STRUCTURAL DRAWINGS.
16. BEFORE SUBMITTING A PROPOSAL FOR THIS WORK, CONTRACTOR SHALL VISIT THE PREMISES AND BECOME FULLY ACQUAINTED WITH FIELD CONDITIONS, TEMPORARY CONSTRUCTION REQUIRED, QUANTITIES AND TYPE OF EQUIPMENT, ETC. THE PROPOSAL SHALL INCLUDE ALL SUMS REQUIRED TO DO THE WORK.

SUBMITTALS

1. SUBMITTALS ARE:
   a. CONCRETE MIX DESIGNS
   b. MATERIAL PRODUCT DATA FOR STRUCTURAL MATERIALS
   c. CONCRETE REINFORCING
   d. PRE-ENGINEERED METAL BUILDING SYSTEMS
2. SUBMITTALS SHALL BE REVIEWED AND COORDINATED PRIOR TO SUBMITTING TO THE ARCHITECT. EACH SHOP DRAWING SUBMITTED SHALL BE STAMPED INDICATING REVIEW BY THE CONSTRUCTION MANAGER/GENERAL CONTRACTOR AND REVIEW BY THE ARCHITECT SHALL NOT BEGIN UNTIL THIS IS COMPLETE. WORK SHALL NOT BEGIN WITHOUT REVIEW BY THE DESIGN PROFESSIONALS.
3. SUBMITTALS SHALL BE REVIEWED BY THE DESIGN PROFESSIONALS FOR GENERAL CONFORMANCE WITH DESIGN CONCEPT ONLY. NOTATIONS MADE BY THE DESIGN PROFESSIONALS ON THE SHOP DRAWINGS DO NOT RELIEVE THE CONTRACTOR FROM COMPLYING WITH THE REQUIREMENTS OF THE DRAWINGS.
4. FOR ADDITIONAL INFORMATION ON REQUIRED SUBMITTALS, SEE INDIVIDUAL MATERIAL SECTIONS.

DELEGATED DESIGN

1. DELEGATED DESIGNS ARE:
   a. PRE-ENGINEERED METAL BUILDING SYSTEMS

EARTHWORK

1. FOUNDATION DESIGN IS BASED ON GEOTECHNICAL REPORT DATED JUNE 24, 2025 BY TOLUNAY-WONG ENGINEERS PROJECT NO. 25.53.064; REPORT NO. 36529. FOLLOW RECOMMENDATIONS IN REPORT FOR ALL FOUNDATION WORK. REPORT IS ON FILE WITH THE ARCHITECT.
2. SUBGRADE PREPARATION FOR FOOTINGS AND SLABS-ON-GRADE SHALL BE IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE GEOTECHNICAL REPORT AND SHALL BE IN COMPLIANCE WITH THE APPLICABLE REQUIREMENTS OF THE GOVERNING AUTHORITIES HAVING JURISDICTION. THE CONTRACTOR SHALL DIRECT QUESTIONS REGARDING THE SUBGRADE PREPARATION REQUIREMENTS TO THE GEOTECHNICAL ENGINEER.
3. THE GEOTECHNICAL REPORT NOTED GROUNDWATER FOUND AT DEPTHS OF 7 TO 8 FEET BELOW CURRENT GRADE.

SHALLOW FOUNDATIONS

1. SHALLOW FOUNDATIONS SHALL HAVE THE FOLLOWING MINIMUM NET ALLOWABLE SERVICE LOAD BEARING PRESSURES:

ALLOWABLE SERVICE LOAD BEARING PRESSURES:	
NET ALLOWABLE BEARING PRESSURE BASED ON EMBEDMENT OF 3.0 FT AND WIDTH OF 1.5 FT	2500 PSF

2. FOUNDATION ELEVATIONS SHOWN INDICATE LOCATIONS WHERE ADEQUATE SOIL BEARING PRESSURE IS ANTICIPATED. IF INADEQUATE BEARING CAPACITY IS ENCOUNTERED, CONTACT STRUCTURAL ENGINEER FOR RESOLUTION. BEARING ELEVATIONS ARE ESTIMATED FROM SOIL BORING DATA INDICATED IN THE GEOTECHNICAL REPORT. DETERMINATION OF FINAL BEARING ELEVATIONS AND FIELD VERIFICATION OF ALLOWABLE BEARING PRESSURE SHALL BE MADE BY AN EXPERIENCED, QUALIFIED GEOTECHNICAL ENGINEER PRIOR TO PLACING FOUNDATIONS.
3. FOUNDATIONS SHALL BE PLACED ON UNDISTURBED SOIL OR COMPACTED STRUCTURAL FILL, AND CLEAN AND FREE OF LOOSE DEBRIS AND STANDING WATER AT TIME OF CONCRETE PLACEMENT.
4. THE SLOPE BETWEEN THE LOWER EDGES OF ADJACENT FOOTINGS SHALL NOT EXCEED 45 DEGREES WITH THE HORIZONTAL UON IN THE GEOTECHNICAL REPORT. CONTACT STRUCTURAL ENGINEER WHERE ADEQUATE SLOPE IS NOT ACHIEVED.

REINFORCING STEEL

1. ALL REINFORCING STEEL SHALL BE DETAILED AND PLACED IN CONFORMANCE WITH ACI 318, "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE", AND ACI 301, "SPECIFICATIONS FOR STRUCTURAL CONCRETE", UON.

REINFORCING STEEL UON	ASTM A615, GR 60	Fy=60 KSI
WELDED WIRE REINFORCING	ASTM A1064	Fy=65 KSI
STEEL WIRE	ASTM A1064	Fy=60 KSI

2. CONCRETE REINFORCING STEEL SHALL CONFORM TO THE FOLLOWING STANDARDS:

CONCRETE EXPOSURE	MEMBER	REINFORCEMENT	COVER (IN)
CAST AGAINST AND PERMANENTLY IN CONTACT WITH GROUND	ALL	ALL	3
EXPOSED TO WEATHER OR IN CONTACT WITH GROUND	ALL	#6 TO #18	2
		#5 AND SMALLER	1 1/2
NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND	SLABS, JOISTS, AND WALLS	#14 & #18	1 1/2
		#11 AND SMALLER	3/4
	BEAMS, COLUMNS, PEDESTALS, AND TENSION TIES	PRIMARY REINF, STIRRUPS, TIES, SPIRALS, AND HOOPS	1 1/2
OTHER	BOUNDARY ELEMENTS	ALL	1 1/2

3. MINIMUM CONCRETE COVER SHALL BE PROVIDED AS FOLLOWS TO THE OUTERMOST REINFORCING BARS:
4. REINFORCING STEEL SHALL BE INSTALLED TO WITHIN THE FOLLOWING TOLERANCES. INDICATED TOLERANCES ARE PER ACI 117, "SPECIFICATIONS FOR TOLERANCES FOR CONCRETE CONSTRUCTION AND MATERIALS".

ITEM FOR WHICH TOLERANCE IS BEING MEASURED	PERMITTED TOLERANCE
CONCRETE COVER FOR SLAB TOP AND BOTTOM BARS	±1/4"
COVER FOR OTHER REINFORCING STEEL	±3/8"
SPECIFIED SPACING BETWEEN PARALLEL BARS IN SLAB	± (SPECIFIED SPACING/4) BUT NOT TO EXCEED 1"
HORIZONTAL DEVIATION FROM SPECIFIED LOCATION UON	±3"
SPACING AND LOCATION OF BEAM STIRRUPS	± (BEAM DEPTH IN INCHES/12) x 1"
SPACING AND LOCATION OF COLUMN TIES	± (MINIMUM COLUMN DIMENSION IN INCHES/12) x 1"
LOCATION OF ENDS OF BARS PERPENDICULAR TO SLAB EDGES	±1"
HORIZONTAL LOCATION OF PRESTRESSED TENDONS	±1/2" FOR MEMBER DEPTH = 24" ±1" FOR MEMBER DEPTH > 24"
VERTICAL LOCATION (DRAPE) OF PRESTRESSED TENDONS	±1/4" FOR MEMBER DEPTH = 8" ±3/8" FOR MEMBER DEPTH 8" < D = 24" ±1/2" FOR MEMBER DEPTH > 24"

THE ABOVE LIST OF PERMITTED TOLERANCES SHALL BE PROVIDED ON ALL REINFORCING STEEL PLACING DRAWINGS AND ON ALL POST-TENSIONED TENDON PLACING DRAWINGS. PLACING DRAWINGS THAT DO NOT PROVIDE THIS LIST OF TOLERANCES WILL BE REJECTED.

5. FIELD BENDING OF REINFORCING STEEL IS NOT PERMITTED UON.
6. WELDING OF REINFORCING STEEL OTHER THAN A706 IS PROHIBITED. WELDING OF REINFORCING BARS SHALL BE IN ACCORDANCE WITH AWS D1.4 OR D1.8.
7. ALL WELDED WIRE REINFORCING SHALL BE LAP SPLICED 2 PANELS (1'-0" MIN).
8. SPLICING:
   a. SPLICES IN REINFORCING STEEL SHALL BE MADE ONLY AT THOSE LOCATIONS WHERE SPLICES ARE SHOWN ON THE STRUCTURAL DRAWINGS AND AT THOSE LOCATIONS WHERE SPLICES HAVE BEEN DETAILED ON THE REINFORCING STEEL PLACING DRAWINGS THAT HAVE BEEN REVIEWED AND APPROVED BY THE STRUCTURAL ENGINEER. ALL SPLICES SHALL BE CLASS B TENSION LAP SPLICES UON.
   b. COMPRESSION LAP SPLICES MAY BE USED ONLY AT THOSE LOCATIONS WHERE SUCH SPLICES ARE SPECIFICALLY INDICATED. STAGGER SPLICES WHERE REQUIRED TO PROVIDE 1 1/2" MINIMUM CLEAR SPACING BETWEEN REINFORCING STEEL AT SPLICE LOCATIONS.
9. ALL HOOKS SHALL BE STANDARD HOOKS OR STANDARD STIRRUP HOOKS UON. STANDARD STIRRUP HOOKS SHALL HAVE CONTINUOUS BAR AT INSIDE CORNER OF HOOK.
10. STANDARD STIRRUP HOOKS FOR #3, #4, AND #5 BARS SHALL BE PROVIDED IN SLABS LESS THAN 9" THICK.
11. DOWELS SHALL MATCH GRADE, SIZE, SPACING, AND QUANTITY OF LAPPED REINFORCING STEEL UON. EXTEND ALL DOWELS FOR FULL DEPTH OF SUPPORTING ELEMENT AND PROVIDE HOOKS UON. DOWELS SHALL NOT BE POST-INSTALLED INTO FRESH CONCRETE.
12. FIELD CUTTING OF REINFORCING STEEL IS PROHIBITED UNLESS INDICATED ON THE REINFORCING PLACING DRAWINGS.
13. HEATING OF BARS FOR BENDING IS PROHIBITED.
14. REINFORCING STEEL PLACING DRAWINGS SHALL BE PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF ACI 315. THE PLACING DRAWINGS SHALL SHOW ALL INFORMATION NECESSARY TO FABRICATE AND PLACE THE REINFORCING STEEL.
15. REINFORCING STEEL SPACINGS ARE CENTER-TO-CENTER DIMENSIONS UON. REINFORCING STEEL SHOWN IN SECTION PERPENDICULAR TO THE CUT ARE CONTINUOUS UON.
16. THE SPACING OF ALL REINFORCING STEEL MUST BE COMPUTED BY THE REINFORCING STEEL DETAILER AND MUST BE INDICATED ON THE PLACING DRAWINGS. EXTENT ARROWS MUST BE USED TO CLEARLY INDICATE THE LOCATIONS WHERE GROUPS OF REINFORCING BARS ARE TO BE INSTALLED.
17. A LIST OF ALL APPLICABLE REINFORCING STEEL PLACEMENT TOLERANCES SHALL BE INDICATED ON ALL REINFORCING STEEL PLACING DRAWINGS. PLACING DRAWINGS THAT DO NOT SHOW SUFFICIENT INFORMATION NEEDED TO PLACE THE REINFORCING STEEL WILL BE REJECTED.
18. CONTRACTOR SHALL NOTIFY THE TESTING AND INSPECTION AGENCY AND STRUCTURAL ENGINEER A MINIMUM OF 48 HOURS PRIOR TO ALL CONCRETE POURS IN ORDER TO PERMIT REINFORCING STEEL REVIEW IF REQUIRED BY THE STRUCTURAL ENGINEER.

CAST-IN-PLACE CONCRETE

1. ALL CONCRETE WORK SHALL CONFORM TO THE REQUIREMENTS OF ACI 318, BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE, AND ACI 301, SPECIFICATIONS FOR STRUCTURAL CONCRETE UON.
2. CONCRETE MATERIALS SHALL CONFORM TO:

PORTLAND LIMESTONE CEMENT	ASTM C595, TYPE IL
FLY ASH	ASTM C618, TYPE C OR F
SLAG CEMENT	ASTM C989
FINE AND COARSE AGGREGATE	ASTM C33
LIGHTWEIGHT AGGREGATE	ASTM C330
WATER	POTABLE
AIR-ENTRAINING ADMIXTURE	ASTM C260
WATER REDUCING ADMIXTURE	ASTM C494

3. CONCRETE STRENGTHS SHALL CONFORM TO:

LOCATION	f'c AT 28 DAYS (PSI)	EXPOSURE CLASS
FOOTING	4000	N/A
GRADE BEAMS	4000	N/A
SLAB-ON-GRADE UON	4000	N/A

4. REQUIRED NOMINAL MAXIMUM COARSE AGGREGATE SIZE:

CONCRETE ELEMENT	REQUIRED NOMINAL MAXIMUM COARSE AGGREGATE SIZE*
ALL CONCRETE UON	1"
VOIDED FILIGREE SLABS	3/4"
TOPPING SLABS LESS THAN 3" THICK	3/8"

* SMALLER NOMINAL MAXIMUM COARSE AGGREGATE SIZE SHALL BE USED WHERE REQUIRED PER ACI 318.

5. ALL FOUNDATION ELEMENTS SHALL BE CENTERED UNDER WALLS, PIERS, OR COLUMNS UON.
6. "ROUGH JOINTS" ARE JOINTS ROUGHENED TO AN AMPLITUDE OF 1/4" AND FREE AND CLEAN OF LAITANCE. PROVIDE ROUGH JOINTS AT ALL CONSTRUCTION JOINTS UON.
7. CONTRACTOR SHALL SUBMIT PROPOSED LOCATIONS OF ALL CONSTRUCTION JOINTS WHERE JOINTS ARE NOT INDICATED ON THE DRAWINGS.
8. CONSTRUCTION JOINTS IN CAST-IN-PLACE CONCRETE SHALL BE LOCATED WITHIN THE MIDDLE THIRD OF SPAN. PROPOSED CONSTRUCTION JOINT LOCATIONS SHALL BE SHOWN ON REINFORCING STEEL PLACING DRAWINGS. ANY STOP IN CONCRETE WORK MUST BE MADE WITH VERTICAL BULKHEADS AND HORIZONTAL KEYS UON. ALL REINFORCING TO BE CONTINUOUS THROUGH JOINTS UON.
9. HORIZONTAL CONSTRUCTION JOINTS THROUGH CAST-IN-PLACE CONCRETE FRAMING ARE NOT PERMITTED EXCEPT WHERE SPECIFICALLY INDICATED ON THE STRUCTURAL DRAWINGS.
10. PROVIDE CONTINUOUS BENTONITE WATERSTOPS IN ALL CONSTRUCTION JOINTS IN BELOW GRADE CONCRETE CONSTRUCTION. COORDINATE WATERSTOPS WITH ARCHITECTURAL DRAWINGS.
11. PROJECTING CORNERS OF BEAMS, WALLS, COLUMNS, ETC. SHALL BE FORMED WITH A 3/4" CHAMFER UON ON ARCHITECTURAL DRAWINGS.
12. SLOPE SLABS TO DRAINS. SEE ARCHITECTURAL AND MEP DRAWINGS FOR DRAIN LOCATIONS AND SLOPE REQUIREMENTS. SLAB THICKNESSES SHOWN ON DRAWINGS ARE MINIMUMS.
13. NO LOADS SHALL BE PLACED ON STRUCTURAL CONCRETE SLABS ON DECK WITHIN 7 DAYS AFTER CONCRETE IS PLACED.
14. AFTER CONCRETE IS PLACED, IN NO CASE SHALL THE SUPERIMPOSED CONSTRUCTION LOADS BE GREATER THAN SPECIFIED DESIGN LIVE LOADS UNLESS THE WORK IS SHORED.
15. NOTIFY THE ARCHITECT 48 HOURS MINIMUM PRIOR TO ALL POURS.
16. CONTRACTOR SHALL SURVEY ALL CONCRETE WORK WITHIN 48 HOURS OF PLACING CONCRETE TO ENSURE PLACEMENT IS IN ACCORDANCE WITH PROJECT REQUIREMENTS.
17. ALL FORMWORK, SHORING, AND RESHORING SHALL BE DESIGNED BY THE CONTRACTOR'S ENGINEER LICENSED IN THE PROJECT'S JURISDICTION. ALL SUBMISSIONS SHALL BE SIGNED AND SEALED.
18. CONCRETE FILL THICKNESS SHOWN ON FRAMING PLANS AND DETAIL SHEETS IS MINIMUM THICKNESS. PROVIDE ALLOWANCES FOR ADDITIONAL CONCRETE FILL REQUIRED TO COMPENSATE FOR BEAM OR DECK DEFLECTIONS AND TO MAINTAIN SURFACE TOLERANCES SPECIFIED.
19. CORING OF CONCRETE IS NOT PERMITTED UNLESS APPROVED BY THE STRUCTURAL ENGINEER. SUBMIT LOCATIONS OF PROPOSED CONCRETE CORES.
20. REINFORCING STEEL SHALL NOT BE DAMAGED WHEN DRILLING CONCRETE.
21. ADHERE TO ACI 305R AND ACI 306R FOR HOT AND COLD WEATHER CONCRETE CONSTRUCTION.
22. DRYPACK AND GROUT SHALL HAVE A MINIMUM 28-DAY STRENGTH OF 7000 PSI.
23. THE PROPOSED MATERIALS AND MIX DESIGN SHALL BE FULLY DOCUMENTED AND REVIEWED BY THE TESTING AND INSPECTION AGENCY. RESPONSIBILITY FOR OBTAINING THE REQUIRED DESIGN STRENGTH IS THE CONTRACTOR'S. SUBMIT TEST DATA ON EACH PROPOSED MIX FOR REVIEW IN ACCORDANCE WITH THE APPLICABLE CODE. MIX DESIGNS SUBMITTED WITHOUT THE REQUIRED TEST DATA WILL BE RETURNED WITHOUT REVIEW.
24. CONTRACTOR SHALL SUBMIT A SINGLE DIMENSIONED AND COORDINATED DRAWING FOR EACH LEVEL SHOWING THE LOCATIONS OF THE FOLLOWING:
   a. SLAB-EMBEDDED ELECTRICAL CABLE AND CONDUIT
   b. ALL OTHER EMBEDDED ITEMS
25. SEE ARCHITECTURAL DRAWINGS FOR DIMENSIONS, LOCATIONS, AND DETAILS OF ALL ARCHITECTURAL FEATURES IN THE CONCRETE. SEE ARCHITECTURAL DRAWINGS AND PROJECT SPECIFICATIONS FOR REQUIREMENTS FOR ALL CONCRETE FINISHES.

STEEL

1. STRUCTURAL STEEL SHALL BE DETAILED IN ACCORDANCE WITH THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) "DETAILING FOR STEEL CONSTRUCTION" AND FABRICATED AND ERECTED IN ACCORDANCE WITH THE "SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS".
2. STRUCTURAL STEEL SHALL CONFORM TO ASTM STANDARDS AS NOTED BELOW:

WIDE FLANGE AND WT SHAPES	ASTM A992	Fy=50 KSI
CHANNEL SHAPES	ASTM A992	Fy=50 KSI
HSS SECTIONS, SQ/RECT	ASTM A500, GR C	Fy=50 KSI
PLATES	ASTM A572	Fy=50 KSI
ANCHOR RODS	ASTM F1554, GR 55	Fy= 55 KSI
HIGH STRENGTH BOLTS	ASTM F3125, GR A325	Fu=120 KSI
HEAVY HEX NUTS	ASTM A563	
WASHERS FOR HIGH STRENGTH BOLTS	ASTM F436	
WELDING	AWS D1.1, 70KSI FILLER METAL	

3. HIGH STRENGTH BOLTS SHALL BE INSTALLED IN ACCORDANCE WITH AISC "SPECIFICATIONS FOR STRUCTURAL JOINTS USING HIGH-STRENGTH BOLTS". SEE DETAILS FOR BOLT SIZE AND MATERIAL ASTM DESIGNATION.
4. ALL BOLTED CONNECTIONS SHALL BE GRADE A325N BEARING TYPE BOLTS UON. ALL BOLTS SHALL BE INSTALLED TO A MINIMUM SNUG TIGHT CONDITION UON.
5. DESIGNED STRUCTURAL STEEL CONNECTIONS:
   a. ALL STRUCTURAL STEEL CONNECTIONS AND MEMBER REINFORCEMENT AT THE CONNECTIONS ARE DESIGNED BY THE ENGINEER OF RECORD IN ACCORDANCE WITH AISC 303, OPTION 1.
6. WELD LENGTHS INDICATED ON THE DRAWINGS ARE THE NET EFFECTIVE LENGTH REQUIRED. WHERE WELD LENGTH IS NOT SPECIFIED, PROVIDE WELD ALONG ENTIRE INTERSECTION OF THE JOINED PARTS. WHERE FILLET WELD SYMBOL IS GIVEN WITHOUT INDICATION OF SIZE, USE MINIMUM WELD SIZE AS SPECIFIED IN AISC 360, TABLE J2.4.
7. SHOP CONNECTIONS SHALL BE WELDED UON. WELDS INDICATED WITH A SHOP WELD SYMBOL MAY BE MADE IN THE FIELD WITH THE APPROVAL OF THE STRUCTURAL ENGINEER. LOCATIONS OF ALL FIELD WELDS SHALL BE CLEARLY SHOWN ON THE SHOP DRAWINGS.
8. ALL WELDING OF STRUCTURAL STEEL SHALL BE PERFORMED BY CERTIFIED WELDERS WITH EXPERIENCE AND CERTIFICATION IN THE TYPES OF WELDING INDICATED. WELDERS SHALL HAVE BEEN RECENTLY QUALIFIED AS PRESCRIBED IN "QUALIFICATION PROCEDURES" OF THE AMERICAN WELDING SOCIETY (AWS).
9. SPLICING OF STEEL MEMBERS WHERE NOT DETAILED ON THE DRAWINGS IS PROHIBITED WITHOUT THE PRIOR APPROVAL OF THE STRUCTURAL ENGINEER AS TO LOCATION, TYPE OF SPLICE, AND CONNECTION TO BE MADE.
10. PROVIDE ONE SHOP COAT OF PAINT ON ALL STRUCTURAL STEEL NOT COVERED WITH CONCRETE, FIREPROOFING, MASONRY, OR AT CONTACT SURFACES AT HIGH STRENGTH BOLTS.
11. ALL STEEL EXPOSED TO WEATHER OR AS NOTED ON PLAN SHALL BE HOT-DIP GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A123 G60. REPAIR DAMAGED OR UNCOATED AREAS OF HOT-DIP GALVANIZED STEEL ONLY BY THE ZINC SOLDER (LOW-MELTING ZINC ALLOY ROD) METHOD IN ACCORDANCE WITH ASTM A780/A780M.
12. ALL GALVANIZED HOLLOW SECTIONS SHALL HAVE WELDED CAP PLATES TO SEAL EXPOSED ENDS.
13. CUTS, HOLES, OPENINGS, ETC. REQUIRED IN STRUCTURAL STEEL MEMBERS FOR THE WORK OF OTHER TRADES SHALL BE SHOWN ON THE SHOP DRAWINGS. BURNING OR TORCHING OF HOLES, CUTS, AND OTHER FIELD MODIFICATIONS SHALL NOT BE ALLOWED, EXCEPT BY WRITTEN AUTHORIZATION FROM THE STRUCTURAL ENGINEER.
14. SEE ARCHITECTURAL, MECHANICAL, ELECTRICAL, ETC. FOR MISCELLANEOUS STEEL NOT DETAILED SPECIFICALLY ON THE STRUCTURAL DRAWINGS.
15. GROUT FOR BASE AND BEARING PLATES SHALL BE A NON-SHRINK, NON-METALLIC PRODUCT. MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS SHALL BE 8,000 PSI. INSTALL GROUT PRIOR TO APPLYING SIGNIFICANT LOADING TO MEMBER.
16. THE STRUCTURAL STEEL FABRICATOR SHALL FURNISH SHOP DRAWINGS OF ALL STRUCTURAL STEEL FOR REVIEW AND APPROVAL BEFORE FABRICATION.

STRUCTURAL SHEET INDEX

SHEET NUMBER	SHEET NAME
S001	GENERAL NOTES
S002	GENERAL NOTES
S003	GENERAL NOTES
S201	FIRST FLOOR FRAMING PLAN
S202	ROOF FRAMING PLAN
S300	TYPICAL FOUNDATION SECTIONS AND SCHEDULES
S301	FOUNDATION SECTIONS
S500	TYPICAL STEEL SECTIONS AND SCHEDULES
GRAND TOTAL: 8	

TEXAS PARKS & WILDLIFE

RICHTER ARCHITECTS

Powderhorn Wildlife Management Area
New Conservation Education Center
Project Number: #1210264

DATE: 05.22.2026
DESIGNED BY: DM
DRAWN BY: JS
REVIEWED BY: RA

STATE OF TEXAS

PRE-ENGINEERED METAL BUILDING SYSTEMS

1. ALL PRE-ENGINEERED METAL BUILDING DESIGN, FABRICATION, AND ERECTION SHALL BE IN ACCORDANCE WITH THE MBMA (METAL BUILDING MANUFACTURER'S ASSOCIATION) "LOW RISE BUILDING SYSTEM MANUAL" AND, FOR ITEMS NOT COVERED, AISC "SPECIFICATIONS FOR STRUCTURAL STEEL BUILDINGS".
2. FOUNDATION DESIGN IS BASED ON PRESUMED REACTIONS FROM THE PRE-ENGINEERED METAL BUILDING FRAMING ABOVE. ACTUAL REACTIONS SUPPLIED BY THE SELECTED PRE-ENGINEERED METAL BUILDING MANUFACTURER MAY DIFFER FROM PRESUMED REACTIONS. BASED ON ACTUAL REACTIONS SUPPLIED, MODIFICATIONS TO THE FOUNDATION PLAN MAY BE REQUIRED. GENERAL CONTRACTOR SHALL INCLUDE IN THEIR BID AN ADD AND DEDUCT PRICE PER CUBIC YARD OF CONCRETE WORK INSTALLED IN CASE SUCH CHANGES ARE REQUIRED.
3. FOUNDATION DESIGN IS BASED ON THE PRE-ENGINEERED METAL BUILDING COLUMNS HAVING PINNED BASES AND TRANSFERRING NO MOMENTS TO THE FOUNDATIONS.
4. ALL EXTERNAL LATERAL LOAD RESISTANCE AND STABILITY OF THE PRE-ENGINEERED METAL BUILDING IN THE COMPLETED STRUCTURE IS PROVIDED BY PROVIDED BY BRACES AND/OR MOMENT CONNECTIONS WITHIN THE PEMB. THE VERTICAL LATERAL MEMBERS CARRY THE APPLIED LATERAL LOADS TO THE BUILDING FOUNDATION. THE HORIZONTAL DIAPHRAGM AT THE ROOF IS PROVIDED BY HORIZONTAL ROD BRACING AND DISTRIBUTES THE LATERAL WIND AND SEISMIC FORCES HORIZONTALLY TO THE VERTICAL LATERAL MEMBERS. ALL LATERAL RESISTING MEMBERS ARE BY THE PRE-ENGINEERED METAL BUILDING MANUFACTURER.
5. PRE-ENGINEERED METAL BUILDING MANUFACTURER IS SOLELY RESPONSIBLE FOR THE DESIGN AND MANUFACTURE OF THE PRE-ENGINEERED METAL BUILDING. THE BUILDING MUST BE DESIGNED TO MEET THE LOADING INDICATED IN THE SPECIFICATIONS, PLANS, AND TABLE BELOW.

LOAD TYPE	MAGNITUDE	ALLOWABLE DEFLECTION
DEAD LOAD	BY PRE-ENGINEERED METAL BUILDING MANUFACTURER	L/120 TOTAL LOAD
SUPERIMPOSED DEAD LOAD	10 PSF	L/120 TOTAL LOAD
ROOF LIVE LOAD	20 PSF	L/180
WIND LOAD (MWFRS)	SEE DESIGN CRITERIA	H/180
ROOF UPLIFT (MWFRS)	SEE DESIGN CRITERIA	L/180
WIND LOAD (C&C) ON WALL GIRTS AND WALL PANELS	SEE DESIGN CRITERIA	L/120
SEISMIC	SEE DESIGN CRITERIA	0.020H

6. PRE-ENGINEERED METAL BUILDING MANUFACTURER SHALL COORDINATE WITH ARCHITECTURAL DRAWINGS FOR WINDOW AND DOOR OPENINGS WHEN DESIGNING THE LATERAL SYSTEM.
7. PRE-ENGINEERED METAL BUILDING MANUFACTURER SHALL SUPPLY ALL THE REQUIRED SUBFRAMING FOR ROOF OPENINGS, INCLUDING FRAMING TO SUPPORT THE WEIGHT OF MECHANICAL EQUIPMENT. ALL ITEMS INCLUDING ROOF OPENINGS SHALL BE ADEQUATELY SUPPORTED.
8. PRE-ENGINEERED METAL BUILDING MANUFACTURER SHALL ENGAGE AN ENGINEER LICENSED IN THE PROJECT'S JURISDICTION TO DESIGN THE PRE-ENGINEERED METAL BUILDING AND TO SUBMIT SIGNED AND SEALED DRAWINGS AND STRUCTURAL CALCULATIONS. SHOP DRAWINGS SHALL SHOW ALL PERTINENT DESIGN INFORMATION, INCLUDING BUT NOT LIMITED TO DESIGN LOADS, FOUNDATION REACTIONS, DIMENSIONS, MEMBER SIZES AND PROPERTIES, FRAMING PLANS, SECTIONS, AND ALL PERTINENT DETAILS.
9. THE METAL ROOF DECK SHALL BE DESIGNED TO SERVE AS HORIZONTAL DIAPHRAGMS DISTRIBUTING THE LATERAL FORCES TO THE VERTICAL LATERAL ELEMENTS WHICH IN TURN CARRY THE LOAD TO THE BUILDING FOUNDATIONS.
10. ALL EXPOSED STEEL SHALL BE HOT-DIP GALVANIZED. ALL FIELD CONNECTIONS SHALL BE DESIGNED TO BE BOLTED SUCH THAT FIELD WELDING WILL NOT BE NECESSARY.

TEXAS DEPARTMENT OF INSURANCE

1. CONFORMANCE WITH THE TEXAS DEPARTMENT OF INSURANCE (TDI) WINDSTORM INSPECTION PROGRAM IS REQUIRED ON THIS PROJECT. PRODUCT DATA FOR THE REQUIRED ITEMS SHALL MEET THE REQUIREMENTS OF SEAWARD. SEAWARD REQUIRES ALL EXTERIOR OPENINGS TO HAVE WINDBORNE DEBRIS PROTECTION TO WITHSTAND WIND PRESSURES AND TO MEET ASTM 1996 LEVEL 'D'.
2. THE FOLLOWING SUBMITTALS, PRODUCT EVALUATION REPORTS, AND INSTALLATION SHALL BE REVIEWED AND APPROVED BY THE TDI WINDSTORM INSPECTOR PRIOR TO PURCHASE:

   A. EXTERIOR WALL COVERINGS
   B. EXTERIOR DOORS
   C. EXTERIOR WINDOWS
   D. ROOFING
   E. MECHANICAL LOUVERS
   F. ROOFTOP HATCHES, FANS, AND VENTS
   G. STORM SHUTTERS
   H. SKYLIGHTS
   I. CURTAINWALL
   J. STOREFRONT
   K. TRANSLUCENT PANELS
   L. PRE-ENGINEERED STRUCTURES (SEALED CALCULATIONS REQUIRED)

3. C.TDI WINDSTORM INSPECTOR SHALL BE NOTIFIED TO INSPECT THE INSTALLATION OF ALL OF THE ITEMS LISTED IN PART B AND ANY ADDITIONAL ITEMS LISTED IN THE SPECIFICATIONS THAT ARE REQUIRED TO MEET TDI WINDSTORM CERTIFICATION.

GENERAL

1. THE STRUCTURAL ENGINEER DOES NOT PROVIDE INSPECTIONS OF CONSTRUCTION. STRUCTURAL ENGINEER MAY MAKE PERIODIC OBSERVATIONS OF THE CONSTRUCTION. SUCH OBSERVATIONS SHALL NOT REPLACE REQUIRED INSPECTIONS BY THE GOVERNING AUTHORITIES OR SERVE AS "SPECIAL INSPECTIONS" AS MAY BE REQUIRED BY CHAPTER 17 OF THE INTERNATIONAL BUILDING CODE.

CONCRETE CONSTRUCTION

VERIFICATION AND INSPECTION TASK	CONTINUOUS	PERIODIC	MATERIAL STD REFERENCE	IBC REFERENCE
INSPECT REINFORCEMENT, INCLUDING PRESTRESSING TENDONS, AND VERIFY PLACEMENT	-	X	ACI 318: CH 20, 25.2, 25.3, 26.6.1-26.6.3	-
REINFORCING BAR WELDING:				
a. VERIFY WELDABILITY OF REINFORCING BARS OTHER THAN ASTM A706	-	X	AWS D1.4 ACI 318: 26.13.1.4	-
b. INSPECT WELDING OF REINFORCEMENT FOR SPECIAL MOMENT FRAMES, BOUNDARY ELEMENTS OF SPECIAL STRUCTURAL WALLS, AND COUPLING BEAMS	X	-	AWS D1.4 ACI 318: 26.13.3	-
c. INSPECT WELDED REINFORCEMENT SPLICES	X	-	-	-
d. INSPECT WELDING OF PRIMARY TENSION REINFORCEMENT IN CORBELS	X	-	-	-
e. INSPECT SINGLE-PASS FILLET WELDS, MAXIMUM 5/16"	-	X	AWS D1.4 ACI 318: 26.13.3	-
f. INSPECTS ALL OTHER WELDS	-	X	AWS D1.4 ACI 318: 26.13.3	-
INSPECT ANCHORS CAST IN CONCRETE	-	X	ACI 318: 26.13.3.3	-
VERIFY USE OF REQUIRED DESIGN MIX	-	X	ACI 318: CH 19, 26.4.3, 26.4.4	1904.1, 1904.2
PRIOR TO CONCRETE PLACEMENT, FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE THE TEMPERATURE OF THE CONCRETE	X	-	ASTM C31, ASTM C172, ACI 318: 26.5, 26.12	-
INSPECT CONCRETE AND SHOTCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES	X	-	ACI 318: 26.5	-
VERIFY MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES	-	X	ACI 318: 26.5.3-26.5.5	-
INSPECT FORMWORK FOR SHAPE, LOCATION, AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED	-	X	ACI 318: 26.11.1.2(b)	-

STRUCTURAL STEEL - INSPECTION TASKS PRIOR TO BOLTING (AS A MINIMUM)

VERIFICATION AND INSPECTION TASK	QC	QA	AISC 360	RCSC SECTIONS
MANUFACTURER'S CERTIFICATIONS AVAILABLE FOR FASTENER MATERIALS	O	P	TABLE N5.6-1	2.9
FASTENERS MARKED IN ACCORDANCE WITH ASTM REQUIREMENTS	O	O	TABLE N5.6-1	FIG. C-2.1
CORRECT FASTENERS SELECTED FOR THE JOINT DETAIL (GRADE, TYPE, BOLT LENGTH IF THREADS ARE TO BE EXCLUDED FROM THE SHEAR PLANE)	O	O	TABLE N5.6-1	2.7
CORRECT BOLTING PROCEDURE SELECTED FOR JOINT DETAIL	O	O	TABLE N5.6-1	4, 8
CONNECTING ELEMENTS, INCLUDING THE APPROPRIATE FAYING SURFACE CONDITION AND HOLE PREPARATION, IF SPECIFIED, MEET APPLICABLE REQUIREMENTS	O	O	TABLE N5.6-1	3.2, 3.4, 4, 9.3
PRE-INSTALLATION VERIFICATION TESTING BY INSTALLATION PERSONNEL OBSERVED AND DOCUMENTED FOR FASTENER ASSEMBLIES AND METHODS USED	P	O	TABLE N5.6-1	7, 8.2, 9.2
PROTECTION STORAGE PROVIDED FOR BOLTS, NUTS, WASHERS, AND OTHER FASTENER COMPONENTS	O	O	TABLE N5.6-1	2.10

2. O=OBSERVE AND P=PERFORM

STRUCTURAL STEEL - INSPECTION TASKS DURING BOLTING (AS A MINIMUM)

VERIFICATION AND INSPECTION TASK	QC	QA	AISC 360	RCSC SECTIONS
FASTENER ASSEMBLIES PLACED IN ALL HOLES AND WASHERS AND NUTS ARE POSITIONED AS REQUIRED	O	O	TABLE N5.6-2	7.1, 8.1, 8.2
JOINT BROUGHT TO THE SNUG-TIGHT CONDITION PRIOR TO THE PRETENSIONING OPERATION	O	O	TABLE N5.6-2	8.1, 8.2, 9.1
FASTENER COMPONENT NOT TURNED BY THE WRENCH PREVENTED FROM ROTATING	O	O	TABLE N5.6-2	8.2
FASTENERS ARE PRETENSIONED IN ACCORDANCE WITH THE RCSC SPECIFICATION, PROGRESSING SYSTEMATICALLY FROM THE MOST RIGID POINT TOWARD THE FREE EDGES	O	O	TABLE N5.6-2	8.1, 8.2

2. O=OBSERVE AND P=PERFORM

STRUCTURAL STEEL - INSPECTION TASKS PRIOR TO WELDING (AS A MINIMUM)

VERIFICATION AND INSPECTION TASK	QC	QA	AISC 360	AWS D1.1 CLAUSES
WELDER QUALIFICATION RECORDS AND CONTINUITY RECORDS	P	O	TABLE N5.4-1	-
WELDING PROCEDURE SPECIFICATIONS (WPS) AVAILABLE	P	P	TABLE N5.4-1	8.3
MANUFACTURER CERTIFICATES FOR WELDING CONSUMABLES AVAILABLE	P	P	TABLE N5.4-1	8.2
MATERIAL IDENTIFICATION (TYPE/GRADE)	O	O	TABLE N5.4-1	8.2
WELDER IDENTIFICATION SYSTEM	O	O	TABLE N5.4-1	8.4 (WELDER QUALIFICATION)
a. FABRICATOR OR ERECTOR, AS APPLICABLE, SHALL MAINTAIN A SYSTEM BY WHICH A WELDER WHO HAS WELDED A JOINT OR MEMBER CAN BE IDENTIFIED	O	O	TABLE N5.4-1	-
b. DIE STAMPING OF MEMBERS SUBJECTED TO FATIGUE SHALL BE PROHIBITED UNLESS APPROVED BY THE EOR	O	O	TABLE N5.4-1	-
FIT-UP OF GROOVE WELDS (INCLUDING JOINT GEOMETRY)				
a. JOINT PREPARATIONS	O	O	TABLE N5.4-1	8.5.2
b. DIMENSIONS (ALIGNMENT, ROOT OPENING, ROOT FACE, BEVEL)	O	O	TABLE N5.4-1	7.21
c. CLEANLINESS (CONDITION OF STEEL SURFACES)	O	O	TABLE N5.4-1	7.14
d. TACKING (TACK WELD QUALITY AND LOCATION)	O	O	TABLE N5.4-1	7.17
e. BACKING TYPE AND FIT (IF APPLICABLE)	O	O	TABLE N5.4-1	7.9, 7.21.1.1
FIT-UP OF CJP GROOVE WELDS OF HSS T-, Y- & K- CONNECTIONS WITHOUT BACKING (INCLUDING JOINT GEOMETRY)				
a. JOINT PREPARATIONS	P	O	TABLE N5.4-1	10.10
b. DIMENSIONS (ALIGNMENT, ROOT OPENING, ROOT FACE, BEVEL)	P	O	TABLE N5.4-1	10.10
c. CLEANLINESS (CONDITION OF STEEL SURFACES)	P	O	TABLE N5.4-1	10.10
d. TACKING (TACK WELD QUALITY AND LOCATION)	P	O	TABLE N5.4-1	10.10
CONFIGURATION AND FINISH OF ACCESS HOLES	O	O	TABLE N5.4-1	7.16 (& SEE AISC 360 SECT. J1.6)
FIT-UP OF FILLET WELDS	O	O	TABLE N5.4-1	
a. DIMENSIONS (ALIGNMENT, GAPS AT ROOT)	O	O	TABLE N5.4-1	7.21.1
b. CLEANLINESS (CONDITION OF STEEL SURFACES)	O	O	TABLE N5.4-1	7.14
c. TACKING (TACK WELD QUALITY AND LOCATION)	O	O	TABLE N5.4-1	7.17
CHECK WELDING EQUIPMENT	O	-	TABLE N5.4-1	8.2, 7.10

2. O=OBSERVE AND P=PERFORM

STRUCTURAL STEEL - INSPECTION TASKS AFTER BOLTING (AS A MINIMUM)

VERIFICATION AND INSPECTION TASK	QC	QA	AISC 360	RCSC SECTIONS
DOCUMENT ACCEPTANCE OR REJECTION OF BOLTED CONNECTIONS	P	P	TABLE N5.6-3	-

2. P=PERFORM

STRUCTURAL STEEL - INSPECTION TASKS DURING WELDING (AS A MINIMUM)

VERIFICATION AND INSPECTION TASK	QC	QA	AISC 360	AWS D1.1 CLAUSES
USE OF QUALIFIED WELDERS	O	O	TABLE C-N5.4-2	8.4
CONTROL AND HANDLING OF WELDING CONSUMABLES	O	O	TABLE N5.4-2	8.2
a. PACKAGING	O	O	TABLE N5.4-2	7.3.1
b. EXPOSURE CONTROL	O	O	TABLE N5.4-2	7.3.2 (FOR SMAW), 7.3.3 (FOR SAW)
NO WELDING OVER CRACKED TACK WELDS	O	O	TABLE N5.4-2	7.17
ENVIRONMENTAL CONDITIONS				7.11
a. WIND SPEED WITHIN LIMITS	O	O	TABLE N5.4-2	-
b. PRECIPITATION AND TEMPERATURE	O	O	TABLE N5.4-2	-
WPS FOLLOWED	O	O	TABLE 5.4-2	7.5, 7.20, 8.3.3, 8.5.2
a. SETTINGS ON WELDING EQUIPMENT	O	O	TABLE N5.4-2	-
b. TRAVEL SPEED	O	O	TABLE N5.4-2	-
c. SELECTED WELDING MATERIALS	O	O	TABLE N5.4-2	-
d. SHIELDING GAS TYPE/FLOW RATE	O	O	TABLE N5.4-2	-
e. PREHEAT APPLIED	O	O	TABLE N5.4-2	7.6, 7.7
f. INTERPASS TEMPERATURE MAINTAINED (MIN/MAX)	O	O	TABLE N5.4-2	7.6, 7.7
g. PROPER POSITION (F, V, H, OH)	O	O	TABLE N5.4-2	-
WELDING TECHNIQUES	O	O	TABLE 5.4-2	7.23, 7.29.1, 8.5.2, 8.5.3
a. INTERPASS AND FINAL CLEANING	O	O	TABLE N5.4-2	-
b. EACH PASS WITHIN PROFILE LIMITATIONS	O	O	TABLE N5.4-2	-
c. EACH PASS MEETS QUALITY REQUIREMENTS	O	O	TABLE N5.4-2	-
PLACEMENT AND INSTALLATION OF STEEL HEADED STUD ANCHORS	P	P	TABLE N5.4-2	-

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TEXAS PARKS & WILDLIFE

RICHTER ARCHITECTS

Powderhorn Wildlife Management Area
New Conservation Education Center
Project Number: #1210264

DATE: 05.22.2026
DESIGNED BY: DM
DRAWN BY: JS
REVIEWED BY: RA

SHEET TITLE
GENERAL NOTES

SHEET NUMBER
S002

STRUCTURAL STEEL - INSPECTION TASKS AFTER WELDING (AS A MINIMUM)

VERIFICATION AND INSPECTION TASK	QC	QA	AISC 360	AWS D1.1 CLAUSES
WELDS CLEANED	O	O	TABLE N5.4-3	7.29.1
SIZE, LENGTH, AND LOCATION OF WELDS	P	P	TABLE N5.4-3	8.5.1
WELDS MEET VISUAL ACCEPTANCE CRITERIA			TABLE N5.4-3	8.5.3
a. CRACK PROHIBITION	P	P	TABLE N5.4-3	TABLE 8.1(1)
b. WELD/BASE-METAL FUSION	P	P	TABLE N5.4-3	TABLE 8.1(2)
c. CRATER CROSS-SECTION	P	P	TABLE N5.4-3	TABLE 8.1(3)
d. WELD PROFILES	P	P	TABLE N5.4-3	TABLE 8.1(4), 7.23
e. WELD SIZE	P	P	TABLE N5.4-3	TABLE 8.1(6)
f. UNDERCUT	P	P	TABLE N5.4-3	TABLE 8.1(7)
g. POROSITY	P	P	TABLE N5.4-3	TABLE 8.1(8)
ARC STRIKES	P	P	TABLE N5.4-3	7.28
k-AREA1	P	P	TABLE N5.4-3	-
WELD ACCESS HOLES IN ROLLED HEAVY SHAPES AND BUILT-UP HEAVY SHAPES2	P	P	TABLE N5.4-3	7.16 (& SEE AISC 360 SECT. J1.6)
BACKING REMOVED AND WELD TABS REMOVED (IF REQUIRED)	P	P	TABLE N5.4-3	7.9, 7.30
REPAIR ACTIVITIES	P	P	TABLE N5.4-3	7.25
DOCUMENT ACCEPTANCE OR REJECTION OF WELDED JOINT OR MEMBER3	P	P	TABLE N5.4-3	8.5.4, 8.5.5
NO PROHIBITED WELDS HAVE BEEN ADDED WITHOUT THE APPROVAL OF THE EOR	O	O	TABLE N5.4-3	-

2. O=OBSERVE AND P=PERFORM
3. [1] WHEN WELDING OF DOUBLER PLATES, CONTINUITY PLATES, OR STIFFENERS HAS BEEN PERFORMED IN THE k-AREA, VISUALLY INSPECT THE WEB k-AREA FOR CRACKS WITHIN 3" OF THE WELD.

[2] AFTER ROLLED HEAVY SHAPES AND BUILT-UP HEAVY SHAPES ARE WELDED, VISUALLY INSPECT THE WELD ACCESS HOLE FOR CRACKS.

[3] DIE STAMPING OF MEMBERS SUBJECTED TO FATIGUE SHALL BE PROHIBITED UNLESS APPROVED BY THE EOR.

TESTING, INSPECTIONS, AND OBSERVATIONS

METAL BUILDING SYSTEMS:

VERIFICATION AND INSPECTION TASK	CONTINUOUS	PERIODIC	IBC REFERENCE
INSTALLATION OF RAFTER/BEAM FLANGE BRACES AND COLUMN FLANGE BRACES		X	1705.2.6
INSTALLATION OF PURLINS AND GIRTS, INCLUDING SPECIFIED LAPPING		X	1705.2.6
PURLIN AND GIRT RESTRAINT/BRIDGING/BRACING		X	1705.2.6
INSTALLATION OF X-BRACING, TIGHTENED TO REMOVE ANY SAG		X	1705.2.6

FOUNDATION SYMBOLS:

SYMBOL	DESCRIPTION	DETAIL REFERENCE
	SLAB DEPRESSION	
—·-·-·-·—S	STEP IN FOOTING	

CONCRETE SYMBOLS:

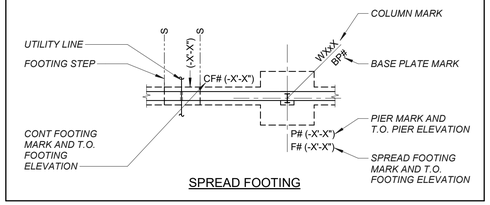
SYMBOL	DESCRIPTION	DETAIL REFERENCE
RAMP UP	RAMP (DIRECTION)	N/A
	RAMP DOWN	
	RAMP UP	
	SLAB CURB WALL	
	SLAB DROP	
	SLAB FOLD	
	SLAB THICKNESS CHANGE	
	SLAB/BEAM	
	SLOPING SLAB DROP	

MATERIAL LEGEND

MATERIAL LEGEND:

- CONCRETE
- CONCRETE - EXISTING
- EARTH
- GRAVEL OR GRANULAR FILL
- GROUT OR DRYPACK OR SAND
- CMU OR MASONRY
- METAL / COLD-FORM STUD
- WOOD / STUD
- PRECAST CONCRETE
- STEEL
- OTHER/SPECIALTY

FOUNDATION PLAN SYMBOLS KEY



SPREAD FOOTING

STRUCTURAL ABBREVIATION KEY

ABBR:	DESCRIPTION:
(E)	EXISTING
ADDL	ADDITIONAL
B.O.	BOTTOM OF
BF	BRACED FRAME
BN	BOUNDARY NAILING
BOT	BOTTOM
BTWN	BETWEEN
CFS	COLD FORM STEEL
CGS	CENTER OF GRAVITY OF THE TENDON
CJP	COMPLETE JOINT PENETRATION WELD
CLR	CLEAR
CL	CENTERLINE
CONN	CONNECTION
CONST	CONSTRUCTION
CONT	CONTINUOUS
DBA	DEFORMED BAR ANCHOR
DL	DEAD LOAD
EA	EACH
EF	EACH FACE
EL	ELEVATION
E.N.	EDGE NAILING
EOD	EDGE OF DECK
EOS	EDGE OF SLAB
EW	EACH WAY
EXT	EXTERIOR
FN	FIELD NAILING
GA	GAGE OR GAUGE
GL	GLULAM
GT	GIRDER TRUSS
HORIZ	HORIZONTAL
HSA	HEADED STUD ANCHOR
LL	LIVE LOAD
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LONG.	LONGITUDINAL
LSH	LONG SIDE HORIZONTAL
LSV	LONG SIDE VERTICAL
NTS	NOT TO SCALE
OPP	OPPOSITE. OPPOSITE HAND
PAF	POWDER ACTUATED FASTENER
PJP	PARTIAL JOINT PENETRATION WELD
PL	PLATE
REQD	REQUIRED
SC	SLIP CRITICAL
SFRS	SEISMIC FORCE-RESISTING SYSTEM
SIM	SIMILAR
SL	SNOW LOAD
SP	SPACE(S)
SQ	SQUARE
T&B	TOP AND BOTTOM
T.O.	TOP OF
TC	PRE-TENSIONED BOLT
TRANS	TRANSVERSE
UON	UNLESS OTHERWISE NOTED
VERT	VERTICAL
VIF	VERIFY IN FIELD
w/	WITH
WP	WORK POINT
WWR	WELDED WIRE REINFORCING

STATE OF TEXAS
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5 / 22 / 2026

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PROJECT #25001293.00

TEXAS PARKS & WILDLIFE

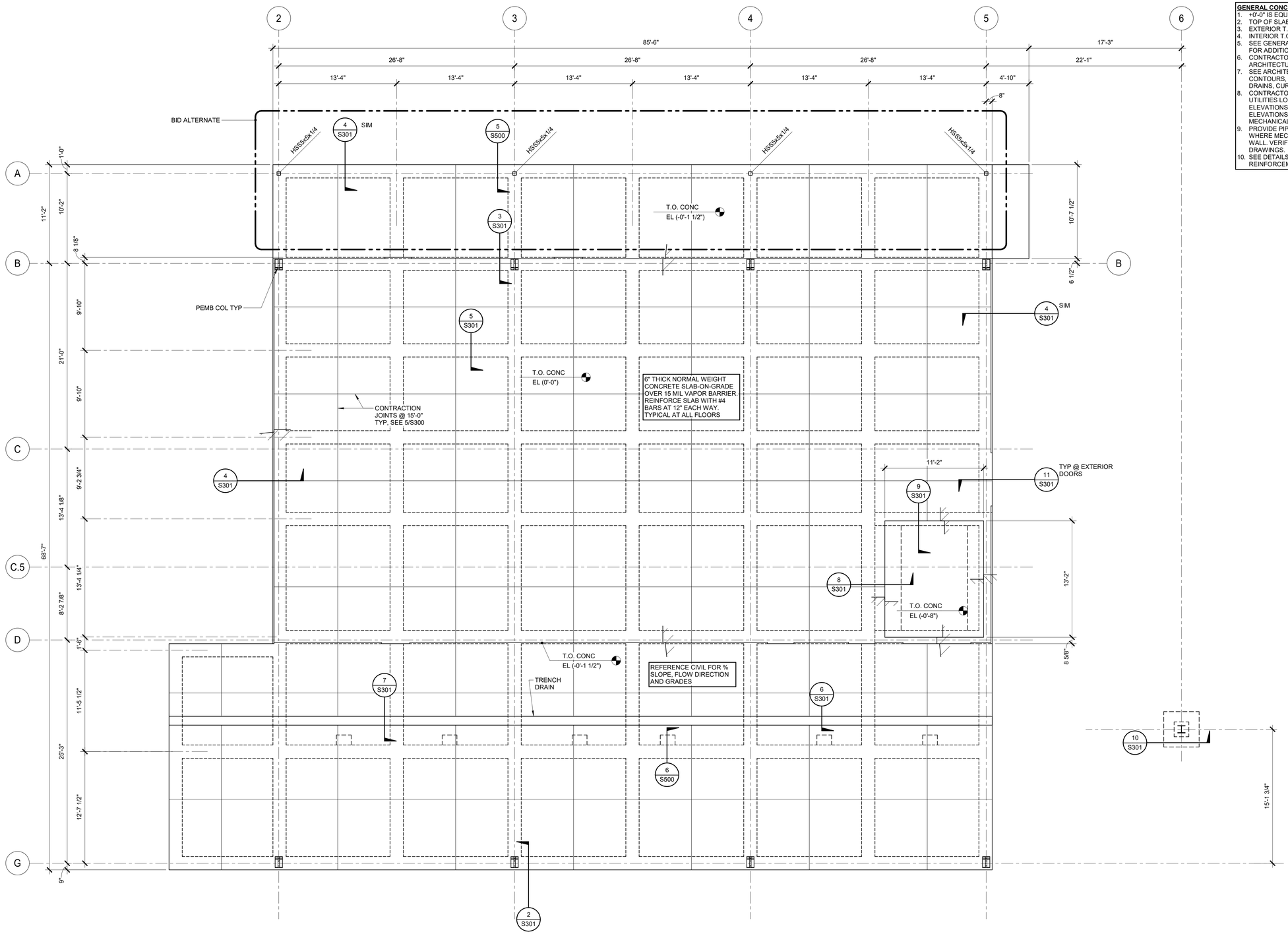
RICHTER ARCHITECTS

Powderhorn Wildlife Management Area
New Conservation Education Center
Project Number: #1210264

DATE: 05.22.2026
DESIGNED BY: DM
DRAWN BY: JS
REVIEWED BY: RA

SHEET TITLE
GENERAL NOTES

SHEET NUMBER
S003



GENERAL CONCRETE SHEET NOTES:

1. +0'-0" IS EQUAL TO CIVIL FF ELEVATION 11'-0".
2. TOP OF SLAB EL (0'-0") UON.
3. EXTERIOR T.O. FOOTING EL (0'-0") UON.
4. INTERIOR T.O. FOOTING EL (0'-0") UON.
5. SEE GENERAL NOTES AND TYPICAL SECTIONS FOR ADDITIONAL INFORMATION.
6. CONTRACTOR VERIFY ALL DIMENSIONS WITH ARCHITECTURAL DRAWINGS.
7. SEE ARCHITECTURAL DRAWINGS FOR SLAB CONTOURS, VALLEYS AND RIDGES, FLOOR DRAINS, CURBS, ETC.
8. CONTRACTOR TO VERIFY UNDERGROUND UTILITIES LOCATIONS AND INVERT ELEVATIONS. DROP TOP OF FOOTING ELEVATIONS AS REQUIRED TO ALLOW MECHANICAL PIPE TO PASS OVER FOOTING.
9. PROVIDE PIPE SLEEVES AT ALL LOCATIONS WHERE MECHANICAL PIPES PENETRATE WALL. VERIFY LOCATIONS WITH MECHANICAL DRAWINGS.
10. SEE DETAILS ON S301 FOR GRADE BEAM REINFORCEMENT AND DIMENSIONS.

TEXAS PARKS & WILDLIFE

RICHTER ARCHITECTS

Powderhorn Wildlife Management Area
New Conservation Education Center
Project Number: #1210264

DATE: 05.22.2026
DESIGNED BY: DM
DRAWN BY: JS
REVIEWED BY: RA

SHEET TITLE
FIRST FLOOR FRAMING PLAN

SHEET NUMBER
S201

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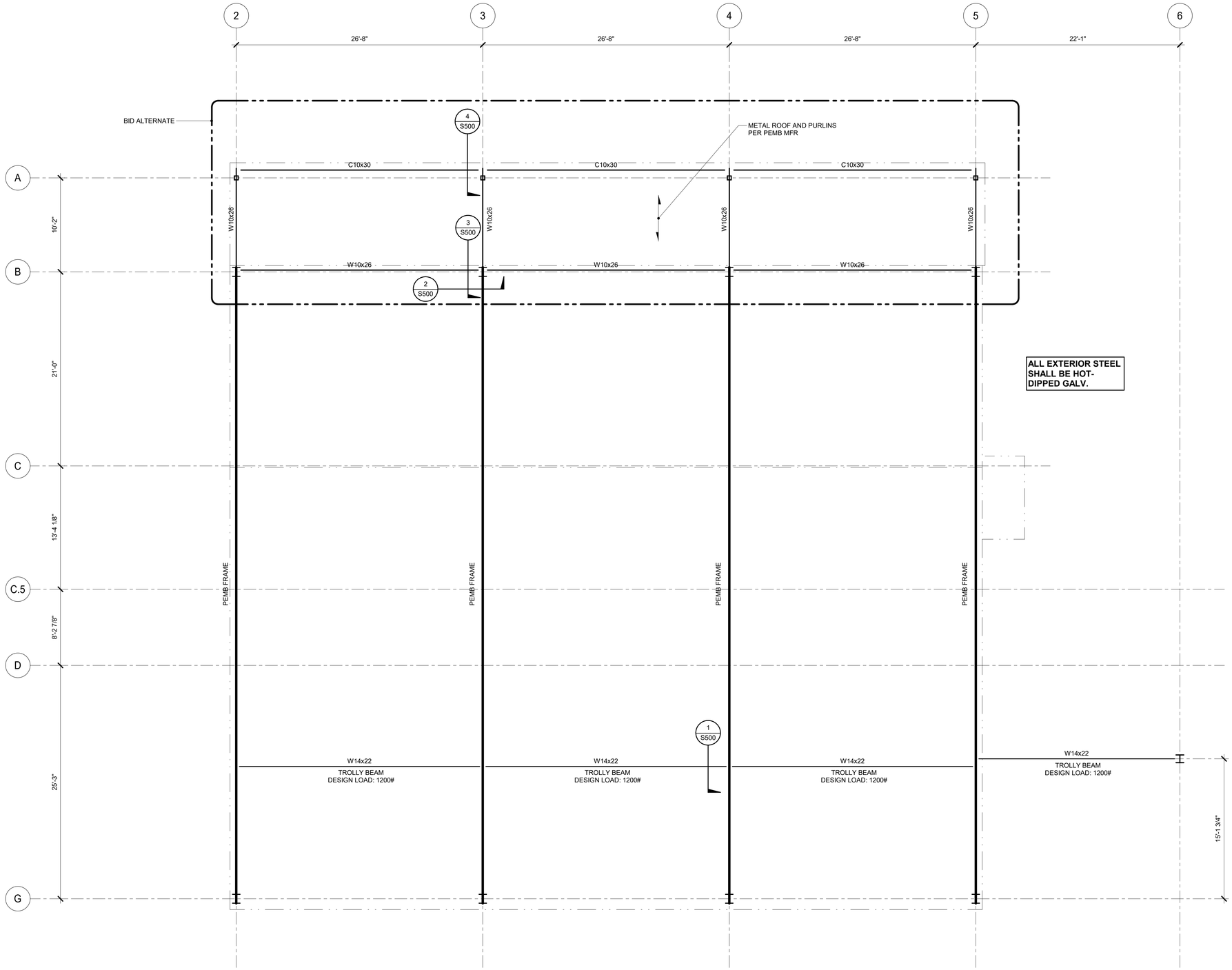
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PROJECT #25001293.00

TRUE NORTH NORTH

1 **FIRST FLOOR FRAMING PLAN**
3/16" = 1'-0"



ALL EXTERIOR STEEL SHALL BE HOT-DIPPED GALV.

GENERAL FRAMING SHEET NOTES:

1. FRAMING BY PEMB MANUFACTURER.
2. SEE GENERAL NOTES SECTIONS FOR ADDITIONAL INFORMATION.
3. CONTRACTOR VERIFY ALL DIMENSIONS WITH ARCH DRAWINGS.
4. LATERAL STABILITY TO BE PROVIDED BY PEMB DESIGNER ALONG GRIDS B, D AND G FOR LOADING PLAN LEFT TO RIGHT.

TRUE NORTH GRID NORTH

1 ROOF FRAMING PLAN

3/16" = 1'-0"

TEXAS PARKS & WILDLIFE

RICHTER ARCHITECTS

Powderhorn Wildlife Management Area

New Conservation Education Center

Project Number: #1210264

DATE: 05.22.2026
DESIGNED BY: DM
DRAWN BY: JS
REVIEWED BY: RA

SHEET TITLE

ROOF FRAMING PLAN

SHEET NUMBER

S202

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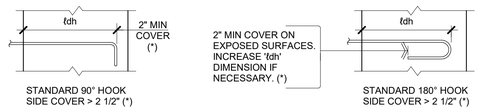
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'ℓdh' TENSION DEVELOPMENT LENGTH (EMBEDMENT LENGTH) FOR STANDARD END HOOKS

(FOR GRADE 60 AND 80 UNCOATED BARS IN NORMAL WEIGHT CONCRETE)
(ADJUST TABULATED LENGTHS AS REQUIRED BY NOTES BELOW)



BAR SIZE	f'c= 3000 PSI	f'c= 4000 PSI	f'c= 5000 PSI	f'c= 6000PSI	f'c= 7000 PSI	f'c= 8000 PSI	f'c= 10000 PSI
	ℓdh	ℓdh	ℓdh	ℓdh	ℓdh	ℓdh	ℓdh
GRADE 60							
#3	6"	6"	6"	6"	6"	6"	6"
#4	8"	7"	6"	6"	6"	6"	6"
#5	10"	9"	8"	7"	7"	6"	6"
#6	1'-0"	10"	9"	9"	8"	7"	6"
GRADE 80							
#7	1'-7"	1'-4"	1'-3"	1'-2"	1'-0"	1'-0"	10"
#8	1'-10"	1'-7"	1'-4"	1'-3"	1'-2"	1'-2"	11"
#9	2'-0"	1'-8"	1'-7"	1'-6"	1'-4"	1'-3"	1'-1"
#10	2'-3"	2'-0"	1'-10"	1'-7"	1'-6"	1'-4"	1'-2"
#11	2'-6"	2'-2"	1'-11"	1'-10"	1'-8"	1'-6"	1'-4"

NOTES:
1. (*) WHEN EITHER SIDE OR END COVER IS SMALLER THAN THESE NUMBERS, MULTIPLY 'ℓdh BY 1.4.
2. FOR LIGHT WEIGHT CONCRETE MULTIPLY THE TABULATED VALUES BY 1.3.
3. FOR EPOXY COATED BARS MULTIPLY THE TABULATED VALUES BY 1.2.

1 STANDARD HOOK DEVELOPMENT LENGTH TABLE
NO SCALE

TENSION LAP SPLICES-CLASS B-TOP & BOT BARS

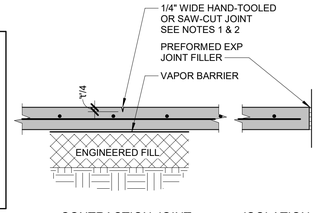
(FOR GRADE 60 AND 80 UNCOATED BARS IN NORMAL WEIGHT CONCRETE)
(ADJUST TABULATED LENGTHS AS REQUIRED BY NOTES BELOW)

BAR SIZE	f'c= 3000 PSI		f'c= 4000 PSI		f'c= 5000 PSI		f'c= 6000 PSI		f'c= 7000 PSI		f'c= 8000 PSI		f'c= 10000 PSI	
	TOP	BOT	TOP	BOT	TOP	BOT	TOP	BOT	TOP	BOT	TOP	BOT	TOP	BOT
GRADE 60														
#3	2'-4"	1'-9"	2'-0"	1'-6"	1'-10"	1'-5"	1'-8"	1'-4"	1'-7"	1'-4"	1'-5"	1'-4"	1'-3"	1'-0"
#4	3'-1"	2'-4"	2'-8"	2'-1"	2'-5"	1'-10"	2'-2"	1'-8"	2'-1"	1'-7"	1'-11"	1'-5"	1'-8"	1'-7"
#5	3'-10"	3'-0"	3'-4"	2'-7"	3'-0"	2'-4"	2'-9"	2'-1"	2'-7"	2'-0"	2'-4"	1'-10"	2'-1"	1'-8"
#6	4'-8"	3'-7"	4'-0"	3'-1"	3'-7"	2'-9"	3'-3"	2'-6"	2'-11"	2'-4"	2'-10"	2'-2"	2'-6"	1'-11"
GRADE 80														
#7	9'-0"	6'-11"	7'-10"	6'-0"	7'-0"	5'-4"	6'-4"	4'-11"	6'-0"	4'-7"	5'-7"	4'-3"	4'-11"	3'-10"
#8	10'-4"	7'-11"	8'-11"	6'-11"	8'-0"	6'-2"	7'-3"	5'-7"	6'-10"	5'-3"	6'-4"	4'-11"	5'-8"	4'-4"
#9	11'-7"	8'-11"	10'-0"	7'-8"	9'-0"	6'-11"	8'-3"	6'-4"	7'-8"	5'-11"	7'-2"	5'-6"	6'-4"	4'-11"
#10	13'-2"	10'-0"	11'-4"	8'-8"	10'-2"	7'-10"	9'-3"	7'-2"	8'-8"	6'-8"	8'-0"	6'-2"	7'-2"	5'-7"
#11	14'-7"	11'-2"	12'-7"	9'-8"	11'-3"	8'-8"	10'-3"	7'-11"	9'-7"	7'-4"	8'-11"	6'-10"	7'-11"	5'-11"

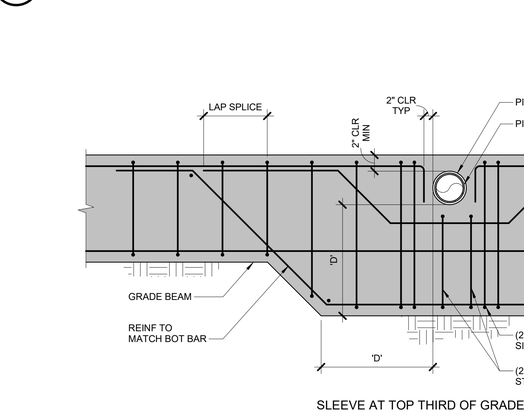
NOTES:
1. TABULATED VALUES ARE APPLICABLE ONLY IF CLEAR SPACING OF BARS BEING DEVELOPED OR SPLICED IS NOT LESS THAN 'db'. CLEAR COVER IS NOT LESS THAN 'db', AND STIRRUPS OR TIES THROUGHOUT SPLICE LENGTH IS NOT LESS THAN CODE MINIMUM, OR CLEAR SPACING OF BARS BEING DEVELOPED OR SPLICED IS NOT LESS THAN 2"'db' AND CLEAR COVER IS NOT LESS THAN 'db'. FOR OTHER CASES, MULTIPLY TABULATED VALUES BY 1.5.
2. 'TOP' BARS ARE HORIZONTAL REBARS WITH MORE THAN 12 INCHES OF FRESH CONCRETE CAST BELOW THE BARS AT THE DEVELOPEMENT LENGTH.
3. FOR LIGHT WEIGHT CONCRETE MULTIPLY THE TABULATED VALUES BY 1.3.
4. FOR EPOXY COATED BARS, MULTIPLY THE TABULATED VALUES BY 1.5 FOR BOTTOM BARS, OR BY 1.3 FOR TOP BARS.
5. FOR REINFORCEMENT OTHER THAN GRADE 60, MODIFY THE TABULATED VALUES BY THE RATIO OF THE REINFORCEMENT YIELD STRENGTH DIVIDED BY 60 KSI.
6. FOR CLASS 'A' SPLICE USE SAME AS TENSION DEVELOPMENT LENGTH.

2 TENSION LAP SPLICE LENGTH TABLE
NO SCALE

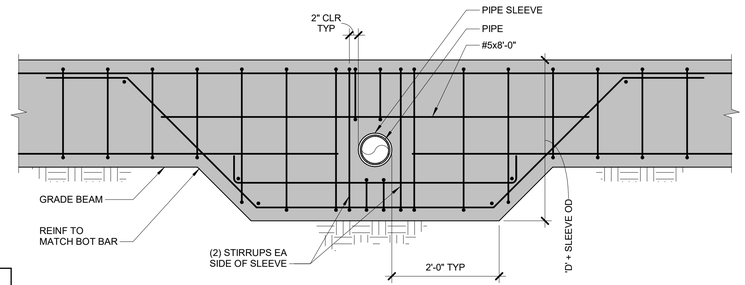
NOTES:
1. FOR SAW-CUT JOINTS, USE A "SOFF-CUT" ULTRA EARLY ENTRY DRY-CUT SAW OR APPROVED EQUIVALENT. JOINTS SHALL BE INSTALLED IMMEDIATELY UPON COMPLETION OF FINISHING OPERATIONS.
2. SEE SPECIFICATIONS AND ARCHITECTURAL DRAWINGS FOR ANY JOINT SEALANT REQUIREMENTS.



3 SLAB-ON-GRADE CONSTRUCTION
NO SCALE

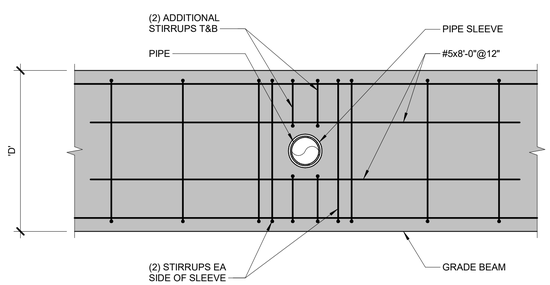


SLEEVE AT TOP THIRD OF GRADE BEAM DEPTH

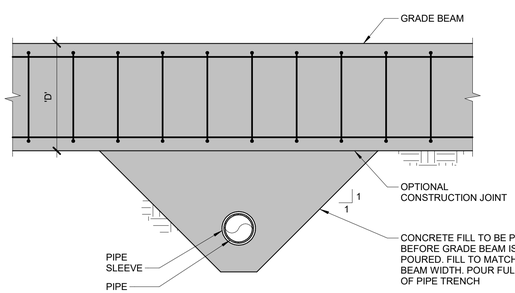


SLEEVE AT BOTTOM THIRD OF GRADE BEAM DEPTH

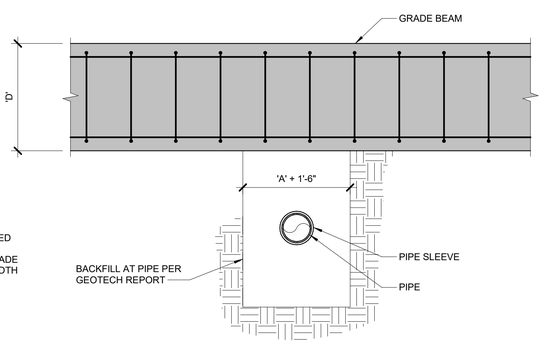
NOTES:
1. SLEEVE DIAMETER TO BE 2" LARGER THAN PIPE DIAMETER. CENTER PIPE IN SLEEVE.
2. SEAL VOID BETWEEN PIPE AND SLEEVE w/ ELASTIC WATERPROOF MATERIAL, TYP.
3. MAX PERMITTED SLEEVE DIA = 'D'/3.



SLEEVE THROUGH MIDDLE THIRD OF GRADE BEAM DEPTH



SLEEVE BELOW GRADE BEAM



BELOW BOTTOM

4 PIPE THROUGH GRADE BEAM
NO SCALE
2360-02

TIE LAP AT FRAME COL AND GIRDERS

90° HOOK

180° HOOK

MAX OFFSET BEND PRINCIPAL REINFORCING

TYPICAL TIE OR STIRRUP NOTES
D = 1 1/2" FOR #3
D = 2" FOR #4
D = 2 1/2" FOR #5
D = 4 1/2" FOR #6

90° HOOK TIE OR STIRRUP

135° HOOK TIE OR STIRRUP

135° HOOK SEISMIC TIE OR STIRRUP

NOTES:
1. ALL BENDS SHALL BE MADE COLD.
2. #14 AND #18 BARS SHAL BE BEND-TESTED AND APPROVED PRIOR TO BENDIDING.

TYPICAL TIE OR STIRRUP NOTES
D = 6d FOR #3 THRU #8
D = 8d FOR #9 THRU #11
D = 10d FOR #14 THRU #18

5 STANDARD HOOK AND TIE DIMENSIONS
NO SCALE

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TEXAS PARKS & WILDLIFE

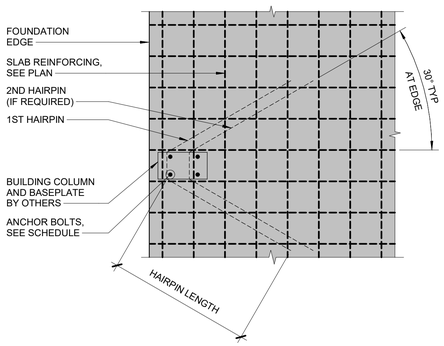
RICHTER ARCHITECTS

Powderhorn Wildlife Management Area
New Conservation Education Center
Project Number: #12102640

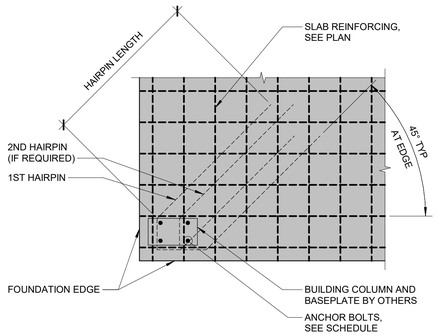
DATE: 05.22.2026
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REVIEWED BY: RA

SHEET TITLE
TYPICAL FOUNDATION SECTIONS AND SCHEDULES

SHEET NUMBER
S300



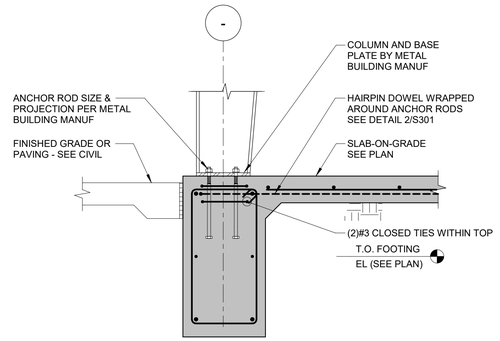
PLAN VIEW ALONG EDGE



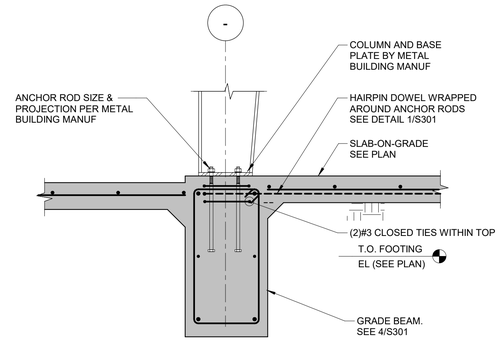
PLAN VIEW AT CORNER

NOTE:

1. HAIRPINS TO BE (1)#5, LENGTH 30" EA LEG.



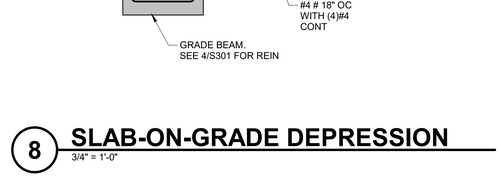
ALL STEEL SHALL BE HOT-DIPPED GALV.

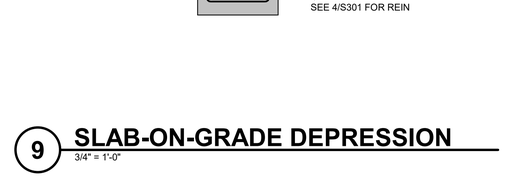


ALL STEEL SHALL BE HOT-DIPPED GALV.

1 HAIRPIN DETAIL

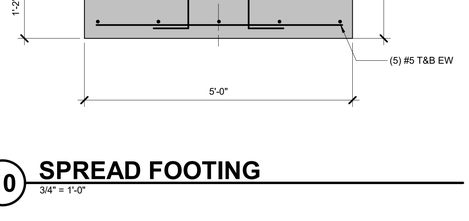
NO SCALE





2 FRAME COLUMN ON SPREAD FOOTING

3/4" = 1'-0"



3 FRAME COLUMN ON GRADE BEAM

3/4" = 1'-0"

NOTES:

1.CONTRACTOR NOTE: DEPTH OF DROP VARIES TO CREATE DRAINAGE AS REQUIRED. DRAINAGE DESIGN IS PER MEP AND CIVIL ENGINEERS AND NOT ANALYZED PER THE SCOPE OF THESE STRUCTURAL PLANS.

2. DEPTH OF GRADE BEAM SEE 4/S301

4 PERIMETER GRADE BEAM

3/4" = 1'-0"

5 INTERIOR GRADE BEAM

3/4" = 1'-0"

6 TRENCH DRAIN LOW SIDE

3/4" = 1'-0"
2040-02

7 TRENCH DRAIN THROUGH GRADE BEAM

NO SCALE
2040-02

11 PERIMETER FOOTING AT DOOR STEP

3/4" = 1'-0"

8 SLAB-ON-GRADE DEPRESSION

3/4" = 1'-0"

9 SLAB-ON-GRADE DEPRESSION

3/4" = 1'-0"

10 SPREAD FOOTING

3/4" = 1'-0"

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TEXAS PARKS & WILDLIFE

RICHTER ARCHITECTS

Powderhorn Wildlife Management Area
New Conservation Education Center
Project Number: #1210264

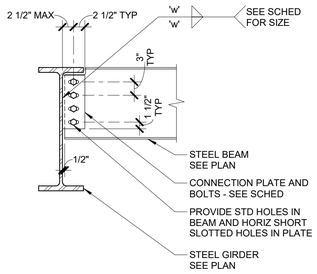
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REVIEWED BY: RA

SHEET TITLE
FOUNDATION SECTIONS

SHEET NUMBER
S301

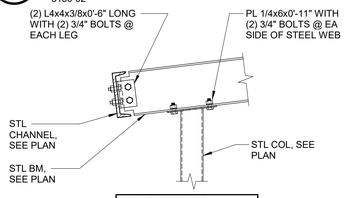
SINGLE PLATE CONNECTION SCHEDULE

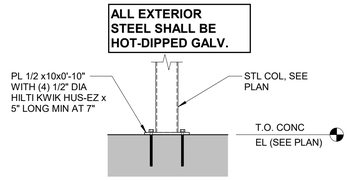
BEAM SIZE	NO. OF BOLTS	CONNECTION WITH 3/4"Ø BOLTS	
		PL THICK	PL WELD
C8, C10	2	1/4"	3/16"
W8, W10	2	1/4"	3/16"
W12, W14	3	1/4"	3/16"
W16	4	5/16"	1/4"
W18	5	5/16"	1/4"
W21	6	5/16"	1/4"
W24, W27	7	3/8"	1/4"
W30	8	3/8"	1/4"
W33	9	3/8"	1/4"
W36	10	3/8"	1/4"
W40	11	3/8"	1/4"
W44	12	3/8"	1/4"



1 SHEAR CONNECTION TO BEAM

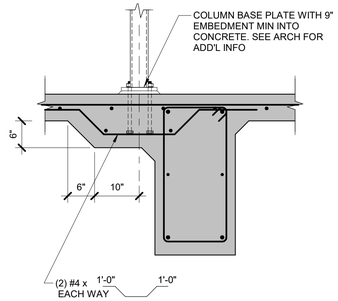
NO SCALE
5150-02

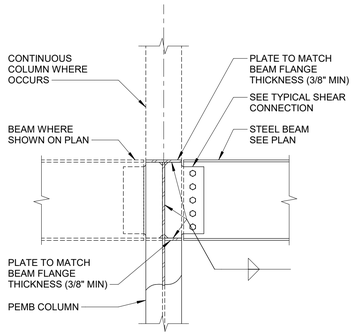




2 SHEAR CONNECTION TO COLUMN WEB

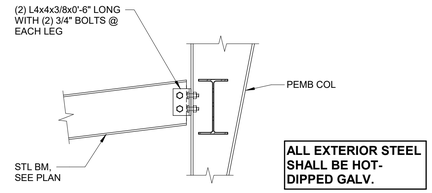
NO SCALE
5155-04





3 WF BEAM TO PEMB COLUMN CONNECTION

3/4" = 1'-0"



4 WF BEAM TO HSS COLUMN CONNECTION

3/4" = 1'-0"

5 COLUMN BASE PLATE

3/4" = 1'-0"

6 GRADE BEAM AT STEEL COLUMN

3/4" = 1'-0"

TEXAS PARKS & WILDLIFE

RICHTER ARCHITECTS

Powderhorn Wildlife Management Area
New Conservation Education Center
Project Number: #1210264

DATE: 05.22.2026
DESIGNED BY: DM
DRAWN BY: JS
REVIEWED BY: RA

STATE OF TEXAS
ROBERT M ADAMS III
103398
REGISTERED PROFESSIONAL ENGINEER
5/22/2026

SHEET TITLE
TYPICAL STEEL SECTIONS AND SCHEDULES

SHEET NUMBER
S500

IMEG
www.imegcorp.com
11044 RESEARCH BLVD
A-230
AUSTIN, TX 78759
P: 512.416.1654 F: 512.416.7547

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Texas Firm Registration #F-24262

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REF. SCALE IN INCHES

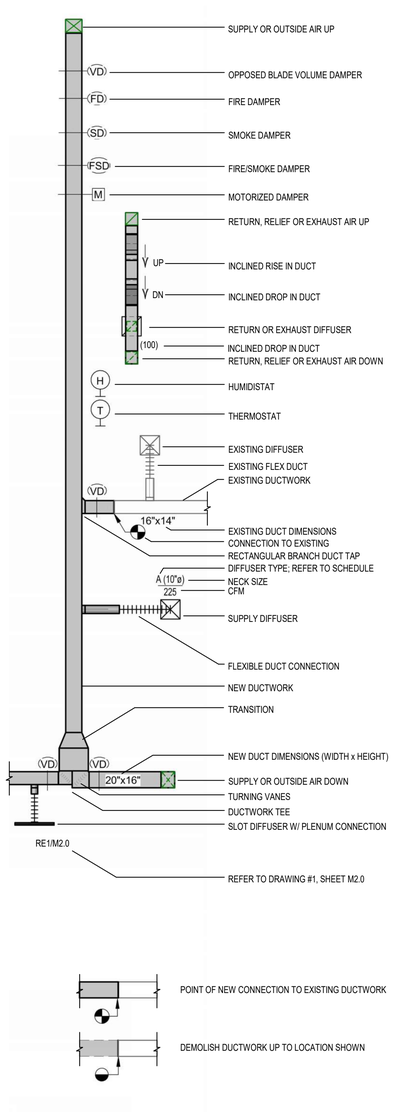
PROJECT #25001293.00

MECHANICAL SYMBOLS

PIPING SYMBOLS

- CAP ON END OF PIPE
- ELBOW UP
- ELBOW DOWN
- VALVE IN DROP
- VALVE IN RISE
- DIRECTION OF FLOW
- DIRECTION OF SLOPE DOWN
- CONCENTRIC REDUCER
- ECCENTRIC REDUCER
- TEE OUTLET UP
- TEE OUTLET DOWN
- UNION
- FLANGE
- PIPE ANCHOR
- EXPANSION JOINT
- STRAINER WITH BLOW DOWN VALVE
- GATE VALVE, HVAC BALANCING/STOP VALVE
- GLOBE VALVE
- BALL VALVE
- BALANCING VALVE WITH DIFFERENTIAL PRESSURE TAPS
- OS&Y VALVE
- CHECK VALVE
- BUTTERFLY VALVE
- TWO-WAY MODULATING CONTROL VALVE
- THREE-WAY MODULATING CONTROL VALVE
- SOLENOID VALVE
- PRESSURE REDUCING VALVE
- GAS REGULATOR
- GAS COCK OR PLUG VALVE
- FCS — SPRINKLER FLOOR CONTROL STATION
- MANUAL AIR VENT
- AUTOMATIC AIR VENT
- T&P RELIEF VALVE
- LINE CLEANOUT/ WALL CLEANOUT
- FLOOR CLEANOUT
- FLOOR CLEANOUT AT GRADE
- PRESSURE GAUGE WITH GAUGE COCK
- THERMOMETER
- WATER METER
- FLEXIBLE CONNECTION
- PRESSURE AND TEMPERATURE TAP
- FLOW VENTURI
- VACUUM BREAKER
- VACUUM RELIEF VALVE
- BACKFLOW PREVENTER
- CIRCULATING PUMP
- STEAM TRAP

DUCTWORK



PIPING TYPES

- RL — REFRIGERANT LIQUID LINE
- RS — REFRIGERANT SUCTION LINE
- CD — CONDENSATE DRAIN LINE

MISCELLANEOUS

- 1 — ELECTRICAL DRAWING NOTE REFERENCE
- 1 — PLUMBING DRAWING NOTE REFERENCE
- 1 — MECHANICAL DRAWING NOTE REFERENCE

MECHANICAL GENERAL NOTES

1. PIPING AND DUCTWORK ON DRAWINGS ARE SCHEMATIC ONLY. COORDINATE WITH OTHER TRADES FOR PIPING AND DUCTWORK ROUTING, OFFSET AND RUN PIPING/DUCTWORK INSIDE THE STRUCTURE IF REQUIRED. PROVIDE ALL NECESSARY PIPING, DUCTWORK, FITTINGS, INSULATION, AND OTHER ACCESSORIES.
2. EXACT LOCATIONS OF GRILLES AND DAMPERS SHALL BE FIELD COORDINATED WITH OTHER TRADES TO AVOID CONFLICTS AND ALLOW ADEQUATE CLEARANCE AND EASY ACCESS.
3. COORDINATE LOCATIONS OF FLOOR AND WALL OPENINGS WITH ARCHITECT AND STRUCTURAL ENGINEER.
4. CONTRACTOR SHALL COORDINATE WITH ELECTRICAL CONTRACTOR FOR ALL ELECTRICAL POWER REQUIREMENTS.
5. CONTRACTOR SHALL COORDINATE EXACT LOCATIONS OF ALL OUTSIDE AIR INTAKES TO MAINTAIN 10 FEET DISTANCE BETWEEN OUTSIDE AIR INTAKES AND ANY EXHAUST AIR OUTLET, FLUES OR PLUMBING VENTS.
6. CONTRACTOR SHALL PROVIDE ADEQUATE CLEARANCE AROUND VAV BOXES AS REQUIRED BY MANUFACTURER. COORDINATE EXACT LOCATION WITH OTHER TRADES.
7. NO PIPE HANGERS SHALL BE SPACED MORE THAN 10'-0". COMPLY WITH PIPE SPACING AS SPECIFIED IN THE PIPE SUPPORT SPECIFICATION.
8. CONTRACTOR SHALL COMPLY WITH ALL STATE, LOCAL, AND FEDERAL CODES AND AUTHORITIES HAVING JURISDICTION.
9. EQUIPMENT SIZES, DIMENSIONS, AND REQUIRED CONNECTIONS SHALL BE VERIFIED WITH THE MANUFACTURER DRAWINGS AND CUTSHEETS BEFORE FABRICATION OF DUCTWORK, PIPING, OR POURING OF CONCRETE HOUSEKEEPING PADS.
10. CONTRACTOR SHALL VERIFY DUCTED RETURN AIR PATH BACK TO ALL UNITS. REFER TO FLOOR PLANS AND AIR DEVICE TAGS FOR EXACT SIZING. WHERE RETURN AIR PATH IS ROUTED THROUGH A FIRE RATED WALL, A FIRE DAMPER SHALL BE PROVIDED IN THE DUCTWORK.
11. COORDINATE EXACT LOCATION, FINISH, AND COLOR OF ALL AIR DEVICES WITH ARCHITECT PRIOR TO INSTALLATION.
12. ALL EXPOSED DUCTWORK SHALL BE INTERNALLY LINED.
13. PROVIDE ACCESS PANEL FOR ALL HVAC EQUIPMENT LOCATED ABOVE HARD CEILING. SIZE PANEL PER MANUFACTURER'S RECOMMENDED SERVICE CLEARANCES AND COORDINATE WITH ARCHITECT FOR FINISH.
14. PROVIDE TEMPERATURE SENSORS, HUMIDISTATS AND CO2 SENSORS AT LOCATIONS INDICATED ON PLANS. MOUNT TEMPERATURE SENSORS 2'-0" BELOW THE FINISHED CEILING AND NEAR A RETURN AIR GRILLE, ENSURE ALL TEMPERATURE SENSORS ARE CLEAR OF CASEWORK PRIOR TO FINAL ROUGH-IN. MOUNT HUMIDISTATS AND C02 SENSORS AT THE SAME ELEVATION AS LIGHT SWITCHES. COORDINATE EXACT LOCATIONS WITH ARCHITECT.
15. PROVIDE SPIN-IN CONNECTION WITH LOCKING QUADRANT BUTTERFLY FOR ALL ROUND DUCTWORK CONNECTED TO RECTANGULAR DUCT.
16. DUCT SIZES SHOWN ON PLANS ARE CLEAR INSIDE DIMENSIONS.
17. ALL LOW PRESSURE DUCTWORK AND ASSOCIATED ACCESSORIES SHALL BE CONSTRUCTED TO MEET THE LATEST SMACNA STANDARDS FOR MEDIUM AND LOW PRESSURE DUCTWORK.
18. PROVIDE AIRFOIL TYPE TURNING VANES IN ALL 90 DEGREE ELBOWS.
19. FASTEN AND SEAL ALL DUCTWORK JOINTS, LONGITUDINAL AND TRAVERSE SEAMS AND CONNECTIONS PER ASHRAE 90.1 SECTION 6.4.4.2.1. DUCT SEALANT SHALL BE INSPECTED PRIOR TO DUCTWORK BEING INSULATED.
20. ALL EXPOSED DUCTWORK AND PIPING ALONG WITH ASSOCIATED ACCESSORIES IN AREAS WITH NO CEILING OR PARTIAL CEILING SHALL BE PAINTED. REFER TO ARCHITECT FOR COLOR.
21. PROVIDE REMOTE SPIN-IN CONNECTION FOR ALL ROUND DUCTWORK CONNECTED TO RECTANGULAR DUCT LOCATED ABOVE A HARD CEILING.
22. ALL EQUIPMENT LOCATED OUTDOORS SHALL BE SELECTED TO WITHSTAND 150 MPH WINDS AND SHALL BE SECURED DIRECTLY TO STRUCTURE/GRADE. ALL FANS, RELIEF HOODS, AND INTAKE HOODS SHALL BE SECURED TO CURB USING STEEL CABLES. ALL PIPE SUPPORTS AND CONDUIT SUPPORTS SHALL BE ANCHORED TO ROOF DECK. ALL AIR COOLED CONDENSING UNITS SHALL BE ANCHORED TO ROOF DECK. VIBRATION ISOLATORS SHALL INCLUDE UPLIFT SECUREMENT.
23. COORDINATE ALL MOUNTING LOCATIONS AND HEIGHTS OF AIR DEVICES WITH ARCHITECT PRIOR TO FINAL INSTALLATION. PROVIDE SHOP DRAWING WITH ELEVATIONS, INCLUDING DUCT AND AIR DEVICE HEIGHTS FOR REVIEW BY THE ARCHITECT AND ENGINEER.

TEXAS PARKS & WILDLIFE

RICHTER ARCHITECTS

Powderhorn Wildlife Management Area
New Conservation Education Center
Project Number: 1210264

DATE: 05/22/2026
DESIGNED BY: AH
DRAWN BY: AH
REVIEWED BY: JS
REVISED:

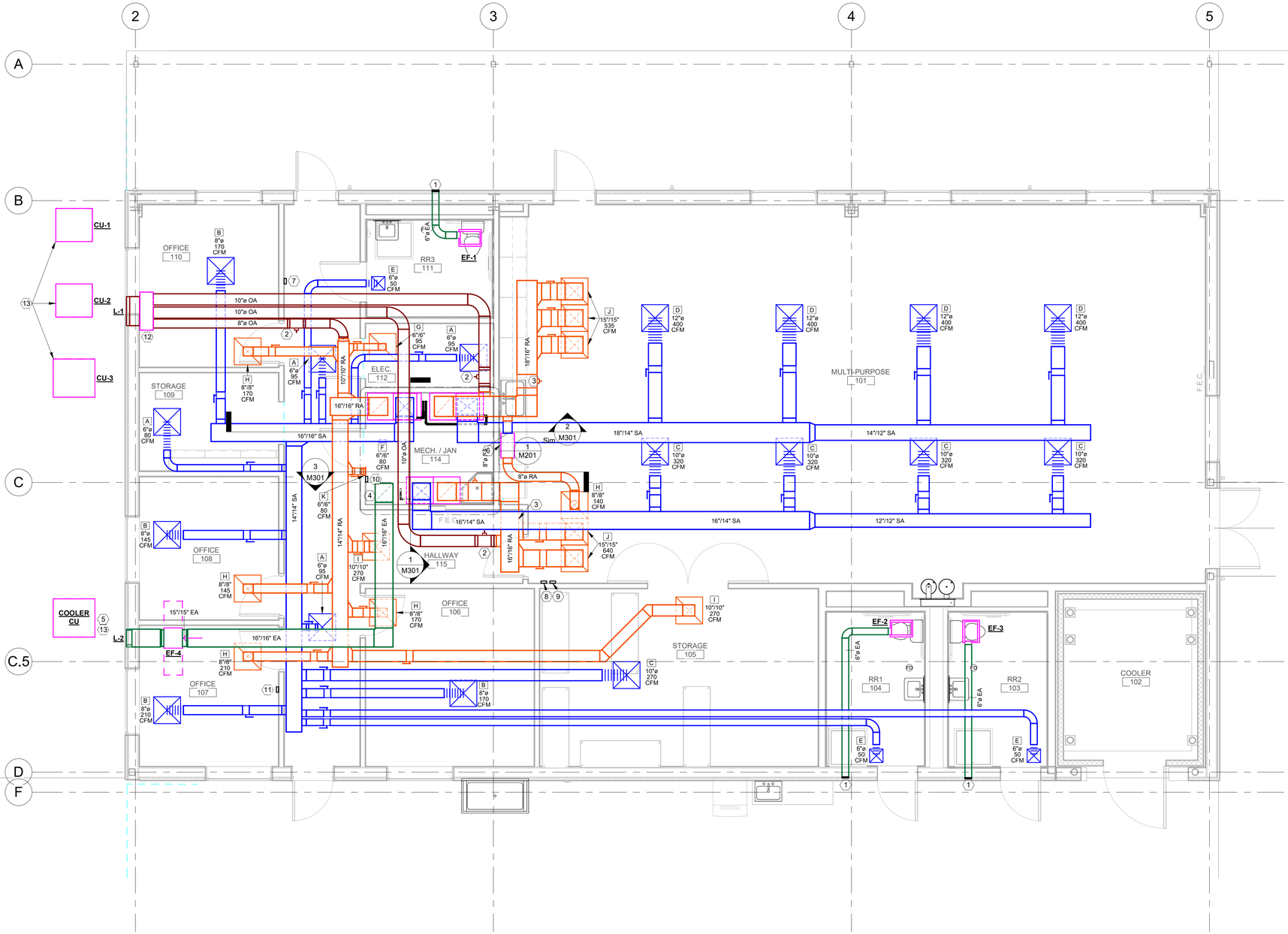
SHEET TITLE
MECHANICAL LEGENDS

SHEET NUMBER
M001

STATE OF TEXAS
SEAN M. RODRIGUEZ
96478
LICENSED
PROFESSIONAL ENGINEER
05/22/2026

NRG ENGINEERING
5656 S. STAPLES, SUITE 360,
CORPUS CHRISTI, TX 78411
P - 361.852.2727 F - 361.852.2922
TEXAS ENGINEERING FIRM NO.
005318

25050



1 HVAC PLANS
1/4" = 1'-0"

1/4" = 1'-0"
4 0 4 8
SCALE FEET

MECHANICAL GENERAL NOTES:

A. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND EXISTING CONDITIONS AT THE JOB SITE BEFORE COMMENCING ANY PHASE OF THE WORK. ADJUSTMENTS FOR FIT AND COORDINATION SHALL BE MADE AT NO ADDITIONAL COST TO THE OWNER. NOTIFY ENGINEER OF ANY CONFLICTS, DISCREPANCIES OR OMISSIONS PRIOR TO COMMENCEMENT OF THE CONTRACT WORK.

B. CONTRACTOR SHALL REVIEW ALL ARCHITECTURAL, CIVIL, MECHANICAL & STRUCTURAL DRAWINGS AND SPECIFICATIONS FOR ANY ADDITIONAL REQUIREMENTS.

C. CONTRACTOR SHALL COORDINATE HIS WORK WITH OTHER TRADES.

D. SEE M001 FOR SYMBOLS LEGEND AND ADDITIONAL GENERAL NOTES.

E. PROVIDE MANUAL BALANCING DAMPER IN ACCESSIBLE LOCATION ON ALL DIFFUSER, RETURN, AND GRILLE RUNOUTS EVEN IF NOT SHOWN ON PLAN.

F. MOUNT ALL THERMOSTATS AND SENSORS 48" AFF UNLESS OTHERWISE NOTED.

MECHANICAL KEY NOTES:

1. TERMINATE EXHAUST DUCT IN MANUFACTURER APPROVED WALL CAP.
2. BALANCE TO OUTSIDE AIR FLOW LISTED ON SCHEDULE.
3. BALANCE TO DIFFERENCE BETWEEN SUPPLY AIR FLOW AND OUTSIDE AIR FLOW RATE LISTED ON SCHEDULE.
4. REFRIGERANT PURGE EXHAUST DUCT TO TERMINATE MAXIMUM 12" A.F.F. INSTALL BIRD SCREEN TO END OF DUCT.
5. PROVIDE CONDENSING UNIT FOR THERMALRITE 35 DEG. FAHRENHEIT INDOOR COOLER MODEL E108582-01. COORDINATE WITH OWNER.
6. PROVIDE NEW SANTA FE DEHUMIDIFIER MODEL ULTRA 70 WITH 115 CORD AND PLUG, MERV-13 FILTERS, AND DEH3000R REMOTE CONTROLLER. SUSPEND DEHUMIDIFIER IN SPACE. CONNECT DUCTWORK AS SHOWN. ROUTE 3/4" CONDENSATE DRAIN LINE TO MOP SINK IN MECHANICAL/JANITORIAL CLOSET. COORDINATE WITH THE PLUMBING CONTRACTOR.
7. THERMOSTAT CONTROLS AHU-1. INSTALL THERMOSTAT 48" A.F.F.
8. THERMOSTAT CONTROLS AHU-2. INSTALL THERMOSTAT 48" A.F.F.
9. THERMOSTAT CONTROLS AHU-3. INSTALL THERMOSTAT 48" A.F.F.
10. INSTALL REFRIGERANT SENSOR 6" A.F.F.
11. INTERLOCK SENSOR WITH AHU-1 THERMOSTAT. INSTALL SENSOR 8 FT A.F.F.
12. 34"x16" INSULATED OA PLENUM TO 8" ROUND AND 10" ROUND OA DUCTS.
13. PROVIDE 8" HOUSEKEEPING PAD FOR OUTDOOR UNITS. PAD SHALL EXTEND PAST UNIT 6 INCHES ON ALL SIDES.

TEXAS PARKS & WILDLIFE

RICHTER ARCHITECTS

Powderhorn Wildlife Management Area
New Conservation Education Center
Project Number: 1210264

DATE: 05/22/2026
DESIGNED BY: AH
DRAWN BY: AH
REVIEWED BY: JS
REVISED:

SHEET TITLE
HVAC PLANS

SHEET NUMBER
M101

STATE OF TEXAS
SEAN M. RODRIGUEZ
96478
LICENSED
PROFESSIONAL ENGINEER
05/22/2026

NRG ENGINEERING
5656 S. STAPLES, SUITE 360,
CORPUS CHRISTI, TX 78411
P - 361.852.2727 F - 361.852.2922
TEXAS ENGINEERING FIRM NO.
005318

25050

MECHANICAL GENERAL NOTES:

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B. CONTRACTOR SHALL REVIEW ALL ARCHITECTURAL, CIVIL, MECHANICAL & STRUCTURAL DRAWINGS AND SPECIFICATIONS FOR ANY ADDITIONAL REQUIREMENTS.

C. CONTRACTOR SHALL COORDINATE HIS WORK WITH OTHER TRADES.

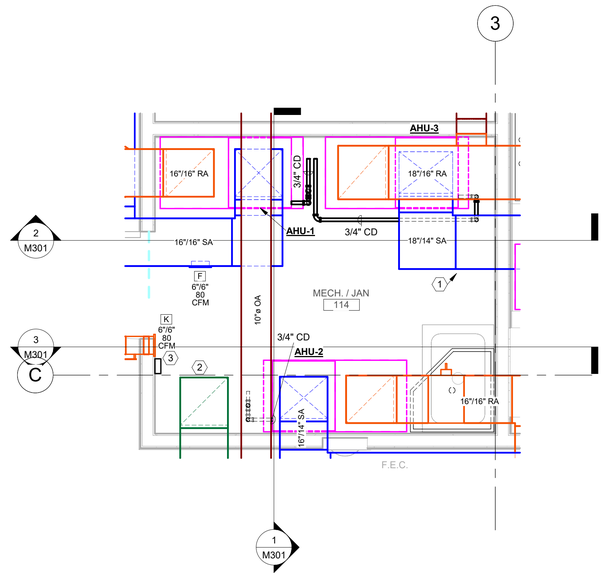
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F. MOUNT ALL THERMOSTATS AND SENSORS 48" AFF UNLESS OTHERWISE NOTED.

MECHANICAL KEY NOTES:

1. PROVIDE NEW SANTA FE DEHUMIDIFIER MODEL ULTRA 70 WITH 115 CORD AND PLUG, MERV-13 FILTERS, AND DEH300/R REMOTE CONTROLLER. SUSPEND DEHUMIDIFIER IN SPACE. CONNECT DUCTWORK AS SHOWN. ROUTE 3/4" CONDENSATE DRAIN LINE TO MOP SINK IN MECHANICAL/JANITORIAL CLOSET. COORDINATE WITH THE PLUMBING CONTRACTOR.
2. REFRIGERANT PURGE EXHAUST DUCT TO TERMINATE MAXIMUM 12" A.F.F. INSTALL BIRD SCREEN TO END OF DUCT.
3. INSTALL REFRIGERANT SENSOR 6" A.F.F.



1 ENLARGED MECHANICAL ROOM PLAN
1/2" = 1'-0"

TEXAS PARKS & WILDLIFE

RICHTER ARCHITECTS

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New Conservation Education Center
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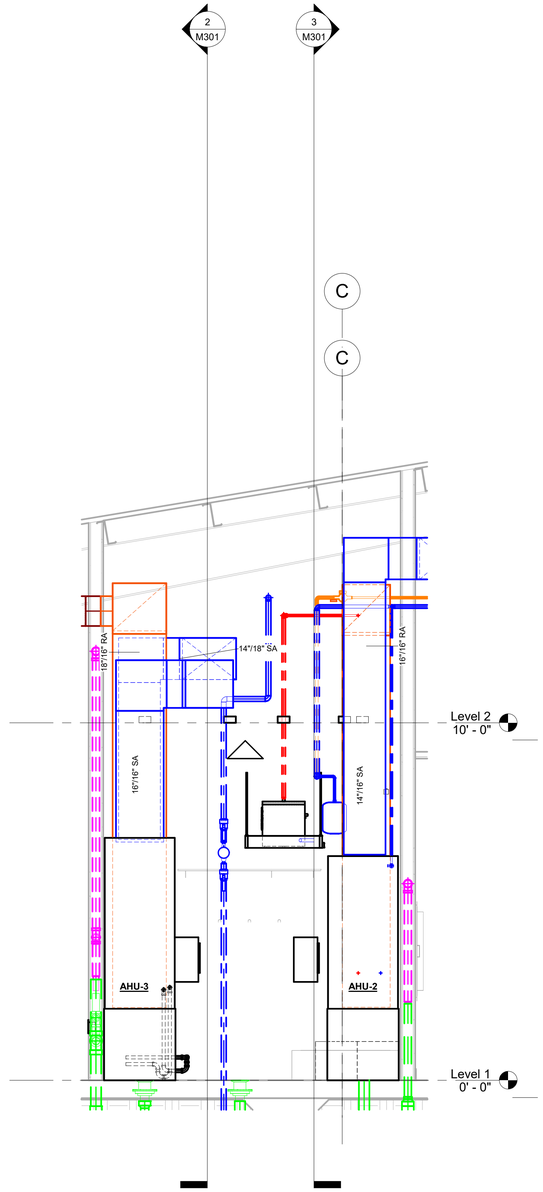
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MECHANICAL ENLARGED PLANS

SHEET NUMBER
M201

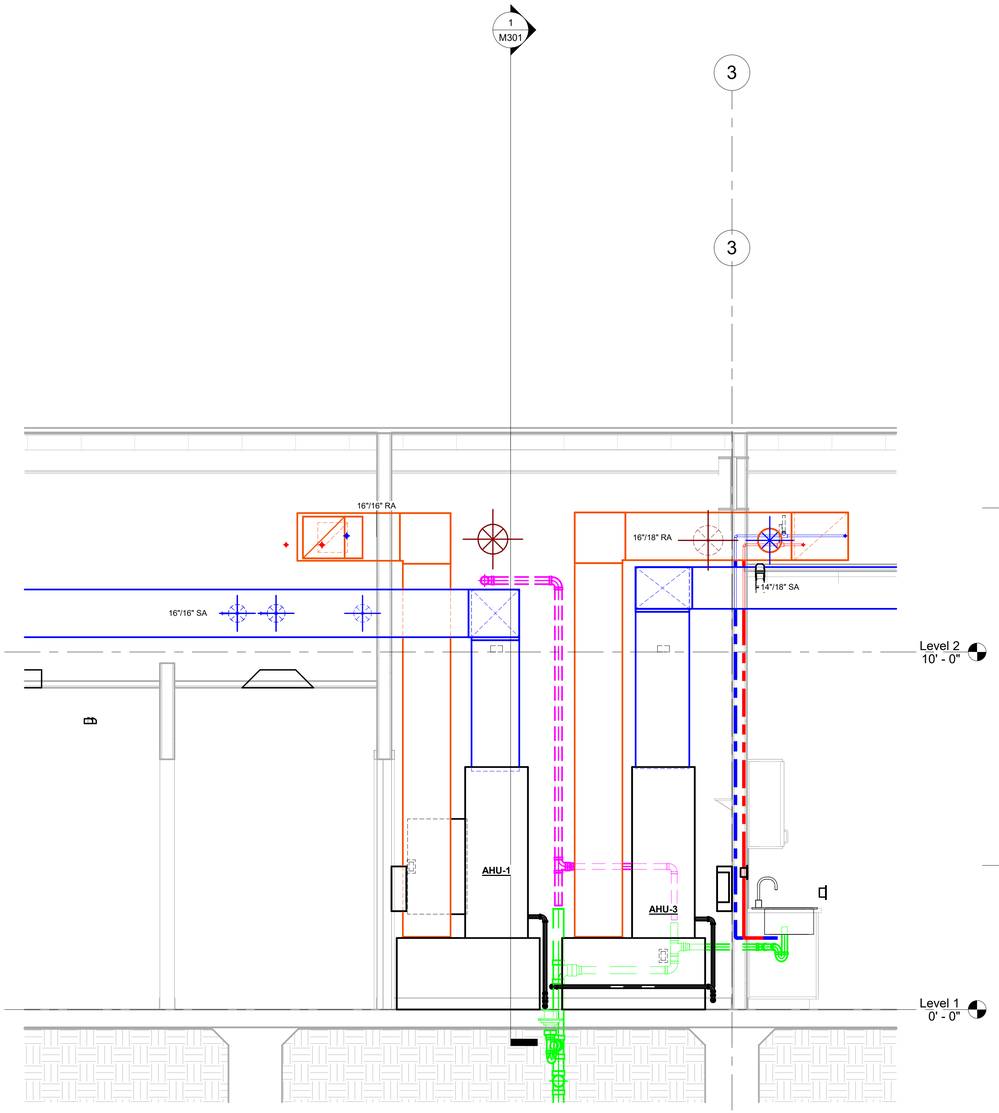
STATE OF TEXAS
SEAN M. RODRIGUEZ
96478
LICENSED PROFESSIONAL ENGINEER
05/22/2026

NRG ENGINEERING
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CORPUS CHRISTI, TX 78411
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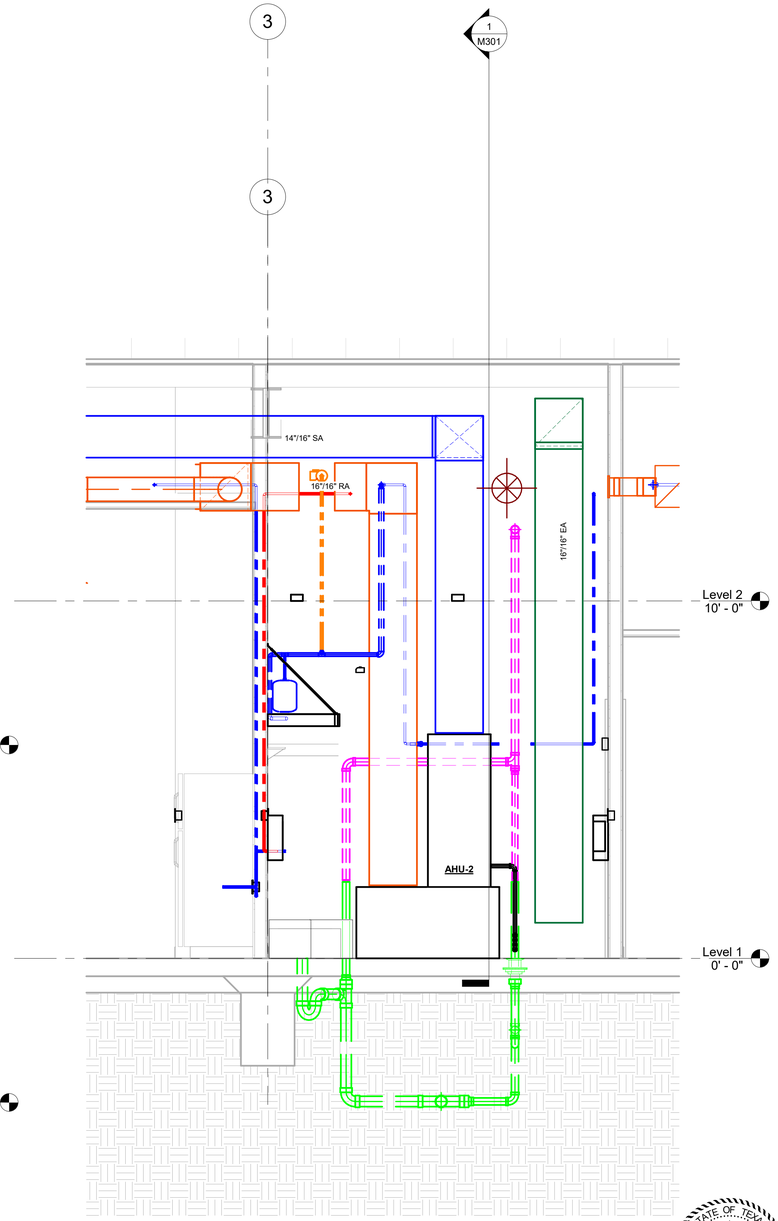
25050



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



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



3 MECH SECTION 3
1/2" = 1'-0"

TEXAS PARKS & WILDLIFE

RICHTER ARCHITECTS

Powderhorn Wildlife Management Area
New Conservation Education Center
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DATE: 05/22/2026
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DRAWN BY: AH
REVIEWED BY: JS
REVISED:

SHEET TITLE
MECHANICAL SECTIONS

SHEET NUMBER
M301

STATE OF TEXAS
SEAN M. RODRIGUEZ
96478
LICENSED
PROFESSIONAL ENGINEER
05/22/2026

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5656 S. STAPLES, SUITE 360,
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25050

FAN SCHEDULE

MARK	EF-1	EF-2	EF-3	EF-4	
SERVES	RR3	RR1	RR2	MECH/JAN	
DRIVE	DIRECT	DIRECT	DIRECT	DIRECT	
CFM	50	50	50	1040	
E.S.P. IN W.G.	0.36	0.36	0.36	0.57	
HORSEPOWER	-	-	-	1/4	
RPM (MAX.)	950	950	950	1699	
SONES (MAX.)	1.3	1.3	1.3	8.7	
VOLTS/PHASE/HERTZ	115/60/1	115/60/1	115/60/1	115/60/1	
MANUFACTURER	GREENHECK	GREENHECK	GREENHECK	GREENHECK	
MODEL NUMBER	SP-A110	SP-A110	SP-A110	SQ-9-M1-VG	
WEIGHT	17	17	17	52	
NOTES	ALL	ALL	ALL	1,3	

NOTE:
1. FAN SHALL BE DIRECT DRIVE WITH MOTOR MOUNTED SPEED CONTROL RELAY, PREWIRED INTEGRAL DISCONNECT SWITCH, AND BACKDRAFT DAMPER.
2. EXHAUST FAN SHALL BE CONTROLLED BY LIGHT SWITCH TO TURN ON WHEN RESTROOM LIGHT IS ON. COORDINATE WITH ELECTRICAL.
3. EQUIVALENT MANUFACTURES ARE COOK AND GREENHECK.

DX SPLIT AIR HANDLING UNIT SCHEDULE

MARK		AHU-1	AHU-2	AHU-3			
SERVES		OFFICE	MULTI-PURPOSE	MULTI-PURPOSE			
TYPE		CV	SZVAV	SZVAV			
SUPPLY (CFM)		1,510	1280	1600			
OUTSIDE AIR (CFM)		155	215	240			
EXT. SP. (IN. WG)		0.6	0.6	0.6			
PERCENT OUTSIDE AIR		10.3%	16.8%	15.0%			
FAN MOTOR HORSEPOWER		0.75	0.5	0.75			
FAN MOTOR TYPE		ECM	ECM	ECM			
FAN STYLE/CONFIGURATION		HORZ.	HORZ.	HORZ.			
FAN MOTOR TYPE		VARIABLE	VARIABLE	VARIABLE			
REFRIGERANT TYPE		454B	454B	454B			
COOLING COIL							
MAX. COIL FACE VEL. (FPM)		500	500	500			
ROWS/FINS		-	-	-			
EAT DB/WB (F)		79.4/63.0	78.2/64.2	78.2/66.2			
LAT DB/WB (F)		55.0/51.9	55.0/53.6	55.0/54.2			
TOTAL GRAND (MBTUH)		48.9	40.4	59.9			
TOTAL SENSIBLE (MBTUH)		41.3	31.4	39.6			
REHEAT COIL							
HEATING KW		9.4	9.4	9.5			
HEATING BTUH		32126.8	32071.7	32313.6			
HEATING EAT DB (F)		65.3	64.8	64.8			
HEATING LAT DB (F)		85	88	83.5			
ELECTRICAL DATA							
CIRCUIT #1	SERVES	ELECTRIC HEAT	ELECTRIC HEAT	ELECTRIC HEAT			
	MCA	59	55	59			
	MOCP	60	60	60			
	VOLTS/PH/HZ	240/1/60	240/1/60	240/1/60			
MANUFACTURE		TRANE	TRANE	TRANE			
MODEL No.		5TEM6D07AV51	5TEM6D05AV41	5TEM6D07AV51			
NOTES:		ALL	ALL	ALL			

NOTES:
1. PROVIDE 2" PLEATED 85% EFFICIENT MERV 13 FILTERS FOR THE AHU.
2. PROVIDE SLIDE OUT FILTER FRAME ON RETURN INLET OF AIR HANDLER.
3. PROVIDE WITH SINGLE POINT OF ELECTRICAL CONNECTION FOR EACH UNIT. THE UNITS SHALL BE CONSTANT VOLUME.
7. AUTOMATIC TEMPERATURE CONTROL: PROVIDE FOR EACH HVAC UNIT, LOW VOLTAGE SEVEN DAY PROGRAMABLE THERMOSTAT WITH NON-VOLITALE FLASH MEMORY TO RETAIN PROGRAM SCHEDULE. EQUIVALENT THERMOSTAT MANUFACTURES ARE TRANE, CARRIER, OR HONEYWELL VISION PRO 8000. UNIT SHALL HAVE OCCUPIED AND UNOCCUPIED SCHEDULES AND INCORPORATE TWO STAGE HEAT/COOL AS APPLICABLE WITH AN AUTO CHANGEOVER FEATURE. HEATING AND COOLING SET POINTS SHALL BE OPERATOR ADJUSTABLE (THERMOSTATS BY UNIT SUPPLIER). THERMOSTAT SHALL 24 HOUR MEMORY RETENTION, 5 DEGREE F DEADBAND, AUTOMATIC SETBACK WITH AN OCCUPANT OVERRIDE BUTTON, AND AN LCD DISPLAY.
8. INSTALL ALL UNITS AS PER THE MANUFACTURERS SPECIFICATIONS AND RECOMMENDATIONS. PROVIDE THE MANUFACTURERS MINIMUM CLEARANCES FOR OPERATION AND SERVICE OF THE UNIT. COORDINATE THE INSTALLATION OF THE UNIT WITH ALL OTHER DISCIPLINES, DUCTWORK, STRUCTURE, ELECTRICAL, AND ALL OTHER OBSTRUCTION PRIOR TO INSTALLATION OF THE UNIT, ITS EQUIPMENT PAD, AND ALL ACCESSORIES.
9. MECHANICAL SPACES HAVE BEEN DESIGNED AROUND THE SPECIFIED MANUFACTURER. ALTERNATE MANUFACTURERS EQUIPMENT SHALL NOT EXCEED THE SPECIFIED MANUFACTURES PHYSICAL DIMENSIONS AND WEIGHTS.
10. PROVIDE REFRIGERANT SENSOR AND CONTROLS AT THE UNIT WITH SYSTEM SHUT OFF VALVE FOR REFRIGERANT MITIGATION COMPLIANT WITH UL 60335-2-40.

AIR DEVICE SCHEDULE

PLAN MARK	MANUF. & MODEL NUMBER	SERVICE	MODULE SIZE	NECK SIZE	FACE SIZE	BORDER TYPE	FINISH	BLOW PATTERN	MAT'L.	OPTIONS/NOTES
A	TITUS OMNI-AA	SUPPLY	24 X 24	6"□	20 X 20	3	26	4	ALU	
B	TITUS OMNI-AA	SUPPLY	24 X 24	8"□	20 X 20	3	26	4	ALU	
C	TITUS OMNI-AA	SUPPLY	24 X 24	10"□	20 X 20	3	26	4	ALU	
D	TITUS OMNI-AA	SUPPLY	24 X 24	12"□	20 X 20	3	26	4	ALU	
E	TITUS OMNI-AA	SUPPLY	12 X 12	6"□	10 X 10	3	26	4	ALU	
F	TITUS 300FL	SUPPLY	8 X 8	6 X 6	8 X 8	3	26	4	ALU	
G	TITUS PAR-AA	RETURN	24 X 24	6 X 6	20 X 20	3	26	4	ALU	
H	TITUS PAR-AA	RETURN	24 X 24	8 X 8	20 X 20	3	26	4	ALU	
I	TITUS PAR-AA	RETURN	24 X 24	10 X 10	20 X 20	3	26	4	ALU	
J	TITUS PAR-AA	RETURN	24 X 24	15 X 15	20 X 20	3	26	4	ALU	
K	TITUS 350FS	RETURN	8 X 8	6 X 6	8 X 8	3	26	4	ALU	

BORDER TYPE
1. SURFACE MOUNT
2. SNAP-IN
3. LAY-IN
4. SPLINE
5. DROPPED
6. BEVELED

BLOW PATTERN
1. 1-WAY
2. 2-WAY
2C. 2-WAY, OPPOSITE
3. 3-WAY
4. 4-WAY+

FINISH
01 ALUMINUM
04 MILL (STD)
26 WHITE

MATERIAL
STL 22 GAUGE STEEL
ALU ALUMINUM

OPTIONS/NOTES
TRM RAPID MOUNT FRAME
PFSS SS PLASTER FRAME
PFA ALUM PLASTER FRAME
AG-15 STEEL DAMPER
AG-15-AA ALUMINUM DAMPER
AG-15-SS STAINLESS STEEL DAMPER
EQT EARTHQUAKE TABS
L FRONT BLADE LONG ORIENTATION
S FRONT BLADE SHORT ORIENTATION
AG-85 BUTTERFLY DAMPER
EG EQUALIZING GRID
TRV THROW REDUCING VANES

CONDENSING UNIT SCHEDULE

MARK	CU-1	CU-2	CU-3		
SERVES	AHU-1	AHU-2	AHU-3		
TOT BTUH	60,000	48,000	60,000		
NOMINAL TONS	5	4	5		
AMBIENT TEMP.	95	95	95		
COOLING STAGES	2	2	2		
REFRIGERANT TYPE	454B	454B	454B		
SEER (EER)	16.5 (11.7)	17.1 (12.0)	16.5 (11.7)		
VOLTS/PH	240/1	240/1	240/1		
MCA	43	36	43		
MOCP	60	50	60		
MFG	TRANE	TRANE	TRANE		
MODEL No.	5TTR7060A1	5TTR7048A1	5TTR7060A1		
NOTES:	ALL	ALL	ALL		

NOTES:
1. PROVIDE COMPRESSOR WITH 5 YEAR WARRANTY.
2. PROVIDE REFRIGERANT SENSORS, WIRING HARNESSES, AND ALARM SHUTDOWNS COMPLIANT WITH UL 60335-2-40.
3. SIZE REFRIGERANT LINES PER MANUFACTURES RECOMMENDATIONS. PROVIDE HIGH AND LOW PRESSURE SWITCHES, LIQUID LINE FILTER DRIER, CRANKCASE HEATERS AND NON-BLEED PORT, ADJUSTABLE TXV VALVE. PROVIDE LIQUID LINE SIGHT GLASS AND PRESSURE TAPS ON INLET AND OUTLET OF INDOOR COILS.
4. CONDENSOR UNIT SHALL BE FACTORY COATED WITH 10,000+ SALT SPRAY COATING.
5. PROVIDE ALUMINUM JACKETING ON ALL EXTERIOR INSULATED REFRIGERANT LINES.

LOUVER SCHEDULE

TAG	SERVICE	MANUFACTURER AND MODEL	SIZE (INCHES) (WXH)	AIR FLOW (CFM)	FREE AREA (FT2)	PRESSURE DROP (IN WG)	INTAKE OR EXHAUST	NOTES
L-1	MECH OA	GREENHECK EVH-302	28x14	585	0.8	0.1	INTAKE	ALL
L-2	MECH EA	GREENHECK EVH-501D	18x18	1040	0.8	0.29	EXHAUST	ALL

NOTES:
1. PROVIDE WITH FLANGED FRAME.
2. PROVIDE WITH INSECT SCREEN AND TWO COAT 70% KYNAR FINISH - REF. ARCHITECTURAL PLANS FOR COLOR.
3. RUSKIN, GREENHECK, AND UNITED ENERTECH ARE APPROVED EQUALS.
4. LOUVER SHALL BE WIND DRIVEN RAIN, HURRICANE RATED PER IBC AND TWIA FOR 150 MPH WITH A 3 SECOND GUST.

DEMAND CONTROL VENTILATION (DCV) SYSTEM SEQUENCE OF OPERATION

SPECIFICATIONS AND COMISSIONING

OUTSIDE AIR DAMPER CONTROL (NON-ECONOMIZER MODE):
THE OUTSIDE AIR DAMPER SHALL BE OPENED TO ALLOW THE MINIMUM OUTSIDE AIR QUANTITY SCHEDULED BELOW. IF THE CO2 LEVEL READING INSIDE THE BUILDING/SPACE RISES ABOVE THE MINIMUM SETPOINT, THEN THE OUTSIDE AIR DAMPER SHALL MODULATE OPEN AS REQUIRED TO BRING THE CO2 BACK TO BELOW MINIMUM SETPOINT. THE CO2 CONTROL ROUTINE SHALL NOT ALLOW THE OUTSIDE AIR DAMPER TO OPEN BEYOND THE MAXIMUM OUTSIDE AIR QUANTITY SPECIFIED IN THE SCHEDULE BELOW.
**THE OUTSIDE AIR DAMPER SHALL NOT ALLOW OUTSIDE AIR QUANTITY IN EXCESS OF THE MAXIMUM OUTSIDE AIR CFM SCHEDULED BELOW.
CO2 SENSOR SHALL BE COMPATIBLE WITH THE AHU CONTROLS AND MEET THE FOLLOWING SPECIFICATIONS: RANGE: 1-4,000 PPM
ACCURACY: +/- 50 PPM
STABILITY: <5% FULL SCALE FOR 5 YEARS LINEARITY: +/- 2% FULL SCALE
MANUFACTURER RECOMMENDED MINIMUM CALIBRATION FREQUENCY: 5 YEARS

COMMISSIONING:
-PERFORM A CALIBRATION CHECK BY RECORDING READINGS ON ALL SENSORS EARLY IN THE MORNING. ALL SENSORS SHOULD READ WITHIN 50-70 PPM OR SHOULD BE CALIBRATED.
-FUNCTIONALLY TEST ALL DCV RELATED SEQUENCES, INCLUDING THE WORST CASE SCENARIO OF MINIMUM FLOW, AND THEN VERIFY PROPER BUILDING PRESSURIZATION IS STILL MAINTAINED.
-ENSURE THAT THE OWNER'S MAINTENANCE STAFF IS AWARE OF HOW TO CALIBRATE THE SENSORS.

SPACE CO2 READING	OUTDOOR AIRFLOW SETPOINT	AHU-2	AHU-3	
EQUAL TO OR LESS THAN 1140 PPM	MINIMUM OUTSIDE AIR CFM	95	95	
GREATER THAN 1140 PPM	MAXIMUM OUTSIDE AIR CFM	150	430	

TEXAS PARKS & WILDLIFE

RICHTER ARCHITECTS

Powderhorn Wildlife Management Area
New Conservation Education Center
Project Number: 121026

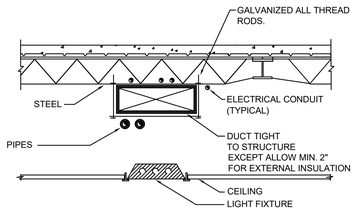
DATE: 05/22/2026
DESIGNED BY: AH
DRAWN BY: AH
REVIEWED BY: JS
REVISED:

SHEET TITLE
MECHANICAL SCHEDULES

STATE OF TEXAS
SEAN M. RODRIGUEZ
96478
LICENSED PROFESSIONAL ENGINEER
05/22/2026

NRG ENGINEERING
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TEXAS ENGINEERING FIRM NO. 005318
25050

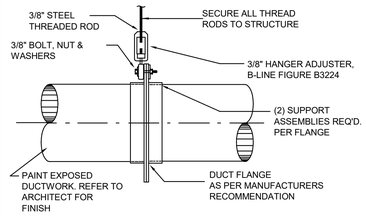
SHEET NUMBER
M401



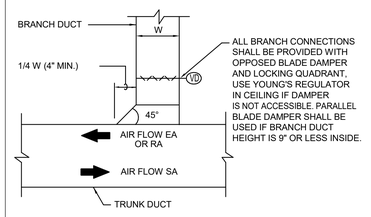
NOTES:

1. PIPES AND ELECTRICAL CONDUIT CAN BE ROUTED BETWEEN JOISTS OR THROUGH JOIST WEB SPACE AS REQUIRED. 2- DUCT SHALL BE LOCATED AS HIGH AS POSSIBLE.
2. U.L. DESIGN ASSEMBLY NUMBERS ARE SHOWN ON ARCHITECTURAL PLANS WHEN REQUIRED.
3. INSTALLATION OF ALL SERVICES MUST BE COORDINATED BY THE CONTRACTOR.

1 TYP. MEP INSTALLATION DETAIL
NOT TO SCALE — MAGD101.DWG

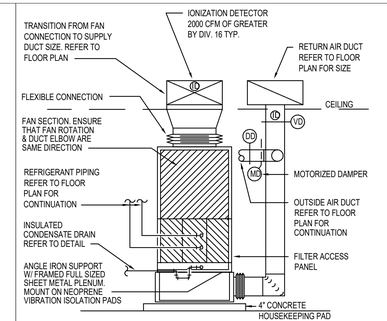


2 OVAL OR ROUND DUCT HANGER
NOT TO SCALE — MAGD103.DWG



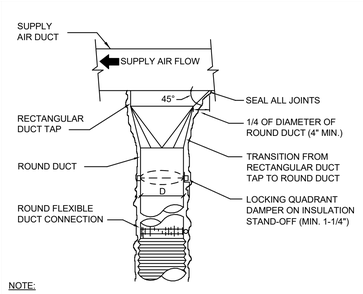
NOTE: THIS CONNECTION SHALL BE TYPICAL FOR ALL RECTANGULAR BRANCH DUCT CONNECTIONS TO RECTANGULAR TRUNK DUCTS, INCLUDING SUPPLY, RETURN, OUTSIDE AIR AND EXHAUST DUCTS.

3 RECTANGULAR BRANCH DUCT TAP
NOT TO SCALE — MAGD300.DWG



NOTE: ALL CONDENSATE DRAIN PIPING SHALL BE SCHEDULE 40 GALVINIZED WITH MALLABLE IRON SCREWED FITTINGS.

4 VERTICAL DX FAN COIL UNIT
NOT TO SCALE — MEFC201.DWG



NOTE:
SEE FLOOR PLAN FOR SIZES

5 RECTANGLUAR TAP TO ROUND TRANSITION
NOT TO SCALE — MAGD302.DWG

6 EXHUAST LOUVER MOUNTING
NOT TO SCALE — MADT301.DWG

7 CONDENSATE TO MOP SINK
NOT TO SCALE

NOTE: PROVIDE FAN U.L RADIATION DAMPER FOR FIRE RATED CEILING.

8 CEILING MOUNTED EXHAUST FAN
NOT TO SCALE — MEFA300.DWG



NOTE:
CLEARANCE AROUND UNIT FOR AIR FLOW AND SERVICE PER MANUFACTURER INSTALLATION INSTRUCTION. ANCHOR UNIT TO PAD.

9 CONDENSING UNIT MOUNTING ON GRADE
NOT TO SCALE — MECU100.DWG

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TEXAS PARKS & WILDLIFE

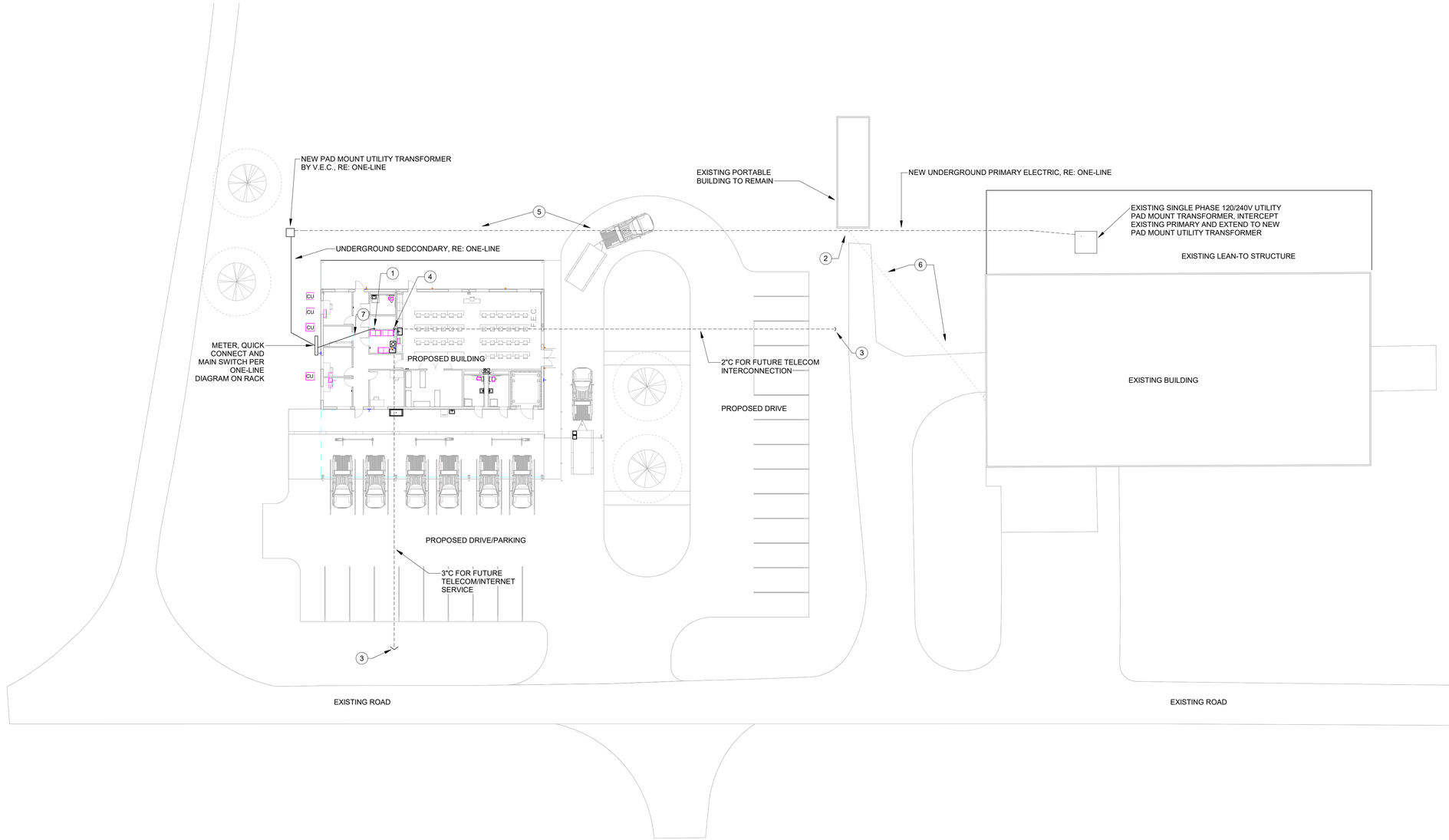
RICHTER ARCHITECTS

Powderhorn Wildlife Management Area
New Conservation Education Center
Project Number: 1210264

DATE: 05/22/2026
DESIGNED BY: AH
DRAWN BY: AH
REVIEWED BY: JS
REVISED:

SHEET TITLE
MECHANICAL DETAILS

SHEET NUMBER
M501



1 Electrical Site Plan
1" = 20'-0"

ELECTRICAL SITE GENERAL NOTES:

A. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND EXISTING CONDITIONS AT THE JOB SITE BEFORE COMMENCING ANY PHASE OF THE WORK. ADJUSTMENTS FOR FIT AND COORDINATION SHALL BE MADE AT NO ADDITIONAL COST TO THE OWNER. NOTIFY ENGINEER OF ANY CONFLICTS, DISCREPANCIES OR OMISSIONS PRIOR TO COMMENCEMENT OF THE CONTRACT WORK.

B. CONTRACTOR SHALL REVIEW ALL ARCHITECTURAL, CIVIL, MECHANICAL & STRUCTURAL DRAWINGS AND SPECIFICATIONS FOR ANY ADDITIONAL REQUIREMENTS.

C. CONTRACTOR SHALL COORDINATE HIS WORK WITH OTHER TRADES.

D. ALL WORK SHALL COMPLY WITH CURRENTLY ADOPTED VERSION OF NATION ELECTRICAL CODE.

E. SEAL ALL WALL, ROOF, AND FLOOR PENETRATIONS WITH UL LISTED FIRE SEALANT.

ELECTRICAL SITE KEY NOTES:

1. REFER TO POWER PLAN FOR EXACT STUB UP LOCATION AT ELECTRICAL PANELS.
2. COORDINATE INSTALLATION TO CLEAR BUILDING. LOCATE AND PROTECT EXISTING UNDERGROUND ELECTRICAL FEEDER SERVING BUILDING. PROVIDE TEMPORARY SUPPORT OF PORTABLE BUILDING DURING EXCAVATION WORK IN THIS AREA. SUPPORT SHALL INCLUDE REQUIRED BLOCKING TO SUPPORT BUILDING UNTIL TRENCH IS BACKFILLED. ENSURE PROPER COMPACTION OF TRENCH TO PREVENT FUTURE SETTLING.
3. CAP CONDUIT UNDERGROUND. RECORD EXACT LOCATION ON AS-BUILT DRAWINGS. PROVIDE 12"X12"X4" CONCRETE MARKER ABOVE CAP LOCATION, FLUSH WITH GRADE, EMBOSSED WITH 'COMM'.
4. REFER TO POWER PLAN FOR EXACT STUB UP LOCATIONS OF TELECOM WITHIN ELECTRICAL/IT ROOM.
5. FIELD COORDINATE INSTALLATION IN CLOSE PROXIMITY TO SANITARY SEWER LINE. MAINTAIN MINIMUM 5'-0" HORIZONTAL CLEARANCE. LINE WILL REQUIRE EASEMENT FROM VEC. COORDINATE WITH OWNER AND ARCHITECT AS REQUIRED TO ASSIST IN ESTABLISHING EASEMENT. PROCESS OF OBTAINING EASEMENT HAS BEEN INITIATED BY OWNER AND DESIGN TEAM.
6. APPROXIMATE/REPORTED LOCATION OF EXISTING UNDERGROUND ELECTRICAL FEEDER TO PORTABLE OFFICE BUILDING. FIELD VERIFY EXACT LOCATION PRIOR TO WORK.
7. UNDERGROUND FEEDER PER ONE-LINE (MTS TO PANEL 'A')

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25050

TEXAS PARKS & WILDLIFE

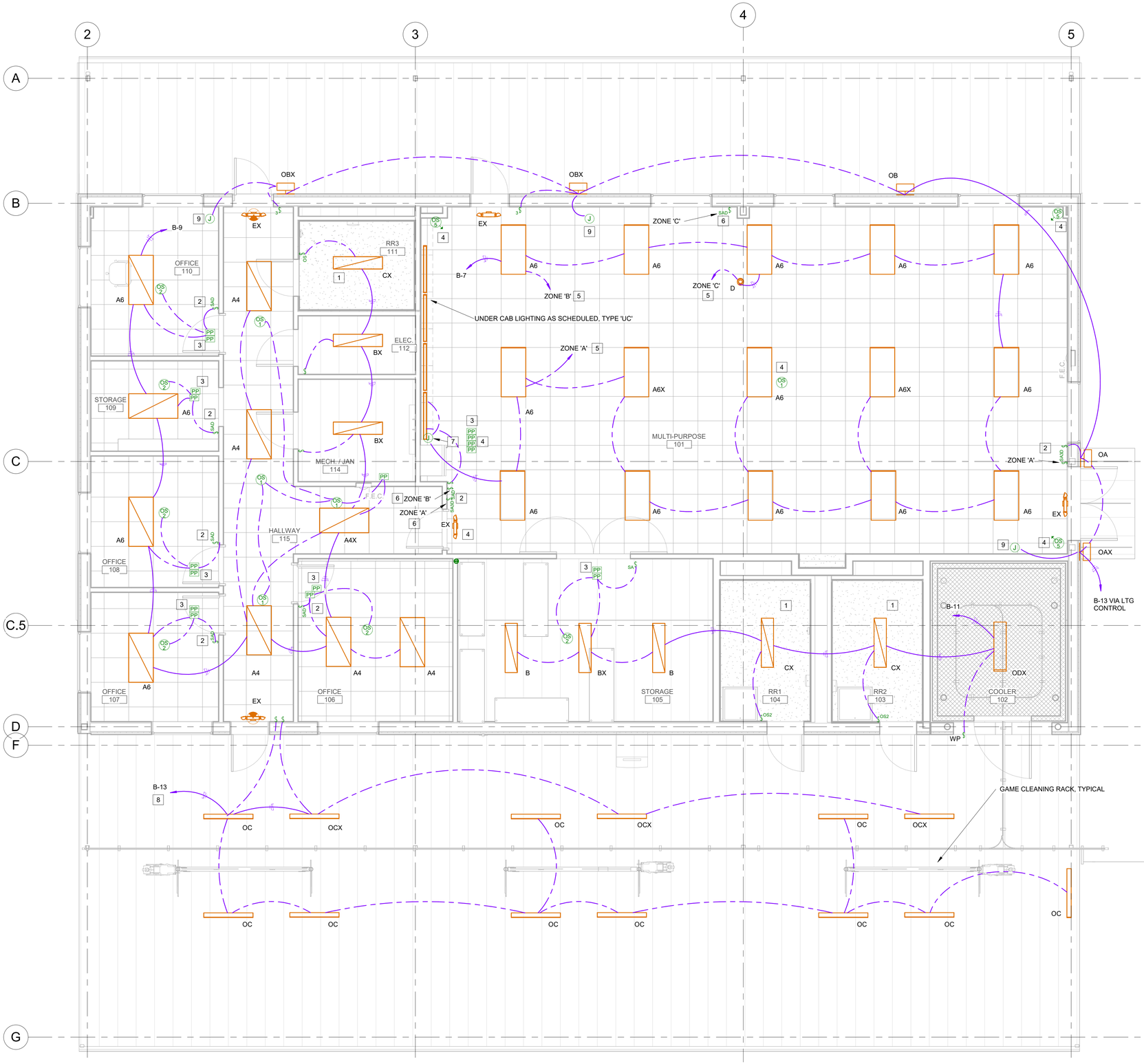
RICHTER ARCHITECTS

Powderhorn Wildlife Management Area
New Conservation Education Center
Project Number: 1210264

DATE: 05/22/2026
DESIGNED BY: CAH
DRAWN BY: CAH
REVIEWED BY: JAR
REVISED:

SHEET TITLE
Electrical Site Plan

SHEET NUMBER
E001



1 Electrical Lighting Plan
1/4" = 1'-0"

ELECTRICAL GENERAL NOTES:

A. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND EXISTING CONDITIONS AT THE JOB SITE BEFORE COMMENCING ANY PHASE OF THE WORK. ADJUSTMENTS FOR FIT AND COORDINATION SHALL BE MADE AT NO ADDITIONAL COST TO THE OWNER. NOTIFY ENGINEER OF ANY CONFLICTS, DISCREPANCIES OR OMISSIONS PRIOR TO COMMENCEMENT OF THE CONTRACT WORK.

B. CONTRACTOR SHALL REVIEW ALL ARCHITECTURAL, CIVIL, MECHANICAL & STRUCTURAL DRAWINGS AND SPECIFICATIONS FOR ANY ADDITIONAL REQUIREMENTS.

C. CONTRACTOR SHALL COORDINATE HIS WORK WITH OTHER TRADES.

D. ALL CONDUIT SHALL BE AS STRAIGHT AS POSSIBLE AND PARALLEL OR PERPENDICULAR TO BUILDING LINES.

E. ALL WORK SHALL COMPLY WITH CURRENTLY ADOPTED VERSION OF NATION ELECTRICAL CODE.

F. SEAL ALL WALL, ROOF, AND FLOOR PENETRATIONS WITH UL LISTED FIRE SEALANT.

G. ALL CONDUIT SHALL BE ROUTED CONCEALED WITHIN WALLS AND/OR ABOVE CEILINGS, WHERE APPLICABLE.

H. REFER TO DETAIL #1/E401 FOR ELEVATIONS OF WIRING DEVICES AND TO ARCHITECTURAL ELEVATIONS FOR EXACT LOCATIONS AND MOUNTING HEIGHTS OF ALL EXTERIOR WALL MOUNTED LIGHT FIXTURES PRIOR TO ROUGH-IN.

ELECTRICAL LIGHTING KEY NOTES:

1. CIRCUIT EXHAUST FAN IN THIS ROOM TO LIGHT FIXTURE, TO BE ON WHEN LIGHT FIXTURE IS ON.
2. PROVIDE 0-10V DIMMING CONDUCTORS IN SEPARATE RACEWAY FROM DIMMER TO LIGHT(S) CONTROLLED BY THIS DIMMER, AS INDICATED.
3. EXTRA POWER PACK INDICATED SHALL BE CONTROLLED BY LOCAL OCCUPANCY SENSOR AND BE UTILIZED FOR PLUG LOAD CONTROLS. REFER TO POWER PLAN FOR RECEPTACLES TO BE CONTROLLED BY OCCUPANCY SENSOR/POWER PACK.
4. ALL OCCUPANCY SENSORS IN THIS ROOM/AREA SHALL BE CIRCUITED SO THAT ACTIVATION OF ANY ONE SENSOR WILL ENERGIZE ALL POWER PACKS INDICATED IN THIS ROOM/AREA.
5. VIA POWER PACK
6. CIRCUIT TO POWER PACK OF ZONE INDICATED.
7. INSTALL DRIVER FOR TYPE 'UC' ABOVE UPPER CABINET OR IN CEILING ABOVE. DRIVER SHALL NOT BE VISIBLE FROM EYE LEVEL WITHIN ROOM.
8. CIRCUIT VIA EXTERIOR LIGHTING CONTROL TIMECLOCK. LIGHTS SHALL ONLY BE ABLE TO BE ILLUMINATED AT CERTAIN TIMES PER TIMECLOCK SCHEDULE, AND THEN MANUALLY CONTROLLED DURING THAT SCHEDULE. REFER TO POWER PLAN FOR TIMECLOCK AND SDCHEDULE DETAILS.
9. REMOTE BATTERY PACK, INSTALL IN CEILING AND CIRCUIT PER MANUFACTURER'S DIRECTIONS.

TEXAS PARKS & WILDLIFE

RICHTER ARCHITECTS

Powderhorn Wildlife Management Area
New Conservation Education Center
Project Number: 1210264

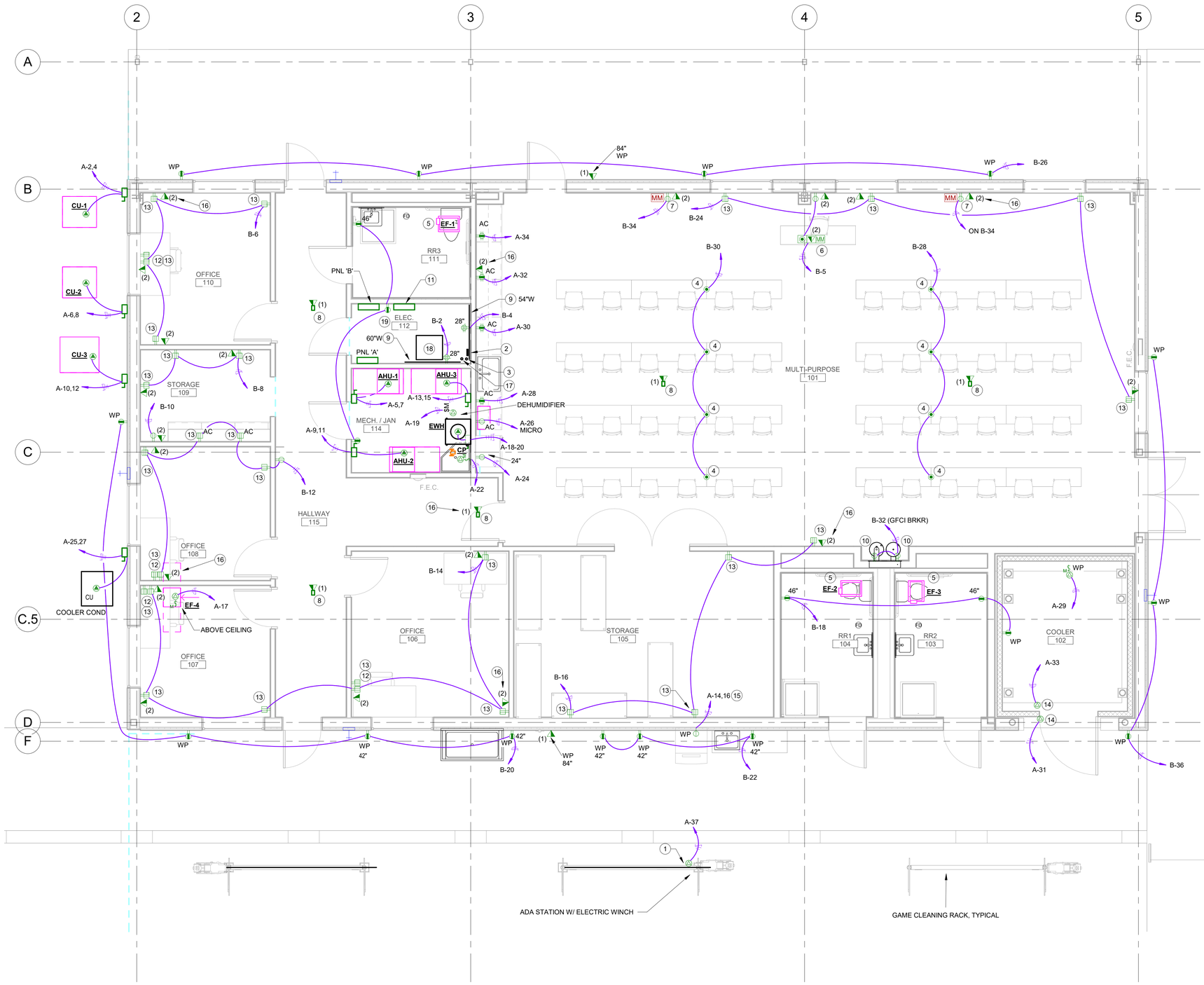
DATE: 05/22/2026
DESIGNED BY: CAH
DRAWN BY: CAH
REVIEWED BY: JAR
REVISED:

SHEET TITLE
Electrical Lighting Plan

SHEET NUMBER
E101

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1 Electrical Power Plan
1/4" = 1'-0"

ELECTRICAL GENERAL NOTES:

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E. ALL WORK SHALL COMPLY WITH CURRENTLY ADOPTED VERSION OF NATION ELECTRICAL CODE.

F. SEAL ALL WALL, ROOF, AND FLOOR PENETRATIONS WITH UL LISTED FIRE SEALANT.

G. ALL CONDUIT SHALL BE ROUTED CONCEALED WITHIN WALLS AND/OR ABOVE CEILINGS, WHERE APPLICABLE.

H. REFER TO DETAIL #1/E401 FOR ELEVATIONS OF WIRING DEVICES AND TO ARCHITECTURAL ELEVATIONS FOR EXACT LOCATIONS AND MOUNTING HEIGHTS OF ALL EXTERIOR WALL MOUNTED LIGHT FIXTURES PRIOR TO ROUGH-IN.

ELECTRICAL POWER KEY NOTES:

1. POWER FOR ELECTRIC WINCH. PROVIDE MOTOR RATED DISCONNECT SWITCH AT STRUCTURE TO SERVE AS DISCONNECTING MEANS.
2. 1/4"X4"X6" TELECOM GROUNDING BAR, PROVIDE #4AWG GROUND TO BUILDING GROUNDING ELECTRODE SYSTEM. INSTALL 12" BELOW CEILING ON WALL, ANCHORED TO STUD.
3. LOCATION OF TELECOMMUNICATIONS STUB UPS.
4. 1-GANG FLOOR BOX W/ DUPLEX RECEPTACLES, WIREMOLD #880MP, W/ BRASS TRIM/FLANGE.
5. FAN POWERED W/ LIGHTING CIRCUIT, REFER TO LIGHTING PLAN.
6. 3-GANG FLOOR BOX, WIREMOLD #880MP, W/ BRASS TRIM/FLANGE. PROVIDE DUPLEX POWER AND TWO (2) DATA PORTS. PROVIDE (2) 1-1/4"C TO ACCESSIBLE CEILING FOR DATA AND MULTIMEDIA.
7. FIELD COORDINATE EXACT PLACEMENT OF WALL MOUNTED TV RECEPTACLE AND DATA/CATV OUTLET BOXES W/ ARCHITECT.
8. CEILING MOUNTED DATA OUTLET, PROVIDE BAR HANGER, OUTLET BOX AND TELECOM CABLE W/ KEYSTONE JACK.
9. PLYWOOD TELEPHONE TERMINAL BOARD, 3/4" THICK, 48" IN HEIGHT, WIDTH AS INDICATED ON PLAN, BOTTOM AT 36". PLYWOOD SHALL BE FIRE-RESISTANT TYPE, BC FINISHED, AND PAINTED GRAY (WITH EXCEPTION OF FIRE RATING LABELS). INSTALL AT LOCATION SHOWN ON PLAN. FIELD COORDINATE EXACT PLACEMENT WITH ENGINEER.
10. FIELD COORDINATE EXACT PLACEMENT OF RECEPTACLE TO SERVE DRINKING FOUNTAIN. RECEPTACLE TO BE STANDARD DUPLEX AND HAVE UPSTREAM GFCI PROTECTION AT BREAKER.
11. EXTERIOR LIGHTING CONTROL. ASTRONOMIC 24-HOUR 2-CHANNEL TIMECLOCK IN NEMA-1 ENCLOSURE. ROUTE EXTERIOR LIGHTING CIRCUIT THROUGH THIS TIMECLOCK AND SET SCHEDULE SO THAT ALL EXTERIOR LIGHTING CAN ONLY BE ENERGIZED BETWEEN 60 MINUTES PRIOR TO DUSK AND 60 MINUTES AFTER DAWN. ALL EXTERIOR LIGHTING SHALL HAVE LOCAL MANUAL CONTROL DOWNSTREAM AND IN SERIES WITH THIS CONTROL.
12. INSTALL AS QUADRAPLEX IN COMMON OUTLET BOX WHERE TWO SIDE BY SIDE RECEPTACLES ARE INDICATED, TYPICAL.
13. CONTROLLED RECEPTACLE. CIRCUIT HALF OF RECEPTACLE TO UNSWITCHED CIRCUIT INDICATED, AND OTHER HALF VIA POWER PACK INDICATED ON LIGHTING PLAN. TYPICAL FOR ALL DEVICES INDICATED AS CONTROLLED RECEPTACLES.
14. FIELD COORDINATE EXACT REQUIREMENTS AND LOCATIONS OF COOLER ACCESSORIES REQUIRING POWER.
15. PROVIDE EXTRA CONDUCTOR AS SCHEDULED IN CASE OF FUTURE CONVERSION TO 240V. CAP IN OUTLET BOX AND LABEL 'SPARE'.
16. QUANTITY OF TELECOM CABLES REQUIRED AT OUTLET W/ REQUIRED PLATE AND KEYSTONE JACKS. REFER TO SPECIFICATIONS. TYPICAL.
17. TELECOM SLEEVES PER DETAIL #7/E401.
18. TELECOM/IT RACK (WALL MOUNTED) PER SPECIFICATIONS. COORDINATE EXACT PLACEMENT WITH ELECTRICAL PANELS TO ENSURE CODE REQUIRED WORKING CLEARANCES ARE SATISFIED. PROVIDE SHORT SECTIONS OF HORIZONTAL AND VERTICAL LADDER TRAY TO TRANSITION CABLING FROM ROOM CORNER TO RACK AS REQUIRED. REFER TO SPECIFICATIONS.
19. COORDINATE PANEL LOCATIONS TO ENSURE CODE REQUIRED WORKING CLEARANCES IN FRONT OF PANELS, AS WELL AS CODE REQUIRED DEDICATED SPACE ABOVE PANELS. NOTE THAT HVAC DUCTS AND OTHER OBSTRUCTIONS ARE PRESENT IN THIS SPACE AND MUST BE PROPERLY COORDINATED.

ELECTRICAL SPECIAL SYSTEMS SCOPE:

CONTRACTOR SHALL PROVIDE ROUGH-IN WORK FOR TELECOMMUNICATIONS/DATA/CABLE TV CABLING, INCLUDING BUT NOT LIMITED TO BACK BOXES, CONDUIT STUB UPS TO ACCESSIBLE CEILINGS, CONDUIT BUSHINGS, CEILING BRACKETS/BACK BOXES, SERVICE ENTRANCE PATHWAYS WITH PULL STRINGS, PATHWAYS/CONDUITS TO FLOOR BOXES, INSTALLATION OF TELEPHONE TERMINAL BOARDS, SLEEVES THROUGH CEILING FOR CABLE TRANSITION FROM ABOVE CEILING SPACE TO ELEC/112 ROOM, ETC.

CONTRACTOR SHALL ALSO PROVIDE ALL CABLING, J-HOOKS, KEYSTONE JACKS, FACEPLATES, PATCH PANEL, TERMINATIONS, WALL MOUNTED RACK, CABLE TESTING ETC. PER DIVISION 27 SPECIFICATIONS AS PART OF THIS CONTRACT.

OWNER SHALL PROVIDE FOR INSTALLATION BY CONTRACTOR, (5) WIRELESS ACCESS POINTS, ROUTER, UPS, PATCH CABLES AND SWITCH, ALL PRE-CONFIGURED.

COORDINATE WITH OWNER'S IT SPECIALIST AS REQUIRED AND PRIOR TO TERMINATION OF PATCH PANEL. CONTRACTOR SHALL LOCATE DEVICES/EQUIPMENT IN THE IT WALL RACK IN THIS SEQUENCE, STARTING AT TOP: (1) PATCH PANEL SWITCH #1, (2) PATCH PANEL SWITCH #2, (3) SHELF FOR ROUTER, (4)-UPS.

UPON COMMENCEMENT OF WORK, CONTRACTOR SHALL COORDINATE WITH ARCHITECT, OWNER AND OWNER'S IT SPECIALIST TO MAKE SERVICE APPLICATION WITH LOCAL INTERNET PROVIDER TO ENSURE SERVICE IS ESTABLISHED PRIOR TO COMPLETION OF WORK.

TEXAS PARKS & WILDLIFE

RICHTER ARCHITECTS

Powderhorn Wildlife Management Area
New Conservation Education Center
Project Number: 121026400

DATE: 05/22/2026
DESIGNED BY: CAH
DRAWN BY: CAH
REVIEWED BY: JAR
REVISED:

SHEET TITLE
Electrical Power Plan

SHEET NUMBER
E201

STATE OF TEXAS
JOHN A. RODRIGUEZ III
90273
LICENSED
PROFESSIONAL ENGINEER
05/22/2026

NRG ENGINEERING
5656 S. STAPLES, SUITE 360,
CORPUS CHRISTI, TX 78411
P - 361.852.2727 F - 361.852.2922
TEXAS ENGINEERING FIRM NO.
005318

25050

PANEL ' A '

400 AMP, M.L.O., 120/240 V, 1□, 3W, S/N, SURFACE, NEMA 1, 10 KAIC

(FED 300A)

CKT #	LOAD SERVED	LOAD	CONDUIT & WIRE SIZE	BKR SIZE	A	B	BKR SIZE	CONDUIT & WIRE SIZE	LOAD	LOAD SERVED	CKT #
1	SPD		#10 AWG	30/2	A		60/2	#6 AWG	4386	CU-1	2
3	"		#10 AWG			B		#6 AWG	4386	"	4
5	AHU-1	6018	#6 AWG	60/2	A		50/2	#8 AWG	3672	CU-2	6
7	"	6018	#6 AWG			B		38 AWG	3672	"	8
9	AHU-2	5610	#6 AWG	60/2	A		60/2	#6 AWG	4386	CU-3	10
11	"	5610	#6 AWG			B		#6 AWG	4386	"	12
13	AHU-3	6018	#6 AWG	60/2	A		20/1	#10 AWG	1100	ICE MACH	14
15	"	6018	#6 AWG			B	*	#10 AWG	0	SPARE COND*	16
17	EF-4	720	#12 AWG	20/1	A		30/2	#10 AWG	2250	EWH	18
19	DEHUMIDIFIER	500	#12 AWG	20/1		B		#10 AWG	2250	"	20
21	PANEL 'B'		RE: ONE-LINE	100/2	A		20/1	#12 AWG	150	RECIRC PUMP	22
23	"		RE: ONE-LINE			B	20/1	#12 AWG	500	REFRIG	24
25	COOLER COND	999	#10 AWG	20/2	A		20/1	#12 AWG	1200	MICRO	26
27	"	999	#10 AWG			B	20/1	#12 AWG	720	C-TOP RECEPT	28
29	COOLER EVAP	999	#10 AWG	20/1	A		20/1	#12 AWG	720	C-TOP RECEPT	30
31	COOL ACCY	500	#12 AWG	20/1		B	20/1	#12 AWG	720	C-TOP RECEPT	32
33	COOL ACCY	500	#12 AWG	20/1	A		20/1	#12 AWG	720	C-TOP RECEPT	34
35	GAME RACK/HOIS	750	#12 AWG	20/1		B					36
37	GAME RACK/HOIS	750	#12 AWG	20/1	A						38
39						B					40
41					A						42

* = SPARE 'HOT' CONDUCTOR IN CASE OF FUTURE CONVERSION TO 240V

CONNECTED LOAD = 77227 VA PHASE A = 40198 VA PHASE B = 37029 VA

PANEL ' B '

125 AMP, M.L.O., 120/240 V, 1□, 3W, S/N, SURFACE, NEMA 1, 10 KAIC

CKT #	LOAD SERVED	LOAD	CONDUIT & WIRE SIZE	BKR SIZE	A	B	BKR SIZE	CONDUIT & WIRE SIZE	LOAD	LOAD SERVED	CKT #
1	SPARE			20/1	A		20/1	#10 AWG	720	IT RECEPT	2
3	SPARE			20/1		B	20/1	#10 AWG	720	IT RECEPT	4
5	CONF TV	600	#12 AWG	20/1	A		20/1	#12 AWG	900	OFFICE RECEPT	6
7	LIGHTING	950	#12 AWG	20/1		B	20/1	#12 AWG	540	STOR RECEP	8
9	LIGHTING	850	#12 AWG	20/1	A		20/1	#12 AWG	900	PRINTER	10
11	LIGHTING	450	#12 AWG	20/1		B	20/1	#12 AWG	1440	OFFICE RECEPT	12
13	LIGHTING	1150	#12 AWG	20/1	A		20/1	#12 AWG	1440	OFFICE RECEPT	14
15	SPARE			20/1		B	20/1	#12 AWG	720	STOR RECEP	16
17	SPARE			20/1	A		20/1	#12 AWG	720	RR/COOLR RECEPT	18
19	SPARE			20/1		B	20/1	#12 AWG	720	EXTER RECEPT	20
21					A		20/1	#12 AWG	540	EXTER RECEPT	22
23						B	20/1	#12 AWG	720	CONF RECEPT	24
25					A		20/1	#12 AWG	720	EXTER RECEPT	26
27						B	20/1	#12 AWG	720	CONF FLR RECEPT	28
29					A		20/1	#12 AWG	720	CONF FLR RECEPT	30
31						B	20/1-GFCI	#12 AWG	500	DRINK FOUNTAIN	32
33					A		20/1	#12 AWG	900	WALL TVs	34
35						B	20/1	#12 AWG	540	EXTER RECEPT	36

CONNECTED LOAD = 18180 VA PHASE A = 10160 VA PHASE B = 8020 VA

ESTIMATED ELECTRICAL LOAD

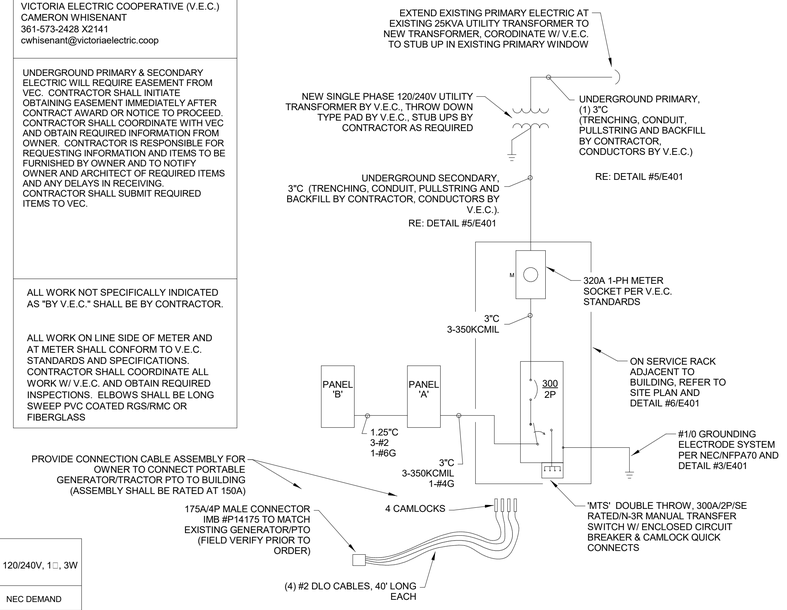
120/240V, 1□, 3W

DESCRIPTION	CONNECTED LOAD	DEMAND FACTOR	NEC DEMAND
LIGHTING	4300	125%	5375
RECEPTACLES	15120	NEC 220-44	12560
KITCHEN EQUIPMENT	0	NEC 220-56	0
H.V.A.C.	35292	100%	35292
LARGEST MOTOR	0	125%	0
MOTOR LOAD	5367	100%	5367
MISC. SINGLE PHASE LOADS	10440	100%	10440
TOTAL VOLT-AMPERS	70519		69034
69034 VA / 240V	=	287.6	AMPS

LIGHT FIXTURE SCHEDULE

TYPE	MANUFACTURER & CATALOG NO.	VOLT	WATTS	LUMENS	TEMP	MOUNTED	DESCRIPTION
	ALL FIXTURES SHALL MEET BUY AMERICAN ACT REQUIREMENTS						
	COOPER LIGHTING AND WILLIAMS ARE ACCEPTABLE EQUAL MANUFACTURERS						
A4	ACUITY #CPX-2X4-ALO8-80CRI-SWW7-SWL-MVOLT-BAA	120	25	4000	4000	GRID/RECESSED	LED FLAT PANEL
A4X	ACUITY #CPX-2X4-ALO8-80CRI-SWW7-SWL-MVOLT-E10W-BAA	120	25	4000	4000	GRID/RECESSED	LED FLAT PANEL W/ BATTERY PACK
A5	SAME AS A4 EXCEPT SET LUMENS TO 5000L	120	35	5000	4000	GRID/RECESSED	LED FLAT PANEL
A5X	SAME AS A4X EXCEPT SET LUMENS TO 5000L	120	35	5000	4000	GRID/RECESSED	LED FLAT PANEL W/ BATTERY PACK
A6	SAME AS A4 EXCEPT SET LUMENS TO 6000L	120	47	6000	4000	GRID/RECESSED	LED FLAT PANEL
A6X	SAME AS A4X EXCEPT SET LUMENS TO 6000L	120	47	6000	4000	GRID/RECESSED	LED FLAT PANEL W/ BATTERY PACK
B	ACUITY #CLX-L48-7000LM-SEF-RDL-MVOLT-GZ10-40K-8-0CRI-WH-BAA	120	50	7000	4000	SURFACE	4' LED STRIP
BX	ACUITY #CLX-L48-7000LM-SEF-RDL-MVOLT-GZ10-40K-8-0CRI-WH-E10W-BAA	120	50	7000	4000	SURFACE	4' LED STRIP W/ BATTERY PACK
C	ACUITY #BLWP4-48L-ADSM-GZ10-LP840-BAA	120	44	4800	4000	RECESSED	1X4 SURFACE MOUNT WRAP W/ SWITCHABLE LUMENS
CX	ACUITY #BLWP4-48L-ADSM-GZ10-LP840-E10W-BAA	120	44	4800	4000	RECESSED	1X4 SURFACE MOUNT WRAP W/ SWITCHABLE LUMENS & BATT PACK
D	ACUITY #LDN6-40/10-LO6-AR-LSS-TRW-MVOLT-GZ10-BAA	120	13	1000	4000	RECESSED	6" RECESSED CAN W/ ROUGH-IN HOUSING
EX	ACUITY #ECBGLED-BAA	120	-	-	-	SURFACE	LED EXIT SIGN W/ EMERG INTEGRAL LED & BATTERY
UC	ACUITY #TH1SW-USA-4.0-40-DRY-STD-PR-S1-P1-BRL-BRL-CLS-BRL-WH-CL2-SST-ST-16'-O	120	55	3200	4000	UNDERCAB/SURF	16' UNDERCABINET LIGHT W/ MOUNTING TRACK & REMOTE DRIVER
OA	KIRLIN #1000L-1000U-WFL-WFU-30K-30K-120-94CBA-86-ADA	120	19	2000	3000	WALL/SURFACE	LED UP/DOWN LIGHT (DOWN ONLY FOR BASE BID)
OAX	KIRLIN #1000L-1000U-WFL-WFU-30K-30K-120-94CBA-86-ADA-EL	120	19	2000	3000	WALL/SURFACE	LED UP/DOWN LIGHT (DOWN ONLY FOR BASE BID) W/ BATT PACK
OB	KIRLIN #1000L-1000U-WFL-WFU-30K-30K-120-94CBA-86-ADA*	120	19	2000	3000	WALL/SURFACE	LED UP/DOWN LIGHT (DOWN ONLY FOR BASE BID)
OBX	KIRLIN #1000L-1000U-WFL-WFU-30K-30K-120-94CBA-86-ADA-EL*	120	19	2000	3000	WALL/SURFACE	LED UP/DOWN LIGHT (DOWN ONLY FOR BASE BID) W/ BATT PACK
OC	ACUITY #VAP-8000LM-PCL-MD-MVOLT-GZ10-40K-80CRI-SMB-DL-BAA	120	67	8000	4000	SURFACE	4' VAPORTITE LED STRIP - HIGH LUMEN
OCX	ACUITY #VAP-8000LM-PCL-MD-MVOLT-GZ10-40K-80CRI-SMB-DL-E15WCP-BAA	120	67	8000	4000	SURFACE	4' VAPORTITE LED STRIP W/ BATTERY PACK - HIGH LUMEN
ODX	ACUITY #FHE-L24-9000LM-FST-WD-MVOLT-GZ10-40K-80CRI-FE14WCP-BAA	120	59	9000	4000	SURFACE	4' LOW TEMP VAPORTITE LED STRIP W/ BATTERY PACK
OEM	ACUITY #AFF-OEL-DDBTXD-UVOLT-LTP-SDRT-WT-CW-BAA	120	-	-	-	SURFACE	EXTERIOR EMERGENCY EGRESS LIGHT (NORMALLY OFF)
	* = IF ALTERNATE BID FOR CANOPY IS NOT ACCEPTED, REMOVE UP LIGHTING FEATURE						

SERVING UTILITY COMPANY:
VICTORIA ELECTRIC COOPERATIVE (V.E.C.) CAMERON WHISENANT 361-573-2428 X2141 cwhisenant@victoriaelectric.coop
UNDERGROUND PRIMARY & SECONDARY ELECTRIC WILL REQUIRE EASEMENT FROM VEC. CONTRACTOR SHALL INITIATE OBTAINING EASEMENT IMMEDIATELY AFTER CONTRACT AWARD OR NOTICE TO PROCEED. CONTRACTOR SHALL COORDINATE WITH VEC AND OBTAIN REQUIRED INFORMATION FROM OWNER. CONTRACTOR IS RESPONSIBLE FOR REQUESTING INFORMATION AND ITEMS TO BE FURNISHED BY OWNER AND TO NOTIFY OWNER AND ARCHITECT OF REQUIRED ITEMS AND ANY DELAYS IN RECEIVING. CONTRACTOR SHALL SUBMIT REQUIRED ITEMS TO VEC.
ALL WORK NOT SPECIFICALLY INDICATED AS "BY V.E.C." SHALL BE BY CONTRACTOR. ALL WORK ON LINE SIDE OF METER AND AT METER SHALL CONFORM TO V.E.C. STANDARDS AND SPECIFICATIONS. CONTRACTOR SHALL COORDINATE ALL WORK W/ V.E.C. AND OBTAIN REQUIRED INSPECTIONS. ELBOWS SHALL BE LONG SWEEP PVC COATED RGS/RMC OR FIBERGLASS



2 Electrical One-Line
1/8" = 1'-0"



05/22/2026

NRG ENGINEERING
5656 S. STAPLES, SUITE 360,
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TEXAS ENGINEERING FIRM NO. 005318

25050

TEXAS PARKS & WILDLIFE

RICHTER ARCHITECTS

Powderhorn Wildlife Management Area
New Conservation Education Center
Project Number: 1210264

DATE: 05/22/2026
DESIGNED BY: CAH
DRAWN BY: CAH
REVIEWED BY: JAR
REVISED:

SHEET TITLE
Electrical Schedules & One-LIne

SHEET NUMBER
E301

ELECTRICAL LEGEND

NOTE: NOT ALL SYMBOLS MAY APPLY TO THIS JOB!

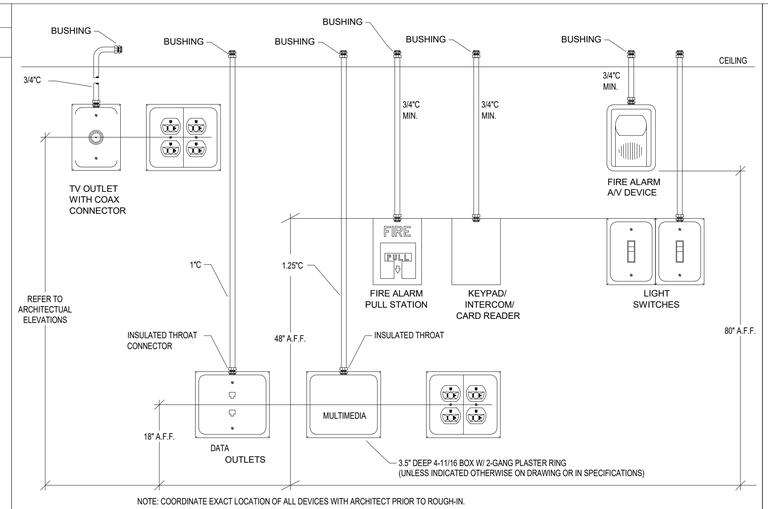
SYMBOL	DESCRIPTION
B-2	HOMERUN TO CIRCUIT AND PANEL INDICATED
	NEUTRAL CONDUCTOR
	HOT CONDUCTOR
	GROUNDING CONDUCTOR
	TRAVELER
	SWITCH LEG
$	TOGGLE SWITCH - 120/277V, 20A
$3	THREEWAY SWITCH - 120/277V, 20A
$4	FOURWAY SWITCH - 120/277V, 20A
$D	DIMMER SWITCH - REFER TO LTG CONTROL FOR ADDITIONAL INFORMATION
$K	KEY SWITCH - 120/277V, 20A
$M	MOTOR RATED SWITCH
	DUPLEX RECEPTACLE - 125V,20A,1P
	GROUND FAULT INTERRUPTER DUPLEX RECEPTACLE 125V,20A,1P
	SPILT-CIRCUIT DUPLEX RECEPTACLE 125V,20A,1P
	SINGLE RECEPTACLE - 250V, AMPS PER PANEL SCHEDULE
	QUADRAPLEX RECEPTACLE - 125V,20A,1P
	SINGLE RECEPTACLE - 125V,20A,1P
	DUPLEX RECEPTACLE - 125V,20A,1P (FLOOR MOUNTED)
J	JUNCTION BOX, SIZED PER N.E.C.
	50% CONTROLLED RECEPTACLE
	TELEPHONE OUTLET BOX WITH CONDUIT TO ACCESSIBLE LOCATION ABOVE CEILING
	DATA/TELEPHONE OUTLET BOX WITH CONDUIT TO ACCESSIBLE LOCATION ABOVE CEILING
	DATA OUTLET BOX WITH CONDUIT TO ACCESSIBLE LOCATION ABOVE CEILING
TV	TELEVISION OUTLET BOX WITH CONDUIT TO ACCESSIBLE LOCATION ABOVE CEILING
MM	MULTIMEDIA OUTLET BOX WITH CONDUIT TO ACCESSIBLE LOCATION ABOVE CEILING

OCCUPANCY SENSOR SCHEDULE
(SOME MAY NOT BE USED)

2P	SENSORSWITCH POWER PACK #PP20 2P
PP	SENSORSWITCH POWER PACK #PP20
$OC	SENSORSWITCH #WSX-SA-CBA
$OCD	SENSORSWITCH #WSX-PDT-SA-CBA
$OCF	SENSORSWITCH #WSX-PDT-2P-FAN-CBA
$0	0-10V DIMMER SWITCH
$P	SENSORSWITCH #sPODM-SA-CBA
$P2	SENSORSWITCH #sPODM-2P2SA-CBA
$P-D	SENSORSWITCH #sPODM-SA-D-CBA
$P2-D	SENSORSWITCH #sPODM-2P2SA-D-CBA
$P-3W	SENSORSWITCH #sPODM-SA-3X-CBA
$P-3W-D	SENSORSWITCH #sPODM-SA-3X-D-CBA
$P2-3W	SENSORSWITCH #sPODM-2P2SA-3X-CBA
$P2-3W-D	SENSORSWITCH #sPODM-2P2SA-3X-D-CBA
1	SENSORSWITCH #CM9
2	SENSORSWITCH #CM9-PDT
3	SENSORSWITCH #WV-PDT-16-WVBR
4	SENSORSWITCH #HWR13-WH
5	SENSORSWITCH #CM10
6	SENSORSWITCH #CM10-PDT

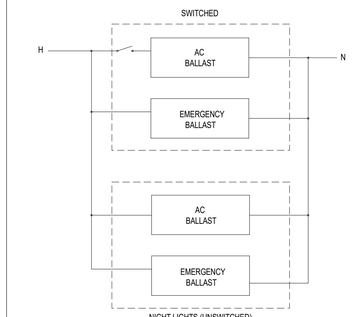
WHERE MULTIPLE OCCUPANCY SENSORS ARE INDICATED CIRCUITED TOGETHER TO ONE POWER PACK OR SET OF POWER PACKS, ACTIVATION OF ANY ONE SENSOR SHALL ENERGIZE POWER PACK (CLOSE RELAY).
"CBA" = STANDARD COLOR BY ARCHITECT

SYMBOL	DESCRIPTION
SEC	SECURITY PANEL
PA	GENERAL PAGING SYSTEM
H	FIRE ALARM AUDIO HORN
F	FIRE ALARM PULL STATION
F	FIRE ALARM AUDIO/VISUAL SIGNAL
M	MOTION DETECTOR
V	FIRE ALARM ADA VISUAL SIGNAL
R	FIRE ALARM SHUT DOWN RELAY
S	SMOKE DETECTOR
H	HEAT DETECTOR
SD	DUCT MTD. SMOKE DETECTOR
DC	DOOR CONTACTOR ROUGH-IN WITH CONDUIT TO ACCESSIBLE LOCATIONS ABOVE CEILING.
KP	KEY PAD
AAN	FIRE ALARM ANNUCIATOR
FACP	FIRE ALARM CONTROL PANEL
	CAMERA
FS	FLOW SWITCH
TS	TAMPER SWITCH
PB	PUSH-TO-EXIT BUTTON
A	ANSUL SUPPRESSION SYSTEM
DR	FIRE ALARM DOOR RELEASE
PA	GENERAL PAGING SYSTEM
KP	KEYPAD (ROUGH-IN W/CONDUIT TO ACCESSIBLE LOCATIONS ABOVE CEILING)
CR	CARD READER (ROUGH-IN W/CONDUIT TO ACCESSIBLE LOCATIONS ABOVE CEILING)
ES	ELECTRONIC STRIKE (ACCESS CONTROL)
MAG	MAGNETIC LOCK (ACCESS CONTROL)
	120V, 1P EQUIPMENT CONNECTION
	240V, 1P EQUIPMENT CONNECTION
	240V, 3P EQUIPMENT CONNECTION
	208V, 1P EQUIPMENT CONNECTION
	208V, 3P EQUIPMENT CONNECTION
	277V, 1P EQUIPMENT CONNECTION
	480V, 3P EQUIPMENT CONNECTION
	480V, 1P EQUIPMENT CONNECTION
S	SPEAKER
	PUSHBUTTON
HB	HOLD UP BUTTON
	DISCONNECT SWITCH - SIZE AND POLE AS NOTED
	COMBINATION STARTER/DISCONNECT SWITCH
	STARTER
SM	MANUAL MOTOR STARTER
	PANELBOARD AS SPECIFIED
AC	ABOVE COUNTER
WP	WEATHER PROOF
NL	NIGHT LIGHT - ON 24 HOURS
NF	NON-FUSIBLE
F-___	FUSIBLE, FUSING AS INDICATED
HD	HEAVY DUTY
GD	GENERAL DUTY

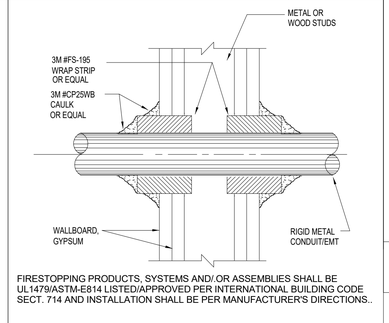


NOTE: COORDINATE EXACT LOCATION OF ALL DEVICES WITH ARCHITECT PRIOR TO ROUGH-IN.

1 TYPICAL DEVICE ELEVATIONS (UNLESS NOTED OTHERWISE)
NOT TO SCALE



2 EMERGENCY BALLAST WIRING
NOT TO SCALE

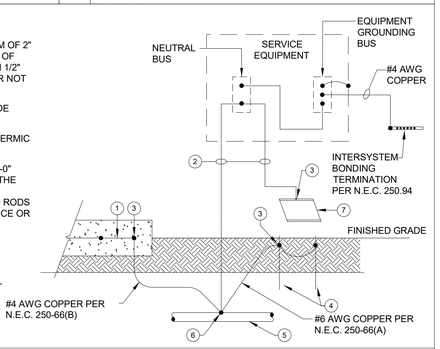


FIRESTOPPING PRODUCTS, SYSTEMS AND/.OR ASSEMBLIES SHALL BE UL1479/ASTM-E814 LISTED/APPROVED PER INTERNATIONAL BUILDING CODE SECT. 714 AND INSTALLATION SHALL BE PER MANUFACTURER'S DIRECTIONS..

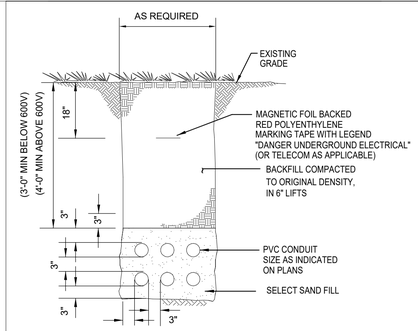
4 1 AND 2 HR. GYPSUM/WALLBOARD PIPE PENETRATION
NOT TO SCALE

GROUNDING ELECTRODE KEYED NOTES

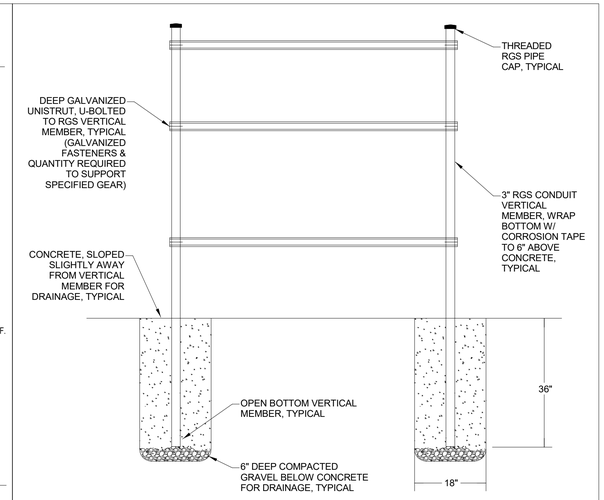
1. CONCRETE ENCASED ELECTRODE ENCASED BY A MINIMUM OF 2" CONCRETE OF FOUNDATION CONSISTING OF AT LEAST 20' OF ONE OR MORE STEEL REINFORCING BARS NOT LESS THAN 1/2" DIAMETER OR AT LEAST 20' OF BARE COPPER CONDUCTOR NOT LESS THAN #4 AWG. PER N.E.C. 250.52 (A) (3).
2. CONDUIT WITH FULL SIZE COPPER GROUNDING ELECTRODE CONDUCTOR PER N.E.C. TABLE 250-66
3. CONNECTION SHALL BE CADWELD COPPER-BASED EXOTHERMIC WELD.
4. COPPER BONDED STEEL ELECTRODE 3/4" IN DIAMETER 10'-0" LONG WITH A MINIMUM OF 8'-0" IN DIRECT CONTACT WITH THE EARTH PER N.E.C. 250-52 (A) (5). TWO (2) REQUIRED, SEPARATE BY 6' MINIMUM. PROVIDE ADDITIONAL GROUND RODS AS REQUIRED TO ACHIEVE LESS THAN 25 OHMS RESISTANCE OR PER UTILITY COMPANY REQUIREMENTS.
5. METAL UNDERGROUND WATER PIPE IN DIRECT CONTACT WITH THE EARTH FOR 10'-0" OR MORE PER N.E.C. 250.52 (A) (1)
6. BOLTED TYPE CONNECTION SUITABLE FOR DIRECT BURIAL OR EXOTHERMIC WELD (TYP)
7. METAL FRAME OF BUILDING PER N.E.C. 250.52 (A) (2)



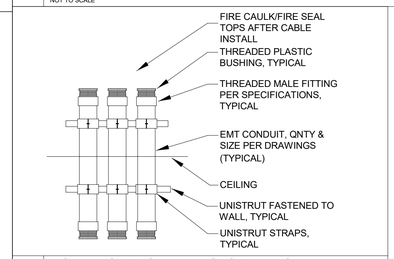
3 GROUNDING ELECTRODE SYSTEM DETAIL
NOT TO SCALE



5 ELECTL/TELECOM DUCT BANK DETAIL
NOT TO SCALE



6 ELECTRICAL GEAR SERVICE RACK DETAIL
NOT TO SCALE



7 LOW VOLT CABLING CEILING PENETRATION DETAIL
NOT TO SCALE

TEXAS PARKS & WILDLIFE

RICHTER ARCHITECTS

Powderhorn Wildlife Management Area
New Conservation Education Center
Project Number: 1210264

DATE: 05/22/2026
DESIGNED BY: CAH
DRAWN BY: CAH
REVIEWED BY: JAR
REVISED:

SHEET TITLE
Electrical Details

SHEET NUMBER
E401

STATE OF TEXAS
JOHN A. RODRIGUEZ III
90273
LICENSED
PROFESSIONAL ENGINEER
05/22/2026

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TEXAS ENGINEERING FIRM NO. 005318

25050

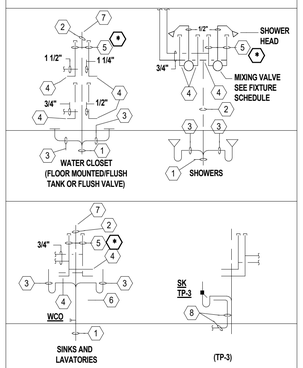
PLUMBING LEGEND

DISREGARD LEGEND ITEMS NOT INDICATED ON DRAWINGS

SYMBOL	DESCRIPTION	ABBR.
—— —— ——	SOIL OR WASTE PIPING B.G.	WST
——————	SOIL OR WASTE PIPING A.G.	WST
—— GW ——	GREASE WASTE PIPING	GW
– – – – – –	VENT PIPING	V
—— SD ——	STORM DRAIN PIPING	SD
—— OD ——	OVERFLOW STORM DRAIN PIPING	OD
—— G ——	GAS LINE	G
—— F ——	FIRE OR SPRINKLER LINE	F
—— - ——	DOMESTIC COLD WATER	CW
—— - - ——	DOMESTIC HOT WATER	HW
—— - - - ——	DOMESTIC HOT WATER RETURN	HWR
—— TW ——	TEMPERED DOMESTIC HOT WATER	TW
	GATE VALVE	GV
	GLOBE VALVE	GLV
	BALL VALVE	BV
	CHECK VALVE	CKV
	BALANCING VALVE	BAV
	BUTTERFLY VALVE	BTV
	PLUG VALVE	PLV
	PRESSURE REDUCING VALVE	PRV
	PRESSURE RELIEF VALVE	T&P
	STRAINER	STR
	UNION	UN
	THERMOMETER WELL	TW
	PRESSURE GAUGE	PG
	THERMOMETER	THRM
D	CONDENSATE OR INDIRECT DRAIN	D
	BRANCH CONNECTION, TOP	--
	BRANCH CONNECTION, BOTTOM	--
	ELBOW UP	--
	ELBOW DOWN	--
	FLOOR CLEANOUT (INTERIOR)	FCO
	CLEANOUT AT GRADE (EXTERIOR)	COG
	WALL CLEANOUT	WCO
	FLOOR DRAIN	FD
	FLOOR SINK	FS
	HOSE BIBB	HB
	WALL HYDRANT	WH
	NEW TO EXISTING PIPE CONNECTION	--
P / X	PLUMBING RISER IDENTIFICATION	P/X
DS / X	DOWNSPOUT RISER IDENTIFICATION	DS/X
F / X	FIRE RISER IDENTIFICATION	F/X
	ABBREVIATIONS	ABBR.
--	ABOVE FINISHED FLOOR	AFF
--	ACCESS PANEL	AP
--	BELOW FINISHED FLOOR	BFF
--	BOTTOM OF PIPE	BOP
--	INDIRECT DRAIN	D
--	EXISTING TO REMAIN	(E)
--	EXISTING TO BE DEMOLISHED	(D)
--	EXISTING TO BE RELOCATED	(R)
--	FINISHED	FIN
--	FLOOR	FLR
--	INVERT ELEVATION	INV. EL.
--	NORMALLY CLOSED	NC
--	SOFT WATER	SW
--	TRAP PRIMER	TP
--	TYPICAL	TYP
--	VENT THRU ROOF	VTR

NOT ALL SYMBOLS MAY BE USED

PLUMBING RISER DETAILS



KEYED NOTES - RISER DIAGRAM DETAILS:

1. REFER TO PLUMBING FIXTURE SCHEDULE FOR SOIL OR WASTE ROUGH-IN PIPE SIZE. MINIMUM SOIL OR WASTE DRAIN LINE SIZE (EXCEPT AS NOTED) FOR THIS FIXTURE.
2. REFER TO PLUMBING FIXTURE SCHEDULE FOR SANITARY VENT ROUGH-IN PIPE SIZE. MINIMUM SANITARY VENT BRANCH SIZE (EXCEPT AS NOTED) FOR THIS FIXTURE.
3. REFER TO PLUMBING FIXTURE SCHEDULE FOR FIXTURE DRAIN ROUGH-IN PIPE SIZE. MINIMUM FIXTURE DRAIN AND TRAP SIZE FOR THIS FIXTURE.
4. REFER TO PLUMBING FIXTURE SCHEDULE FOR WATER PIPING ROUGH-IN PIPE SIZE. MINIMUM WATER SUPPLY BRANCH SIZE (EXCEPT AS NOTED) FOR THIS FIXTURE.
5. SHOCK ARRESTOR INLET; REFER TO SHOCK ARRESTOR SCHEDULE FOR SIZE. LOCATION SHOWN HERE FOR INDIVIDUAL FIXTURE WILL VARY WHERE INCLUDED AS PART OF PLUMBING CHASE BATTERY OF PIPING. REFER TO RISER DIAGRAMS FOR BATTERY LOCATIONS. ARRANGE ALL WATER LINES TO GRAVITY DRAIN.
6. WALL CLEANOUTS SHALL BE PROVIDED AT END OF BATTERY OR END OF BRANCH LINE FIXTURES AND WHERE REQUIRED BY PLUMBING CODE OFFICIALS TO ASSURE COMPLETE ACCESS TO ALL PORTIONS OF DRAIN.
7. SANITARY VENT PIPES SHALL CONTINUE TO CEILING OR HEADER TOGETHER AT A MINIMUM 42" ABOVE FIN. FLOOR.
8. TRAP REFILL LINE; SEE PLUMBING DETAILS SHEET. EXTEND AND CONNECT TO FLOOR DRAIN TRAP AS SHOWN.

GENERAL NOTES:

1. CONTRACTOR TO FIELD VERIFY ELEVATIONS AND DIMENSIONS OF FINISHED FLOORS AND WALLS. TRUE ALL DRAINS, ROUGH-INS AND CARRIERS IN ACCORDANCE WITH THE PROPOSED ELEVATIONS AND FINISHED SURFACES.
2. MOUNTING HEIGHT ELEVATION OF ALL WALL HUNG OR COUNTER MOUNTED FIXTURES SHALL BE COORDINATED WITH THE ARCHITECT PRIOR TO INSTALLATION OF ROUGH-IN WORK.
3. FOR ALL FIXTURES AND EQUIPMENT WITH ASSOCIATED TRIM OR COMPONENT ACCESSORIES, PROVIDE UNDER SEPARATE DIVISIONS AND REQUIRING PLUMBING CONNECTIONS; THIS CONTRACTOR SHALL FIELD COORDINATE EXACT REQUIREMENTS OF, MAKE PROVISIONS FOR, AND SUPPLY ALL MATERIALS AND LABOR FOR MAKING FINAL CONNECTIONS.
4. CONTRACTOR SHALL REFER TO SHOP DRAWINGS OF EQUIPMENT TO BE SUPPLIED FOR FINAL COORDINATION OF ALL ROUGH-IN OPENINGS BEFORE BEGINNING WORK.
5. ALL FIXTURE AND EQUIPMENT STUB-OUTS SHALL BE PROVIDED WITH A STOP VALVE. ALL FIXTURE STOPS SHALL BE SOLID BRASS, LOOSE KEY OPERATED, CHROME PLATED (WERE EXPOSED), AND FITTED TIGHT TO CHROME PLATED BRASS WALL ESCUTCHEON PLATES. SUPPLY RISERS SHALL BE TYPE "L" TUBING, CHROME PLATED. PROVIDE 1/2" FIP X 3/8" OD COMPRESSION FITTINGS FOR ALL SINKS, LAVATORIES, AND SIMILAR FIXTURES.
6. ALL P-TRAPS WITHIN THE BUILDING, ABOVE GRADE AND EXPOSED TO INSPECTION SHALL BE CHROME PLATED ADJUSTABLE, CAST BRASS WITH CLEANOUT PLUG. PROVIDE C.P. CAST BRASS SLIP NUTS AND WASHERS, 17 GAGE SEAMLESS TUBULAR BRASS DRAIN TO WALL AND WALL FLANGE. PROVIDE 1-1/2" P-TRAP FOR ALL LAVATORIES AND SIMILAR FIXTURES. PROVIDE 1-1/2" P-TRAP FOR ALL SINKS AND SIMILAR FIXTURES, MCGUIRE OR EQUAL.
7. ALL ROUGH-IN OPENINGS SHALL BE FITTED WITH CHROME PLATED, WROUGHT BRASS DEEP BELL OR BOX ESCUTCHEON PLATES FITTED TIGHT TO PIPE AND FLUSH TO WALL. STEEL ESCUTCHEON PLATES ARE NOT ACCEPTED.
8. ALL EXPOSED BRASS SHALL BE CHROME PLATED.
9. ALL HANDICAPPED ACCESSIBLE FIXTURES SHALL BE OF APPROVED TYPES AND WITH REQUIRED CONTROLS INSTALLED TO HEIGHTS AND CLEARANCES, AS PRESCRIBED BY THE AMERICANS WITH DISABILITIES ACT (ADA) AND THE TEXAS ACCESSIBILITY STANDARDS (TAS). FIXTURES SHALL COMPLY WITH ALL FEDERAL, STATE, AND LOCAL ACCESSIBILITY CODE REQUIREMENTS. PROVIDE FIXTURES WITH DEPTHS AT MAXIMUM PERMITTED AND AVAILABLE FOR INTENDED FIXTURE USE.
10. INSULATE ALL EXPOSED WATER AND DRAIN LINES ON ADA/TAS ACCESSIBLE LAVATORIES AND SINKS WITH MCGUIRE PRO WRAP OR EQUAL. PROVIDE OFFSET DRAIN FITTINGS WHERE REQUIRED TO PROVIDE MINIMUM CLEARANCES.
11. ALL ADA/TAS SINKS SHALL BE STAMPED WITH DRAIN OUTLET AT THE REAR OF THE BOWL.
12. PLUMBING FIXTURES SHALL BE OF WATER CONSERVATION TYPE IN ACCORDANCE WITH SENATE BILL 587 FOR WATER SAVING PERFORMANCE. LAVATORY AND SINK FAUCETS SHALL INCLUDE 0.5 GPM AND 2.2 GPM FLOW CONTROL RESPECTIVELY.
13. ORIENT ADA/TAS WATER CLOSET FLUSH VALVE WITH OPERATOR ON LARGE SIDE OF ENCLOSURE AND BELOW GRAB BARS.
14. SEAL ALL SPACES BETWEEN PLUMBING FIXTURES AND MOUNTING SURFACES WITH WHITE LATEX CAULK WIPED SMOOTH AND FLUSH WITH FIXTURE.
15. FLOOR DRAINS SHALL BE INSTALLED AT LOW POINTS OF UNIFORMLY SLOPED FLOOR. CONTRACTOR SHALL FIELD COORDINATE WITH STRUCTURAL TO INSURE FLOORS ARE UNIFORMLY SLOPED ACROSS ENTIRE TOILET ROOMS OR OVER AS WIDE AN AREA AS PRACTICAL FOR OPEN AREA FLOOR DRAINS. CONVEX FLOOR SLOPE IN THE IMMEDIATE VICINITY OF THE FLOOR DRAIN IS NOT ACCEPTABLE.
16. EQUIVALENT MANUFACTURES OF CHINA FIXTURES ARE KOHLER, AND AMERICAN STANDARD. EQUIVALENT MANUFACTURES OF STAINLESS FIXTURES ARE JUST, ELKAY, AND ADVANCE TABCO.
17. WATER HEATER SHALL BE PROVIDED WITH CODE APPROVED VACUUM BREAKER, BRASS ASME TEMPERATURE AND PRESSURE RELIEF VALVE, HEAT TRAPS, AND DRAIN PAN. ROUTE TPR DRAIN LINE AND PAN DRAIN FULL SIZED TO SERVICE SINK AND TERMINATE 6" ABOVE FLOOD RIM.
18. ROOF PENETRATIONS SHALL BE DONE IN STRICT COMPLIANCE WITH THE ARCHITECTS SPECIFICATIONS AND SHALL BE LEAK PROOF.
19. FIELD VERIFY ALL EXISTING CONDITIONS AND LOCATION OF STUB OUTS. NOTIFY ARCHITECT OF ANY DISCREPANCIES IMMEDIATELY WHICH MAY AFFECT THE INTENDED DESIGN.
20. ALL PLUMBING WORK SHALL BE DONE IN STRICT COMPLIANCE WITH ALL STATE AND LOCAL CODES.
21. THE PLUMBING CONTRACTOR SHALL GUARANTEE THE COMPLETE PLUMBING SYSTEM TO BE FREE OF DEFECTS IN WORKMANSHIP AND MATERIALS FOR A PERIOD OF 12 MONTHS FROM DATE OF FINAL ACCEPTANCE.
22. ALL WATER HEATER SUPPLY CONNECTIONS SHALL HAVE HEAT TRAP NIPPLE CONNECTIONS. HEAT TRAP NIPPLES NOT REQUIRED IF HOT WATER RECIRCULATION SYSTEM IS PROVIDED.
23. NO HUB COUPLINGS SHALL BE HEAVY DUTY 4 BAND COUPLINGS WITH STAINLESS STEEL SHIELD.
24. INSULATE CONCEALED ROOF DRAIN BODIES, VERTICAL LEAD AND HORIZONTAL PIPING WITH R-6 FLEXIBLE BLANKET INSULATION. EXPOSED ROOF DRAIN BODIES AND PIPES SHALL BE INSULATED WITH AN R-6 RIGID INSULATION AND PAINTABLE CANVAS JACKET.

GENERAL ROOF PLAN NOTES:

1. CONTRACTOR SHALL CAREFULLY REVIEW CONTRACT DOCUMENTS INCLUDING DRAWINGS AND PROJECT MANUAL. INFORMATION REGARDING WORK OF THE VARIOUS TRADES AND SUBCONTRACTORS ARE DISPERSED THROUGHOUT THE DOCUMENTS AND CANNOT BE ACCURATELY DETERMINED WITHOUT REFERENCE TO THE FULL SET OF DOCUMENTS.
2. CONTRACTOR SHALL COORDINATE INSTALLATION OF UTILITIES ABOVE THE CEILING TO PROVIDE GREATEST POSSIBLE CLEARANCE FOR INSTALLATION OF AND FUTURE CHANGES IN MECHANICAL EQUIPMENT. CONDUIT AND PIPE TO BE RUN THROUGH TRUSSES. COORDINATE SERVICE AND ACCESS POINTS ABOVE CEILING TO MINIMIZE REQUIRED ACCESS.
3. ALL DEVICES INSTALLED ON ROOF TOP EQUIPMENT SHALL BE MOUNTED ON A NON-REMOVABLE PANEL OF THE EQUIPMENT. THIS LOCATION SHALL BE COORDINATED WITH THE MECHANICAL OR PLUMBING CONTRACTOR PRIOR TO ROUGH-IN.
4. ROOF DECK PENETRATIONS: CONTRACTOR SHALL SECURE LANDLORD APPROVAL FOR ALL BUILDING ROOF DECK PENETRATIONS. REQUESTS SHALL BE ON A SCALED ROOF PLAN SHOWING EXACT LOCATION & SIZE OF PENETRATION & INCLUDE DETAILS OF MOUNTING, FLASHING & SEALING. CONTRACT WITH THE LANDLORD'S ROOFING CONTRACTOR TO PERFORM ALL WORK AT THIS CONTRACTOR'S SOLE EXPENSE. CONTRACTOR SHALL COORDINATE THE LOCATION OF ALL ROOFTOP EQUIPMENT, NEW ROOF PENETRATIONS, REMOVAL OF EXISTING ROOFTOP EQUIPMENT & INSTALLATION OF ALL ROOFTOP EQUIPMENT WITH THE LANDLORD.

PLUMBING NARRATIVE:

ELECTRIC WATER HEATERS LESS THAN 12 KW SHALL HAVE A PERFORMANCE RATING OF 0.97.

THE HOT WATER HEATING SYSTEM SHALL BE BY AN ELECTRIC WATER HEATER WITH A RECIRCULATION LINE AND PUMP. THE RE-CIRC PUMP SHALL BE CONTROLLED BY AN AQUASTAT AND TIME CLOCK. THE TIME CLOCK SHALL ENABLE THE PUMP TO OPERATE FROM 6AM TO 8PM (ADJ.) AND SHUT OFF THE PUMP FROM 8PM TO 6AM (ADJ.).

AND/OR

THE HOT WATER HEATING SYSTEM SHALL BE BY WATER HEATER WITH A MAXIMUM OF 6'-0" OF 1/4" TUBING, 3'-0" OF 3/8" TUBING TO LAVATORIES AND 43'-0" OF 1/2" TUBING, 21'-0" OF 3/4" TUBING TO ALL OTHER FIXTURES.

REFER TO THE 2024 IECC SECTION C404 SERVICE WATER HEATING FOR OTHER REQUIREMENTS.

THE PLUMBING CONTRACTOR SHALL REVIEW THE SYSTEM COMMISSIONING SPECIFICATION ON THIS SHEET FOR REQUIREMENTS AND PARTICIPATION IN THE COMMISSIONING PROCESS. FAILURE TO COMPLY OR PARTICIPATE MAY INCUR ADDITIONAL COST TO THE CONTRACTOR

GENERAL ENERGY NOTES:

INSULATION SHALL BE PROVIDED FOR PIPING AS NOTED IN THE TABLE BELOW. PIPING INSULATION SHALL BE PROVIDED FOR RETURN CIRCULATION HOT WATER SYSTEM WITH 1" OR R-4 INSULATION. THE FIRST 8' OF PIPING IN NONCIRCULATING SYSTEMS SERVED BY EQUIPMENT W/O INTEGRAL HEAT TRAPS SHALL BE INSULATED WITH 1-1/2" OR R-4 INSULATION.

WATER HEATING EQUIPMENT NOT SUPPLIED WITH INTEGRAL HEAT TRAPS AND SERVING NONCIRCULATING SYSTEMS SHALL BE PROVIDED WITH HEAT TRAPS ON THE SUPPLY AND DISCHARGE PIPING AS ASSOCIATED WITH THE EQUIPMENT.

AUTOMATIC CIRCULATING HOT WATER SYSTEMS OR HEAT TRACE SHALL HAVE TIME SWITCHES THAT ARE CAPABLE OF BEING SET TO TURN OFF THE SYSTEM.

MINIMUM PIPE INSULATION THICKNESS (in inches)

FLUID	CONDUCTIVITY	MEAN TEMP °F	NOMINAL PIPE DIA.			
			< 1"	1 < 1.5"	1.5" TO< 4"	4 TO< 8"
DOM. COLD WATER	0.23	75	1/2	1	1	1
HOT WATER	0.24	100	1	1	1-1/2	1-1/2
LOW PSI STEAM	0.28	200	2-1/2	2-1/2	2-1/2	3
HI PSI STEAM	0.34	300	3	4	4-1/2	4-1/2
ROOF DRAIN	0.23	75	1/2	1	1	1

TEXAS PARKS & WILDLIFE

RICHTER ARCHITECTS

Powderhorn Wildlife Management Area
New Conservation Education Center
Project Number: 1210264

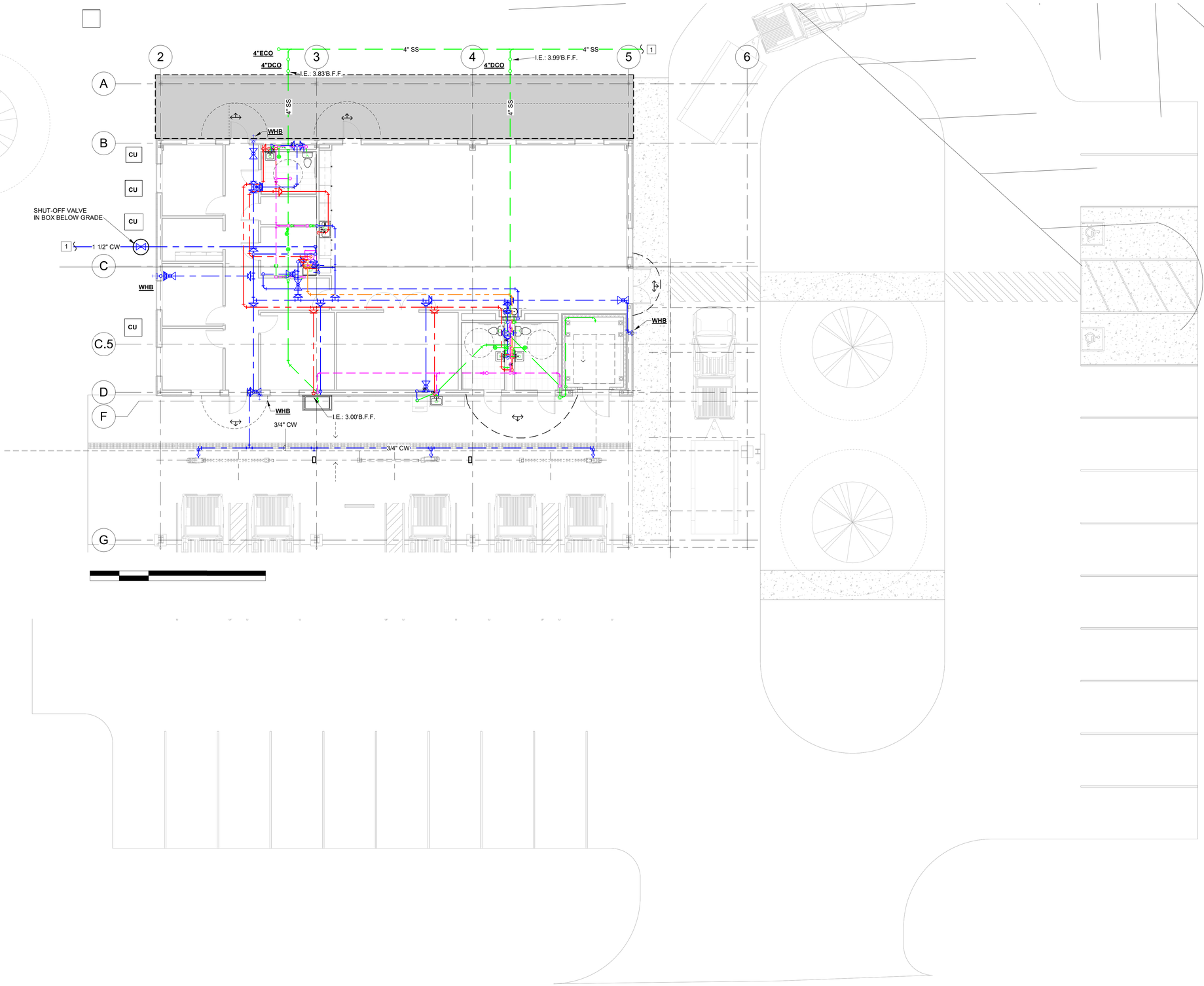
DATE: 05/22/2026
DESIGNED BY: KNR
DRAWN BY: KNR
REVIEWED BY: SMR
REVISED:

STATE OF TEXAS
SEAN M. RODRIGUEZ
96478
LICENSED PROFESSIONAL ENGINEER
05/22/2026

NRG ENGINEERING
5656 S. STAPLES, SUITE 360,
CORPUS CHRISTI, TX 78411
P - 361.852.2727 F - 361.852.2922
TEXAS ENGINEERING FIRM NO. 005318
25050

SHEET TITLE
PLUMBING LEGEND AND NOTES

SHEET NUMBER
P001



1 PLUMBING SITE PLAN
1/8" = 1'-0"

1/8" = 1'-0"

8 0 8 16
SCALE FEET

PLUMBING GENERAL NOTES:

1. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND EXISTING CONDITIONS AT THE JOB SITE BEFORE COMMENCING ANY PHASE OF THE WORK. ADJUSTMENTS FOR FIT AND COORDINATION SHALL BE MADE AT NO ADDITIONAL COST TO THE OWNER. NOTIFY ENGINEER OF ANY CONFLICTS, DISCREPANCIES OR OMISSIONS PRIOR TO COMMENCEMENT OF THE CONTRACT WORK.
2. CONTRACTOR SHALL REVIEW ALL ARCHITECTURAL, MECHANICAL & STRUCTURAL DRAWINGS AND SPECIFICATIONS FOR ANY ADDITIONAL REQUIREMENTS.
3. CONTRACTOR SHALL COORDINATE HIS WORK WITH OTHER TRADES.
4. SEAL ALL WALL, ROOF, AND FLOOR PENETRATIONS WITH UL LISTED FIRE SEALANT.
5. PLUMBING CONTRACTOR TO FIELD COORDINATE WITH STRUCTURAL. ROUTE SANITARY LINES OUT AND AWAY FROM BEAMS WHERE POSSIBLE AND CROSS BEAMS PERPENDICULAR WITH SLEEVES AS REQUIRED.

#	PLUMBING KEYNOTES
1	SEE CIVIL FOR CONTINUATION.

TEXAS PARKS & WILDLIFE

RICHTER ARCHITECTS

Powderhorn Wildlife Management Area
New Conservation Education Center
Project Number: 1210264

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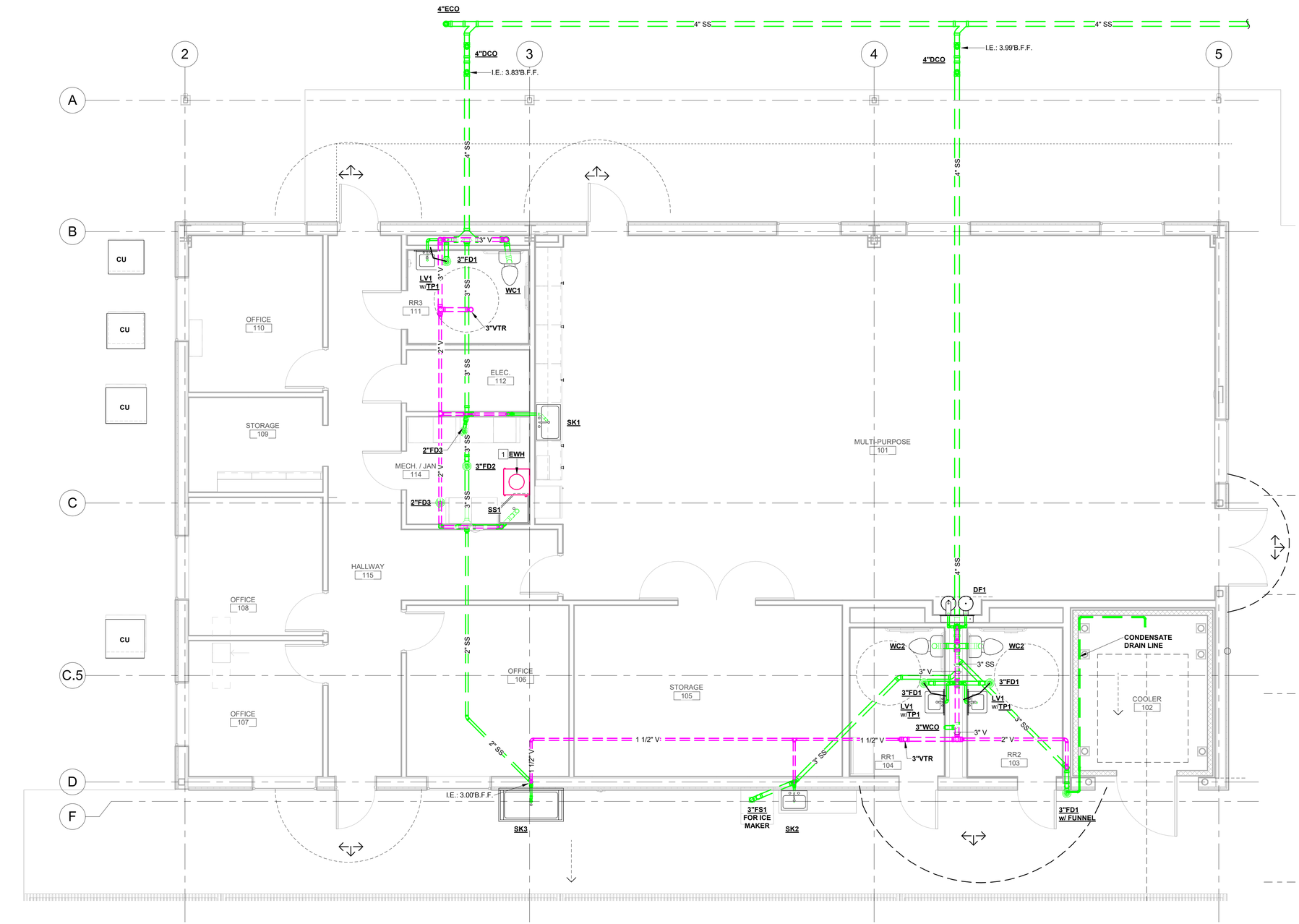
SHEET TITLE
PLUMBING SITE PLAN

SHEET NUMBER
P100

STATE OF TEXAS
SEAN M. RODRIGUEZ
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25050



1 PLUMBING DWV FLOOR PLAN
1/4" = 1'-0"

4 0 4 8
1/4" = 1'-0" SCALE FEET

PLUMBING GENERAL NOTES:

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4. SEAL ALL WALL, ROOF, AND FLOOR PENETRATIONS WITH UL LISTED FIRE SEALANT.
5. PLUMBING CONTRACTOR TO FIELD COORDINATE WITH STRUCTURAL. ROUTE SANITARY LINES OUT AND AWAY FROM BEAMS WHERE POSSIBLE AND CROSS BEAMS PERPENDICULAR WITH SLEEVES AS REQUIRED.

#	PLUMBING KEYNOTES
1	MOUNT WATER HEATER HIGH AS POSSIBLE ON WALL, MAINTAINING PROPER WORKING CLEARANCE.

TEXAS PARKS & WILDLIFE

RICHTER ARCHITECTS

Powderhorn Wildlife Management Area
New Conservation Education Center
Project Number: 1210264

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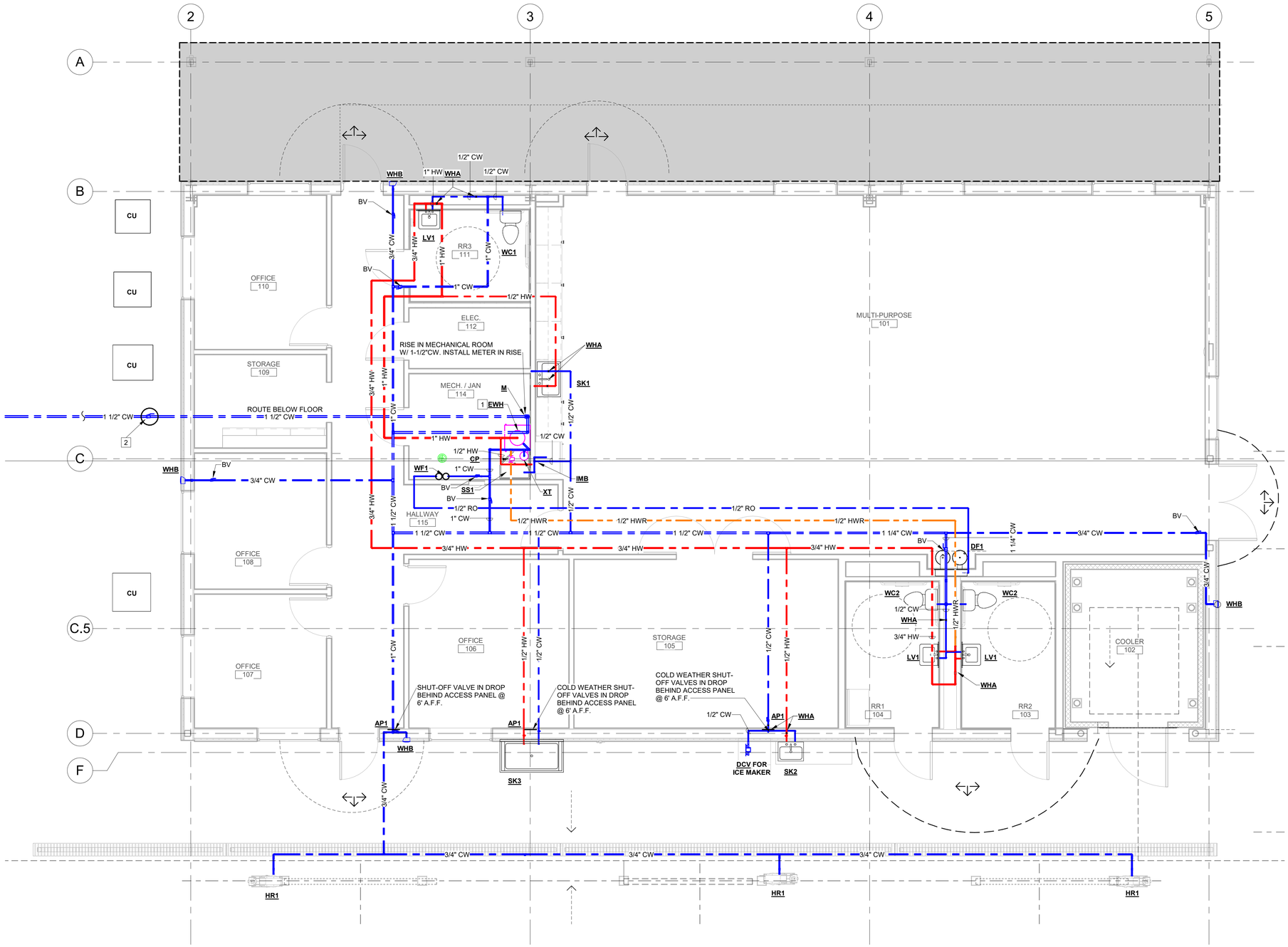
SHEET TITLE
PLUMBING DWV FLOOR PLAN

SHEET NUMBER
P101

STATE OF TEXAS
SEAN M. RODRIGUEZ
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1 PLUMBING WATER FLOOR PLAN
1/4" = 1'-0"

1/4" = 1'-0"
4 0 4 8
SCALE FEET

PLUMBING GENERAL NOTES:

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#	PLUMBING KEYNOTES
1	MOUNT WATER HEATER HIGH AS POSSIBLE ON WALL, MAINTAINING PROPER WORKING CLEARANCE.
2	PROVIDE SHUT-OFF VALVE IN BOX FLUSH WITH GRADE.

TEXAS PARKS & WILDLIFE

RICHTER ARCHITECTS

Powderhorn Wildlife Management Area
New Conservation Education Center
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DATE: 05/22/2026
DESIGNED BY: KNR
DRAWN BY: KNR
REVIEWED BY: SMR
REVISED:

SHEET TITLE
PLUMBING WATER FLOOR PLAN

SHEET NUMBER
P102

STATE OF TEXAS
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PLUMBING FIXTURE UNITS

FIXTURE	QTY.	DRAINAGE			WATER SUPPLY				
		TRAP SIZE	DFU EA	SDFU	WSFU EA	TOT. WSFU	CW WSFU	HW WSFU	PEAK GPM
WATER CLOSET - TANK	3	-	4	12	5	15	15	-	1.60
LAVATORY	3	1 1/4"	1	3	2	6	4.5	4.5	0.40
SERVICE SINK	1	2"	2	2	3	3	2.25	2.25	3.00
DRINKING FOUNTAIN	2	1 1/4"	0.50	1.00	0.25	0.50	0.50	-	0.75
SINK	3	1 1/2"	2	6	3	9	6	6	1.75
3" TRAP	5	3"	5	25					
HOSE BIBB	4	-	0					-	5.00
TOTAL FU				49		34	28	13	
TOTAL GPM				25		24.0	23.0	16.5	
PIPE SIZE				4"		1.5"	1.5"	1.25"	

PLUMBING PIPE MATERIALS SCHEDULE

PIPING SYSTEM	PIPING MATERIAL
SANITARY SEWER BELOW GRADE	SCHEDULE 40 DWV PVC
SANITARY DRAIN AND VENTS ABOVE GRADE	SCHEDULE 40 DWV PVC *
DOMESTIC HOT & COLD WATER BELOW GRADE	COPPER, TYPE "K" SOFT, PEX
DOMESTIC HOT & COLD WATER ABOVE GRADE	COPPER, TYPE "L" HARD DRAWN, PEX
HOT & COLD WATER PIPE INSULATION	1" RIGID FIBER GLASS

* SCHEDULE 40 DWV PVC SHALL NOT BE USED IN RETURN AIR PLENUMS. WHERE CEILING PLENUMS ARE USED FOR RETURN AIR, CONTRACTOR SHALL ONLY USE BELL AND SPIGOT SERVICE WEIGHT CAST IRON PIPE.

PLUMBING EQUIPMENT SCHEDULE

SYMB.	PLAN MARK	MINIMUM ROUGH-IN SIZES					DESCRIPTION
		WST & VENT		DRAIN	CW	HW	
	ACCESS DOOR AP1	----	----	----	----	----	MIFAB UA ACCESS DOOR: 12``x12``, 16 GUAGE SATINCOAT STEEL WALL FLANGE AND DOOR, WHITE PRIMED; INSTALL AT ALL CONCEALED VALVES OR ACCESSORIES IN ACCESSIBLE LOCATION NOT MORE THAN 9'0`` AFF; COORDINATE ACCESS PANEL LOCATIONS WITH GENERAL CONTRACTOR.
	ELECTRIC WATER HEATER EWH	----	----	----	3/4"	3/4"	A.O. SMITH NO. DEL-15S-4.5 WATER HEATER: 15 GALLON STORAGE, 23 GPH RECOVERY AT 80°F TEMPERATURE RISE, 4.5 KW SINGLE ELEMENT, 208V-1-60, INSULATED, JACKETED, MAGNESIUM ANODE, ON-OFF SWITCH, 150PSI RATED WORKING PRESSURE, GLASS LINED TANK, ASME TPR VALVE, 3 YEAR WARRANTY, BRASS DRAIN VALVE, AND MFG'S HEAT TRAPS. HOLDRITE NO. 30-SWHP-WM 24"X24" WALL MOUNTED EQUIP. PLATFORM W/ DRAIN FITTING, WATER TIGHT.
	EXPANSION TANK XT	----	----	----	3/4"	----	AMTROL No. ST-5-C, HEAVY DUTY BUTYL, FDA APPROVED DIAPHRAGM, POLYPROPYLENE LINED DOME WITH 2.0 GALLON VOLUME. ELBI IS AN EQUIVALENT MANUFACTURER. STRAP TANK TO WALL WITH HOLDRITE QUICK STRAP. TANK SHALL NOT BE SUPPORTED BY THE PIPING THAT CONNECTS TO SUCH TANK.
	CIRCULATING PUMP CP	----	----	----	----	1/2"	GRUNDFOS MODEL No. UP15-18B5, IN-LINE, LEAD-FREE BRONZE CIRCULATOR. PROVIDE 1/2" SWEAT CONNECTION. 1 PHASE, 85 WATTS, 115 VOLTS, 1/25HP. PROVIDE WITH TIMER, SWITCHES ON AT 6AM, AND OFF AT 8PM. PROVIDE AQUASTAT, SWITCHES PUMP ON AT 85°F, AND OFF AT 105°F. 1.66 GPM AND 7 FOOT OF HEAD.
	ACCESS DOOR AP1	----	----	----	----	----	MIFAB UA ACCESS DOOR: 12``x12``, 16 GAUGE SATINCOAT STEEL WALL FLANGE AND DOOR, WHITE PRIMED; INSTALL AT ALL CONCEALED VALVES OR ACCESSORIES IN ACCESSIBLE LOCATION NOT MORE THAN 9'0`` A.F.F.; COORDINATE ACCESS PANEL LOCATIONS WITH GENERAL CONTRACTOR.
	DOUBLE CLEANOUT DCO	4"	----	----	----	----	WADE 8000-12 (MIFAB C1100-4-R-P)(ZURN Z1400)(SMITH 4240)(JOSAM 55000-5) EXTERIOR CLEANOUT: ADJUSTABLE C.I. CLEANOUT AND HOUSING, ABS TAPER PLUG, SPECIAL DUTY ROUND SCORIATED DUCTILE IRON TOP, NON-TILT TRACTOR COVER, ANCHOR IN CONCRETE PAD 42"x18"x6" DEEP, FLUSH WITH GRADE OR SET FLUSH WITH SIDEWALK.
	EXTERIOR CLEANOUT ECO	4"	----	----	----	----	WADE 8000-12 (MIFAB C1100-4-R-P)(ZURN Z1400)(SMITH 4240)(JOSAM 55000-5) EXTERIOR CLEANOUT: ADJUSTABLE C.I CLEANOUT AND HOUSING, ABS TAPER PLUG, SPECIAL DUTY ROUND SCORIATED DUCTILE IRON TOP, NON-TILT TRACTOR COVER, ANCHOR IN CONCRETE PAD 18"x18"x6" DEEP, FLUSH WITH GRADE OR SET FLUSH WITH SIDEWALK.
	DOUBLE CHECK VALVE BACKFLOW PREVENTER DCV (ICE MAKER)	----	----	----	1/2"	----	WATTS NO. LF007QT DOUBLE CHECK VALVE VALVE ASSEMBLY: INSTALL AT 36" ABOVE GRADE WITH CLEARANCE FOR SERVICE AND PIPING BRACKETING. PROVIDE SHUT OFF VALVE AND FULL SIZE STRAINER ON INLET AND SHUT OFF VALVE ON OUTLET RISER. ASSE 1015 COMPLIANT.
	FLOOR DRAIN FD1 (REST ROOMS)	2"	1-1/2"	2"	----	----	WADE 1100-TSD-A6-1 (MIFAB F1100-C)(JOSAM 30000-A)(SMITH 2005-A)(ZURN No.ZN-415B-P)(WATTS FD-100-A) FLOOR DRAIN: CAST IRON DRAIN BODY, BOTTOM OUTLET, CLAMPING COLLAR, WEEP HOLES, V.P. SCREWS, ADJUSTABLE TOP; STRAINER: 6" DIAMETER, LIGHT DUTY, NICKEL BRONZE, HEEL PROOF PERFORATED; DEEP SEAL TRAP. PROVIDE PROSET SYSTEMS TRAP GUARD INSERT.
	FLOOR DRAIN FD2 (MECHANICAL ROOM)	2"	1-1/2"	2"	----	----	WADE 1100-A6-1-TSD (MIFAB F1100)(JOSAM 30000-A)(SMITH 2005)(ZURN No. ZN-415B-P)(WATTS FD-100-A) FLOOR DRAIN: CAST IRON DRAIN BODY, BOTTOM OUTLET, CLAMPING COLLAR, WEEP HOLES, V.P. SCREWS, ADJUSTABLE TOP, STRAINER: 6" DIAMETER, LIGHT DUTY, NICKEL BRONZE, HEEL PROOF PERFORATED; DEEP SEAL TRAP. PROVIDE PROSET SYSTEMS TRAP GUARD INSERT.
	FLOOR DRAIN FD3 (MECHANICAL ROOM) (CONDENSATE)	3"	1-1/2"	3"	----	----	WADE 1100-ER-EF4-1 (ZURN ZN415-I)(MIFAB F1100-C-ER) (JOSAM 30000-E1)(WATTS FD-100-ER)FLOOR DRAIN: CAST IRON DRAIN BODY, BOTTOM OUTLET, CLAMPING COLLAR, WEEP HOLES, V.P. SCREWS, ADJUSTABLE TOP; STRAINER: EXTENDED RIM, 7" DIAMETER, LIGHT DUTY, NICKEL BRONZE, HEEL PROOF PERFORATED, SATIN NICKEL BRONZE FUNNEL; DEEP SEAL TRAP. PROVIDE PROSET SYSTEMS TRAP GUARD INSERT.
	FLOOR SINK FS1	3"	2"	3"	----	----	MIFAB FS1740-3-150-P SANITARY FLOOR SINK: 12"x12"x10" DEEP, CAST IRON DRAIN BODY, A.R.C. INTERIOR, BOTTOM OUTLET, STAINLESS STEEL FRAME AND 1/2 GRATE, ALUMINUM DOME STRAINER, S.S. SEDIMENT BUCKET; DEEP SEAL TRAP.
	GATE VALVE GV	----	----	----	2"	----	NIBCO 125LB. BRONZE GATE VALVE #S-111, 2" BRONZE BODY VALVE WITH SOLDERED ENDS.
	HOSE REEL HR1	----	----	----	----	----	REGENCY MODEL 600HRSS35FWG HOSE REEL: STAINLESS STEEL, ADJUSTABLE GUIDE ARM, HEAVY DUTY 35 FT. HOSE, 3/8 ID, 5/8" OD, 300 PSI, FULL FLOW BRASS SWIVEL WITH NITRILE SEALS, HOSE STOPPER, 5 GPM TRIGGER SPRAYER.
	ICE MAKER BOX IMB	----	----	----	1/2"	----	OATEY ICE MAKER BOX NO. 38681: MOLDED POLYSTYRENE, SUPPORT BRACKETS, 1/4" TURN LOW-LEAD BALL VALVE AND SWEAT CONNECTION.
M	WATER METER M	---	---	---	1"	----	SENSUS #SR-II WATER METER: LOW LEAD, REMOTE READOUT. COMPLY WITH ANSI/AWWA C701 AND NSF/ANSI 61..
	TRAP PRIMER TP1	----	----	----	----	----	JAY R. SMITH MODEL 2698 WATER SAVER TRAP PRIMER: 1-1/4" OR 1-1/2" SIZE AS REQUIRED, SATIN C.P. BRONZE CAST P-TRAP W/ CO, 17 GA. TUBING WASTE AND ESCUTCHEON, TYPE M ½" PRIMER TUBE W/ COMPRESSION FITTING CONNECTION AND ESCUTCHEON; GRAVITY TRAP PRIMER SHALL REPLACE THE SCHEDULED WASTE FITTING AT THE FIXTURE INDICATED.
	WALL CLEANOUT WCO	SEE PLAN	SEE PLAN	SEE PLAN	----	----	ZURN NO. ZS1469-7-VP ROUND STAINLESS STEEL ACCESS COVER COMPLETE WITH SECURING SCREW, MIN 5" DIA.. PROVIDE CLEANOUT PLUG TO MATCH PIPE MATERIAL.
	WATER HAMMER ARRESTOR WHA	SEE DETAIL	SEE DETAIL	SEE DETAIL	----	----	SIOUX CHIEF 650 SERIES WATER HAMMER ARRESTOR: TYPE L COPPER TUBE, POLY PISTON WITH TWO EPDM O-RINGS, ASSE 1010 CERT., MAX. 250°F, MAX. 350 PSIG, LEAD FREE, INSTALL TO MANUFACTURER'S SPECIFICATIONS.
	WALL HYDRANT IN BOX WHB	----	----	----	3/4"	----	WOODFORD MODEL #B74, MODERATE CLIMATE WALL HYDRANT W/ ANTI-SIPHON VACUUM BREAKER ENCLOSED IN A BRASS FLUSH WALL BOX.
	WATER FILTER WF1	----	----	----	3/8"	----	WATTS ADWU-D DUAL STAGE FILTER SYSTEM: NSF/ANSI CERTIFIED, TWO STAGE FILTERING, ZERO WASTE, SEDIMENT FILTER, CARBON BLOCK FILTER, MOUNT ON WALL IN MECHANICAL ROOM NEXT TO SINK.

PLUMBING FIXTURE SCHEDULE

REFER TO ARCHITECTURAL TAS/ADA SHEETS AND TAS/ADA REGULATIONS FOR MOUNTING HEIGHTS AND CLEARANCES.

SYMB.	PLAN MARK	MINIMUM ROUGH-IN SIZES					DESCRIPTION
		WST & VENT		DRAIN	CW	HW	
	DRINKING FOUNTAIN DF1 (BI LEVEL)	2"	1-1/2"	1-1/2"	1/2"	----	ELKAY NO. EZWS-EDFPBM117K "HI-LO" BARRIER FREE DRINKING FOUNTAIN AND BOTTLE STATION: TAS COMPLIANT, NON REFRIGERATED, WALL HUNG, STANDARD FINISH, COLOR TO BE SELECTED BY ARCHITECT, S.S. TOP WITH INTEGRAL STRAINER AND TAILPIECE, FRONT PUSH BARS, AUTOMATIC STREAM REGULATOR, STANDARD FACTORY WARRANTY, 120V-1-60, MOUNT AT MAX. 36" FROM FLOOR TO LOWER SPOUT OUTLET AND MIN. 38-43" MAX. FOR UPPER UNIT, MOUNT BOTTLE FILLER ON LOWER UNIT; LKAPR1 CANE TOUCH APRON: ABS PLASTIC, MOUNT ON UPPER UNIT, MOUNTING FRAME: WASTE: 1-1/2" PVC ADJ. "P"-TRAP; SUPPLY: C.P. ANGLE SUPPLY W/STOP, 3/8" FLEX TUBE RISER.
	LAVATORY LV1 (WALL HUNG)	2"	1-1/2"	1-1/4"	1/2"	1/2"	AMERICAN STANDARD NO.0355.012 "LUCERNE" WALL MOUNTED LAVATORY: TAS COMPLIANT, WHITE, FRONT OVERFLOW, CONCEALED WALL CARRIER, 4" O.C. TAPPING; MIFAB MC-41 SERIES FLOOR MOUNTED CONCEALED ARM CARRIER WITH TWO UPRIGHTS; CHICAGO 420-T41E2805ABCP FAUCET: C.P. BRASS BODY, 0.5 GPM AERATOR, DECK PLATE, INTEGRAL THERMOSTATIC MIXING VALVE ASSE 1070 CERT., SET AT 105°F; WASTE: 1-1/4" 17 GA C.P. BRASS TAILPIECE WITH GRID STRAINER, 1-1/4" 17 GA BRASS C.P. ADJ. "P"-TRAP W/C.O. AND C.P. BRASS NUTS, ESCUTCHEON; SUPPLY: C.P. ANGLE SUPPLIES W/STOPS, 3/8" FLEX TUBE RISERS, ESCUTCHEONS. PROVIDE TRUEBRO 103 EZ SERIES INSULATION KIT ON EXPOSED PIPING. SEE ARCHITECTURAL DRAWINGS FOR MOUNTING HEIGHT.
	SINK SK1 (SINGLE COMPARTMENT)	2"	1-1/2"	1-1/2"	1/2"	1/2"	JUST MANUFACTURING SLADA2133A65-J SINK: TAS COMPLIANT, 18 GA. TYPE 304 S.S., LUSTROUS SATIN FINISH, SELF RIMMING, FITTING DECK, BACK LEDGE, SOUND DAMPENER, SINGLE-HOLE, 33"x22"x6", REAR CENTER DRAIN; ELKAY LKAV2061 FAUCET: C.P. BRASS, 8" PULL DOWN SPRAY, DECK MOUNT, 4" LEVER HANDLE, 1.8 GPM AERATOR; WASTE: LK-35 3-1/2" S.S. DRAIN BODY, BASKET STRAINER, 1-1/2" TAILPIECE; 1-1/2" 17GA. C.P. BRASS ADJ. "P"-TRAP W/C.O., ESCUTCHEON; SUPPLY: C.P. ANGLE SUPPLIES WITH STOPS, 1/2" FLEX TUBE RISERS, ESCUTCHEONS; TRUEBRO 102-EZ INSULATION KIT FOR TAS/ADA.
	SINK SK2 (SINGLE COMPARTMENT)	2"	1-1/2"	1-1/2"	1/2"	1/2"	ADVANCE TABCO KSLAG-11B-306L-XSINK AND TABLE: 16 GA. TYPE 302 S.S., SATIN FINISH, INTEGRATED IN TABLE, FITTING DECK, BACK LEDGE, SINGLE HOLE, 16"x20"x12" BOWL, CENTER DRAIN; K-115 PRERINSE FAUCET: C.P. BRASS, SINGLE-HOLE, DECK MOUNT, 18" SS HOSE, 1.42 GPM SPRAY VALVE, LEVER HANDLES, K-117-TS 12" FAUCET; WASTE: LK-18 3-1/2" N.C. BRASS DRAIN BODY W/ GRID STRAINER, 1-1/2" TAILPIECE; 1-1/2" 17GA. C.P. BRASS ADJ. "P"-TRAP W/C.O., ESCUTCHEON; SUPPLY: C.P. ANGLE SUPPLIES WITH STOPS, 1/2" FLEX TUBE RISERS, ESCUTCHEONS; TRUEBRO 102-EZ INSULATION KIT FOR TAS/ADA.
	SINK SK3 (SINGLE COMPARTMENT)	2"	1-1/2"	1-1/2"	1/2"	1/2"	ADVANCE TABCO FS-FM-1-ADA FLOOR STANDING SINK: TAS COMPLIANT, 16 GA. TYPE 304 S.S., SATIN FINISH, 8.5" BACKSPLASH, 2-HOLE, 16"x37"x5" BOWL, CENTER REAR DRAIN; DTA-53 SPLASH MOUNT PRERINSE FAUCET: C.P. BRASS, 2-HOLE, BACKSPLASK MOUNT, SS HOSE, 1.6 GPM SPRAY VALVE, LEVER HANDLES, K-117 12" ADD-A-FAUCET; WASTE: LK-18 3-1/2" N.C. BRASS DRAIN BODY W/ GRID STRAINER, 1-1/2" TAILPIECE; 1-1/2" 17GA. C.P. BRASS ADJ. "P"-TRAP W/C.O., ESCUTCHEON; SUPPLY: C.P. ANGLE SUPPLIES WITH STOPS, 1/2" FLEX TUBE RISERS, ESCUTCHEONS; TRUEBRO 102-EZ INSULATION KIT FOR TAS/ADA.
	SERVICE SINK SS1 (FLOOR MOUNTED)	3"	2"	3"	1/2"	1/2"	STERN-WILLIAMS No. SBC-1500 "CORNARO" SERVICE SINK: MARBLE AND CEMENT, 24"x24"x12", 1" INTEGRAL TILE FLANGE, STAINLESS STEEL CAP, 3" CAULK OUTLET, INTEGRAL BRASS DRAIN WITH S.S. STRAINER. SUPPLY: CHICAGO No. 897-CCP SERVICE SINK FAUCET; C.P., VACUUM BREAKER, INTEGRAL STOPS, INTEGRAL CHECK VALVES, LEVER HANDLES, WALL BRACE, 3/4" HOSE THREAD SPOUT, PAIL HOOK, ESCUTCHEONS, (MOUNT 36" A.F.F.). ACCS.: STERN-WILLIAMS No. T3S; 36" HOSE AND S.S WALL HOOK; NO. T-40 MOP HANGER FOR THREE MOPS; NO. BP S.S. 20 GA. SPLASH SHIELD.
	WATER CLOSET WC1 (TANK TYPE)	4"	2"	4"	1/2"	----	AMERICAN STANDARD 215AA.104 "CADET" FLUSH TANK WATER CLOSET: ADULT TAS COMPLIANT, 17"-19" MAX. TOP OF SEAT, FLOOR MOUNTED, BOTTOM OUTLET, V.C., 1.28 GPF, ELONGATED, WHITE, BOLT CAPS, CLOSET SEAL, MOUNT WITH HANDLE AT WIDE SIDE OF STALL; CHURCH 255SSC SEAT: ELONGATED, PLASTIC, WHITE, OPEN FRONT, SS POSTS, SELF SUSTAINING CHECK HINGE; SUPPLY: C.P. ANGLE SUPPLY WITH STOP, 3/8" FLEX TUBE RISER, ESCUTCHEON.
	WATER CLOSET WC2 (TANK TYPE)	4"	2"	4"	1/2"	----	KOHLER No. K-3519 "HIGHLINE" FLUSH TANK WATER CLOSET: ADULT TAS COMPLIANT, 17" RIM HEIGHT, FLOOR MOUNTED, BOTTOM OUTLET, V.C., PRESSURE ASSIST 1.0 GPF, ELONGATED, WHITE, 2-1/4" TRAPWAY, BOLT CAPS, CLOSET SEAL, MOUNT WITH HANDLE AT WIDE SIDE OF STALL; CHURCH 255SSC SEAT: ELONGATED, PLASTIC, WHITE, OPEN FRONT, SS POSTS, SELF SUSTAINING CHECK HINGE; SUPPLY: C.P. ANGLE SUPPLY WITH STOP, 3/8" FLEX TUBE RISER, ESCUTCHEON.

STATE OF TEXAS
SEAN M. RODRIGUEZ
96478
LICENSED PROFESSIONAL ENGINEER
05/22/2026

NRG ENGINEERING
5656 S. STAPLES, SUITE 360,
CORPUS CHRISTI, TX 78411
P - 361.852.2727 F - 361.852.2922
TEXAS ENGINEERING FIRM NO. 005318

25050

TEXAS PARKS & WILDLIFE

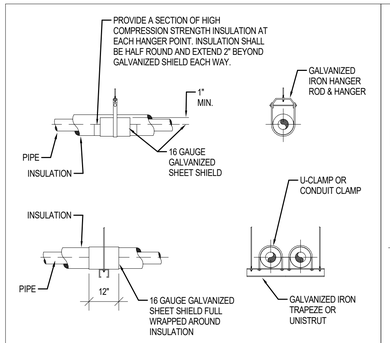
RICHTER ARCHITECTS

Powderhorn Wildlife Management Area
New Conservation Education Center
Project Number: 1210264

DATE: 05/22/2026
DESIGNED BY: KNR
DRAWN BY: KNR
REVIEWED BY: SMR
REVISED:

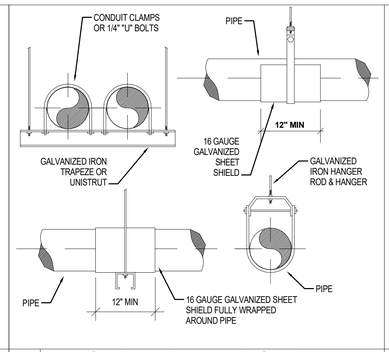
SHEET TITLE
PLUMBING SCHEDULES

SHEET NUMBER
P201



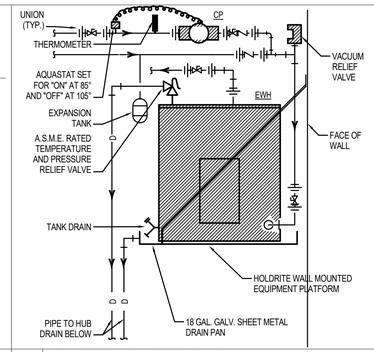
9 PIPE HANGER FOR INSUL. PIPE

NOT TO SCALE PPGP109



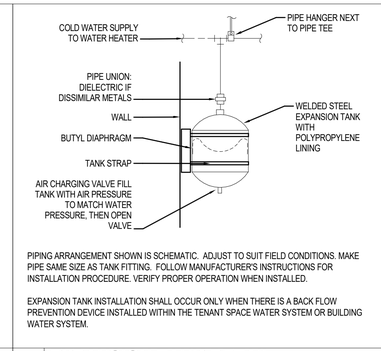
10 UNINSULATED PIPE HANGER

NOT TO SCALE PWHE203



11 WATER HEATER DETAIL

NOT TO SCALE PWHE203

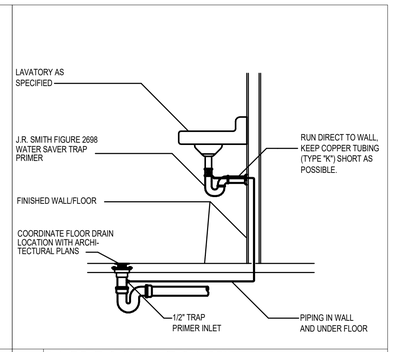


PIPING ARRANGEMENT SHOWN IS SCHEMATIC. ADJUST TO SUIT FIELD CONDITIONS. MAKE PIPE SAME SIZE AS TANK FITTING. FOLLOW MANUFACTURER'S INSTRUCTIONS FOR INSTALLATION PROCEDURE. VERIFY PROPER OPERATION WHEN INSTALLED.

EXPANSION TANK INSTALLATION SHALL OCCUR ONLY WHEN THERE IS A BACK FLOW PREVENTION DEVICE INSTALLED WITHIN THE TENANT SPACE WATER SYSTEM OR BUILDING WATER SYSTEM.

12 EXPANSION TANK DETAIL

NOT TO SCALE



13 TRAP PRIMER DETAIL

NOT TO SCALE PPTP105

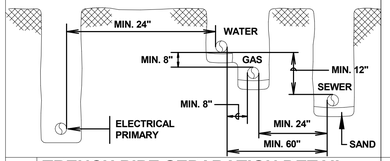
CLEAR TRENCH OF ALL ROCKS AND DEBRIS BEFORE ADDING SAND CUSHION.

COMPACT TRENCH FILL TO 95% PROCTOR DENSITY.

MAINTAIN A MINIMUM OF 60 INCHES UNDISTURBED EARTH BETWEEN PARALLEL WATER AND SEWER LINES OR SUPPORT WATER LINE ON SEPARATE SHELF A MINIMUM OF 12" ABOVE SEWER LINE.

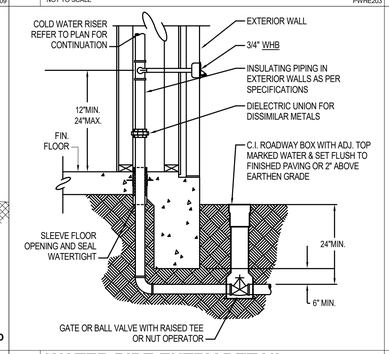
MAINTAIN A MINIMUM OF 24" HORIZONTALLY BETWEEN ELECTRICAL PRIMARY AND SEWER. MAINTAIN A MINIMUM OF 12" VERTICALLY OR 24" HORIZONTALLY BETWEEN ELECTRICAL PRIMARY AND WATER LINES, GAS LINES, TELEPHONE RACEWAYS AND CABLE RACEWAYS.

WHEN OUTSIDE THE BUILDING FOOTPRINT OF THE BUILDING, NO PLUMBING, GAS, SEWER, OR WATER PIPING SHALL BE INSTALLED IN THE SAME DITCH WITH ELECTRICAL LINES UNLESS A SEPARATION OF 36" HORIZONTALLY IS MAINTAINED.



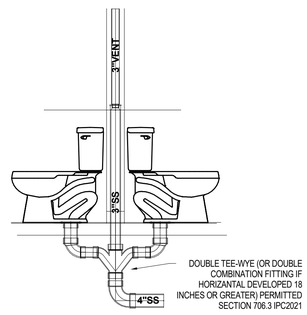
4 TRENCH PIPE SEPARATION DETAIL

NOT TO SCALE PPGP111



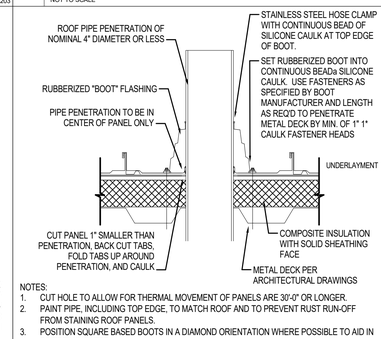
5 WATER PIPE ENTRY DETAIL

NOT TO SCALE PWR103



6 BACK-TO-BACK WATER CLOSETS

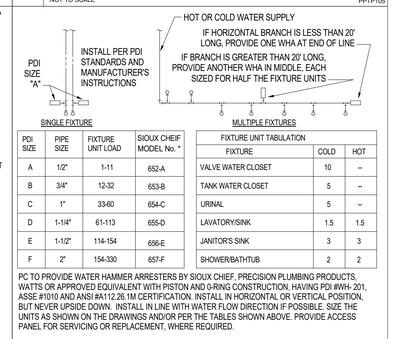
NOT TO SCALE



NOTES:
1. CUT HOLE TO ALLOW FOR THERMAL MOVEMENT OF PANELS ARE 30'-0" OR LONGER.
2. PAINT PIPE, INCLUDING TOP EDGE, TO MATCH ROOF AND TO PREVENT RUST RUN-OFF FROM STAINING ROOF PANELS.
3. POSITION SQUARE BASED BOOTS IN A DIAMOND ORIENTATION WHERE POSSIBLE TO AID IN DIVERTING WATER.

7 METAL ROOF PIPE PENETRATION

NOT TO SCALE



PDI SIZE	PIPE SIZE	FIXTURE UNIT LOAD	SIOUX CHEIF MODEL No. *
A	1/2"	1-11	652-A
B	3/4"	12-32	653-B
C	1"	33-60	654-C
D	1-1/4"	61-113	655-D
E	1-1/2"	114-154	656-E
F	2"	154-330	657-F

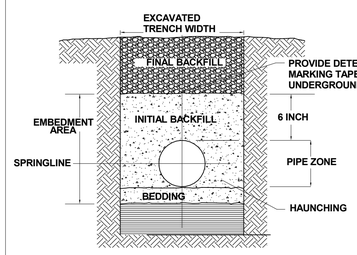
FIXTURE UNIT TABULATION		
FIXTURE	COLD	HOT
VALVE WATER CLOSET	10	--
TANK WATER CLOSET	5	--
URINAL	5	--
LAVATORY/SINK	1.5	1.5
JANITOR'S SINK	3	3
SHOWER/BATHTUB	2	2

PC TO PROVIDE WATER HAMMER ARRESTERS BY SIOUX CHIEF, PRECISION PLUMBING PRODUCTS, WATTS OR APPROVED EQUIVALENT WITH PISTON AND O-RING CONSTRUCTION, HAVING PDI #WH- 201, ASSE #1010 AND ANSI #A112.26.1M CERTIFICATION. INSTALL IN HORIZONTAL OR VERTICAL POSITION, BUT NEVER UPSIDE DOWN. INSTALL IN LINE WITH WATER FLOW DIRECTION IF POSSIBLE. SIZE THE UNITS AS SHOWN ON THE DRAWINGS AND/OR PER THE TABLES SHOWN ABOVE. PROVIDE ACCESS PANEL FOR SERVICING OR REPLACEMENT, WHERE REQUIRED.

8 WATER HAMMER ARRESTOR

NOT TO SCALE PWHE203

UNDERGROUND INSTALLATION OF PLASTIC PIPE



NOTE: IN ADDITION TO THESE STANDARDS, PIPE SHOULD ALWAYS BE INSTALLED IN ACCORDANCE WITH ALL LOCAL CODE REQUIREMENTS. PROVIDE AND INSTALL TRACER WIRE FOR PLASTIC SEWER PIPING AS REQUIRED.

PLASTIC PIPE SHOULD ALWAYS BE BURIED IN STRICT ACCORDANCE WITH THE ASTM STANDARD RELEVANT TO THE TYPE OF PLASTIC PIPING SYSTEM BEING INSTALLED. THOSE STANDARDS ARE:

ASTM D2321 STANDARD PRACTICE FOR UNDERGROUND INSTALLATION OF THERMOPLASTIC PIPE FOR SEWERS AND OTHER GRAVITY-FLOW APPLICATIONS.

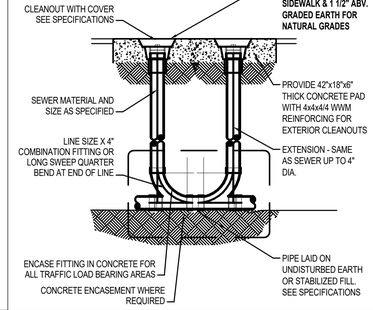
ASTM D2774 STANDARD PRACTICE FOR UNDERGROUND INSTALLATION OF THERMOPLASTIC PRESSURE PIPING.

1. THE MINIMUM WIDTH OF THE TRENCH SHOULD BE THE PIPE OD (OUTSIDE DIAMETER) PLUS 16 INCHES OR THE PIPE OUTSIDE DIAMETER TIMES 1.25 PLUS 12 INCHES. THIS WILL ALLOW ADEQUATE ROOM FOR JOINING THE PIPE, SNAKING THE PIPE IN THE TRENCH TO ALLOW FOR EXPANSION AND CONTRACTION WHERE APPROPRIATE AND SPACE FOR BACKFILLING AND COMPACTION OF BACKFILL. THE SPACE BETWEEN THE PIPE AND TRENCH WALL MUST BE WIDER THAN THE COMPACTION EQUIPMENT USED TO COMPACT THE BACKFILL.
2. PROVIDE A MINIMUM OF 4 INCHES OF FIRM, STABLE AND UNIFORM BEDDING MATERIAL IN THE TRENCH BOTTOM. IF ROCK OR UNYIELDING MATERIAL IS ENCOUNTERED, A MINIMUM OF 6 INCHES OF BEDDING SHALL BE USED. BLOCKING SHOULD NOT BE USED TO CHANGE PIPE GRADE OR TO INTERMITTENTLY SUPPORT PIPE OVER LOW SECTIONS IN THE TRENCH.
3. PIPE SHOULD BE SURROUNDED WITH AGGREGATE MATERIAL WHICH CAN BE EASILY WORKED AROUND THE SIDES OF THE PIPE. BACKFILLING TO BE PERFORMED IN LAYERS OF 6 INCHES WITH EACH LAYER BEING SUFFICIENTLY COMPACTED TO 85% TO 95% COMPACTION.
4. A MECHANICAL TAMPER IS RECOMMENDED FOR COMPACTING SAND AND GRAVEL. THESE MATERIALS CONTAIN FINE-GRAINS, SUCH AS SILT AND CLAY. IF A TAMPER IS NOT AVAILABLE, COMPACTING SHOULD BE DONE BY HAND.
5. THE TRENCH SHOULD BE COMPLETELY FILLED. THE BACKFILL SHOULD BE PLACED AND SPREAD IN UNIFORM LAYERS TO PREVENT ANY UNFILLED SPACES OR VOIDS. LARGE ROCKS, STONES, FROZEN CLODS, OR OTHER LARGE DEBRIS SHOULD BE REMOVED. STONE BACKFILL SHALL PASS THROUGH AN 1-1/2" SIEVE. ROCK SIZE SHOULD BE ABOUT ONE-TENTH OF THE PIPE OUTSIDE DIAMETER. HEAVY TAMPERS OR ROLLING EQUIPMENT SHOULD ONLY BE USED TO CONSOLIDATE THE FINAL BACKFILL.
6. TO PREVENT DAMAGE TO THE PIPE AND DISTURBANCE TO PIPE EMBEDMENT, A MINIMUM DEPTH OF BACKFILL ABOVE THE PIPE SHOULD BE MAINTAINED. PIPE SHOULD ALWAYS BE INSTALLED BELOW THE FROST LEVEL. TYPICALLY, IT IS NOT ADVISABLE TO ALLOW VEHICULAR TRAFFIC OR HEAVY CONSTRUCTION EQUIPMENT TO TRAVERSE THE PIPE TRENCH.

1 UNDERGROUND INSTALLATION DETAIL OF PLASTIC PIPING SYSTEMS

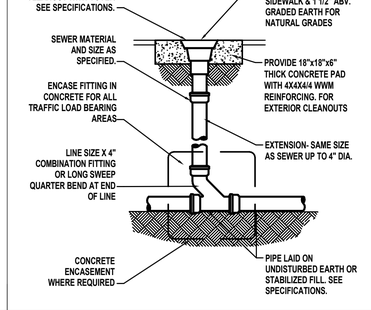
NOT TO SCALE

UNDERGROUND INSTALLATION



2 TWO-WAY CLEANOUT DETAIL

NOT TO SCALE PPWV100



3 CLEANOUT DETAIL

NOT TO SCALE PPWV100

TEXAS PARKS & WILDLIFE

RICHTER ARCHITECTS

Powderhorn Wildlife Management Area
New Conservation Education Center
Project Number: 1210264

DATE: 05/22/2026
DESIGNED BY: KNR
DRAWN BY: KNR
REVIEWED BY: SMR
REVISED:

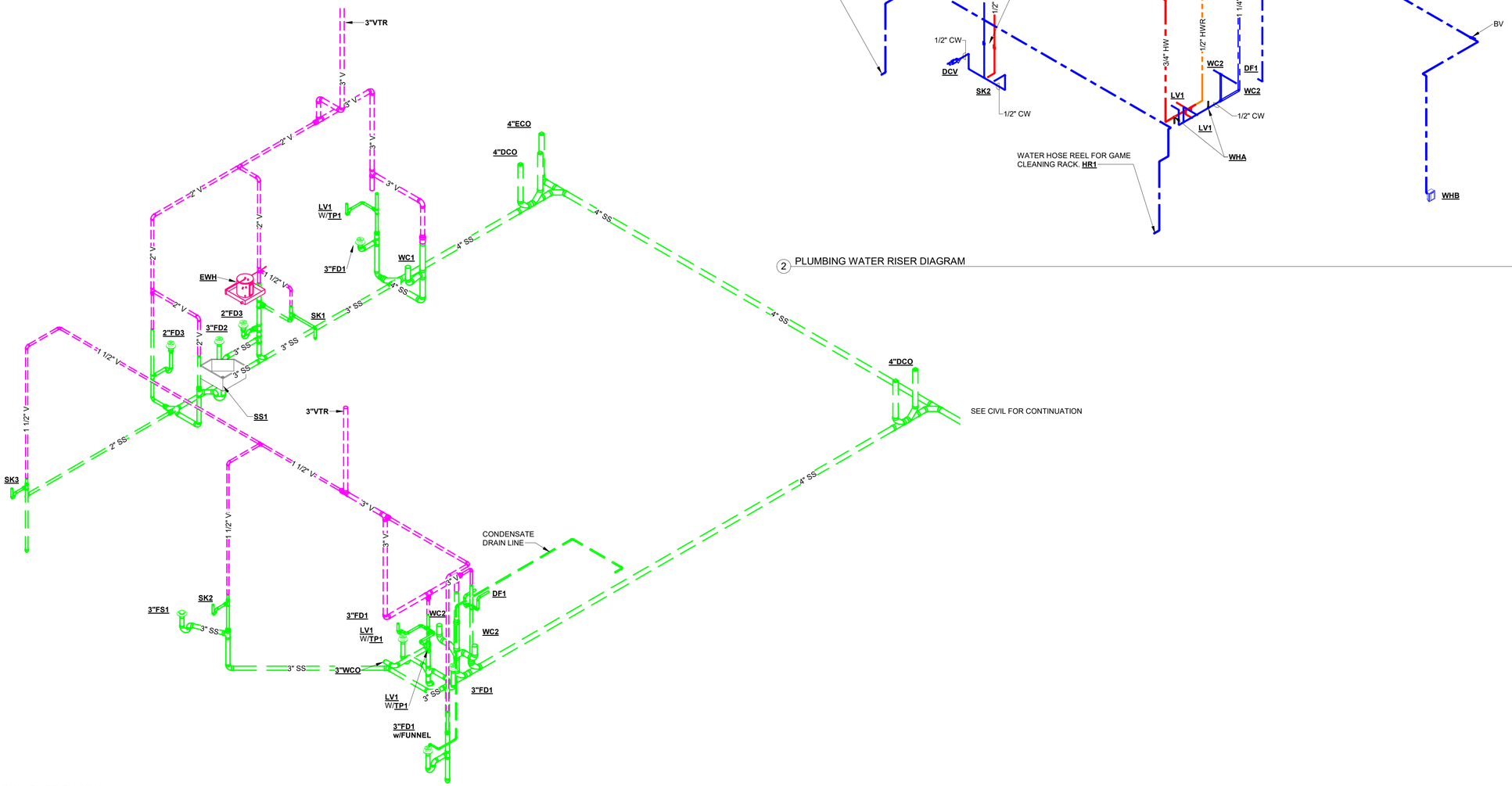
SHEET TITLE
PLUMBING DETAILS

SHEET NUMBER
P301

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25050



1 PLUMBING DWV RISER DIAGRAM

2 PLUMBING WATER RISER DIAGRAM

TEXAS PARKS & WILDLIFE

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SHEET TITLE
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SHEET NUMBER
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