

**ACKNOWLEDGEMENT OF RECEIPT OF NOTICE OF MEETING
OF THE MAYOR AND CITY COUNCIL OF
THE CITY OF DAVID CITY, NEBRASKA**

The undersigned members of the governing body of the City of David City, Nebraska, hereby acknowledge receipt of advance notice of a regular meeting of said body and the agenda for such meeting to be held at 7:00 o'clock p.m. on the **25th day of February**, in the **meeting room of the City Office, 490 "E" Street, David City, Nebraska**. The Mayor and City Council reserve the right to enter into a closed session at any time during the meeting, in accordance with the Nebraska Open Meetings Act, even though the closed session may not be stated on the agenda.

This agenda for public inspection is available on our website at www.davidcityne.com and may be modified up to twenty-four hours prior to the opening of the meeting.

Dated this .

AGENDA AS FOLLOWS:

1. Roll Call;
2. Pledge of Allegiance;
3. Inform the Public about the location of the Open Meetings Act and the Citizens Participation Rules;
4. Minutes of the February 11, 2026, meeting of the Mayor and City Council;
5. Discussion of snow removal and parking in the Downtown Area and Streets;
6. Discuss/Consider bids for a new Backhoe with trade-in of the used Case 580SN Backhoe;
7. Consider Pay Application No. 31 (Final) for Velocity Contractors, Inc, in the amount of \$50,000.00 for the Water Treatment Plant Upgrades;
8. Review and approval of the Plans, Specifications and Contract documents for the David City Ballfield Restroom Addition project and authorization to advertise for bids*;
9. Discuss/Consider joining The Interlocal Purchasing System (TIPS);
10. Discuss/Consider allowing the Mayor to sign Special Condition documents pertaining to the Awarded CDBG Grant;
11. Discuss/Consider salary for City Administrator Raiko Martinez;
12. Consider closed session for personnel, contracts, or pending litigation (as necessary);
13. Adjourn;

Mayor Jessica J. Miller

Council President Bruce L. Meysenburg

Council Member Jeremy W. Abel

Council Member James L. Angell

Council Member Rick L. Holland

Council Member Kevin E. Woita

Council Member Keith A. Marvin

City Clerk – Treasurer Lori M. Matchett

CITY COUNCIL PROCEEDINGS
February 11, 2026

The City Council of the City of David City, Nebraska, met in open public session at 7:00 p.m. in the meeting room of the City Office, 490 E Street, David City, Nebraska. The Public had been advised of the meeting by posting in four places (City Office, US Post Office, Butler County Courthouse and Hruska Public Library). The Mayor and members of the City Council acknowledged advance notice of the meeting by signing the Agenda, which is a part of these minutes. The advance notice to the Public, Mayor, and Council members conveyed the availability of the agenda, which was kept continuously current in the office of the City Clerk and was available for public inspection on the City's website. No new items were added to the agenda during the twenty-four hours immediately prior to the opening of the Council meeting.

Present for the meeting were: Mayor Jessica Miller, Council President Bruce Meysenburg, Council Members Rick Holland, Keith Marvin, Jim Angell, Kevin Woita, Jerry Abel, City Administrator Alan Zavodny, City Administrator Intern Raiko Martinez, and City Clerk-Treasurer Lori Matchett. City Attorney David Levy attended via Zoom.

Also present for the meeting were: Electric Supervisor Patrick Hoeft, Account Clerk Rachel Kahnk, Matt Kalin from JEO Consulting Group, and Marlene Hein. Ethan Joy of JEO Consulting Group attended via Zoom.

The meeting opened with the Pledge of Allegiance.

Council Member Jim Angell made a motion to approve the minutes of the January 28, 2026, meeting of the Mayor and City Council as presented. Council Member Kevin Woita seconded the motion. The motion carried. Jeremy Abel: Yea, Jim Angell: Yea, Rick Holland: Yea, Keith Marvin: Yea, Bruce Meysenburg: Yea, Kevin Woita: Yea. Yea: 6, Nay: 0.

Council Member Rick Holland made a motion to approve the claims as presented. Council Member Bruce Meysenburg seconded the motion. The motion carried. Jeremy Abel: Yea, Jim Angell: Yea, Rick Holland: Yea, Keith Marvin: Yea, Bruce Meysenburg: Yea, Kevin Woita: Yea. Yea: 6, Nay: 0.

Council Member Bruce Meysenburg gave an update on the Butler County Development Board, Economic Director, and the Michael Foods building sale.

Mayor Jessica Miller provided an update on the Community for Kids.

Council Member Bruce Meysenburg made a motion to accept the committee and officer reports/ Butler County Development Board updates as presented. Council Member Jeremy Abel seconded the motion. The motion carried. Jeremy Abel: Yea, Jim Angell: Yea, Rick Holland: Yea, Keith Marvin: Yea, Bruce Meysenburg: Yea, Kevin Woita: Yea. Yea: 6, Nay: 0.

Ethan Joy of JEO Consulting Group introduced himself and summarized the status of the work completed by BRB Contractors, Inc. on Pay Application No. 23. JEO Consulting Group recommends approval of Pay Application No. 23 to BRB Contractors, Inc.

Council Member Kevin Woita made a motion to approve Pay Application No. 23 for BRB Contractors, Inc. in the amount of \$352,017.18 for the Wastewater Treatment Plant Improvement Project. Council Member Rick Holland seconded the motion. The motion carried. Jeremy Abel: Yea, Jim Angell: Yea, Rick Holland: Yea, Keith Marvin: Yea, Bruce Meysenburg: Yea, Kevin Woita: Yea. Yea: 6, Nay: 0.

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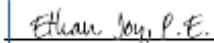
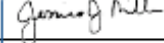
Contractor's Application for Payment

Owner: <u>City of David City</u>	Owner's Project No.: _____
Engineer: <u>JEO Consulting Group, Inc.</u>	Engineer's Project No.: <u>251034.00</u>
Contractor: <u>BRB Contractors, Inc.</u>	Contractor's Project No.: <u>NE3DAV</u>
Project: <u>David City Wastewater Treatment Facility Improvements</u>	
Contract: <u>David City Wastewater Treatment Facility Improvements</u>	
Application No.: <u>23</u>	Application Date: <u>1/27/2026</u>
Application Period: From <u>12/24/2025</u>	to <u>1/27/2026</u>

1. Original Contract Price	\$ 16,882,000.00
2. Net change by Change Orders	\$ 1,294,391.59
3. Current Contract Price (Line 1 + Line 2)	\$ 18,176,391.59
4. Total Work completed and materials stored to date (Sum of Column G Lump Sum Total and Column J Unit Price Total)	\$ 16,239,820.32
5. Retainage	
a. <u>5%</u> X \$ <u>14,967,486.03</u> Work Completed =	\$ 748,374.30
b. <u>5%</u> X \$ <u>1,272,334.29</u> Stored Materials =	\$ 63,616.71
c. Total Retainage (Line 5.a + Line 5.b)	\$ 811,991.01
6. Amount eligible to date (Line 4 - Line 5.c)	\$ 15,427,829.31
7. Less previous payments (Line 6 from prior application)	\$ 15,075,812.13
8. Amount due this application	\$ 352,017.18
9. Balance to finish, including retainage (Line 3 - Line 4 + Line 5.c)	\$ 2,748,562.28

Contractor's Certification
 The undersigned Contractor certifies, to the best of its knowledge, the following:
 (1) All previous progress payments received from Owner on account of Work done under the Contract have been applied on account to discharge Contractor's legitimate obligations incurred in connection with the Work covered by prior Applications for Payment;
 (2) Title to all Work, materials and equipment incorporated in said Work, or otherwise listed in or covered by this Application for Payment, will pass to Owner at time of payment free and clear of all liens, security interests, and encumbrances (except such as are covered by a bond acceptable to Owner indemnifying Owner against any such liens, security interest, or encumbrances); and
 (3) All the Work covered by this Application for Payment is in accordance with the Contract Documents and is not defective.

Contractor: BRB Contractors, Inc.
 Signature:  Date: 1/29/2026

<p>Recommended by Engineer By: <u></u> Title: <u>Project Manager</u> Date: <u>1/29/2026</u></p> <p>Approved by Funding Agency By: <u>N/A</u> Title: _____ Date: _____</p>	<p>Approved by Owner By: <u></u> Title: <u>Mayor</u> Date: <u>2/14/2026</u></p> <p>Approved by Funding Agency By: <u>N/A</u> Title: _____ Date: _____</p>
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Progress Estimate - Lump Sum Work Contractor's Application for Payment

Owner: City of David City JEO Consulting Group, Inc. Contractor: BRB Contractors, Inc. Project: David City Wastewater Treatment Facility Improvements Contract: David City Wastewater Treatment Facility Improvements	Owner's Project No.: 251034.00 Engineer's Project No.: NE3DAV Contractor's Project No.:
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Item No.	Description	Application Period:		C	12/24/25		E	01/27/26		Application Date:	
		From	To		Scheduled Value (\$)	D		F	G		H
					(D + E) From Previous Application (\$)	Work Completed This Period (\$)		Currently Stored (not in D or E) (\$)	Work Completed and Materials Stored to Date (D + E + F) (\$)	% of Scheduled Value (G / C) (%)	Balance to Finish (C - G) (\$)
GENERAL SITEWORK											
1	Mobilize	\$ 750,000.00			750,000.00				750,000.00	100%	-
2	Bonds and Insurance	\$ 180,000.00			180,000.00				180,000.00	100%	-
3	SWPP Items	\$ 25,000.00			23,500.00				23,500.00	94%	1,500.00
4	Site Clearing	\$ 30,000.00			30,000.00				30,000.00	100%	-
5	12" & 16" Forcemain Piping	\$ 300,000.00			292,557.08	5,000.00			297,557.08	99%	2,442.92
6	Other Piping/Valves	\$ 1,395,000.00			1,158,000.00	20,000.00			1,294,939.83	93%	100,060.17
7	Precast Manholes	\$ 65,000.00			60,000.00				60,000.00	92%	5,000.00
8	Instrumentation & Control	\$ 50,000.00			15,000.00			15,096.14	30,096.14	60%	19,903.86
9	Electrical/Generator Work	\$ 125,000.00			112,500.00				112,500.00	90%	12,500.00
HEADWORKS BUILDING											
10	Excavation & Backfill	\$ 150,000.00			125,000.00				125,000.00	83%	25,000.00
11	Concrete Base Structure	\$ 500,000.00			500,000.00				500,000.00	100%	-
12	Concrete Walls Structure	\$ 1,207,000.00			1,207,000.00				1,207,000.00	100%	-
13	Concrete Floor/Deck Structure	\$ 350,000.00			350,000.00				350,000.00	100%	-
14	Misc. Metals Furnish/Install	\$ 50,000.00			50,000.00				50,000.00	100%	-
15	Masonry Above Structure	\$ 225,000.00			225,000.00				225,000.00	100%	-
16	Doors & Windows Furnish/Install	\$ 65,000.00			65,000.00				65,000.00	100%	-
17	Roof Trusses Furnish/Install	\$ 45,000.00			45,000.00				45,000.00	100%	-
18	Standing Seam Roof & Specialties	\$ 100,000.00			80,000.00				80,000.00	80%	20,000.00
19	Slide Gates Furnish/Install	\$ 100,000.00			100,000.00				100,000.00	100%	-
20	Bar Screen Furnish/Install	\$ 200,000.00			185,000.00				185,000.00	93%	15,000.00
21	Grit Equipment, Valves, Flumes Furnish/Install	\$ 1,300,000.00			1,040,000.00	175,000.00			1,215,000.00	93%	85,000.00
22	Parshall Flume	\$ 10,000.00			10,000.00				10,000.00	100%	-
23	Indoor Sampler	\$ 20,000.00			-				-	0%	20,000.00
24	Painting Structure	\$ 40,000.00			35,000.00	5,000.00			40,000.00	100%	-
25	Instrumentation & Control Work	\$ 950,000.00			713,253.00			76,175.90	789,428.90	83%	160,571.10
26	Mechanical Work (both buildings)	\$ 270,000.00			45,000.00	75,000.00		16,920.00	136,920.00	51%	133,080.00
27	Electrical Work	\$ 700,000.00			564,500.00	20,000.00		32,074.87	616,574.87	88%	83,425.13
AGP FLUME NO. 20											
28	Excavation & Backfill	\$ 15,000.00			13,000.00				13,000.00	87%	2,000.00
29	Concrete Base	\$ 20,000.00			20,000.00				20,000.00	100%	-
30	Concrete Walls	\$ 42,000.00			42,000.00				42,000.00	100%	-
31	Misc. Metals Furnish/Install	\$ 10,000.00			8,500.00				8,500.00	85%	1,500.00
32	Equipment Flume Install	\$ 15,000.00			15,000.00				15,000.00	100%	-
INFLUENT PUMP STATION											
33	Excavation & Backfill	\$ 160,000.00			155,000.00				155,000.00	97%	5,000.00

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Progress Estimate - Lump Sum Work

Owner:	City of David City	Owner's Project No.:	251034.00
Engineer:	JEO Consulting Group, Inc.	Engineer's Project No.:	NE3DAV
Contractor:	BRB Contractors, Inc.	Contractor's Project No.:	
Project:	David City Wastewater Treatment Facility Improvements		
Contract:	David City Wastewater Treatment Facility Improvements		

Application No.:	23	Application Period:		From		12/24/25		to		01/27/26		Application Date:		01/27/26	
		A	B	C	D	E	F	G	H	I					
Item No.	Description	Scheduled Value (\$)	Work Completed (D + E) From Previous Application (\$)	This Period (\$)	Currently Stored (not in D or E) (\$)	Work Completed and Materials Stored to Date (D + E + F) (\$)	% of Scheduled Value (G / C) (%)	Balance to Finish (C - G) (\$)							
34	Concrete Base	\$ 50,000.00	\$ 50,000.00	-	-	50,000.00	100%	-							
35	Concrete Walls	\$ 327,000.00	\$ 327,000.00	-	-	327,000.00	100%	-							
36	Concrete Roof	\$ 100,000.00	\$ 100,000.00	-	-	100,000.00	100%	-							
37	Misc. Metals Furnish/Install	\$ 50,000.00	\$ 50,000.00	-	-	50,000.00	100%	-							
38	Furnish & Install Pumps	\$ 525,000.00	\$ 498,750.00	-	-	498,750.00	95%	26,250.00							
39	Furnish & Install Jib Crane & Foundation	\$ 50,000.00	-	-	34,860.00	34,860.00	70%	15,140.00							
40	Painting Work	\$ 35,000.00	\$ 35,000.00	-	-	35,000.00	100%	-							
41	Electrical Work	\$ 50,000.00	-	5,000.00	-	30,000.00	60%	20,000.00							
NEW SBR STRUCTURE															
42	Excavation & Backfill	\$ 350,000.00	\$ 335,000.00	-	-	335,000.00	96%	15,000.00							
43	SBR Concrete Base Sections	\$ 520,000.00	\$ 520,000.00	-	-	520,000.00	100%	-							
44	SBR Concrete Wall Sections	\$ 1,261,000.00	\$ 1,261,000.00	-	-	1,261,000.00	100%	-							
45	SBR Basin Equipment Aeration	\$ 1,000,000.00	\$ 977,000.00	-	-	977,000.00	98%	23,000.00							
46	SBR Basin Equipment Pumps	\$ 50,000.00	\$ 48,000.00	-	-	48,000.00	96%	2,000.00							
47	Misc. Metals Furnish/Install	\$ 40,000.00	\$ 22,000.00	-	12,568.95	34,568.95	86%	5,431.05							
48	Painting Work	\$ 15,000.00	\$ 15,000.00	-	-	15,000.00	100%	-							
49	Electrical Work	\$ 50,000.00	\$ 42,295.00	7,705.00	-	50,000.00	100%	-							
BLOWER BUILDING MODIFICATIONS															
50	Concrete Floor/Wall Demolition	\$ 15,000.00	\$ 15,000.00	-	-	15,000.00	100%	-							
51	Excavation & Backfill	\$ 15,000.00	\$ 15,000.00	-	-	15,000.00	100%	-							
52	New Concrete Floor and Blower Bases	\$ 35,000.00	\$ 32,000.00	-	-	32,000.00	91%	3,000.00							
53	New Masonry Wall/Misc. Infill	\$ 7,500.00	\$ 7,500.00	-	-	7,500.00	100%	-							
54	Furnish & Install Doors	\$ 7,500.00	\$ 7,500.00	-	-	7,500.00	100%	-							
55	Furnish & Install New/Existing SBR Blowers	\$ 400,000.00	\$ 400,000.00	-	-	400,000.00	100%	-							
56	Painting Work	\$ 20,000.00	\$ 20,000.00	-	-	20,000.00	100%	-							
57	Instrumentation & Control Work	\$ 150,000.00	\$ 141,000.00	-	-	141,000.00	94%	9,000.00							
58	Electrical Work	\$ 100,000.00	\$ 96,625.00	2,375.00	-	99,000.00	99%	1,000.00							
EXISTING SBR BASIN MODIFICATIONS															
59	Remove Existing Equipment & Piping	\$ 50,000.00	-	-	-	-	0%	50,000.00							
60	Existing SBR Basin Equipment Aeration	\$ 1,000,000.00	\$ 5,000.00	-	882,316.62	887,316.62	89%	112,683.38							
61	Existing SBR Basin Equipment Pumps	\$ 50,000.00	-	-	29,535.50	29,535.50	59%	20,464.50							
62	Misc. Metals Furnish/Install	\$ 40,000.00	-	-	31,650.00	31,650.00	79%	8,350.00							
63	Construct New SBR Splitter Box	\$ 174,000.00	\$ 174,000.00	-	-	174,000.00	100%	-							
64	Painting Work	\$ 20,000.00	-	-	-	-	0%	20,000.00							
65	Electrical Work	\$ 50,000.00	\$ 5,000.00	-	-	5,000.00	10%	45,000.00							
STORAGE BUILDING															
66	Excavation & Backfill	\$ 35,000.00	\$ 35,000.00	-	-	35,000.00	100%	-							
67	Building Drainage Piping & Oil Separator	\$ 40,000.00	\$ 40,000.00	-	-	40,000.00	100%	-							

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Progress Estimate - Lump Sum Work										Contractor's Application for Payment	
Owner: City of David City Engineer: JEO Consulting Group, Inc. Contractor: BRB Contractors, Inc. Project: David City Wastewater Treatment Facility Improvements Contract: David City Wastewater Treatment Facility Improvements										Owner's Project No.: 251034.00 Engineer's Project No.: NE30AV Contractor's Project No.:	
Application No.: 23		Application Period: 12/24/25		From		to		01/27/26		Application Date: 01/27/26	
A	B	C	D	E	F	G	H	I			
Item No.	Description	Scheduled Value (\$)	(D + E) From Previous Application (\$)	Work Completed This Period (\$)	Currently Stored (not in D or E) (\$)	Work Completed and Materials Stored to Date (D + E + F) (\$)	% of Scheduled Value (G / C) (%)	Balance to Finish (C - G) (\$)			
68	Concrete Foundations	\$ 40,000.00	40,000.00			40,000.00	100%	-			
69	Concrete Floor	\$ 56,000.00	56,000.00			56,000.00	100%	-			
70	New Building Walls and Roof	\$ 270,000.00	239,259.00	18,000.00		257,259.00	95%	12,741.00			
71	Doors & Windows	\$ 40,000.00	40,000.00			40,000.00	100%	-			
72	Painting Work	\$ 30,000.00	-			-	0%	30,000.00			
73	Electrical Work	\$ 75,000.00	12,000.00	10,000.00		32,000.00	43%	43,000.00			
DEMO EXISTING HEADWORKS BUILDING											
74	Demolition of Existing Building Complete	\$ 30,000.00	-			-	0%	30,000.00			
CLOSEOUT											
75	Site Grading	\$ 25,000.00	-			-	0%	25,000.00			
76	SBR/Storage Building Sidewalks	\$ 25,000.00	-			-	0%	25,000.00			
77	Concrete Paving	\$ 20,000.00	-			-	0%	20,000.00			
78	Seeding & Mulch	\$ 15,000.00	-			-	0%	15,000.00			
79	Crushed Rock Surfacing Roads	\$ 80,000.00	-			-	0%	80,000.00			
80	Fence & Gate System	\$ 30,000.00	-			-	0%	30,000.00			
		Original Contract Totals	\$ 16,882,000.00	\$ 13,901,739.08	\$ 343,080.00	\$ 1,258,137.81	92%	\$ 1,379,043.11			

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Stored Materials Summary													Contractor's Application for Payment			
Owner: City of David City													Owner's Project No.: 251094.00			
Engineer: JEO Consulting Group, Inc.													Engineer's Project No.: NERDAV			
Contractor: BRB Contractors, Inc.													Contractor's Project No.:			
Project: David City Wastewater Treatment Facility Improvements																
Contract: David City Wastewater Treatment Facility Improvements																
Application No.: 23													Application Date: 01/27/26			
Application Period: From 12/24/25 to 01/27/26																
A	B	C	D	E	F	G	H	I	J	K	L	M				
Item No. (Lump Sum Tab) or Bid Item No. (Unit Price Tab)	Supplier Invoice No.	Submittal No. (with Specification Section No.)	Description of Materials or Equipment Stored	Storage Location	Application No. When Materials Placed in Storage	Previous Amount Stored (\$)	Materials Stored Amount Stored this Period (\$)	Amount Stored to Date (G + H) (\$)	Amount Previously Incorporated in the Work (\$)	Amount Previously Incorporated in the Work this Period (\$)	Total Amount Incorporated in the Work (J + K) (\$)	Materials Remaining in Storage (L - I) (\$)				
105795-1	5002617578		Aqua Aerobics - Down Payment			261,353.50		261,353.50			261,353.50	-				
	5002617578		Rebar			19,091.30		19,091.30			19,091.30	-				
	5002615955		Rebar			28,359.32		28,359.32			28,359.32	-				
	5002614792		Rebar			26,753.09		26,753.09			26,753.09	-				
	5002614702		Rebar			29,743.20		29,743.20			29,743.20	-				
	5002614701		Rebar			29,743.20		29,743.20			29,743.20	-				
	50026114832		Rebar			29,743.20		29,743.20			29,743.20	-				
	50026127187		Rebar			22,298.72		22,298.72			22,298.72	-				
	5002630876		Rebar			30,145.37		30,145.37			30,145.37	-				
	0755219-1		Polywrap			1,964.40		1,964.40			1,964.40	-				
	755226		Polywrap			420.00		420.00			420.00	-				
	755219		Polywrap			3,170.72		3,170.72			3,170.72	-				
	27693		HME Shop Drawings			6,675.00		6,675.00			6,675.00	-				
	50026415841		Rebar			17,736.06		17,736.06			17,736.06	-				
	50026367561		Rebar			26,960.24		26,960.24			26,960.24	-				
	50026337283		Rebar			26,014.37		26,014.37			26,014.37	-				
	50026192138		Rebar			18,469.82		18,469.82			18,469.82	-				
	94020		588 Wall Valves			76,643.95		76,643.95			76,643.95	-				
	755902		Ductile Iron Pipe			18,451.18		18,451.18			18,451.18	-				
	755171		Project Manager			15,132.60		15,132.60			15,132.60	-				
	50026489471		Rebar			650.00		650.00			650.00	-				
	50026598911		Rebar			5,675.00		5,675.00			5,675.00	-				
	50026804462		Rebar			2,179.06		2,179.06			2,179.06	-				
			Concrete Expansion Joints			5,892.80		5,892.80			5,892.80	-				
			Aqua Aerobics - Second Payment			522,707.00		522,707.00			522,707.00	-				
	105795-2		Ductile Iron Pipe and Accessories			1,975.74		1,975.74			1,975.74	-				
	0756281-2		Ductile Iron Pipe and Accessories			10,440.99		10,440.99			10,440.99	-				
	0756281-1		Ductile Iron Pipe and Accessories			83,203.12		83,203.12			83,203.12	-				
	757833		24" PVC Pipe			21,275.08		21,275.08			21,275.08	-				
	0755902-1		Ductile Iron Pipe and Accessories			622.71		622.71			622.71	-				
	757699		Ductile Iron Pipe and Accessories			22,446.17		22,446.17			22,446.17	-				
	755893		Ductile Iron Pipe and Accessories			5,056.44		5,056.44			5,056.44	-				
	756281		Butterfly Valves and Accessories			128,612.31		128,612.31			128,612.31	-				
	94511		Air Release Valves			7,803.31		7,803.31			7,803.31	-				
	94275		HME Shop Drawings			20,025.00		20,025.00			20,025.00	-				
	27920		Hatches and Crane Equipment			30,750.00		30,750.00			30,750.00	-				
	0174120-IN		Ductile Iron Pipe and Accessories			3,181.29		3,181.29			3,181.29	-				
	0756281-3		Electrical Stored Materials			36,633.43		36,633.43			36,633.43	-				
	2022-113		Ductile Iron Forcemain Pipe			184,557.08		184,557.08			184,557.08	-				
	758894		Valves			116,428.37		116,428.37			116,428.37	-				
	94711		Ductile Iron Pipe			27,202.03		27,202.03			27,202.03	-				
	0755902-2		Rebar			2,573.96		2,573.96			2,573.96	-				
	50027906312		Rebar			14,510.75		14,510.75			14,510.75	-				
	50027701696		Rebar			20,282.00		20,282.00			20,282.00	-				
	50027633543		Rebar			10,622.32		10,622.32			10,622.32	-				
	50027614897		Gases/Valves/Flumes			135,104.63		135,104.63			135,104.63	-				
	94913		Ductile Iron Pipe			89,965.26		89,965.26			89,965.26	-				
	0759895-2		Ductile Iron Pipe			48,516.80		48,516.80			48,516.80	-				
	0759895-1		Ductile Iron Pipe			30,341.68		30,341.68			30,341.68	-				
	760997		Ductile Iron Pipe									-				

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Contractor's Application for Payment

Stored Materials Summary

Owner: City of David City
 Engineer: JED Consulting Group, Inc.
 Contractor: BBB Contractors, Inc.
 Project: David City Wastewater Treatment Facility Improvements
 Contract: David City Wastewater Treatment Facility Improvements

Owner's Project No.: 251034.00
 Contractor's Project No.: NESDAV

Application No.: 23		Application Period: From 12/24/25 to 01/27/26										Application Date: 01/27/26	
A	B	C	D	E	F	G	H	I	J	K	L	M	
Item No. (Lump Sum Tab) or Bid Item No. (Unit Price Tab)	Supplier Invoice No.	Submittal No. (with Specification Section No.)	Description of Materials or Equipment Stored	Storage Location	Application No. When Materials Placed in Storage	Previous Amount Stored (\$)	Materials Stored this Period (\$)	Amount Stored to Date (G + H) (\$)	Amount Previously Incorporated in the Work (\$)	Amount Incorporated in the Work this Period (\$)	Total Amount Incorporated in the Work (J + K) (\$)	Materials Remaining in Storage (I - L) (\$)	
	0757692-1		Ductile Iron Pipe			6,545.67		6,545.67	6,545.67		6,545.67	-	
	757692		Ductile Iron Pipe			34,436.37		34,436.37	34,436.37		34,436.37	-	
	8653766-01		Electrical Stored Materials			1,893.10		1,893.10	1,893.10		1,893.10	-	
	8653766-00		Electrical Stored Materials			1,344.01		1,344.01	1,344.01		1,344.01	-	
	8653424-00		Electrical Stored Materials			1,029.30		1,029.30	1,029.30		1,029.30	-	
	8651100-00		Electrical Stored Materials			249.97		249.97	249.97		249.97	-	
	8602508-01		Electrical Stored Materials			5,846.58		5,846.58	5,846.58		5,846.58	-	
	8602508-02		Electrical Stored Materials			18,107.44		18,107.44	18,107.44		18,107.44	-	
	8634948-00		Electrical Stored Materials			10.92		10.92	10.92		10.92	-	
	2022-119		Valves			5,915.24		5,915.24	5,915.24		5,915.24	-	
	95314		Valves			35,962.26		35,962.26	35,962.26		35,962.26	-	
	95198		Valves			5,507.18		5,507.18	5,507.18		5,507.18	-	
	95194		Valves			64,227.99		64,227.99	64,227.99		64,227.99	-	
	0760997-1		Embedded Wall Pipe			10,490.00		10,490.00	10,490.00		10,490.00	-	
	761001		Embedded Wall Pipe			10,763.56		10,763.56	10,763.56		10,763.56	-	
	7598837		Ductile Iron Fittings			14,654.75		14,654.75	14,654.75		14,654.75	-	
	0760997-2		Ductile Iron Pipe			18,733.52		18,733.52	18,733.52		18,733.52	-	
	50020222134		Headworks Area Rebar			17,661.05		17,661.05	17,661.05		17,661.05	-	
	50020559050		Generator Pad Rebar			5,316.85		5,316.85	5,316.85		5,316.85	-	
	95460		Valves			9,113.55		9,113.55	9,113.55		9,113.55	-	
	765559		Ductile Iron Pipe			11,022.47		11,022.47	11,022.47		11,022.47	-	
	765117		Ductile Iron Pipe			95,948.26		95,948.26	95,948.26		95,948.26	-	
	764636		Ductile Iron Pipe			22,291.21		22,291.21	22,291.21		22,291.21	-	
	764277		Ductile Iron Pipe			2,800.00		2,800.00	2,800.00		2,800.00	-	
	0764836-1		Ductile Iron Pipe			9,449.42		9,449.42	9,449.42		9,449.42	-	
	764646		Ductile Iron Pipe			21,007.67		21,007.67	21,007.67		21,007.67	-	
	0765117-2		Ductile Iron Pipe			21,792.38		21,792.38	21,792.38		21,792.38	-	
	8653766-01		Electrical Stored Materials			6,180.00		6,180.00	6,180.00		6,180.00	-	
	8635424-02		Electrical Stored Materials			9,419.62		9,419.62	9,419.62		9,419.62	-	
	8635424-03		Electrical Stored Materials			5,327.55		5,327.55	5,327.55		5,327.55	-	
	8658232-00		Electrical Stored Materials			30,413.00		30,413.00	15,000.00	5,413.00	20,413.00	-	
	8653424-04		Electrical Stored Materials			4,119.52		4,119.52	4,119.52		4,119.52	-	
	8666003-00		Electrical Stored Materials			8,910.00		8,910.00	8,910.00		8,910.00	-	
	8602508-08		Electrical Stored Materials			5,317.25		5,317.25	5,317.25		5,317.25	-	
	8658232-02		Electrical Stored Materials			31,315.00		31,315.00	31,315.00		31,315.00	-	
	8658232-01		Electrical Stored Materials			32,956.00		32,956.00	-	32,956.00	32,956.00	-	
	NEC00256197		Electrical Stored Materials			301.18		301.18	-	301.18	301.18	-	
	79795		Electrical Stored Materials			270.00		270.00	-	-	270.00	-	
	12251		HQA Progress Billing			227,864.60		227,864.60	-	-	227,864.60	-	
	27665		Submersible Pumps			432,500.00		432,500.00	432,500.00		432,500.00	-	
	0140897-01		Hoist			19,110.00		19,110.00	19,110.00		19,110.00	-	
	0765117-6		Pipe and Fittings			9,402.29		9,402.29	9,402.29		9,402.29	-	
	0765117-5		Pipe and Fittings			39,726.61		39,726.61	39,726.61		39,726.61	-	
	0765117-4		Pipe and Fittings			6,442.13		6,442.13	6,442.13		6,442.13	-	
	0760997-3		Pipe and Fittings			26,816.12		26,816.12	26,816.12		26,816.12	-	
	0765117-3		Pipe and Fittings			578.28		578.28	578.28		578.28	-	
	766259		Pipe and Fittings			21,663.44		21,663.44	21,663.44		21,663.44	-	
	764618		Pipe and Fittings			25,146.59		25,146.59	25,146.59		25,146.59	-	
	95755		Valves			33,531.00		33,531.00	33,531.00		33,531.00	-	

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Stored Materials Summary												
Contractor's Application for Payment												
Owner: City of David City Engineer: JEO Consulting Group, Inc. Contractor: BRB Contractors, Inc. Project: David City Wastewater Treatment Facility Improvements Contract: David City Wastewater Treatment Facility Improvements												
Owner's Project No.: 251034.00 Engineer's Project No.: INEDAV Contractor's Project No.:												
Application No.: 23												
Application Period: From 12/24/25 to 01/27/26												
Application Date: 01/27/26												
A	B	C	D	E	F	G	H	I	J	K	L	M
Item No. (Lump Sum Tab) or Bid Item No. (Unit Price Tab)	Supplier Invoice No.	Submittal No. (with Specification Section No.)	Description of Materials or Equipment Stored	Storage Location	Application No. When Materials Placed in Storage	Previous Amount Stored (\$)	Materials Stored Amount Stored this Period (\$)	Amount Stored to Date (G + H) (\$)	Amount Previously Incorporated in the Work (\$)	Incorporated in the Work this Period (\$)	Total Amount Incorporated in the Work (J + K) (\$)	Materials Remaining in Storage (L - L) (\$)
	8635424-05		Electrical Stored Materials			366.20	366.20	366.20	366.20	366.20	366.20	-
	8658653-00		Electrical Stored Materials			1,335.00	1,335.00	1,335.00	1,335.00	1,335.00	1,335.00	-
	8602508-04		Electrical Stored Materials			373.10	373.10	373.10	373.10	373.10	373.10	-
	8694471-00		Electrical Stored Materials			266.93	266.93	266.93	266.93	266.93	266.93	-
	8601508-05		Electrical Stored Materials			2,328.26	2,328.26	2,328.26	2,328.26	2,328.26	2,328.26	-
	865434-06		Electrical Stored Materials			12,514.95	12,514.95	12,514.95	6,000.00	6,000.00	6,000.00	6,514.95
	8792		Grit Pump			23,395.00	23,395.00	23,395.00	23,395.00	23,395.00	23,395.00	-
	29452		Handrail			12,300.00	12,300.00	12,300.00	-	7,000.00	7,000.00	5,300.00
	568		HVAC, Air Conditioners			16,920.00	16,920.00	16,920.00	-	-	-	16,920.00
	0765117-7		Pipe and Fittings			2,528.22	2,528.22	2,528.22	2,528.22	2,528.22	2,528.22	-
	766417		Piping System/Ball Valves			3,112.76	3,112.76	3,112.76	3,112.76	3,112.76	3,112.76	-
	770080		Pipe and Fittings			4,184.11	4,184.11	4,184.11	-	4,184.11	4,184.11	-
	765579		Pipe and Fittings			33,920.76	33,920.76	33,920.76	-	33,920.76	33,920.76	-
	0057592-W		Stand/On Trap			10,900.00	10,900.00	10,900.00	10,900.00	10,900.00	10,900.00	-
	28678		Ladders			8,250.00	8,250.00	8,250.00	-	-	-	8,250.00
	769915		Pipe and Fittings			17,343.56	17,343.56	17,343.56	17,343.56	17,343.56	17,343.56	-
	1045580		Aqua Aerobics SBR Equipment			254,849.56	254,849.56	254,849.56	250,000.00	250,000.00	250,000.00	4,849.56
	1046052		Aqua Aerobics SBR Equipment			703,753.84	703,753.84	703,753.84	-	-	-	703,753.84
	24105-18870		Bar Screen			127,871.00	127,871.00	127,871.00	127,871.00	127,871.00	127,871.00	-
	8653766-02		Generator			82,368.00	82,368.00	82,368.00	82,368.00	82,368.00	82,368.00	-
	10468371		Electrical Stored Materials			12,200.28	12,200.28	12,200.28	-	-	-	12,200.28
	448099		Aqua Aerobics SBR Equipment			56,029.84	56,029.84	56,029.84	-	-	-	56,029.84
	448100		Precast Manholes			6,829.90	6,829.90	6,829.90	6,829.90	6,829.90	6,829.90	-
	1046786		Aqua Aerobic Equipment			6,367.96	6,367.96	6,367.96	6,367.96	6,367.96	6,367.96	-
	1046711		Aqua Aerobic Equipment			456,948.92	456,948.92	456,948.92	206,871.77	206,871.77	206,871.77	247,977.15
	769540		Pipe and Fittings			4,266.73	4,266.73	4,266.73	-	-	-	4,266.73
	777143		Pipe and Fittings			10,912.32	10,912.32	10,912.32	-	-	-	10,912.32
	50030735331		Blower Room Rebar			9,368.08	9,368.08	9,368.08	-	-	-	9,368.08
	1047062		Doors and Frames			4,203.29	4,203.29	4,203.29	4,203.29	4,203.29	4,203.29	-
	12687		Aqua Aerobic Equipment			30,000.00	30,000.00	30,000.00	30,000.00	30,000.00	30,000.00	-
	97500		Instrumentation Equipment			75,103.16	75,103.16	75,103.16	75,103.16	75,103.16	75,103.16	-
	77559		Slide Gates			55,490.40	55,490.40	55,490.40	55,490.40	55,490.40	55,490.40	-
	0775599-1		Ductile Iron Pipe and Fittings (SBR)			277,359.52	277,359.52	277,359.52	80,000.00	80,000.00	80,000.00	197,359.52
	30706		Misc Steel			7,835.01	7,835.01	7,835.01	7,835.01	7,835.01	7,835.01	-
	12743		Misc Steel			81,605.00	81,605.00	81,605.00	17,352.34	17,352.34	17,352.34	64,252.66
	97802		Motor Control Centers and Drives			438,253.00	438,253.00	438,253.00	17,000.00	17,000.00	17,000.00	30,630.00
	97966		Slide Gate Actuator			22,576.82	22,576.82	22,576.82	-	-	-	22,576.82
	781379		Grit Removal System			277,316.00	277,316.00	277,316.00	105,000.00	105,000.00	105,000.00	172,316.00
	0779468-1		Ductile Iron Pipe and Fittings			6,995.20	6,995.20	6,995.20	6,995.20	6,995.20	6,995.20	-
	0779468-2		Ductile Iron Pipe and Fittings			5,131.29	5,131.29	5,131.29	5,131.29	5,131.29	5,131.29	-
	0777559-2		Ductile Iron Pipe and Fittings			93,081.78	93,081.78	93,081.78	93,081.78	93,081.78	93,081.78	-
	780229		14" SBR Pipe			11,821.88	11,821.88	11,821.88	11,821.88	11,821.88	11,821.88	-
	IN108191		Doors and Frames			4,492.31	4,492.31	4,492.31	4,492.31	4,492.31	4,492.31	-
	133739		Headworks Trusses (Pans)]			16,637.14	16,637.14	16,637.14	16,637.14	16,637.14	16,637.14	-
	781551		Ductile Iron Pipe and Fittings			4,925.00	4,925.00	4,925.00	4,925.00	4,925.00	4,925.00	-
	075462-1		Ductile Iron Fittings (Blower)			12,310.45	12,310.45	12,310.45	4,000.00	4,000.00	4,000.00	8,310.45
	0793899-2		Ductile Iron Fittings (SBR)			9,229.75	9,229.75	9,229.75	1,318.55	1,318.55	1,318.55	7,911.20
00 7						30,196.48	30,196.48	30,196.48	-	-	-	30,196.48

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Stored Materials Summary										Contractor's Application for Payment				
Owner: City of David City Engineer: JEO Consulting Group, Inc. Contractor: BRB Contractors, Inc. Project: David City Wastewater Treatment Facility Improvements Contract: David City Wastewater Treatment Facility Improvements										Owner's Project No.: 251034.00 Engineer's Project No.: NE3DAV Contractor's Project No.:				
Application No.: 23										Application Date: 01/27/26				
Application Period: From 12/24/25 to 01/27/26														
A Item No. (Lump Sum Tab) or Bid Item No. (Unit Price Tab)	B Supplier Invoice No.	C Submitted No. (with Specification Section No.)	D Description of Materials or Equipment Stored	E Storage Location	F Application No. When Materials Placed in Storage	G Materials Stored		I Amount Stored to Date (G + H) (S)	J Amount Previously Incorporated in the Work (S)	K Amount Incorporated in the Work this Period (S)	L Total Amount Incorporated in the Work (J + K) (S)	M Materials Remaining in Storage (I - L) (S)		
						H Amount Stored this Period (S)	J Amount Previously Incorporated in the Work (S)							
Totals						\$ 7,038,091.55	\$ 30,196.48	\$ 7,068,288.03	\$ 5,070,975.58	\$ 612,246.08	\$ 5,683,221.66	\$ 1,385,066.37		

Ethan Joy of JEO Consulting Group, again introduced himself, and informed the Council that Velocity Contractors, Inc. has completed the majority of the final punch list, there are a few items that still need to be completed. The end of the warranty is June 6, 2026. Ethan Joy will be in David City to discuss with the Water Department the warranty, any training items, standard operating procedure updates and notes and go through the punch list for the project.

Council Member Bruce Meysenburg made a motion to table Pay Application No. 31 (Final) for Velocity Contractors, Inc., in the amount of \$50,000.00 for the Water Treatment Plant Upgrades. Council Member Keith Marvin seconded the motion. The motion carried. Jeremy Abel: Yea, Jim Angell: Yea, Rick Holland: Yea, Keith Marvin: Yea, Bruce Meysenburg: Yea, Kevin Woita: Yea. Yea: 6, Nay: 0.

Matt Kalin of JEO Consulting Group, introduced himself, and presented the 2026 Electrical Distribution Improvements to the City Council. Matt Kalin has been working Electric Supervisor Patrick Hoeft to identify areas of the community where updates need to be completed to our service lines and poles. There are eight project areas that have been identified. Project Area One is M Street between 3rd Street and 4th Street, south of Butler Public Power District. Project Area Two is G Street between 4th Street and 5th Street. Project Area Three is C Street and Oak Street. Project Area Four is the west side of Michael Foods property, which is C Street to the property south of Hartman Repair from the Railroad tracks to 3rd Street. This includes the Frontier Coop Elevators. Project Area Five is C Street to D Street between 4th Street and 5th Street. Project Area Six is E Street between 6th Street and 7th Street. Project Area Seven is E Street and 11th Street. And Project Area Eight is D Street and 11th Street. It was discussed to place the Projects Areas in Groupings of importance of getting work completed. There would be three Groupings, Group A would be Project Areas One, Two, Three, Six, Seven and Eight. Group B would be Project Area Five. Group C would be Project Area Four. It was discussed what the priority levels of the groups would be; Group A would be top priority, Group C would be second priority and Group B would be the last to be completed. Matt Kalin asked the Council for their permission to start compiling bid specs, advertising for bids, and ordering supplies for the projects to reduce lag time.

David City Pole Replacement - OPCC - Summary

David City, Nebraska

January 2026

PROJECT AREA	PROJECT COST
1	\$ 20,296.73
2	\$ 17,467.68
3	\$ 11,367.63
4	\$ 146,774.44
5 - OH	\$ 97,014.18
5 - UG	\$ 498,653.50
6	\$ 10,056.79
7	\$ 15,968.69
8	\$ 6,997.49

NOTES:

ALL UNIT PRICES ARE LABOR ONLY COSTS.

- 1) OWNER TO PURCHASE AND PROVIDE ALL MATERIALS TO THE CONTRACTOR.

David City Pole Replacement - Opinion of Probable Construction Cost - Area 1					
David City, Nebraska					
January 2026					
ITEM NO.	POLES	UNIT	QUANTITY	UNIT PRICE	TOTAL PRICE
1	40/2 WOOD	EA	1	\$ 1,246.76	\$ 1,246.76
2	35/3 WOOD	EA	1	\$ 1,246.76	\$ 1,246.76
ITEM NO.	POLE TOP ASSEMBLIES	UNIT	QUANTITY	UNIT PRICE	TOTAL PRICE
3	C1-13F	EA	1	\$ 806.93	\$ 806.93
4	C5-71	EA	2	\$ 1,268.65	\$ 2,537.29
5	J2-1	EA	3	\$ 37.40	\$ 112.21
6	UM8-6	EA	1	\$ 3.40	\$ 3.40
7	M2-11	EA	2	\$ 132.90	\$ 265.79
8	OH E9-1	EA	2	\$ 217.23	\$ 434.47
9	E9-1	EA	2	\$ 217.23	\$ 434.47
10	F1-15	EA	1	\$ 332.47	\$ 332.47
ITEM NO.	WIRE / CONDUIT	UNIT	QUANTITY	UNIT PRICE	TOTAL PRICE
11	600V #6 AL OH DUPLEX	FT	83	\$ 9.27	\$ 767.70
12	600V 4/0 AL UG	FT	240	\$ 5.82	\$ 1,397.48
13	2" PVC SCH. 80, TRENCHED AND BACKFILLED	FT	41	\$ 21.12	\$ 866.07
ITEM NO.	TRANSFERS	UNIT	QUANTITY	UNIT PRICE	TOTAL PRICE
14	OH E1-1 COMM	EA	1	\$ 200.11	\$ 200.11
15	COMMUNICATION/DATA LINE	EA	2	\$ 336.69	\$ 673.38
16	E1-1 COMM	EA	2	\$ 200.11	\$ 400.21
ITEM NO.	REMOVALS	UNIT	QUANTITY	UNIT PRICE	TOTAL PRICE
17	POLE	EA	2	\$ 1,305.71	\$ 2,611.41
18	3Ø PRIMARY DEADEND PTA	EA	2	\$ 869.55	\$ 1,739.11
19	3Ø PRIMARY PTA	EA	1	\$ 579.69	\$ 579.69
20	SECONDARY ASSEMBLY (EYEBOLT, J1-1, J2-1, J5-1, J5-1A)	EA	3	\$ 74.82	\$ 224.46
21	UM8-3	EA	1	\$ 414.81	\$ 414.81
22	DOWN GUY	EA	2	\$ 175.45	\$ 350.90
23	OH GUY	EA	2	\$ 175.45	\$ 350.90
24	ANCHOR	EA	2	\$ 143.84	\$ 287.68
25	DUPLEX	EA	2	\$ 83.55	\$ 167.11
SUBTOTAL =					\$ 18,451.57
10% CONTINGENCY =					\$ 1,845.16
TOTAL =					\$ 20,296.73

NOTES:

- 1) ALL UNIT PRICES ARE LABOR ONLY COSTS. OWNER TO PURCHASE AND PROVIDE ALL MATERIALS TO THE CONTRACTOR.

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David City Pole Replacement - Opinion of Probable Construction Cost - Area 2					
David City, Nebraska					
January 2026					
ITEM NO.	POLES	UNIT	QUANTITY	UNIT PRICE	TOTAL PRICE
1	45/2 WOOD	EA	1	\$ 1,246.76	\$ 1,246.76
ITEM NO.	POLE TOP ASSEMBLIES	UNIT	QUANTITY	UNIT PRICE	TOTAL PRICE
2	C5-70	EA	2	\$ 498.70	\$ 997.41
3	M5-5	EA	2	\$ 90.47	\$ 180.95
4	M5-8	EA	1	\$ 268.77	\$ 268.77
5	M5-10	EA	1	\$ 224.58	\$ 224.58
6	J2-1	EA	2	\$ 186.76	\$ 373.52
7	UMB-3	EA	1	\$ 3,776.37	\$ 3,776.37
8	M2-11	EA	1	\$ 250.65	\$ 250.65
9	E9-1	EA	1	\$ 217.23	\$ 217.23
10	F1-15	EA	1	\$ 332.47	\$ 332.47
ITEM NO.	TRANSFERS	UNIT	QUANTITY	UNIT PRICE	TOTAL PRICE
11	M5-9	EA	1	\$ 280.50	\$ 280.50
12	DUPLEX	EA	1	\$ 417.75	\$ 417.75
13	TRIPLEX	EA	1	\$ 597.33	\$ 597.33
14	JUNCTION BOX	EA	1	\$ 282.14	\$ 282.14
15	PHOTOCELL	EA	1	\$ 70.04	\$ 70.04
16	UMB-3	EA	1	\$ 1,083.93	\$ 1,083.93
17	E1-1 COMM	EA	3	\$ 200.11	\$ 600.32
18	COMMUNICATION/DATA LINE	EA	2	\$ 336.69	\$ 673.38
ITEM NO.	REMOVALS	UNIT	QUANTITY	UNIT PRICE	TOTAL PRICE
17	POLE	EA	1	\$ 1,305.71	\$ 1,305.71
18	3Ø PRIMARY DEADEND PTA	EA	2	\$ 869.55	\$ 1,739.11
19	M5-5 / M5-8 / M5-10	EA	2	\$ 75.94	\$ 151.88
20	SECONDARY ASSEMBLY (EYEBOLT, J1-1, J2-1, J5-1, J5-1A)	EA	1	\$ 74.82	\$ 74.82
21	UMB-3	EA	1	\$ 414.81	\$ 414.81
22	DOWN GUY	EA	1	\$ 175.45	\$ 175.45
23	ANCHOR	EA	1	\$ 143.84	\$ 143.84
				SUBTOTAL =	\$ 15,879.71
				10% CONTINGENCY =	\$ 1,587.97
				TOTAL =	\$ 17,467.68

NOTES:

- 1) ALL UNIT PRICES ARE LABOR ONLY COSTS. OWNER TO PURCHASE AND PROVIDE ALL MATERIALS TO THE CONTRACTOR.

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David City Pole Replacement - Opinion of Probable Construction Cost - Area 3					
David City, Nebraska					
January 2026					
ITEM NO.	POLES	UNIT	QUANTITY	UNIT PRICE	TOTAL PRICE
1	40/3 WOOD	EA	1	\$ 1,246.76	\$ 1,246.76
ITEM NO.	POLE TOP ASSEMBLIES	UNIT	QUANTITY	UNIT PRICE	TOTAL PRICE
2	A1-11F	EA	1	\$ 721.93	\$ 721.93
3	A6-21F	EA	1	\$ 1,262.24	\$ 1,262.24
4	M5-5	EA	1	\$ 90.47	\$ 90.47
5	J2-1	EA	1	\$ 186.76	\$ 186.76
6	M2-11	EA	1	\$ 250.65	\$ 250.65
ITEM NO.	TRANSFERS	UNIT	QUANTITY	UNIT PRICE	TOTAL PRICE
7	M5-9	EA	1	\$ 280.50	\$ 280.50
8	1Ø/1W PRIMARY RISER	EA	1	\$ 2,460.03	\$ 2,460.03
9	STREET LIGHT	EA	1	\$ 250.65	\$ 250.65
10	COMMUNICATION/DATA LINE	EA	1	\$ 336.69	\$ 336.69
11	OH DUPLEX	EA	1	\$ 417.75	\$ 417.75
ITEM NO.	REMOVALS	UNIT	QUANTITY	UNIT PRICE	TOTAL PRICE
12	POLES	EA	1	\$ 1,305.71	\$ 1,305.71
13	1Ø PRIMARY PTA	EA	1	\$ 579.69	\$ 579.69
14	1Ø PRIMARY DOUBLE DEADEND PTA	EA	1	\$ 869.55	\$ 869.55
15	SECONDARY ASSEMBLY (EYEBOLT, J1-1, J2-1, J5-1, J5-1A)	EA	1	\$ 74.82	\$ 74.82
				SUBTOTAL =	\$ 10,334.21
				10% CONTINGENCY =	\$ 1,033.42
				TOTAL =	\$ 11,367.63

NOTES:

- 1) ALL UNIT PRICES ARE LABOR ONLY COSTS. OWNER TO PURCHASE AND PROVIDE ALL MATERIALS TO THE CONTRACTOR.

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David City Pole Replacement - Opinion of Probable Construction Cost - Area 4 David City, Nebraska January 2026					
ITEM NO.	POLES	UNIT	QUANTITY	UNIT PRICE	TOTAL PRICE
1	40/2 WOOD	EA	2	\$ 1,246.76	\$ 2,493.52
ITEM NO.	POLE TOP ASSEMBLIES	UNIT	QUANTITY	UNIT PRICE	TOTAL PRICE
2	E9-1	EA	4	\$ 216.79	\$ 867.15
3	F1-15	EA	4	\$ 354.36	\$ 1,417.44
4	M2-11	EA	2	\$ 250.14	\$ 500.28
5	C5-71	EA	2	\$ 2,145.22	\$ 4,290.44
6	UC8-3DF	LS	2	\$ 1,496.10	\$ 2,992.21
ITEM NO.	PAD-MOUNT EQUIPMENT MATERIALS	UNIT	QUANTITY	UNIT PRICE	TOTAL PRICE
7	10 KV (8.4 KV MCOV) ELBOW ARRESTER	EA	3	\$ 250.14	\$ 750.42
8	15 KV 200A ELBOW, 1/0 AL	EA	3	\$ 289.57	\$ 868.70
9	PAD MOUNT SWITCHGEAR GROUND ASSEMBLY	EA	1	\$ 500.28	\$ 500.28
10	PMH-9 WITH BASEMENT	EA	1	\$ 5,503.05	\$ 5,503.05
11	15KV CABLE TERMINATION WITH TWO HOLE SPADE, 1/0 AL	EA	3	\$ 322.98	\$ 968.93
12	15KV CABLE TERMINATION WITH TWO HOLE SPADE, 500 MCM AL	EA	9	\$ 322.98	\$ 2,906.80
ITEM NO.	TRANSFORMERS	UNIT	QUANTITY	UNIT PRICE	TOTAL PRICE
13	112.5 kVA, 3Ø, PAD-MOUNT TRANSFORMER	EA	1	\$ 2,167.87	\$ 2,167.87
14	TRANSFORMER BASEMENT, 3Ø	EA	1	\$ 1,750.97	\$ 1,750.97
15	TRANSFORMER GROUND ASSEMBLY, 3Ø	EA	1	\$ 333.52	\$ 333.52
ITEM NO.	WIRE / CONDUIT	UNIT	QUANTITY	UNIT PRICE	TOTAL PRICE
16	4/0 AL UG, 600V	FT	588	\$ 9.49	\$ 5,581.60
17	#6 AL UG, 600V	FT	483	\$ 5.82	\$ 2,812.44
18	1/0 AL UG, 15 KV FN	FT	552	\$ 12.19	\$ 6,730.89
19	500 MCM AL UG, 15KV 1/3 NUTRAL	FT	1,710	\$ 13.72	\$ 23,464.13
20	BORING, (1) 2" HDPE, SDR 13.5	FT	221	\$ 16.96	\$ 3,747.98
21	BORING, (3) 2" HDPE, SDR 13.5	FT	154	\$ 21.93	\$ 3,376.51
22	BORING, (3) 3" HDPE, SDR 13.5	FT	510	\$ 32.89	\$ 16,772.94
23	2" LONG RADIUS SWEEP/ELBOW	EA	9	\$ 333.52	\$ 3,001.71
24	3" LONG RADIUS SWEEP/ELBOW	EA	21	\$ 333.52	\$ 7,003.99
25	ABOVE FINISHED GRADE (2" RMC CONDUIT)	FT	25	\$ 25.02	\$ 625.41
26	MISCELLANEOUS SERVICE WORK	LS	1	\$ 1,000.00	\$ 1,000.00
ITEM NO.	TRANSFERS	UNIT	QUANTITY	UNIT PRICE	TOTAL PRICE
27	COMMUNICATION/DATA LINE	EA	2	\$ 336.69	\$ 673.38
28	S2-1	EA	6	\$ 465.44	\$ 2,792.66
29	Y3-3	EA	1	\$ 3,264.02	\$ 3,264.02
30	3Ø/4W UG SEC	EA	2	\$ 829.61	\$ 1,659.22
ITEM NO.	REMOVALS	UNIT	QUANTITY	UNIT PRICE	TOTAL PRICE
31	3Ø PRIMARY PTA	EA	1	\$ 579.69	\$ 579.69
32	H-STRUCTURE PRIMARY PTA	EA	2	\$ 579.69	\$ 1,159.39
33	DUPLEX	EA	2	\$ 83.55	\$ 167.11
34	QUADRUPLEX	EA	1	\$ 166.76	\$ 166.76
35	ANCHOR	EA	1	\$ 200.11	\$ 200.11
36	DOWN GUY	EA	2	\$ 250.14	\$ 500.28
37	3Ø 4 WIRE OH PRIMARY	FT	480	\$ 1.20	\$ 577.89
38	3Ø OH TRANSFORMER PLATFORM ASSEMBLY	EA	1	\$ 1,496.40	\$ 1,496.40
39	SECONDARY ASSEMBLY (EYE BOLT, J2-1, J5-1A)	EA	6	\$ 74.82	\$ 448.92
40	UM8-6	EA	2	\$ 217.77	\$ 435.54
41	J6-1	EA	1	\$ 265.79	\$ 265.79
42	J6-1 CT	EA	1	\$ 341.72	\$ 341.72
43	POLES	EA	4	\$ 1,305.71	\$ 5,222.82
ITEM NO.	MISCELLANEOUS	UNIT	QUANTITY	UNIT PRICE	TOTAL PRICE
44	BOLLARDS	EA	4	\$ 1,312.26	\$ 5,249.05
				SUBTOTAL =	\$ 127,629.95
				15% CONTINGENCY =	\$ 19,144.49
				TOTAL =	\$ 146,774.44

NOTES:

- 1) ALL UNIT PRICES ARE LABOR ONLY COSTS. OWNER TO PURCHASE AND PROVIDE ALL MATERIALS TO THE CONTRACTOR.

David City Pole Replacement - Opinion of Probable Construction Cost - Area 5 - Overhead					
David City, Nebraska					
January 2026					
ITEM NO.	POLES	UNIT	QUANTITY	UNIT PRICE	TOTAL PRICE
1	45/3 WOOD	EA	4	\$ 1,246.76	\$ 4,987.05
2	45/2 WOOD	EA	3	\$ 1,246.76	\$ 3,740.29
3	40/4 WOOD	EA	1	\$ 1,246.76	\$ 1,246.76
4	40/2 WOOD	EA	1	\$ 1,246.76	\$ 1,246.76
ITEM NO.	POLE TOP ASSEMBLIES	UNIT	QUANTITY	UNIT PRICE	TOTAL PRICE
5	C5-70	EA	3	\$ 499.73	\$ 1,499.18
6	C1-41F	EA	4	\$ 249.86	\$ 999.46
7	C6-51F	EA	2	\$ 1,234.87	\$ 2,469.73
8	C6-31	EA	1	\$ 1,745.22	\$ 1,745.22
9	UAB-3CF	EA	1	\$ 6,748.30	\$ 6,748.30
10	J2-1	EA	6	\$ 186.76	\$ 1,120.56
11	J6-1	EA	1	\$ 1,010.87	\$ 1,010.87
12	E9-1	EA	4	\$ 217.23	\$ 868.93
13	M2-11	EA	10	\$ 250.65	\$ 2,506.53
14	F1-15	EA	4	\$ 333.15	\$ 1,332.61
ITEM NO.	TRANSFORMERS	UNIT	QUANTITY	UNIT PRICE	TOTAL PRICE
15	G3-1C	EA	1	\$ 695.27	\$ 695.27
ITEM NO.	WIRE / CONDUIT	UNIT	QUANTITY	UNIT PRICE	TOTAL PRICE
16	#1/0 ACSR OH PRIMARY	FT	1,948	\$ 2.12	\$ 4,135.21
ITEM NO.	TRANSFERS	UNIT	QUANTITY	UNIT PRICE	TOTAL PRICE
17	TRIPLEX	EA	6	\$ 597.33	\$ 3,584.01
18	QUADRUPLEX	EA	4	\$ 583.20	\$ 2,332.79
19	STREET LIGHT	EA	3	\$ 250.65	\$ 751.96
20	J6-1	EA	3	\$ 1,203.13	\$ 3,609.39
21	J6-1 CT	EA	1	\$ 1,203.13	\$ 1,203.13
22	UM8-4	EA	1	\$ 983.30	\$ 983.30
23	G1-9B	EA	3	\$ 291.72	\$ 875.16
24	G3-1C	EA	2	\$ 1,555.00	\$ 3,110.01
25	E1-1 COMM	EA	3	\$ 200.11	\$ 600.32
26	COMMUNICATION/DATA LINE	EA	11	\$ 336.69	\$ 3,703.59
ITEM NO.	REMOVALS	UNIT	QUANTITY	UNIT PRICE	TOTAL PRICE
27	3Ø PRIMARY PTA	EA	5	\$ 579.69	\$ 2,898.47
28	3Ø PRIMARY DEADEND PTA	EA	3	\$ 869.55	\$ 2,608.66
29	3Ø PRIMARY DOUBLE DEADEND PTA	EA	3	\$ 869.55	\$ 2,608.66
30	DUPLEX	EA	6	\$ 83.55	\$ 501.33
31	TRIPLEX	EA	1	\$ 116.97	\$ 116.97
31	QUADRUPLEX	EA	6	\$ 167.10	\$ 1,002.59
32	DOWN GUY	EA	3	\$ 175.45	\$ 526.35
33	3Ø OH TRANSFORMER ASSEMBLY	EA	2	\$ 1,496.40	\$ 2,992.80
34	3Ø 4 WIRE OH PRIMARY	FT	487	\$ 7.48	\$ 3,643.73
35	SECONDARY ASSEMBLY (EYEBOLT, J1-1, J2-1, J5-1, J5-1A)	EA	14	\$ 74.82	\$ 1,047.48
36	M5-4	EA	1	\$ 84.24	\$ 84.24
37	POLES	EA	10	\$ 1,305.71	\$ 13,057.05
SUBTOTAL =					\$ 88,194.71
10% CONTINGENCY =					\$ 8,819.47
TOTAL =					\$ 97,014.18

NOTES:

- 1) ALL UNIT PRICES ARE LABOR ONLY COSTS. OWNER TO PURCHASE AND PROVIDE ALL MATERIALS TO THE CONTRACTOR.

David City Pole Replacement - Opinion of Probable Construction Cost - Area 5 - Underground					
David City, Nebraska					
January 2026					
ITEM NO.	POLES	UNIT	QUANTITY	UNIT PRICE	TOTAL PRICE
1	45/2 WOOD	EA	1	\$ 1,246.76	\$ 1,246.76
ITEM NO.	POLE TOP ASSEMBLIES	UNIT	QUANTITY	UNIT PRICE	TOTAL PRICE
2	E9-1	EA	1	\$ 217.23	\$ 217.23
3	F1-15	EA	1	\$ 333.15	\$ 333.15
4	M2-11	EA	1	\$ 250.65	\$ 250.65
5	C6-31	EA	1	\$ 1,234.87	\$ 1,234.87
6	UC8-3DF	LS	1	\$ 1,496.10	\$ 1,496.10
ITEM NO.	PAD-MOUNT EQUIPMENT MATERIALS	UNIT	QUANTITY	UNIT PRICE	TOTAL PRICE
7	10 KV (8.4 KV MCOV) Elbow Arrestor	EA	4	\$ 250.14	\$ 1,000.56
8	15 KV 200A Elbow, 1/0 AL	EA	13	\$ 289.57	\$ 3,764.39
9	PAD MOUNT SWITCHGEAR GROUND ASSEMBLY	EA	2	\$ 500.28	\$ 1,000.56
10	PMH-9 WITH BASEMENT	EA	2	\$ 5,503.05	\$ 11,006.10
11	15KV CABLE TERMINATION WITH TWO HOLE SPADE, 1/0 AL	EA	7	\$ 322.98	\$ 2,260.84
12	15KV CABLE TERMINATION WITH TWO HOLE SPADE, 4/0 AL	EA	12	\$ 322.98	\$ 3,875.73
13	SECONDARY PEDESTAL (600V)	EA	3	\$ 1,500.84	\$ 4,502.51
14	SUBMERSIBLE SECONDARY PEDESTAL CONNECTOR, 600V, 6 PORTS	EA	6	\$ 625.35	\$ 3,752.09
15	SUBMERSIBLE SECONDARY PEDESTAL CONNECTOR, 600V, 8 PORTS	EA	3	\$ 625.35	\$ 1,876.05
ITEM NO.	TRANSFORMERS	UNIT	QUANTITY	UNIT PRICE	TOTAL PRICE
16	167 kVA, 1Ø, PAD-MOUNT TRANSFORMER	EA	1	\$ 3,341.85	\$ 3,341.85
17	150 kVA, 3Ø, PAD-MOUNT TRANSFORMER	EA	2	\$ 2,167.87	\$ 4,335.73
18	TRANSFORMER BASEMENT, 1Ø	EA	1	\$ 1,625.91	\$ 1,625.91
19	TRANSFORMER BASEMENT, 3Ø	EA	2	\$ 1,750.97	\$ 3,501.93
20	TRANSFORMER GROUND ASSEMBLY, 1Ø	EA	1	\$ 333.52	\$ 333.52
21	TRANSFORMER GROUND ASSEMBLY, 3Ø	EA	2	\$ 333.52	\$ 667.05
ITEM NO.	WIRE / CONDUIT	UNIT	QUANTITY	UNIT PRICE	TOTAL PRICE
22	#4/0 AL UG, 600V	FT	6,089	\$ 9.49	\$ 57,799.96
23	#1/0 AL UG, 15 kV FN	FT	1,615	\$ 12.19	\$ 19,692.74
24	#4/0 AL UG, 15kV FN	FT	1,353	\$ 13.72	\$ 18,565.48
25	Boring (2" HDPE, SDR 13.5)	FT	671	\$ 21.93	\$ 14,711.96
26	2" LONG RADIUS SWEEP/ELBOW	EA	35	\$ 333.52	\$ 11,673.32
27	TRENCHED AND BACKFILL (2" PVC CONDUIT, SCHEDULE 80)	FT	1,411	\$ 23.60	\$ 33,305.21
28	ABOVE FINISHED GRADE (2" PVC CONDUIT, SCHEDULE 80)	FT	120	\$ 25.02	\$ 3,001.95
29	MISCELLANEOUS SERVICE WORK	LS	1	\$ 1,000.00	\$ 1,000.00
ITEM NO.	TRANSFERS	UNIT	QUANTITY	UNIT PRICE	TOTAL PRICE
30	1Ø/3W UG SEC	EA	1	\$ 597.33	\$ 597.33
31	15 KV 3Ø/3W UG PRIMARY	EA	1	\$ 1,451.82	\$ 1,451.82
ITEM NO.	REMOVALS	UNIT	QUANTITY	UNIT PRICE	TOTAL PRICE
32	PRIMARY PTA	EA	9	\$ 579.69	\$ 5,217.25
33	DUPLEX	EA	7	\$ 83.55	\$ 584.88
34	TRIPLEX	EA	12	\$ 116.97	\$ 1,403.69
35	QUADRUPLIX	EA	8	\$ 167.10	\$ 1,336.78
36	ANCHOR	EA	4	\$ 200.11	\$ 800.43
37	DOWN GUY	EA	3	\$ 250.14	\$ 750.42
38	3Ø 4 WIRE OH PRIMARY	FT	454	\$ 1.20	\$ 546.58
39	1Ø OH TRANSFORMER ASSEMBLY	EA	3	\$ 521.13	\$ 1,563.38
40	3Ø OH TRANSFORMER ASSEMBLY	EA	3	\$ 729.57	\$ 2,188.71
41	SECONDARY ASSEMBLY (EYE BOLT, J2-1, J5-1A)	EA	11	\$ 74.82	\$ 823.02
42	UM8-3, 1Ø	EA	2	\$ 414.81	\$ 829.62
43	J6-1	EA	2	\$ 265.79	\$ 531.57
44	J6-1 CT	EA	1	\$ 341.72	\$ 341.72
45	STREET LIGHT	EA	2	\$ 66.70	\$ 133.40
46	POLES	EA	9	\$ 1,305.71	\$ 11,751.35
ITEM NO.	MISCELLANEOUS	UNIT	QUANTITY	UNIT PRICE	TOTAL PRICE
47	Bollards	EA	12	\$ 1,312.26	\$ 15,747.14
48	CUT & PATCH CONCRETE	SOFT	1,328	\$ 147.10	\$ 195,348.01
				SUBTOTAL =	\$ 453,321.36
				10% CONTINGENCY =	\$ 45,332.14
				TOTAL =	\$ 498,653.50

David City Pole Replacement - Opinion of Probable Construction Cost - Area 6					
David City, Nebraska					
January 2026					
ITEM NO.	POLES	UNIT	QUANTITY	UNIT PRICE	TOTAL PRICE
1	40/2 WOOD	EA	1	\$ 1,246.76	\$ 1,246.76
ITEM NO.	POLE TOP ASSEMBLIES	UNIT	QUANTITY	UNIT PRICE	TOTAL PRICE
2	C5-70	EA	1	\$ 499.73	\$ 499.73
3	C6-51F	EA	1	\$ 1,234.87	\$ 1,234.87
4	J2-1	EA	1	\$ 186.76	\$ 186.76
5	M2-11	EA	1	\$ 250.65	\$ 250.65
6	E9-1	EA	1	\$ 217.23	\$ 217.23
7	OH E9-1	EA	1	\$ 217.23	\$ 217.23
8	F1-15	EA	1	\$ 333.15	\$ 333.15
ITEM NO.	TRANSFERS	UNIT	QUANTITY	UNIT PRICE	TOTAL PRICE
9	STREET LIGHT	EA	1	\$ 250.65	\$ 250.65
10	OH DUPLEX	EA	1	\$ 417.75	\$ 417.75
11	COMMUNICATION/DATA LINE	EA	2	\$ 336.69	\$ 673.38
ITEM NO.	REMOVALS	UNIT	QUANTITY	UNIT PRICE	TOTAL PRICE
12	POLES	EA	1	\$ 1,305.71	\$ 1,305.71
13	3Ø PRIMARY DEADEND PTA	EA	1	\$ 869.55	\$ 869.55
14	3Ø PRIMARY DOUBLE DEADEND PTA	EA	1	\$ 869.55	\$ 869.55
15	SECONDARY ASSEMBLY (EYEBOLT, J1-1, J2-1, J5-1, J5-1A)	EA	1	\$ 74.82	\$ 74.82
16	DOWN GUY	EA	1	\$ 175.45	\$ 175.45
17	OH GUY	EA	1	\$ 175.45	\$ 175.45
17	ANCHOR	EA	1	\$ 143.84	\$ 143.84
				SUBTOTAL =	\$ 9,142.54
			10% CONTINGENCY =	\$ 914.25	
				TOTAL =	\$ 10,056.79

NOTES:

- 1) ALL UNIT PRICES ARE LABOR ONLY COSTS. OWNER TO PURCHASE AND PROVIDE ALL MATERIALS TO THE CONTRACTOR.

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David City Pole Replacement - Opinion of Probable Construction Cost - Area 7					
David City, Nebraska					
January 2026					
ITEM NO.	POLES	UNIT	QUANTITY	UNIT PRICE	TOTAL PRICE
1	45/2 WOOD	EA	1	\$ 1,246.76	\$ 1,246.76
2	35/3 WOOD	EA	1	\$ 1,246.76	\$ 1,246.76
ITEM NO.	POLE TOP ASSEMBLIES	UNIT	QUANTITY	UNIT PRICE	TOTAL PRICE
3	C1-1F	EA	1	\$ 446.40	\$ 446.40
4	CS-70	EA	1	\$ 499.73	\$ 499.73
5	J2-1	EA	3	\$ 186.76	\$ 560.28
6	UM8-6	EA	1	\$ 3.40	\$ 3.40
7	M2-11	EA	2	\$ 250.65	\$ 501.31
8	OH E9-1	EA	1	\$ 217.23	\$ 217.23
9	E1-1	EA	2	\$ 250.65	\$ 501.31
10	F1-15	EA	2	\$ 333.15	\$ 666.30
ITEM NO.	TRANSFERS	UNIT	QUANTITY	UNIT PRICE	TOTAL PRICE
11	STREET LIGHT	EA	1	\$ 250.65	\$ 250.65
12	OH DUPLEX	EA	1	\$ 417.75	\$ 417.75
13	E1-1 COMM	EA	1	\$ 200.11	\$ 200.11
14	COMMUNICATION/DATA LINE	EA	2	\$ 336.69	\$ 673.38
15	1Ø/2W SUG	EA	1	\$ 2,088.00	\$ 2,088.00
ITEM NO.	REMOVALS	UNIT	QUANTITY	UNIT PRICE	TOTAL PRICE
16	POLES	EA	2	\$ 1,305.71	\$ 2,611.41
17	3Ø PRIMARY PTA	EA	1	\$ 579.69	\$ 579.69
18	3Ø PRIMARY DEADEND PTA	EA	1	\$ 869.55	\$ 869.55
19	SECONDARY ASSEMBLY (EYEBOLT, J1-1, J2-1, J5-1, J5-1A)	EA	3	\$ 74.82	\$ 224.46
20	UM8-6	EA	1	\$ 217.77	\$ 217.77
21	DOWN GUY	EA	1	\$ 175.45	\$ 175.45
22	OH GUY	EA	1	\$ 175.45	\$ 175.45
23	ANCHOR	EA	1	\$ 143.84	\$ 143.84
				SUBTOTAL =	\$ 14,516.99
				10% CONTINGENCY =	\$ 1,451.70
				TOTAL =	\$ 15,968.69

NOTES:

- 1) ALL UNIT PRICES ARE LABOR ONLY COSTS. OWNER TO PURCHASE AND PROVIDE ALL MATERIALS TO THE CONTRACTOR.

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David City Pole Replacement - Opinion of Probable Construction Cost - Area 8 David City, Nebraska January 2026					
ITEM NO.	POLES	UNIT	QUANTITY	UNIT PRICE	TOTAL PRICE
1	45/2 WOOD	EA	1	\$ 1,246.76	\$ 1,246.76
ITEM NO.	POLE TOP ASSEMBLIES	UNIT	QUANTITY	UNIT PRICE	TOTAL PRICE
2	C1-1F	EA	1	\$ 446.40	\$ 446.40
3	B1-41F	EA	1	\$ 199.89	\$ 199.89
4	J2-1	EA	2	\$ 186.76	\$ 373.52
5	M2-11	EA	1	\$ 250.65	\$ 250.65
ITEM NO.	TRANSFERS	UNIT	QUANTITY	UNIT PRICE	TOTAL PRICE
6	STREET LIGHT	EA	1	\$ 250.65	\$ 250.65
7	DUPLEX	EA	1	\$ 417.75	\$ 417.75
8	M5-9	EA	2	\$ 280.50	\$ 560.99
ITEM NO.	REMOVALS	UNIT	QUANTITY	UNIT PRICE	TOTAL PRICE
9	PRIMARY PTA	EA	2	\$ 579.69	\$ 1,159.39
10	SECONDARY ASSEMBLY (EYEBOLT, J1-1, J2-1, J5-1, J5-1A)	EA	2	\$ 74.82	\$ 149.64
11	POLES	EA	1	\$ 1,305.71	\$ 1,305.71
SUBTOTAL =					\$ 6,361.35
10% CONTINGENCY =					\$ 636.14
TOTAL =					\$ 6,997.49

NOTES:

- 1) ALL UNIT PRICES ARE LABOR ONLY COSTS. OWNER TO PURCHASE AND PROVIDE ALL MATERIALS TO THE CONTRACTOR.

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JEO Consulting Group 2026 Electrical Distribution Improvement Maps follow these minutes.

(11 x 17 maps)

Council Member Bruce Meysenburg introduced Ordinance No. 1527, updating the sewer rates. Mayor Jessica Miller read Ordinance No. 1527 by title.

Council Member Bruce Meysenburg made a motion to suspend the statutory rule requiring an Ordinance to be read on three separate days. Council Member Jim Angell seconded the motion. The motion carried. Jeremy Abel: Yea, Jim Angell: Yea, Rick Holland: Yea, Keith Marvin: Yea, Bruce Meysenburg: Yea, Kevin Woita: Yea. Yea: 6, Nay: 0.

Council Member Bruce Meysenburg made a motion to pass and approve Ordinance No. 1527, updating the sewer rates. Council Member Keith Marvin seconded the motion. The motion carried. Jeremy Abel: Yea, Jim Angell: Yea, Rick Holland: Yea, Keith Marvin: Yea, Bruce Meysenburg: Yea, Kevin Woita: Yea. Yea: 6, Nay: 0.

ORDINANCE NO. 1527

AN ORDINANCE SETTING THE MONTHS THAT WILL BE USED TO CALCULATE SEWER RATES; EFFECTIVE DATES; REPEALING ALL PARTS OF THE MUNICIPAL CODE AND ORDINANCES IN CONFLICT HEREWITH; AND PROVIDING FOR PUBLICATION OF THE ORDINANCE IN PAMPHLET FORM.

WHEREAS, SECTION 7-313 OF THE MUNICIPAL CODE PROVIDES THAT THE GOVERNING BODY SHALL SET RATES TO BE CHARGED BY ORDINANCE.

NOW, THEREFORE, BE IT ORDAINED BY THE MAYOR AND CITY COUNCIL OF THE CITY OF DAVID CITY, NEBRASKA.

- Section 1. For residential customers, the monthly sewer rate fee shall be based on the average quantity of water **used during the time period of December 20th thru March 19th, preceding April of the current year**. Customers who move within the City shall pay the same Sewer Use Fee at their new location as they paid for at their former location until which time the sewer rate fees are recalculated. For new residential customers in the City, an appropriate Sewer Use Fee will be determined by the Water/Sewer Supervisor.
- Section 2. For commercial customers, who use water in a commercial business, industrial, or other non-residential way, a monthly Sewer Use Fee will be calculated monthly based on the current month's water usage. Commercial customers who do not want to pay a sewer use fee for water used for watering lawns or shrubs will be responsible, at their own cost, to hire a licensed plumber to install a separate water meter to separately meter such water usage.
- Section 3. Notwithstanding Section 3, commercial customers who use more than 2,000,000 gallons of water per month, on average (referred to herein as "High Volume Commercial Customers"), shall have the option to install, at their own cost and subject to inspection/oversight by the Water/Sewer Supervisor, a separate meter to measure the outflow of wastewater, in which case the monthly Sewer Use Fee will be calculated monthly based on the current month's discharge of waste water.

Section 4. With respect to all residential customers and commercial customers who do not qualify as High Volume Commercial Customers, the following monthly Sewer Rates and customer charges became effective March 19, 2026, billed in April, and due May 1-10th.

Customer charge of \$17.80 per month
Plus @ \$5.65 per 1,000 gallons of water used

Section 5. With respect to High Volume Commercial Customers, the following monthly Sewer Rates and customer charges became effective March 19, 2026, billed in April, and due May 1 - 10th.

Customer charge of \$11.35 per month
Plus @ \$3.25 per 1,000 gallons of water used

Section 6. The monthly rates to be charged for sewer usage and customer charges will be reviewed by the City Council on an as needed basis;

Section 7. That any other ordinance or section of any ordinance passed and approved prior to passage, approval, and publication or posting of this ordinance and in conflict with its provisions, is hereby repealed.

Section 8. This ordinance shall be published in pamphlet form and shall be in full force and effect from and after its passage as provided by law.

PASSED AND APPROVED this 11th day of February, 2026.

Mayor Jessica Miller

(ATTEST)

City Clerk Lori Matchett

Electric Supervisor Patrick Hoefft introduced himself. He informed the Council that we had begun a Journeyman Program for employee training. Employees from his department were under the impression that we had contracts and agreements ready for the program, and they had started training. We need to have agreements in place for employees to sign for reimbursement of program expenses.

Council Member Keith Marvin made a motion to table the agreements for the Electric Department Journeyman Program. Council Member Bruce Meysenburg seconded the motion. The motion carried. Jeremy Abel: Yea, Jim Angell: Yea, Rick Holland: Yea, Keith Marvin: Yea, Bruce Meysenburg: Yea, Kevin Woita: Yea. Yea: 6, Nay: 0.

Council Member Kevin Woita spoke about determining where the city's boundaries begin and end. Randy Isham, with the Butler County Roads Department, contacted Kevin Woita to help determine the beginning and end of the city limits for County maintenance. It was discussed to identify the city limits, sign marking, and boundaries of the city limits.

Council Member Bruce Meysenburg made a motion to define and identify the city's limits, sign markings, and boundary markers. Council Member Keith Marvin seconded the motion. The motion carried. Jeremy Abel: Yea, Jim Angell: Yea, Rick Holland: Yea, Keith Marvin: Yea, Bruce Meysenburg: Yea, Kevin Woita: Yea. Yea: 6, Nay: 0

The Interlocal Purchasing System (TIPS) is a national purchasing corporation like Sourcewell. TIPS would allow for an additional competitive bid between vendors, rather than requiring sealed bids. Membership is free. The Mayor and City Council requested more information about TIPS and the vendors in the Interlocal Purchasing System.

Council Member Bruce Meysenburg made a motion to table the decision to join The Interlocal Purchasing System (TIPS) to gather additional information for the next meeting. Council Member Jim Angell seconded the motion. The motion carried. Jeremy Abel: Yea, Jim Angell: Yea, Rick Holland: Yea, Keith Marvin: Yea, Bruce Meysenburg: Yea, Kevin Woita: Yea. Yea: 6, Nay: 0

The proposed scoreboard would replace the existing one in field two, which is not working correctly. Will Reiter has budgeted for a new scoreboard for the past three years.

Council Member Bruce Meysenburg made a motion to approve the proposal from Love Signs for a 4ft x 9ft Daktronics Scoreboard. Council Member Keith Marvin seconded the motion. The motion carried. Jeremy Abel: Yea, Jim Angell: Yea, Rick Holland: Yea, Keith Marvin: Yea, Bruce Meysenburg: Yea, Kevin Woita: Yea. Yea: 6, Nay: 0.



Project: 251443_01

Date: 01/29/2026

City of David City

490 E. Street
David City, NE 68632

Exterior Signage

SIGN 1

Remove existing scoreboard off of scoreboard structure.

Furnish one (1) BA-25 18 4ft x 9ft Daktronics scoreboard
 Includes one (1) All Sport control console.

Install Note: Upper or TOP sponsor panel staying.



LOVE Signs
 1803 S 136th
 Norfolk, NE 68701
 402.371.4874
 www.LoveSigns.com

Designer: Megan Falter
 Sales: Tony Mossey
 Location: Norfolk, NE
 Date: 01/29/2024

PROJECT: 251443_01
 Exterior Signage

CLIENT
 City of David City

NOTICE
 Before approving the artwork please check all names and words for proper spelling, as well as all colors and signage placement if necessary. Questions and/or changes need to be addressed before final approval. Once the signage is produced after approval, we and all responsibility of color issues are the responsibility of the client and will be corrected at the expense of the purchaser.
 DRAWING APPROVED

CLIENT SIGNATURE

FOR PRESENTATION PURPOSES ONLY
 NOT CONSTRUCTION DOCUMENTS



PAGE 1



LOVE Signs
 1803 S 136th
 Norfolk, NE 68701
 402.371.4874
 www.LoveSigns.com

Designer: Megan Falter
 Sales: Tony Mossey
 Location: Norfolk, NE
 Date: 01/29/2024

PROJECT: 251443_01
 Exterior Signage

CLIENT
 City of David City

NOTICE
 Before approving the artwork please check all names and words for proper spelling, as well as all colors and signage placement if necessary. Questions and/or changes need to be addressed before final approval. Once the signage is produced after approval, we and all responsibility of color issues are the responsibility of the client and will be corrected at the expense of the purchaser.
 DRAWING APPROVED

CLIENT SIGNATURE

FOR PRESENTATION PURPOSES ONLY
 NOT CONSTRUCTION DOCUMENTS



PAGE 2



PROPOSAL

251443-01

Date: 02/02/2026

Expires: 03/31/2026

Drawing Numbers:

Project: City of David City - Parks Dept. / Field #1 New Replacement Baseball Scoreboard
490 E. Street
David City, NE 68632

Client: CITY OF DAVID CITY
490 E STREET
DAVID CITY, NE 68632

Contact: William Reiter Cell # 402-764-0629 writer@davidcityne.gov

We are pleased to offer this proposal for the following services at the above location.

Project Description:	Item Total:
-----------------------------	--------------------

Love Signs to complete the following:

1.) Remove existing scoreboard off of scoreboard structure.	\$8,535.00
---	------------

Furnish one (1) new **BA-2518 4ft x 9ft Daktronics scoreboard**
Includes one (1) new All Sport control console.

Install Note: Upper or TOP sponsor panel staying.

Note: Existing scoreboard is approx 5ft tall by 10ft long per William

Electrical Note:

** FINAL ELECTRICAL CONNECTION OR "HOOK UP" WILL BE BY CUSTOMER'S PROVIDED ELECTRICIAN.
ALONG WITH GETTING NEEDED ELECTRICITY OVER TO THE CONFIRMED SIGN LOCATION.
THIS IS NOT INCLUDED IN SIGN PRICING SHOWN ON THIS QUOTE. **

Deposit Rate: 50%	Subtotal:	\$8,535.00
Deposit: \$4,267.50	Total:	\$8,535.00

Notes: All prices are subject to applicable sales tax. Prices are based on available information given at the time and are subject to change.

Exclusions: Sign permits, structural engineering, traffic control equipment and permits are not included in the above quotations and if required shall be invoiced on a time and material basis. Electrical services to the proposed sign(s), unless specifically quoted above, is assumed to be existing or provided by others.

Terms: All signs are custom built products and, at the option of the seller, require payment in advance with order. Installation price is due upon installation. Fifty percent is due upon acceptance and the balance due upon installation. 2% discount if paid in full upon acceptance. Contract prices

Salesperson: Tony Maxey

Buyer gm Seller _____



PROPOSAL

251443-01

Date: 02/02/2026

Expires: 03/31/2026

Drawing Numbers:

Project: City of David City - Parks Dept. / Field
#1 New Replacement Baseball
Scoreboard
490 E. Street
David City, NE 68632

Client: CITY OF DAVID CITY
490 E STREET
DAVID CITY, NE 68632

Contact: William Reiter Cell # 402-764-0629 wreiter@davidcityne.gov

are guaranteed for 14 days and may be subject to change after that time. An additional 3% transaction fee for credit card payments (2% Prepay discount does not apply if paying by credit or debit card).

Please remit payments to:

Love Signs, Inc.
P.O. Box 807
Norfolk, NE 68702

** Please reference invoice # on check **

Salesperson: Tony Maxey

Buyer's Acceptance  Title Mayer Date 2-11-26

Seller's Acceptance _____ Title _____ Date _____

Council Member Bruce Meysenburg made a motion to adjourn at 7:59 p.m. Council Member Jeremy Abel seconded the motion. The motion carried. Jeremy Abel: Yea, Jim Angell: Yea, Rick Holland: Yea, Keith Marvin: Yea, Bruce Meysenburg: Yea, Kevin Woita: Yea. Yea: 6, Nay: 0.

CERTIFICATION OF MINUTES

February 11, 2026

I, Lori Matchett, duly qualified and acting City Clerk for the City of David City, Nebraska, do hereby certify with regard to all proceedings of February 11, 2026; that all of the subjects included in the foregoing proceedings were contained in the agenda for the meeting, kept continually current and available for public inspection at the office of the City Clerk; that such subjects were contained in said agenda for at least twenty-four hours prior to said meeting; that the minutes of the meeting of the City Council of the City of David City, Nebraska, were in written form and available for public inspection within ten working days and prior to the next convened meeting of said body; that all news media requesting notification concerning meetings of said body were provided with advance notification of the time and place of said meeting and the subjects to be discussed at said meeting.

Lori Matchett, City Clerk

SECTION 4-213: SNOW REMOVAL; STREET MAINTENANCE OR CLEANING

The street superintendent or foreman may order any street or alley or portion thereof vacated for weather emergencies or street maintenance. Notice during the hours of 7:00 a.m. to 6:00 p.m. shall be given by personally notifying the owner or operator of a vehicle parked on such street or alley or by posting appropriate signs along such streets or alleys. In those areas in the central Business District, which are posted by permanent signs as snow removal areas, all parking on such streets or alleys between the hours of 11:00 p.m. to 7:00 a.m. shall be prohibited when there is 2 inches or more of snowfall, until the accumulated snowfall has been removed. Any person parking a vehicle in violation of this section shall be subject to the penalties provided for this chapter and such vehicle may be removed and stored under the supervision of the



Quotation Number: **RK1654787**

Quote Sent Date: **Feb 13, 2026**

Expiration Date: **Apr 14, 2026**

Prepared By: **Rick Kraft**

Phone: (308) 390-9010

Email: rick@cnebobcat.com

Customer
City of David City Water Dept.
 1220 E ST
 DAVID CITY, NE, 68632-1825

Contact
ANTHONY Kobus
 Phone: +14023672340
 Email: dcwatersup@davidcityne.gov

Dealer
Central Nebraska Bobcat, Grand Island, NE
 3809 WESTGATE ROAD
 GRAND ISLAND, NE, 68803-4927

Item Name	Item Number	Quantity	Price Each	Total
B760 T4 Bobcat Backhoe Loader	M4816	1	114,115.00	114,115.00
Standard Equipment:				
96 HP 3.4L Tier 4 Bobcat Engine			Glow Plugs	
12 Volt power socket			Interior and Exterior Mirrors	
2" Retractable Seat Belt			Interior Storage Compartments	
Accelerator Pedal			Lift Arm Support	
Auto Throttle			Mechanical Self Leveling Loader	
Auxiliary Hydraulics: Loader and Backhoe			Multi Function Loader Joystick w/ Clutch Button, Loader Aux Control, and Differential Lock Button	
Back-up Alarm			Operator Canopy: Roll Over Protective Structure (ROPS) meets ISO 3471; Falling Object Protective Structure (FOPS) meets ISO 3449 Level II	
Battery Disconnect Switch			Pilot Backhoe controls w/Auxiliary Hydraulic and Extendable Arm selector	
Instrumentation: Standard 5" Display with Keyless Start, Engine Temperature & Fuel Gauges, Hour meter, RPM and Warning Indicators. Includes maintenance interval notification, fault display, job codes, quick start, and security lockouts.			Pin On Buckets	
Differential Lock			Return to Dig function	
USB Charger with Type A & C			Ride Control	
Engine and Hydraulics Systems De-rate			Rotating Beacon	
Extendable Arm			Tie Down Points	
Fold Down Backhoe Stabilizers			Tilt Steering Column	
Foot Control for Backhoe Auxiliary/Extendable Arm Control			Travel Direction Control Lever w/Four Gear selection	
Four Wheel Drive			Vinyl Suspension Seat	
Front Horn			Work lights - (2 front & 2 rear)	
			Warranty: 2 years, or 2000 hours whichever occurs first	
90" General Purpose Bucket	M4816-R04-C01	1	3,556.00	3,556.00
Cabin w/HVAC	M4816-R01-C02	1	9,602.00	9,602.00
24" Backhoe Bucket	M4816-R05-C01	1	1,474.00	1,474.00
60 Month/2000 Hour Full Extended Warranty	9988614	1	2,900.00	2,900.00
	Total for B760 T4 Bobcat Backhoe Loader			131,647.00
36" HD Backhoe Bucet	7443867	1	2,327.00	2,327.00
	Total for 36" HD Backhoe Bucet			2,327.00
Hydraulic Pin Grabber	90A3643	1	8,719.00	8,719.00
	Total for Hydraulic Pin Grabber			8,719.00
	Quote Subtotal			142,693.00
	Dealer PDI			500.00
	Freight Charges			3,650.00

State Discount	-35,985.00
24" Backhoe Bucket	-1,474.00
2013YR Case 580 W/BKT	-36,500.00
Sales Total before Taxes	72,884.00
Taxes	0.00
Quote Total - USD	72,884.00

Customer Acceptance:	
Quotation Number: RK1654787	Purchase Order: _____
Authorized Signature:	
Print: _____	Sign: _____
Date: _____	Email: _____ Tax Exempt: Y <input type="checkbox"/> / N <input type="checkbox"/>

We Ordered This Backhoe Loader first week 1st Nov 2025

BACKHOE LOADER

EFFECTIVE AUGUST 1, 2025

For the most up-to-date Bid Specs go to DealerNET >>Backhoe Loader>>B760>Resources>Bid Specs

These bid specifications are to be used as guidelines when assisting purchasing agents and governmental specification writers in writing specifications for loaders. It is not the intent of these specifications to cover all details of design or construction. The unit shall be fully equipped to perform the work intended and shall be a new, current production model.

For individual assistance in preparing detailed specifications, contact 866-473-7050 option 3.

****SPECIFICATION(S) ARE BASED ON ENGINEERING CALCULATIONS AND ARE NOT ACTUAL MEASUREMENTS. SPECIFICATION(S) ARE PROVIDED FOR COMPARISON PURPOSES ONLY AND ARE SUBJECT TO CHANGE WITHOUT NOTICE. SPECIFICATION(S) FOR YOUR INDIVIDUAL BOBCAT EQUIPMENT WILL VARY BASED ON NORMAL VARIATIONS IN DESIGN, MANUFACTURING, OPERATING CONDITIONS, AND OTHER FACTORS.***

DIMENSIONAL SPECIFICATIONS

Ground Clearance	13.35" (339 mm)
Wheelbase	87.4" (2220 mm)
Machine Width	89.56" (2275 mm)
Cab Height	113.3" (2880 mm)
Length In Transport Position with bucket	293" (7450 mm)
Overall, Height In Transport Position	147.4" (3745 mm)
Width with Stabilizers folded down	142.4" (3618 mm)
Turning Radius Outside, Bucket Clearance - Unbraked	429.1" (10900 mm)
Turning Radius Outside, Front Tire - Unbraked	315" (8000 mm)
Loader Dump Angle @ Maximum Height.....	44°
Loader Dump Height with Standard Bucket	106" (2693 mm)
Loader Reach @ Maximum Height.....	47.4 in (1205 mm)
Height to Hinge Pin.....	136" (3455 mm)
Backhoe Max Dig Depth - Retracted.....	182.6" (4633 mm)
Backhoe Max Dig Depth - Extended.....	221.4" (5623 mm)
Max Reach from Swing Center at Ground Level- Retracted	228.1" (5796 mm)
Max Reach from Swing Center at Ground Level- Extended.....	265.2" (6735 mm)
Max Dump Height – Retracted	152.9" (3884 mm)
Max Dump Height – Extended	188.3" (4783 mm)

PERFORMANCE

Machine Performance		
Operating Weight		
Cabin (Combination bucket, 32" backhoe bucket)	19,224 lbs. (8720 kg)	
Loader Performance		
Rated Operating Capacity (per ISO 14397-1)	7,985 lbs. (3622.3 kg)	
Lift Breakout Force	14,837 lbs. (6,730.1 kg)	
Tilt Breakout Force	14,388 lbs. (6526.2 kg)	
Travel Speed	Forward	Reverse
1 st Gear	3.3 mph (5.3 km/h)	3.3 mph (5.3 km/h)
2 nd Gear	5.3 mph (8.5 km/h)	5.3 mph (8.5 km/h)
3 rd Gear	11.6 mph (18.7 km/h)	Not Recommended
4 th Gear	22.6 mph (36.4 km/h)	Not Recommended

*Rated Operating Capacity (ROC) @ 50% of Tipping Load complies with ISO 14397-1

ENGINE/ELECTRICAL

- Backhoe Loader shall have a D34 Bobcat 4-cylinder, liquid-cooled turbo charged diesel; 96.0 hp (71.6 kW) at 2200 governed RPM. 9 blade cooling fans with 22 inches diameter.
- Backhoe Loader engine shall have a minimum torque of 258.1 lbf-ft (349.9 N-m) at 1600 RPM.
- Engine displacement shall be no more than 208.0 in³ (3.4L).
- Backhoe Loader engine shall be turbo charged.
- Engine must meet EPA Tier 4 Emission compliance without the aid of a diesel particulate filter.
- Engine coolant shall include propylene glycol anti-freeze with freeze protection to -31°F (-35°C).
- Dual element air cleaner and air intake heater cold weather assist shall be provided as standard equipment.
 - Cold weather assist shall be automatically activated.
 - Air cleaner shall be a dry replaceable cartridge with safety element and pre-cleaner.
 - Air intake pre-cleaner shall be included in the air cleaner housing.
- Backhoe Loader shall limit engine RPM until specified engine operating temperature is attained to protect engine from premature wear due to cold temperatures.
- Engine shall have fuel filter with water separator.
- Fuel filter shall have a 4-micron C rating at 99.6% efficiency.
- Fuel recirculation system that can bypass fuel cooler to aid in cold weather operation shall be standard equipment.
- The backhoe loader's fuel injection system shall include a High-Pressure Common Rail (HPCR).
- Loader shall use an electric powered vane fuel pump.
- Loader shall be equipped with a Diesel Oxidation Catalyst (DOC).
- Backhoe Loader shall be equipped with a Selective Catalytic Reduction (SCR) system.
- Backhoe Loader shall require Diesel Exhaust Fluid (DEF).
- Backhoe Loader shall indicate when the SCR system is in Desox.
- An SCR DeSox Inhibit Switch shall be available.
- Backhoe Loader shall be equipped with an Engine Control Unit to electronically monitor and control the performance of the engine.
- Battery shall be a single 12 volt with a minimum of 1000 cold-cranking amps.
- Battery with battery disconnect switch inside the battery compartment.
- Alternator shall be a minimum 120 amp.
- Starter shall be a 12 volt; 3.62 hp (2.7 kW).
- Engine accessory belt shall not require any adjustments.
- Engine shutdown shall be provided as standard equipment and shall monitor engine coolant temperature, engine oil pressure and engine RPM to help prevent engine damage.
- Engine block heater shall be provided as optional equipment to provide easier starting during cold weather operation with a 120V-400W rating.

DRIVE SYSTEM

- Shall have a Power shuttle transmission.
- Backhoe Loader shall have Four-Wheel Drive as standard equipment.
- Backhoe Loader shall have rear differential Lock as standard equipment
- Backhoe Loader rear differential shall have limited slip.
- Backhoe Loader shall have front axle with 16 degrees of oscillation.
- Backhoe Loader shall have split brake pedals to allow for tighter turning.
- Parking brake shall be mechanical applied on rear axle.
- Service brakes must be hydraulic wet multi-disc brake.
 - Tires: Front: 12-16.5 12PR
 - Rear: 19.5 X 24 12 PR

HYDRAULIC SYSTEM

- Backhoe Loader shall come standard with hydraulic line routing on loader arms.
- Backhoe Loader shall come standard with hydraulic line routing on backhoe with quick couplers.
- Backhoe Loaders shall come standard with Backhoe Auxiliary Hydraulics with detent and two-way flow.
- Backhoe Loader shall come standard with Loader Auxiliary Hydraulics without detent for use with combination bucket.
- Hydraulic system shutdown shall be provided as standard equipment and shall monitor hydraulic oil temperature.
- A hydraulic oil cooler shall be standard equipment.
- Hydraulic filter shall be cartridge style design with a 10-micron C rating.
- Hydraulic oil level sight gauge shall be easily visible from the loader outside.
- Hydraulic bucket positioning shall be available as an option.
 - Shall include on/off switch inside operator cab.
- Automatic Ride control shall be available as standard equipment.
 - Shall include ability to turn on/off inside the cab.
- Shall have inertia welded rods and bases at the end of the cylinders.
- Cylinders shall meet the following minimum specifications:

Function	# of Cylinders	Bore Diameter	Rod Diameter	Stroke
Loader Lift	2	3.5" (90 mm)	2.0" (50 mm)	28.3" (720 mm)
Loader Tilt	2	2.8" (70 mm)	1.6" (40 mm)	31.3" (796 mm)
Backhoe Swing	1	3.9" (100 mm)	2.4" (60 mm)	9.8" (249 mm)
Backhoe Boom	1	4.3" (110 mm)	2.4" (60 mm)	40.2" (1021 mm)
Backhoe Arm	1	3.9" (100mm)	2.4" (60 mm)	32.8" (832 mm)
Backhoe Bucket	1	3.5" (90 mm)	2.4" (60 mm)	32.5" (825 mm)
Extendable Arm	1	2.8" (70 mm)	2" (50 mm)	39.4" (1000 mm)
Backhoe Stabilizer	2	3.5" (90 mm)	2.4" (60 mm)	23.4" (595 mm)

CAPACITIES

- Fuel Tank shall have a minimum capacity of 37 gal. (140 L).
- Cooling System shall have a minimum capacity of 3.3 gal. (12.5 L).
- Hydraulic Reservoir shall have a minimum capacity of 14.5 gal. (55 L).
- Hydraulic System shall have a minimum capacity of 19.8 gal. (75 L).
- Transmission Oil shall have a minimum capacity of 5 gal. (19 L).
- Axle Oil shall have a minimum capacity of 7 gal. (26.6 L).
- Diesel Exhaust Fluid tank shall have a minimum capacity of 3.98 gal. (15 L)
- Engine Oil and Filter. 3.2 gal. (12.7 qt)

OPERATOR CONTROLS

- Backhoe Loader direction and gear shall be controlled by a travel direction control lever located on steering column.
- Backhoe Loader drive shall be controlled by a foot pedal that controls engine speed.
- Backhoe Loader will have a steering wheel with a control knob.
- Backhoe Loader control joystick control will the following:
 - Loader workgroup lower, raise, roll back, and dump.
 - Loader workgroup will include float position.
 - Push buttons on the joystick to operate powered attachments.
 - Push button that will roll back buck to dig position (Return to Dig)
 - Push button to activate electro-hydraulic differential lock.
 - Push button on front of joystick that activates the cut-out clutch to disengage the transmission.
- Backhoe will be controlled by two pilot joysticks with adjustable position settings.
- Backhoe will have ability to switch from ISO and STD pattern with button in the cab.
 - Right hand backhoe joystick will have button to toggle between extendable arm and backhoe auxiliary function.
 - Right hand backhoe joystick will have button pump unload button to allow for precise movements of the hydraulic functions.
 - Left hand backhoe joystick will have push button for horn.
- Backhoe stabilizers are to be controlled by dual levers that raise and lower stabilizers.
- Backhoe stabilizers with street pads
- Backhoe auxiliary flow or extendable arm will be controlled by a foot pedal.
- Auto Idle will be standard equipment when in Backhoe operating position and have the capability to be turned on or off.
- Engine speed shall be controlled by a rotary knob mounted if Auto Idle is disengaged while in the Backhoe operating position.
- Engine speed shall be controlled by the accelerator pedal when in the Loader operating position.
- Engine starting and shutdown functions shall be controlled with a keyless start or optional key switch.
- Parking brake shall be controlled by a hand lever positioned to the right of the operator while seated in the Loader operating position.

OPERATOR COMFORT

- Shall have an enclosed cab with HVAC, front retractable sunshade, front, and rear wipers available as an option.
- Wipers within the optional HVAC configuration speeds shall be high, low, off & intermittent
- Doors on optional cab have ability to lock open.
- Windows on optional cab shall have ability to lock open.
- Rear optional window to open 180 degree and lock into place with overhang for rain protection.
- An adjustable suspension seat shall be standard equipment.
- Arm rest shall be standard equipment.
- Cup holder shall be standard equipment.
- Storage bin / toolbox in operator platform shall be standard.
- Dome lights shall be standard.
- Front and rear work lights shall be available as standard equipment.
- 12-volt power ports shall be available as standard equipment.
- USB Charger with Type A & C shall be available as standard equipment.
- An FM/AM Radio shall be available as a dealer installed option.
- Radio shall be in front of the operator.
- Front headlights shall be available as a dealer installed option.

STANDARD BACKHOE LOADER INSTRUMENTATION

- The backhoe loader conditions shall be monitored by a combination of gauges and warning lights in the operator's line of sight that monitor the following functions. The system shall alert the operator of monitored backhoe loader malfunctions by way of an audible alarm and visual warning lights.

Indicators

- Turn Indicator Light
- Generic Warning
- Transmission Warning
- Brake System Warning
- Park Brake Indicator
- Turn Signals

Data Display Screen

- Battery Voltage
- Travel Direction Indicator
- Engine Preheat
- Engine RPM
- General Warning
- Hourmeter
- Service Codes
- Auto shift
- Parking Brake
- Backhoe Controls Indicator
- Engine Warning

Gauges

- Engine Coolant Temp
- Fuel Level
- Diesel Exhaust Fluid

ATTACHMENTS

- Backhoe shall have capability to support hydraulic operated attachments without machine modification. Quick Couplers, two-way flow and detent.

Loader

- GP Pin-on Loader Bucket
 - Bucket Heaped Capacity: 35.3 ft³ (1.0 m³)
 - 8 bolted-on teeth
 - Pallet Forks Ready with mounting holes
- Combination Pin-on Loader Bucket
 - Bucket Heaped Capacity: 35.3 ft³ (1.0 m³)
 - 8 bolted-on teeth
 - Pallet Forks Ready with mounting holes

Backhoe

- 24" Pin-on Bucket
- 32" Pin-on Bucket

SERVICEABILITY

Access shall be available to the following:

- Air cleaner
- Alternator
- Battery
- Cooling system (engine oil and hydraulic oil coolers) for cleaning
- Engine oil and fuel filters
- Engine oil drain and dipstick
- Starter
- Air Conditioning Compressor
- DOC/SCR catalyst housing

Maintenance Items:

- Enclosed Cabin Air Filter
- Enclosed Cabin HVAC Air Filter
- Primary Engine Air Filter
- Secondary Engine Air Filter
- Urea Filter
- In-line Fuel Filter
- Fuel Filter with Water Separator
- Hydraulic Tank Breather
- Fuel Tank Breather
- Hydraulic Oil Filter
- Transmission Oil Filter
- Engine Oil Filter

SAFETY EQUIPMENT

- Cab/Canopy shall meet ISO 3471 for Rollover Protective Structure and ISO 3449 for Falling Object Protective Structure.
- A lift arm support device shall assist in servicing the backhoe loader to be provided as standard equipment.
- Grab handles shall assist the operator in mounting and dismounting the backhoe loader will be provided as standard equipment.
- Emergency exit provided through right side door, side window, and rear window.
- Shall have operational instructions and warning decals with pictorials and international symbols.
- Shall have a weather resistant operator handbook written in English attached to the backhoe loader.
- Backhoe Loader shall include an alarm package including a horn and backup alarm as standard equipment.
- Rotating beacons shall be available as standard equipment.
- 4-way flashing lights shall be available as standard
- Turn signals shall be available as standard equipment.
- Fire extinguisher kit shall be available as an option.
- Backhoe transport lock released within the cabin with the window closed
- Locks on doors, hydraulic fill, hood and optional fuel cap

Prepared For

CITY OF DAVID CITY
451 N 5TH ST
DAVID CITY, NE 686321648
(402) 367-7470

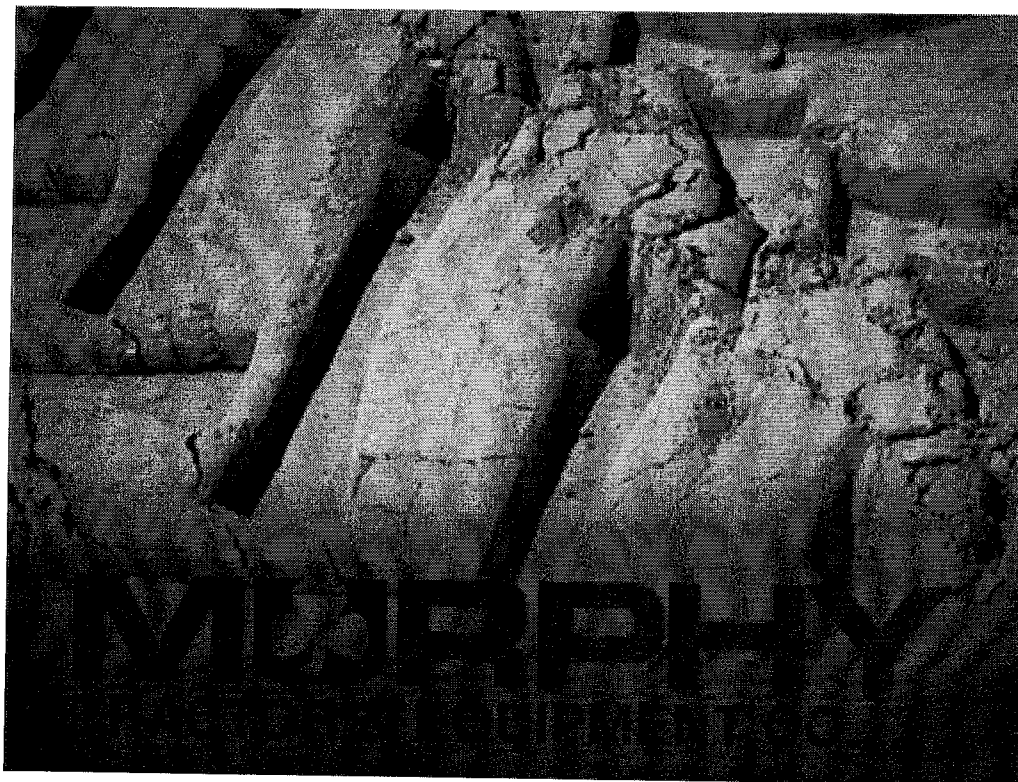
Prepared By

Zach Happel
Murphy Tractor & Equipment
6100 Arbor Road
Lincoln, NE 68517
402-432-8314
zhappel@murphytractor.com

Quote Id 1525117

Creation Date 21-Jan-2026

Expiration Date 27-Feb-2026



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Customer Notes

Sourcewell contract 011723-JDC
Member # 161741
Add 5 year/2000hr Powertrain and Hydraulic Warranty for additional \$1,971.00
Add 36" Tooth Bucket for \$1,952.00
Remove Backhoe Aux Hydraulics for \$2,030.00

Quote Summary

Equipment Summary	Selling Price	QTY In Group	Extended
310 P-Tier Backhoe Loader	\$128,400.00	1	\$128,400.00
Equipment Total			\$128,400.00

Trade In Summary	Extended
2013 Case 580SN	\$43,000.00
Final Trade Allowance	\$43,000.00

Quote Summary	
Total Selling Price	\$128,400.00
Total Trade-In Allowance	(\$43,000.00)
Trade Difference	\$85,400.00
Sub-total	\$85,400.00
Balance Due	\$85,400.00

Salesperson : X _____

Accepted By : X _____

Selling Equipment

Quote # 1525117
Customer CITY OF DAVID CITY

310 P-Tier Backhoe Loader

QTY In Group : 1

Hours	---	Selling Price
Serial Number	---	\$128,400.00
Stock Number	---	
PUK Parent Serial #		

Equipment Summary

Description	Qty
310 P-Tier Backhoe Loader	1

Base / Options

Description	Qty
Level 2 Cab (LED Worklights and Air Suspension Cloth Seat)	1
Basic Package Radio	1
JDLINK™	1
Powershift Transmission - Mechanical Front Wheel Drive (MFWD) with Open Differential	1
John Deere 4.5L - FT4/Stage IV (102HP)	1
Galaxy 19.5L-24 12PR Rear & 12-16.5 R4 12PR Front	1
Dual Batteries with Disconnect and Jump Post	1
Extendible Dipperstick	1
1000 lb. (454 kg.) Front Counterweight	1
Auxiliary Hydraulics with One Way Flow (Hammer)	1
Pilot Controls, Two Lever, with Pattern Selection	1
Two-Function Loader Hydraulics, Single Lever	1
24 in. (611 mm.) Heavy-Duty Bucket, 6.9 cu. ft. (0.20 cu. m.)	1
Multi-Brand Quick Coupler - Less Thumb	1
86 in. (2.18 m.) General Purpose Bucket, 1.31 cu. yd. (1.00 cu. m.)	1
Premium Mirrors - Exterior Rear View Mirrors (2) and Front View Mirror (1)	1
Flip-down Front Sun Visor	1
Engine Coolant Heater	1

Total Base / Options

Selling Price Subtotal

Total Selling Price

310 P

Backhoe Loader



JOHN DEERE





READY TO RUN IN THE REAL WORLD

When owners and operators just like you — the people who know what customers need for their operations to succeed — weighed in on our latest backhoe loaders, we heeded the real-world feedback. You asked for one machine that capably completes the work of two. A powerful overachiever with outstanding loader performance, backhoe capability, and multifunction versatility. Featuring streamlined transitions between front loader and rear backhoe functionality. And packed with productivity-elevating options to match the application. The 310 P-Tier Backhoe is a standout multitasker ready to run — and get more done — in any corner of the working world.

310 P-TIER BACKHOE LOADER

FEATURES

Powerful engine technology

Rugged EPA Final Tier 4 (FT4)/EU Stage IV John Deere PowerTech™ EWL engine boosts power, torque, and reliability compared to previous models. Simple two-valve cylinder-head, wet-sleeve design with replaceable cylinder liners provides uniform cooling and aids in reducing oil breakdown and ring wear. Filters have been redesigned and relocated for easier servicing over earlier models.

Always on the move

Optional limited-slip mechanical-front-wheel drive (MFWD) delivers sure-footed traction in any ground condition. Engage momentary MFWD “on the fly” with a touch of a button on the loader control (included with optional third-function auxiliary loader hydraulics).

Keeping it cool

Field-proven open-center control valve and pump combination delivers high contamination resistance, exceptional swing control and multifunction performance, steady pressure/force control, and reliable operator “feel” compared to other hydraulic systems. Continuous oil flow boosts cooling and filtration, even with all functions in neutral. Cleaner, cooler oil improves system life and promotes uptime.

Get set for a new view

Exclusive to the backhoe industry, our optional rearview camera system with a dedicated eight-inch touchscreen display allows the operator to “overlay the view” to virtually remove the rear machine structure.



EXCLUSIVE
REARVIEW CAMERA

Comfort in the cab

Operator station is wider and features an updated HVAC system that outputs 10-percent more airflow compared to the previous model. Rear and side windows have been restyled for clear visibility. Enjoy the standard adjustable mechanical seat, or opt for an air-suspension or new premium heated and vented seat. New 25-button sealed-switch module on the vertical cab post and eye-level fuel and temperature gauges ease operator awareness and navigation.

Save fuel with economy mode

Standard economy mode can be configured separately between loader and backhoe functions. Activate economy mode for backhoe functions while retaining full power for loader functions. This helps maximize fuel usage in lighter-work applications with minimal effect on machine performance.

Take it easy

Highly populated "palm-on-top" loader-control grip is intuitive and easy to use.

Control the ride

Optional ride control and new manual ride control reduce tire flexing over rough terrain at high speeds with a loaded bucket, reducing material spillage and improving the ride, to boost operator comfort and efficiency.

Hit the ground running

Same-side ground-level service points speed daily checks and fills. Other commonsense features such as quick-change filters, extended service intervals, simple-to-read sight gauges, and easy-access grease zerks help increase uptime.



**CAB COMFORTS ELEVATE THE
OPERATOR EXPERIENCE**

310 P-TIER BACKHOE LOADER



Let there be (more) light

Optional LED 10-light package brightens darker jobsites. Optional four-corner, low-profile LED beacon system and field-kit boom light boost machine visibility to crew and bystanders.

Connected machines

John Deere construction equipment comes with in-base connectivity — free from subscriptions or annual renewals. Analyze critical machine data, track utilization, review diagnostic alerts, and more from **the John Deere Operations Center™**. The Operations Center also enables John Deere Connected Support™, which uses data from thousands of connected machines to proactively address issues before they arise. With your approval, your dealer can also remotely monitor machine health, diagnose problems, and even update machine software without a trip to the jobsite.*

*Availability varies by region and product. Options not available in every country.



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310 P-TIER BACKHOE LOADER SPECIFICATIONS

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Engine	310 P-TIER	
Manufacturer and Model	John Deere PowerTech™ EWL 4.5L 4045HL051 turbocharged for Synchro-Shuttle standard transmission / John Deere PowerTech EWL 4.5L 4045HL052 for PowerShift™ optional transmission	
Non-Road Emission Standard	EPA Final Tier 4/EU Stage IV	
Displacement	4.5 L (276 cu. in.)	
Gross Peak Power	76 kW (102 hp) at 1,600 rpm	
Net Peak Power (ISO 9249)	75 kW (100 hp) at 1,600 rpm	
Net Peak Torque (ISO 9249)	458 Nm (338 lb.-ft.) at 1,500 rpm	
Net Torque Rise	51%	
Lubrication	Pressure system with spin-on filter and cooler	
Air Cleaner	Dual-stage dry type with safety element and evacuator valve	
Cooling		
Fan Type	Electronically controlled, variable-rate, suction-type cooling fan standard	
Engine Coolant Rating	-40 deg. C (-40 deg. F)	
Engine Oil Cooler	Oil to water	
Powertrain		
Synchro-Shuttle Standard Transmission	4-speed manual-range gear-selection transmission with synchronizers and hydraulic reverser; electric clutch cutoff on loader lever and manual range-selection lever	
Torque Converter	Single stage, dual phase with 2.64:1 stall ratio, 300 mm (11.8 in.)	
Maximum Travel Speeds With Standard Engine and 19.5L-24 Rear Tires	<i>Forward</i>	<i>Reverse</i>
Gear 1	5.9 km/h (3.7 mph)	5.9 km/h (3.7 mph)
Gear 2	9.6 km/h (6.0 mph)	9.6 km/h (6.0 mph)
Gear 3	20.9 km/h (13.0 mph)	20.9 km/h (13.0 mph)
Gear 4	38.0 km/h (23.6 mph)	38.0 km/h (23.6 mph)
PowerShift Optional Transmission	4 speed, helical-cut gears, full PowerShift transmission with hydraulic reverser; electric clutch cutoff on loader lever	
Torque Converter	Single stage, dual phase with 2.63:1 stall ratio, 280 mm (11.0 in.)	
Maximum Travel Speeds With Standard Engine and 19.5L-24 Rear Tires	<i>Forward</i>	<i>Reverse</i>
Gear 1	5.3 km/h (3.3 mph)	6.8 km/h (4.2 mph)
Gear 2	9.8 km/h (6.1 mph)	12.4 km/h (7.7 mph)
Gear 3	20.2 km/h (12.6 mph)	—
Gear 4	36.4 km/h (22.6 mph)	—
Axles		
Axle Oscillation, Stop to Stop, Front Axle	22 deg.	
Axle Ratings	<i>Front</i>	<i>Rear</i>
SAE J43	5000 kg (11,000 lb.)	6500 kg (14,300 lb.)
Dynamic	9000 kg (19,800 lb.)	10 000 kg (22,000 lb.)
Static	24 500 kg (54,000 lb.)	26 500 kg (58,400 lb.)
Ultimate	41 500 kg (91,500 lb.)	41 500 kg (91,500 lb.)
Differentials		
Mechanical-Front-Wheel-Drive (MFWD)	Open – standard; automatic, limited-slip traction control – custom or optional	
Axle		
Rear Axle	Loader-grip actuated, hydraulically engaged 100% mechanical lock	
Steering (ISO 5010)	Hydrostatic power steering and emergency steering	
Axle	<i>MFWD</i>	
Curb-Turning Radius		
With Brakes	3.46 m (11 ft. 4 in.)	
Without Brakes	3.95 m (13 ft. 0 in.)	
Bucket-Clearance Circle		
With Brakes	10.08 m (33 ft. 1 in.)	
Without Brakes	10.80 m (35 ft. 5 in.)	
Steering Wheel Turns (lock to lock)	2.7	
MFWD Axle	Heavy duty, outboard planetary final drives distribute shock loads over 3 gears	
Rear Axle	Heavy duty, outboard planetary final drives distribute shock loads over 3 gears	

310 P-TIER BACKHOE LOADER SPECIFICATIONS

310

P

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Powertrain (continued)		310 P-TIER	
Brakes (ISO 3450)			
Service	Power assisted, hydraulic wet disc, mounted inboard, self-adjusting and self-equalizing		
Parking	Spring applied, hydraulically released, wet, multi-disc, independent of service brakes with electric switch control		
Hydraulics			
Main Pump	Open-center system; single-gear pump		
Pump Flow at 2,200 rpm			
Backhoe	110 L/m (28.9 gpm)		
Loader	110 L/m (28.9 gpm)		
System Relief Pressure			
Backhoe	24 993 kPa (3,625 psi)		
Loader	22 063 kPa (3,200 psi)		
Controls			
Backhoe	2-lever mechanical standard; pilot controls with pattern select and manual and/or electrohydraulic (EH) auxiliary functions optional		
Loader	Single-lever control with horn, rear differential lock, electric clutch cutoff switch, and MFWD (momentary) standard; single-lever control with horn, rear differential lock, electric clutch cutoff switch, MFWD (momentary), gear-selection buttons, and EH proportional auxiliary roller optional		
Cylinders			
Heat-treated, chrome-plated, polished rods; hardened steel (replaceable bushings) pivot pins			
	<i>Bore</i>	<i>Rod Diameter</i>	<i>Stroke</i>
Loader Boom (2)	80 mm (3.15 in.)	50 mm (1.97 in.)	790 mm (31.10 in.)
Loader Bucket (1)	90 mm (3.54 in.)	50 mm (1.97 in.)	744 mm (29.29 in.)
Backhoe Boom (1)	110 mm (4.33 in.)	56 mm (2.20 in.)	821 mm (32.32 in.)
Backhoe Crowd (1)	110 mm (4.33 in.)	63 mm (2.48 in.)	553 mm (21.77 in.)
Backhoe Bucket (1)	80 mm (3.15 in.)	50 mm (1.97 in.)	892 mm (35.12 in.)
Backhoe Swing (2)	80 mm (3.15 in.)	45 mm (1.77 in.)	310 mm (12.20 in.)
Backhoe Extendable Dipperstick (1)	63 mm (2.48 in.)	32 mm (1.26 in.)	1062 mm (41.81 in.)
Backhoe Stabilizer (2)			
Standard	80 mm (3.15 in.)	50 mm (1.97 in.)	500 mm (19.69 in.)
Extended Optional	100 mm (3.94 in.)	50 mm (1.97 in.)	500 mm (19.69 in.)
MFWD (1)	65 mm (2.56 in.)	40 mm (1.57 in.)	210 mm (8.27 in.)
Electrical			
Voltage	12 volt		
Alternator Rating	145 amp		
Lights	10 halogen: 4 front, 4 rear, and 2 side docking (HB3 [high-beam] bulb); turn signals and flashers: 2 front and 2 rear; stop- and taillights; and 2 rear reflectors; factory-installed option for 10 LED floodlights in lieu of standard halogen light package		
Operator Station			
Type (ISO 3471)	Canopy, isolation mounted, ROPS/FOPS, left/right access, with molded roof; optional fully enclosed cab		
Tires/Wheels			
	<i>Front</i>	<i>Rear</i>	
With MFWD	12-16.5 NHS (12)	19.5L-24 R4 (12)	
	12.5/80-18 R4 (10)	19.5L-24 R4 (12)	
	12.5/80-18 R4 (10)	21L-24 R4 (12)	
	340/80R18 XMCL	500/70R24 XMCL	
	340/80R18 550	500/70R24 550	
	340/80R18 580	500/70R24 580	
Serviceability			
Refill Capacities		Refill Capacities (continued)	
Cooling System		Fuel Tank (with ground-level fueling)	128.7 L (34.0 gal.)
Cab	27.5 L (29.1 qt.)	Diesel Exhaust Fluid (DEF) Tank	13.7 L (3.6 gal.)
Canopy	25.7 L (27.2 qt.)	Hydraulic System	109.8 L (29.0 gal.)
Rear Axle	18.0 L (19.0 qt.)	Hydraulic Reservoir	42.7 L (11.3 gal.)
Engine Oil (including vertical spin-on filter)	13.0 L (13.7 qt.)	MFWD Axle	
Torque Converter and Transmission		Differential Housing	6.5 L (6.9 qt.)
Synchro-Shuttle	18.0 L (19.0 qt.)	Planetary (each)	0.9 L (1.0 qt.)
PowerShift	15.1 L (16.0 qt.)		

310 P-TIER

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Operating Weights 310 P-TIER

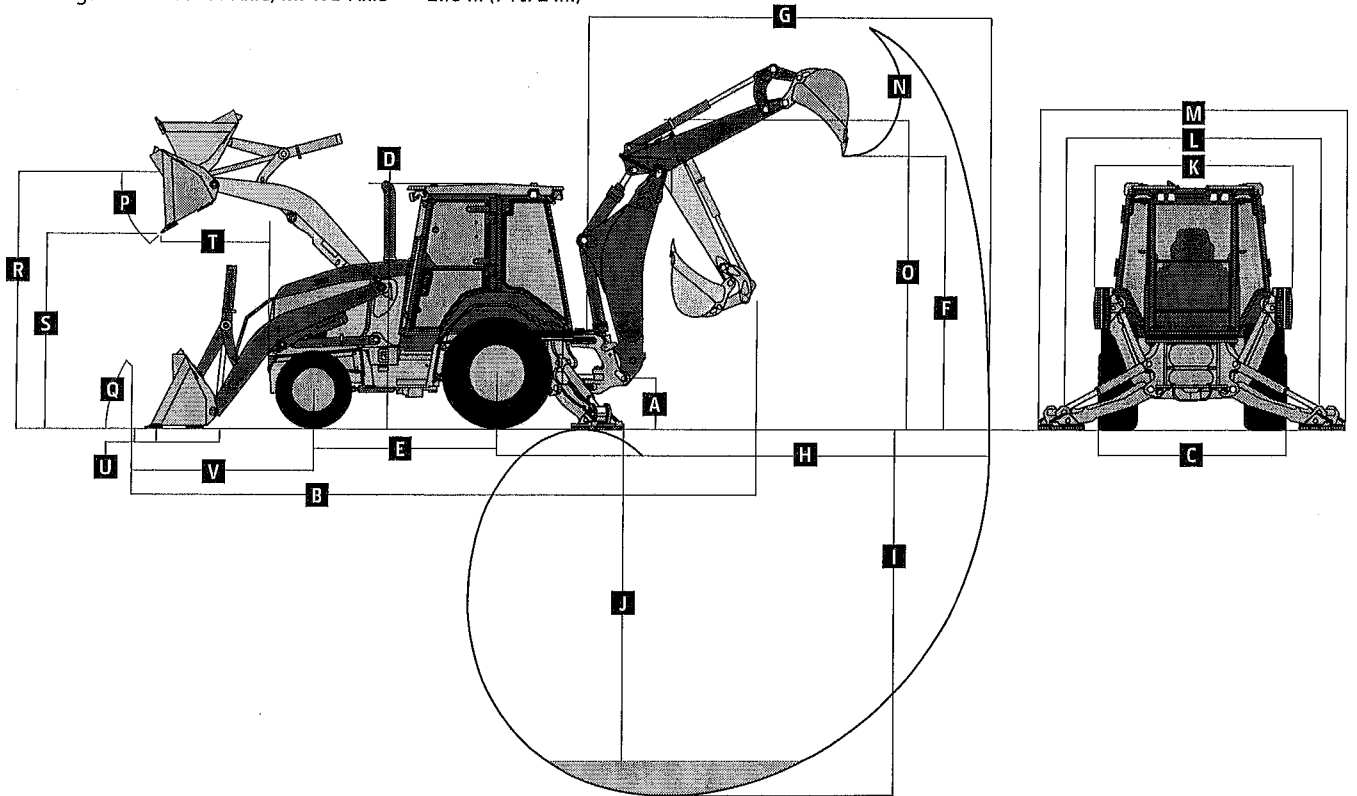
ISO 6016 Operating Mass	7750 kg (17,086 lb.)
ISO 6016 Gross Machinery Mass	9225 kg (20,338 lb.)
With Full Fuel Tank, 75-kg (165 lb.) Operator, Standard Equipment, and Canopy With 204-kg (450 lb.) Counterweight	7356 kg (16,217 lb.)
Typical With Cab, Extendable Dipperstick, and 454-kg (1,000 lb.) Counterweight	8145 kg (17,957 lb.)

Optional Components (weight difference between base equipment and option)

Cab	346 kg (763 lb.)
Extendable Dipperstick	193 kg (425 lb.)
Front Loader Coupler	316 kg (697 lb.)
Backhoe Bucket Coupler	75 kg (165 lb.)

Overall Dimensions (see line art below)

A	Ground Clearance, Minimum	247 mm (10 in.)
B	Overall Length, Transport	7.47 m (24 ft. 6 in.)
C	Width Over Tires	2.20 m (7 ft. 3 in.)
D	Height to Top of ROPS/Cab	2.86 m (9 ft. 4 in.)
E	Length From Axle to Axle, MFWD Axle	2.18 m (7 ft. 2 in.)



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310 P-TIER

Backhoe Dimensions and Performance

(see line art below left)

310 P-TIER

Backhoe specifications are with 610-mm x 0.18-m³ (24 in. x 6.5 cu. ft.) bucket; dipper lift specs are with a boom angle of 65 deg.

Bucket Range	305–610 mm (12–24 in.)		
Digging Force			
Bucket Cylinder	48.5 kN (10,896 lb.)		
Crowd Cylinder	31.1 kN (7,002 lb.)		
Swing Arc	180 deg.		
Operator Control	2 levers		
		<i>With Optional Extendable Dipperstick</i>	
	<i>With Standard Backhoe</i>	<i>Retracted</i>	<i>Extended</i>
F Loading Height, Truck Loading Position	3.48 m (11 ft. 5 in.)	3.56 m (11 ft. 8 in.)	4.22 m (13 ft. 10 in.)
G Reach From Center of Swing Pivot	5.42 m (17 ft. 9 in.)	5.48 m (18 ft. 0 in.)	6.50 m (21 ft. 4 in.)
H Reach From Center of Rear Axle	6.48 m (21 ft. 3 in.)	6.55 m (21 ft. 6 in.)	7.57 m (24 ft. 10 in.)
I Digging Depth (SAE maximum)	4.15 m (13 ft. 8 in.)	4.23 m (13 ft. 11 in.)	5.29 m (17 ft. 4 in.)
J Digging Depth (SAE)			
610-mm (2 ft.) Flat Bottom	4.12 m (13 ft. 6 in.)	4.20 m (13 ft. 9 in.)	5.26 m (17 ft. 3 in.)
2440-mm (8 ft.) Flat Bottom	3.78 m (12 ft. 5 in.)	3.86 m (12 ft. 8 in.)	5.01 m (16 ft. 5 in.)
K Stabilizer Width, Transport With Standard Pads, No Guards, and No Sensors			
Standard Stabilizers	2.19 m (7 ft. 2 in.)	2.19 m (7 ft. 2 in.)	2.19 m (7 ft. 2 in.)
Extended Stabilizers	2.42 m (7 ft. 11 in.)	2.42 m (7 ft. 11 in.)	2.42 m (7 ft. 11 in.)
L Stabilizer Spread, Operating			
Standard Stabilizers	3.10 m (10 ft. 2 in.)	3.10 m (10 ft. 2 in.)	3.10 m (10 ft. 2 in.)
Extended Stabilizers	3.45 m (11 ft. 4 in.)	3.45 m (11 ft. 4 in.)	3.45 m (11 ft. 4 in.)
M Stabilizer Overall Width, Operating			
Standard Stabilizers	3.53 m (11 ft. 7 in.)	3.53 m (11 ft. 7 in.)	3.53 m (11 ft. 7 in.)
Extended Stabilizers	4.03 m (13 ft. 3 in.)	4.03 m (13 ft. 3 in.)	4.03 m (13 ft. 3 in.)
N Bucket Rotation	190 deg.	190 deg.	190 deg.
O Transport Height	3.48 m (11 ft. 5 in.)	3.48 m (11 ft. 5 in.)	3.48 m (11 ft. 5 in.)

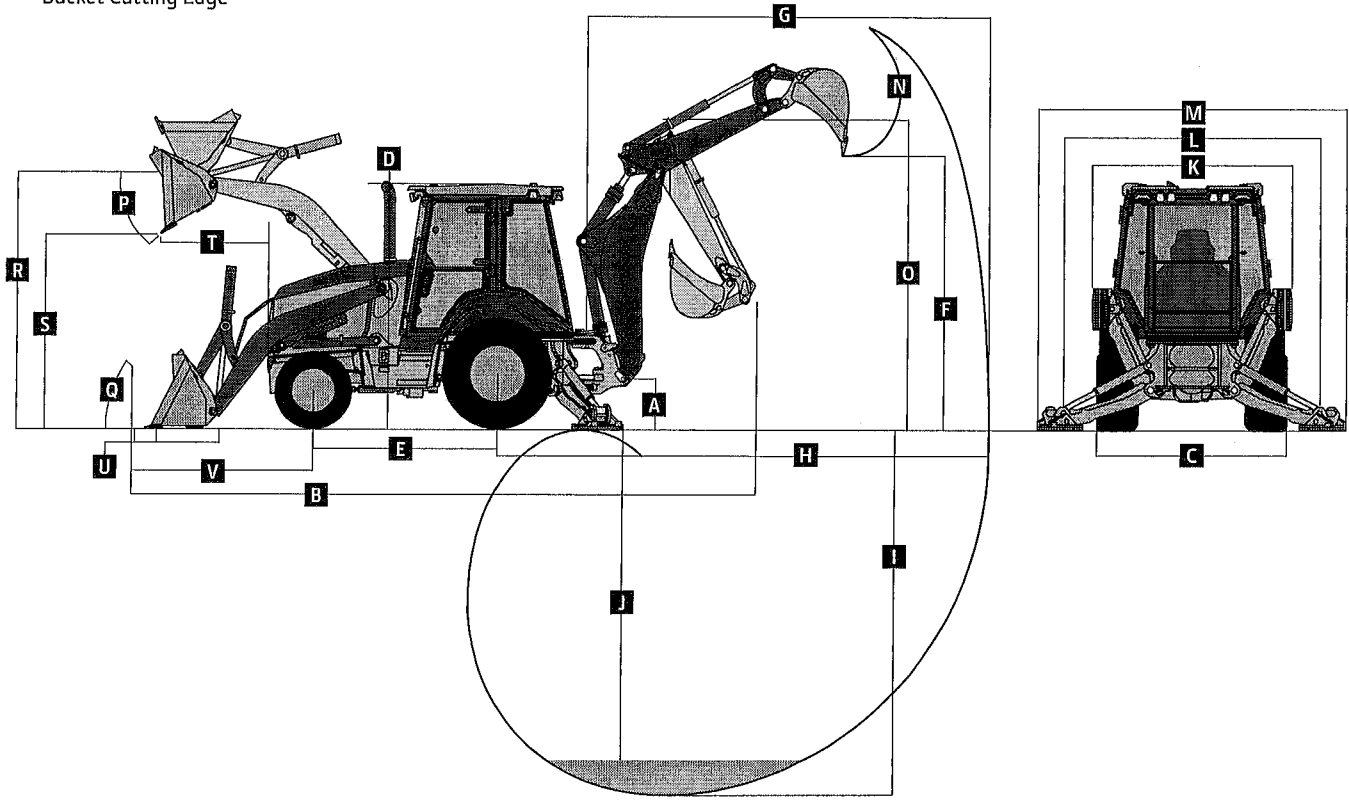
Loader Dimensions and Performance (see line art at left)

P Bucket Dump Angle, Maximum	45 deg.
Q Rollback Angle at Ground Level	40 deg.

310 P-TIER

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Loader Dimensions and Performance (continued) (see line art below)		310 P-TIER			
		General-purpose	General-purpose	General-purpose	Multipurpose
Bucket Capacity		0.86 m ³ (1.13 cu. yd.)	0.86 m ³ (1.13 cu. yd.)	1.00 m ³ (1.31 cu. yd.)	0.93 m ³ (1.22 cu. yd.)
Width		2184 mm (86 in.)	2184 mm (86 in.)	2184 mm (86 in.)	2184 mm (86 in.)
Weight		374 kg (826 lb.)	416 kg (918 lb.)	405 kg (893 lb.)	882 kg (1,946 lb.)
Breakout Force		41.5 kN (9,336 lb.)	42.0 kN (9,434 lb.)	39.2 kN (8,807 lb.)	36.4 kN (8,183 lb.)
Lift Capacity, Full Height		2926 kg (6,451 lb.)	2962 kg (6,530 lb.)	2721 kg (5,999 lb.)	2371 kg (5,227 lb.)
R Height to Bucket Hinge Pin, Maximum		3.35 m (11 ft. 0 in.)	3.35 m (11 ft. 0 in.)	3.35 m (11 ft. 0 in.)	3.35 m (11 ft. 0 in.)
S Dump Clearance, Bucket at 45 deg.		2.61 m (8 ft. 7 in.)	2.64 m (8 ft. 8 in.)	2.50 m (8 ft. 3 in.)	2.55 m (8 ft. 4 in.)
T Reach at Full Height, Bucket at 45 deg.		870 mm (34.2 in.)	835 mm (32.9 in.)	976 mm (38.4 in.)	874 mm (34.4 in.)
U Digging Depth Below Ground, Bucket Level		212 mm (8.3 in.)	212 mm (8.3 in.)	212 mm (8.3 in.)	251 mm (9.9 in.)
V Length From Front Axle Centerline to Bucket Cutting Edge		2.09 m (6 ft. 10 in.)	2.04 m (6 ft. 8 in.)	2.24 m (7 ft. 4 in.)	2.16 m (7 ft. 1 in.)



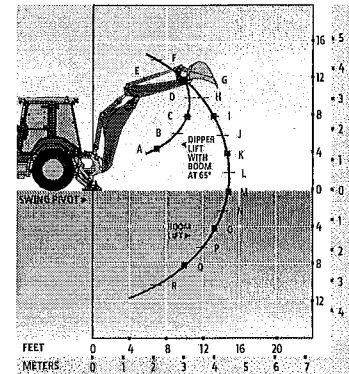
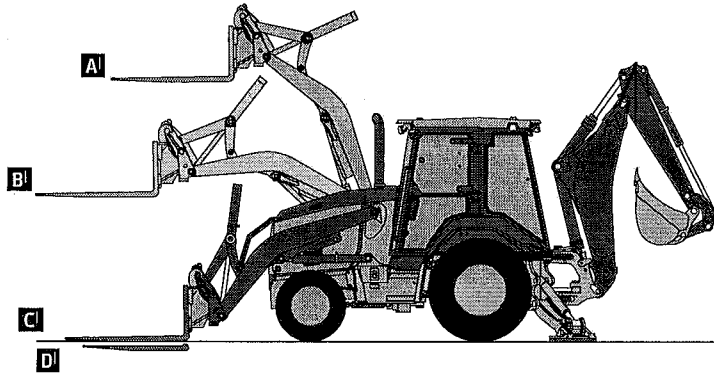
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Lift Capacity With Quick-Coupler Forks

[see line art below center]

310 P-TIER

	1219-mm (48 in.) Tines	1524-mm (60 in.) Tines
Hydraulic Capacity		
A Maximum Height	1680 kg (3,704 lb.)	1551 kg (3,419 lb.)
B Maximum Reach	2655 kg (5,852 lb.)	2504 kg (5,520 lb.)
C At Ground Line	3471 kg (7,652 lb.)	3271 kg (7,211 lb.)
D Below Ground Line	278 mm (11.0 in.)	278 mm (11.0 in.)



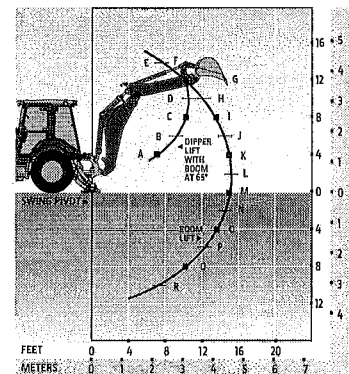
With Standard Dipperstick

Lift Capacities [see line art at right]

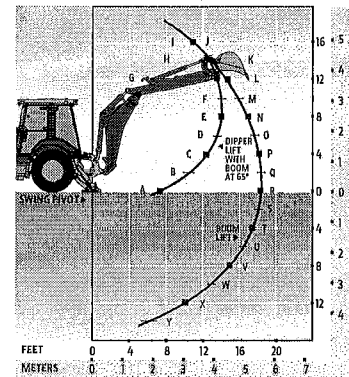
Lift capacities are over-end values in kg (lb.). Figures listed are 100% of the maximum lift force available.

	With 1.06-m (3 ft. 6 in.) Extendable Dipperstick, Retracted	With 1.06-m (3 ft. 6 in.) Extendable Dipperstick, Extended
<i>With Standard Dipperstick</i>		
A 3726 kg (8,215 lb.)	4064 kg (8,960 lb.)	2886 kg (6,363 lb.)
B 2735 kg (6,031 lb.)	2489 kg (5,487 lb.)	2262 kg (4,986 lb.)
C 2395 kg (5,280 lb.)	2195 kg (4,839 lb.)	1808 kg (3,985 lb.)
D 2344 kg (5,167 lb.)	2150 kg (4,739 lb.)	1624 kg (3,580 lb.)
E 2144 kg (4,727 lb.)	1945 kg (4,287 lb.)	1545 kg (3,407 lb.)
F 1708 kg (3,766 lb.)	1514 kg (3,337 lb.)	1473 kg (3,247 lb.)
G 1674 kg (3,690 lb.)	1485 kg (3,274 lb.)	1319 kg (2,909 lb.)
H 1606 kg (3,541 lb.)	1424 kg (3,140 lb.)	1074 kg (2,369 lb.)
I 1537 kg (3,389 lb.)	1360 kg (2,998 lb.)	900 kg (1,984 lb.)
J 1472 kg (3,245 lb.)	1298 kg (2,862 lb.)	1072 kg (2,364 lb.)
K 1411 kg (3,111 lb.)	1241 kg (2,735 lb.)	1093 kg (2,409 lb.)
L 1356 kg (2,989 lb.)	1188 kg (2,618 lb.)	1081 kg (2,384 lb.)
M 1305 kg (2,877 lb.)	1139 kg (2,510 lb.)	1059 kg (2,334 lb.)
N 1259 kg (2,775 lb.)	1094 kg (2,411 lb.)	1032 kg (2,276 lb.)
O 1216 kg (2,682 lb.)	1053 kg (2,321 lb.)	1004 kg (2,214 lb.)
P 1179 kg (2,599 lb.)	1016 kg (2,240 lb.)	977 kg (2,154 lb.)
Q 1147 kg (2,529 lb.)	985 kg (2,171 lb.)	950 kg (2,095 lb.)
R 1134 kg (2,500 lb.)	969 kg (2,137 lb.)	925 kg (2,040 lb.)
S —	—	902 kg (1,989 lb.)
T —	—	881 kg (1,942 lb.)
U —	—	863 kg (1,902 lb.)
V —	—	848 kg (1,871 lb.)
W —	—	841 kg (1,854 lb.)
X —	—	849 kg (1,873 lb.)
Y —	—	955 kg (2,104 lb.)

Lift capacities are over end with stabilizers down and tires tangent to ground.



With Extendable Dipperstick, Retracted



With Extendable Dipperstick, Extended

While general information, pictures, and descriptions are provided, some illustrations and text may include product options and accessories NOT AVAILABLE in all regions, and in some countries products and accessories may require modifications or additions to ensure compliance with the local regulations of those countries.

Net engine power is with standard equipment including air cleaner, exhaust system, alternator, and cooling fan at test conditions specified per ISO 9249. Specifications and design are subject to change without notice. Wherever applicable, specifications are in accordance with ISO standards. Except where otherwise noted, these specifications are based on a unit with 19.5L-24-in. 12PR (R4) tubeless rear and 12-16.5 NHS (I2) front tires, and 0.86-m³ (1.13 cu. yd.) loader bucket.



JOHN DEERE



QUOTATION

401 Northwest 56th Street
 Lincoln, NE 68528
 (888) 833-1455

QUOTATION DATE 02/25/2026
VALID UNTIL 03/27/2026
QUOTATION ID QTO111427-9

Quoted To:
 City Of David City
 557 N 4th St
 David City, NE 68632-1623
 USA

Ship To:
 City Of David City - C/O
 Clerk-Treasurer/Generators
 557 N 4th St
 David City, NE 68632-1623
 USA

Invoice Account	Order Account	Customer PO	Delivery Method	Page
1575250	1575250			1 of 3
Salesperson	Phone Number	Email Address		
Travis Boyll	402-429-3450	travisboyll@nmccat.com		

Item Information

Machine Model: 416 **Make:** Caterpillar
Machine Model: 2193383_BHL **Make:** Caterpillar
Machine Model: 2193381_BHL **Make:** Caterpillar

Machine Specification

Model: 416
Description
 416 07A BHL DCA3B
 LANE 1 ORDER
 PRODUCT LINK, CELLULAR, PLE643
 TIRES, 340 80-18/500 70-24, MX
 INSTRUCTIONS, ANSI
 BELT, SEAT, 2" SUSPENSION
 STABILIZER PADS, FLIP-OVER
 COUPLER, PG, MAN.D.LOCK, BHL
 SERIALIZED TECHNICAL MEDIA KIT
 SHIPPING/STORAGE PROTECTION
 RUST PREVENTATIVE APPLICATOR
 PACK, DOMESTIC TRUCK
 GUARD, STABILIZER
 PLATE GROUP, BOOM WEAR
 STD RADIO (12V)
 BUCKET-SOIL, 24", 8.5 FT3
 BUCKET, LOADER (NONE)

Machine Specification

Model: 2193383_BHL
Description
 BUCKET, 36", 10.3 FT3
 PINS, BUCKET, BHL-F, 45MM-50MM

Machine Specification

Model: 2193381_BHL
Description
 BUCKET, 24", 6.2 FT3
 PINS, BUCKET, BHL-F, 45MM-50MM

CONTINUED



QUOTATION

401 Northwest 56th Street
Lincoln, NE 68528
(888) 833-1455

QUOTATION DATE 02/25/2026
VALID UNTIL 03/27/2026
QUOTATION ID QTO111427-9

Sell Price of 416	116,730.00
Less Gross Trade Allowance for 580	-39200
Extended Warranty	Included
Document Fee	0.00
Net Balance Due	77,530.00
Sales Tax	0.00
After Tax Balance	77,530.00

Trade - Ins

Model	Make	Serial Number	Year	Trade Allowance
580	Case			39,200.00

All trade-ins are subject to equipment being in "as inspected condition" by customer at time of delivery of equipment purchase quoted above. Customer also warrants the trade-in equipment to be free and clear of all claims, liens, mortgages, and security interests except as already disclosed and noted.

Warranty

Extended Warranty: 5Yr/ 2000Hr Pwt + Hyd

Notes

Includes 1.0CY PO Bucket

DCA INCLUDES:

- 543-3339 416 07A BACKHOE LOADER CFG2
- 337-9696 COUNTERWEIGHT, 460 KGS (1015 LBS)
- 491-6734 WORKLIGHTS (8) HALOGEN LAMPS
- 542-7761 HYDRAULICS GP, 5FCN/7BNK, PT
- 542-7779 ENGINE, 70KW, C3.6 DITA, S5 (T4F)
- 542-7810 AIR CONDITIONER, S5 (T4F)
- 543-4282 STICK, EXTENDABLE, 4.3M, PILOT (14FT,)
- 543-4900 PT, 4WD/2WS STD SHIFT, PILOT
- 545-5047 DISPLAY, STANDARD
- 545-8548 LOADER BUCKET PINS
- 557-4932 CAB, STANDARD
- 611-0335 SEAT, FABRIC

Bid accepted at February 25, 2026, City Council Meeting.

Jessica Miller
2-25-26

CONTINUED



QUOTATION

3 of 3

401 Northwest 56th Street
Lincoln, NE 68528
(888) 833-1455

QUOTATION DATE 02/25/2026
VALID UNTIL 03/27/2026
QUOTATION ID QTO111427-9

Additional Terms

This Quotation is provided for general information purposes only and is not binding upon either party. No binding agreement shall exist unless or until the parties enter into a Sales Agreement under NMC's standard Sales and Service Terms for Caterpillar Products (a copy of which is available at <https://www.nmccat.com/legal-terms>). Any terms and conditions provided by Buyer are expressly rejected and any purchase order or other terms provided by Buyer shall be considered solely as internal documentation of Buyer and not legally binding upon NMC regardless of NMC's signature upon any such document.

Please Note: NMC cannot guarantee availability of equipment. In addition, while NMC endeavors to provide accurate pricing, due to circumstances beyond its control, such pricing is considered an estimate only of the final price and may be subject to change as market, supply, or other circumstances require (including, without limitation, OEM pending steel surcharges and OEM tariffs) until such time as the product is shipped. Should the final price exceed the estimated price, customer shall have the option to terminate the order as its sole remedy.



Cat[®] 416

BACKHOE LOADER

The Cat[®] 416 Backhoe Loader delivers exceptional performance, increased fuel efficiency, superior hydraulic system and an updated operator station. The 416 features the following:

- **Ergonomic Operator Station** – Ample legroom inside the cab makes rotating the seat simple. The air suspension seat provides comfort to the operator while loading.
- **Joystick Controls** – Pilot joysticks are available for additional operator comfort, reduced fatigue and increased productivity. New Proportional Thumb Rollers on the Pilot Joysticks places E-Stick and Rear Auxiliary Controls at the operator's fingertips.
- **Load Sensing Hydraulics** – The Cat Backhoe Loader's load sensing piston pump provides full hydraulic lifting and digging forces at any engine speed. Variable flow pump matches hydraulic power to work demands.
- **Powershift Transmission** – A Four Speed Powershift Transmission is available to make shifting gears smooth and as simple as twisting the Powershuttle Lever.
- **Spring Applied Hydraulically Released (SAHR) Parking Brake** – A SAHR Parking Brake is available and activated at the push of a button and automatically engages when the machine is powered down.
- **Machine Performance** – The proven Cat C3.6 engine delivers solid performance and meets U.S. EPA Tier 4 Final/EU Stage V emission standards by utilizing Selective Catalytic Reduction technology with a diesel oxidation catalyst. The system allows the operator to disconnect the machine, even while the diesel exhaust fluid is being purged from the system.
- **Machine Versatility** – The all new Integrated Tool Carrier (IT Coupler) for Single Tilt Loader Arm configurations are available from the factory or for simple field installation. The Cat Backhoe Loader with Integrated Tool Carrier (IT Coupler) will be the most versatile machine on the job site providing quick connection to a variety of Cat Attachments.
- **Cat Attachments** – A large portfolio of Backhoe Loader Attachments, including but not limited to, Quick Couplers, Thumbs, assorted Buckets, and Brooms are available from the factory or for field installation. Cat Backhoe Loaders will be "Dirt Ready" upon delivery.

Specifications

Engine

Engine	C3.6 55 kW (74 hp) Electronic Turbo Intercooled		C3.6 70 kW (96 hp) Electronic Turbo Intercooled	
Ratings at 2,200 rpm				
Gross Power SAE J1995	56 kW	75 hp	72 kW	96 hp
Gross Power ISO 14396	55 kW	74 hp	70 kW	94 hp
Net Power Rating at 2,200 rpm				
SAE J1349	52 kW	70 hp	64 kW	86 hp
ISO 9249	52 kW	69 hp	64 kW	85 hp
Net Peak Power Rating @ 2,200 rpm				
SAE J1349	52 kW	70 hp	64 kW	86 hp
ISO 9249	53 kW	71 hp	64 kW	85 hp
Dimensions				
Bore	98 mm	3.86 in	98 mm	3.86 in
Stroke	120 mm	4.72 in	120 mm	4.72 in
Displacement	3.6 L	220 in ³	3.6 L	220 in ³
Torque Rise (net) at 1,400 rpm	85%		43%	
SAE J1349 Net	418 N·m	308 lb-ft	396 N·m	292 lb-ft
Power Rating Conditions				
No de-rating required up to	3048 m	10,000 ft	3048 m	10,000 ft
• Engine meets Tier 4 Final/Stage V emission standards.				



416 Backhoe Loader

Weights*

Operating Weight* (estimated)	7499 kg	16,532 lb
Operating Weight (maximum) (Rollover Protective Structure [ROPS] capacity)	11 000 kg	24,251 lb
Operating Weight (minimum)	7072 kg	15,591 lb
Cab, ROPS/Falling Object Protective Structure (FOPS)	139 kg	306 lb
Auto-Shift Transmission	122 kg	269 lb
Ride Control	15 kg	33 lb
Air Conditioning	45 kg	99 lb
All-Wheel Drive	STD	N/A
Multi Purpose (MP) bucket (0.96 m ³ /1.25 yd ³)		
with fold-over forks	915 kg	2,017 lb
without fold-over forks	745 kg	1,642 lb
Loader Quick Coupler (QC)	245 kg	540 lb
Extendible Stick (excludes ft. counterweight)	278 kg	613 lb
Counterweights, base	115 kg	256 lb
Stackable, one	240 kg	529 lb
Maximum	460 kg	1,014 lb

*Machine configuration: standard stick hoe, Open Roll Over Protective Structure (OROPS) canopy, 4 Wheel Drive (4WD) standard shift transmission, 0.96 m³ (1.25 yd³) General Purpose (GP) loader bucket, 610 mm (24 in) standard duty hoe bucket, front 340/80-18 and rear 500/70-24 tires, 240 kg (530 lb) counterweight, 80 kg (176 lb) operator, full fuel tank.

Transmission*

Power Shuttle Transmission – Standard

Forward – 1st	5.5 km/h	3.4 mph
2nd	9.1 km/h	5.7 mph
3rd	21 km/h	13 mph
4th	38 km/h	23 mph
Reverse – 1st	5.5 km/h	3.4 mph
2nd	9.1 km/h	5.7 mph
3rd	21 km/h	13 mph
4th	38 km/h	23 mph

Power-Shift Transmission – Optional

Forward – 1st	5.9 km/h	3.7 mph
2nd	9.4 km/h	5.8 mph
3rd	20 km/h	12 mph
4th	40 km/h	25 mph
Reverse – 1st	5.9 km/h	3.7 mph
2nd	12 km/h	7.6 mph
3rd	27 km/h	17 mph

*Travel speeds of backhoe loader at full throttle, when equipped with 500/70-24 rear tires.

Axle Ratings

Front Axle, All Wheel Drive (AWD)		
Static	23 500 kg	51,808 lb
Dynamic	9000 kg	19,841 lb
Rear Axle		
Static	26 500 kg	58,422 lb
Dynamic	10 000 kg	22,046 lb

Hydraulic System

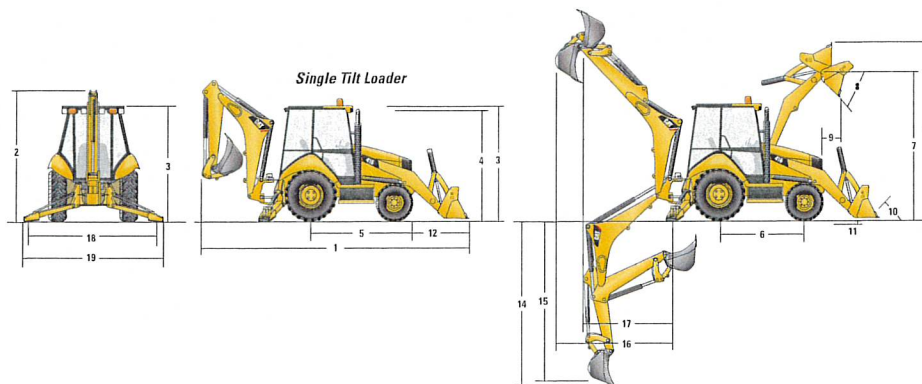
Type	Closed Center	
Pump Type	Variable-flow, Axial Piston	
Pump Capacity @ 2,200 rpm	132 L/min	34.9 gal/min
System Pressure		
Backhoe	23 000 kPa	3,336 psi
Loader	23 000 kPa	3,336 psi

Steering

Type	Front Wheel Steering	
Power Steering	Hydrostatic	
One Double-Acting Cylinder		
Bore	65 mm	2.6 in
Stroke	106 mm	4.2 in
Rod Diameter	40 mm	1.6 in
Axle Oscillation	11°	
Turning Circle – (inner wheel not braked)		
Outside Front Wheels	8.205 m	26'11"
Outside Widest Loader Bucket	10.745 m	35'3"

Service Refill Capacities

Cooling System with Air Conditioning	18.0 L	4.8 gal
Fuel Tank	160.0 L	42.3 gal
Engine Oil with Filter	9.0 L	2.4 gal
Diesel Exhaust Fluid (DEF)	19.0 L	5.0 gal
Transmission – Power Shuttle		
AWD	18.0 L	4.8 gal
Transmission – Power Shift		
AWD	19.0 L	5.0 gal
Rear Axle	16.0 L	4.2 gal
Planetary	1.7 L	0.4 gal
Front Axle (AWD)	11.0 L	2.9 gal
Planetary	0.7 L	0.2 gal
Hydraulic System	95.0 L	25.1 gal
Hydraulic Tank	42.0 L	11.1 gal



416 Backhoe Loader

Dimensions

Machine configuration: standard stick hoe, OROPS canopy, 4WD standard shift transmission, 0.96 m³ (1.25 yd³) GP loader bucket, 610 mm (24 in) standard duty hoe bucket, 340/80-18 and 500/70-24 tires, 240 kg (530 lb) counterweight, 80 kg (176 lb) operator, full fuel tank.

Single Tilt with Pin-On Buckets

	0.76 m ³ (1.0 yd ³) GP	0.96 m ³ (1.25 yd ³) GP	1.0 m ³ (1.31 yd ³) GP	1.07 m ³ (1.40 yd ³) GP	1.0 m ³ (1.31 yd ³) MP	1.07 m ³ (1.40 yd ³) MP
1 Overall Length (loader on ground) – S-Stick – mm (ft/in)	7018 (23'0")	7131 (23'5")	7086 (23'3")	7151 (23'6")	7059 (23'2")	7059 (23'2")
Overall Length (loader on ground) – E-Stick – mm (ft/in)	7024 (23'1")	7136 (23'5")	7091 (23'3")	7157 (23'6")	7064 (23'2")	7064 (23'2")
Overall Transport Length – S-Stick – mm (ft/in)	7079 (23'3")	7162 (23'6")	7128 (23'5")	7199 (23'7")	7129 (23'5")	7129 (23'5")
Overall Transport Length – E-Stick – mm (ft/in)	7084 (23'3")	7188 (23'7")	7134 (23'5")	7205 (23'8")	7135 (23'5")	7135 (23'5")
2 Overall Transport Height – Standard Stick – mm (ft/in)	3646 (12'0")	3646 (12'0")	3646 (12'0")	3646 (12'0")	3646 (12'0")	3646 (12'0")
Overall Transport Height – Extendible Stick – mm (ft/in)	3666 (12'0")	3666 (12'0")	3666 (12'0")	3666 (12'0")	3666 (12'0")	3666 (12'0")
Overall Width – mm (ft/in)	2248 (7'5")	2248 (7'5")	2248 (7'5")	2248 (7'5")	2248 (7'5")	2248 (7'5")
3 Height to Top of Cab/Canopy – mm (ft/in)	2815 (9'3")	2815 (9'3")	2815 (9'3")	2815 (9'3")	2815 (9'3")	2815 (9'3")
4 Height to Top of Exhaust Stack – mm (ft/in)	2720 (8'11")	2720 (8'11")	2720 (8'11")	2720 (8'11")	2720 (8'11")	2720 (8'11")
Height to Loader Hinge Pin (transport) – mm (ft/in)	379 (1'3")	378 (1'3")	378 (1'3")	422 (1'5")	420 (1'5")	420 (1'5")
Ground Clearance (Left Hand [LH] step) – mm (ft/in)	316 (1'0")	316 (1'0")	316 (1'0")	316 (1'0")	316 (1'0")	316 (1'0")
Ground Clearance (AWD guard) – mm (ft/in)	312 (1'0")	312 (1'0")	312 (1'0")	312 (1'0")	312 (1'0")	312 (1'0")
Ground Clearance (485 kg/1,070 lb counterweight) – mm (ft/in)	289 (0'11")	289 (0'11")	289 (0'11")	289 (0'11")	289 (0'11")	289 (0'11")
5 Rear Axle Centerline to Front Grill – mm (ft/in)	2706 (8'11")	2706 (8'11")	2706 (8'11")	2706 (8'11")	2706 (8'11")	2706 (8'11")
Front Wheel Tread Gauge – mm (ft/in)	1895 (6'3")	1895 (6'3")	1895 (6'3")	1895 (6'3")	1895 (6'3")	1895 (6'3")
Rear Wheel Tread Gauge – mm (ft/in)	1728 (5'8")	1728 (5'8")	1728 (5'8")	1728 (5'8")	1728 (5'8")	1728 (5'8")
6 Wheelbase – mm (ft/in)	2200 (7'3")	2200 (7'3")	2200 (7'3")	2200 (7'3")	2200 (7'3")	2200 (7'3")

Single Tilt Loader with Quick Coupler

	0.96 m ³ (1.25 yd ³) GP	1.0 m ³ (1.31 yd ³) GP	1.15 m ³ (1.50 yd ³) GP	1.0 m ³ (1.31 yd ³) MP	1.07 m ³ (1.40 yd ³) MP
1 Overall Length (loader on ground) – S-Stick – mm (ft/in)	7312 (24'0")	7268 (23'10")	7310 (24'0")	7219 (23'8")	7219 (23'8")
Overall Length (loader on ground) – E-Stick – mm (ft/in)	7318 (24'0")	7273 (23'10")	7315 (24'0")	7225 (23'8")	7225 (23'8")
Overall Transport Length – S-Stick – mm (ft/in)	7289 (23'11")	7255 (23'10")	7287 (23'11")	7217 (23'8")	7217 (23'8")
Overall Transport Length – E-Stick – mm (ft/in)	7295 (23'11")	7261 (23'10")	7293 (23'11")	7223 (23'8")	7223 (23'8")
2 Overall Transport Height – Standard Stick – mm (ft/in)	3646 (12'0")	3646 (12'0")	3646 (12'0")	3646 (12'0")	3646 (12'0")
Overall Transport Height – Extendible Stick – mm (ft/in)	3666 (12'0")	3666 (12'0")	3666 (12'0")	3666 (12'0")	3666 (12'0")
Overall Width – mm (ft/in)	2248 (7'5")	2248 (7'5")	2248 (7'5")	2248 (7'5")	2248 (7'5")
3 Height to Top of Cab/Canopy – mm (ft/in)	2815 (9'3")	2815 (9'3")	2815 (9'3")	2815 (9'3")	2815 (9'3")
4 Height to Top of Exhaust Stack – mm (ft/in)	2720 (8'11")	2720 (8'11")	2720 (8'11")	2720 (8'11")	2720 (8'11")
Height to Loader Hinge Pin (transport) – mm (ft/in)	345 (1'2")	346 (1'2")	346 (1'2")	344 (1'2")	344 (1'2")
Ground Clearance (LH step) – mm (ft/in)	316 (1'0")	316 (1'0")	316 (1'0")	316 (1'0")	316 (1'0")
Ground Clearance (AWD guard) – mm (ft/in)	312 (1'0")	312 (1'0")	312 (1'0")	312 (1'0")	312 (1'0")
Ground Clearance (485 kg/1,070 lb counterweight) – mm (ft/in)	289 (0'11")	289 (0'11")	289 (0'11")	289 (0'11")	289 (0'11")
5 Rear Axle Centerline to Front Grill – mm (ft/in)	2706 (8'11")	2706 (8'11")	2706 (8'11")	2706 (8'11")	2706 (8'11")
Front Wheel Tread Gauge – mm (ft/in)	1895 (6'3")	1895 (6'3")	1895 (6'3")	1895 (6'3")	1895 (6'3")
Rear Wheel Tread Gauge – mm (ft/in)	1728 (5'8")	1728 (5'8")	1728 (5'8")	1728 (5'8")	1728 (5'8")
6 Wheelbase – mm (ft/in)	2200 (7'3")	2200 (7'3")	2200 (7'3")	2200 (7'3")	2200 (7'3")

416 Backhoe Loader

Dimensions

Machine configuration: standard stick hoe, OROPS canopy, 4WD standard shift transmission, 0.96 m³ (1.25 yd³) GP loader bucket, 610 mm (24 in) standard duty hoe bucket, 340/80-18 and 500/70-24 tires, 240 kg (530 lb) counterweight, 80 kg (176 lb) operator, full fuel tank.

Loader Bucket Dimensions and Performance

	Pin-On Buckets											
	0.76 m ³ (1.0 yd ³) GP		0.96 m ³ (1.25 yd ³) GP		1.0 m ³ (1.31 yd ³) GP		1.07 m ³ (1.40 yd ³) GP		1.0 m ³ (1.31 yd ³) MP		1.07 m ³ (1.40 yd ³) MP	
Capacity (SAE rated) – m ³ (yd ³)	0.76	(1.0)	0.96	(1.26)	1.00	(1.31)	1.07	(1.40)	1.00	(1.31)	1.07	(1.40)
Overall Bucket Width – mm (in)	2262	(89)	2262	(89)	2406	(95)	2262	(89)	2279	(90)	2425	(95)
Lift Capacity at Maximum Height – kg (lb)	3053	(6,730)	2962	(6,530)	2967	(6,541)	2900	(6,393)	2736	(6,032)	2724	(6,005)
Lift Breakout Force – N (lbf)	48 282	(10,854)	45 673	(10,267)	46 360	(10,422)	45 164	(10,153)	44 481	(9,999)	44 385	(9,978)
Tilt Breakout Force – N (lbf)	54 304	(12,207)	45 719	(10,278)	48 604	(10,926)	46 676	(10,493)	51 462	(11,569)	51 386	(11,551)
Tipping Load at Breakout Point – kg (lb)	6969	(15,363)	6486	(14,298)	6640	(14,638)	6387	(14,081)	6515	(14,363)	6505	(14,342)
7 Maximum Hinge Pin Height – mm (ft/in)	3488	(11'5")	3488	(11'5")	3488	(11'5")	3488	(11'5")	3488	(11'5")	3488	(11'5")
8 Dump Angle at Full Height – degrees	44°		44°		44°		44°		44°		44°	
Dump Height at Maximum Angle – mm (ft/in)	2837	(9'4")	2758	(9'1")	2790	(9'2")	2736	(9'0")	2803	(9'2")	2803	(9'2")
9 Dump Reach at Maximum Angle – mm (ft/in)	726	(2'5")	807	(2'8")	774	(2'6")	773	(2'6")	722	(2'4")	722	(2'4")
10 Maximum Bucket Rollback at Ground Level – degrees	36°		36°		36°		37°		37°		37°	
11 Digging Depth – mm (ft/in)	70	(0'3")	70	(0'3")	70	(0'3")	110	(0'4")	97	(0'4")	97	(0'4")
Maximum Grading Angle – degrees	116°		113°		114°		114°		116°		116°	
Width of Dozer Cutting Edge – mm (ft/in)	N/A		N/A		N/A		N/A		2262	(7'5")	2406	(7'11")
12 Grill to Bucket Cutting Edge, Carry Position – mm (ft/in)	1397	(4'7")	1480	(4'10")	1447	(4'9")	1518	(5'0")	1447	(4'9")	1447	(4'9")
13 Maximum Operating Height – mm (ft/in)	4206	(13'10")	4356	(14'3")	4354	(14'3")	4366	(14'4")	4378	(14'4")	4407	(14'6")
Jaw Opening Maximum – mm (ft/in)	N/A		N/A		N/A		N/A		843	(2'9")	843	(2'9")
Bucket Jaw Clamping Force – N (lbf)	N/A		N/A		N/A		N/A		37 113	(8343)	37 214	(8366)
Weight (does not include teeth or forks) – kg (lb)	384	(847)	451	(994)	462	(1,019)	473	(1,043)	745	(1,642)	774	(1,706)

	Single Tilt Loader with Quick Coupler									
	0.96 m ³ (1.25 yd ³) GP		1.0 m ³ (1.31 yd ³) GP		1.15 m ³ (1.50 yd ³) GP		1.0 m ³ (1.31 yd ³) MP		1.07 m ³ (1.40 yd ³) MP	
Capacity (SAE rated) – m ³ (yd ³)	0.96	(1.26)	1.00	(1.31)	1.15	(1.50)	1.00	(1.31)	1.07	(1.40)
Overall Bucket Width – mm (in)	2262	(89)	2406	(95)	2406	(95)	2279	(90)	2425	(95)
Lift Capacity at Maximum Height – kg (lb)	2579	(5,686)	2579	(5,686)	2546	(5,612)	2438	(5,375)	2402	(5,296)
Lift Breakout Force – N (lbf)	40 911	(9,197)	41 450	(9,318)	40 608	(9,129)	40 289	(9,057)	40 029	(8,999)
Tilt Breakout Force – N (lbf)	37 640	(8,462)	39 574	(8,896)	37 351	(8,396)	40 227	(9,043)	40 055	(9,004)
Tipping Load at Breakout Point – kg (lb)	5721	(12,612)	5841	(12,876)	5696	(12,556)	5811	(12,812)	5787	(12,757)
7 Maximum Hinge Pin Height – mm (ft/in)	3488	(11'5")	3488	(11'5")	3488	(11'5")	3488	(11'5")	3488	(11'5")
8 Dump Angle at Full Height – degrees	44°		44°		44°		44°		44°	
Dump Height at Maximum Angle – mm (ft/in)	2623	(8'7")	2654	(8'9")	2625	(8'7")	2690	(8'10")	2690	(8'10")
9 Dump Reach at Maximum Angle – mm (ft/in)	887	(2'11")	855	(2'10")	886	(2'11")	832	(2'9")	832	(2'9")
10 Maximum Bucket Rollback at Ground Level – degrees	37°		37°		37°		37°		37°	
11 Digging Depth – mm (ft/in)	111	(0'4")	111	(0'4")	110	(0'4")	101	(0'4")	101	(0'4")
Maximum Grading Angle – degrees	109°		110°		109°		111°		111°	
Width of Dozer Cutting Edge – mm (ft/in)	N/A		N/A		N/A		2262	(7'5")	2406	(7'11")
12 Grill to Bucket Cutting Edge, Carry Position – mm (ft/in)	1607	(5'3")	1573	(5'2")	1605	(5'3")	1535	(5'0")	1535	(5'0")
13 Maximum Operating Height – mm (ft/in)	4439	(14'7")	4406	(14'5")	4484	(14'9")	4476	(14'8")	4531	(14'10")
Jaw Opening Maximum – mm (ft/in)	N/A		N/A		N/A		843	(2'9")	843	(2'9")
Bucket Jaw Clamping Force – N (lbf)	N/A		N/A		N/A		37 136	(8,348)	37 237	(8,371)
Weight (does not include teeth or forks) – kg (lb)	447	(985)	457	(1,008)	481	(1,060)	724	(1,596)	753	(1,660)

Dimensions

Machine configuration: standard stick hoe, OROPS canopy, 4WD standard shift transmission, 0.96 m³ (1.25 yd³) GP loader bucket, 610 mm (24 in) standard duty hoe bucket, 340/80-18 and 500/70-24 tires, 240 kg (530 lb) counterweight, 80 kg (176 lb) operator, full fuel tank.

Backhoe Dimensions and Performance

	Standard Stick		E-Stick Retracted		E-Stick Extended	
14 Digging Depth, SAE (max.) – mm (ft/in)	4277	(14'0")	4317	(14'2")	5371	(17'7")
15 Digging Depth, 2438 mm (8 ft) Flat Bottom – mm (ft/in)	3899	(12'9")	3942	(12'11")	5072	(16'8")
Digging Depth, 610 mm (2 ft) Flat Bottom – mm (ft/in)	4239	(13'11")	4279	(14'0")	5334	(17'6")
Reach from Rear Axle Centerline at Ground Line – mm (ft/in)	6690	(21'11")	6726	(22'1")	7731	(25'4")
16 Reach from Swing Pivot at Ground Line – mm (ft/in)	5600	(18'4")	5636	(18'6")	6641	(21'9")
Maximum Operating Height – mm (ft/in)	5601	(18'5")	5625	(18'5")	6368	(20'11")
Loading Height – mm (ft/in)	3710	(12'2")	3667	(12'0")	4238	(13'11")
17 Loading Reach – mm (ft/in)	1841	(6'0")	1928	(6'4")	2846	(9'4")
Swing Arc	180°		180°		180°	
Bucket Rotation	205°		204°		204°	
18 Stabilizer Spread, Operating Position (center) – mm (ft/in)	3310	(10'10")	3310	(10'10")	3310	(10'10")
Stabilizer Spread, Operating Position (outside) – mm (ft/in)	3770	(12'4")	3770	(12'4")	3770	(12'4")
Stabilizer Spread, Transport Position – mm (ft/in)	2322	(7'7")	2322	(7'7")	2322	(7'7")
Bucket Dig Force – N (lbf)	59 119	(13,291)	58 289	(13,104)	58 289	(13,104)
Stick Dig Force – N (lbf)	32 374	(7,278)	32 417	(7,288)	23 800	(5,350)

Dimensions with Forks/Material Handling Arm

Fork Tine Length	1070 mm (3'6")		1220 mm (4'0")		1370 mm (4'10")	
Operating Load (SAE J1197) – kg (lb)	1758	(3,875)	1684	(3,713)	1615	(3,559)
SAE Load Center – mm (in)	535	(1'9")	610	(2'0")	685	(2'3")
Operating Load (CEN 474-4) – kg (lb)	1786	(3,938)	1771	(3,904)	1754	(3,867)
CEN Load Center – mm (ft/in)	500	(1'8")	500	(1'8")	500	(1'8")
Overall Length (A) (forks on ground) – mm (ft/in)	7647	(25'1")	7797	(25'7")	7946	(26'1")
Reach at Ground (from grill to heel of fork) – mm (ft/in)	939	(3'1")	939	(3'1")	938	(3'1")
Maximum Reach (from grill to heel of fork) – mm (ft/in)	1524	(5'0")	1524	(5'0")	1524	(5'0")
Fork Height at Maximum Reach – mm (ft/in)	1619	(5'4")	1619	(5'4")	1619	(5'4")
Reach at Maximum Height (from grill to heel of fork) – mm (ft/in)	749	(2'5")	749	(2'5")	749	(2'5")
Maximum Fork Height – mm (ft/in)	3418	(11'3")	3418	(11'3")	3418	(11'3")
Maximum Fork Depth (below ground level) – mm (ft/in)	-38	(-1'11")	-38	(-1'10")	-39	(-1'10")

Material Handling Arm Position	Retracted		Mid-Position		Extended	
Operating Load (SAE J1197 and CEN 474-4) – kg (lb)*	1091	(2,404)	733	(1,615)	531	(1,171)
Overall Length, Maximum – mm (ft/in)	8903	(29'3")	9903	(32'6")	10 901	(35'9")
Reach at Maximum Depth (from machine nose) – mm (ft/in)	544	(1'9")	550	(1'10")	557	(1'10")
Maximum Depth – mm (ft/in)	2618	(8'7")	3618	(11'10")	4616	(15'2")
Maximum Reach (from machine nose) – mm (ft/in)	3221	(10'7")	4221	(13'10")	5219	(17'1")
Height at Maximum Reach – mm (ft/in)	1118	(3'8")	1124	(3'8")	1130	(3'8")
Reach at Maximum Height (from machine nose) – mm (ft/in)	1783	(5'10")	2473	(8'1")	3161	(10'4")
Maximum Height – mm (ft/in)	4445	(14'7")	5169	(16'11")	5891	(19'4")

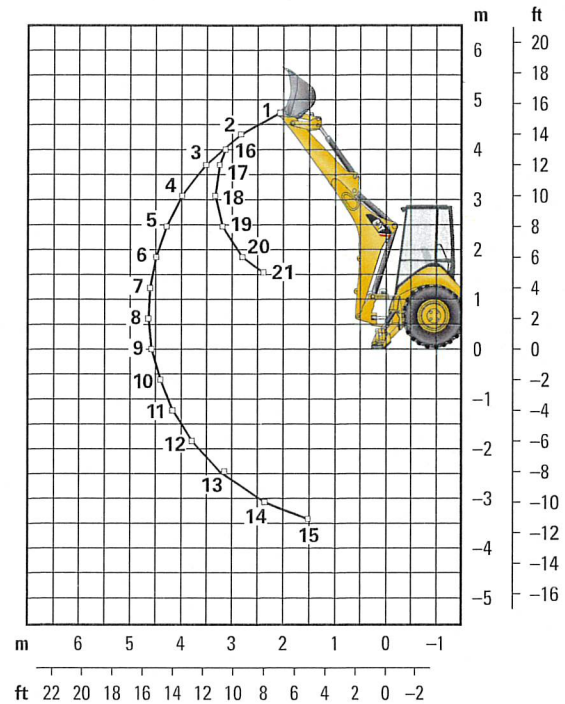
*These numbers are hydraulically limited.

416 Backhoe Loader

Backhoe Lift Capacity

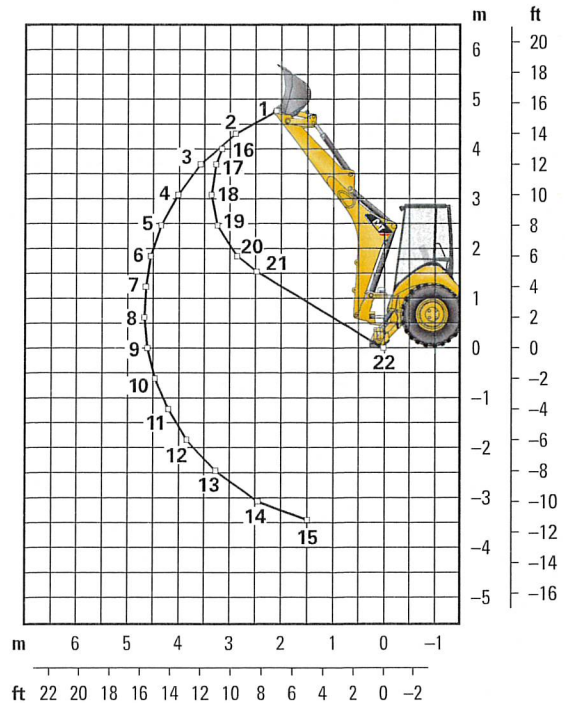
Cat 416 Standard Stick

Boom Lifting	kg	lb
1	1334	2,941
2	1426	3,144
3	1407	3,101
4	1353	2,983
5	1292	2,849
6	1232	2,716
7	1174	2,589
8	1120	2,469
9	1069	2,358
10	1022	2,254
11	979	2,158
12	939	2,071
13	905	1,996
14	885	1,952
15	916	2,019
Stick Lifting		
16	1568	3,456
17	1916	4,224
18	2328	5,133
19	2436	5,371
20	2884	6,358
21	3540	7,805



Cat 416 Extendible Stick – Retracted

Boom Lifting	kg	lb
1	1157	2,551
2	1235	2,722
3	1208	2,664
4	1153	2,541
5	1091	2,404
6	1029	2,269
7	970	2,139
8	915	2,017
9	863	1,902
10	814	1,794
11	768	1,692
12	725	1,597
13	684	1,509
14	650	1,432
15	647	1,427
Stick Lifting		
16	1423	3,138
17	1754	3,866
18	2128	4,692
19	2226	4,908
20	2629	5,796
21	3189	7,030
22	0	0



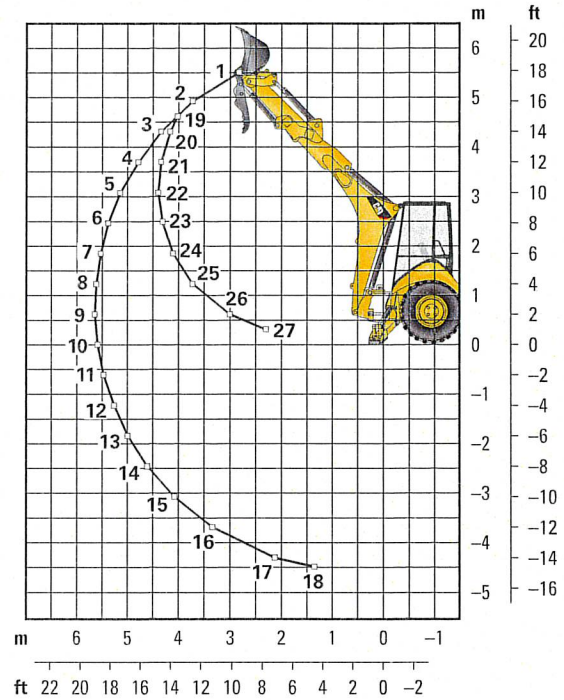
Lift capacities are over-end values calculated according to SAE J31. Values are 87% of the maximum lift force available.
 Machine equipped with AWD, DROPS, 0.96 m³ (1.25 yd³) general purpose bucket and no counterweight.
 Extendible stick includes 460 kg (1,015 lb) counterweight.

416 Backhoe Loader

Backhoe Lift Capacity

Cat 416 Extendible Stick – Extended

Boom Lifting	kg	lb
1	640	1,412
2	771	1,700
3	802	1,767
4	799	1,761
5	782	1,724
6	759	1,673
7	733	1,616
8	706	1,557
9	680	1,498
10	654	1,442
11	630	1,388
12	607	1,339
13	587	1,295
14	571	1,259
15	561	1,237
16	566	1,248
17	648	1,429
18	867	1,911
Stick Lifting		
19	597	1,316
20	767	1,692
21	1008	2,222
22	1178	2,597
23	1322	2,915
24	1479	3,260
25	1711	3,773
26	2305	5,082
27	3506	7,730



Lift capacities are over-end values calculated according to SAE J31. Values are 87% of the maximum lift force available.
 Machine equipped with AWD, OROPS, 0.96 m³ (1.25 yd³) general purpose bucket and no counterweight.
 Extendible stick includes 460 kg (1,015 lb) counterweight.

416 Backhoe Loader

Counterweights (Minimum Counterweight Recommendations)

Standard Stick Loader Bucket	Pin-On Bucket		Loader QC	
	kg	lb	kg	lb
GP	115	255	0	0
MP	0	0	0	0
Forks	N/A	N/A	0	0
Material Handling Arm	N/A	N/A	0	0

Extendible Stick Loader Bucket	Pin-On Bucket		Loader QC	
	kg	lb	kg	lb
GP	460	1,015	240	530
MP	115	255	0	0
Forks	N/A	N/A	240	530
Material Handling Arm	N/A	N/A	240	530

Backhoe Buckets (With weld on adapters and pin-on teeth)

Standard Duty

Width		Rated Capacity		Weight		No. of Teeth
mm	in	L	ft ³	kg	lb	
305	12	80	2.8	111	245	3
457	18	120	4.2	122	268	4
610	24	180	6.4	141	311	5
762	30	230	8.1	157	345	5
914	36	290	10.2	176	388	6

Heavy Duty

Width		Rated Capacity		Weight		No. of Teeth
mm	in	L	ft ³	kg	lb	
305	12	80	2.8	121	266	3
406	16	110	3.9	128	282	3
457	18	120	4.2	135	299	4
610	24	180	6.4	160	353	5
762	30	230	8.1	177	391	5
914	36	290	10.2	201	443	6

Soil Excavation

Width		Rated Capacity		Weight		No. of Teeth
mm	in	L	ft ³	kg	lb	
457	18	180	6.4	155	341	4
610	24	240	8.5	182	402	5
762	30	320	11.3	206	454	5
914	36	380	13.4	233	513	6

Rock

Width		Rated Capacity		Weight		No. of Teeth
mm	in	L	ft ³	kg	lb	
305	12	70	2.5	127	279	3
457	18	130	4.6	146	322	4
610	24	200	7.1	174	384	5
762	30	270	9.5	197	434	5
914	36	330	11.7	224	493	6

Coral

Width		Rated Capacity		Weight		No. of Teeth
mm	in	L	ft ³	kg	lb	
305	12	60	2.1	134	295	4
457	18	100	3.5	155	341	6
610	24	140	4.9	182	402	8
762	30	190	6.7	210	463	10

The following information applies to the machine at the time of final manufacture as configured for sale in the regions covered in this document. The content of this declaration is valid as of the date issued; however, content related to machine features and specifications are subject to change without notice. For additional information, please see the machine's Operation and Maintenance Manual.

For more information on sustainability in action and our progress, please visit <https://www.caterpillar.com/en/company/sustainability>.

Engine

- The Cat® C3.6 engine meets U.S. EPA Tier 4 Final and EU Stage V emission standards.
- Cat diesel engines are required to use ULSD (ultra-low sulfur diesel fuel with 15 ppm of sulfur or less) or ULSD blended with the following lower-carbon intensity fuels up to:
 - ✓ 20% biodiesel FAME (fatty acid methyl ester)
 - ✓ 100% renewable diesel, HVO (hydrotreated vegetable oil) and GTL (gas-to-liquid) fuels
 Refer to guidelines for successful application. Please consult your Cat dealer or "Caterpillar Machine Fluids Recommendations" (SEBU6250) for details.

Air Conditioning System

- The air conditioning system on this machine contains the fluorinated greenhouse gas refrigerant R134a (Global Warming Potential = 1430). The system contains 1.6 kg (3.5 lb) of refrigerant which has a CO₂ equivalent of 2.3 metric tonnes (2.5 tons).

Paint

- Based on best available knowledge, the maximum allowable concentration, measured in parts per million (PPM), of the following heavy metals in paint are:
 - Barium < 0.01%
 - Cadmium < 0.01%
 - Chromium < 0.01%
 - Lead < 0.01%

Sound Performance

Operator Sound Pressure Level (ISO 6396:2008) – 76 dB(A)*

Exterior Sound Power Level (ISO 6395:2008) – 101 dB(A)

*Measurements were conducted with properly installed and maintained cab doors and windows closed.

Oils and Fluids

- Caterpillar factory fills with ethylene glycol coolants. Cat Diesel Engine Antifreeze/Coolant (DEAC) and Cat Extended Life Coolant (ELC) can be recycled. Consult your Cat dealer for more information.
- Cat Bio HYDO™ Advanced is an EU Ecolabel approved biodegradable hydraulic oil.
- Additional fluids are likely to be present, please consult the Operations and Maintenance Manual or the Application and Installation guide for complete fluid recommendations and maintenance intervals.

Features and Technology

- The following features and technology may contribute to fuel savings and/or carbon reduction. Features may vary. Consult your Cat dealer for details.
 - Save fuel and reduce your greenhouse gas emissions with efficiency features such as operator control modes selectable through the display and with fuel management modes.
 - Extended maintenance intervals not only reduce downtime but decrease the amount of fluid and filters that are replaced over the life of the machine.
 - Auto Idle helps reduce unnecessary fuel burn and greenhouse gas emissions by allowing the engine to automatically go into idle mode when the machine is not working.

Recycling

- The materials included in machines are categorized as below with approximate weight percentage. Because of variations of product configurations, the following values in the table may vary.

Material Type	Weight Percentage
Steel	60.51%
Iron	16.77%
Nonferrous Metal	3.29%
Mixed Metal	0.63%
Mixed-Metal and Nonmetal	1.03%
Plastic	2.13%
Rubber	3.01%
Mixed Nonmetallic	0.03%
Fluid	4.17%
Other	6.33%
Uncategorized	2.10%
Total	100.00%

- A machine with higher recyclability rate will ensure more efficient usage of valuable natural resources and enhance End-of-Life value of the product. According to ISO 16714 (Earthmoving machinery – Recyclability and recoverability – Terminology and calculation method), recyclability rate is defined as percentage by mass (mass fraction in percent) of the new machine potentially able to be recycled, reused, or both.

All parts in the bill of material are first evaluated by component type based on a list of components defined by the ISO 16714 and Japan CEMA (Construction Equipment Manufacturers Association) standards. Remaining parts are further evaluated for recyclability based on material type.

Because of variations of product configurations, the following value in the table may vary.

Recyclability – 92%

416 Standard Equipment

STANDARD EQUIPMENT

- Air cleaner
- Alarm, back-up
- Audible system fault alarm
- Backhoe controls, mechanical two lever
- Battery, maintenance-free, 850 CCA
- Battery disconnect switch
- Boom transport lock
- Brace, lift cylinder
- Brake, parking, mechanical
- Brakes, hydraulically boosted, oil disc, dual pedals, interlocking
- Bucket level indicator
- Canopy, ROPS/FOPS
- Coat restraint
- Coolant/antifreeze, extended life
- Counterweight, bumper
- Dome light (cab only)
- Diagnostic port for engine
- Differential lock, loader joystick
- Drink holders, two
- Engine, Cat C3.6 (Direct Injection Turbocharged), meets Tier 4 Final/Stage V emission standards, Selective Catalytic Reduction, Diesel Oxidation Catalyst (DOC)
- Engine enclosure, sound suppression, removable side panels
- Face seals, O-ring
- Fan, suction and guard
- Fast reversing shuttle, all gears
- Fenders, rear
- Filters, spin-on: fuel, engine oil, transmission oil, water separator
- Filters, bowl and cartridge: hydraulic fluid
- Flashing hazards/signal lights
- Floor mat
- Four wheel drive
- Four wheel drive shaft guard
- Fuel tank, fully enclosed
- Fully hinged front grill for cooling package cleaning access
- Gauge cluster: coolant temperature, fuel level, torque converter temperature, DEF level
- Ground level fuel fill and DEF fill
- Halogen lights, working (2 front, 2 rear)
- High ambient cooling package
- Hood lock, inside cab
- Hydraulic hose, XT™
- Hydraulic oil cooler
- Hydraulic oil level sight gauge
- Hydraulic valves, loader 2 function
- Hydraulic valves, backhoe 4 function
- Hydraulics, load sensing with variable displacement piston pump
- Indicator lights: wait to start, water in fuel, engine warning, warning lamp, emissions module malfunction, low battery/charging system warning, high hydraulic oil temperature: LCD warnings: engine oil pressure, machine locked, service due, air filter blocked, high coolant temperature, auto idle shutdown, high torque converter temperature, hydraulic filter bypass
- Instrument panel lights
- Key start/stop system
- LCD operator display with soft key controls: engine speed, hour meter, gear/direction, battery voltage, hydraulic oil temperature, torque converter temperature, coolant temperature, trip totals (fuel and hours), lifetime totals (fuel and hours), operator settings (units, brightness, programmable hoe auxiliary flow), service mode diagnostics, maintenance intervals, ECM/system info
- Loader, self-leveling, return-to-dig and transmission disconnect switch
- Loader, single tilt
- Mechanical two lever controls
- Mirror, interior, rearview
- Open circuit breather
- Power receptacle, 5 volt USB, 1 internal
- Power receptacle, 12 volt, 2 internal, 1 external
- Power steering, hydrostatic
- Product Link™, cellular, network manager
- Product Link, satellite, network manager
- Seat belt, retractable, 51 mm (2 in)
- Socket, two roof
- Stabilizer shoes, street
- Steering column, tilting
- Steering knob
- Seat, air suspension, vinyl cover, with armrest
- Starting system, glow plugs
- Storage compartment, lockable
- Storage tray
- Stop and tail lights
- Swing transport lock
- Tilt steering column
- Tires
- Toolbox, external, lockable
- Torque converter
- Throttle, hand and foot, electronic
- Transmission, four speed, manual, syncromesh
- Transmission neutralizer switch
- Transport tie-downs
- Vandalism locks, four
- Warning horn, electric

OPTIONAL EQUIPMENT

- Auxiliary hydraulics, rear, adjustable flow
- Battery, additional, 850 CCA
- Brake, parking, Spring Applied Hydraulically Release (SAHR)
- Cab, standard
- Cold weather fuel (-30° C/-22° F)
- Cold weather package, including additional battery, engine block heater, radiator antifreeze (-50° C/-58° F), cold weather fuel (-30° C/-22° F) and mounting for an ether bottle
- Counterweights, 115 kg (255 lb), 240 kg (530 lb) or 460 kg (1,015 lb)
- Fenders, front with integral steps
- Guard, boom protection plate
- Guard, stabilizer, rock
- Hydraulic valves, loader (3rd valve for MP or Quick Coupler)
- Hydraulic valves, backhoe (5th and 6th function)
- Hydraulic lines, combined function auxiliary
- Joystick controls: pilot operated, excavator style with pattern changer
- LED lights, working (2 front, 2 rear)
- Pattern changer, in cab
- Quick Coupler, hydraulic, dual lock
- Quick Coupler, manual, dual lock
- Quick Coupler, manual, pin lock
- Radio and CD player, Bluetooth®
- Ride Control
- Rotating beacon, magnetic mount
- Seat, air suspension, fabric with armrest
- Seat belt, retractable, 75 mm (3 in)
- Security system, Bluetooth
- Security System, operator display
- Side mirrors, cab, external
- Single Tilt Loader Coupler, Integrated Tool Carrier (IT) Interface
- Stabilizer pads, grouser type
- Stabilizer pads, reversible
- Stick, extendible
- Transmission, 4 speed, powershift
- Vandalism protection, gauge cover
- Work Tool Attachments such as buckets, forks, material handling arms, augers, hammers, brooms, cold planers and vibratory plate compactors. See your Cat dealer for more information.

416 Backhoe Loader

For more complete information on Cat products, dealer services, and industry solutions, visit us on the web at www.cat.com

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Materials and specifications are subject to change without notice. Featured machines in photos may include additional equipment. See your Cat dealer for available options.

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AEHQ8242-03 (01-2024)
Replaces AEHQ8242-02
Build Number: 07A
(North America)



Contractor's Application for Payment

Owner: <u>City of David City</u>	Owner's Project No.: _____
Engineer: <u>JEO Consulting Group, Inc.</u>	Engineer's Project No.: <u>202024.00</u>
Contractor: <u>Velocity Constructors Inc.</u>	Contractor's Project No.: _____
Project: <u>2022 Water Treatment Plant Upgrades, SRF Project No. D311686</u>	
Contract: <u>2022 Water Treatment Plant Upgrades, SRF Project No. D311686</u>	
Application No.: <u>31</u>	Application Date: <u>2/1/2026</u>
Application Period: From <u>9/30/2025</u> to <u>2/1/2026</u>	

1. Original Contract Price		\$ 10,562,772.00
2. Net change by Change Orders		\$ 452,817.76
3. Current Contract Price (Line 1 + Line 2)		\$ 11,015,589.76
4. Total Work completed and materials stored to date (Sum of Column G Lump Sum Total and Column J Unit Price Total)		\$ 11,015,589.76
5. Retainage		
a. <u>Reduced</u> X \$ 11,015,589.76 Work Completed =		\$ -
b. <u>5%</u> X \$ - Stored Materials =		\$ -
c. Total Retainage (Line 5.a + Line 5.b)		\$ -
6. Amount eligible to date (Line 4 - Line 5.c)		\$ 11,015,589.76
7. Less previous payments (Line 6 from prior application)		\$ 10,965,589.76
8. Amount due this application		\$ 50,000.00
9. Balance to finish, including retainage (Line 3 - Line 4 + Line 5.c)		\$ -

Contractor's Certification

The undersigned Contractor certifies, to the best of its knowledge, the following:

(1) All previous progress payments received from Owner on account of Work done under the Contract have been applied on account to discharge Contractor's legitimate obligations incurred in connection with the Work covered by prior Applications for Payment;

(2) Title to all Work, materials and equipment incorporated in said Work, or otherwise listed in or covered by this Application for Payment, will pass to Owner at time of payment free and clear of all liens, security interests, and encumbrances (except such as are covered by a bond acceptable to Owner indemnifying Owner against any such liens, security interest, or encumbrances); and

(3) All the Work covered by this Application for Payment is in accordance with the Contract Documents and is not defective.

Contractor: James Sulzbach - Project Manager Velocity Constructors

Signature: *James Sulzbach* **Date:** 2/5/2026

Recommended by Engineer	Approved by Owner
By: <u><i>Ethan Joy, P.E.</i></u>	By: _____
Title: <u>Project Manager</u>	Title: _____
Date: <u>2/5/2026</u>	Date: _____

Progress Estimate - Lump Sum Work

Contractor's Application for Payment

Owner:	City of David City	Owner's Project No.:	
Engineer:	JEO Consulting Group, Inc.	Engineer's Project No.:	202024.00
Contractor:	Velocity Constructors Inc.	Contractor's Project No.:	
Project:	2022 Water Treatment Plant Upgrades, SRF Project No. D311686		
Contract:	2022 Water Treatment Plant Upgrades, SRF Project No. D311686		

Application No.: 31 **Application Period:** From 09/30/25 to 02/01/26 **Application Date:** 02/01/26

A	B	C	D	E	F	G	H	I
Item No.	Description	Scheduled Value (\$)	Work Completed		Currently Stored (not in D or E) (\$)	Work Completed and Materials Stored to Date (D + E + F) (\$)	% of Scheduled Value (G / C) (%)	Balance to Finish (C - G) (\$)
			(D + E) From Previous Application (\$)	This Period (\$)				
Original Contract								
BASE BID GROUP A - General Water Plant Improvements¹								
B-1.01	Mobilization	1,030,293.00	1,030,293.00	-	-	1,030,293.00	100%	-
B-1.02	Bonding and Insurance	66,647.00	66,647.00	-	-	66,647.00	100%	-
B-1.03	Aerator Rehabilitation and Cleaning	114,481.00	114,481.00	-	-	114,481.00	100%	-
B-1.04	Existing Pipe Cleaning & Repainting	57,573.00	57,573.00	-	-	57,573.00	100%	-
B-1.05	Electrical Improvements, Complete	1,840,041.00	1,840,041.00	-	-	1,840,041.00	100%	-
B-1.06	Demolition of Exterior Infrastructure	32,732.00	32,732.00	-	-	32,732.00	100%	-
B-1.07	Demolition of Interior Infrastructure	90,500.00	90,500.00	-	-	90,500.00	100%	-
B-1.08	Building Improvements (Doors/Windows)	80,036.00	80,036.00	-	-	80,036.00	100%	-
B-1.09	Building Improvements (Interior Painting)	523,405.00	523,405.00	-	-	523,405.00	100%	-
B-1.10	First Floor Roof Membrane Replacement	174,179.00	174,179.00	-	-	174,179.00	100%	-
B-1.11	Skylight Replacement	48,568.00	48,568.00	-	-	48,568.00	100%	-
B-1.12	HVAC Improvements	148,128.00	148,128.00	-	-	148,128.00	100%	-
B-1.13	Plumbing Improvements	92,021.00	92,021.00	-	-	92,021.00	100%	-
B-1.14	Lab Improvements	21,099.00	21,099.00	-	-	21,099.00	100%	-
B-1.15	Hardness Monitoring Equipment and Meters	77,743.00	77,743.00	-	-	77,743.00	100%	-
B-1.16	Site Paving and Grading	58,690.00	58,690.00	-	-	58,690.00	100%	-
B-1.17	Fencing and Gates	58,513.00	58,513.00	-	-	58,513.00	100%	-
B-1.18	Misc. Site Improvements	148,846.00	148,846.00	-	-	148,846.00	100%	-
B-1.19	Exterior Piping Improvements	338,959.00	338,959.00	-	-	338,959.00	100%	-
B-1.20	Seeding, Fertilizer and Mulch	6,610.00	6,610.00	-	-	6,610.00	100%	-
B-1.21	Erosion Control	5,751.00	5,751.00	-	-	5,751.00	100%	-
BASE BID GROUP B - Gravity Filter System Improvements¹								
B-1.22	New Gravity Filter Equipment, Complete (Media/Wash Troughs/ Air Blower/ Control Panel / Solenoid Panel / Instrumentation / Piping / Valves / Media Strainers)	693,132.00	693,132.00	-	-	693,132.00	100%	-
B-1.23	Gravity Filter Equipment Installation	45,979.00	45,979.00	-	-	45,979.00	100%	-
B-1.24	Electrical	25,200.00	25,200.00	-	-	25,200.00	100%	-

Progress Estimate - Lump Sum Work

Contractor's Application for Payment

Owner:	City of David City	Owner's Project No.:	
Engineer:	JEO Consulting Group, Inc.	Engineer's Project No.:	202024.00
Contractor:	Velocity Constructors Inc.	Contractor's Project No.:	
Project:	2022 Water Treatment Plant Upgrades, SRF Project No. D311686		
Contract:	2022 Water Treatment Plant Upgrades, SRF Project No. D311686		

Application No.: 31 **Application Period:** From 09/30/25 to 02/01/26 **Application Date:** 02/01/26

A Item No.	B Description	C Scheduled Value (\$)	D + E Work Completed		F Currently Stored (not in D or E) (\$)	G Work Completed and Materials Stored to Date (D + E + F) (\$)	H % of Scheduled Value (G / C) (%)	I Balance to Finish (C - G) (\$)
			(D + E) From Previous Application (\$)	This Period (\$)				
BASE BID GROUP C - Reverse Osmosis¹								
B-1.25	CCRO and CIP Tank Skids (Equipment Only)	2,126,760.00	2,126,760.00	-	-	2,126,760.00	100%	-
B-1.26	CCRO and CIP Tank Skids (Installation)	7,208.00	7,208.00	-	-	7,208.00	100%	-
B-1.27	Existing Maintenance Facility Demolition	27,093.00	27,093.00	-	-	27,093.00	100%	-
B-1.28	RO Room Expansion, Block Construction	245,926.00	245,926.00	-	-	245,926.00	100%	-
B-1.29	New Existing Maintenance Facility Floor Pavement	3,174.00	3,174.00	-	-	3,174.00	100%	-
B-1.30	New Existing Maintenance Facility Roof	28,709.00	28,709.00	-	-	28,709.00	100%	-
B-1.31	Overhead Doors	22,781.00	22,781.00	-	-	22,781.00	100%	-
B-1.32	Access Doors	8,791.00	8,791.00	-	-	8,791.00	100%	-
B-1.33	Single Girder Bridge Crane & Hoist (Equipment Only)	20,361.00	20,361.00	-	-	20,361.00	100%	-
B-1.34	Single Girder Bridge Crane & Hoist (Installation)	12,387.00	12,387.00	-	-	12,387.00	100%	-
B-1.35	Below Grade CCRO Skid Piping, Complete	57,740.00	57,740.00	-	-	57,740.00	100%	-
B-1.36	Above Grade CCRO & CIP Skid Piping, Complete	129,743.00	129,743.00	-	-	129,743.00	100%	-
B-1.37	Electrical	10,080.00	10,080.00	-	-	10,080.00	100%	-
BASE BID GROUP D - Intermediate Clearwell¹								
B-1.38	Intermediate Clearwell Structural Concrete	170,506.00	170,506.00	-	-	170,506.00	100%	-
B-1.39	Clearwell Hatches	15,613.00	15,613.00	-	-	15,613.00	100%	-
B-1.40	Vertical Turbine Pumps	113,608.00	113,608.00	-	-	113,608.00	100%	-
B-1.41	Degassifier (Equipment Only)	112,153.00	112,153.00	-	-	112,153.00	100%	-
B-1.42	Degassifier (Installation)	6,407.00	6,407.00	-	-	6,407.00	100%	-
B-1.43	Pump Building, Block Construction	116,781.00	116,781.00	-	-	116,781.00	100%	-
B-1.44	Stairs and Miscellaneous Metals	4,603.00	4,603.00	-	-	4,603.00	100%	-
B-1.45	Clearwell Ladders	4,749.00	4,749.00	-	-	4,749.00	100%	-
B-1.46	Fluid Applied Exterior Membrane	103,757.00	103,757.00	-	-	103,757.00	100%	-
B-1.47	Intermediate Clearwell Piping, Fittings, Valves, Meters, Complete	77,335.00	77,335.00	-	-	77,335.00	100%	-
B-1.48	Weir Plate and Weir Window	4,398.00	4,398.00	-	-	4,398.00	100%	-
B-1.49	Electrical	50,400.00	50,400.00	-	-	50,400.00	100%	-

Progress Estimate - Lump Sum Work

Contractor's Application for Payment

Owner:	City of David City	Owner's Project No.:	
Engineer:	JEO Consulting Group, Inc.	Engineer's Project No.:	202024.00
Contractor:	Velocity Constructors Inc.	Contractor's Project No.:	
Project:	2022 Water Treatment Plant Upgrades, SRF Project No. D311686		
Contract:	2022 Water Treatment Plant Upgrades, SRF Project No. D311686		

Application No.: 31 **Application Period:** From 09/30/25 to 02/01/26 **Application Date:** 02/01/26

A	B	C	D	E	F	G	H	I
Item No.	Description	Scheduled Value (\$)	Work Completed		Currently Stored (not in D or E) (\$)	Work Completed and Materials Stored to Date (D + E + F) (\$)	% of Scheduled Value (G / C) (%)	Balance to Finish (C - G) (\$)
			(D + E) From Previous Application (\$)	This Period (\$)				
BASE BID GROUP E - Chemical Feed System Improvements¹								
B-1.50	Chemical Feed System Improvements	149,305.00	149,305.00	-	-	149,305.00	100%	-
B-1.51	Gas Chlorine System Improvements	62,365.00	62,365.00	-	-	62,365.00	100%	-
B-1.52	Electrical	15,120.00	15,120.00	-	-	15,120.00	100%	-
BASE BID GROUP F - Backwash Improvements¹								
B-1.53	Backwash Waste Pump and Piping Improvements, Complete	161,971.00	161,971.00	-	-	161,971.00	100%	-
B-1.54	Proposed Manhole Improvements	1,551.00	1,551.00	-	-	1,551.00	100%	-
B-1.55	Backwash Pit Access Hatch	3,727.00	3,727.00	-	-	3,727.00	100%	-
B-1.56	Backwash Supply Pump and Piping Improvements, Complete	103,300.00	103,300.00	-	-	103,300.00	100%	-
B-1.57	Electrical/Generator	252,000.00	252,000.00	-	-	252,000.00	100%	-
Bid Alternate #1								
BA1-1	Gravity Filter Effluent Valve Replacement ¹	220,730.00	220,730.00	-	-	220,730.00	100%	-
Bid Alternate #2								
BA2-1	Demolish Existing Upflow Clarifier Unit, Complete ¹	113,190.00	113,190.00	-	-	113,190.00	100%	-
Original Contract Totals		\$ 10,343,448.00	\$ 10,343,448.00	\$ -	\$ -	\$ 10,343,448.00		\$ -
Change Orders								
CO-1	12" Underslab Pipe	54,560.00	54,560.00	-	-	54,560.00	100%	-
CO-2	Misc	84,742.51	84,742.51	-	-	84,742.51	100%	-
CO-3	Misc	114,989.00	114,989.00	-	-	114,989.00	100%	-
CO-4	Lights and Fence - Drive way	17,454.00	17,454.00	-	-	17,454.00	100%	-
CO-5	-Aggregate+Sink+Trans & BFV+Delay	72,262.00	72,262.00	-	-	72,262.00	100%	-
CO-6	Pump Overflow Landscaping and Overflow	68,810.25	68,810.25	-	-	68,810.25	100%	-
CO-7	Painting	40,000.00	40,000.00	-	-	40,000.00	100%	-
Change Order Totals		\$ 452,817.76	\$ 452,817.76	\$ -	\$ -	\$ 452,817.76	100%	\$ -
Unit Price								
B2	Install Aggregate	15,215.00	15,215.00	-	-	15,215.00	100%	-
B3	Final Clearwell Roof	14,030.00	14,030.00	-	-	14,030.00	100%	-
BA31	Install 6" Pavement	190,079.00	190,079.00	0	-	190,079.00	100%	-
Original Contract and Change Orders								
Project Totals		\$ 11,015,589.76	\$ 11,015,589.76	\$ -	\$ -	\$ 11,015,589.76	100%	\$ -

¹ Sales Tax for Materials & Equipment Included

Progress Estimate - Unit Price Work

Contractor's Application for Payment

Owner:	City of David City	Owner's Project No.:	
Engineer:	JEO Consulting Group, Inc.	Engineer's Project No.:	202024.00
Contractor:	Velocity Constructors Inc.	Contractor's Project No.:	
Project:	2022 Water Treatment Plant Upgrades, SRF Project No. D311686		
Contract:	2022 Water Treatment Plant Upgrades, SRF Project No. D311686		

Application No.: 31 **Application Period:** From 09/30/25 to 02/01/26 **Application Date:** 02/01/26

A	B	C	D	E	F	G	H	I	J	K	L
Bid Item No.	Description	Contract Information				Work Completed		Materials Currently Stored (not in G) (\$)	Work Completed and Materials Stored to Date (H + I) (\$)	% of Value of Item (J / F) (%)	Balance to Finish (F - J) (\$)
		Item Quantity	Units	Unit Price (\$)	Value of Bid Item (C X E) (\$)	Estimated Quantity Incorporated in the Work	Value of Work Completed to Date (E X G) (\$)				
Original Contract											
Base Bid¹											
B-2	Install Aggregate Surfacing	358.00	TONS	42.50	15,215.00	358.00	15,215.00		15,215.00	100%	-
B-3	Final Clearwell Roof Slab Rehabilitation	100.00	SF	140.30	14,030.00	100.00	14,030.00		14,030.00	100%	-
Bid Alternate #3											
BA3-1	Install 6" Concrete Pavement ¹	1,324.00	SY	143.56	190,079.00	1,324.00	190,079.00		190,079.00	100%	-
Original Contract Totals					\$ 219,324.00		\$ 219,324.00	\$ -	\$ 219,324.00	100%	\$ -
Original Contract and Change Orders											
Project Totals					\$ 219,324.00		\$ 219,324.00	\$ -	\$ 219,324.00	100%	\$ -

¹ Sales Tax for Materials & Equipment Included

Stored Materials Summary

Contractor's Application for Payment

Owner:	City of David City	Owner's Project No.:	
Engineer:	JEO Consulting Group, Inc.	Engineer's Project No.:	202024.00
Contractor:	Velocity Constructors Inc.	Contractor's Project No.:	
Project:	2022 Water Treatment Plant Upgrades, SRF Project No. D311686		
Contract:	2022 Water Treatment Plant Upgrades, SRF Project No. D311686		

Application No.: 31 Application Period: From 09/30/25 to 02/01/26 Application Date: 02/01/26

A	B	C	D	E	F	Materials Stored			Incorporated in Work			M
Item No. (Lump Sum Tab) or Bid Item No. (Unit Price Tab)	Supplier Invoice No.	Submittal No. (with Specification Section No.)	Description of Materials or Equipment Stored	Storage Location	Application No. When Materials Placed in Storage	Previous Amount Stored (\$)	Amount Stored this Period (\$)	Amount Stored to Date (G + H) (\$)	Amount Previously Incorporated in the Work (\$)	Amount Incorporated in the Work this Period (\$)	Total Amount Incorporated in the Work (J + K) (\$)	Materials Remaining in Storage (I - L) (\$)
B-1.19	5894991		Yard Pipe	On Site	3	36,399.00	-	36,399.00	36,399.00		36,399.00	-
B-1.19	5898108		Yard Pipe	On Site	4	3,033.85	-	3,033.85	3,033.85		3,033.85	-
B-1.19	5835976		Yard Pipe	On Site	4	4,484.62	-	4,484.62	4,484.62		4,484.62	-
B-1.19	835125		Yard Pipe	On Site	4	6,039.99	-	6,039.99	6,039.99		6,039.99	-
B-1.19	896907		Yard Pipe	On Site	4	23,979.17	-	23,979.17	23,979.17		23,979.17	-
B-1.19	5897709		Yard Pipe	On Site	4	29,725.95	-	29,725.95	29,725.95		29,725.95	-
B-1.28 & 38			Rebar	On Site	4	33,900.00	-	33,900.00	33,900.00		33,900.00	-
B-1.19	T241554		Yard Pipe	On Site	5	370.34	-	370.34	370.34		370.34	-
B-1.19	T203897		Yard Pipe	On Site	5	520.82	-	520.82	520.82		520.82	-
B-1.19	T063762		Yard Pipe	On Site	5	1,012.90	-	1,012.90	1,012.90		1,012.90	-
B-1.24,37,49,52,57	Pay App 2		Electrical Fixtures	On Site	5	30,708.14	-	30,708.14	30,708.14		30,708.14	-
B1.56	0902556-IN		Electric Pumps	On Site	6	26,934.00	-	26,934.00	26,934.00		26,934.00	-
B1.47	34604		Mellen Valves PRV	On Site	7	27,865.08	-	27,865.08	27,865.08		27,865.08	-
B1.43	26123		Misc Metals Decking	On Site	7	5,000.00	-	5,000.00	5,000.00		5,000.00	-
B-1.57	13 Invoices		Electrical	On Site	7	112,151.76	-	112,151.76	112,151.76		112,151.76	-
B-1.22	92500		WesTech	Submittals	7	22,224.99	-	22,224.99	22,224.99		22,224.99	-
B1.31	228627		Overhead Doors	On Site	8	17,000.00	-	17,000.00	17,000.00		17,000.00	-
B-1.19	8 Invoices		Yard Pipe	On Site	9	15,646.65	-	15,646.65	15,646.65		15,646.65	-
B-1.47	Mellen		Air Vac	On Site	9	3,442.69	-	3,442.69	3,442.69		3,442.69	-
B-1.53	1 Invoice		Inside Pipe	On Site	9	23,997.39	-	23,997.39	23,997.39		23,997.39	-
B-1.17	T897108		Lang Fence	On Site	9	21,500.00	-	21,500.00	21,500.00		21,500.00	-
B-1.40			Vertical Turbine Pumps	On Site	10	85,940.88	-	85,940.88	85,940.88		85,940.88	-
B-1.05	HOA		Electrical HOA	Pictures	10	143,249.80	-	143,249.80	143,249.80		143,249.80	-
B-1.22	Mellen		Gate Valves	On Site	10	20,930.00	-	20,930.00	20,930.00		20,930.00	-
B-1.47	C&M		Clearwell Pipe	On Site	10	6,053.55	-	6,053.55	6,053.55		6,053.55	-
B-1.22	Vessco		Blower	On Site	11	50,000.00	-	50,000.00	50,000.00		50,000.00	-
B-1.25	Gurney		Split Case Pump	On Site	11	18,227.00	-	18,227.00	18,227.00		18,227.00	-
B1.47	8 Invoices		Piping	On Site	11	29,798.29	-	29,798.29	29,798.29		29,798.29	-
B-1.50	Gurney		Chem Feed	On Site	12	113,869.00	-	113,869.00	113,869.00		113,869.00	-
B-1.22	WesTech		Troughs	On Site	12	103,664.94	-	103,664.94	103,664.94		103,664.94	-
B-1.56	Mellen		Valves	On Site	12	7,651.85	-	7,651.85	7,651.85		7,651.85	-
B-1.56	3 Invoice		Inside Piping	Onsite	12	34,824.08	-	34,824.08	34,824.08		34,824.08	-
B-1.22	94231		Filter Rehab - WesTech	Onsite	13	187,247.48	-	187,247.48	187,247.48		187,247.48	-
B-1.22	35522		Mellen - Valves	Onsite	13	90,506.40	-	90,506.40	90,506.40		90,506.40	-
B-1.19	35489		Mellen - Valves	Onsite	13	24,828.20	-	24,828.20	24,828.20		24,828.20	-
B-1.19	35608		Mellen - Valves	Onsite	13	44,019.10	-	44,019.10	44,019.10		44,019.10	-
B-1.36	10 Inv		Core and Main - Piping	Onsite	13	39,821.77	-	39,821.77	39,821.77		39,821.77	-
B-1.11	Pay App 1		Skylight	Onsite	14	24,882.00	-	24,882.00	24,882.00		24,882.00	-
B1.18,44,45,48,BA2-1	Pay App		Misc Metals Decking	Onsite	14	45,000.00	-	45,000.00	45,000.00		45,000.00	-
BA1-1	35785		Valves	Onsite	14	50,000.00	-	50,000.00	50,000.00		50,000.00	-
B-1.19	CI 438085		RCP	Onsite	14	2,671.00	-	2,671.00	2,671.00		2,671.00	-
B-1.36	U550028		Piping	Onsite	14	6,933.75	-	6,933.75	6,933.75		6,933.75	-
B-1.05	11766		Enclosures	Onsite	14	13,819.66	-	13,819.66	13,819.66		13,819.66	-
B-1.53	2212-15350		Valves	Onsite	14	30,555.80	-	30,555.80	30,555.80		30,555.80	-
B-1.08	Pay App		Misc Metals Decking	Onsite	14	40,000.00	-	40,000.00	40,000.00		40,000.00	-
B-1.36			Check Valves	Onsite	15	15,817.55	-	15,817.55	15,817.55		15,817.55	-

Stored Materials Summary

Contractor's Application for Payment

Owner:	City of David City	Owner's Project No.:	
Engineer:	JEO Consulting Group, Inc.	Engineer's Project No.:	202024.00
Contractor:	Velocity Constructors Inc.	Contractor's Project No.:	
Project:	2022 Water Treatment Plant Upgrades, SRF Project No. D311686		
Contract:	2022 Water Treatment Plant Upgrades, SRF Project No. D311686		

Application No.:		31		Application Period:		From		09/30/25		to		02/01/26		Application Date:		02/01/26			
A	B	C	D	E	F	G	H	I	J	K	L	M							
Item No. (Lump Sum Tab) or Bid Item No. (Unit Price Tab)	Supplier Invoice No.	Submittal No. (with Specification Section No.)	Description of Materials or Equipment Stored	Storage Location	Application No. When Materials Placed in Storage	Materials Stored			Incorporated in Work			Materials Remaining in Storage (I - L) (\$)							
						Previous Amount Stored (\$)	Amount Stored this Period (\$)	Amount Stored to Date (G + H) (\$)	Amount Previously Incorporated in the Work (\$)	Amount Incorporated in the Work this Period (\$)	Total Amount Incorporated in the Work (J + K) (\$)								
B-1.25			RO Submittal	Submittals	15	182,064.25		182,064.25	182,064.25		182,064.25		-						
B-1.14			Plastic Cabinets	Onsite	15	18,159.93		18,159.93	18,159.93		18,159.93		-						
B1.36			Check Valves	Onsite	16	15,817.55		15,817.55	15,817.55		15,817.55		-						
B1.05	2 Invoices		Programing	Onsite	16	42,045.13		42,045.13	42,045.13		42,045.13		-						
B1.36	3 Invoice		Piping	Onsite	16	5,042.47		5,042.47	5,042.47		5,042.47		-						
B1.36	008L0183		RO Piping	Onsite	18	15,316.81	-	15,316.81	15,316.81		15,316.81		-						
													-						
													-						
Totals						\$	1,954,695.58	\$	-	\$	1,954,695.58	\$	1,954,695.58	\$	-	\$	1,954,695.58	\$	-



JEO CONSULTING GROUP INC
JEO ARCHITECTURE INC

**PLANS, SPECIFICATIONS AND CONTRACT DOCUMENTS
FOR
DAVID CITY BALLFIELD RESTROOM ADDITION
FOR
DAVID CITY, NEBRASKA**

Engineering
Architecture
Surveying
Planning
Funding

**PLANS, SPECIFICATIONS AND CONTRACT DOCUMENTS
FOR
DAVID CITY BALLFIELD RESTROOM ADDITION
FOR
DAVID CITY, NEBRASKA**

OWNER CONTACT William Reiter, Recreation Director
City of David City
490 E Street, PO Box 191
David City, NE 68632
Phone: 402.367.3135

**COORDINATING
PROFESSIONAL** Bryan Solko
JEO Architecture, Inc.
2000 Q Street, Suite 500
Lincoln, NE 68503
Phone: 402.435.3080
Email: bsolko@jeo.com

I, Bryan Solko, am the Coordinating Professional on the David City Ballfield Restroom Addition project.

**PROJECT
COORDINATOR** Direct questions to:
Jarred Meyer
JEO Architecture, Inc
Phone: 402.239.5383
Email: jmeyer@jeo.com

**SUBMITTING
ORGANIZATION(S)** Organization legal name: JEO Architecture, Inc.
Contact information: 1937 N Chestnut St, Wahoo, NE 68066 – 800.723.8567
Organization certificate of authorization number: CA-3929

Organization legal name: JEO Consulting Group, Inc.
Contact information: 1937 N Chestnut St, Wahoo, NE 68066 – 800.723.8567
Organization certificate of authorization number: CA-0069

*Organization legal name: AES Advanced Engineering Systems
Contact Information: 4630 Antelope Creed Rd. Lincoln, NE 68506, 402.488.0075
Organization certificate of authorization number: CA-482079*

JEO PROJECT NO. 251890.00

**DAVID CITY BALLFIELD RESTROOM ADDITION
FOR
DAVID CITY, NEBRASKA
JEO PROJECT NO. 251890.00**

The following Specification Sections have been prepared by myself or under my direct supervision:

<u>Section No.</u>	<u>Title</u>
Division 00 – All Sections Included	Bidding and Contracting Requirements
Division 01 – All Sections Included	General Requirements
Division 02 – All Sections Included	Existing Conditions
Division 03 03 35 11	Concrete Concrete Floor Finishes
Division 06 – All Sections Included	Wood, Plastics, Composites
Division 07 – All Sections Included	Thermal and Moisture Protection
Division 08 – All Sections Included	Openings
Division 09 – All Sections Included	Finishes
Division 10 – All Sections Included	Specialties

**DAVID CITY BALLFIELD RESTROOM ADDITION
FOR
DAVID CITY, NEBRASKA
JEO PROJECT NO. 251890.00**

The following Specification Sections have been prepared by myself or under my direct supervision:

<u>Section No.</u>	<u>Title</u>
Division 03 03 30 00	Concrete Cast-In-Place Concrete

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GENERAL

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ARCHITECTURAL

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A111 REFLECTED CEILING PLAN

A201 BUILDING ELEVATIONS

A301 BUILDING SECTIONS

A401 ENLARGED PLANS & INTERIOR ELEVATIONS

A501 ARCHITECTURAL DETAILS & SCHEDULES

PLUMBING

P000 PLUMBING NOTES, SPECIFICATIONS AND SYMBOLS

PD101 PLUMBING DEMOLITION FLOOR PLAN

P101 PLUMBING FLOOR PLANS

P201 PLUMBING SCHEDULES AND DETAILS

MECHANICAL

M000 HVAC NOTES, SPECIFICATIONS & SYMBOLS

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E302 LIGHTING SCHEDULES

E401 ELECTRICAL SPECIFICATIONS

END OF SECTION

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**SECTION 00 11 13
ADVERTISEMENT FOR BIDS**

FROM:

1.01 THE OWNER (HEREINAFTER REFERRED TO AS OWNER):

- A. City of David City, Nebraska:
490 E Street
David City, NE 68632

1.02 AND THE ARCHITECT (HEREINAFTER REFERRED TO AS ARCHITECT):

- A. JEO Architecture, Inc.
- B. Address:
 - 1. 2000 Q Street
 - 2. Suite 500
 - 3. Lincoln, NE 68503

1.03 TO: POTENTIAL BIDDERS

- A. Your firm is invited to submit an offer under seal to Owner for construction of a building located at 100 M Rd, David City, NE 68632 before 2:00 pm local standard time on the March 19, 2026, for:
- B. Project Description:
 - 1. David City Ballfield Restroom Addition. The project consists of an approximately 588 SF wood framed restroom with an approximately 186 SF renovated space. Exterior finish is fiber-cement siding.
- C. A pre-bid meeting will not be held. To visit the site, contact Will Reiter, Recreation Director, at wreiter@davidcityne.gov, 402.367.3135 to arrange a time.
- D. Bids will be received at the office of the Owner at 490 E Street, David City, NE 68632. Bids will be opened publicly at 2:00 PM.
- E. Bid Documents for a Stipulated Sum contract may be obtained by download in PDF format from JEO's website at jeo.com for a nonrefundable fee of \$30.00. Paper copies of the Bid Documents are available at the office of JEO Architecture, Inc. free of charge upon receipt of a refundable deposit, by cash or check, in the amount of \$200.00 for one set if returned within 21 days of Notice of Award in reusable condition. All other requested sets will be at the expense of the contractor to cover actual printing costs.
- F. For plans and specifications that are to be shipped
 - 1. Include a non-refundable \$15.00 shipping and handling fee for each set of plans and specifications.
 - 2. Submit the fee as a separate check.
- G. Bidders will be required to provide Bid security in the form of a Bid Bond of a sum no less than 5 percent of the Bid Amount.
 - 1. Bid security shall be made payable to City of David City, Nebraska and will be held by the Owner. In case the bid is accepted and the Bidder neglects or refuses to enter into contract and furnish bond in accordance there with, the bid security will be forfeited.
 - 2. Refer to other bidding requirements described in Document 00 21 13 - Instructions to Bidders.
- H. Your offer will be required to be submitted under a condition of irrevocability for a period of 30 days after submission.

END OF SECTION

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**SECTION 00 21 13
INSTRUCTIONS TO BIDDERS**

INVITATION

1.01 BID SUBMISSION

- A. Bids signed and under seal, executed, and dated will be received at the office of the Owner at 490 E. Street, David City, NE 68632 before 2:00 p.m. local standard time on March 19, 2026.
- B. Offers submitted after the above time will be returned to the bidder unopened.
- C. Offers will be opened publicly immediately after the time for receipt of bids.
- D. Amendments to the submitted offer will be permitted if received in writing prior to bid closing and if endorsed by the same party or parties who signed and sealed the offer.

1.02 WORK IDENTIFIED IN THE CONTRACT DOCUMENTS

- A. Project Location:
100 M Rd.
David City, Nebraska 68632.

1.03 CONTRACT TIME

- A. The work under this Contract shall commence within seven (7) days of fully executed Contract between the Owner and Contractor and shall be completed by August 30, 2026; unless otherwise extended by the Contract Documents. Liquidated damages may be assessed in the amount of \$150.00 for each calendar day that the work remains unfinished past the completion date listed above.
- B. The ballfields are used heavily from May 4th into Mid-July. Construction operations will need to be coordinated with the owner to minimize disruptions to the concession stand portion of the existing facility and to maintain safety for all users.
- C. The bidder, in submitting an offer, accepts the Contract Time period stated for performing the Work. The completion date in the Agreement shall be the Contract Time added to the commencement date. The bidder may suggest a revision to the Contract Time with a specific adjustment to the Bid Amount.

BID DOCUMENTS AND CONTRACT DOCUMENTS

2.01 DEFINITIONS

- A. Bid Documents: Contract Documents supplemented with Invitation To Bid, Instructions to Bidders, Information Available to Bidders, Bid Form Supplements To Bid Forms and Appendices identified.
- B. Contract Documents: Defined in AIA A201 Article 1 including issued Addenda.
- C. Bid, Offer, or Bidding: Act of submitting an offer under seal.
- D. Bid Amount: Monetary sum identified by the Bidder in the Bid Form.

2.02 CONTRACT DOCUMENTS IDENTIFICATION

- A. Contract Documents are identified as Architect's Project Number 251890.00, as prepared by Architect, and with contents as identified in the Table of Contents.

2.03 AVAILABILITY

- A. Bid Documents may be obtained by download in PDF format from JEO's website at jeo.com for a non-refundable fee or at the office of Architect which is located at 2000 Q Street, Suite 500, Lincoln, NE 68503 p) 402.435.3080.
- B. Refer to Section 00 11 13 ADVERTISEMENT FOR BIDS for deposits required.
- C. In order to bid the project, the contract documents must be issued directly to the General Contractor bidder from JEO Consulting Group, Inc. or QuestCDN. The Bid shall be submitted by the same firm that was issued the contract documents.

2.04 EXAMINATION

- A. Bid Documents may be viewed at the office of Architect.
- B. Bid Documents may be viewed at the office of Owner.
- C. Bid Documents are available for viewing purposes at the following locations:
 - 1. Office of JEO Consulting Group Inc.
 - 2000 Q Street, Suite 500.
 - Lincoln NE 68503.
 - p) 402.435.3080
 - f) 402.435.4110
 - 2. Lincoln Builders Bureau
 - 5910 S 58th St Ste C
 - Lincoln NE 68516-6410
 - p) 402.421.8332
 - f) 402.421.8334
 - 3. Dodge Data & Analytics
 - dodge.bidding@construction.com
 - www.construction.com
 - p) 800.393.6343
 - f) 800.768.5594
 - 4. Omaha Builders Exchange
 - 4156 South 94th Street
 - Omaha NE 68127-1223
 - p) 402.991.6906
 - f) 402.884.7055
 - 5. Columbus Area Chamber of Commerce
 - a. 764 33rd Ave
 - b. Columbus NE 68601-6428
 - c. p) 402.564.2769
 - d. f) 402.564.2026
- D. Upon receipt of Bid Documents verify that documents are complete. Notify Architect should the documents be incomplete.
- E. Immediately notify Architect upon finding discrepancies or omissions in the Bid Documents.

2.05 INQUIRIES/ADDENDA

- A. Direct questions to Jarred Meyer with JEO Architecture Inc; 402.239.5383 or email; jmeyer@jeo.com.
- B. Addenda may be issued during the bidding period. All Addenda become part of Contract Documents. Include resultant costs in the Bid Amount.
- C. Verbal answers are not binding on any party.
- D. Clarifications requested by bidders must be in writing not less than 7 days before date set for receipt of bids. The reply will be in the form of an Addendum, a copy of which will be forwarded to known recipients.

2.06 PRODUCT/ASSEMBLY/SYSTEM SUBSTITUTIONS

- A. General Requirements for Substitution Requests:
 - 1. Project Manual establishes standards for products, assemblies, and systems.
 - 2. Provide sufficient information to determine acceptability of proposed substitutions.
 - 3. Provide complete information on required revisions to other work to accommodate each proposed substitution.
- B. Substitution Request Time Restrictions:

1. Where the Bid Documents stipulate a particular product, substitutions will be considered up to 10 days before receipt of bids.
- C. Substitution Request Form:
 1. Submit substitution requests by completing CSI/CSC Form 1.5C - Substitution Request (During the Bidding/Negotiating Stage). See this form for additional information and instructions. Use only this form; other forms of submission are unacceptable.
- D. Review and Acceptance of Request:
 1. Architect may approve the proposed substitution and will issue an Addendum to known bidders.

SITE ASSESSMENT

3.01 SITE EXAMINATION

- A. The bidder is required to contact Owner at the following address and phone number in order to arrange a date and time to visit the project site: Will Reiter, Recreation Director, wreiter@davidcityne.gov, 402.367.3135.

3.02 PREBID CONFERENCE

- A. A prebid conference will not be held.

QUALIFICATIONS

4.01 EVIDENCE OF QUALIFICATIONS

- A. To demonstrate qualification for performing the Work of this Contract, bidders may be requested to submit written evidence of financial position, license to perform work in the State.
- B. Eligible General Contractors and Sub-contractors shall not be debarred, suspended, proposed for debarment, placed on ineligibility status, or voluntarily excluded from covered transactions by any Federal agency under the provisions of 2 C.F.R. part 180, Executive Order 12549, Executive Order 12689 and 31 C.F.R part 19.
- C. The General Contractor and sub-contractor agrees to comply with requirements established by the Office of Budget Management ("OMB") concerning active registration of a Unique Entity Identifier ("UEI"), with SAM and continued maintenance of such participation and registration during the project duration. The General contractor and Sub-contractors shall maintain active SAM.gov registration for the duration of the Period of Performance.

4.02 FUNDING SOURCE INFORMATION

- A. The project is funded through the Nebraska Rural Community Recovery Program (RCRP)
 1. Businesses that are small, minority and women owned are encouraged to submit bids.
 2. Preference is for domestically produced goods and materials.
 3. Davis-Bacon requirements do not apply

4.03 SUBCONTRACTORS/SUPPLIERS/OTHERS

- A. Owner reserves the right to reject a proposed subcontractor for reasonable cause.

BID SUBMISSION

5.01 SUBMISSION PROCEDURE

- A. Bidders shall be solely responsible for the delivery of their bids in the manner and time prescribed.
- B. Physical Document Submissions:
 1. Submit one copy of executed offer, signed and sealed, on Bid Forms provided. Use an opaque envelope, including required security, clearly identified with bidder's name, project name, and Owner's name on the outside.
- C. Improperly completed information or irregularities in security deposit may be cause to reject and declare the bid invalid or informal.

- D. An abstract summary of submitted bids will be made available to all bidders following bid opening.

5.02 BID INELIGIBILITY

- A. Bids that are unsigned, improperly signed or sealed, conditional, illegible, obscure, contain arithmetical errors, erasures, alterations, or irregularities of any kind, may at the discretion of the Owner, be declared unacceptable.
- B. Bid Forms, Appendices, and enclosures that are improperly prepared may, at the discretion of Owner, be declared unacceptable.
- C. Failure to provide security deposit, bonding or insurance requirements may, at the discretion of Owner, be waived.

BID ENCLOSURES/REQUIREMENTS

6.01 SECURITY DEPOSIT

- A. Bids shall be accompanied by a security deposit as follows:
 - 1. Bid Bond of a sum no less than 5 percent of the Bid Amount on AIA A310 Bid Bond Form.
- B. Endorse the Bid Bond in the name of the Owner as obligee, signed and sealed by the principal (Contractor) and surety.
- C. The security deposit will be returned after delivery to the Owner of the required Performance and Payment Bond(s) by the accepted bidder.
- D. Include the cost of bid security in the Bid Amount.
- E. If no contract is awarded, all security deposits will be returned.

6.02 PERFORMANCE ASSURANCE

- A. Accepted Bidder: Provide a Performance bond as described in 00 73 00 - Supplementary Conditions.
- B. Include the cost of performance assurance bonds in the Bid Amount.

6.03 INSURANCE

- A. Provide an executed "Undertaking of Insurance" on the form provided stating their intention to provide insurance to the bidder in accordance with the insurance requirements of Contract Documents.
- B. The owner will obtain Builders Risk Insurance.

6.04 BID FORM REQUIREMENTS

- A. Complete all requested information in the Bid Form and Appendices.

6.05 SALES AND USE TAXES

- A. David City, Nebraska is a tax-exempt entity.

6.06 BUILDING PERMITS

- A. The contractor will be required to obtain all necessary building permits from the Authorities Having Jurisdiction. Include all permitting fees within the Bid Amount.

6.07 FEES FOR CHANGES IN THE WORK

- A. Include the fees for overhead and profit on own Work and Work by subcontractors, identified in Supplementary Conditions.

6.08 BID FORM SIGNATURE

- A. The Bid Form shall be signed by the bidder, as follows:
 - 1. Sole Proprietorship: Signature of sole proprietor in the presence of a witness who will also sign. Insert the words "Sole Proprietor" under the signature. Affix seal.
 - 2. Partnership: Signature of all partners in the presence of a witness who will also sign. Insert the word "Partner" under each signature. Affix seal to each signature.

3. Corporation: Signature of a duly authorized signing officer(s) in their normal signatures. Insert the officer's capacity in which the signing officer acts, under each signature. Affix the corporate seal. If the bid is signed by officials other than the president and secretary of the company, or the president/secretary/treasurer of the company, a copy of the by-law resolution of their board of directors authorizing them to do so, must also be submitted with the Bid Form in the bid envelope.
4. Joint Venture: Each party of the joint venture shall execute the Bid Form under their respective seals in a manner appropriate to such party as described above, similar to the requirements of a Partnership.

OFFER ACCEPTANCE/REJECTION

7.01 DURATION OF OFFER

- A. Bids shall remain open to acceptance and shall be irrevocable for a period of thirty (30) days after the bid closing date.

7.02 ACCEPTANCE OF OFFER

- A. Owner reserves the right to accept or reject any or all offers.
- B. After acceptance by Owner, Architect on behalf of Owner, will issue to the successful bidder, a written Bid Acceptance.

END OF SECTION

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**SECTION 00 41 00
BID FORM**

THE PROJECT AND THE PARTIES

1.01 TO:

City of David City, Nebraska
490 E. Street
David City, Nebraska 68632

1.02 FOR:

- A. Project: David City Ballfield RR Addition
100 M Rd
David City, Nebraska 68632

1.03 DATE: _____ (BIDDER TO ENTER DATE)

1.04 SUBMITTED BY: (BIDDER TO ENTER NAME AND ADDRESS)

- A. Bidder's Full Name _____
1. Address _____
2. City, State, Zip _____

1.05 OFFER

- A. Having examined the Place of The Work and all matters referred to in the Instructions to Bidders and the Contract Documents prepared by JEO Architecture, Inc., Project No. 251890.00 for the above mentioned project, we, the undersigned, hereby offer to enter into a Contract to perform the Work for the Sum of:
- B. _____ dollars
(\$ _____), in lawful money of the United States of America.
- C. We have included the required security Bid Bond as required by the Instruction to Bidders.
- D. We have included the required performance assurance bonds in the Bid Amount as required by the Instructions to Bidders.

1.06 ACCEPTANCE

- A. This offer shall be open to acceptance and is irrevocable for thirty days from the bid closing date.
- B. If this bid is accepted by Owner within the time period stated above, we will:
1. Execute the Agreement within seven days of receipt of Notice of Award.
 2. Furnish the required bonds within seven days of receipt of Notice of Award.
 3. Commence work within seven days after written acceptance of this bid of this bid.
- C. If this bid is accepted within the time stated, and we fail to commence the Work or we fail to provide the required Bond(s), the security deposit shall be forfeited as damages to Owner by reason of our failure, limited in amount to the lesser of the face value of the security deposit or the difference between this bid and the bid upon which a Contract is signed.
- D. In the event our bid is not accepted within the time stated above, the required security deposit shall be returned to the undersigned, in accordance with the provisions of the Instructions to Bidders; unless a mutually satisfactory arrangement is made for its retention and validity for an extended period of time.

1.07 CONTRACT TIME

- A. If this Bid is accepted, we will:
- B. Complete the Work by August 30, 2026.

1.08 CHANGES TO THE WORK

- A. When Architect establishes that the method of valuation for Changes in the Work will be net cost plus a percentage fee in accordance with General Conditions, our percentage fee will be:
 - 1. 10 percent overhead and profit on the net cost of our own Work;
 - 2. 10 percent on the cost of work done by any Subcontractor.
- B. On work deleted from the Contract, our credit to Owner shall be Architect-approved net cost plus 50 percent of the overhead and profit percentage noted above.

1.09 ADDENDA

- A. The following Addenda have been received. The modifications to the Bid Documents noted below have been considered and all costs are included in the Bid Sum.
 - 1. Addendum # _____ Dated _____.
 - 2. Addendum # _____ Dated _____.
 - 3. Addendum # _____ Dated _____.

1.10 SYSTEM FOR AWARDS MANAGEMENT ("SAM") ACKNOWLEDGEMENT

- A. General Contractor shall provide proof of an active, registered Unique Entity Identifier in SAM.gov before contract award. Furthermore, any and all subcontractors used on the project must also have an active, registered Unique Entity Identifier in SAM.gov.

1.11 BID FORM SIGNATURE(S)

- A. The Corporate Seal of
- B. _____
- C. (Bidder - print the full name of your firm)
- D. was hereunto affixed in the presence of:
- E. _____
- F. (Authorized signing officer, Title)
- G. (Seal)
- H. _____
- I. (Authorized signing officer, Title)

1.12 IF THE BID IS A JOINT VENTURE OR PARTNERSHIP, ADD ADDITIONAL FORMS OF EXECUTION FOR EACH MEMBER OF THE JOINT VENTURE IN THE APPROPRIATE FORM OR FORMS AS ABOVE.

END OF SECTION

**SECTION 00 52 00
AGREEMENT FORM**

PART 1 GENERAL

1.01 FORM OF AGREEMENT

**1.02 AIA DOCUMENT A104, STANDARD ABBREVIATED FORM OF AGREEMENT BETWEEN
OWNER AND CONTRACTOR.**

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF AGREEMENT

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**SECTION 00 72 00
GENERAL CONDITIONS**

FORM OF GENERAL CONDITIONS

1.01 RELATED REQUIREMENTS

1.02 SECTION 00 73 00 - SUPPLEMENTARY CONDITIONS.

**1.03 AIA DOCUMENT A201, GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION,
2017 EDITION, IS THE GENERAL CONDITIONS BETWEEN THE OWNER AND CONTRACTOR.**

END OF DOCUMENT

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**SECTION 00 73 00
SUPPLEMENTARY CONDITIONS**

PART 1 GENERAL

1.01 SUMMARY

1.02 THESE SUPPLEMENTARY CONDITIONS AMEND AND SUPPLEMENT THE GENERAL CONDITIONS DEFINED IN AIA DOCUMENTS A201 - 2017 AND OTHER PROVISIONS OF THE CONTRACT DOCUMENTS AS INDICATED BELOW. ALL PROVISIONS THAT ARE NOT SO AMENDED OR SUPPLEMENTED REMAIN IN FULL FORCE AND EFFECT.

1.03 THE TERMS USED IN THESE SUPPLEMENTARY CONDITIONS THAT ARE DEFINED IN THE GENERAL CONDITIONS HAVE THE MEANINGS ASSIGNED TO THEM IN THE GENERAL CONDITIONS.

1.04 MODIFICATIONS TO GENERAL CONDITIONS

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

PART 4 MODIFICATIONS TO AIA A201 - 2017

4.01 ARTICLE 1 - GENERAL PROVISIONS

A. Add the following paragraphs:

1. 1.2.4 In case of disagreement between the drawings and specifications, or within the document itself, contact the Architect to resolve any disagreement.
2. 1.2.5 Contractor is solely responsible for coordination of bidding and scope or Work of subcontractors. Neither Architect or Owner will act as arbiter as to which trade or subcontractor is to furnish and install various items indicated or required to perform construction.

B. Add the following paragraph:

1. 1.9 Notwithstanding anything herein to the contrary, the Owner and Contractor agree to execute such other documents as may be necessary for Owner to be in compliance with all rules and regulations of the Federal Emergency Management Act or Nebraska Emergency Management Act.

4.02 ARTICLE 2 OWNER

A. Delete the following paragraph in its entirety:

1. 2.1.2.
2. Delete Subparagraph 2.3.6 in its entirety and replace with the following:
3. The Contractor will be furnished free of charge a minimum 2 copies of drawings and project manuals.. Additional sets will be furnished at the cost of reproduction, postage and handling. Signed and sealed prints as required for governing authority's review and approval will be supplied at no cost.

4.03 ARTICLE 3 - CONTRACTOR

A. Add the following subparagraphs:

1. 3.4.4 Acceptance of materials by or on behalf of Architect does not bar future rejection if subsequently found to be defective of inferior in quality or uniformity to material specified or not as represented.
2. 3.4.5 After the Contract has been executed, the Architect will consider a formal request for the substitution of products in place of those specified only under the conditions listed below:
 - a. By making requests for substitutions, the Contractor:
 - 1) Represents that the Contractor has personally investigated the proposed substitute product and determined that it is equal or superior in all respects to that specified.

- 2) Represents that the Contractor will provide the same warranty for the substitution that the Contractor would for that specified.
 - 3) Certifies that the cost data presented is complete and includes all related costs under this Contract, except the Architect's redesign costs, and waives all claims for additional costs related to the substitution which subsequently becomes apparent.
 - 4) Will coordinate the installation of the accepted substitute, making such changes as may be required for work in all respects.
 - 5) Will reimburse Owner and Architect for review on redesign services associated with reapproval by Architect.
3. 3.5.3 The Prime Contractor does hereby guarantee the Work to conform to the Warranty described (in 3.5.1) for a period of one full year from the date of acceptance of the Work as designated in the Certificate of Substantial Completion.

4.04 ARTICLE 4 - ADMINISTRATION OF THE CONTRACT

- A. Add the following paragraph:
1. 4.1.3 In carrying out any provisions of Contract or in exercising any power or authority granted thereby, there is no liability upon Architect to the Contractor, either personally or as an official of Owner, it being understood that in such matters the Architect acts as agent and representative of Owner.

4.05 ARTICLE 5 - SUBCONTRACTORS

- A. Add the following subparagraph:
1. 5.1.3 Architect shall not work directly with any subcontractor, sub-subcontractor or materials supplier. Contact to the Architect shall be made only through Contractor. Requests for information or clarification must be routed through Contractor.
- B. Add the following subparagraph:
1. 5.3.1 Contractor is fully responsible for acts and omissions of all subcontractors, and persons either directly or indirectly employed by them.

4.06 ARTICLE 7 - CHANGES IN THE WORK

- A. Add the following subparagraphs:
1. 7.1.4 The Contractor shall not proceed with or commence any work for which contractor will request additional compensation or which is deemed to be a Change in the Work without first receiving a signed written Change Order properly executed, or a written order or authorization to proceed from the Architect.
 2. 7.1.5 Failure of the Contractor to obtain written approval or authorization for any Changes in the Work shall constitute cause for rejection of a request for approval of any additional compensation associated with the Work.
 3. 7.3.11 For all additional work covered by approved Change Orders or Construction Change Directives, the Contractor shall submit a price quotation which includes a complete breakdown of the cost of the Work, including labor, materials, equipment, subcontract work, and overhead and profit. The following fees apply to Changes in the Work in accordance with Subparagraph 7.3.4:
 - a. 10 percent overhead and profit on the net cost of Work done by the Contractor;
 - b. 10 percent overhead and profit on the cost of Work done by any Subcontractor;
 - c. On Work deleted from the Contract, credit to the Owner shall be the Architect approved net cost plus 1/2 of the overhead and profit percentage noted above.

4.07 ARTICLE 8 - TIME

- A. Add the following subparagraph:
1. 8.1.2.1 Do not start work or store materials or equipment on site until written notice to proceed is issued, or upon execution of Contract.
- B. Add the following subparagraph:
1. 8.3.4 Owner may waive above requirements and grant extensions of time for any reason.

4.08 ARTICLE 9 - PAYMENTS AND COMPLETION

- A. Add the following subparagraphs:
 - 1. 9.3.1.01 Until the work is 100 percent complete, the Owner shall pay 95 percent of the amount certified by the Architect on account of progress payments.
 - 2. 9.3.3.1 Lien Releases and Receipted Bills, add the following: Before receiving any payment, except the first, the Contractor shall furnish to the Architect, along with his "Request for Payment," partial (or final as the case may be) lien releases covering all materials used and subcontracts performed in connection with his contract through the date of the previous billing. In addition, the Contractor shall furnish with each request for payment, including the first, the contractor's own waiver of lien in the full amount of the request shall include a list of subcontractors, sub-subcontractors, and suppliers whose lien releases will be furnished with the following months request. Should the Contractor fail to furnish required lien releases, the amount of his "Request for Payment" not covered by such lien releases may not be certified.
 - 3. 9.3.3.2 Final Waivers of Lien, add the following: Before final payment will be made, the Contractor shall furnish final waivers of lien, or receipted bills, covering all materials used and subcontracts performed in connection with his contract, including his own final waiver of lien in the full amount of the contract.
- B. Add the following to the sentence to subparagraph 9.8.1
 - 1. Subject only to completion of minor punch-list items, the absence of completion of which does not interfere with the Owner's intended use of the Project.
- C. Add the following sentence to subparagraph 9.10.3;
 - 1. Notwithstanding the foregoing, in no event shall the retainage attributable to the unfinished Work be less than 125% of Owner's good faith estimate of the cost of finally completing the Work.

4.09 ARTICLE 10 - PROTECTION OF PERSONS AND PROPERTY

- A. Add the following paragraphs:
 - 1. Add the following sentence to subparagraph 10.1:
 - a. This requirement applies continuously and is not limited to normal working hours.
 - 2. 10.1.1 The Contractor shall be required, in compliance with the Asbestos Emergency Response Act of 1986, to certify that all products and materials supplied as a part of this project shall be free of Asbestos.
- B. Add the following subparagraph 10.2.2.1:
 - 1. Contractor shall give notice in writing at least 48 hours before breaking ground to all persons, public utility companies, Owners of property having structures or improvements in proximity to site of the Work, and superintendents, inspectors, or those otherwise in charge of property, streets, water pipes, gas pipes, sewer pipes, telephone cables, electric cables, railroads or otherwise, who may be affected by Contractor's operation, in order that they may remove any obstruction for which they are responsible and have representative on site to see that their property is properly protected. Such notice does not relieve Contractor of responsibility for any damages, claims, and defense of all actions against Owner and Architect resulting from performance of such work in connection with or arising out of Contract.
- C. Add new subparagraphs:
 - 1. 10.2.9 Duty of Architect to conduct construction review of Contractor's performance does not include review of adequacy of Contractor's safety measures in, on, or near construction site.
 - 2. 10.2.10 Maintain utilities or other service, indicated to be abandoned, in service until new facilities are provided, tested and ready for use.
 - 3. 10.2.11 Return all improvements on or about site and adjacent property which are not shown to be altered, removed or otherwise changed to conditions which existed previous to starting work.

- D. Add new paragraphs:
 - 1. 10.3.7 Water Precautions: Keep all parts of site, including excavations, free from any accumulation of water, no matter what source of cause.
 - 2. 10.3.7.1 Dispose of water in such manner as will not endanger public health or cause damage or expense to property. Comply with requirements of any public agencies having jurisdiction. If sewers and streets are allowed to be used for drainage or disposal of water furring construction, maintain and leave these satisfactorily clean upon completion of work.
- E. Add new paragraphs:
 - 1. 10.3.8 Signs: Do not erect signs, billboards, or advertisements on or about premises, without prior approval, except as required by Contract.
 - 2. 10.3.8.1 Furnish and maintain all necessary signs required for prosecution of the Work and as required by law.

4.10 ARTICLE 13 - MISCELLANEOUS PROVISIONS

- A. Add the following to paragraph 13.4.1:
 - 1. Contractor shall provide the testing and inspection services required by the Contract Documents at the Contractors expense.
- B. Delete paragraph 13.5 in its entirety.

4.11 ARTICLE 14 - TERMINATION OR SUSPENSION OF THE CONTRACT

- A. Add the following to subparagraph:
 - 1. 14.2.3 In all cases of termination or Contractor default, Architect will bill Owner for cost of additional services required in connection with reissuing documents or completing the Work. Owner will deduct this sum from money due Contractor and pay it to Architect.

END OF SECTION



AIA Document A101[®] – 2017 Exhibit A

Insurance and Bonds

This Insurance and Bonds Exhibit is part of the Agreement, between the Owner and the Contractor, dated the day of in the year
(In words, indicate day, month and year.)

for the following **PROJECT:**
(Name and location or address)

David City Ballfield RR Addition
David City

THE OWNER:
(Name, legal status and address)

David City
490 E Street
David City, NE 68632

THE CONTRACTOR:
(Name, legal status and address)

TABLE OF ARTICLES

A.1 GENERAL

A.2 OWNER'S INSURANCE

A.3 CONTRACTOR'S INSURANCE AND BONDS

A.4 SPECIAL TERMS AND CONDITIONS

ARTICLE A.1 GENERAL

The Owner and Contractor shall purchase and maintain insurance, and provide bonds, as set forth in this Exhibit. As used in this Exhibit, the term General Conditions refers to AIA Document A201[™]-2017, General Conditions of the Contract for Construction.

ARTICLE A.2 OWNER'S INSURANCE

§ A.2.1 General

Prior to commencement of the Work, the Owner shall secure the insurance, and provide evidence of the coverage, required under this Article A.2 and, upon the Contractor's request, provide a copy of the property insurance policy or policies required by Section A.2.3. The copy of the policy or policies provided shall contain all applicable conditions, definitions, exclusions, and endorsements.

§ A.2.2 Liability Insurance

The Owner shall be responsible for purchasing and maintaining the Owner's usual general liability insurance.

ADDITIONS AND DELETIONS:

The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes added information as well as revisions to the standard form text is available from the author and should be reviewed. A vertical line in the left margin of this document indicates where the author has added necessary information and where the author has added to or deleted from the original AIA text.

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

This document is intended to be used in conjunction with AIA Document A201[®]-2017, General Conditions of the Contract for Construction. Article 11 of A201[®]-2017 contains additional insurance provisions.

§ A.2.3 Required Property Insurance

§ A.2.3.1 Unless this obligation is placed on the Contractor pursuant to Section A.3.3.2.1, the Owner shall purchase and maintain, from an insurance company or insurance companies lawfully authorized to issue insurance in the jurisdiction where the Project is located, property insurance written on a builder's risk "all-risks" completed value or equivalent policy form and sufficient to cover the total value of the entire Project on a replacement cost basis. The Owner's property insurance coverage shall be no less than the amount of the initial Contract Sum, plus the value of subsequent Modifications and labor performed and materials or equipment supplied by others. The property insurance shall be maintained until Substantial Completion and thereafter as provided in Section A.2.3.1.3, unless otherwise provided in the Contract Documents or otherwise agreed in writing by the parties to this Agreement. This insurance shall include the interests of the Owner, Contractor, Subcontractors, and Sub-subcontractors in the Project as insureds. This insurance shall include the interests of mortgagees as loss payees.

§ A.2.3.1.1 Causes of Loss. The insurance required by this Section A.2.3.1 shall provide coverage for direct physical loss or damage, and shall not exclude the risks of fire, explosion, theft, vandalism, malicious mischief, collapse, earthquake, flood, or windstorm. The insurance shall also provide coverage for ensuing loss or resulting damage from error, omission, or deficiency in construction methods, design, specifications, workmanship, or materials. Sub-limits, if any, are as follows:

(Indicate below the cause of loss and any applicable sub-limit.)

Causes of Loss	Sub-Limit
Special Form or All Risk	Policy Limit

§ A.2.3.1.2 Specific Required Coverages. The insurance required by this Section A.2.3.1 shall provide coverage for loss or damage to falsework and other temporary structures, and to building systems from testing and startup. The insurance shall also cover debris removal, including demolition occasioned by enforcement of any applicable legal requirements, and reasonable compensation for the Architect's and Contractor's services and expenses required as a result of such insured loss, including claim preparation expenses. Sub-limits, if any, are as follows:

(Indicate below type of coverage and any applicable sub-limit for specific required coverages.)

Coverage	Sub-Limit
Transit / Off-site Storage	\$250,000.00

§ A.2.3.1.3 Unless the parties agree otherwise, upon Substantial Completion, the Owner shall continue the insurance required by Section A.2.3.1 or, if necessary, replace the insurance policy required under Section A.2.3.1 with property insurance written for the total value of the Project that shall remain in effect until expiration of the period for correction of the Work set forth in Section 12.2.2 of the General Conditions.

§ A.2.3.1.4 Deductibles and Self-Insured Retentions. If the insurance required by this Section A.2.3 is subject to deductibles or self-insured retentions, the Owner shall be responsible for all loss not covered because of such deductibles or retentions.

§ A.2.3.2 Occupancy or Use Prior to Substantial Completion. The Owner's occupancy or use of any completed or partially completed portion of the Work prior to Substantial Completion shall not commence until the insurance company or companies providing the insurance under Section A.2.3.1 have consented in writing to the continuance of coverage. The Owner and the Contractor shall take no action with respect to partial occupancy or use that would cause cancellation, lapse, or reduction of insurance, unless they agree otherwise in writing.

§ A.2.3.3 Insurance for Existing Structures

If the Work involves remodeling an existing structure or constructing an addition to an existing structure, the Owner shall purchase and maintain, until the expiration of the period for correction of Work as set forth in Section 12.2.2 of the General Conditions, "all-risks" property insurance, on a replacement cost basis, protecting the existing structure against direct physical loss or damage from the causes of loss identified in Section A.2.3.1, notwithstanding the undertaking of the Work. The Owner shall be responsible for all co-insurance penalties.

§ A.2.4 Optional Extended Property Insurance.

The Owner shall purchase and maintain the insurance selected and described below.

(Select the types of insurance the Owner is required to purchase and maintain by placing an X in the box(es) next to

Init.

the description(s) of selected insurance. For each type of insurance selected, indicate applicable limits of coverage or other conditions in the fill point below the selected item.)

- § **A.2.4.1 Loss of Use, Business Interruption, and Delay in Completion Insurance**, to reimburse the Owner for loss of use of the Owner's property, or the inability to conduct normal operations due to a covered cause of loss.

- § **A.2.4.2 Ordinance or Law Insurance**, for the reasonable and necessary costs to satisfy the minimum requirements of the enforcement of any law or ordinance regulating the demolition, construction, repair, replacement or use of the Project.

- § **A.2.4.3 Expediting Cost Insurance**, for the reasonable and necessary costs for the temporary repair of damage to insured property, and to expedite the permanent repair or replacement of the damaged property.

- § **A.2.4.4 Extra Expense Insurance**, to provide reimbursement of the reasonable and necessary excess costs incurred during the period of restoration or repair of the damaged property that are over and above the total costs that would normally have been incurred during the same period of time had no loss or damage occurred.

- § **A.2.4.5 Civil Authority Insurance**, for losses or costs arising from an order of a civil authority prohibiting access to the Project, provided such order is the direct result of physical damage covered under the required property insurance.

- § **A.2.4.6 Ingress/Egress Insurance**, for loss due to the necessary interruption of the insured's business due to physical prevention of ingress to, or egress from, the Project as a direct result of physical damage.

- § **A.2.4.7 Soft Costs Insurance**, to reimburse the Owner for costs due to the delay of completion of the Work, arising out of physical loss or damage covered by the required property insurance: including construction loan fees; leasing and marketing expenses; additional fees, including those of architects, engineers, consultants, attorneys and accountants, needed for the completion of the construction, repairs, or reconstruction; and carrying costs such as property taxes, building permits, additional interest on loans, realty taxes, and insurance premiums over and above normal expenses.

§ A.2.5 Other Optional Insurance.

The Owner shall purchase and maintain the insurance selected below.

(Select the types of insurance the Owner is required to purchase and maintain by placing an X in the box(es) next to the description(s) of selected insurance.)

- § **A.2.5.1 Cyber Security Insurance** for loss to the Owner due to data security and privacy breach, including costs of investigating a potential or actual breach of confidential or private information.
(Indicate applicable limits of coverage or other conditions in the fill point below.)

[] § A.2.5.2 Other Insurance

(List below any other insurance coverage to be provided by the Owner and any applicable limits.)

Coverage

Limits

ARTICLE A.3 CONTRACTOR'S INSURANCE AND BONDS

§ A.3.1 General

§ A.3.1.1 Certificates of Insurance. The Contractor shall provide certificates of insurance acceptable to the Owner evidencing compliance with the requirements in this Article A.3 at the following times: (1) prior to commencement of the Work; (2) upon renewal or replacement of each required policy of insurance; and (3) upon the Owner's written request. An additional certificate evidencing continuation of commercial liability coverage, including coverage for completed operations, shall be submitted with the final Application for Payment and thereafter upon renewal or replacement of such coverage until the expiration of the periods required by Section A.3.2.1 and Section A.3.3.1. The certificates will show the Owner as an additional insured on the Contractor's Commercial General Liability and excess or umbrella liability policy or policies.

§ A.3.1.2 Deductibles and Self-Insured Retentions. The Contractor shall disclose to the Owner any deductible or self-insured retentions applicable to any insurance required to be provided by the Contractor.

§ A.3.1.3 Additional Insured Obligations. To the fullest extent permitted by law, the Contractor shall cause the commercial general liability coverage to include (1) the Owner, the Architect, and the Architect's consultants as additional insureds for claims caused in whole or in part by the Contractor's negligent acts or omissions during the Contractor's operations; and (2) the Owner as an additional insured for claims caused in whole or in part by the Contractor's negligent acts or omissions for which loss occurs during completed operations. The additional insured coverage shall be primary and non-contributory to any of the Owner's general liability insurance policies and shall apply to both ongoing and completed operations. To the extent commercially available, the additional insured coverage shall be no less than that provided by Insurance Services Office, Inc. (ISO) forms CG 20 10 07 04, CG 20 37 07 04, and, with respect to the Architect and the Architect's consultants, CG 20 32 07 04.

§ A.3.2 Contractor's Required Insurance Coverage

§ A.3.2.1 The Contractor shall purchase and maintain the following types and limits of insurance from an insurance company or insurance companies lawfully authorized to issue insurance in the jurisdiction where the Project is located. The Contractor shall maintain the required insurance until the expiration of the period for correction of Work as set forth in Section 12.2.2 of the General Conditions, unless a different duration is stated below:

(If the Contractor is required to maintain insurance for a duration other than the expiration of the period for correction of Work, state the duration.)

§ A.3.2.2 Commercial General Liability

§ A.3.2.2.1 Commercial General Liability insurance for the Project written on an occurrence form with policy limits of not less than One million Dollars and Zero Cents (\$ 1000000.00) each occurrence, Two million Dollars and Zero Cents (\$ 2000000.00) general aggregate, and Two million Dollars and Zero Cents (\$ 2000000.00) aggregate for products-completed operations hazard, providing coverage for claims including

- .1 damages because of bodily injury, sickness or disease, including occupational sickness or disease, and death of any person;
- .2 personal injury and advertising injury;
- .3 damages because of physical damage to or destruction of tangible property, including the loss of use of such property;
- .4 bodily injury or property damage arising out of completed operations; and
- .5 the Contractor's indemnity obligations under Section 3.18 of the General Conditions.

§ A.3.2.2 The Contractor's Commercial General Liability policy under this Section A.3.2.2 shall not contain an exclusion or restriction of coverage for the following:

- .1 Claims by one insured against another insured, if the exclusion or restriction is based solely on the fact that the claimant is an insured, and there would otherwise be coverage for the claim.
- .2 Claims for property damage to the Contractor's Work arising out of the products-completed operations hazard where the damaged Work or the Work out of which the damage arises was performed by a Subcontractor.
- .3 Claims for bodily injury other than to employees of the insured.
- .4 Claims for indemnity under Section 3.18 of the General Conditions arising out of injury to employees of the insured.
- .5 Claims or loss excluded under a prior work endorsement or other similar exclusionary language.
- .6 Claims or loss due to physical damage under a prior injury endorsement or similar exclusionary language.
- .7 Claims related to residential, multi-family, or other habitational projects, if the Work is to be performed on such a project.
- .8 Claims related to roofing, if the Work involves roofing.
- .9 Claims related to exterior insulation finish systems (EIFS), synthetic stucco or similar exterior coatings or surfaces, if the Work involves such coatings or surfaces.
- .10 Claims related to earth subsidence or movement, where the Work involves such hazards.
- .11 Claims related to explosion, collapse and underground hazards, where the Work involves such hazards.

§ A.3.2.3 Automobile Liability covering vehicles owned, and non-owned vehicles used, by the Contractor, with policy limits of not less than One million Dollars and Zero Cents (\$ 1000000.00) per accident, for bodily injury, death of any person, and property damage arising out of the ownership, maintenance and use of those motor vehicles along with any other statutorily required automobile coverage.

§ A.3.2.4 The Contractor may achieve the required limits and coverage for Commercial General Liability and Automobile Liability through a combination of primary and excess or umbrella liability insurance, provided such primary and excess or umbrella insurance policies result in the same or greater coverage as the coverages required under Section A.3.2.2 and A.3.2.3, and in no event shall any excess or umbrella liability insurance provide narrower coverage than the primary policy. The excess policy shall not require the exhaustion of the underlying limits only through the actual payment by the underlying insurers.

§ A.3.2.5 Workers' Compensation at statutory limits.

§ A.3.2.6 Employers' Liability with policy limits not less than Five hundred thousand Dollars and Zero Cents (\$ 500000.00) each accident, Five hundred thousand Dollars and Zero Cents (\$ 500000.00) each employee, and Five hundred thousand Dollars and Zero Cents (\$ 500000.00) policy limit.

§ A.3.2.7 Jones Act, and the Longshore & Harbor Workers' Compensation Act, as required, if the Work involves hazards arising from work on or near navigable waterways, including vessels and docks

§ A.3.2.8 If the Contractor is required to furnish professional services as part of the Work, the Contractor shall procure Professional Liability insurance covering performance of the professional services, with policy limits of not less than One million Dollars and Zero Cents (\$ 1000000.00) per claim and One million Dollars and Zero Cents (\$ 1000000.00) in the aggregate.

§ A.3.2.9 If the Work involves the transport, dissemination, use, or release of pollutants, the Contractor shall procure Pollution Liability insurance, with policy limits of not less than One million Dollars and Zero Cents (\$ 1000000.00) per claim and One million Dollars and Zero Cents (\$ 1000000.00) in the aggregate.

§ A.3.2.10 Coverage under Sections A.3.2.8 and A.3.2.9 may be procured through a Combined Professional Liability and Pollution Liability insurance policy, with combined policy limits of not less than One million Dollars and Zero Cents (\$ 1000000.00) per claim and Two million Dollars and Zero Cents (\$ 2000000.00) in the aggregate.

(Paragraphs Deleted)

§ A.3.3 Contractor's Other Insurance Coverage

§ A.3.3.1 Insurance selected and described in this Section A.3.3 shall be purchased from an insurance company or insurance companies lawfully authorized to issue insurance in the jurisdiction where the Project is located. The Contractor shall maintain the required insurance until the expiration of the period for correction of Work as set forth in Section 12.2.2 of the General Conditions, unless a different duration is stated below:

(If the Contractor is required to maintain any of the types of insurance selected below for a duration other than the expiration of the period for correction of Work, state the duration.)

§ A.3.3.2 The Contractor shall purchase and maintain the following types and limits of insurance in accordance with Section A.3.3.1.

(Select the types of insurance the Contractor is required to purchase and maintain by placing an X in the box(es) next to the description(s) of selected insurance. Where policy limits are provided, include the policy limit in the appropriate fill point.)

- § A.3.3.2.1** Property insurance of the same type and scope satisfying the requirements identified in Section A.2.3, which, if selected in this section A.3.3.2.1, relieves the Owner of the responsibility to purchase and maintain such insurance except insurance required by Section A.2.3.1.3 and Section A.2.3.3. The Contractor shall comply with all obligations of the Owner under Section A.2.3 except to the extent provided below. The Contractor shall disclose to the Owner the amount of any deductible, and the Owner shall be responsible for losses within the deductible. Upon request, the Contractor shall provide the Owner with a copy of the property insurance policy or policies required. The Owner shall adjust and settle the loss with the insurer and be the trustee of the proceeds of the property insurance in accordance with Article 11 of the General Conditions unless otherwise set forth below: *(Where the Contractor's obligation to provide property insurance differs from the Owner's obligations as described under Section A.2.3, indicate such differences in the space below. Additionally, if a party other than the Owner will be responsible for adjusting and settling a loss with the insurer and acting as the trustee of the proceeds of property insurance in accordance with Article 11 of the General Conditions, indicate the responsible party below.)*
- § A.3.3.2.2 Railroad Protective Liability Insurance**, with policy limits of not less than (\$) per claim and (\$) in the aggregate, for Work within fifty (50) feet of railroad property.
- § A.3.3.2.3 Asbestos Abatement Liability Insurance**, with policy limits of not less than (\$) per claim and (\$) in the aggregate, for liability arising from the encapsulation, removal, handling, storage, transportation, and disposal of asbestos-containing materials.
- § A.3.3.2.4** Insurance for physical damage to property while it is in storage and in transit to the construction site on an "all-risks" completed value form.
- § A.3.3.2.5** Property insurance on an "all-risks" completed value form, covering property owned by the Contractor and used on the Project, including scaffolding and other equipment.
- § A.3.3.2.6 Other Insurance**
(List below any other insurance coverage to be provided by the Contractor and any applicable limits.)

Coverage	Limits
Umbrella Excess Liability	\$5,000,000.00

§ A.3.4 Performance Bond and Payment Bond

The Contractor shall provide surety bonds, from a company or companies lawfully authorized to issue surety bonds in the jurisdiction where the Project is located, as follows:

(Specify type and penal sum of bonds.)

Type	Penal Sum (\$0.00)
Payment Bond	100% of Contract Amount
Performance Bond	100% of Contract Amount

Payment and Performance Bonds shall be AIA Document A312™, Payment Bond and Performance Bond, or contain provisions identical to AIA Document A312™, current as of the date of this Agreement.

ARTICLE A.4 SPECIAL TERMS AND CONDITIONS

Special terms and conditions that modify this Insurance and Bonds Exhibit, if any, are as follows:



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**SECTION 01 20 00
PRICE AND PAYMENT PROCEDURES**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Procedures for preparation and submittal of applications for progress payments.
- B. Documentation of changes in Contract Sum and Contract Time.
- C. Change procedures.
- D. Procedures for preparation and submittal of application for final payment.

1.02 RELATED REQUIREMENTS

- A. Section 00 52 00 - Agreement Form: Contract Sum, retainages, payment period, monetary values of unit prices.
- B. Section 00 73 00 - Supplementary Conditions: Percentage allowances for Contractor's overhead and profit.
- C. Section 01 21 00 - Allowances: Payment procedures relating to allowances.

1.03 SCHEDULE OF VALUES

- A. Electronic media printout including equivalent information will be considered in lieu of standard form specified; submit draft to Architect for approval.
- B. Forms filled out by hand will not be accepted.
- C. Submit a printed schedule on AIA Form G703 - Application and Certificate for Payment Continuation Sheet. Contractor's standard form will be considered.
- D. Submit Schedule of Values in duplicate within 15 days after date of Owner-Contractor Agreement.
- E. Format: Utilize the Table of Contents of this Project Manual. Identify each line item with number and title of the specification section. Identify site mobilization.
- F. Include in each line item, the amount of Allowances specified in this section. For unit cost Allowances, identify quantities taken from Contract Documents multiplied by the unit cost to achieve the total for the item.
- G. Include separately from each line item, a direct proportional amount of Contractor's overhead and profit.
- H. Revise schedule to list approved Change Orders, with each Application For Payment.

1.04 APPLICATIONS FOR PROGRESS PAYMENTS

- A. Payment Period: Submit at intervals stipulated in the Agreement.
- B. Electronic media printout including equivalent information will be considered in lieu of standard form specified; submit sample to Architect for approval.
- C. Forms filled out by hand will not be accepted.
- D. For each item, provide a column for listing each of the following:
 - 1. Item Number.
 - 2. Description of work.
 - 3. Scheduled Values.
 - 4. Previous Applications.
 - 5. Work in Place and Stored Materials under this Application.
 - 6. Authorized Change Orders.
 - 7. Total Completed and Stored to Date of Application.
 - 8. Percentage of Completion.
 - 9. Balance to Finish.
 - 10. Retainage.

- E. Form: AIA G702 Application and Certificate for Payment and AIA G703 - Continuation Sheet including continuation sheets when required.
- F. Execute certification by signature of authorized officer.
- G. Submit one electronic and three hard-copies of each Application for Payment.
- H. When Architect requires substantiating information, submit data justifying dollar amounts in question. Provide one copy of data with cover letter for each copy of submittal. Show application number and date, and line item by number and description.

1.05 MODIFICATION PROCEDURES

- A. For minor changes not involving an adjustment to the Contract Price or Contract Time, Architect will issue instructions directly to Contractor.
- B. Architect will advise of minor changes in the Work not involving an adjustment to Contract Sum or Contract Time as authorized by the Conditions of the Contract by issuing supplemental instructions on AIA form G710
- C. For other required changes, Architect will issue a document signed by Owner instructing Contractor to proceed with the change, for subsequent inclusion in a Change Order.
 - 1. The document will describe the required changes and will designate method of determining any change in Contract Sum or Contract Time.
 - 2. Promptly execute the change.
- D. For changes for which advance pricing is desired, Architect will issue a document that includes a detailed description of a proposed change with supplementary or revised drawings and specifications, a change in Contract Time for executing the change with a stipulation of any overtime work required and the period of time during which the requested price will be considered valid. Contractor shall prepare and submit a fixed price quotation within 14 days.
- E. Computation of Change in Contract Amount: As specified in the Agreement and Conditions of the Contract.
- F. Execution of Change Orders: Architect will issue Change Orders for signatures of parties as provided in the Conditions of the Contract.
- G. After execution of Change Order, promptly revise Schedule of Values and Application for Payment forms to record each authorized Change Order as a separate line item and adjust the Contract Sum.
- H. Promptly revise progress schedules to reflect any change in Contract Time, revise sub-schedules to adjust times for other items of work affected by the change, and resubmit.
- I. Promptly enter changes in Project Record Documents.

1.06 APPLICATION FOR FINAL PAYMENT

- A. Prepare Application for Final Payment as specified for progress payments, identifying total adjusted Contract Sum, previous payments, and sum remaining due.
- B. Application for Final Payment will not be considered until the following have been accomplished:
 - 1. All closeout procedures specified in Section 01 70 00.
 - 2. Completion of all work except those items agreed upon by Owner.
 - 3. Removal of temporary facilities and enclosures.

END OF SECTION

**SECTION 01 30 00
ADMINISTRATIVE REQUIREMENTS**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Preconstruction meeting.
- B. Progress meetings.
- C. Coordination drawings.
- D. Submittals for review, information, and project closeout.
- E. Number of copies of submittals.
- F. Requests for Information (RFI) procedures.
- G. Submittal procedures.

1.02 RELATED REQUIREMENTS

- A. Section 00 72 00 - General Conditions: Dates for applications for payment.
- B. Section 01 32 16 - Construction Progress Schedule: Form, content, and administration of schedules.
- C. Section 01 60 00 - Product Requirements: General product requirements.
- D. Section 01 70 00 - Execution and Closeout Requirements: Additional coordination requirements.
- E. Section 01 78 00 - Closeout Submittals: Project record documents; operation and maintenance data; warranties and bonds.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 PRECONSTRUCTION MEETING

- A. Contractor will schedule a meeting after Notice of Award.
- B. Attendance Required:
 - 1. Owner.
 - 2. Architect.
 - 3. Contractor.
 - 4. Subcontractors.
- C. Agenda:
 - 1. Execution of Owner-Contractor Agreement.
 - 2. Submission of executed bonds and insurance certificates.
 - 3. Distribution of Contract Documents.
 - 4. Submission of list of subcontractors, list of products, schedule of values, and progress schedule.
 - 5. Designation of personnel representing the parties to Contract, Contractor, Owner and JEO Architecture, Inc.
 - 6. Procedures and processing of field decisions, submittals, substitutions, applications for payments, proposal request, Change Orders, and Contract closeout procedures.
 - 7. Scheduling.
- D. Contractor shall record minutes and distribute copies within two days after meeting to participants, with copies to Architect, Owner, participants, and those affected by decisions made.

3.02 PROGRESS MEETINGS

- A. Schedule and administer meetings throughout progress of the work at maximum monthly intervals.

- B. Make arrangements for meetings, prepare agenda with copies for participants, preside at meetings.
- C. Attendance Required:
 - 1. Contractor.
 - 2. Owner.
 - 3. Architect.
 - 4. Contractor's superintendent.
 - 5. Major subcontractors.
- D. Agenda:
 - 1. Review minutes of previous meetings.
 - 2. Review of work progress.
 - 3. Field observations, problems, and decisions.
 - 4. Identification of problems that impede, or will impede, planned progress.
 - 5. Review of submittals schedule and status of submittals.
 - 6. Review of RFIs log and status of responses.
 - 7. Review of off-site fabrication and delivery schedules.
 - 8. Maintenance of progress schedule.
 - 9. Corrective measures to regain projected schedules.
 - 10. Planned progress during succeeding work period.
 - 11. Coordination of projected progress.
 - 12. Maintenance of quality and work standards.
 - 13. Effect of proposed changes on progress schedule and coordination.
 - 14. Other business relating to work.
- E. Contractor shall record minutes and distribute copies within two days after meeting to participants, with copies to Architect, Owner, participants, and those affected by decisions made.

3.03 CONSTRUCTION PROGRESS SCHEDULE

3.04 COORDINATION DRAWINGS

- A. Provide information required by Project Coordinator for preparation of coordination drawings.
- B. Review drawings prior to submission to Architect.

3.05 REQUESTS FOR INFORMATION (RFI)

- A. Definition: A request seeking one of the following:
 - 1. An interpretation, amplification, or clarification of some requirement of Contract Documents arising from inability to determine from them the exact material, process, or system to be installed; or when the elements of construction are required to occupy the same space (interference); or when an item of work is described differently at more than one place in the Contract Documents.
 - 2. A resolution to an issue which has arisen due to field conditions and affects design intent.
- B. Whenever possible, request clarifications at the next appropriate project progress meeting, with response entered into meeting minutes, rendering unnecessary the issuance of a formal RFI.
- C. Preparation: Prepare an RFI immediately upon discovery of a need for interpretation of the Contract Documents. Failure to submit a RFI in a timely manner is not a legitimate cause for claiming additional costs or delays in execution of the work.
 - a. Review, coordinate, and comment on requests originating with subcontractors and/or materials suppliers.
 - b. Do not forward requests which solely require internal coordination between subcontractors.
- 2. Prepare in a format and with content acceptable to Architect.
- 3. Combine RFI and its attachments into a single electronic file. PDF format is preferred.

- D. Reason for the RFI: Prior to initiation of an RFI, carefully study all Contract Documents to confirm that information sufficient for their interpretation is definitely not included.
1. Include in each request Contractor's signature attesting to good faith effort to determine from the Contract Documents information requiring interpretation.
 2. Unacceptable Uses for RFIs: Do not use RFIs to request the following::
 - a. Approval of submittals (use procedures specified elsewhere in this section).
 - b. Approval of substitutions (see Section - 01 60 00 - Product Requirements)
 - c. Changes that entail change in Contract Time and Contract Sum (comply with provisions of the Conditions of the Contract).
 - d. Different methods of performing work than those indicated in the Contract Drawings and Specifications (comply with provisions of the Conditions of the Contract).
 3. Improper RFIs: Requests not prepared in conformance to requirements of this section, and/or missing key information required to render an actionable response. They will be returned without a response.
 4. Frivolous RFIs: Requests regarding information that is clearly indicated on, or reasonably inferable from, the Contract Documents, with no additional input required to clarify the question. They will be returned without a response, with an explanatory notation.
- E. Content: Include identifiers necessary for tracking the status of each RFI, and information necessary to provide an actionable response.
1. Official Project name and number, and any additional required identifiers established in Contract Documents.
 2. Owner's, Architect's, and Contractor's names.
 3. Discrete and consecutive RFI number, and descriptive subject/title.
 4. Issue date, and requested reply date.
 5. Reference to particular Contract Document(s) requiring additional information/interpretation. Identify pertinent drawing and detail number and/or specification section number, title, and paragraph(s).
 6. Annotations: Field dimensions and/or description of conditions which have engendered the request.
 7. Contractor's suggested resolution: A written and/or a graphic solution, to scale, is required in cases where clarification of coordination issues is involved, for example; routing, clearances, and/or specific locations of work shown diagrammatically in Contract Documents. If applicable, state the likely impact of the suggested resolution on Contract Time or the Contract Sum.
- F. Attachments: Include sketches, coordination drawings, descriptions, photos, submittals, and other information necessary to substantiate the reason for the request.
- G. RFI Log: Prepare and maintain a tabular log of RFIs for the duration of the project.
1. Indicate current status of every RFI. Update log promptly and on a regular basis.
 2. Note dates of when each request is made, and when a response is received.
 3. Highlight items requiring priority or expedited response.
 4. Highlight items for which a timely response has not been received to date.
 5. Identify and include improper or frivolous RFIs.
- H. Review Time: Architect will respond and return RFIs to Contractor within seven calendar days of receipt. For the purpose of establishing the start of the mandated response period, RFIs received after 12:00 noon will be considered as having been received on the following regular working day.
1. Response period may be shortened or lengthened for specific items, subject to mutual agreement, and recorded in a timely manner in progress meeting minutes.
- I. Responses: Content of answered RFIs will not constitute in any manner a directive or authorization to perform extra work or delay the project. If in Contractor's belief it is likely to lead to a change to Contract Sum or Contract Time, promptly issue a notice to this effect, and follow up with an appropriate Change Order request to Owner.

1. Response may include a request for additional information, in which case the original RFI will be deemed as having been answered, and an amended one is to be issued forthwith. Identify the amended RFI with an R suffix to the original number.
2. Do not extend applicability of a response to specific item to encompass other similar conditions, unless specifically so noted in the response.
3. Upon receipt of a response, promptly review and distribute it to all affected parties, and update the RFI Log.
4. Notify Architect within seven calendar days if an additional or corrected response is required by submitting an amended version of the original RFI, identified as specified above.

3.06 SUBMITTALS FOR REVIEW

- A. When the following are specified in individual sections, submit them for review:
 1. Product data.
 2. Shop drawings.
 3. Samples for selection.
 4. Samples for verification.
- B. Submit to Architect for review for the limited purpose of checking for compliance with information given and the design concept expressed in the contract documents.
- C. Samples will be reviewed for aesthetic, color, or finish selection.
- D. After review, provide copies and distribute in accordance with SUBMITTAL PROCEDURES article below and for record documents purposes described in Section 01 78 00 - Closeout Submittals.

3.07 SUBMITTALS FOR INFORMATION

- A. When the following are specified in individual sections, submit them for information:
 1. Design data.
 2. Certificates.
 3. Test reports.
 4. Inspection reports.
 5. Manufacturer's instructions.
 6. Manufacturer's field reports.
 7. Other types indicated.
- B. Submit for Architect's knowledge as contract administrator or for Owner.

3.08 SUBMITTALS FOR PROJECT CLOSEOUT

- A. Submit Correction Punch List for Substantial Completion.
- B. Submit Final Correction Punch List for Substantial Completion.
- C. When the following are specified in individual sections, submit them at project closeout in compliance with requirements of Section 01 78 00 - Closeout Submittals:
 1. Project record documents.
 2. Operation and maintenance data.
 3. Warranties.
 4. Bonds.
 5. Other types as indicated.
- D. Submit for Owner's benefit during and after project completion.

3.09 SUBMITTAL PROCEDURES

- A. General Requirements:
- B. Shop Drawing Procedures:
 1. Prepare accurate, drawn-to-scale, original shop drawing documentation by interpreting the Contract Documents and coordinating related Work.

2. Generic, non-project specific information submitted as shop drawings do not meet the requirements for shop drawings.
- C. Transmit each submittal with a copy of approved submittal form.
- D. Sequentially number the transmittal form. Revise submittals with original number and a sequential alphabetic suffix.
- E. Identify Project, Contractor, Subcontractor or supplier; pertinent drawing and detail number, and specification section number, as appropriate on each copy.
- F. Apply Contractor's stamp, signed or initialed certifying that review, approval, verification of Products required, field dimensions, adjacent construction Work, and coordination of information is in accordance with the requirements of the Work and Contract Documents. Shop drawings will be rejected if not reviewed by the Contractor prior to submittal to the Architect.
- G. Deliver submittals to Architect at business address.
- H. Schedule submittals to expedite the Project, and coordinate submission of related items.
- I. For each submittal for review, allow 15 days excluding delivery time to and from the Contractor.
- J. Identify variations from Contract Documents and Product or system limitations that may be detrimental to successful performance of the completed Work.
- K. Provide space for Contractor and Architect review stamps.
- L. When revised for resubmission, identify all changes made since previous submission.
- M. Distribute reviewed submittals as appropriate. Instruct parties to promptly report any inability to comply with requirements.

3.10 SUBMITTAL REVIEW

- A. Submittals for Review: Architect will review each submittal, and approve, or take other appropriate action.
- B. Submittals for Information: Architect will acknowledge receipt and review. See below for actions to be taken.
- C. Architect's actions will be reflected by marking each returned submittal using virtual stamp on electronic submittals.
- D. Architect's and consultants' actions on items submitted for review:
 1. Authorizing purchasing, fabrication, delivery, and installation:
 - a. "Approved", or language with same legal meaning.
 - b. "Approved as Noted, Resubmission not required", or language with same legal meaning.
 - 1) At Contractor's option, submit corrected item, with review notations acknowledged and incorporated.
 - c. "Approved as Noted, Resubmit for Record", or language with same legal meaning.
 2. Not Authorizing fabrication, delivery, and installation:
 - a. "Revise and Resubmit".
 - 1) Resubmit revised item, with review notations acknowledged and incorporated.
 - 2) Non-responsive resubmittals may be rejected.
 - b. "Rejected".
 - 1) Submit item complying with requirements of Contract Documents.
- E. Architect's and consultants' actions on items submitted for information:
 1. Items for which no action was taken:
 - a. "Received" - to notify the Contractor that the submittal has been received for record only.
 2. Items for which action was taken:
 - a. "Reviewed" - no further action is required from Contractor.

END OF SECTION

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**SECTION 01 32 16
CONSTRUCTION PROGRESS SCHEDULE**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Preliminary schedule.
- B. Construction progress schedule, bar chart type.

1.02 REFERENCE STANDARDS

- A. AGC (CPSM) - Construction Planning and Scheduling Manual; 2004.
- B. M-H (CPM) - CPM in Construction Management - Project Management with CPM; O'Brien; 2006.

1.03 SUBMITTALS

- A. Within 10 days after date of Agreement, submit preliminary schedule.
- B. If preliminary schedule requires revision after review, submit revised schedule within 5 days.
- C. Within 14 days after review of preliminary schedule, submit draft of proposed complete schedule for review.
 - 1. Include written certification that major Subcontractors have reviewed and accepted proposed schedule.
- D. Within 7 days after joint review, submit complete schedule.
- E. Submit updated schedule with each Application for Payment.
- F. Submit the number of opaque reproductions that Contractor requires, plus two copies that will be retained by Architect.
- G. Submit under transmittal letter form specified in Section 01 30 00 - Administrative Requirements.

1.04 SCHEDULE FORMAT

- A. Listings: In chronological order according to the start date for each activity. Identify each activity with the applicable specification section number.
- B. Sheet Size: Multiples of 8-1/2 x 11 inches.
- C. Scale and Spacing: To allow for notations and revisions.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 PRELIMINARY SCHEDULE

- A. Prepare preliminary schedule in the form of a horizontal bar chart.

3.02 CONTENT

- A. Show complete sequence of construction by activity, with dates for beginning and completion of each element of construction.
- B. Identify each item by specification section number.
- C. Identify work of separate stages and other logically grouped activities.
- D. Provide sub-schedules to define critical portions of the entire schedule.
- E. Include conferences and meetings in schedule.
- F. Show accumulated percentage of completion of each item, and total percentage of Work completed, as of the first day of each month.
- G. Provide separate schedule of submittal dates for shop drawings, product data, and samples, owner-furnished products, products identified under Allowances, and dates reviewed submittals will be required from Architect. Indicate decision dates for selection of finishes.

- H. Indicate delivery dates for owner-furnished products.
- I. Coordinate content with schedule of values specified in Section 01 20 00 - Price and Payment Procedures.
- J. Provide legend for symbols and abbreviations used.

3.03 BAR CHARTS

- A. Include a separate bar for each major portion of Work or operation.
- B. Identify the first work day of each week.

3.04 REVIEW AND EVALUATION OF SCHEDULE

- A. Participate in joint review and evaluation of schedule with Architect at each submittal.
- B. Evaluate project status to determine work behind schedule and work ahead of schedule.
- C. After review, revise as necessary as result of review, and resubmit within 10 days.

3.05 UPDATING SCHEDULE

- A. Maintain schedules to record actual start and finish dates of completed activities.
- B. Indicate progress of each activity to date of revision, with projected completion date of each activity.
- C. Annotate diagrams to graphically depict current status of Work.
- D. Identify activities modified since previous submittal, major changes in Work, and other identifiable changes.
- E. Indicate changes required to maintain Date of Substantial Completion.
- F. Submit reports required to support recommended changes.
- G. Provide narrative report to define problem areas, anticipated delays, and impact on the schedule. Report corrective action taken or proposed and its effect.

3.06 DISTRIBUTION OF SCHEDULE

- A. Distribute copies of updated schedules to Contractor's project site file, to subcontractors, suppliers, Architect, Owner, and other concerned parties.
- B. Instruct recipients to promptly report, in writing, problems anticipated by projections indicated in schedules.

END OF SECTION

**SECTION 01 40 00
QUALITY REQUIREMENTS**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. References and standards.
- B. Submittals.
- C. References and standards.
- D. Control of installation.
- E. Tolerances.
- F. Testing and inspection agencies and services.
- G. Control of installation.
- H. Tolerances.
- I. Defect Assessment.

1.02 RELATED REQUIREMENTS

- A. Document 00 72 00 - General Conditions: Inspections and approvals required by public authorities.
- B. Section 01 30 00 - Administrative Requirements: Submittal procedures.
- C. Section 01 60 00 - Product Requirements: Requirements for material and product quality.

1.03 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Testing Agency Qualifications:
 - 1. Prior to start of Work, submit agency name, address, and telephone number, and names of full time registered Engineer and responsible officer.
- C. Design Data: Submit for Architect's knowledge as contract administrator for the limited purpose of assessing compliance with information given and the design concept expressed in the contract documents, or for Owner's information.
- D. Test Reports: After each test/inspection, promptly submit two copies of report to Architect and to Contractor.
 - 1. Include:
 - a. Date issued.
 - b. Project title and number.
 - c. Name of inspector.
 - d. Date and time of sampling or inspection.
 - e. Identification of product and specifications section.
 - f. Location in the Project.
 - g. Type of test/inspection.
 - h. Date of test/inspection.
 - i. Results of test/inspection.
 - j. Compliance with Contract Documents.
 - k. When requested by Architect, provide interpretation of results.
- E. Certificates: When specified in individual specification sections, submit certification by the manufacturer and Contractor or installation/application subcontractor to Architect, in quantities specified for Product Data.
 - 1. Indicate material or product complies with or exceeds specified requirements. Submit supporting reference data, affidavits, and certifications as appropriate.

2. Certificates may be recent or previous test results on material or product, but must be acceptable to Architect.
- F. Manufacturer's Instructions: When specified in individual specification sections, submit printed instructions for delivery, storage, assembly, installation, start-up, adjusting, and finishing, for the Owner's information. Indicate special procedures, perimeter conditions requiring special attention, and special environmental criteria required for application or installation.
 - G. Manufacturer's Field Reports: Submit reports for Architect's benefit as contract administrator or for Owner.
 1. Submit report in duplicate within 30 days of observation to Architect for information.
 2. Submit for information for the limited purpose of assessing compliance with information given and the design concept expressed in the contract documents.
 - H. Erection Drawings: Submit drawings for Architect's benefit as contract administrator or for Owner.
 1. Submit for information for the limited purpose of assessing compliance with information given and the design concept expressed in the contract documents.
 2. Data indicating inappropriate or unacceptable Work may be subject to action by Architect or Owner.

1.04 REFERENCES AND STANDARDS

- A. For products and workmanship specified by reference to a document or documents not included in the Project Manual, also referred to as reference standards, comply with requirements of the standard, except when more rigid requirements are specified or are required by applicable codes.
- B. Comply with reference standard of date of issue current on date of Contract Documents, except where a specific date is established by applicable code.
- C. Obtain copies of standards where required by product specification sections.
- D. Maintain copy at project site during submittals, planning, and progress of the specific work, until Substantial Completion.
- E. Should specified reference standards conflict with Contract Documents, request clarification from Architect before proceeding.
- F. Neither the contractual relationships, duties, or responsibilities of the parties in Contract nor those of Architect shall be altered from the Contract Documents by mention or inference otherwise in any reference document.

1.05 TESTING AND INSPECTION AGENCIES AND SERVICES

- A. Contractor will employ services of a Geotechnical Engineer to perform certain specified testing; payment for cost of services will be derived from allowance specified in Section 01 21 00; see Section 01 21 00 and applicable sections for description of services included in allowance.
- B. Employment of agency in no way relieves Contractor of obligation to perform Work in accordance with requirements of Contract Documents.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 CONTROL OF INSTALLATION

- A. Monitor quality control over suppliers, manufacturers, products, services, site conditions, and workmanship, to produce work of specified quality.
- B. Comply with manufacturers' instructions, including each step in sequence.
- C. Should manufacturers' instructions conflict with Contract Documents, request clarification from Architect before proceeding.

- D. Comply with specified standards as minimum quality for the work except where more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.
- E. Have work performed by persons qualified to produce required and specified quality.
- F. Verify that field measurements are as indicated on shop drawings or as instructed by the manufacturer.
- G. Secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion, and disfigurement.

3.02 TOLERANCES

- A. Monitor fabrication and installation tolerance control of products to produce acceptable Work. Do not permit tolerances to accumulate.
- B. Comply with manufacturers' tolerances. Should manufacturers' tolerances conflict with Contract Documents, request clarification from Architect before proceeding.
- C. Adjust products to appropriate dimensions; position before securing products in place.

3.03 TESTING AND INSPECTION

- A. See individual specification sections for testing required.
- B. Testing Agency Duties:
 - 1. Provide qualified personnel at site. Cooperate with Architect and Contractor in performance of services.
 - 2. Perform specified sampling and testing of products in accordance with specified standards.
 - 3. Ascertain compliance of materials and mixes with requirements of Contract Documents.
 - 4. Promptly notify Architect and Contractor of observed irregularities or non-compliance of Work or products.
 - 5. Perform additional tests and inspections required by Architect.
 - 6. Submit reports of all tests/inspections specified.
- C. Limits on Testing/Inspection Agency Authority:
 - 1. Agency may not release, revoke, alter, or enlarge on requirements of Contract Documents.
 - 2. Agency may not approve or accept any portion of the Work.
 - 3. Agency may not assume any duties of Contractor.
 - 4. Agency has no authority to stop the Work.
- D. Contractor Responsibilities:
 - 1. Deliver to agency at designated location, adequate samples of materials proposed to be used that require testing, along with proposed mix designs.
 - 2. Cooperate with laboratory personnel, and provide access to the Work and to manufacturers' facilities.
 - 3. Provide incidental labor and facilities:
 - a. To provide access to Work to be tested/inspected.
 - b. To obtain and handle samples at the site or at source of Products to be tested/inspected.
 - c. To facilitate tests/inspections.
 - d. To provide storage and curing of test samples.
 - 4. Notify Architect and laboratory 24 hours prior to expected time for operations requiring testing/inspection services.
 - 5. Employ services of an independent qualified testing laboratory and pay for additional samples, tests, and inspections required by Contractor beyond specified requirements.
 - 6. Arrange with Owner's agency and pay for additional samples, tests, and inspections required by Contractor beyond specified requirements.

- E. Re-testing required because of non-compliance with specified requirements shall be performed by the same agency on instructions by Architect.
- F. Re-testing required because of non-compliance with specified requirements shall be paid for by Contractor.

3.04 DEFECT ASSESSMENT

- A. Replace Work or portions of the Work not complying with specified requirements.
- B. If, in the opinion of Architect, it is not practical to remove and replace the work, Architect will direct an appropriate remedy or adjust payment.

END OF SECTION

**SECTION 01 50 00
TEMPORARY FACILITIES AND CONTROLS**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Temporary utilities.
- B. Temporary sanitary facilities.
- C. Temporary Controls: Barriers, enclosures, and fencing.
- D. Security requirements.
- E. Vehicular access and parking.
- F. Waste removal facilities and services.

1.02 TEMPORARY UTILITIES

- A. Provide and pay for all electrical power, lighting, water, heating and cooling, and ventilation required for construction purposes.
- B. Existing facilities may not be used.
- C. New permanent facilities may not be used.

1.03 TEMPORARY SANITARY FACILITIES

- A. Provide and maintain required facilities and enclosures. Provide at time of project mobilization.
- B. Maintain daily in clean and sanitary condition.

1.04 BARRIERS

- A. Provide barriers to prevent unauthorized entry to construction areas, to prevent access to areas that could be hazardous to workers or the public, to allow for owner's use of site and to protect existing facilities and adjacent properties from damage from construction operations and demolition.
- B. Provide barricades and covered walkways required by governing authorities for public rights-of-way and for public access to existing building.
- C. Provide protection for plants designated to remain. Replace damaged plants.
- D. Protect non-owned vehicular traffic, stored materials, site, and structures from damage.

1.05 FENCING

- A. Construction: Contractor's option.

1.06 EXTERIOR ENCLOSURES

- A. Provide temporary insulated weather tight closure of exterior openings to accommodate acceptable working conditions and protection for Products, to allow for temporary heating and maintenance of required ambient temperatures identified in individual specification sections, and to prevent entry of unauthorized persons. Provide access doors with self-closing hardware and locks.

1.07 SECURITY

- A. Provide security and facilities to protect Work, existing facilities, and Owner's operations from unauthorized entry, vandalism, or theft.

1.08 VEHICULAR ACCESS AND PARKING

- A. Comply with regulations relating to use of streets and sidewalks, access to emergency facilities, and access for emergency vehicles.
- B. Coordinate access and haul routes with governing authorities and Owner.
- C. Provide and maintain access to fire hydrants, free of obstructions.
- D. Provide means of removing mud from vehicle wheels before entering streets.

- E. Provide temporary parking areas to accommodate construction personnel. When site space is not adequate, provide additional off-site parking.

1.09 WASTE REMOVAL

- A. Provide waste removal facilities and services as required to maintain the site in clean and orderly condition.
- B. Provide containers with lids. Remove trash from site weekly.
- C. If materials to be recycled or re-used on the project must be stored on-site, provide suitable non-combustible containers; locate containers holding flammable material outside the structure unless otherwise approved by the authorities having jurisdiction.
- D. Open free-fall chutes are not permitted. Terminate closed chutes into appropriate containers with lids.

1.10 REMOVAL OF UTILITIES, FACILITIES, AND CONTROLS

- A. Remove temporary utilities, equipment, facilities, materials, prior to Date of Substantial Completion inspection.
- B. Clean and repair damage caused by installation or use of temporary work.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

**SECTION 01 60 00
PRODUCT REQUIREMENTS**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. General product requirements.
- B. Transportation, handling, storage and protection.
- C. Product option requirements.
- D. Substitution limitations.
- E. Maintenance materials, including extra materials, spare parts, tools, and software.

1.02 RELATED REQUIREMENTS

- A. Document 00 21 13 - Instructions to Bidders: Product options and substitution procedures prior to bid date.
- B. Section 01 25 00 - Substitution Procedures: Substitutions made during procurement and/or construction phases.
- C. Section 01 40 00 - Quality Requirements: Product quality monitoring.

1.03 SUBMITTALS

- A. Proposed Products List: Submit list of major products proposed for use, with name of manufacturer, trade name, and model number of each product.
 - 1. Submit within 15 days after date of Agreement.
 - 2. For products specified only by reference standards, list applicable reference standards.
- B. Product Data Submittals: Submit manufacturer's standard published data. Mark each copy to identify applicable products, models, options, and other data. Supplement manufacturers' standard data to provide information specific to this Project.
- C. Shop Drawing Submittals: Prepared specifically for this Project; indicate utility and electrical characteristics, utility connection requirements, and location of utility outlets for service for functional equipment and appliances.
- D. Sample Submittals: Illustrate functional and aesthetic characteristics of the product, with integral parts and attachment devices. Coordinate sample submittals for interfacing work.
 - 1. For selection from standard finishes, submit samples of the full range of the manufacturer's standard colors, textures, and patterns.

PART 2 PRODUCTS

2.01 EXISTING PRODUCTS

- A. Do not use materials and equipment removed from existing premises unless specifically required or permitted by the Contract Documents.
- B. Unforeseen historic items encountered remain the property of the Owner; notify Owner promptly upon discovery; protect, remove, handle, and store as directed by Owner.
- C. Existing materials and equipment indicated to be removed, but not to be re-used, relocated, reinstalled, delivered to the Owner, or otherwise indicated as to remain the property of the Owner, become the property of the Contractor; remove from site.

2.02 NEW PRODUCTS

- A. Provide new products unless specifically required or permitted by the Contract Documents.
- B. Use of products having any of the following characteristics is not permitted:
 - 1. Made using or containing CFC's or HCFC's.

2.03 PRODUCT OPTIONS

- A. Products Specified by Reference Standards or by Description Only: Use any product meeting those standards or description.
- B. Products Specified by Naming One or More Manufacturers: Use a product of one of the manufacturers named and meeting specifications, no options or substitutions allowed.
- C. Products Specified by Naming One or More Manufacturers with a Provision for Substitutions: Submit a request for substitution for any manufacturer not named.

2.04 MAINTENANCE MATERIALS

- A. Furnish extra materials, spare parts, tools, and software of types and in quantities specified in individual specification sections.
- B. Deliver to Project site; obtain receipt prior to final payment.

PART 3 EXECUTION

3.01 SUBSTITUTION LIMITATIONS

- A. See Section 01 25 00 - Substitution Procedures.
- B. Instructions to Bidders specifies time restrictions for submitting requests for substitutions during the bidding period and the documents required. Comply with requirements specified in Section 00 21 13.
- C. Substitutions may be considered when a product becomes unavailable through no fault of the Contractor.
- D. Document each request with complete data substantiating compliance of proposed substitution with Contract Documents.
- E. A request for substitution constitutes a representation that the submitter:
 - 1. Has investigated proposed product and determined that it meets or exceeds the quality level of the specified product.
 - 2. Agrees to provide the same warranty for the substitution as for the specified product.
 - 3. Agrees to coordinate installation and make changes to other Work that may be required for the Work to be complete with no additional cost to Owner.
 - 4. Waives claims for additional costs or time extension that may subsequently become apparent.
- F. Substitutions will not be considered when they are indicated or implied on shop drawing or product data submittals, without separate written request, or when acceptance will require revision to the Contract Documents.
- G. Substitution Submittal Procedure:
 - 1. Submit three copies of request for substitution for consideration. Limit each request to one proposed substitution.
 - 2. Submit shop drawings, product data, and certified test results attesting to the proposed product equivalence. Burden of proof is on proposer.
 - 3. Architect will notify Contractor in writing of decision to accept or reject request.

3.02 TRANSPORTATION AND HANDLING

- A. Package products for shipment in manner to prevent damage; for equipment, package to avoid loss of factory calibration.
- B. If special precautions are required, attach instructions prominently and legibly on outside of packaging.
- C. Coordinate schedule of product delivery to designated prepared areas in order to minimize site storage time and potential damage to stored materials.
- D. Transport and handle products in accordance with manufacturer's instructions.

- E. Transport materials in covered trucks to prevent contamination of product and littering of surrounding areas.
- F. Promptly inspect shipments to ensure that products comply with requirements, quantities are correct, and products are undamaged.
- G. Provide equipment and personnel to handle products by methods to prevent soiling, disfigurement, or damage, and to minimize handling.
- H. Arrange for the return of packing materials, such as wood pallets, where economically feasible.

3.03 STORAGE AND PROTECTION

- A. Designate receiving/storage areas for incoming products so that they are delivered according to installation schedule and placed convenient to work area in order to minimize waste due to excessive materials handling and misapplication. See Section 01 74 19.
- B. Store and protect products in accordance with manufacturers' instructions.
- C. Store with seals and labels intact and legible.
- D. Store sensitive products in weathertight, climate-controlled enclosures in an environment favorable to product.
- E. For exterior storage of fabricated products, place on sloped supports above ground.
- F. Provide off-site storage and protection when site does not permit on-site storage or protection.
- G. Protect products from damage or deterioration due to construction operations, weather, precipitation, humidity, temperature, sunlight and ultraviolet light, dirt, dust, and other contaminants.
- H. Comply with manufacturer's warranty conditions, if any.
- I. Cover products subject to deterioration with impervious sheet covering. Provide ventilation to prevent condensation and degradation of products.
- J. Store loose granular materials on solid flat surfaces in a well-drained area. Prevent mixing with foreign matter.
- K. Prevent contact with material that may cause corrosion, discoloration, or staining.
- L. Provide equipment and personnel to store products by methods to prevent soiling, disfigurement, or damage.
- M. Arrange storage of products to permit access for inspection. Periodically inspect to verify products are undamaged and are maintained in acceptable condition.

END OF SECTION

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**SECTION 01 70 00
EXECUTION AND CLOSEOUT REQUIREMENTS**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Examination, preparation, and general installation procedures.
- B. Cutting and patching.
- C. Surveying for laying out the work.
- D. Cleaning and protection.
- E. Closeout procedures, including Contractor's Correction Punch List, except payment procedures.
- F. General requirements for maintenance service.

1.02 RELATED REQUIREMENTS

- A. Section 01 30 00 - Administrative Requirements: Submittals procedures, Electronic document submittal service.
- B. Section 01 40 00 - Quality Requirements: Testing and inspection procedures.
- C. Section 01 50 00 - Temporary Facilities and Controls: Temporary exterior enclosures.
- D. Section 01 50 00 - Temporary Facilities and Controls: Temporary interior partitions.
- E. Section 01 78 00 - Closeout Submittals: Project record documents, operation and maintenance data, warranties, and bonds.

1.03 QUALIFICATIONS

- A. For surveying work, employ a land surveyor registered in the State in which the Project is located and acceptable to Architect. Submit evidence of surveyor's Errors and Omissions insurance coverage in the form of an Insurance Certificate. Employ only individual(s) trained and experienced in collecting and recording accurate data relevant to ongoing construction activities,

1.04 COORDINATION

- A. Coordinate scheduling, submittals, and work of the various sections of the Project Manual to ensure efficient and orderly sequence of installation of interdependent construction elements, with provisions for accommodating items installed later.
- B. Notify affected utility companies and comply with their requirements.
- C. Verify that utility requirements and characteristics of new operating equipment are compatible with building utilities. Coordinate work of various sections having interdependent responsibilities for installing, connecting to, and placing in service, such equipment.
- D. Coordinate space requirements, supports, and installation of mechanical and electrical work that are indicated diagrammatically on drawings. Follow routing indicated for pipes, ducts, and conduit, as closely as practicable; place runs parallel with lines of building. Utilize spaces efficiently to maximize accessibility for other installations, for maintenance, and for repairs.
- E. In finished areas except as otherwise indicated, conceal pipes, ducts, and wiring within the construction. Coordinate locations of fixtures and outlets with finish elements.
- F. Coordinate completion and clean-up of work of separate sections.
- G. After Owner occupancy of premises, coordinate access to site for correction of defective work and work not in accordance with Contract Documents, to minimize disruption of Owner's activities.

PART 2 PRODUCTS

2.01 PATCHING MATERIALS

- A. New Materials: As specified in product sections; match existing products and work for patching and extending work.
- B. Type and Quality of Existing Products: Determine by inspecting and testing products where necessary, referring to existing work as a standard.
- C. Product Substitution: For any proposed change in materials, submit request for substitution described in Section 01 60 00 - Product Requirements.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that existing site conditions and substrate surfaces are acceptable for subsequent work. Start of work means acceptance of existing conditions.
- B. Verify that existing substrate is capable of structural support or attachment of new work being applied or attached.
- C. Examine and verify specific conditions described in individual specification sections.
- D. Take field measurements before confirming product orders or beginning fabrication, to minimize waste due to over-ordering or misfabrication.
- E. Verify that utility services are available, of the correct characteristics, and in the correct locations.
- F. Prior to Cutting: Examine existing conditions prior to commencing work, including elements subject to damage or movement during cutting and patching. After uncovering existing work, assess conditions affecting performance of work. Beginning of cutting or patching means acceptance of existing conditions.

3.02 PREPARATION

- A. Clean substrate surfaces prior to applying next material or substance.
- B. Seal cracks or openings of substrate prior to applying next material or substance.
- C. Apply manufacturer required or recommended substrate primer, sealer, or conditioner prior to applying any new material or substance in contact or bond.

3.03 LAYING OUT THE WORK

- A. Verify locations of survey control points prior to starting work.
- B. Promptly notify Architect of any discrepancies discovered.
- C. Protect survey control points prior to starting site work; preserve permanent reference points during construction.
- D. Promptly report to Architect the loss or destruction of any reference point or relocation required because of changes in grades or other reasons.
- E. Replace dislocated survey control points based on original survey control. Make no changes without prior written notice to Architect.
- F. Utilize recognized engineering survey practices.
- G. Establish elevations, lines and levels. Locate and lay out by instrumentation and similar appropriate means:
 - 1. Site improvements including pavements; stakes for grading, fill and topsoil placement; utility locations, slopes, and invert elevations.
 - 2. Grid or axis for structures.
 - 3. Building foundation, column locations, ground floor elevations.
- H. Periodically verify layouts by same means.
- I. Maintain a complete and accurate log of control and survey work as it progresses.

3.04 GENERAL INSTALLATION REQUIREMENTS

- A. Install products as specified in individual sections, in accordance with manufacturer's instructions and recommendations, and so as to avoid waste due to necessity for replacement.
- B. Make vertical elements plumb and horizontal elements level, unless otherwise indicated.
- C. Install equipment and fittings plumb and level, neatly aligned with adjacent vertical and horizontal lines, unless otherwise indicated.
- D. Make consistent texture on surfaces, with seamless transitions, unless otherwise indicated.
- E. Make neat transitions between different surfaces, maintaining texture and appearance.

3.05 CUTTING AND PATCHING

- A. Whenever possible, execute the work by methods that avoid cutting or patching.
- B. Perform whatever cutting and patching is necessary to:
 - 1. Complete the work.
 - 2. Fit products together to integrate with other work.
 - 3. Provide openings for penetration of mechanical, electrical, and other services.
 - 4. Match work that has been cut to adjacent work.
 - 5. Repair areas adjacent to cuts to required condition.
 - 6. Repair new work damaged by subsequent work.
 - 7. Remove samples of installed work for testing when requested.
 - 8. Remove and replace defective and non-complying work.
- C. Execute cutting and patching including excavation and fill to complete the work, to uncover working order to install improperly sequenced work, to remove and replace defective or non-conforming work, to remove samples of installed work for testing when requested, to provide openings in the work for penetration of mechanical and electrical work, to execute patching to complement adjacent work, and to fit products together to integrate with other work.
- D. Execute work by methods that avoid damage to other work and that will provide appropriate surfaces to receive patching and finishing. In existing work, minimize damage and restore to original condition.
- E. Employ original installer to perform cutting for weather exposed and moisture resistant elements, and sight exposed surfaces.
- F. Cut rigid materials using masonry saw or core drill. Pneumatic tools not allowed without prior approval.
- G. Restore work with new products in accordance with requirements of Contract Documents.
- H. Fit work air tight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.
- I. At penetrations of fire rated walls, partitions, ceiling, or floor construction, completely seal voids with fire rated material in accordance with Section 07 84 00, to full thickness of the penetrated element.
- J. Patching:
 - 1. Finish patched surfaces to match finish that existed prior to patching. On continuous surfaces, refinish to nearest intersection or natural break. For an assembly, refinish entire unit.
 - 2. Match color, texture, and appearance.
 - 3. Repair patched surfaces that are damaged, lifted, discolored, or showing other imperfections due to patching work. If defects are due to condition of substrate, repair substrate prior to repairing finish.
- K. Refinish surfaces to match adjacent finish. For continuous surfaces, refinish to nearest intersection or natural break. For an assembly, refinish entire unit.
- L. Make neat transitions. Patch work to match adjacent work in texture and appearance. Where new work abuts or aligns with existing, perform a smooth and even transition.

3.06 PROGRESS CLEANING

- A. Maintain areas free of waste materials, debris, and rubbish. Maintain site in a clean and orderly condition.
- B. Remove debris and rubbish from pipe chases, plenums, attics, crawl spaces, and other closed or remote spaces, prior to enclosing the space.
- C. Broom and vacuum clean interior areas prior to start of surface finishing, and continue cleaning to eliminate dust.
- D. Collect and remove waste materials, debris, and trash/rubbish from site periodically and dispose off-site; do not burn or bury.

3.07 PROTECTION OF INSTALLED WORK

- A. Protect installed work from damage by construction operations.
- B. Provide special protection where specified in individual specification sections.
- C. Provide temporary and removable protection for installed products. Control activity in immediate work area to prevent damage.
- D. Provide protective coverings at walls, projections, jambs, sills, and soffits of openings.
- E. Protect finished floors, stairs, and other surfaces from traffic, dirt, wear, damage, or movement of heavy objects, by protecting with durable sheet materials.
- F. Prohibit traffic or storage upon waterproofed or roofed surfaces. If traffic or activity is necessary, obtain recommendations for protection from waterproofing or roofing material manufacturer.
- G. Prohibit traffic from landscaped areas.
- H. Remove protective coverings when no longer needed; reuse or recycle coverings if possible.

3.08 ADJUSTING

- A. Adjust operating products and equipment to ensure smooth and unhindered operation.

3.09 FINAL CLEANING

- A. Execute final cleaning prior to final project assessment.
- B. Use cleaning materials that are nonhazardous.
- C. Clean interior and exterior glass, surfaces exposed to view; remove temporary labels, stains and foreign substances, polish transparent and glossy surfaces, vacuum carpeted and soft surfaces.
- D. Remove all labels that are not permanent. Do not paint or otherwise cover fire test labels or nameplates on mechanical and electrical equipment.
- E. Clean equipment and fixtures to a sanitary condition with cleaning materials appropriate to the surface and material being cleaned.
- F. Replace filters of operating equipment.
- G. Clean debris from roofs, gutters, downspouts, scuppers, overflow drains, area drains, and drainage systems.
- H. Clean site; sweep paved areas, rake clean landscaped surfaces.
- I. Remove waste, surplus materials, trash/rubbish, and construction facilities from the site; dispose of in legal manner; do not burn or bury.

3.10 CLOSEOUT PROCEDURES

- A. Make submittals that are required by governing or other authorities.
- B. Notify Architect when work is considered ready for Architect's Substantial Completion inspection.

- C. Submit written certification containing Contractor's Correction Punch List, that Contract Documents have been reviewed, work has been inspected, and that work is complete in accordance with Contract Documents and ready for Architect's Substantial Completion inspection.
- D. Conduct Substantial Completion inspection and create Final Correction Punch List containing Architect's and Contractor's comprehensive list of items identified to be completed or corrected and submit to Architect.
- E. Correct items of work listed in Final Correction Punch List and comply with requirements for access to Owner-occupied areas.
- F. Notify Architect when work is considered finally complete and ready for Architect's Substantial Completion final inspection.
- G. Complete items of work determined by Architect listed in executed Certificate of Substantial Completion.

3.11 MAINTENANCE

- A. Provide service and maintenance of components indicated in specification sections.
- B. Maintenance Period: As indicated in specification sections or, if not indicated, not less than one year from the Date of Substantial Completion or the length of the specified warranty, whichever is longer.
- C. Examine system components at a frequency consistent with reliable operation. Clean, adjust, and lubricate as required.
- D. Include systematic examination, adjustment, and lubrication of components. Repair or replace parts whenever required. Use parts produced by the manufacturer of the original component.
- E. Maintenance service shall not be assigned or transferred to any agent or subcontractor without prior written consent of the Owner.

END OF SECTION

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**SECTION 01 78 00
CLOSEOUT SUBMITTALS**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Project Record Documents.
- B. Operation and Maintenance Data.
- C. Warranties and bonds.

1.02 RELATED REQUIREMENTS

- A. Section 00 73 00 - Supplementary Conditions: Performance bond and labor and material payment bonds, warranty, and correction of work.
- B. Section 01 30 00 - Administrative Requirements: Submittals procedures, shop drawings, product data, and samples.
- C. Section 01 70 00 - Execution and Closeout Requirements: Contract closeout procedures.
- D. Individual Product Sections: Specific requirements for operation and maintenance data.
- E. Individual Product Sections: Warranties required for specific products or Work.

1.03 SUBMITTALS

- A. Project Record Documents: Submit documents to Architect with claim for final Application for Payment.
- B. Operation and Maintenance Data:
 - 1. Submit two copies of preliminary draft or proposed formats and outlines of contents before start of Work. Architect will review draft and return one copy with comments.
 - 2. For equipment, or component parts of equipment put into service during construction and operated by Owner, submit completed documents within ten days after acceptance.
 - 3. Submit one copy of completed documents 15 days prior to final inspection. This copy will be reviewed and returned after final inspection, with Architect comments. Revise content of all document sets as required prior to final submission.
 - 4. Submit two sets of revised final documents in final form within 10 days after final inspection.
- C. Warranties and Bonds:
 - 1. For equipment or component parts of equipment put into service during construction with Owner's permission, submit documents within 10 days after acceptance.
 - 2. Make other submittals within 10 days after Date of Substantial Completion, prior to final Application for Payment.
 - 3. For items of Work for which acceptance is delayed beyond Date of Substantial Completion, submit within 10 days after acceptance, listing the date of acceptance as the beginning of the warranty period.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

- 1. Specifications.
 - 2. Reviewed shop drawings, product data, and samples.
 - 3. Manufacturer's instruction for assembly, installation, and adjusting.
- B. Specifications: Legibly mark and record at each product section description of actual products installed, including the following:
 - 1. Manufacturer's name and product model and number.
 - 2. Product substitutions or alternates utilized.
 - 3. Changes made by Addenda and modifications.
 - 4. Measured locations of internal utilities and appurtenances concealed in construction, referenced to visible and accessible features of the Work.

- C. Source Data: For each product or system, list names, addresses and telephone numbers of Subcontractors and suppliers, including local source of supplies and replacement parts.

3.02 OPERATION AND MAINTENANCE DATA FOR MATERIALS AND FINISHES

- A. For Each Product, Applied Material, and Finish:
 - 1. Product data, with catalog number, size, composition, and color and texture designations.
 - 2. Information for re-ordering custom manufactured products.
- B. Instructions for Care and Maintenance: Manufacturer's recommendations for cleaning agents and methods, precautions against detrimental cleaning agents and methods, and recommended schedule for cleaning and maintenance.
- C. Moisture protection and weather-exposed products: Include product data listing applicable reference standards, chemical composition, and details of installation. Provide recommendations for inspections, maintenance, and repair.
- D. Additional information as specified in individual product specification sections.
- E. Where additional instructions are required, beyond the manufacturer's standard printed instructions, have instructions prepared by personnel experienced in the operation and maintenance of the specific products.
- F. Provide a listing in Table of Contents for design data, with tabbed fly sheet and space for insertion of data.

3.03 OPERATION AND MAINTENANCE DATA FOR EQUIPMENT AND SYSTEMS

- A. For Each Item of Equipment and Each System:
 - 1. Description of unit or system, and component parts.
 - 2. Identify function, normal operating characteristics, and limiting conditions.
 - 3. Include performance curves, with engineering data and tests.
 - 4. Complete nomenclature and model number of replaceable parts.
- B. Where additional instructions are required, beyond the manufacturer's standard printed instructions, have instructions prepared by personnel experienced in the operation and maintenance of the specific products.
- C. Operating Procedures: Include start-up, break-in, and routine normal operating instructions and sequences. Include regulation, control, stopping, shut-down, and emergency instructions. Include summer, winter, and any special operating instructions.
- D. Maintenance Requirements: Include routine procedures and guide for preventative maintenance and trouble shooting; disassembly, repair, and reassembly instructions; and alignment, adjusting, balancing, and checking instructions.
- E. Provide servicing and lubrication schedule, and list of lubricants required.
- F. Include manufacturer's printed operation and maintenance instructions.
- G. Include sequence of operation by controls manufacturer.
- H. Provide original manufacturer's parts list, illustrations, assembly drawings, and diagrams required for maintenance.
- I. Additional Requirements: As specified in individual product specification sections.

3.04 ASSEMBLY OF OPERATION AND MAINTENANCE MANUALS

- A. Assemble operation and maintenance data into durable manuals for Owner's personnel use, with data arranged in the same sequence as, and identified by, the specification sections.
- B. Where systems involve more than one specification section, provide separate tabbed divider for each system.
- C. Prepare instructions and data by personnel experienced in maintenance and operation of described products.
- D. Prepare data in the form of an instructional manual.

- E. Binders: Commercial quality, 8-1/2 by 11 inch three D side ring binders with durable plastic covers; 2 inch maximum ring size. When multiple binders are used, correlate data into related consistent groupings.
- F. Cover: Identify each binder with typed or printed title OPERATION AND MAINTENANCE INSTRUCTIONS; identify title of Project; identify subject matter of contents.
- G. Project Directory: Title and address of Project; names, addresses, and telephone numbers of Architect, Consultants, Contractor and subcontractors, with names of responsible parties.
- H. Tables of Contents: List every item separated by a divider, using the same identification as on the divider tab; where multiple volumes are required, include all volumes Tables of Contents in each volume, with the current volume clearly identified.
- I. Dividers: Provide tabbed dividers for each separate product and system; identify the contents on the divider tab; immediately following the divider tab include a description of product and major component parts of equipment.
- J. Text: Manufacturer's printed data, or typewritten data on 24 pound paper.
- K. Drawings: Provide with reinforced punched binder tab. Bind in with text; fold larger drawings to size of text pages.
- L. Arrange content by systems under section numbers and sequence of Table of Contents of this Project Manual.
- M. Contents: Prepare a Table of Contents for each volume, with each product or system description identified, in three parts as follows:
 - 1. Part 1: Directory, listing names, addresses, and telephone numbers of Architect, Contractor, Subcontractors, and major equipment suppliers.
 - 2. Part 2: Operation and maintenance instructions, arranged by system and subdivided by specification section. For each category, identify names, addresses, and telephone numbers of Subcontractors and suppliers. Identify the following:
 - a. Significant design criteria.
 - b. List of equipment.
 - c. Parts list for each component.
 - d. Operating instructions.
 - e. Maintenance instructions for equipment and systems.
 - f. Maintenance instructions for special finishes, including recommended cleaning methods and materials, and special precautions identifying detrimental agents.
 - 3. Part 3: Project documents and certificates, including the following:
 - a. Shop drawings and product data.
 - b. Air and water balance reports.
 - c. Certificates.
 - d. Photocopies of warranties and bonds.
- N. Provide a listing in Table of Contents for design data, with tabbed dividers and space for insertion of data.
- O. Table of Contents: Provide title of Project; names, addresses, and telephone numbers of Architect, Consultants, and Contractor with name of responsible parties; schedule of products and systems, indexed to content of the volume.

3.05 WARRANTIES AND BONDS

- A. Obtain warranties and bonds, executed in duplicate by responsible Subcontractors, suppliers, and manufacturers, within 10 days after completion of the applicable item of work. Except for items put into use with Owner's permission, leave date of beginning of time of warranty until Date of Substantial completion is determined.
- B. Verify that documents are in proper form, contain full information, and are notarized.
- C. Co-execute submittals when required.

- D. Retain warranties and bonds until time specified for submittal.
- E. Manual: Bind in commercial quality 8-1/2 by 11 inch three D side ring binders with durable plastic covers.
- F. Cover: Identify each binder with typed or printed title WARRANTIES AND BONDS, with title of Project; name, address and telephone number of Contractor and equipment supplier; and name of responsible company principal.
- G. Table of Contents: Neatly typed, in the sequence of the Table of Contents of the Project Manual, with each item identified with the number and title of the specification section in which specified, and the name of product or work item.
- H. Separate each warranty or bond with index tab sheets keyed to the Table of Contents listing. Provide full information, using separate typed sheets as necessary. List Subcontractor, supplier, and manufacturer, with name, address, and telephone number of responsible principal.

END OF SECTION

**SECTION 02 41 00
DEMOLITION**

PART 3 EXECUTION

1.01 GENERAL PROCEDURES AND PROJECT CONDITIONS

- A. Comply with applicable codes and regulations for demolition operations and safety of adjacent structures and the public.
 - 1. Obtain required permits.
 - 2. Take precautions to prevent catastrophic or uncontrolled collapse of structures to be removed; do not allow worker or public access within range of potential collapse of unstable structures.
 - 3. Provide, erect, and maintain temporary barriers and security devices.
 - 4. Conduct operations to minimize effects on and interference with adjacent structures and occupants.
 - 5. Do not close or obstruct roadways or sidewalks without permits from authority having jurisdiction.
 - 6. Conduct operations to minimize obstruction of public and private entrances and exits. Do not obstruct required exits at any time. Protect persons using entrances and exits from removal operations.
 - 7. Obtain written permission from owners of adjacent properties when demolition equipment will traverse, infringe upon, or limit access to their property.
- B. Do not begin removal until receipt of notification to proceed from Owner.
- C. Protect existing structures and other elements to remain in place and not removed.
 - 1. Provide bracing and shoring.
 - 2. Prevent movement or settlement of adjacent structures.
 - 3. Stop work immediately if adjacent structures appear to be in danger.

1.02 DEBRIS AND WASTE REMOVAL

- A. Remove debris, junk, and trash from site.
- B. Leave site in clean condition, ready for subsequent work.
- C. Clean up spillage and wind-blown debris from public and private lands.

END OF SECTION

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**SECTION 03 30 00
CAST-IN-PLACE CONCRETE**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Concrete formwork.
- B. Concrete topping for elevated slabs..
- C. Concrete topping on structural stoops.
- D. Floors and slabs on grade.
- E. Concrete footings.
- F. Concrete foundation walls.
- G. Concrete reinforcement.
- H. Joint devices associated with concrete work.
- I. Miscellaneous concrete elements, including equipment pads and flagpole bases.
- J. Concrete curing.

1.02 RELATED REQUIREMENTS

- A. Section 01 40 00 - Quality Requirements: for procedural requirements for testing of concrete.
- B. Section 03 35 11 - Concrete Floor Finishes
- C. Section 07 90 05 - Joint Sealers.
- D. Section 32 13 13 - Concrete Paving: for exterior concrete.

1.03 REFERENCE STANDARDS

- A. ACI 117 - Standard Specifications for Tolerances for Concrete Construction and Materials; American Concrete Institute International; 2006.
- B. ACI 211.1 - Standard Practice for Selecting Proportions for Normal, Heavyweight, and Mass Concrete; American Concrete Institute International; 1991 (Reapproved 2002).
- C. ACI 301 - Specifications for Structural Concrete for Buildings; American Concrete Institute International; 2005.
- D. ACI 302.1R - Guide for Concrete Floor and Slab Construction; American Concrete Institute International; 2004 (Errata 2007).
- E. ACI 304R - Guide for Measuring, Mixing, Transporting, and Placing Concrete; American Concrete Institute International; 2000.
- F. ACI 305R - Hot Weather Concreting; American Concrete Institute International; 1999.
- G. ACI 306R - Cold Weather Concreting; American Concrete Institute International; 1988 (Reapproved 2002).
- H. ACI 308R - Guide to Curing Concrete; American Concrete Institute International; 2001 (Reapproved 2008).
- I. ACI 318 - Building Code Requirements for Structural Concrete and Commentary; American Concrete Institute International; 2008.
- J. ACI 347 - Guide to Formwork for Concrete; American Concrete Institute International; 2004.
- K. ASTM A 185/A 185M - Standard Specification for Steel Welded Wire Reinforcement, Plain, for Concrete; 2007.
- L. ASTM A 615/A 615M - Standard Specification for Deformed and Plain Billet-Steel Bars for Concrete Reinforcement; 2007.
- M. ASTM C 33 - Standard Specification for Concrete Aggregates; 2007.

- N. ASTM C 39/C 39M - Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens; 2005.
- O. ASTM C 94/C 94M - Standard Specification for Ready-Mixed Concrete; 2007.
- P. ASTM C 143/C 143M - Standard Test Method for Slump of Hydraulic-Cement Concrete; 2008.
- Q. ASTM C 150 - Standard Specification for Portland Cement; 2007.
- R. ASTM C 171 - Standard Specification for Sheet Materials for Curing Concrete; 2007.
- S. ASTM C 173/C 173M - Standard Test Method for Air Content of Freshly Mixed Concrete by the Volumetric Method; 2008a.
- T. ASTM C 260 - Standard Specification for Air-Entraining Admixtures for Concrete; 2006.
- U. ASTM C 309 - Standard Specification for Liquid Membrane-Forming Compounds for Curing Concrete; 2007.
- V. ASTM C 494/C 494M - Standard Specification for Chemical Admixtures for Concrete; 2008a.
- W. ASTM E1155 Standard Test Method for Determining FF Floor Flatness and FL Floor Levelness Numbers"

1.04 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Product Data: Submit manufacturers' data on manufactured products showing compliance with specified requirements.
- C. Design Mixes: For each concrete mix, include mix designs when characteristics of materials, project conditions, weather, test results or other circumstances warrant adjustments.
 - 1. Indicate amounts of mix water to be withheld for later addition at project site.
- D. Material Certificates: Signed by manufacturers certifying that each of the following items complies with requirements:
 - 1. Cementitious materials and aggregates
 - 2. Steel reinforcement and reinforcement accessories
 - 3. Admixtures
- E. Shop Drawings - Steel Reinforcement: Details of fabrication, bending, and placement prepared according to ACI 315.
 - 1. Included material, grade, bar schedules, stirrup spacing, bent bar diagrams, arrangement and supports of concrete reinforcement.
 - 2. Include special reinforcement required for openings through concrete structures.
- F. Project Record Documents: Accurately record actual locations of embedded utilities and components that will be concealed from view upon completion of concrete work.

1.05 QUALITY ASSURANCE

- A. Perform work of this section in accordance with ACI 301 and ACI 318.
- B. Follow recommendations of ACI 305R when concreting during hot weather.
- C. Follow recommendations of ACI 306R when concreting during cold weather.
- D. Installer Qualifications: An experienced installer who has completed concrete work similar in material, design, and extent to that indicated for this project and whose work has resulted in construction with a record of successful in-service performance.
- E. Manufacturer's Qualifications: Firm experienced in manufacturing ready-mixed concrete products complying with ASTM C 94 requirements for production facilities and equipment.
 - 1. Manufacturer must be certified according to the National Ready Mixed Concrete Association Certification of Ready Mixed Concrete Production Facilities.
- F. Testing Agency Qualifications: Independent testing agency acceptable to authorities having jurisdiction qualified according to ASTM C 1077 and ASTM E 329 to conduct testing indicated as documented according to ASTM E 548.

- G. Obtain each type or class of cementitious material of the same brand from the same source, aggregate from same source, and each admixture from same source.

1.06 DELIVERY, STORAGE, AND HANDLING

- A. Deliver, store, and handle steel reinforcement to prevent bending and damage.
- B. Avoid damaging coatings on steel reinforcement.

PART 2 PRODUCTS

2.01 FORMWORK

- A. Formwork Design and Construction: Comply with guidelines of ACI 347 to provide formwork that will produce concrete complying with tolerances of ACI 117.
 - 1. Exposed finished concrete surfaces shall be formed using plywood, metal or other approved panel material. Provide continuous, straight, smooth, exposed surfaces and furnish forms in largest possible sizes to minimize the number of joints and that conform to joint system shown on plans.
 - a. Use overlaid plywood complying with U.S. Product Standard PS-1 "A-C or B-B High Density Overlaid Concrete Form, Class 1"
 - b. Use of aluminum forms is prohibited.
 - 2. Unexposed finished concrete surfaces shall be formed using plywood, metal or other approved panel material. Provide lumber dressed on at least two (2) edges and one side for tight fit.
 - a. Use of aluminum forms is prohibited.
 - 3. Form Coatings shall be commercial formulation foam-coating compounds with a minimum VOC of 350 mg/L that will not bond with, stain, or adversely affect concrete surfaces and will not impair subsequent treatments of concrete surfaces.
 - a. For steel forms, formulate form-release agent with rust inhibitor.
 - 4. Form Ties shall be factory fabricated, adjustable length, removable or snap-off metal form ties designed to prevent form deflection and to prevent spalling concrete upon removal.
 - a. Provide ties that will leave no metal closer than 1-1/2 inches to exposed surface.
 - b. Provide ties that will leave holes no larger than 1 inch diameter in concrete surface.
 - 5. Form Coating: Release agent that will not adversely affect concrete or interfere with application of coatings.
 - 6. Form Ties: Cone snap type that will leave no metal within 1-1/2 inches of concrete surface.

2.02 REINFORCEMENT

- A. Reinforcing Steel: ASTM A 615/A 615M Grade 60 (420), deformed.
- B. Steel Welded Wire Reinforcement: ASTM A 185/A 185M, plain type.
 - 1. Fabricated from as-drawn steel wire into flat sheets. Rolled sheets not permitted
- C. Reinforcement Accessories:
 - 1. Chairs, Bolsters, Bar Supports, Spacers and other devices for spacing, supporting, and fastening reinforcing bars and welded wire reinforcement in place. Sized and shaped for adequate support of reinforcement during concrete placement.
 - 2. Manufacture bar supports from steel wire, plastic, or precast concrete according to CRSI's "Manual of Standard Practice."

2.03 CONCRETE MATERIALS

- A. Cement: ASTM C 150, Type I or Type III Portland Cement.
 - 1. Acquire all cement for entire project from same source, type, and brand.
 - 2. Cement may be supplemented with Fly Ash: ASTM C 618, Class C.
- B. Normal-weight Aggregates: ASTM C 33, graded, 3/4 inch and 1-1/2 inch nominal maximum coarse-aggregate size.
- C. Fine Aggregates: Free of materials with deleterious reactivity to alkali in cement.

1. Acquire all aggregates for entire project from same source.
- D. Water: Clean and not detrimental to concrete. ASTM C 94 and potable.

2.04 CHEMICAL ADMIXTURES

- A. Provide admixtures certified by manufacturer to be compatible with other admixtures. Do not use calcium chloride or admixtures containing calcium chloride.
- B. Do not use chemicals that will result in soluble chloride ions in excess of 0.1 percent by weight of cement.
- C. Air Entrainment Admixture: ASTM C 260.
- D. High Range Water Reducing and Retarding Admixture: ASTM C 494/C 494M Type G.
- E. High Range Water Reducing Admixture: ASTM C 494/C 494M Type F.
- F. Water Reducing and Retarding Admixture: ASTM C 494/C 494M Type D.
- G. Retarding Admixture: ASTM C 494/C 494M Type B.
- H. Water Reducing Admixture: ASTM C 494/C 494M Type A.
- I. Plasticizing and Retarding Admixture: ASTM C 1017, Type II
- J. Synthetic Fiber: Monofilament or fibrillated polypropylene fibers engineered and designed for use in concrete pavement, complying with ASTM C 1116, Type III, 1 to 1-1/2 inches long.

2.05 ACCESSORY MATERIALS

- A. Vapor Barrier Membrane must meet the following requirements:
 1. Maintain permeance of less than 0.01 Perms [grains/(ft² - hr - inHg)] as tested in accordance with mandatory conditioning tests per ASTM E1745 Section 7.1 (7.1.1-7.1.5).
 2. Other performance criteria:
 - a. Strength: ASTM E1745 Class A.
 - b. Thickness: 15 mils minimum
 - c. Water Vapor Permeance: ASTM F1249, 0.0086 perms
 - d. Puncture Resistance: ASTM D1709, 2,266 grams
 - e. Tensile Strength: ASTM D882, 70.6lbf/in.
 3. Acceptable Manufacturers:
 - a. Stego Wrap 15-mil Vapor Barrier by STEGO INDUSTRIES, LLC., San Juan Capistrano, CA (877) 464-7834, www.stegoindustries.com.
 - b. Perminator 15-mil Vapor Barrier by W.R. Meadows, Hampshire, IL (847) 214-2100, www.wrmeadows.com.
 - c. Zeroperm by Alumiseal, Hanover, MA (781) 261-9991.
 4. Accessory Products: Vapor retarder manufacturer's recommended tape, adhesive, mastic, prefabricated pipe boots, etc., for sealing seams and penetrations in vapor retarder.

2.06 CURING MATERIALS

- A. Evaporation Retarder: Waterborne, monomolecular film forming manufactured for application to fresh concrete.
- B. Absorptive Cover: AASHTO M 182, Class 2, burlap cloth made from jute or kenaf, weighing approximately 9 oz./sq. yd. when dry.
- C. Moisture-Retaining Cover: ASTM C 171, polyethylene film or white burlap-polyethylene sheet.
- D. Water: Potable
- E. Clear, Waterborne, Membrane-forming Curing Compound: ASTM C 309, Type 1, Class B, dissipating.
- F. Clear, Waterborne, Membrane-forming Curing and Sealing Compound: ASTM C 1315, Type 1, Class A, exterior applications

2.07 RELATED MATERIALS

- A. Expansion- and Isolation-Joint Filler Strips: Sonneborn Sonoflex F or equal.
- B. Granular Fill: As identified within the Geotechnical Exploration Report. (See specification Section 00 31 00 - Available Project Information)
- C. Patching compound: Cement-based compound for applications from one inch thick to feathered edge.
- D. Bonding Compound: Polyvinyl acetate or acrylic base.

2.08 CONCRETE MIX DESIGN

- A. Prepare design mixtures for each type and strength of concrete, proportioned on the basis of laboratory trial mixture or field test data, or both, according to ACI 301.
- B. Proportioning Normal Weight Concrete Mixture for interior slabs-on-grade:
 - 1. Minimum compressive strength: 4,000 psi at 28 days.
 - 2. Limestone mix with 3/4 inch coarse-aggregate size.
 - 3. Maximum Water-Cementitious Materials Ratio: 0.48.
 - 4. Fly ash or other pozzolans not to exceed 15 percent of cement content by weight.
 - 5. Slump Limit: 3 inches before adding high-range water-reducing admixture or plasticizing admixture, plus or minus 1 inch.
 - 6. Air Content: Do not allow air content of troweled finished floors to exceed 3 percent.
- C. Proportioning Normal Weight Concrete Mixture for foundation walls as follows:
 - 1. Minimum compressive Strength: 4,000 psi at 28 days.
 - 2. Limestone mix with 3/4 inch coarse-aggregate size.
 - 3. Maximum Water-Cementitious Materials Ratio: 0.48.
 - 4. Fly ash or other pozzolans not to exceed 15 percent of cement content by weight.
 - 5. Slump Limit: 3 inches before adding high-range water-reducing admixture or plasticizing admixture, plus or minus 1 inch.
 - 6. Air Content: 6 percent, plus or minus 1.5 percent at point of delivery for 3/4 nominal maximum aggregate size.
- D. Proportioning Normal Weight Concrete Mixture for footings as follows:
 - 1. Minimum compressive Strength: 3,500 psi at 28 days.
 - 2. Limestone mix with 3/4 inch coarse-aggregate size.
 - 3. Maximum Water-Cementitious Materials Ratio: 0.53.
 - 4. Fly ash or other pozzolans not to exceed 25 percent of cement content by weight.
 - 5. Slump Limit: 3 inches before adding high-range water-reducing admixture or plasticizing admixture, plus or minus 1 inch.
 - 6. Air Content: 6 percent plus or minus 1.5 percent at point of delivery for 3/4 nominal maximum aggregate size.
- E. Proportioning Normal Weight Concrete Mixture for concrete topping on structural stoops as follows:
 - 1. Minimum compressive Strength: 4,000 psi at 28 days.
 - 2. Limestone mix with 3/4 inch coarse-aggregate size.
 - 3. Maximum Water-Cementitious Materials Ratio: 0.48.
 - 4. Fly ash or other pozzolans not to exceed 15 percent of cement content by weight.
 - 5. Slump Limit: 3 inches before adding high-range water-reducing admixture or plasticizing admixture, plus or minus 1 inch (25 mm).
 - 6. Air Content: 6 percent plus or minus 1.5 percent at point of delivery for 3/4 nominal maximum aggregate size.
- F. Proportioning Normal Weight Concrete Mixture for elevated slabs as follows:
 - 1. Minimum Compressive Strength: 4,000 psi at 28 days.
 - 2. Limestone mix with 3/4 inch coarse aggregate size.
 - 3. Maximum water-cement ratio: 0.45.

4. Fly ash or other pozzolans not to exceed 15 percent of cement content by weight.
5. Slump: Maximum 3 inches before adding high-range water-reducing admixture or plasticizing admixture, plus or minus 1 inch.
6. Air Content: Do not allow air content of trowel-finished floors to exceed 3 percent.

2.09 FABRICATING REINFORCEMENT

- A. Fabricate steel reinforcement according to the Concrete Reinforcing Steel Institute's (CRSI) "Manual of Standard Practice."

2.10 MIXING

- A. Ready-Mixed Concrete: Measure, batch, mix, and deliver concrete according to ASTM C 94 and furnish batch ticket information.
 1. When air temperature is between 85 and 90 degrees F, reduce mixing and delivery time from 1-1/2 hours to 75 minutes. When air temperature is above 90 degrees F, reduce mixing and delivery time to 60 minutes.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify lines, levels, and dimensions before proceeding with work of this section.

3.02 PREPARATION

- A. Formwork: Comply with requirements of ACI 301. Design and fabricate forms to support all applied loads until concrete is cured, and for easy removal without damage to concrete.
 1. Construct formwork so concrete members and structures are of size, shape, alignment, elevation, and position indicated within tolerance limits of ACI 117.
 - a. Fabricate forms for easy removal without hammering or prying against concrete surfaces. Provide crush or wrecking plates where stripping may damage cast concrete surfaces. Provide top forms for inclined surfaces steeper than 1.5 horizontal to 1 vertical. Kerf wood inserts for forming keyways, reglets, recesses and the like for easy removal.
 - b. Set edge forms, bulkheads, and intermediate screed strips for slabs to achieve required elevations and slopes in finished concrete surfaces. Provide and secure units to support screed strips; use strike-off templates or compacting-type screeds.
 - c. Chamfer exterior corners and edges of permanently exposed concrete.
 - d. Clean forms and adjacent surfaces to receive concrete. Remove chips, wood, sawdust, dirt, and other debris before placing concrete.
 - e. Retighten forms and bracing before placing concrete, as required, to prevent mortar leaks and maintain proper alignment.
 - f. Verify that forms are clean and free of rust before applying release agent. Coat contact surfaces of forms with form-releasing agent according to manufacturer's directions before placing reinforcement.
- B. Embedded Items: Place and secure anchorage devices and other embedded items required for adjoining work that is attached to or supported by cast-in-place concrete. Use setting drawings, templates, diagrams, instructions, and directions furnished with items to be embedded.
 1. Install anchor bolts, accurately located, to elevations required.
- C. Coordinate placement of joint devices with erection of concrete formwork and placement of form accessories.
- D. Interior Slabs on Grade: Install vapor retarder under interior slabs on grade.
 1. Place, protect, and repair according to ASTM E 1643 and manufacturer's written instructions.
 2. Lap joints minimum 6 inches. Lap vapor barrier over footings and seal to foundation walls.
 3. Seal joints, seams, and penetrations watertight with manufacturer's recommended products and follow manufacturer's written instructions.

4. No penetration of vapor barriers is allowed except for reinforcing steel and permanent utilities.
5. Vapor Retarder Over Granular Fill: Install compactible granular fill before placing vapor retarder as shown on the drawings. Do not use sand. Vapor barrier shall wrap up edges to top of slab.

3.03 INSTALLING REINFORCEMENT

- A. Comply with requirements of ACI 301. Clean reinforcement of loose rust and mill scale, and accurately position, support, and secure in place to achieve not less than minimum concrete coverage required for protection.
 1. Do not cut or puncture vapor barriers. repair damage and reseal vapor retarder before placing concrete.
- B. Accurately position, support, and secure reinforcement against displacement. Locate and support reinforcing by bolsters, chairs, or other devices to maintain minimum concrete cover. Do not secure reinforcement to re-bar driven into ground or on rocks, dirt clods, or other debris. Do not "float in" reinforcement.
- C. Arrange, space, and securely tie bars and bar supports to hold reinforcement in position during concrete placement operations. Set wire ties so ends are directed into concrete not toward exposed concrete surfaces.
- D. Install welded wire reinforcement in maximum possible lengths, and offset end laps in both directions. Splice laps with tie wire. Rolled stock is not permitted.
 1. Lap edges and ends of adjoining sheets at least one full mesh spacing and lace splices with tie wire.
 2. Offset laps of adjoining sheet widths to prevent continuous laps in either direction.

3.04 JOINT PLACEMENT

- A. General: Construct joints true to line with faces perpendicular to surface plane of concrete.
- B. Construction Joints: Install diamond dowels per structural details so strength and appearance of concrete are not impaired at locations indicated or as approved by Architect.
- C. Contraction Joints in Slabs-on-Grade: Form weakened-plane contraction joints, sectioning concrete into areas as indicated. Construct contraction joints for a depth equal to at least one-fourth of concrete thickness and at a maximum length to width ratio of 1.25 and as follows:
 1. Grooved Joints: Form contraction joints after initial floating by grooving and finishing each edge of joint to a radius of 1/8 inch. Repeat grooving of contraction joints after applying surface finishes. Eliminate groover tool marks on concrete surfaces.
 2. Sawed Joints: Form contraction joints with power saws equipped with shatterproof abrasive or diamond-rimmed blades. Cut 1/8 inch wide joints into concrete when cutting action will not tear, abrade or otherwise damage surface and before concrete develops random contraction cracks.
- D. Isolation Joints in Slabs-on-Grade: After removing formwork, install joint-filler strips at slab junctions with vertical surfaces, such as column pedestals, foundation walls, grade beams, and other locations as indicated.
 1. Extend joint filler strips full width and depth of joint terminating flush with finished concrete surface unless otherwise indicated.
 2. Terminate full-width joint-filler strips not less than 1/2 inch or more than 1 inch below finished concrete surface where joint sealants are indicated.
 3. Install joint-filler strips in lengths as long as practical. Where more than one length is required, lace or clip sections together.
- E. Dowel Joints: Install diamond dowel sleeves and dowel support assemblies at joints where indicated. Use dowel sleeves or lubricate or asphalt-coat 1/2 of dowel length to prevent concrete bonding to 1 side of joint.
- F. Water Stops: Install flexible water stops in construction joints as indicated to form a continuous diaphragm. Install in longest lengths practical. Support and protect exposed water stops

during progress of work. Field Fabricate joints in water stops according to manufacturer's instructions.

- G. Provide joint fillers and sealant at all isolation and expansion joints but not at contraction joints.
- H. At concrete toppings, tool or sawcut control joints immediately over existing joints. If existing concrete is cracked, install joints on lines parallel and perpendicular to the building as close to the crack locations as possible.

3.05 PLACING CONCRETE

- A. Place concrete in accordance with ACI 304R.
- B. Place concrete for floor slabs in accordance with ACI 302.1R.
- C. Cold-weather Placement: Comply with ACI 306.1
- D. Hot-weather Placement: Comply with ACI 305R.
- E. Before placing concrete, ensure installation of formwork, reinforcement, embedded parts, formed construction joint devices, and vapor barriers is complete and will not be disturbed during concrete placement.
- F. Before placing concrete, verify that all required inspections have been performed.
- G. Repair under slab vapor retarder damaged during placement of concrete reinforcing. Repair with vapor retarder material; lap over damaged areas minimum 6 inches and seal watertight.
- H. Install joint devices in accordance with manufacturer's instructions.
- I. Deposit concrete continuously or in layers at such thickness that no concrete will be placed on concrete that has hardened enough to cause seams or planes of weakness. If a section cannot be placed continuously, provide construction joints as specified. Deposit concrete to avoid segregation.
 - 1. Concrete free fall distance shall not exceed 5 feet. This includes free fall in a discharge pipe. Chute and tremie pipes may be used for conveying concrete to the forms when authorized by the Architect.
 - 2. Consolidate placed concrete with mechanical vibrating equipment according to ACI 301.
- J. Deposit concrete in forms in horizontal layers no deeper than 18 inches and in a manner to avoid inclined construction joints. Place each layer while preceding layer is still plastic to avoid cold joints.
- K. Deposit and consolidate concrete for floors and slabs in continuous operation within limits of construction joints until placement of panel or section is complete.
 - 1. Consolidate concrete during placement operations so concrete is thoroughly worked around reinforcement and other embedded items and into corners.
 - 2. Maintain reinforcement in position on chairs during concrete placement.
 - 3. Screed slab surfaces with a straightedge and strike off to correct elevations.
 - 4. Slope surfaces uniformly to drain where required.
 - 5. Begin initial floating using bull floats or darbies to form a uniform and open-texture surface plane, free of humps or hollows, before excess moisture or bleed water appears on surface. Do not further disturb slab surfaces before starting finishing operations.
- L. Screed floors level, maintaining surface flatness of maximum 1/4 inch in 10 ft.

3.06 CONCRETE FINISHING

- A. Repair surface defects, including tie holes, immediately after removing formwork.
- B. Unexposed Form Finish: Rub down or chip off fins or other raised areas 1/4 inch or more in height.
- C. Exposed Form Finish: Rub down or chip off and smooth fins or other raised areas 1/4 inch or more in height. Provide finish as follows:
 - 1. Smooth Rubbed Finish: Wet concrete and rub with carborundum brick or other abrasive, not more than 24 hours after form removal.

2. Grout Cleaned Finish: Wet areas to be cleaned and apply grout mixture by brush or spray; scrub immediately to remove excess grout. After drying, rub vigorously with clean burlap, and keep moist for 36 hours.
 3. Cork Floated Finish: Immediately after form removal, apply grout with trowel or firm rubber float; compress grout with low-speed grinder, and apply final texture with cork float.
- D. Concrete Slabs: Finish to requirements of ACI 302.1R, and as follows:
1. Float Finish: Consolidate surface with power-driven floats or by hand floating if area is small or inaccessible to power-driven floats. Re-straighten, cut down high spots and fill low spots. Repeat float passes and re-straightening until surface is left with a uniform, smooth, granular texture.
 - a. Apply float finish to surfaces indicated, to surfaces to receive trowel finish, and to floor and slab surfaces to be covered with fluid-applied or sheet waterproofing.
 2. Trowel Finish: After applying float finish, apply first trowel finish and consolidate concrete by hand or power-driven trowel. Continue troweling passes and re-straighten until surface is free of trowel marks and uniform in texture and appearance. Grind smooth any surface defects that would telegraph through applied coatings or floor coverings.
 - a. Apply a trowel finish to surfaces indicated and to floor and slab surfaces exposed to view or to be covered with resilient flooring, carpet, ceramic, or quarry tile set over a cleavage membrane, paint, or another thin-film finish coating system.
 - b. Finish and measure surface to conform to FF 50, - FL 50 tolerances, very flat for areas to received polished concrete finish. Refer to Section 03 35 11, Concrete Floor Finishes.
 3. Trowel and Fine-Broom Finish: Apply a first trowel finish to pavement surfaces. While concrete is still plastic, slightly scarify surface with a fine broom.
 - a. Comply with flatness and levelness tolerances for trowel finished floor surfaces.
 4. Broom Finish: Apply a broom finish to exterior concrete platforms, steps, ramps, and elsewhere as indicated.
 5. Other Surfaces to Be Left Exposed: "Steel trowel" as described in ACI 302.1R, minimizing burnish marks and other appearance defects.
 6. Related Unformed Surfaces: At tops of walls, horizontal offsets, and similar unformed surfaces adjacent to formed surfaces, strike off smooth and finish with a texture matching adjacent formed surfaces. Continue final surface treatment of formed surfaces uniformly across adjacent unformed surfaces, unless otherwise indicated.

3.07 CURING AND PROTECTION

- A. Comply with requirements of ACI 308R. Immediately after placement, protect concrete from premature drying, excessively hot or cold temperatures, and mechanical injury.
- B. Maintain concrete with minimal moisture loss at relatively constant temperature for period necessary for hydration of cement and hardening of concrete.
 1. Moisture Curing: Keep surfaces continuously moist for not less than 7 days.
 2. Moisture Retaining-Cover Curing: Cover concrete surfaces with moisture-retaining cover for curing concrete placed in widest practicable width with sides and ends lapped at least 12 inches and sealed by waterproof tape or adhesive. Cure for not less than 7 days. Immediately repair any holes or tears during curing period using cover material and waterproof tape.
 3. Curing Compound: Apply uniformly in continuous operation by power spray or roller according to manufacturer's written instructions. Recoat areas subjected to heavy rainfall within three hours after initial application. Maintain continuity of coating and repair damage during curing period.
 - a. After curing period has elapsed, remove curing compound without damaging concrete surfaces by method recommended by curing compound manufacturer unless manufacturer certifies curing compound will not interfere with bonding of floor covering used on Project.

4. Curing and Sealing Compound: Apply uniformly to floors and slabs indicated in a continuous operation by power spray or roller according to manufacturer's written instructions. Recoat areas subjected to heavy rainfall within three hours after initial application. Repeat process 24 hours later and apply a second coat. Maintain continuity of coating and repair damage during curing period.
5. a. Product: L&M Cure as manufactured by L&M Chemicals
- C. Evaporation Retarder: Apply evaporation retarder to unformed concrete surfaces if hot, dry, or windy conditions cause moisture loss approaching 0.2 lb/sq. ft. x h before and during finishing operations. Apply according to manufacturer's written instructions after placing, screeding, and bull floating or darbying concrete, but before float finish.
- D. Unformed Surfaces: Begin curing immediately after finishing concrete. Cure unformed surfaces, including floors and slabs, concrete floor toppings, and other surfaces by one of the methods listed above in formed surfaces.
 1. Slabs and Floors To Receive Adhesive-Applied Flooring: Curing compounds and other surface coatings are usually considered unacceptable by flooring and adhesive manufacturers. If such materials must be used, either obtain the approval of the flooring and adhesive manufacturers prior to use or remove the surface coating after curing to flooring manufacturer's satisfaction.

3.08 JOINT FILLING

- A. Prepare, clean, and install joint filler according to manufacturer's directions.
- B. Remove dirt, debris, saw cuttings, curing compounds, and sealers from joints. Leave contact faces of joint clean and dry.
- C. Install semi-rigid epoxy joint filler depth in saw-cut joints and at least 2 inches into deep-formed joints. Overfill joint and trim joint filler flush with lip of joint after hardening.

3.09 FIELD QUALITY CONTROL

- A. An independent testing agency will perform field quality control tests, as specified below and Section 01 40 00. Scheduling of testing to be coordinated by GC and paid for by owner.
 1. Testing Services: Tests shall be performed according to ACI 301.
- B. Provide free access to concrete operations at project site and cooperate with appointed firm.
- C. Tests of concrete and concrete materials may be performed at any time to ensure conformance with specified requirements.
- D. Compressive Strength Tests: ASTM C 39/C 39M. For each day's pour, mold and cure four concrete test cylinders. Obtain test samples for every 50 cu yd thereafter, or less for each class of concrete placed. One specimen tested at 7 days, two specimens tested at 28 days, and one specimen retained in reserve for later testing if required.
 1. Strength of each concrete mix will be satisfactory if averages of sets of three consecutive strength test results equal or exceed specified compressive strength, and no individual strength test result falls below specified compressive strength by more than 500 psi.
- E. Take one additional test cylinder during cold weather concreting, cured on job site under same conditions as concrete it represents.
- F. Perform one slump test, following procedures of ASTM C 143/C 143M, at point of discharge for each day's pour of each type of concrete; additional tests when concrete consistency seems to have changed.
- G. Perform air content tests for each day's pour of each type of air-entrained concrete.
 1. ASTM C 173 - volumetric method for lightweight or normal weight concrete
 2. ASTM C 231 - pressure method for normal weight concrete
- H. Report test results in writing to Owner, Architect, Structural Engineer, Ready-Mix Producer, and Contractor within 24 hours after tests.

- I. Additional Tests: Testing and inspecting agency shall make additional tests of concrete when test results indicate that slump, air entrainment, compressive strengths, or other requirements have not be met. Conduct tests by core cylinders complying with ASTM C 42 or other methods as directed by the Architect.
- J. Concrete Trucks shall not be rinsed on Owner's property nor on adjacent property.

3.10 DEFECTIVE CONCRETE

- A. Defective Concrete: Concrete not conforming to required lines, details, dimensions, tolerances or specified requirements.
- B. Repair or replacement of defective concrete will be determined by the Architect. The cost of additional testing shall be borne by Contractor when defective concrete is identified.
- C. Filling In: Fill in holes and openings left in concrete structures for passage of work by other trades. Mix, place, and cure concrete to blend with in-place construction.
- D. Repair of Unformed Surfaces: Test unformed surfaces, such as monolithic slabs, for smoothness and slope using a template. Correct low and high areas as herein specified.
 - 1. Repair finished unformed surfaces that contain defects that affect durability of concrete, reinforcement, spalling, popouts, honeycomb, rock pockets, and other objectionable conditions.
 - 2. Correct high areas in unformed surfaces by grinding after concrete has cured at least 14 days.
 - 3. Correct low areas in unformed surfaces by cutting out low areas and replacing with patching compound. Finish repaired areas to blend into adjacent concrete.
 - 4. Repair defective areas, except random cracks and single holes not exceeding 1 inch in diameter, by cutting out and replacing with fresh concrete. Remove defective areas to sound concrete with clean, square cuts and expose reinforcing steel with at least 3/4 inch clearance all around. Dampen concrete surfaces in contact with patching concrete and apply bonding compound. Mix patching concrete of same materials to provide concrete of same type of class as original concrete. Place, compact, and finish to blend with adjacent finished concrete.

END OF SECTION

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**SECTION 03 35 11
CONCRETE FLOOR FINISHES**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Surface treatments.
- B. Liquid densifiers and hardeners.

1.02 RELATED REQUIREMENTS

- A. Section 03 30 00 - Cast-in-Place Concrete: Finishing of concrete surface to tolerance; floating, troweling, and similar operations; curing.
- B. Section 03 30 00 - Cast-in-Place Concrete: Curing compounds that also function as sealers.

1.03 ADMINISTRATIVE REQUIREMENTS

- A. Coordination:
- B. Coordinate the work with concrete floor placement and concrete floor curing.

1.04 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Product Data: Manufacturer's published data on each finishing product, including information on compatibility of different products and limitations.
- C. Maintenance Data: Provide data on maintenance and renewal of applied finishes.

1.05 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials in manufacturer's sealed packaging, including application instructions.

1.06 FIELD CONDITIONS

- A. Maintain light level equivalent to a minimum 200 W light source at 8 feet above the floor surface over each 20 foot square area of floor being finished.

PART 2 PRODUCTS

2.01 DENSIFIERS AND HARDENERS

- A. Liquid Densifier and Hardener: Penetrating chemical compound that reacts with concrete, filling the pores, hardening, and dustproofing.
 - 1. Products:
 - a. L&M Construction Chemicals, Inc; LiON HARD: www.lmcc.com/#sle.
 - b. Substitutions: See Section 01 60 00 - Product Requirements.

2.02 OIL AND WATER REPELLENT

- A. Oil and Water Repellent: Water-based solution containing invisible and VOC compliant emulsion of silane siloxane and synthetic polymers. Treats concrete pavements, natural or synthetic stone surfaces, chemically hardened commercial and industrial building floors to resist the penetration of water and oil.
 - 1. Composition: Silane / Siloxane / Synthetic Polymer
 - 2. Color: White liquid, dries invisible
 - 3. Products:
 - a. L&M Construction Chemicals, Inc; Petrotex: www.lmcc.com.
 - b. Substitutions: See Section 01 6000 - Product Requirements.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that floor surfaces are acceptable to receive the work of this section.
- B. Verify that flaws in concrete have been patched and joints filled with methods and materials suitable for further finishes.

- C. Assure concrete has been cured a minimum of three days before application.
- D. Protect concrete from construction activity staining.

3.02 GENERAL

- A. Apply materials in accordance with manufacturer's instructions.

3.03 DENSIFIERS AND HARDENERS APPLICATION

- A. Apply directly from sealer container onto prepared surfaces, undiluted.
- B. Application equipment: Mechanical "walk-behind" or riding scrubber.
- C. Apply at minimum rate as recommended by manufacturer.
- D. Remove excess sealer as recommended by manufacturer.
- E. Apply in one coat.

3.04 OIL AND WATER REPELLENT APPLICATION

- A. Surfaces should be clean from dust, dirt, oils, grease, curing compounds, other coatings that are not compatible, efflorescence and laitance before applying.
- B. New concrete should be allowed to cure for at least 21 days before applying.
- C. Repair work should be performed at least three days before application.
- D. Remove all film forming sealers or curing compounds prior to application.
- E. Apply directly from sealer container onto prepared surfaces, undiluted.
- F. Application equipment: Brush or low pressure sprayer.
- G. Apply oil and water repellent with a uniform saturation at a rate recommended by the manufacturer.
- H. Apply in one coat.

3.05 COATING APPLICATION

- A. Verify that surface is free of previous coatings, sealers, curing compounds, water repellents, laitance, efflorescence, fats, oils, grease, wax, soluble salts, residues from cleaning agents, and other impediments to adhesion.
- B. Protect adjacent non-coated areas from drips, overflow, and overspray; immediately remove excess material.
- C. Apply coatings in accordance with manufacturer's instructions, matching approved mock-ups for color, special effects, sealing and workmanship.

END OF SECTION

**SECTION 06 10 00
ROUGH CARPENTRY**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Structural dimension lumber framing.
- B. Non-structural dimension lumber framing.
- C. Rough opening framing for doors, windows, and roof openings.
- D. Sheathing.
- E. Roofing nailers.
- F. Preservative treated wood materials.
- G. Miscellaneous framing and sheathing.
- H. Communications and electrical room mounting boards.
- I. Concealed wood blocking, nailers, and supports.
- J. Miscellaneous wood nailers, furring, and grounds.
- K. Roof sheathing with factory applied roofing underlayment.

1.02 RELATED REQUIREMENTS

- A. Section 03 3000 - Cast-in-Place Concrete: Setting anchors in concrete.
- B. Section 06 1753 - Shop-Fabricated Wood Trusses.
- C. Section 07 27 26 - Fluid Applied Membrane Air Barrier: Installation of fluid applied waterproof air barrier membrane over wood framed walls.
- D. Section 07 6200 - Sheet Metal Flashing and Trim: Sill flashings.
- E. Section 09 2116 - Gypsum Board Assemblies: Gypsum-based sheathing.

1.03 REFERENCE STANDARDS

- A. AWC (WFCM) - Wood Frame Construction Manual for One- and Two-Family Dwellings; 2015.
- B. ASTM A153/A153M - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware; 2016a.
- C. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 2017.
- D. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2017.
- E. AWPA U1 - Use Category System: User Specification for Treated Wood; 2017.
- F. ICC (IBC) - International Building Code; 2018.
- G. PS 1 - Structural Plywood; 2009.
- H. PS 2 - Performance Standard for Wood-Based Structural-Use Panels; 2010.
- I. PS 20 - American Softwood Lumber Standard; 2015.
- J. SPIB (GR) - Grading Rules; 2014.
- K. WWPA G-5 - Western Lumber Grading Rules; 2017.

1.04 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide technical data on wood preservative materials and application instructions.

- C. Structural Composite Lumber: Submit manufacturer's published structural data including span tables, marked to indicate which sizes and grades are being used; if structural composite lumber is being substituted for dimension lumber or timbers, submit grading agency structural tables marked for comparison.

1.05 DELIVERY, STORAGE, AND HANDLING

- A. General: Cover wood products to protect against moisture. Support stacked products to prevent deformation and to allow air circulation.

1.06 WARRANTY

- A. See Section 01 7800 - Closeout Submittals, for additional warranty requirements.
- B. Correct defective Work within a one year period after Date of Substantial Completion.

PART 2 PRODUCTS

2.01 GENERAL REQUIREMENTS

- A. Dimension Lumber: Comply with PS 20 and requirements of specified grading agencies.
 - 1. Species: Spruce-Pine-Fir #1/#2, (Fb=875psi, E=1400ksi, FcII=1150psi, Fcperp=425psi, Fv=135psi) unless otherwise indicated.
 - 2. If no species is specified, provide any species graded by the agency specified; if no grading agency is specified, provide lumber graded by any grading agency meeting the specified requirements.
 - 3. Grading Agency: Any grading agency whose rules are approved by the Board of Review, American Lumber Standard Committee (www.alsc.org) and who provides grading service for the species and grade specified; provide lumber stamped with grade mark unless otherwise indicated.
- B. Lumber fabricated from old growth timber is not permitted.

2.02 DIMENSION LUMBER FOR CONCEALED APPLICATIONS

- A. Sizes: Nominal sizes as indicated on drawings, S4S.
- B. Moisture Content: S-dry or MC19.
- C. Stud Framing (2 by 2 through 2 by 6 (50 by 50 mm through 50 by 150 mm)):
 - 1. Species: Spruce-Pine-Fir.
 - 2. Grade: No. 1 and No. 2.
 - 3. Machine stress-rated (MSR) as follows:
 - a. Fb-single (minimum extreme fiber stress in bending): 1650 psi
 - b. E (minimum modulus of elasticity): 1,500,000 psi
- D. Joist, Rafter, and Small Beam Framing (2 by 6 through 4 by 16 (50 by 150 mm through 100 by 400 mm)):
 - 1. Machine stress-rated (MSR) as follows:
 - a. Fb-single (minimum extreme fiber stress in bending): 1650 psi .
 - b. E (minimum modulus of elasticity): 1,500,000 psi.
 - 2. Species: Spruce-Pine-Fir (South).
 - 3. Grade: No. 1 and No. 2
- E. Miscellaneous Framing, Blocking, Nailers, Grounds, and Furring:
 - 1. Lumber: S4S, No. 2 or Standard Grade.
 - 2. Boards: Standard or No. 3.

2.03 STRUCTURAL COMPOSITE LUMBER

- A. Structural Composite Lumber: Factory fabricated beams, headers, and columns, of sizes and types indicated on drawings; structural capacity as published by manufacturer.
 - 1. Beams: Use laminated veneer lumber, laminated strand lumber, or parallel strand lumber with manufacturer's published E (modulus of elasticity): 1,900,000 psi minimum.
 - a. Refer to Structural Notes on Sheet 'S001' for additional material requirements.

2. Manufacturers:
 - a. Louisiana Pacific: www.lpcorp.com.
 - b. Weyerhaeuser Company: www.weyerhaeuser.com/#sle.
 - c. Georgia-Pacific Corp.: www.gp.com.
 - d. Substitutions: See Section 01 6000 - Product Requirements.

2.04 CONSTRUCTION PANELS

- A. Roof Sheathing: APA PRP-108, Structural I Rated Sheathing, Exterior Exposure Class, and as follows:
 1. Span Rating: 32/16.
 2. Thickness: 5/8 inch, nominal.
- B. Wall Sheathing: APA PRP-108, Structural I Rated Sheathing, Exterior Exposure Class, and as follows:
 1. Span Rating: 32/16.
 2. Thickness: 5/8 inch, nominal.
- C. Communications and Electrical Room Mounting Boards: PS 1 A-D plywood, or medium density fiberboard; 3/4 inch (19 mm) thick; flame spread index of 25 or less, smoke developed index of 450 or less, when tested in accordance with ASTM E84.

2.05 ACCESSORIES

- A. Fasteners and Anchors:
 1. Metal and Finish: Hot-dipped galvanized steel complying with ASTM A153/A153M for high humidity and preservative-treated wood locations, unfinished steel elsewhere.
- B. Joist Hangers: Hot dipped galvanized steel, sized to suit framing conditions.
 1. For contact with preservative treated wood in exposed locations, provide minimum G185 (Z550) galvanizing complying with ASTM A653/A653M.
- C. Sill Gasket on Top of Foundation Wall: 1/4 inch (6 mm) thick, plate width, closed cell plastic foam from continuous rolls.

2.06 FACTORY WOOD TREATMENT

- A. Treated Lumber and Plywood: Comply with requirements of AWPA U1 - Use Category System for wood treatments determined by use categories, expected service conditions, and specific applications.
 1. Preservative-Treated Wood: Provide lumber and plywood marked or stamped by an ALSC-accredited testing agency, certifying level and type of treatment in accordance with AWPA standards.
- B. Preservative Treatment:
 1. Manufacturers:
 - a. Lonza Group: www.wolmanizedwood.com/#sle.
 - b. Koppers Performance Chemicals, Inc: www.koppersperformancechemicals.com/#sle.
 - c. Viance, LLC; Preserve ACQ: www.treatedwood.com/#sle.
 - d. Substitutions: See Section 01 6000 - Product Requirements.
 2. Preservative Pressure Treatment of Lumber Above Grade: AWPA U1, Use Category UC3B, Commodity Specification A using waterborne preservative.
 - a. Kiln dry lumber after treatment to maximum moisture content of 19 percent.
 - b. Treat lumber in contact with masonry or concrete.
 - c. Treat lumber less than 18 inches (450 mm) above grade.
 - d. Treat lumber in other locations as indicated.
 3. Preservative Pressure Treatment of Lumber in Contact with Soil: AWPA U1, Use Category UC4A, Commodity Specification A using waterborne preservative.
 - a. Preservative for Field Application to Cut Surfaces: As recommended by manufacturer of factory treatment chemicals for brush-application in the field.

- b. Restrictions: Do not use lumber or plywood treated with chromated copper arsenate (CCA) in exposed exterior applications subject to leaching.

PART 3 EXECUTION

3.01 PREPARATION

- A. Install sill gasket under sill plate of framed walls bearing on foundations; puncture gasket cleanly to fit tightly around protruding anchor bolts.
- B. Coordinate installation of rough carpentry members specified in other sections.

3.02 INSTALLATION - GENERAL

- A. Select material sizes to minimize waste.
- B. Reuse scrap to the greatest extent possible; clearly separate scrap for use on site as accessory components, including: shims, bracing, and blocking.
- C. Where treated wood is used on interior, provide temporary ventilation during and immediately after installation sufficient to remove indoor air contaminants.

3.03 FRAMING INSTALLATION

- A. Set structural members level, plumb, and true to line. Discard pieces with defects that would lower required strength or result in unacceptable appearance of exposed members.
- B. Make provisions for temporary construction loads, and provide temporary bracing sufficient to maintain structure in true alignment and safe condition until completion of erection and installation of permanent bracing.
- C. Install structural members full length without splices unless otherwise specifically detailed.
- D. Comply with member sizes, spacing, and configurations indicated, and fastener size and spacing indicated, but not less than required by applicable codes and AWC (WFCM) Wood Frame Construction Manual.
- E. Construct double joist headers at floor and ceiling openings and under wall stud partitions that are parallel to floor joists; use metal joist hangers unless otherwise detailed.
- F. Frame wall openings with two or more studs at each jamb; support headers on cripple studs.

3.04 BLOCKING, NAILERS, AND SUPPORTS

- A. Provide framing and blocking members as indicated or as required to support finishes, fixtures, specialty items, and trim.
- B. In framed assemblies that have concealed spaces, provide solid wood fireblocking as required by applicable local code, to close concealed draft openings between floors and between top story and roof/attic space; other material acceptable to code authorities may be used in lieu of solid wood blocking.
- C. In walls, provide blocking attached to studs as backing and support for wall-mounted items, unless item can be securely fastened to two or more studs or other method of support is explicitly indicated.
- D. Where ceiling-mounting is indicated, provide blocking and supplementary supports above ceiling, unless other method of support is explicitly indicated.
- E. Provide the following specific non-structural framing and blocking:
 - 1. Cabinets and shelf supports.
 - 2. Wall brackets.
 - 3. TV wall mounting.
 - 4. Grab bars.
 - 5. Towel and bath accessories.
 - 6. Wall-mounted door stops.
 - 7. Displays and tack boards.
 - 8. Wall paneling and trim.

9. Joints of rigid wall coverings that occur between studs.

3.05 ROOF-RELATED CARPENTRY

- A. Coordinate installation of roofing carpentry with deck construction, framing of roof openings, and roofing assembly installation.
- B. Provide wood curb at all roof openings except where prefabricated curbs are specified and where specifically indicated otherwise. Form corners by alternating lapping side members.

3.06 INSTALLATION OF CONSTRUCTION PANELS

- A. Roof Sheathing: Secure panels with long dimension perpendicular to framing members, with ends staggered and over firm bearing.
 1. At long edges use sheathing clips where joints occur between roof framing members.
 2. Nail panels to framing; staples are not permitted.
- B. Wall Sheathing: Secure with long dimension perpendicular to wall studs, with ends over firm bearing and staggered, using nails.
 1. Use plywood or other acceptable structural panels at building corners, for not less than 96 inches (2440 mm), measured horizontally.
- C. Communications and Electrical Room Mounting Boards: Secure with screws to studs with edges over firm bearing; space fasteners at maximum 24 inches (610 mm) on center on all edges and into studs in field of board.
 1. At fire-rated walls, install board over wall board indicated as part of the fire-rated assembly.
 2. Where boards are indicated as full floor-to-ceiling height, install with long edge of board parallel to studs.
 3. Install adjacent boards without gaps.

3.07 SITE APPLIED WOOD TREATMENT

- A. Apply preservative treatment compatible with factory applied treatment at site-sawn cuts, complying with manufacturer's instructions.
- B. Allow preservative to dry prior to erecting members.

3.08 TOLERANCES

- A. Framing Members: 1/4 inch (6 mm) from true position, maximum.
- B. Variation from Plane (Other than Floors): 1/4 inch in 10 feet (2 mm/m) maximum, and 1/4 inch in 30 feet (7 mm in 10 m) maximum.

3.09 CLEANING

- A. Waste Disposal: Comply with the requirements of Section 01 7419 - Construction Waste Management and Disposal.
 1. Comply with applicable regulations.
 2. Do not burn scrap on project site.
 3. Do not burn scraps that have been pressure treated.
 4. Do not send materials treated with pentachlorophenol, CCA, or ACA to co-generation facilities or "waste-to-energy" facilities.
- B. Do not leave any wood, shavings, sawdust, etc. on the ground or buried in fill.
- C. Prevent sawdust and wood shavings from entering the storm drainage system.

END OF SECTION

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**SECTION 06 64 00
PLASTIC PANELING**

SECTION 066400 - PLASTIC PANELING

PART 1 GENERAL

2.01 REFERENCE STANDARDS

- A. ANSI A208.1 - American National Standard for Particleboard; 2022.
- B. ASTM C1178/C1178M - Standard Specification for Coated Glass Mat Water-Resistant Gypsum Backing Panel; 2024.
- C. ASTM C1396/C1396M - Standard Specification for Gypsum Board; 2024.
- D. ASTM D5319 - Standard Specification for Glass-Fiber Reinforced Polyester Wall and Ceiling Panels; 2022.
- E. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2026.
- F. FM 4880 - Examination Standard for Class 1 Fire Rating of Building Panels or Interior Finish Materials; 2022.
- G. PS 1 - Structural Plywood; 2023.
- H. PS 2 - Performance Standard for Wood Structural Panels; 2019.

2.02 SUMMARY

- A. Section Includes:
 - 1. Plastic sheet wall paneling.
- B. Related Requirements:
 - 1. Section 061000 "Rough Carpentry" for wood furring for installing plastic paneling.

2.03 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Sustainable Design Submittals:
 - 1. Product Certificates: For regional materials, indicating location of material manufacturer and point of extraction, harvest, or recovery for each raw material. Include distance to Project and cost for each regional material.
 - 2. Product Certificates: For indigenous materials, indicating location of material manufacturer and point of extraction, harvest, or recovery for each raw material. Include distance to Project, means of transportation, and cost for each indigenous material.
 - 3. Product Certificates: For regional materials, indicating location of material manufacturer and point of extraction, harvest, or recovery for each raw material. Include distance to Project, means of transportation, and cost for each regional material.
 - 4. Product Data: For adhesives, indicating VOC content.
 - 5. Laboratory Test Reports: For adhesives, indicating compliance with requirements for low-emitting materials.
 - 6. Product Data: For sealants, indicating VOC content.
 - 7. Laboratory Test Reports: For sealants, indicating compliance with requirements for low-emitting materials.
 - 8. Laboratory Test Reports: For wall materials, indicating compliance with requirements for low-emitting materials.
 - 9. Laboratory Test Reports: For wall materials, indicating compliance with requirements for low-emitting materials.
 - 10. Laboratory Test Reports: For wall materials, indicating compliance with requirements for low-emitting materials.
 - 11. Laboratory Test Reports: For wall materials, indicating compliance with requirements for low-emitting materials.

- C. Samples: For plastic paneling and trim accessories, in manufacturer's standard sizes.

2.04 QUALITY ASSURANCE

- A. Installer Qualifications: Experience completing a minimum five projects of similar size, type, and complexity. Workers employed on this Project competent in techniques required by manufacturer for installation indicated.
- B. Testing Agency: Acceptable to authorities having jurisdiction and FM Approvals.
- C. Surface-Burning Characteristics: Determined by testing identical products in accordance with ASTM E84 by a testing agency acceptable to authorities having jurisdiction.
- D. FM 4880 approved.
- E. Meets USDA/FSIS requirements.
- F. UL 2818 GREENGUARD GOLD certified.
- G. Hazard Analysis Critical Control Point (HACCP) Certified: GLASBORD panels are suitable for use in food and beverage facilities that operate in accordance with a HACCP-based Food Safety Program.

2.05 PROJECT CONDITIONS

- A. Environmental Limitations: Do not deliver or install plastic paneling until spaces are enclosed and weathertight and temporary HVAC system is operating and maintaining ambient temperature and humidity conditions at occupancy levels during the remainder of the construction period.

2.06 WARRANTY

- A. Special Warranty: Manufacturer agrees to repair or replace defective panels and components that fail in materials or workmanship under normal conditions of use within specified warranty period.
 - 1. Failures include, but are not limited to, the following:
 - a. Exposed fibers.
 - b. Rust.
 - c. Rot.
 - d. Corrosion.
 - e. Structural surface cracks.
 - f. Painting or refinishing required with normal pigmentation and UV degradation excepted.
 - 2. Warranty Period - Glass-Fiber-Reinforced Plastic Paneling: Three years from date of Substantial Completion.

PART 2 PRODUCTS

3.01 MANUFACTURERS

- A. Source Limitations: Obtain plastic paneling and trim accessories from single manufacturer.

3.02 PLASTIC SHEET PANELING

- A. Glass-Fiber-Reinforced Plastic Paneling: Gelcoat-finished, glass-fiber-reinforced plastic panels complying with ASTM D5319.
 - 1. Basis-of-Design Product: Subject to compliance with requirements, provide Crane Composites, Inc.; GLASBORD Series or comparable product by one of the following:
 - a. Glasteel.
 - b. Marlite.
 - c. Newcourt, Inc.
 - d. Nudo Products, Inc.
 - e. Parkland Plastics, Inc.

2. Surface-Burning Characteristics: As follows when tested by a qualified testing agency in accordance with ASTM E84. Identify products with appropriate markings of applicable testing agency.
 - a. Flame-Spread Index: 25 or less.
 - b. Smoke-Developed Index: 450 or less.
3. Nominal Thickness: Not less than 0.037 inch.
4. Wall Panel Size: 4 by 8 feet.
5. Surface Finish: Embossed pebble texture.
6. Scratch Resistance, ASTM D2583, Barcol Hardness: 30
7. Impact Strength, ASTM D5420: 3.3 inch -lb (0.18 J) ???Insert value???, showing no visible damage on finish side.
8. Color: As selected by Architect from manufacturer's full range.

3.03 ACCESSORIES

- A. Trim Accessories: Manufacturer's standard extruded polypropylene designed to retain and cover edges of panels. Provide division bars, inside corners, outside corners, and caps as needed to conceal edges.
 1. Color: Match panels.
- B. Moldings: Polished aluminum.
- C. Exposed Fasteners: Nylon drive rivets recommended by panel manufacturer.
- D. Concealed Mounting Splines: Continuous, H-shaped aluminum extrusions designed to fit into grooves routed in edges of factory-laminated panels and to be fastened to substrate.
- E. Adhesive: As recommended by plastic paneling manufacturer.
 1. Adhesives will have a VOC content of 50 ???Insert value??? g/L or less.
- F. Sealant: Mildew-resistant, single-component, neutral-curing silicone sealant recommended by plastic paneling manufacturer and complying with requirements in Section 079200 "Joint Sealants."
 1. Sealant will have a VOC content of 250 g/L or less.
- G. Color Caulk: Color Sil by Color Rite, 100 percent silicone-based colored caulk, available in sanded and linen/satin finish.
 1. Color: As selected by Architect from manufacturer's full product range.

PART 3 EXECUTION

4.01 EXAMINATION

- A. Examine substrates and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.
 1. Corners: Plumb and straight.
 2. Surfaces: Smooth, sound, and uniform.
 3. Nails or Screw Fasteners: Countersunk.
 4. Joints and Cracks: Filled flush and smooth with adjoining surfaces.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

4.02 PREPARATION

- A. Remove wallpaper, vinyl wall covering, loose or soluble paint, and other materials that might interfere with adhesive bond.
- B. Prepare substrate by sanding high spots and filling low spots as needed to provide flat, even surface for panel installation.
- C. Clean substrates of substances that could impair adhesive bond, including oil, grease, dirt, and dust.
- D. Ensure that all HVAC, electrical, plumbing, and similar work above the ceiling level has been completed.

- E. Condition panels by unpacking and placing in installation space before installation in accordance with manufacturer's written recommendations.
- F. Lay out paneling before installing. Locate panel joints to provide equal panels at ends of walls not less than half the width of full panels.
 - 1. Mark plumb lines on substrate at trim accessory locations for accurate installation.
 - 2. Locate trim accessories to allow clearance at panel edges in accordance with manufacturer's written instructions.

4.03 INSTALLATION

- A. Install plastic paneling in accordance with manufacturer's written instructions.
 - 1. Do all cutting with carbide-tipped saw blades or drill bits, or cut with snips.
 - 2. Install panels plumb, level, square, flat, and in proper alignment.
 - 3. Install panels to be water resistant and washable.
 - 4. Install panels with manufacturer's recommended gap for panel field and corner joints.
- B. Install panels in a full spread of adhesive.
- C. Install trim accessories with adhesive and nails or staples. Do not fasten through panels.
- D. Fill grooves in trim accessories with sealant before installing panels, and bed inside corner trim in a bead of sealant.
- E. Maintain uniform space between panels and wall fixtures. Fill space with sealant.
- F. Maintain uniform space between adjacent panels and between panels and floors, ceilings, and fixtures. Fill space with sealant.
- G. Remove excess sealant and smears as paneling is installed. Clean with solvent recommended by sealant manufacturer and then wipe with clean dry cloths until no residue remains.

END OF SECTION

**SECTION 07 21 00
THERMAL INSULATION**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Board insulation at perimeter foundation wall and underside of floor slabs.
- B. Batt insulation in exterior wall construction.
- C. Batt insulation for filling perimeter window and door shim spaces and crevices in exterior wall and roof.

1.02 RELATED REQUIREMENTS

- A. Section 03 30 00 - Cast-in-Place Concrete:
- B. Section 06 1000 - Rough Carpentry: Supporting construction for batt insulation.
- C. Section 07 2500 - Weather Barriers: Separate air barrier and vapor retarder materials.
- D. Section 09 2116 - Gypsum Board Assemblies: Acoustic insulation inside walls and partitions.

1.03 REFERENCE STANDARDS

- A. ASTM C578 - Standard Specification for Rigid, Cellular Polystyrene Thermal Insulation; 2018.
- B. ASTM C665 - Standard Specification for Mineral-Fiber Blanket Thermal Insulation for Light Frame Construction and Manufactured Housing; 2017.
- C. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2017.
- D. ASTM E136 - Standard Test Method for Behavior of Materials in a Vertical Tube Furnace At 750 Degrees C; 2016a.
- E. NFPA 255 - Standard Method of Test of Surface Burning Characteristics of Building Materials; National Fire Protection Association; 2006.
- F. UL 723 - Standard for Test for Surface Burning Characteristics of Building Materials; Underwriters Laboratories Inc.; Current Edition, Including All Revisions.

1.04 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide data on product characteristics, performance criteria, and product limitations.
- C. Manufacturer's Installation Instructions: Include information on special environmental conditions required for installation and installation techniques.

1.05 FIELD CONDITIONS

- A. Do not install insulation adhesives when temperature or weather conditions are detrimental to successful installation.

PART 2 PRODUCTS

2.01 APPLICATIONS

- A. Insulation Under Concrete Slabs: Extruded polystyrene (XPS) board.
- B. Insulation at Perimeter of Foundation: Extruded polystyrene (XPS) board.
- C. Insulation in Metal Framed Walls: Batt insulation with integral vapor retarder.

2.02 FOAM BOARD INSULATION MATERIALS

- A. Extruded Polystyrene Board Insulation: Extruded polystyrene board; ASTM C578; with natural skin surfaces, and the following characteristics:
 - 1. Type and Compressive Resistance: Type IV, 25 psi (173 kPa), minimum.
 - 2. Flame Spread Index (FSI): Class A - 0 to 25, when tested in accordance with ASTM E84.

3. Smoke Developed Index (SDI): 450 or less, when tested in accordance with ASTM E84.
4. Board Size: 48 x 96 inch and 24 x 96 inch
5. Board Thickness: See drawings.
6. Board Edges: Square.
7. Water Absorption, Maximum: 0.3 percent, by volume.
8. Water Vapor Permeance: 1.5 perm, maximum, ASTM E96
9. Compressive Strength: 25 psi, ASTM D1621
10. Surface Burning Characteristics: Flame spread/Smoke developed index of 5/165, when tested in accordance with ASTM E 84.
11. Manufacturers:
 - a. Dow Chemical Company; STYROFOAM Brand Square Edge Insulation: www.dow.com/sle.
 - b. Owens Corning Corporation; FOAMULAR Extruded Polystyrene (XPS) Insulation: www.ocbuildingspec.com/#sle.
 - c. DiveriFoam Products
12. Substitutions: See Section 01 6000 - Product Requirements.

2.03 BATT INSULATION MATERIALS

- A. Glass Fiber Batt Insulation: Flexible preformed batt or blanket, complying with ASTM C665; friction fit.
 1. Flame Spread Index: 25 or less, when tested in accordance with ASTM E84.
 2. Smoke Developed Index: 450 or less, when tested in accordance with ASTM E84.
 3. Combustibility: Non-combustible, when tested in accordance with ASTM E136, except for facing, if any.
 4. Formaldehyde Content: Zero.
 5. Thermal Resistance: See Drawings
 6. Facing: Unfaced.
 7. Manufacturers:
 - a. CertainTeed Corporation: www.certainteed.com/#sle.
 - b. Johns Manville: www.jm.com/#sle.
 - c. Owens Corning Corp: www.owenscorning.com.
 - d. Knauf Insulation; www.knaufinsulation.com
 8. Substitutions: See Section 01 6000 - Product Requirements.

2.04 ACCESSORIES

- A. Sheet Vapor Retarder: Specified in Section 07 2500.
- B. Staples: Steel wire; electroplated or galvanized; type and size to suit application.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that substrate, adjacent materials, and insulation materials are dry and that substrates are ready to receive insulation.
- B. Verify substrate surfaces are flat, free of irregularities or materials or substances that may impede adhesive bond.

3.02 BOARD INSTALLATION AT FOUNDATION PERIMETER

- A. Install boards vertically on foundation perimeter.
 1. Install in running bond pattern.
 2. Butt edges and ends tightly to adjacent boards and to protrusions.
- B. Extend boards over expansion joints, unbonded to foundation on one side of joint.
- C. Cut and fit insulation tightly to protrusions or interruptions to the insulation plane.

3.03 BOARD INSTALLATION UNDER CONCRETE SLABS

- A. Place insulation under slabs on grade after base for slab has been compacted.

- B. Cut and fit insulation tightly to protrusions or interruptions to the insulation plane.
- C. Prevent insulation from being displaced or damaged while placing vapor retarder and placing slab.

3.04 BATT INSTALLATION

- A. Install insulation and vapor retarder in accordance with manufacturer's instructions.
- B. Install in exterior wall spaces without gaps or voids. Do not compress insulation.
- C. Trim insulation neatly to fit spaces. Insulate miscellaneous gaps and voids.
- D. Fit insulation tightly in cavities and tightly to exterior side of mechanical and electrical services within the plane of the insulation.
- E. Staple or nail facing flanges in place at maximum 6 inches (150 mm) on center.

3.05 PROTECTION

- A. Do not permit installed insulation to be damaged prior to its concealment.

END OF SECTION

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**SECTION 07 21 26
BLOWN INSULATION**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Ceiling and Attic: Blown insulation pneumatically placed into joist spaces.

1.02 REFERENCE STANDARDS

- A. ASHRAE Std 90.1 I-P - Energy Standard for Buildings Except Low-Rise Residential Buildings; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.
- B. ASTM C739 - Standard Specification for Cellulosic Fiber Loose-Fill Thermal Insulation; 2025.
- C. ASTM C764 - Standard Specification for Mineral Fiber Loose-Fill Thermal Insulation; 2025.
- D. ASTM C1015 - Standard Practice for Installation of Cellulosic and Mineral Fiber Loose-Fill Thermal Insulation; 2017 (Reapproved 2025).

1.03 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide data on product characteristics, performance criteria, and limitations.
- C. Manufacturer's Installation Instructions: Indicate procedure for preparation and installation.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Blown Insulation:
 - 1. CertainTeed Corporation; InsulSafe SP Fiberglass Blowing Insulation: www.certainteed.com/#sle.
 - 2. Substitutions: See Section 01 60 00 - Product Requirements.

2.02 MATERIALS

- A. Applications: Provide blown insulation in attic and ceiling as indicated on drawings.
- B. Blown Insulation: ASTM C764, Mineral Fiber Loose-Fill Thermal Insulation Type 1 – Pneumatic application.
 - 1. Critical Radiant Flux: ASTM E970 > 0.12 in/cm²
 - 2. Combustion Characteristics: ASTM E136 – Noncombustible
 - 3. Water Vapor Sorption: ASTM C1104 < 5% by weight
 - 4. Odor Emission: ASTM C1304 / pass
 - 5. Corrosiveness: ASTM C764
 - 6. Fungi Resistance: ASTM C1338 / pass
 - 7. Fire Hazard Classification: UL 723, ASTM E84
 - a. Max. Flame Spread Index; 5
 - b. Max. Smoke Dev. Index; 5
 - 8. Thermal Resistance: R-44 minimum, installed thickness of 16-1/2 inches.

2.03 ACCESSORIES

- A. Roof Ventilation Baffles: Prefabricated ventilation channels for placement under roof sheathing with baffles to prevent wind-washing.
 - 1. Material: Polyvinyl chloride (PVC).
 - 2. Roof Joist/Truss Spacing: 24 inch on center, nominal.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that substrate and adjacent materials are dry and ready to receive insulation.

- B. Verify that light fixtures have thermal cut-out device to restrict over-heating in soffit or ceiling spaces.
- C. Verify spaces are unobstructed to allow for proper placement of insulation.

3.02 INSTALLATION

- A. Install insulation and ventilation baffle in accordance with ASTM C1015 and manufacturer's instructions.
- B. Place insulation pneumatically to completely fill joist and rafter spaces.
- C. Place insulation against baffles, and do not impede natural attic ventilation to soffit.
- D. Completely fill intended spaces leaving no gaps or voids.

3.03 CLEANING

- A. Remove loose insulation residue.

END OF SECTION

**SECTION 07 25 00
WEATHER BARRIERS**

PART 1 GENERAL

1.01 REFERENCE STANDARDS

- A. ASTM D412 - Standard Test Methods for Vulcanized Rubber and Thermoplastic Elastomers--Tension; 2016 (Reapproved 2021).
- B. ASTM D751 - Standard Test Methods for Coated Fabrics; 2019.
- C. ASTM D903 - Standard Test Method for Peel or Stripping Strength of Adhesive Bonds; 1998 (Reapproved 2025).
- D. ASTM D1970/D1970M - Standard Specification for Self-Adhering Polymer Modified Bituminous Sheet Materials Used as Steep Roofing Underlayment for Ice Dam Protection; 2025.

PART 2 PRODUCTS

2.01 WEATHER BARRIER

- A. Commercial Building Wrap: ASTM E2357 passed, ABAA (Air Barrier Association of America) evaluated air barrier assembly, and assembly water resistance per ASTM E331; with flame-spread and smoke-developed indexes of less than 25 and 450, respectively, when tested in accordance with ASTM E84; UV stabilized for nine-month exposure; and acceptable to authorities having jurisdiction.
 - 1. Basis-of-Design Product: Subject to compliance with requirements, provide DuPont de Nemours, Inc.; Tyvek CommercialWrap or comparable product.
 - 2. System Description, Single-Layer Weather Barrier: Single-layer weather barrier, including flashing and sealing of penetrations and seams.
 - 3. Drainability:
 - a. 90 percent or greater when tested in accordance with ASTM E2273.
 - 4. Air Permeance, Product: Not more than 0.001/cfm/sq. ft at 1.57 lbf/sf when tested in accordance with ASTM E2178.
- B. Water Penetration Resistance, Product: Hydrostatic head resistance greater than 22 inches (55 cm) in accordance with AATCC 127.
- C. Water Penetration Resistance, Assembly: Assembly wall specimen described in ASTM E2357 to water resistance in accordance with ASTM E331 to 2.86 lbf/sf.
- D. Water-Vapor Permeance: Not less than 23 perms per ASTM E96/E96M, Desiccant Method.
- E. Allowable UV Exposure Time: Not less than 9 months (270 days) when tested in accordance with ASTM G155 (Accelerated Weathering).
- F. ANSI B18.6.4- 99, Thread Forming and Thread Cutting Screws and Metallic Drive Screws.

2.02 ACCESSORIES

- A. Seal and Perimeter Tapes: As recommended by water-resistive barrier manufacturer.
- B. Flashings and Sealants: As recommended by water-resistive barrier manufacturer for application.
- C. Sealant for Cracks and Joints In Substrates: Resilient elastomeric joint sealant compatible with substrates and weather barrier materials.
 - 1. Application: Apply at 30 to 40 mil, 0.030 to 0.040 inch nominal thickness.
 - 2. Color: Green.
 - 3. Elongation: 1,300 percent, measured in accordance with ASTM D412.
 - 4. Peel Adhesion: 28 lb/inch, minimum, when tested in accordance with ASTM D903.
 - 5. Hydrostatic Head Pressure: Resist head pressure of 57 feet, maximum, when tested in accordance with ASTM D751.
- D. Flexible Flashing: Self-adhering sheet flashing complying with ASTM D1970/D1970M; waive slip resistance requirement if not installed on roof.

1. Width: 6 inches.
2. Ultraviolet (UV) and Weathering Resistance: Approved by manufacturer for up to 30 days of weather exposure.
3. Products:
 - a. DuPont de Nemours, Inc; VersaFlange: www.dupont.com/building/#sle.
 - b. Henry Company; FortiFlash: www.henry.com/#sle.
 - c. Henry Company; FortiFlex Butyl: www.henry.com/#sle.
 - d. Henry Company; FortiFlash Butyl: www.henry.com/#sle.
 - e. National Shelter Products, Inc; DRYline ATX Self-Adhering Flashing: www.nationalshelter.com/#sle.
 - f. W. R. Meadows, Inc; Air-Shield Butyl Flashing: www.wrmeadows.com/#sle.
 - g. Substitutions: See Section 01 60 00 - Product Requirements.
- E. Flashing Tape: Special reinforced film with high-performance adhesive.
 1. Application: Window and door opening flashing tape.
 2. Width: As required for application.

2.03 FASTENERS

- A. Fasteners for Attaching Water-Resistive Barriers to Substrates: As recommended by barrier manufacturer for application.
- B. Air- and Moisture-Sealing Insulation Fasteners: Preassembled fastener units consisting of sealing washer, screw, and gasketing tube.
- C. Self-Sealing Washers: Solid plastic, 2 inch diameter washers; seals building-wrap air barriers against air penetration.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that surfaces and conditions comply with requirements of this section.

3.02 PREPARATION

- A. Remove projections, protruding fasteners, and loose or foreign matter that might interfere with proper installation.
- B. Clean and prime substrate surfaces to receive adhesives and sealants in accordance with manufacturer's installation instructions.

3.03 INSTALLATION

- A. Install materials in accordance with manufacturer's installation instructions.
- B. Install continuous water-resistive barriers where indicated on drawings, with sheets lapped to shed water.
- C. Apply sealants within recommended temperature range in accordance with manufacturer's installation instructions.
- D. Mechanically Fastened Sheets:
 1. Install sheets in shingle fashion to shed water; align horizontally.
 2. Overlap seams as recommended by manufacturer, 6 inches, minimum.
 3. Overlap at outside and inside corners as recommended by manufacturer, 12 inches, minimum.
 4. Attach to framed construction with fasteners extending through sheathing into framing, and space fasteners at 12 to 18 inches on center along each framing member supporting sheathing.
 5. Attach to masonry construction using mechanical fasteners spaced at 12 to 18 inches vertically on center, and at 24 inches, maximum, horizontally on center.
 6. For applications indicated to be airtight, seal seams, laps, penetrations, tears, and cuts with self-adhesive tape; use only large-headed, gasketed fasteners as recommended by manufacturer.

7. Where stud framing rests on concrete or masonry substrate, extend lower edge of barrier sheets at least 4 inches below bottom of framing and seal to substrate with sealant or approved mounting tape.
8. Install water-resistive barrier over jamb flashings.
9. Install head flashings under water-resistive barrier.
10. At framed openings with frames having nailing flanges, extend sheet into opening and over flanges; at head of opening, seal sheet over flange and flashing.

3.04 FIELD QUALITY CONTROL

- A. See Section 01 40 00 - Quality Requirements for additional requirements.
- B. Owner's Inspection and Testing: Cooperate with Owner's testing agency.
 1. Allow access to work areas and staging.
 2. Notify Owner's testing agency in writing of schedule for work of this section to allow sufficient time for testing and inspection.
 3. Do not cover work of this section until testing and inspection is accepted.

3.05 PROTECTION

- A. Do not leave materials exposed to weather longer than recommended by manufacturer.

END OF SECTION

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**SECTION 07 46 46
FIBER-CEMENT SIDING**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Wood-fiber cement siding.

1.02 RELATED REQUIREMENTS

- A. Section 06 10 00 - Rough Carpentry: Siding substrate.
- B. Section 06 10 00 - Rough Carpentry: Water-resistive barrier under siding.
- C. Section 07 25 00 - Weather Barriers: Weather barrier under siding.
- D. Section 07 90 05 - Joint Sealers.
- E. Section 09 90 00 - Painting and Coating: Field painting.

1.03 REFERENCE STANDARDS

- A. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 2025a.
- B. ASTM B221 - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes; 2021.
- C. ASTM C1186 - Standard Specification for Flat Fiber-Cement Sheets; 2022, with Editorial Revision (2023).

1.04 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Product Data: Manufacturer's data sheets on each product to be used, including:
- C. Test Report: Applicable model code authority evaluation report (e.g. ICC-ES).
- D. Maintenance Instructions: Periodic inspection recommendations and maintenance procedures.
- E. Warranty: Submit copy of manufacturer's warranty, made out in Owner's name, showing that it has been registered with manufacturer.

1.05 QUALITY ASSURANCE

- A. Installer Qualifications: Company specializing in performing work of the type specified in this section with minimum 5 years of experience.

1.06 DELIVERY, STORAGE, AND HANDLING

- A. Store products under waterproof cover and elevated above grade, on a flat surface.

PART 2 PRODUCTS

2.01 SIDING

- A. Lap Siding: Individual horizontal boards made of cement and cellulose fiber formed under high pressure with integral surface texture, complying with ASTM C1186 Type A Grade II; with machined edges, for nail attachment.
 - 1. Style: Standard lap style.
 - 2. Texture: Smooth.
 - 3. Length: 12 ft, nominal.
 - 4. Width (Height): 6-1/4 inches. (6 inch exposure)
 - 5. Thickness: 5/16 inch, nominal.
 - 6. Finish: Factory applied primer.
 - 7. Warranty: 30 year limited; transferable.
 - 8. Lap Siding Manufacturers:
 - a. CertainTeed Corporation : www.certainteed.com.
 - b. James Hardie Building Products, Inc : www.jameshardie.com/#sle.

- c. Substitutions: See Section 01 60 00 - Product Requirements.

2.02 ACCESSORIES

- A. Trim: Same material and texture as siding.
- B. Fasteners: Galvanized or corrosion resistant; length as required to penetrate minimum 1-1/4 inch.
- C. Joint Sealer: As specified in Section 07 90 05.

PART 3 EXECUTION

3.01 PREPARATION

- A. Examine substrate and clean and repair as required to eliminate conditions that would be detrimental to proper installation.
- B. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.02 PREPARATION

- A. Install sheet metal flashing:
 - 1. Above horizontal trim in field of siding.
 - 2. Above penetrations in siding.

3.03 INSTALLATION

- A. Install in accordance with manufacturer's instructions and recommendations.
 - 1. Read warranty and comply with all terms necessary to maintain warranty coverage.
 - 2. Install in accordance with conditions stated in model code evaluation report applicable to location of project.
 - 3. Use trim details indicated on drawings.
 - 4. Touch up all field cut edges before installing.
 - 5. Pre-drill nail holes if necessary to prevent breakage.
- B. Joints in Vertical Siding: Install Z-flashing in horizontal joints between successive courses of vertical siding.
- C. Do not install siding less than 4 inches from surface of ground nor closer than 2 inches to roofs, patios, porches, and other surfaces where water may collect.
- D. After installation, seal all joints except lap joints of lap siding. Seal around all penetrations. Paint all exposed cut edges.

3.04 PROTECTION

- A. Protect installed products until completion of project.
- B. Touch-up, repair or replace damaged products before Substantial Completion.

SECTION 07 62 00
SHEET METAL FLASHING AND TRIM

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Fabricated sheet metal items, including flashings, counterflashings, gutters, and downspouts.
- B. Sealants for joints within sheet metal fabrications.
- C. Precast concrete splash pads.

1.02 RELATED REQUIREMENTS

- A. Section 04 2000 - Unit Masonry: Metal flashings embedded in masonry.
- B. Section 06 1000 - Rough Carpentry: Wood nailers for sheet metal work.
- C. Section 07 5300 - Elastomeric Membrane Roofing: Flashings associated with membrane roofing.
- D. Section 07 9200 - Joint Sealants: Sealing non-lap joints between sheet metal fabrications and adjacent construction.

1.03 REFERENCE STANDARDS

- A. AAMA 611 - Voluntary Specification for Anodized Architectural Aluminum; 2014 (2015 Errata).
- B. AAMA 2603 - Voluntary Specification, Performance Requirements and Test Procedures for Pigmented Organic Coatings on Aluminum Extrusions and Panels (with Coil Coating Appendix); 2017a.
- C. AAMA 2604 - Voluntary Specification, Performance Requirements and Test Procedures for High Performance Organic Coatings on Aluminum Extrusions and Panels (with Coil Coating Appendix); 2017a.
- D. AAMA 2605 - Voluntary Specification, Performance Requirements and Test Procedures for Superior Performing Organic Coatings on Aluminum Extrusions and Panels (with Coil Coating Appendix); 2017a.
- E. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 2017.
- F. ASTM B209 - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate; 2014.
- G. ASTM B209M - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate (Metric); 2014.
- H. ASTM C920 - Standard Specification for Elastomeric Joint Sealants; 2018.
- I. ASTM D226/D226M - Standard Specification for Asphalt-Saturated Organic Felt Used in Roofing and Waterproofing; 2017.
- J. ASTM D4586/D4586M - Standard Specification for Asphalt Roof Cement, Asbestos-Free; 2007, with Editorial Revision (2012).
- K. CDA A4050 - Copper in Architecture - Handbook; current edition.
- L. SMACNA (ASMM) - Architectural Sheet Metal Manual; 2012.

1.04 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Shop Drawings: Indicate material profile, jointing pattern, jointing details, fastening methods, flashings, terminations, and installation details.
- C. Samples: Submit two samples 2 by 2 inch in size illustrating metal finish color.

1.05 QUALITY ASSURANCE

- A. Perform work in accordance with SMACNA (ASMM) and CDA A4050 requirements and standard details, except as otherwise indicated.

- B. Fabricator and Installer Qualifications: Company specializing in sheet metal work with 3 years of documented experience.

1.06 DELIVERY, STORAGE, AND HANDLING

- A. Stack material to prevent twisting, bending, and abrasion, and to provide ventilation. Slope metal sheets to ensure drainage.
- B. Prevent contact with materials that could cause discoloration or staining.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Sheet Metal Flashing and Trim Manufacturers:
 - 1. Rollex. www.rollex.com
 - 2. Substitutions: See Section 01 6000 - Product Requirements.

2.02 SHEET MATERIALS

- A. Pre-Finished Galvanized Steel: ASTM A653/A653M, with G90/Z275 zinc coating; minimum 24 gage, (0.0239) inch (0.61 mm) thick base metal, shop pre-coated with PVDF coating.
 - 1. PVDF (Polyvinylidene Fluoride) Coating: Superior Performance Organic Finish, AAMA 2605; multiple coat, thermally cured fluoropolymer finish system.
 - 2. Color: As selected by Architect from manufacturer's standard colors.
- B. Pre-Finished Aluminum: ASTM B209 (ASTM B209M); 20 gage, (0.032 inch) (0.81 mm) thick; plain finish shop pre-coated with fluoropolymer coating.
 - 1. Fluoropolymer Coating: High Performance Organic Finish, AAMA 2604; multiple coat, thermally cured fluoropolymer finish system.
 - 2. Color: As selected by Architect from manufacturer's standard colors.

2.03 FABRICATION

- A. Form sections true to shape, accurate in size, square, and free from distortion or defects.
- B. Form pieces in longest possible lengths.
- C. Hem exposed edges on underside 1/2 inch (13 mm); miter and seam corners.
- D. Form material with flat lock seams, except where otherwise indicated; at moving joints, use sealed lapped, bayonet-type or interlocking hooked seams.
- E. Fabricate corners from one piece with minimum 18 inch (450 mm) long legs; seam for rigidity, seal with sealant.
- F. Fabricate vertical faces with bottom edge formed outward 1/4 inch (6 mm) and hemmed to form drip.

2.04 ACCESSORIES

- A. Fasteners: Aluminum, with soft neoprene washers.
- B. Underlayment: ASTM D226/D226M, organic roofing felt, Type I (No. 15).
- C. Primer: Zinc chromate type.
- D. Concealed Sealants: Non-curing butyl sealant.
- E. Exposed Sealants: ASTM C920; elastomeric sealant, with minimum movement capability as recommended by manufacturer for substrates to be sealed; color to match adjacent material.
- F. Plastic Cement: ASTM D4586/D4586M, Type I.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify roof openings, curbs, pipes, sleeves, ducts, and vents through roof are solidly set, reglets in place, and nailing strips located.
- B. Verify roofing termination and base flashings are in place, sealed, and secure.

3.02 PREPARATION

- A. Install starter and edge strips, and cleats before starting installation.
- B. Back paint concealed metal surfaces with protective backing paint to a minimum dry film thickness of 15 mil (0.4 mm).

3.03 INSTALLATION

- A. Secure flashings in place using concealed fasteners, and use exposed fasteners only where permitted..
- B. Apply plastic cement compound between metal flashings and felt flashings.
- C. Fit flashings tight in place; make corners square, surfaces true and straight in planes, and lines accurate to profiles.

END OF SECTION

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**SECTION 07 92 00
JOINT SEALANTS**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Nonsag gunnable joint sealants.
- B. Self-leveling pourable joint sealants.
- C. Joint backings and accessories.

1.02 RELATED REQUIREMENTS

- A. Section 07 26 26 - Fluid Applied Membrane Air Barrier
- B. Section 08 7100 - Door Hardware: Setting exterior door thresholds in sealant.
- C. Section 08 8000 - Glazing: Glazing sealants and accessories.
- D. Section 09 2116 - Gypsum Board Assemblies: Sealing acoustical and sound-rated walls and ceilings.

1.03 REFERENCE STANDARDS

- A. ASTM C919 - Standard Practice for Use of Sealants in Acoustical Applications; 2012 (Reapproved 2017).
- B. ASTM C1193 - Standard Guide for Use of Joint Sealants; 2016.
- C. ASTM C1330 - Standard Specification for Cylindrical Sealant Backing for Use with Cold Liquid-Applied Sealants; 2002 (Reapproved 2013).

1.04 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Product Data for Sealants: Submit manufacturer's technical data sheets for each product to be used, that includes the following.
 - 1. Physical characteristics, including movement capability, VOC content, hardness, cure time, and color availability.
 - 2. List of backing materials approved for use with the specific product.
 - 3. Substrates that product is known to satisfactorily adhere to and with which it is compatible.
 - 4. Substrates the product should not be used on.
 - 5. Substrates for which use of primer is required.
 - 6. Installation instructions, including precautions, limitations, and recommended backing materials and tools.
 - 7. Sample product warranty.
- C. Product Data for Accessory Products: Submit manufacturer's technical data sheet for each product to be used, including physical characteristics, installation instructions, and recommended tools.
- D. Color Cards for Selection: Where sealant color is not specified, submit manufacturer's color cards showing standard colors available for selection.

1.05 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years documented experience.
- B. Installer Qualifications: Company specializing in performing the work of this section and with at least three years of documented experience.

1.06 WARRANTY

- A. See Section 01 7800 - Closeout Submittals, for additional warranty requirements.
- B. Correct defective work within a five year period after Date of Substantial Completion.

- C. Warranty: Include coverage for installed sealants and accessories that fail to achieve watertight seal , exhibit loss of adhesion or cohesion, or do not cure.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Non-Sag Sealants: Permits application in joints on vertical surfaces without sagging or slumping.
 - 1. BASF Construction Chemicals-Building Systems: www.buildingsystems.basf.com.
 - 2. Bostik Inc: www.bostik-us.com.
 - 3. Dow Corning Corporation: www.dowcorning.com/construction/#sle.
 - 4. Hilti, Inc: www.us.hilti.com/#sle.
 - 5. Pecora Corporation: www.pecora.com.
 - 6. Sika Corporation: www.usa-sika.com/#sle.
 - 7. Tremco Commercial Sealants & Waterproofing: www.tremcosealants.com/#sle.
 - 8. W.R. Meadows, Inc: www.wrmeadows.com.
 - 9. Substitutions: See Section 01 6000 - Product Requirements.
- B. Self-Leveling Sealants: Pourable or self-leveling sealant that has sufficient flow to form a smooth, level surface when applied in a horizontal joint.
 - 1. BASF Construction Chemicals-Building Systems: www.buildingsystems.basf.com.
 - 2. Bostik Inc: www.bostik-us.com.
 - 3. Dow Corning Corporation: www.dowcorning.com/construction/#sle.
 - 4. Pecora Corporation: www.pecora.com.
 - 5. Sika Corporation: www.usa-sika.com/#sle.
 - 6. Tremco Commercial Sealants & Waterproofing: www.tremcosealants.com/#sle.
 - 7. W.R. Meadows, Inc: www.wrmeadows.com.
 - 8. Substitutions: See Section 01 6000 - Product Requirements.

2.02 JOINT SEALANT APPLICATIONS

- A. Scope:
 - 1. Exterior Joints: Seal open joints, whether or not the joint is indicated on drawings, unless specifically indicated not to be sealed. Exterior joints to be sealed include, but are not limited to, the following items.
 - a. Wall expansion and control joints.
 - b. Joints between door, window, and other frames and adjacent construction.
 - c. Joints between different exposed materials.
 - d. Openings below ledge angles in masonry.
 - e. Other joints indicated below.
 - 2. Interior Joints: Do not seal interior joints unless specifically indicated to be sealed. Interior joints to be sealed include, but are not limited to, the following items.
 - a. Joints between door, window, and other frames and adjacent construction.
 - b. Other joints indicated below.
 - 3. Do not seal the following types of joints.
 - a. Intentional weepholes in masonry.
 - b. Joints indicated to be treated with manufactured expansion joint cover or some other type of sealing device.
 - c. Joints where sealant is specified to be provided by manufacturer of product to be sealed.
 - d. Joints where installation of sealant is specified in another section.
 - e. Joints between suspended panel ceilings/grid and walls.

2.03 SEALANTS

- A. General Purpose Exterior Sealant: Polyurethane; ASTM C920, Grade NS, Class 25, Uses M, G, and A; single component.
 - 1. Color: Match adjacent finished surfaces.

2. Applications: Use for:
 - a. Control, expansion, and soft joints in masonry.
 - b. Joints between concrete and other materials.
 - c. Joints between metal frames and other materials.
 - d. Other exterior joints for which no other sealant is indicated.
- B. Exterior Expansion Joint Sealer: ASTM D2628, hollow neoprene (polychloroprene) compression gasket.
 1. Black color.
 2. Size and Shape: As indicated on Drawings.
 3. Applications: Use for:
 - a. Exterior wall expansion joints.
- C. General Purpose Interior Sealant: Acrylic emulsion latex; ASTM C834 , Type OP, Grade NF single component, paintable.
 1. Color: Standard colors matching finished surfaces.
 2. Applications: Use for:
 - a. Interior wall and ceiling control joints.
 - b. Joints between door and window frames and wall surfaces.
 - c. Other interior joints for which no other type of sealant is indicated.
- D. Silicone Sealant: White silicone; ASTM C 920, Uses I, M and A; single component, mildew resistant.
 1. Applications: Use for:
 - a. Joints between plumbing fixtures and floor and wall surfaces.
 - b. Joints between kitchen and bath countertops and wall surfaces.
- E. Interior Floor Joint Sealant: Polyurethane, self-leveling; ASTM C920, Grade P, Class 25, Uses T, M and A; single component.
 1. Approved by manufacturer for wide joints up to 1-1/2 inches.
 2. Color: Standard colors matching finished surfaces.
 3. Applications: Use for:
 - a. Expansion joints in floors.
- F. Concrete Paving Joint Sealant: Polyurethane, self-leveling; ASTM C920, Class 25, Uses T, I, M and A; single component.
 1. Color: Gray.
 2. Applications: Use for:
 - a. Joints between paving and building components.
 - b. Joints around structural stoops.
 - c. Joint around pipe bollards.

2.04 ACCESSORIES

- A. Backer Rod: Cylindrical cellular foam rod with surface that sealant will not adhere to, compatible with specific sealant used, and recommended by backing and sealant manufacturers for specific application.
 1. Type for Joints Not Subject to Pedestrian or Vehicular Traffic: ASTM C1330; Type O - Open Cell Polyurethane.
 2. Type for Joints Subject to Pedestrian or Vehicular Traffic: ASTM C1330; Type B - Bi-Cellular Polyethylene.
 3. Open Cell: 40 to 50 percent larger in diameter than joint width.
 4. Closed Cell and Bi-Cellular: 25 to 33 percent larger in diameter than joint width.
- B. Backing Tape: Self-adhesive polyethylene tape with surface that sealant will not adhere to and recommended by tape and sealant manufacturers for specific application.
- C. Masking Tape: Self-adhesive, nonabsorbent, non-staining, removable without adhesive residue, and compatible with surfaces adjacent to joints and sealants.

- D. Joint Cleaner: Non-corrosive and non-staining type, type recommended by sealant manufacturer; compatible with joint forming materials.
- E. Primers: Type recommended by sealant manufacturer to suit application; non-staining.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that joints are ready to receive work.
- B. Verify that backing materials are compatible with sealants.
- C. Verify that backer rods are of the correct size.

3.02 PREPARATION

- A. Remove loose materials and foreign matter that could impair adhesion of sealant.
- B. Clean joints, and prime as necessary, in accordance with manufacturer's instructions.
- C. Perform preparation in accordance with manufacturer's instructions and ASTM C1193.
- D. Mask elements and surfaces adjacent to joints from damage and disfigurement due to sealant work; be aware that sealant drips and smears may not be completely removable.

3.03 INSTALLATION

- A. Perform work in accordance with sealant manufacturer's requirements for preparation of surfaces and material installation instructions.
- B. Perform installation in accordance with ASTM C1193.
- C. Measure joint dimensions and size joint backers to achieve width-to-depth ratio, neck dimension, and surface bond area as recommended by manufacturer, except where specific dimensions are indicated.
- D. Install bond breaker backing tape where backer rod cannot be used.
- E. Install sealant free of air pockets, foreign embedded matter, ridges, and sags, and without getting sealant on adjacent surfaces.
- F. Do not install sealant when ambient temperature is outside manufacturer's recommended temperature range, or will be outside that range during the entire curing period, unless manufacturer's approval is obtained and instructions are followed.
- G. Nonsag Sealants: Tool surface concave, unless otherwise indicated; remove masking tape immediately after tooling sealant surface.

END OF SECTION

**SECTION 08 11 13
HOLLOW METAL DOORS AND FRAMES**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Non-fire-rated hollow metal doors and frames.
- B. Hollow metal frames for wood doors.
- C. Fire-rated hollow metal doors and frames.
- D. Thermally insulated hollow metal doors with frames.

1.02 RELATED REQUIREMENTS

- A. Section 08 71 00 - Door Hardware.
- B. Section 08 80 00 - Glazing: Glass for doors and borrowed lites.
- C. Section 09 90 00 Painting and Coating

1.03 REFERENCE STANDARDS

- A. ANSI/ICC A117.1 - American National Standard for Accessible and Usable Buildings and Facilities; International Code Council; 2009.
- B. ANSI/SDI A250.3 - Test Procedure and Acceptance Criteria for Factory Applied Finish Coatings for Steel Doors and Frames; 2025.
- C. ANSI/SDI A250.4 - Test Procedure and Acceptance Criteria for Physical Endurance for Steel Doors, Frames and Frame Anchors; 2024.
- D. ANSI/SDI A250.8 - Specifications for Standard Steel Doors and Frames (SDI-100); 2023.
- E. ANSI/SDI A250.10 - Test Procedure and Acceptance Criteria for Prime Painted Steel Surfaces for Steel Doors and Frames; 2025.
- F. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 2025a.
- G. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2026.
- H. BHMA A156.115 - Hardware Preparation in Steel Doors and Frames; 2016.
- I. ITS (DIR) - Directory of Listed Products; Current Edition.
- J. NAAMM HMMA 840 - Guide Specifications for Receipt, Storage and Installation of Hollow Metal Doors and Frames; 2024.
- K. NAAMM HMMA 861 - Guide Specifications for Commercial Hollow Metal Doors and Frames; 2014.
- L. NFPA 80 - Standard for Fire Doors and Other Opening Protectives; 2025.
- M. NFPA 252 - Standard Methods of Fire Tests of Door Assemblies; 2022.
- N. SDI 117 - Manufacturing Tolerances for Standard Steel Doors and Frames; 2023.
- O. UL (DIR) - Online Certifications Directory; Current Edition.
- P. UL 10C - Standard for Positive Pressure Fire Tests of Door Assemblies; Current Edition, Including All Revisions.

1.04 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements for submittal procedures.
- B. Product Data: Materials and details of design and construction, hardware locations, reinforcement type and locations, anchorage and fastening methods, and finishes; and one copy of referenced standards/guidelines.

- C. Shop Drawings: Details of each opening, showing elevations, glazing, frame profiles, and any indicated finish requirements.
- D. Installation Instructions: Manufacturer's published instructions, including any special installation instructions relating to this project.
- E. Manufacturer's Certificate: Certification that products meet or exceed specified requirements.

1.05 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section, with not less than three years documented experience.
- B. Maintain at project site copies of reference standards relating to installation of products specified.

1.06 DELIVERY, STORAGE, AND HANDLING

- A. Comply with NAAMM HMMA 840 or ANSI/SDI A250.8 (SDI-100) in accordance with specified requirements.
- B. Protect with resilient packaging; avoid humidity build-up under coverings; prevent corrosion and adverse effects on factory applied painted finish.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Hollow Metal Doors and Frames:
 - 1. Ceco Door, an Assa Abloy Group company: www.assaabloydss.com.
 - 2. Republic Doors: www.republicdoor.com.
 - 3. Steelcraft, an Allegion brand: www.allegion.com/#sle.
 - 4. Steelcraft: www.steelcraft.com.
 - 5. Substitutions: See Section 01 60 00 - Product Requirements.

2.02 PERFORMANCE REQUIREMENTS

- A. Combined Requirements: If a particular door and frame unit is indicated to comply with more than one type of requirement, comply with the specified requirements for each type; for instance, an exterior door that is also indicated as being sound-rated must comply with the requirements specified for exterior doors and for sound-rated doors; where two requirements conflict, comply with the most stringent.

2.03 HOLLOW METAL DOORS

- A. Exterior Doors: Thermally insulated.
 - 1. Based on SDI Standards: ANSI/SDI A250.8 (SDI-100).
 - a. Level 2 - Heavy-duty.
 - b. Physical Performance Level B, 500,000 cycles; in accordance with ANSI/SDI A250.4.
 - c. Model 1 - Full Flush.
 - d. Door Face Metal Thickness: 18 gage, 0.042 inch, minimum.
 - 2. Door Core Material: Polyurethane, 1.8 lbs/cu ft minimum density.
 - a. Foam Plastic Insulation: Manufacturer's standard board insulation with maximum flame spread index (FSI) of 75, and maximum smoke developed index (SDI) of 450 in accordance with ASTM E84, and completely enclosed within interior of door.
 - 3. Door Thickness: 1-3/4 inches, nominal.
 - 4. Galvanizing: All components hot-dipped zinc-iron alloy-coated (galvannealed) in accordance with ASTM A653/A653M, with manufacturer's standard coating thickness.
 - 5. Weatherstripping: Refer to Section 08 71 00.
- B. Interior Doors, Non-Fire Rated:
 - 1. Based on SDI Standards: ANSI/SDI A250.8 (SDI-100).
 - a. Level 1 - Standard-duty.
 - b. Physical Performance Level C, 250,000 cycles; in accordance with ANSI/SDI A250.4.
 - c. Model 1 - Full Flush.

- d. Door Face Metal Thickness: 20 gauge, 0.032 inch, minimum.
- 2. Door Core Material: Manufacturers standard core material/construction and in compliance with requirements.
- 3. Door Thickness: 1-3/4 inches, nominal.
- C. Interior Fire-Rated Doors:
 - 1. Based on SDI Standards: ANSI/SDI A250.8 (SDI-100).
 - a. Level 2 - Heavy-duty.
 - b. Physical Performance Level B 500 000 cycles; in accordance with ANSI/SDI A250.4.
 - c. Model 1 - Full Flush.
 - d. Door Face Metal Thickness: 20 gauge, 0.032 inch, minimum.
 - 2. Fire Rating: As indicated on Door Schedule, tested in accordance with UL 10C and NFPA 252 ("positive pressure fire tests").
 - a. Provide units listed and labeled by UL (DIR) or ITS (DIR).
 - b. Attach fire rating label to each fire rated unit.
 - 3. Door Core Material: Manufacturers standard core material/construction in compliance with requirements.
 - 4. Door Thickness: 1-3/4 inches, nominal.
 - 5. Door Face Sheets: Flush.

2.04 HOLLOW METAL FRAMES

- A. Comply with standards and/or custom guidelines as indicated for corresponding door in accordance with applicable door frame requirements.
- B. General:
 - 1. Comply with the requirements of grade specified for corresponding door.
 - 2. Finish: Factory primed, for field finishing.
 - 3. Provide mortar guard boxes for hardware cut-outs in frames to be installed in masonry or to be grouted.
- C. Exterior Door Frames: Face welded type.
 - 1. Galvanizing: Components hot-dipped zinc-iron alloy-coated (galvannealed) in accordance with ASTM A653/A653M, with A40/ZF120 coating.
 - 2. Frame Metal Thickness: 16 gauge, 0.053 inch, minimum.
 - 3. Frame Finish: Factory primed and field finished.
 - 4. Weatherstripping: Separate, see Section 08 71 00.
- D. Interior Door Frames, Non-Fire Rated: Full profile/continuously welded type.
 - 1. Frame Metal Thickness: 18 gage, 0.042 inch, minimum.
 - 2. Frame Finish: Factory primed and field finished.
- E. Door Frames, Fire-Rated: Knock-down type.
 - 1. Fire Rating: Same as door, labeled.
 - 2. Frame Metal Thickness: 18 gauge, 0.042 inch, minimum.
 - 3. Frame Finish: Factory primed and field finished.

2.05 FINISHES

- A. Primer: Rust-inhibiting, complying with ANSI/SDI A250.10, door manufacturer's standard.

2.06 ACCESSORIES

- A. Removable Stops: Formed sheet steel, shape as indicated on drawings, mitered or butted corners; prepared for countersink style tamper proof screws.
- B. Mechanical Fasteners for Concealed Metal-to-Metal Connections: Self-drilling, self-tapping, steel with electroplated zinc finish.
- C. Silencers: Resilient rubber, fitted into drilled hole; provide three on strike side of single door, three on center mullion of pairs, and two on head of pairs without center mullions.
- D. Temporary Frame Spreaders: Provide for factory- or shop-assembled frames.

- E. Floor Anchors: Floor anchors to be provided at each jamb, formed from A60 metallic coated material, not less than 0.042 inches thick.

2.07 FINISH MATERIALS

- A. Primer: Rust-inhibiting, complying with ANSI A250.10, door manufacturer's standard.
- B. Bituminous Coating: Asphalt emulsion or other high-build, water-resistant, resilient coating.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify existing conditions before starting work.
- B. Verify that opening sizes and tolerances are acceptable.
- C. Verify that finished walls are in plane to ensure proper door alignment.

3.02 PREPARATION

- A. Coat inside of frames to be installed in masonry or to be grouted, with bituminous coating, prior to installation.

3.03 INSTALLATION

- A. Install doors and frames in accordance with manufacturer's instructions and related requirements of specified door and frame standards or custom guidelines indicated.
- B. Install fire rated units in accordance with NFPA 80.
- C. Coordinate frame anchor placement with wall construction.
- D. Install door hardware as specified in Section 08 71 00.
- E. Coordinate installation of electrical connections to electrical hardware items.
- F. Touch up damaged factory finishes.

3.04 TOLERANCES

- A. Clearances Between Door and Frame: Comply with related requirements of specified frame standards or custom guidelines indicated in accordance with SDI 117 or NAAMM HMMA 861.
- B. Maximum Diagonal Distortion: 1/16 inch measured with straight edge, corner to corner.

3.05 ADJUSTING

- A. Adjust for smooth and balanced door movement.

3.06 SCHEDULE

- A. Refer to Door and Frame Schedule on the drawings.

END OF SECTION

**SECTION 08 71 00
DOOR HARDWARE**

PART 1 GENERAL

1.01 REFERENCE STANDARDS

- A. BHMA A156.1 - Standard for Butts and Hinges; 2021.
- B. BHMA A156.2 - Bored and Preassembled Locks and Latches; 2022.
- C. BHMA A156.4 - Door Closers and Pivots; 2024.
- D. BHMA A156.6 - Standard for Architectural Door Trim; 2021.
- E. BHMA A156.8 - Door Controls - Overhead Stops and Holders; 2021.
- F. BHMA A156.13 - Mortise Locks and Latches; 2022.
- G. BHMA A156.16 - Standard for Auxiliary Hardware; 2023.
- H. BHMA A156.18 - Standard for Materials and Finishes; 2020.
- I. BHMA A156.36 - Auxiliary Locks; 2020.
- J. ICC (IBC) - International Building Code; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.
- K. ICC A117.1 - Accessible and Usable Buildings and Facilities; 2017.
- L. NFPA 70 - National Electrical Code; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.
- M. NFPA 80 - Standard for Fire Doors and Other Opening Protectives; 2025.
- N. NFPA 101 - Life Safety Code; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.
- O. NFPA 105 - Standard for Smoke Door Assemblies and Other Opening Protectives; 2025.
- P. NFPA 252 - Standard Methods of Fire Tests of Door Assemblies; 2022.
- Q. UL 10C - Standard for Positive Pressure Fire Tests of Door Assemblies; Current Edition, Including All Revisions.
- R. UL 294 - Access Control System Units; Current Edition, Including All Revisions.
- S. UL 305 - Standard for Panic Hardware; Current Edition, Including All Revisions.
- T. UL 437 - Standard for Key Locks; Current Edition, Including All Revisions.
- U. UL 1784 - Standard for Air Leakage Tests of Door Assemblies and Other Opening Protectives; Current Edition, Including All Revisions.

1.02 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.03 SUMMARY

- A. This Section includes commercial door hardware for the following:
 - 1. Swinging doors.
 - 2. Sliding doors.
 - 3. Other doors to the extent indicated.
- B. Door hardware includes, but is not necessarily limited to, the following:
 - 1. Mechanical door hardware.
 - 2. Cylinders specified for doors in other sections.
- C. Related Sections:
 - 1. Division 08 Section "Hollow Metal Doors and Frames".

- D. Codes and References: Comply with the version year adopted by the Authority Having Jurisdiction.
1. ANSI A117.1 - Accessible and Usable Buildings and Facilities.
 2. ICC (IBC) International Building Code.
 3. NFPA 70 - National Electrical Code.
 4. NFPA 80 - Fire Doors and Windows.
 5. NFPA 101 - Life Safety Code.
 6. NFPA 105 - Installation of Smoke Door Assemblies.
 7. State Building Codes, Local Amendments.
- E. Standards: All hardware specified herein shall comply with the following industry standards as applicable. Any undated reference to a standard shall be interpreted as referring to the latest edition of that standard:
1. ANSI/BHMA Certified Product Standards - A156 Series.
 2. UL 10C - Positive Pressure Fire Tests of Door Assemblies.
 3. ANSI/UL 294 - Access Control System Units.
 4. UL 305 - Panic Hardware.
 5. ANSI/UL 437- Key Locks.

1.04 SUBMITTALS

- A. Product Data: Manufacturer's product data sheets including installation details, material descriptions, dimensions of individual components and profiles, operational descriptions and finishes.
- B. Door Hardware Schedule: Prepared by or under the supervision of supplier, detailing, fabrication and assembly of door hardware, as well as procedures and diagrams. Coordinate the final Door Hardware Schedule with doors, frames, and related work to ensure proper size, thickness, hand, function, and finish of door hardware.
1. Format: Comply with scheduling sequence and vertical format in DHI's "Sequence and Format for the Hardware Schedule."
 2. Organization: Organize the Door Hardware Schedule into door hardware sets indicating complete designations of every item required for each door or opening. Organize door hardware sets in same order as in the Door Hardware Sets at the end of Part 3. Submittals that do not follow the same format and order as the Door Hardware Sets will be rejected and subject to resubmission.
 3. Content: Include the following information:
 - a. Type, style, function, size, label, hand, and finish of each door hardware item.
 - b. Manufacturer of each item.
 - c. Fastenings and other pertinent information.
 - d. Location of door hardware set, cross-referenced to Drawings, both on floor plans and in door and frame schedule.
 - e. Explanation of abbreviations, symbols, and codes contained in schedule.
 - f. Mounting locations for door hardware.
 - g. Door and frame sizes and materials.
 - h. Warranty information for each product.
 4. Submittal Sequence: Submit the final Door Hardware Schedule at earliest possible date, particularly where approval of the Door Hardware Schedule must precede fabrication of other work that is critical in the Project construction schedule. Include Product Data, Samples, Shop Drawings of other work affected by door hardware, and other information essential to the coordinated review of the Door Hardware Schedule.
- C. Keying Schedule: After a keying meeting with the owner has taken place prepare a separate keying schedule detailing final instructions. Submit the keying schedule in electronic format. Include keying system explanation, door numbers, key set symbols, hardware set numbers and special instructions. Owner must approve submitted keying schedule prior to the ordering of permanent cylinders/cores.

- D. Informational Submittals:
 - 1. Product Test Reports: Indicating compliance with cycle testing requirements, based on evaluation of comprehensive tests performed by manufacturer and witnessed by a qualified independent testing agency.

1.05 CLOSEOUT SUBMITTALS

- A. Operating and Maintenance Manuals: Provide manufacturers operating and maintenance manuals for each item comprising the complete door hardware installation in quantity as required in Division 01, Closeout Procedures.
- B. Project Record Documents: Provide record documentation of as-built door hardware sets in digital format (.pdf, .docx, .xlsx, .csv) and as required in Division 01, Project Record Documents.

1.06 QUALITY ASSURANCE

- A. Manufacturers Qualifications: Engage qualified manufacturers with a minimum 5 years of documented experience in producing hardware and equipment similar to that indicated for this Project and that have a proven record of successful in-service performance.
- B. Certified Products: Where specified, products must maintain a current listing in the Builders Hardware Manufacturers Association (BHMA) Certified Products Directory (CPD).
- C. Installer Qualifications: A minimum 3 years documented experience installing both standard and electrified door hardware similar in material, design, and extent to that indicated for this Project and whose work has resulted in construction with a record of successful in-service performance.
- D. Door Hardware Supplier Qualifications: Experienced commercial door hardware distributors with a minimum 5 years documented experience supplying both mechanical and electromechanical hardware installations comparable in material, design, and extent to that indicated for this Project. Supplier recognized as a factory direct distributor by the manufacturers of the primary materials with a warehousing facility in Project's vicinity. Supplier to have on staff a certified Architectural Hardware Consultant (AHC) available during the course of the Work to consult with Contractor, Architect, and Owner concerning both standard and electromechanical door hardware and keying.
- E. Source Limitations: Obtain each type and variety of door hardware specified in this section from a single source unless otherwise indicated.
 - 1. Electrified modifications or enhancements made to a source manufacturer's product line by a secondary or third party source will not be accepted.
- F. Each unit to bear third party permanent label indicating compliance with the referenced testing standards.
- G. Keying Conference: Conduct conference to comply with requirements in Division 01 Section "Project Meetings." Keying conference to incorporate the following criteria into the final keying schedule document:
 - 1. Function of building, purpose of each area and degree of security required.
 - 2. Plans for existing and future key system expansion.
 - 3. Requirements for key control storage and software.
 - 4. Installation of permanent keys, cylinder cores and software.
 - 5. Address and requirements for delivery of keys.
- H. Pre-Submittal Conference: Conduct coordination conference in compliance with requirements in Division 01 Section "Project Meetings" with attendance by representatives of Supplier(s), Installer(s), and Contractor(s) to review proper methods and the procedures for receiving, handling, and installing door hardware.
 - 1. Prior to installation of door hardware, conduct a project specific training meeting to instruct the installing contractors' personnel on the proper installation and adjustment of their respective products. Product training to be attended by installers of door hardware (including electromechanical hardware) for aluminum, hollow metal and wood doors.

Training will include the use of installation manuals, hardware schedules, templates and physical product samples as required.

2. Inspect and discuss electrical roughing-in, power supply connections, and other preparatory work performed by other trades.
 3. Review sequence of operation narratives for each unique access controlled opening.
 4. Review and finalize construction schedule and verify availability of materials.
 5. Review the required inspecting, testing, commissioning, and demonstration procedures
- I. At completion of installation, provide written documentation that components were applied according to manufacturer's instructions and recommendations and according to approved schedule.

1.07 DELIVERY, STORAGE AND HANDLING

- A. Inventory door hardware on receipt and provide secure lock-up and shelving for door hardware delivered to Project site. Do not store electronic access control hardware, software or accessories at Project site without prior authorization.
- B. Tag each item or package separately with identification related to the final Door Hardware Schedule, and include basic installation instructions with each item or package.
- C. Deliver, as applicable, permanent keys, cylinders, cores, access control credentials, software and related accessories directly to Owner via registered mail or overnight package service. Instructions for delivery to the Owner shall be established at the "Keying Conference".

1.08 COORDINATION

- A. Templates: Obtain and distribute to the parties involved templates for doors, frames, and other work specified to be factory prepared for installing standard and electrified hardware. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing hardware to comply with indicated requirements.
- B. Door and Frame Preparation: Doors and corresponding frames are to be prepared, reinforced and pre-wired (if applicable) to receive the installation of the specified electrified, monitoring, signaling and access control system hardware without additional in-field modifications.

1.09 WARRANTY

- A. General Warranty: Reference Division 01, General Requirements. Special warranties specified in this Article shall not deprive Owner of other rights Owner may have under other provisions of the Contract Documents and shall be in addition to, and run concurrent with, other warranties made by Contractor under requirements of the Contract Documents.
- B. Warranty Period: Written warranty, executed by manufacturer(s), agreeing to repair or replace components of standard and electrified door hardware that fails in materials or workmanship within specified warranty period after final acceptance by the Owner. Failures include, but are not limited to, the following:
 1. Structural failures including excessive deflection, cracking, or breakage.
 2. Faulty operation of the hardware.
 3. Deterioration of metals, metal finishes, and other materials beyond normal weathering.
 4. Electrical component defects and failures within the systems operation.
- C. Warranty Period: Unless otherwise indicated, warranty shall be one year from date of Substantial Completion.

PART 2 PRODUCTS

2.01 MATERIALS

- A. Hardware shall not have any visible manufacturer names on exposed materials, except cylinders, when the door is in a closed position.

2.02 BUTT HINGES

- A. Hinges: ANSI/BHMA A156.1 butt hinges with number of hinge knuckles and other options as specified in the Door Hardware Sets.

1. Quantity: Provide the following hinge quantity:
 - a. Two Hinges: For doors with heights up to 60 inches.
 - b. Three Hinges: For doors with heights 61 to 90 inches.
 - c. Four Hinges: For doors with heights 91 to 120 inches.
 - d. For doors with heights more than 120 inches, provide 4 hinges, plus 1 hinge for every 30 inches of door height greater than 120 inches.
2. Hinge Size: Provide the following, unless otherwise indicated, with hinge widths sized for door thickness and clearances required:
 - a. Widths up to 3'0": 4-1/2" standard or heavy weight as specified.
 - b. Sizes from 3'1" to 4'0": 5" standard or heavy weight as specified.
3. Hinge Weight and Base Material: Unless otherwise indicated, provide the following:
 - a. Exterior Doors: Heavy weight, non-ferrous, ball bearing or oil impregnated bearing hinges unless Hardware Sets indicate standard weight.
 - b. Interior Doors: Standard weight, steel, ball bearing or oil impregnated bearing hinges unless Hardware Sets indicate heavy weight.
4. Hinge Options: Comply with the following:
 - a. Non-removable Pins: With the exception of electric through wire hinges, provide set screw in hinge barrel that, when tightened into a groove in hinge pin, prevents removal of pin while door is closed; for all out-swinging lockable doors.
5. Manufacturers:
 - a. McKinney (MK) - TA/T4A Series, 5-knuckle.

2.03 DOOR OPERATING TRIM

- A. Door Push Plates and Pulls: ANSI/BHMA A156.6 door pushes and pull units of type and design specified in the Hardware Sets. Coordinate and provide proper width and height as required where conflicting hardware dictates.
 1. Push/Pull Plates: Minimum .050 inch thick, size as indicated in hardware sets, with beveled edges, secured with exposed screws unless otherwise indicated.
 2. Door Pull and Push Bar Design: Size, shape, and material as indicated in the hardware sets. Minimum clearance of 2 1/2-inches from face of door unless otherwise indicated.
 3. Offset Pull Design: Size, shape, and material as indicated in the hardware sets. Minimum clearance of 2 1/2-inches from face of door and offset of 90 degrees unless otherwise indicated.
 4. Pulls shall be provided with a 10" clearance from the finished floor on the push side to accommodate wheelchair accessibility.
 5. Fasteners: Provide manufacturer's designated fastener type as indicated in Hardware Sets. When through-bolt fasteners are in the same location as a push plate, countersink the fasteners flush with the door face allowing the push plate to sit flat against the door.
 6. Manufacturers:
 - a. Rockwood (RO).

2.04 CYLINDERS AND KEYING

- A. General: Cylinder manufacturer to have minimum (10) years experience designing secured master key systems and have on record a published security keying system policy.
- B. Cylinder Types: Original manufacturer cylinders able to supply the following cylinder formats and types:
 1. Threaded mortise cylinders with rings and cams to suit hardware application.
 2. Rim cylinders with back plate, flat-type vertical or horizontal tailpiece, and raised trim ring.
 3. Bored or cylindrical lock cylinders with tailpieces as required to suit locks.
 4. Tubular deadlocks and other auxiliary locks.
 5. Mortise and rim cylinder collars to be solid and recessed to allow the cylinder face to be flush and be free spinning with matching finishes.
 6. Keyway: Match Facility Standard.
- C. Keying System: Each type of lock and cylinders to be factory keyed.

1. Supplier shall conduct a "Keying Conference" to define and document keying system instructions and requirements.
 2. Furnish factory cut, nickel-silver large bow permanently inscribed with a visual key control number as directed by Owner.
 3. Existing System: Field verify and key cylinders to match Owner's existing system.
- D. Key Quantity: Provide the following minimum number of keys:
1. Change Keys per Cylinder: Two (2)
 2. Master Keys (per Master Key Level/Group): Five (5).
 3. Construction Keys (where required): Ten (10).
- E. Construction Keying: Provide construction master keyed cylinders.

2.05 MORTISE LOCKS AND LATCHING DEVICES

- A. Mortise Locksets, Grade 1 (Heavy Duty): Provide ANSI/BHMA A156.13, Series 1000, Operational Grade 1 Certified Products Directory (CPD) listed mortise locksets. Listed manufacturers shall meet all functions and features as specified herein.
1. Manufacturers:
 - a. Sargent Manufacturing (SA) - 8200 Series.

2.06 CYLINDRICAL LOCKS AND LATCHING DEVICES

- A. Cylindrical Locksets, Grade 1 (Heavy Duty): ANSI/BHMA A156.2, Series 4000, Operational Grade 1 Certified Products Directory (CPD) listed cylindrical locksets. Listed manufacturers shall meet all functions and features as specified herein.
1. Manufacturers:
 - a. Sargent Manufacturing (SA) - 10X Line.

2.07 DEADLOCKS AND LATCHES

- A. Mortise Deadlocks, Small Case: ANSI/BHMA A156.36, Grade 1, small case mortise type deadlocks constructed of heavy gauge wrought corrosion resistant steel. Steel or stainless steel bolts with a 1" throw and hardened steel roller pins. Deadlocks to be products of the same source manufacturer and keyway as other specified locksets.
1. Manufacturers:
 - a. Sargent Manufacturing (SA) - 4870 Series.

2.08 LOCK AND LATCH STRIKES

- A. Strikes: Provide manufacturer's standard strike with strike box for each latch or lock bolt, with curved lip extended to protect frame, finished to match door hardware set, unless otherwise indicated, and as follows:
1. Flat-Lip Strikes: For locks with three-piece antifriction latchbolts, as recommended by manufacturer.
 2. Extra-Long-Lip Strikes: For locks used on frames with applied wood casing trim.
 3. Aluminum-Frame Strike Box: Provide manufacturer's special strike box fabricated for aluminum framing.
 4. Double-lipped strikes: For locks at double acting doors. Furnish with retractable stop for rescue hardware applications.
- B. Standards: Comply with the following:
1. Strikes for Mortise Locks and Latches: BHMA A156.13.
 2. Strikes for Bored Locks and Latches: BHMA A156.2.
 3. Strikes for Auxiliary Deadlocks: BHMA A156.36.
 4. Dustproof Strikes: BHMA A156.16.

2.09 SURFACE DOOR CLOSERS

- A. All door closers specified herein shall meet or exceed the following criteria:
1. General: Door closers to be from one manufacturer, matching in design and style, with the same type door preparations and templates regardless of application or spring size. Closers to be non-handed with full sized covers.

2. Standards: Closers to comply with UL 10C for Positive Pressure Fire Test and be U.L. listed for use of fire rated doors.
 3. Size of Units: Comply with manufacturer's written recommendations for sizing of door closers depending on size of door, exposure to weather, and anticipated frequency of use. Where closers are indicated for doors required to be accessible to the Americans with Disabilities Act, provide units complying with ANSI ICC A117.1.
 4. Closer Arms: Provide heavy duty, forged steel closer arms unless otherwise indicated in Hardware Sets.
 5. Closers shall not be installed on exterior or corridor side of doors; where possible install closers on door for optimum aesthetics.
 6. Closer Accessories: Provide door closer accessories including custom templates, special mounting brackets, spacers and drop plates as required for proper installation. Provide through-bolt and security type fasteners as specified in the hardware sets.
- B. Door Closers, Surface Mounted (Heavy Duty): ANSI/BHMA A156.4, Grade 1 Certified Products Directory (CPD) listed surface mounted, heavy duty door closers with complete spring power adjustment, sizes 1 thru 6; and fully operational adjustable according to door size, frequency of use, and opening force. Closers to be rack and pinion type, one piece cast iron or aluminum alloy body construction, with adjustable backcheck and separate non-critical valves for closing sweep and latch speed control. Provide non-handed units standard.
1. Heavy duty surface mounted door closers shall have a 30-year warranty.
 2. Manufacturers:
 - a. Norton Rixson (NO) - 7500 Series.
 - b. Sargent Manufacturing (SA) - 351 Series.
- C. Door Closers, Surface Mounted (Cam Action): ANSI/BHMA 156.4, Grade 1 Certified Products Directory (CPD) listed surface mounted, high efficiency door closers with complete spring power adjustment, sizes 1 thru 6; and fully operational adjustable according to door size, frequency of use, and opening force. Closers to be of the cam and roller design, one piece cast aluminum silicon alloy body with adjustable backcheck and independently controlled valves for closing sweep and latch speed.
1. Manufacturers:
 - a. Norton Rixson (NO) - 2800ST Series.
 - b. Sargent Manufacturing (SA) - 422 Series.

2.10 DOOR STOPS AND HOLDERS

- A. General: Door stops and holders to be of type and design as specified below or in the Hardware Sets.
- B. Door Stops and Bumpers: ANSI/BHMA A156.16, Grade 1 door stops and wall bumpers. Provide wall bumpers, either convex or concave types with anchorage as indicated, unless floor or other types of door stops are specified in Hardware Sets. Do not mount floor stops where they will impede traffic. Where floor or wall bumpers are not appropriate, provide overhead type stops and holders.
1. Manufacturers:
 - a. Rockwood (RO).
- C. Overhead Door Stops and Holders: ANSI/BHMA A156.8, Grade 1 Certified Products Directory (CPD) listed overhead stops and holders to be surface or concealed types as indicated in Hardware Sets. Track, slide, arm and jamb bracket to be constructed of extruded bronze and shock absorber spring of heavy tempered steel. Provide non-handed design with mounting brackets as required for proper operation and function.
1. Manufacturers:
 - a. Norton Rixson (RF).
 - b. Rockwood (RO).
 - c. Sargent Manufacturing (SA).

2.11 ARCHITECTURAL SEALS

- A. General: Thresholds, weatherstripping, and gasket seals to be of type and design as specified below or in the Hardware Sets. Provide continuous weatherstrip gasketing on exterior doors and provide smoke, light, or sound gasketing on interior doors where indicated. At exterior applications provide non-corrosive fasteners and elsewhere where indicated.
- B. Smoke Labeled Gasketing: Assemblies complying with NFPA 105 that are listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction, for smoke control ratings indicated, based on testing according to UL 1784.
 - 1. Provide smoke labeled perimeter gasketing at all smoke labeled openings.
- C. Fire Labeled Gasketing: Assemblies complying with NFPA 80 that are listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction, for fire ratings indicated, based on testing according to UL 10C.
 - 1. Provide intumescent seals as indicated to meet UL 10C Standard for Positive Pressure Fire Tests of Door Assemblies, and NFPA 252, Standard Methods of Fire Tests of Door Assemblies.
- D. Sound-Rated Gasketing: Assemblies that are listed and labeled by a testing and inspecting agency, for sound ratings indicated.
- E. Replaceable Seal Strips: Provide only those units where resilient or flexible seal strips are easily replaceable and readily available from stocks maintained by manufacturer.
- F. Manufacturers:
 - 1. Pemko (PE).

2.12 FABRICATION

- A. Fasteners: Provide door hardware manufactured to comply with published templates generally prepared for machine, wood, and sheet metal screws. Provide screws according to manufacturers recognized installation standards for application intended.

2.13 FINISHES

- A. Standard: Designations used in the Hardware Sets and elsewhere indicate hardware finishes complying with ANSI/BHMA A156.18, including coordination with traditional U.S. finishes indicated by certain manufacturers for their products.
- B. Provide quality of finish, including thickness of plating or coating (if any), composition, hardness, and other qualities complying with manufacturer's standards, but in no case less than specified by referenced standards for the applicable units of hardware
- C. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Examine scheduled openings, with Installer present, for compliance with requirements for installation tolerances, labeled fire door assembly construction, wall and floor construction, and other conditions affecting performance.
- B. Notify architect of any discrepancies or conflicts between the door schedule, door types, drawings and scheduled hardware. Proceed only after such discrepancies or conflicts have been resolved in writing.

3.02 PREPARATION

- A. Hollow Metal Doors and Frames: Comply with ANSI/DHI A115 series.
- B. Wood Doors: Comply with ANSI/DHI A115-W series.

3.03 INSTALLATION

- A. Install each item of mechanical and electromechanical hardware and access control equipment to comply with manufacturer's written instructions and according to specifications.

1. Installers are to be trained and certified by the manufacturer on the proper installation and adjustment of fire, life safety, and security products including: hanging devices; locking devices; closing devices; and seals.
- B. Mounting Heights: Mount door hardware units at heights indicated in following applicable publications, unless specifically indicated or required to comply with governing regulations:
 1. Standard Steel Doors and Frames: DHI's "Recommended Locations for Architectural Hardware for Standard Steel Doors and Frames."
 2. DHI TDH-007-20: Installation Guide for Doors and Hardware.
 3. Where indicated to comply with accessibility requirements, comply with ANSI A117.1 "Accessibility Guidelines for Buildings and Facilities."
 4. Provide blocking in drywall partitions where wall stops or other wall mounted hardware is located.
- C. Retrofitting: Install door hardware to comply with manufacturer's published templates and written instructions. Where cutting and fitting are required to install door hardware onto or into surfaces that are later to be painted or finished in another way, coordinate removal, storage, and reinstallation of surface protective trim units with finishing work specified in Division 9 Sections. Do not install surface-mounted items until finishes have been completed on substrates involved.
- D. Push Plates and Door Pulls: When through-bolt fasteners are in the same location as a push plate, countersink the fasteners flush with the door face allowing the push plate to sit flat against the door.
- E. Thresholds: Set thresholds for exterior and acoustical doors in full bed of sealant complying with requirements specified in Division 7 Section "Joint Sealants."
- F. Storage: Provide a secure lock up for hardware delivered to the project but not yet installed. Control the handling and installation of hardware items so that the completion of the work will not be delayed by hardware losses before and after installation.

3.04 FIELD QUALITY CONTROL

- A. Field Inspection (Punch Report): Reference Division 01 Sections "Closeout Procedures". Produce project punch report for each installed door opening indicating compliance with approved submittals and verification hardware is properly installed, operating and adjusted. Include list of items to be completed and corrected, indicating the reasons or deficiencies causing the Work to be incomplete or rejected.
 1. Organization of List: Include separate Door Opening and Deficiencies and Corrective Action Lists organized by Mark, Opening Remarks and Comments, and related Opening Images and Video Recordings.

3.05 ADJUSTING

- A. Initial Adjustment: Adjust and check each operating item of door hardware and each door to ensure proper operation or function of every unit. Replace units that cannot be adjusted to operate as intended. Adjust door control devices to compensate for final operation of heating and ventilating equipment and to comply with referenced accessibility requirements.

3.06 CLEANING AND PROTECTION

- A. Protect all hardware stored on construction site in a covered and dry place. Protect exposed hardware installed on doors during the construction phase. Install any and all hardware at the latest possible time frame.
- B. Clean adjacent surfaces soiled by door hardware installation.
- C. Clean operating items as necessary to restore proper finish. Provide final protection and maintain conditions that ensure door hardware is without damage or deterioration at time of owner occupancy.

3.07 DEMONSTRATION

- A. Instruct Owner's maintenance personnel to adjust, operate, and maintain mechanical and electromechanical door hardware.

3.08 DOOR HARDWARE SETS

- A. The hardware sets represent the design intent and direction of the owner and architect. They are a guideline only and should not be considered a detailed hardware schedule. Discrepancies, conflicting hardware and missing items should be brought to the attention of the architect with corrections made prior to the bidding process. Omitted items not included in a hardware set should be scheduled with the appropriate additional hardware required for proper application and functionality.
 - 1. Quantities listed are for each pair of doors, or for each single door.
 - 2. The supplier is responsible for handing and sizing all products.
 - 3. Where multiple options for a piece of hardware are given in a single line item, the supplier shall provide the appropriate application for the opening.

B. Manufacturer's Abbreviations:

		1. MK - MCKINNEY		
		2. SA - SARGENT		
		3. RO - ROCKWOOD		
		4. RF - RIXSON		
		5. NO - NORTON		
		6. PE - PEMKO		

HARDWARE SET NO. 1.0:

3	HINGE (HEAVY WEIGHT)	T4A3386	US32D	MK
1	CLASSROOM DEADLOCK	4877	US26D	SA
1	PUSH PULL SET	110X73C/73CL	US32D	RO
1	SURFACE CLOSER	2800ST	689	NO
1	KICKPLATE	K1050 10" HIGH X CSK	US32D	RO
1	DOOR STOP	409 / 441H	US32D	RO
1	GASKETING	294AV		PE
1	SWEEP	3151	AL	PE
1	THRESHOLD	PER DETAIL & FIELD CONDITIONS X FHSL	AL	PE

END OF SECTION

**SECTION 09 21 16
GYPSUM BOARD ASSEMBLIES**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Performance criteria for gypsum board assemblies.
- B. Acoustic insulation.
- C. Gypsum wallboard.
- D. Glass mat faced gypsum board.
- E. Joint treatment and accessories.

1.02 RELATED REQUIREMENTS

- A. Section 06 1000 - Rough Carpentry: Building framing and sheathing.
- B. Section 06 1000 - Rough Carpentry: Wood blocking product and execution requirements.
- C. Section 07 2100 - Thermal Insulation: Acoustic insulation.
- D. Section 07 2500 - Weather Barriers: Water-resistive barrier over sheathing.
- E. Section 07 9200 - Joint Sealants: Sealing acoustical gaps in construction other than gypsum board or plaster work.
- F. Section 09 30 00 - Tiling. Finish requirements for tiled surfaces.

1.03 REFERENCE STANDARDS

- A. ASTM C514 - Standard Specification for Nails for the Application of Gypsum Board; 2004 (Reapproved 2014).
- B. ASTM C557 - Standard Specification for Adhesives for Fastening Gypsum Wallboard to Wood Framing; 2003 (Reapproved 2017).
- C. ASTM C665 - Standard Specification for Mineral-Fiber Blanket Thermal Insulation for Light Frame Construction and Manufactured Housing; 2017.
- D. ASTM C840 - Standard Specification for Application and Finishing of Gypsum Board; 2017a.
- E. ASTM C1047 - Standard Specification for Accessories For Gypsum Wallboard and Gypsum Veneer Base; 2014a.
- F. ASTM C1178/C1178M - Standard Specification for Coated Glass Mat Water-Resistant Gypsum Backing Panel; 2013.
- G. ASTM C1325 - Standard Specification for Non-Asbestos Fiber-Mat Reinforced Cementitious Backer Units; 2017a.
- H. ASTM C1396/C1396M - Standard Specification for Gypsum Board; 2017.
- I. ASTM D3273 - Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber; 2016.
- J. GA-216 - Application and Finishing of Gypsum Panel Products; 2016.
- K. GA-600 - Fire Resistance Design Manual; 2015.
- L. UL (FRD) - Fire Resistance Directory; Current Edition.

1.04 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Shop Drawings: Indicate special details associated with fireproofing and acoustic seals.
- C. Product Data: Provide data on gypsum board, glass mat faced gypsum board, accessories, and joint finishing system.

1.05 QUALITY ASSURANCE

- A. Perform in accordance with ASTM C 840. Comply with requirements of GA-600 for fire-rated assemblies.
 - 1. Maintain one copy of standards at project site.
- B. Installer Qualifications: Company specializing in performing gypsum board installation and finishing, with minimum 5 years of experience.

1.06 REGULATORY REQUIREMENTS

- A. Conform to applicable code for fire rated assemblies as indicated on drawings.

PART 2 PRODUCTS

2.01 GYPSUM BOARD ASSEMBLIES

- A. Provide completed assemblies complying with ASTM C840 and GA-216.
- B. Fire Rated Assemblies: Provide completed assemblies with the following characteristics:
 - 1. Fire Rated Partitions: UL listed assembly No. U305; one hour rating.
 - 2. UL Assembly Numbers: Provide construction equivalent to that listed for the particular assembly in the current UL (FRD).

2.02 GYPSUM BOARD MATERIALS

- A. Manufacturers:
 - 1. American Gypsum Company: www.americangypsum.com.
 - 2. G-P Gypsum Corporation: www.gp.com/gypsum.
 - 3. Lafarge North America Inc: www.lafargenorthamerica.com.
 - 4. National Gypsum Company: www.nationalgypsum.com.
 - 5. Temple-Inland Inc: www.templeinland.com.
 - 6. USG: www.usg.com.
 - 7. Substitutions: See Section 01 6000 - Product Requirements.
- B. Gypsum Wallboard: Paper-faced gypsum panels as defined in ASTM C1396/C1396M; sizes to minimize joints in place; ends square cut.
 - 1. Application: Use for vertical surfaces and ceilings, unless otherwise indicated.
 - 2. At Assemblies Indicated with Fire-Rating: Use type required by indicated tested assembly; if no tested assembly is indicated, use Type X board, UL or WH listed.
 - 3. Thickness:
 - a. Vertical Surfaces: 5/8 inch (16 mm).
 - b. Ceilings: 5/8 inch (16 mm).
 - 4. Edges: Tapered.
 - 5. Paper-Faced Products:
 - a. American Gypsum Company; FireBloc Type X Gypsum Wallboard: www.americangypsum.com/#sle.
 - b. CertainTeed Corporation; ProRoc Brand Gypsum Board. Type X.
 - c. Georgia-Pacific Gypsum; ToughRock Fireguard X: www.gpgypsum.com/#sle.
 - d. Lafarge North America Inc; Regular Drywall and Firecheck Type X.
 - e. National Gypsum Company; Gold Bond Brand Gypsum Wallboard. Type X.
 - f. Pacific Coast Building Products, Inc; PABCO Regular Gypsum Wallboard and PABCO Flame Curb. Type X.
 - g. Temple-Inland Building Product by Georgia-Pacific, LLC; Gypsumboard and Gypsum Board Fire Resistant Panels Type X.
 - h. USG Corporation; Sheetrock Brand Gypsum Panels. Type X.
 - i. Substitutions: See Section 01 60 00 - Product Requirements.
 - 6. Mold Resistant Paper Faced Products:
 - a. American Gypsum Company; M-Bloc Type X: www.americangypsum.com/#sle.
 - b. CertainTeed Corporation; ProRoc Brand Moisture & Mold Resistant Gypsum Board. Type X

- c. Georgia-Pacific Gypsum; ToughRock Mold-Guard: www.gpgypsum.com/#sle. Type X.
 - d. Lafarge North America Inc; Mold Defense Drywall. Type X.
 - e. National Gypsum Company; Gold Bond Brand XP Gypsum Board. Type X.
 - f. Pacific Coast Building Products, Inc; PABCO Mold Curb Gypsum Wallboard. Type X.
 - g. Temple-Inland Building Product by Georgia-Pacific, LLC; ComfortGuard Mold Resistant Gypsum Board. Type X.
 - h. USG Corporation; Sheetrock Brand Mold Tough Gypsum Panels. Type X.
 - i. Substitutions: See Section 01 60 00 - Product Requirements.
- C. Backing Board For Wet Areas: One of the following products:
- 1. Application: Surfaces behind tile in wet areas including behind tile at bathroom walls and behind thin-coat plaster at exterior soffits and vestibule ceilings.
 - 2. Mold Resistance: Score of 10, when tested in accordance with ASTM D3273.
 - 3. ANSI Cement-Based Board: Non-gypsum-based; aggregated Portland cement panels with glass fiber mesh embedded in front and back surfaces complying with ANSI A118.9 or ASTM C1325.
 - 4. Thickness: 5/8 inch.
 - 5. Edges: Tapered.
 - 6. Products:
 - a. Custom Building Products; WonderBoard: www.custombuildingproducts.com/#sle.
 - b. National Gypsum Company; PermaBase Cement Board: www.nationalgypsum.com/#sle.
 - c. USG Corporation; Durock Brand: www.usg.com/#sle.
 - d. Substitutions: See Section 01 60 00 - Product Requirements.
- D. Gypsum Wallboard For Wet Areas:
- 1. Application: Surfaces in wet areas, refer to the Room Finish Schedule within the drawings
 - 2. Abuse and Mold Resistance: USG Sheetrock Brand Glass-Mat Moldtough Abuse Resistant Firecode X, when tested in accordance with ASTM C1629.
 - 3. Glass Mat Faced Board: Coated glass mat water-resistant gypsum backing panel as defined in ASTM D32733.
 - a. Standard Type: Thickness 5/8 inch.
 - b. Products:
 - 1) Georgia-Pacific Gypsum; DensShield Tile Backer.
 - 2) National Gypsum Company; Gold Bond eXP Tile Backer.
 - 3) Substitutions: See Section 01 6000 - Product Requirements.

2.03 ACCESSORIES

- A. Acoustic Insulation: ASTM C665; preformed glass fiber, friction fit type, unfaced. Refer to Wall types shown in drawings.
- B. Acoustic Sealant: Acrylic emulsion latex or water-based elastomeric sealant; do not use solvent-based non-curing butyl sealant.
- C. Finishing Accessories: ASTM C1047, galvanized steel or rolled zinc, unless noted otherwise.
 - 1. Types: As detailed or required for finished appearance.
 - 2. Special Shapes: In addition to conventional corner bead and control joints, provide U-bead and L-bead at exposed panel edges.
 - 3. Products:
 - a. Phillips Manufacturing Co: www.phillipsmfg.com/#sle.
 - b. Trim-tex, Inc: www.trim-tex.com/#sle.
- D. Beads, Joint Accessories, and Other Trim: ASTM C1047, rigid plastic, galvanized steel, or rolled zinc, unless noted otherwise.
- E. Joint Materials: ASTM C475/C475M and as recommended by gypsum board manufacturer for project conditions.

1. Paper Tape: 2 inch (50 mm) wide, creased paper tape for joints and corners, except as otherwise indicated.
 2. Ready-mixed vinyl-based joint compound.
- F. High Build Drywall Surfer: Vinyl acrylic latex-based coating for spray application, designed to take the place of skim coating and separate paint primer in achieving Level 5 finish.
- G. Screws for Fastening of Gypsum Panel Products to Cold-Formed Steel Studs Less than 0.033 inch (0.84 mm) in Thickness and Wood Members: ASTM C1002; self-piercing tapping screws, corrosion resistant.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that project conditions are appropriate for work of this section to commence.

3.02 ACOUSTIC ACCESSORIES INSTALLATION

- A. Acoustic Insulation: Place tightly within spaces, around cut openings, behind and around electrical and mechanical items within partitions, and tight to items passing through partitions.

3.03 GYPSUM BOARD INSTALLATION

- A. Comply with ASTM C840, GA-216, and manufacturer's instructions. Install to minimize butt end joints, especially in highly visible locations.
- B. Single-Layer Non-Rated: Install gypsum board in most economical direction, with ends and edges occurring over firm bearing.
1. Exception: Tapered edges to receive joint treatment at right angles to framing.
- C. Fire-Rated Construction: Install gypsum board in strict compliance with requirements of assembly listing.
- D. Exposed Gypsum Board in Interior Wet Areas: Seal joints, cut edges, and holes with water-resistant sealant.
- E. Installation on Wood Framing: For rated assemblies, comply with requirements of listing authority. For non-rated assemblies, install as follows:
1. Single-Layer Applications: Screw attachment.
- F. Moisture Protection: Treat cut edges and holes in moisture resistant gypsum board with sealant.

3.04 INSTALLATION OF TRIM AND ACCESSORIES

- A. Control Joints: Place control joints consistent with lines of building spaces and as indicated.
1. Not more than 30 feet (10 meters) apart on walls and ceilings over 50 feet (16 meters) long.
 2. At exterior soffits, not more than 30 feet (10 meters) apart in both directions.
- B. Corner Beads: Install at external corners, using longest practical lengths.
- C. Edge Trim: Install at locations where gypsum board abuts dissimilar materials.

3.05 JOINT TREATMENT

- A. Paper Faced Gypsum Board: Use paper joint tape, bedded with ready-mixed vinyl-based joint compound and finished with ready-mixed vinyl-based joint compound.
- B. Finish gypsum board in accordance with levels defined in ASTM C840, as follows:
1. Level 5: Walls and ceilings to receive semi-gloss or gloss paint finish and other areas specifically indicated.
 2. Level 4: Walls and ceilings to receive paint finish or wall coverings, unless otherwise indicated.
 3. Level 3: Walls to receive textured wall finish.
 4. Level 2: In utility areas, behind cabinetry, and on backing board to receive tile finish.

5. Level 1: Wall areas above finished ceilings, whether or not accessible in the completed construction.
- C. Tape, fill, and sand exposed joints, edges, and corners to produce smooth surface ready to receive finishes.
 1. Feather coats of joint compound so that camber is maximum 1/32 inch.
 2. Taping, filling, and sanding are not required at surfaces behind adhesive applied ceramic tile and fixed cabinetry. Prime for mastic only.
 3. Taping, filling, and sanding are not required at base layer of double-layer applications.
- D. Joint finishing for tile backing panels:
 1. Gypsum board joint compound shall not be allowed behind wall tile areas. Leave joints unfinished, free of gypsum joint compound.
 2. Corner beads shall not be used where tile meets at outside corners. Tear away corners to be used where tile meets gypsum board at outside corners with no gypsum compound on the side to receive tile.
- E. Where Level 5 finish is indicated, spray apply high build drywall surfacer over entire surface after joints have been properly treated; achieve a flat and tool mark-free finish.
- F. Fill and finish joints and corners of cementitious backing board as recommended by manufacturer.

3.06 TOLERANCES

- A. Maximum Variation of Finished Gypsum Board Surface from True Flatness: 1/8 inch in 10 feet in any direction.

END OF SECTION

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**SECTION 09 90 00
PAINTING AND COATING
(ALL PAINTING BY OWNER)**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Surface preparation.
- B. Field application of paints.
- C. Scope: Finish all interior and exterior surfaces exposed to view, unless fully factory-finished and unless otherwise indicated.
 - 1. Both sides and edges of plywood backboards for electrical and telecom equipment before installing equipment.
 - 2. Exposed surfaces of steel lintels and ledge angles.
 - 3. Mechanical and Electrical:
 - a. In finished areas, paint all insulated and exposed pipes, unless otherwise indicated.
 - b. In finished areas, paint shop-primed items.
 - c. Paint interior surfaces of air ducts and convector and baseboard heating cabinets that are visible through grilles and louvers with one coat of flat black paint to visible surfaces.
 - d. Paint dampers exposed behind louvers, grilles, and convector and baseboard cabinets to match face panels.
- D. Do Not Paint or Finish the Following Items:
 - 1. Items fully factory-finished unless specifically so indicated; materials and products having factory-applied primers are not considered factory finished.
 - 2. Items indicated to receive other finishes.
 - 3. Items indicated to remain unfinished.
 - 4. Fire rating labels, equipment serial number and capacity labels, and operating parts of equipment.
 - 5. Floors, unless specifically so indicated.
 - 6. Glass.
 - 7. Concealed pipes, ducts, and conduits.

1.02 REFERENCE STANDARDS

- A. 40 CFR 59, Subpart D - National Volatile Organic Compound Emission Standards for Architectural Coatings; U.S. Environmental Protection Agency current edition.
- B. ASTM D16 - Standard Terminology for Paint, Related Coatings, Materials, and Applications 2016.
- C. ASTM D4442 - Standard Test Methods for Direct Moisture Content Measurement of Wood and Wood-Based Materials 2020.
- D. SSPC (PM1) - Good Painting Practice: SSPC Painting Manual, Vol. 1; Society for Protective Coatings; Fourth Edition.

1.03 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide complete list of all products to be used, with the following information for each:
 - 1. Manufacturer's name, product name and/or catalog number, and general product category (e.g. "alkyd enamel").
 - 2. MPI product number (e.g. MPI #47).
 - 3. Cross-reference to specified paint system(s) product is to be used in; include description of each system.

- C. Samples: Submit three paper "draw down" samples, 8-1/2 by 11 inches in size, illustrating range of colors available for each finishing product specified.
 - 1. Where sheen is specified, submit samples in only that sheen.
 - 2. Where sheen is not specified, discuss sheen options with JEO Architecture, Inc. before preparing samples, to eliminate sheens definitely not required.
- D. Maintenance Materials: Furnish the following for JEO Consulting Group, Inc.'s use in maintenance of project.
 - 1. See Section 01 60 00 - Product Requirements, for additional provisions.
 - 2. Extra Paint and Coatings: 1 gallon of each color; store where directed.
 - 3. Label each container with color in addition to the manufacturer's label.

1.04 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing the products specified, with minimum three years documented experience.
- B. Applicator Qualifications: Company specializing in performing the type of work specified with minimum five years experience.

1.05 DELIVERY, STORAGE, AND HANDLING

- A. Deliver products to site in sealed and labeled containers; inspect to verify acceptability.
- B. Container Label: Include manufacturer's name, type of paint, brand name, lot number, brand code, coverage, surface preparation, drying time, cleanup requirements, color designation, and instructions for mixing and reducing.
- C. Paint Materials: Store at minimum ambient temperature of 45 degrees F and a maximum of 90 degrees F, in ventilated area, and as required by manufacturer's instructions.

1.06 FIELD CONDITIONS

- A. Do not apply materials when surface and ambient temperatures are outside the temperature ranges required by the paint product manufacturer.
- B. Follow manufacturer's recommended procedures for producing best results, including testing of substrates, moisture in substrates, and humidity and temperature limitations.
- C. Do not apply exterior coatings during rain or snow, or when relative humidity is outside the humidity ranges required by the paint product manufacturer.
- D. Minimum Application Temperatures for Latex Paints: 45 degrees F for interiors; 50 degrees F for exterior; unless required otherwise by manufacturer's instructions.
- E. Provide lighting level of 80 ft candles measured mid-height at substrate surface.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Provide all paint and coating products used in any individual system from the same manufacturer; no exceptions.
- B. Paints:
 - 1. Diamond Vogel Paints: www.diamondvogel.com/#sle.
 - 2. Benjamin Moore & Co: www.benjaminmoore.com/#sle.
 - 3. Sherwin-Williams Company: www.sherwin-williams.com/#sle.
- C. Transparent Finishes:
 - 1. Sherwin-Williams Company: www.sherwin-williams.com/#sle.
- D. Stains:
 - 1. Sherwin-Williams Company: www.sherwin-williams.com/#sle.
- E. Substitutions: See Section 01 60 00 - Product Requirements.

2.02 PAINTS AND COATINGS - GENERAL

- A. Paints and Coatings: Ready mixed, unless intended to be a field-catalyzed coating.

1. Provide paints and coatings of a soft paste consistency, capable of being readily and uniformly dispersed to a homogeneous coating, with good flow and brushing properties, and capable of drying or curing free of streaks or sags.
 2. Supply each coating material in quantity required to complete entire project's work from a single production run.
 3. Do not reduce, thin, or dilute coatings or add materials to coatings unless such procedure is specifically described in manufacturer's product instructions.
- B. Primers: As follows unless other primer is required or recommended by manufacturer of top coats; where the manufacturer offers options on primers for a particular substrate, use primer categorized as "best" by the manufacturer.
- C. Volatile Organic Compound (VOC) Content:
1. Provide coatings that comply with the most stringent requirements specified in the following:
 - a. 40 CFR 59, Subpart D--National Volatile Organic Compound Emission Standards for Architectural Coatings.
 2. Determination of VOC Content: Testing and calculation in accordance with 40 CFR 59, Subpart D (EPA Method 24), exclusive of colorants added to a tint base and water added at project site; or other method acceptable to authorities having jurisdiction.
- D. Colors: To be selected from manufacturer's full range of available colors.
1. Selection to be made by JEO Architecture, Inc. after award of contract.
 2. In finished areas, finish pipes, ducts, conduit, and equipment the same color as the wall/ceiling they are mounted on/under.

2.03 PAINT SYSTEMS - EXTERIOR

- A. Metal: Hollow Metal Doors and Frames, Galvanized Lintels::
1. 1st coat: Sherwin Williams, DTM Primer/Finish, B66W1 Series- Spot prime
 2. 2nd coat: Sherwin Williams, DTM Acrylic Semi-Gloss, B66-200 Series
 3. 3rd coat: Sherwin Williams, DTM Acrylic Semi-Gloss, B66-200 Series
 4. Colors: To be selected from manufacturer's full line of available colors.
- B. Fiber-Cement Siding
1. 1st Coat: Sherwin Williams, Loxon Masonry Primer
 2. 2nd Coat: Sherwin Williams, Duration Exterior Latex
 3. 3rd Coat: Sherwin Williams, Duration Exterior Latex
 4. Colors: To be selected from manufacturer's full line of available colors.

2.04 PAINT SYSTEMS - INTERIOR

- A. Metal: Hollow Metal Frames & Doors, Handrails, Guardrails, and Exposed Steel
1. 1st coat: Sherwin Williams, DTM Primer/Finish, B66W1 Series - Spot prime
 2. 2nd coat: Sherwin Williams, DTM Acrylic Semi-Gloss, B66-200 Series
 3. 3rd coat: Sherwin Williams, DTM Acrylic Semi-Gloss, B66-200 Series
 4. Colors: To be selected from manufacturer's full line of available colors.
- B. Gypsum Board
1. 1st coat: Sherwin Williams, Contractors Primer, B28WF162 Series
 2. 2nd coat: Sherwin Williams, ProMar 200 Interior Latex Eg-Shel, B20W2251 Series
 3. 3rd coat: Sherwin Williams, ProMar 200 Interior Latex Eg-Shel, B20W2251 Series
 4. Colors: To be selected from manufacturer's full line of available colors.
- C. Gypsum Board - Restroom Ceilings.
1. 1st coat: Sherwin Williams, Contractors Primer, B28WF162 Series
 2. 2nd coat: Sherwin Williams, Pro Industrial Pre-Catalyzed Waterbased Epoxy Eg-Shel K46 Series
 3. 3rd coat: Sherwin Williams, Pro Industrial Pre-Catalyzed Waterbased Epoxy Eg-Shel K46 Series

4. Colors: To be selected from manufacturer's full line of available colors.

2.05 ACCESSORY MATERIALS

- A. Accessory Materials: Provide all primers, sealers, cleaning agents, cleaning cloths, sanding materials, and clean-up materials required to achieve the finishes specified whether specifically indicated or not; commercial quality.
- B. Patching Material: Latex filler.
- C. Fastener Head Cover Material: Latex filler.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Do not begin application of coatings until substrates have been properly prepared.
- B. Verify that surfaces are ready to receive work as instructed by the product manufacturer.
- C. Examine surfaces scheduled to be finished prior to commencement of work. Report any condition that may potentially affect proper application.
- D. If substrate preparation is the responsibility of another installer, notify JEO Architecture, Inc. of unsatisfactory preparation before proceeding.
- E. Test shop-applied primer for compatibility with subsequent cover materials.
- F. Measure moisture content of surfaces using an electronic moisture meter. Do not apply finishes unless moisture content of surfaces are below the following maximums:
 1. Gypsum Wallboard: 12 percent.
 2. Masonry, Concrete, and Concrete Unit Masonry: 12 percent.
 3. Interior Wood: 15 percent, measured in accordance with ASTM D4442.
 4. Exterior Wood: 15 percent, measured in accordance with ASTM D4442.
 5. Concrete Floors and Traffic Surfaces: 8 percent.

3.02 PREPARATION

- A. Clean surfaces thoroughly and correct defects prior to coating application.
- B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.
- C. Remove or repair existing coatings that exhibit surface defects.
- D. Remove or mask surface appurtenances, including electrical plates, hardware, light fixture trim, escutcheons, and fittings, prior to preparing surfaces or finishing.
- E. Seal surfaces that might cause bleed through or staining of topcoat.
- F. Remove mildew from impervious surfaces by scrubbing with solution of tetra-sodium phosphate and bleach. Rinse with clean water and allow surface to dry.
- G. Gypsum Board Surfaces to be Painted: Fill minor defects with filler compound. Spot prime defects after repair.
- H. Insulated Coverings to be Painted: Remove dirt, grease, and oil from canvas and cotton.
- I. Galvanized Surfaces to be Painted: Remove surface contamination and oils and wash with solvent. Apply coat of etching primer.
- J. Corroded Steel and Iron Surfaces to be Painted: Prepare using at least SSPC-SP 2 (hand tool cleaning) or SSPC-SP 3 (power tool cleaning) followed by SSPC-SP 1 (solvent cleaning).
- K. Uncorroded Uncoated Steel and Iron Surfaces to be Painted: Remove grease, mill scale, weld splatter, dirt, and rust. Where heavy coatings of scale are evident, remove by hand wire brushing or sandblasting; clean by washing with solvent. Apply a treatment of phosphoric acid solution, ensuring weld joints, bolts, and nuts are similarly cleaned. Prime paint entire surface; spot prime after repairs.

- L. Shop-Primed Steel Surfaces to be Finish Painted: Sand and scrape to remove loose primer and rust. Feather edges to make touch-up patches inconspicuous. Clean surfaces with solvent. Prime bare steel surfaces. Re-prime entire shop-primed item.
- M. Metal Doors to be Painted: Prime metal door top and bottom edge surfaces.

3.03 APPLICATION

- A. Remove unfinished louvers, grilles, covers, and access panels on mechanical and electrical components and paint separately.
- B. Apply products in accordance with manufacturer's instructions.
- C. Where adjacent sealant is to be painted, do not apply finish coats until sealant is applied.
- D. Do not apply finishes to surfaces that are not dry. Allow applied coats to dry before next coat is applied.
- E. Apply each coat to uniform appearance.
- F. Dark Colors and Deep Clear Colors: Regardless of number of coats specified, apply as many coats as necessary for complete hide.
- G. Vacuum clean surfaces of loose particles. Use tack cloth to remove dust and particles just prior to applying next coat.
- H. Reinstall electrical cover plates, hardware, light fixture trim, escutcheons, and fittings removed prior to finishing.

3.04 FIELD QUALITY CONTROL

- A. See Section 01 40 00 - Quality Requirements, for general requirements for field inspection.

3.05 CLEANING

- A. Collect waste material that could constitute a fire hazard, place in closed metal containers, and remove daily from site.

3.06 PROTECTION

- A. Protect finished coatings until completion of project.
- B. Touch-up damaged coatings after Substantial Completion.

3.07 SCHEDULE - PAINT SYSTEMS

- A. Paint the surfaces as described in Part 2, Paint Systems Articles.

END OF SECTION

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**SECTION 10 14 00
SIGNAGE**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Room and door signs.

1.02 REFERENCE STANDARDS

- A. 36 CFR 1191 - Americans with Disabilities Act (ADA) Accessibility Guidelines for Buildings and Facilities; Architectural Barriers Act (ABA) Accessibility Guidelines; current edition.
- B. ADA Standards - 2010 ADA Standards for Accessible Design; 2010.
- C. ICC A117.1 - Accessible and Usable Buildings and Facilities; 2017.

1.03 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Product Data: Manufacturer's printed product literature for each type of sign, indicating sign styles, font, foreground and background colors, locations, overall dimensions of each sign.
- C. Signage Schedule: Provide information sufficient to completely define each sign for fabrication, including room number, room name, other text to be applied, sign and letter sizes, fonts, and colors.
 - 1. When room numbers to appear on signs differ from those on drawings, include the drawing room number on schedule.
 - 2. When content of signs is indicated to be determined later, request such information from Owner through Architect at least 2 months prior to start of fabrication; upon request, submit preliminary schedule.
 - 3. Submit for approval by Owner through Architect prior to fabrication.
- D. Samples: Submit one sample of each type of sign, of size similar to that required for project, illustrating sign style, font, and method of attachment.
- E. Selection Samples: Where colors are not specified, submit two sets of color selection charts or chips.
- F. Manufacturer's Installation Instructions: Include installation templates and attachment devices.
- G. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
 - 1. See Section 01 60 00 - Product Requirements, for additional provisions.

1.04 QUALITY ASSURANCE

1.05 DELIVERY, STORAGE, AND HANDLING

- A. Package signs as required to prevent damage before installation.
- B. Package room and door signs in sequential order of installation, labeled by floor or building.
- C. Store tape adhesive at normal room temperature.

1.06 FIELD CONDITIONS

- A. Do not install tape adhesive when ambient temperature is lower than recommended by manufacturer.
- B. Maintain this minimum temperature during and after installation of signs.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Flat Signs:
 - 1. Latitude Signage+Design;: www.latitudesignage.com
 - 2. Best Sign Systems, Inc: www.bestsigns.com/#sle.
 - 3. Cosco Industries (ADA signs): www.coscoarchitecturalsigns.com/#sle.

4. FASTSIGNS: www.fastsigns.com/#sle.
5. Inpro: www.inprocorp.com/#sle.
6. Mohawk Sign Systems, Inc: www.mohawksign.com/#sle.
7. Seton Identification Products: www.seton.com/aec/#sle.
8. Substitutions: See Section 01 60 00 - Product Requirements.

2.02 SIGNAGE APPLICATIONS

- A. Accessibility Compliance: Signs are required to comply with ADA Standards and ICC A117.1 and applicable building codes, unless otherwise indicated; in the event of conflicting requirements, comply with the most comprehensive and specific requirements.
- B. Room and Door Signs: Provide a sign for Mechanical Rooms, Restrooms, Decon Room, Offices, Storage Rooms
 1. Sign Type: Flat signs with engraved panel media as specified.
 2. Provide "tactile" signage, with letters raised minimum 1/32 inch and Grade II braille.
 3. Character Height: 1 inch.
 4. Sign Height: 6x9 inches for restroom, 3x9 inches for Mechanical rooms, unless otherwise indicated.
 5. Service Rooms: Identify with Mechanical, Decon, Storage, EMS Storage.
 6. Rest Rooms: Identify with pictograms, the names "MEN" and "WOMEN", and braille.

2.03 SIGN TYPES

- A. Flat Signs: Signage media without frame.
 1. Edges: Square.
 2. Corners: Radiused.
 3. Wall Mounting of One-Sided Signs: Tape adhesive.
- B. Color and Font: Unless otherwise indicated:
 1. Character Font: Helvetica, Arial, or other sans serif font.
 2. Character Case: Upper case only.
 3. Background Color: As selected from manufacturer's full line.
 4. Character Color: Contrasting color.

2.04 TACTILE SIGNAGE MEDIA

- A. Injection Molded Panels: One-piece acrylic plastic, with raised letters and braille.
 1. Total Thickness: 1/8 inch.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that substrate surfaces are ready to receive work.

3.02 INSTALLATION

- A. Install in accordance with manufacturer's instructions.
- B. Install neatly, with horizontal edges level.
- C. Locate signs and mount at heights indicated on drawings and in accordance with ADA Standards and ICC A117.1.
- D. Protect from damage until Date of Substantial Completion; repair or replace damaged items.

END OF SECTION

**SECTION 10 21 13.19
PLASTIC TOILET COMPARTMENTS**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Solid plastic toilet compartments.
- B. Urinal screens.

1.02 RELATED REQUIREMENTS

- A. Section 06 10 00 - Rough Carpentry: Blocking and supports.
- B. Section 10 28 00 - Toilet, Bath, and Laundry Accessories.

1.03 REFERENCE STANDARDS

- A. ASTM A666 - Standard Specification for Annealed or Cold-Worked Austenitic Stainless Steel Sheet, Strip, Plate, and Flat Bar; 2015.
- B. NFPA 286

1.04 ADMINISTRATIVE REQUIREMENTS

- A. Coordination: Coordinate the work with placement of support framing and anchors in walls and ceilings.

1.05 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Shop Drawings: Indicate partition plan, elevation views, dimensions, details of wall supports, door swings.
- C. Product Data: Provide data on panel construction, hardware, and accessories.
- D. Samples: Submit two samples of partition panels, 4 by 4 inch in size illustrating panel finish, color, and sheen.
- E. Manufacturer's Installation Instructions: Indicate special procedures.

1.06 QUALITY ASSURANCE

- A. Manufacturer's Qualifications: A company regularly engaged in manufacture of products specified in this section, and whose products have been in satisfactory use under similar service conditions for not less than 5 years.
- B. Installer's Qualifications: A Company or Individual, regularly engaged in installation of products specified in this Section, with a minimum of 5 years experience.

1.07 WARRANTY

- A. Twenty-five year warranty against breakage, corrosion, and delamination under normal conditions from the date of Substantial Completion.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Solid Plastic Toilet Compartments:
 - 1. Scranton Products (Santana/Comtec/Capital); Product Hiny Hiders Solid Plastic Toilet Partitions: www.scrantonproducts.com. (Basis for Design)
 - 2. Hadrian Manufacturing, Inc.; Product Solid Plastic Toilet Partitions: www.hadrian-inc.com
 - 3. The following products shall be approved substitutions if the 25 year warranty as specified in Section 10 21 13.19, 1.08A is provided:
 - a. Accurate Partitions Corp.; Product Solid Plastic Polymer www.accuratepartitions.com.
 - b. Bradley Corp.; Product Bradmar Partitions www.bradleycorp.com.
 - c. Ampco; Product Solid Plastic High Density Polyethylene www.ampco.com.
 - d. Solid Partitions; www.solidpartitions.com

4. Substitutions: Section 01 60 00 - Product Requirements.

2.02 SOLID PLASTIC TOILET COMPARTMENTS

- A. Toilet Compartments: Factory fabricated doors, pilasters, and divider panels made of solid molded high density polyethylene (HDPE), floor-mounted headrail-braced. Partitions shall be fabricated from polymer resins compounded under high pressure, forming a single component which is waterproof, nonabsorbent and has a self-lubricating surface that resists marks from pens, pencils, markers and other writing instruments. All plastic components shall be covered with a protective plastic masking.
 1. Color: Refer to 09 99 90 - Color Schedule
- B. Doors:
 1. Thickness: 1 inch.
 2. Width: 30 inch.
 3. Width for Handicapped Use: 36 inch.
 4. Height: 55 inch.
- C. Panels:
 1. Thickness: 1 inch (25 mm).
 2. Height: 55 inch.
- D. Pilasters:
 1. Thickness: 1 inch (25 mm).
 2. Width: As required to fit space; minimum 3 inches (76 mm).
 3. Height: 82 inches high and fastened into a 3" high pilaster shoe with a stainless steel tamper resistant torx head sex bolt.
- E. Urinal Screens: Without doors; to match compartments; mounted to wall with two panel brackets with vertical support/bracing same as compartments.

2.03 HARDWARE

- A. Hinges shall be 8 inches and fabricated from heavy-duty extruded aluminum (6463-T5 alloy) with bright dip anodized finish with wrap-around flanges, through bolted to doors and pilasters with stainless steel, torx head sex bolts. Cams can be field set in 30-degree increments.
- B. Door strike/keeper shall be 6 inches long and made of heavy-duty extruded aluminum (6436-T5 alloy) with a bright dip anodized finish and secured to the pilasters with stainless steel tamper resistant torx head sex bolts. Bumper shall be made of extruded black vinyl.
- C. Latch and housing shall be made of heavy-duty extruded aluminum (6463-T5 alloy). The latch housing shall have a bright dip anodized finish, and the slide bolt and button shall have a black anodized finish.
- D. Coat Hook/Bumper: Combination type, chrome plated. Equip outswing handicapped doors with second pull and door stop.
- E. Pilaster sleeves shall be 3 inch high, Type 304, 20 gauge, stainless steel. Pilaster shoes shall be secured to the pilaster with a stainless steel tamper resistant torx head sex bolt.
- F. Wall brackets shall be continuous stainless steel type.
- G. Headrail shall be made of a heavy-duty extruded aluminum (6463-T5 alloy) with anti grip design. Headrail shall have a clear anodized finish.
- H. Headrail brackets shall be 20 gauge stainless steel with a satin finish.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that field measurements are as indicated on shop drawings.
- B. Verify correct spacing of and between plumbing fixtures.
- C. Verify correct location of built-in framing, anchorage, and bracing.

3.02 INSTALLATION

- A. Install partitions secure, rigid, plumb, and level in accordance with manufacturer's instructions.
- B. Maintain 3/8 to 1/2 inch space between wall and panels and between wall and end pilasters.
- C. Attach panel brackets securely to walls using anchor devices.
- D. Attach panels and pilasters to brackets. Locate head rail joints at pilaster center lines.
- E. Field touch-up of scratches or damaged finish will not be permitted. Replace damaged or scratched materials with new materials.

3.03 TOLERANCES

- A. Maximum Variation From True Position: 1/4 inch.
- B. Maximum Variation From Plumb: 1/8 inch.

3.04 ADJUSTING

- A. Adjust and align hardware to uniform clearance at vertical edge of doors, not exceeding 3/16 inch.
- B. Adjust hinges to position doors in partial opening position when unlatched. Return out-swinging doors to closed position.
- C. Adjust adjacent components for consistency of line or plane.

END OF SECTION

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**SECTION 10 28 00
TOILET, BATH, AND LAUNDRY ACCESSORIES**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Commercial toilet accessories.
- B. Grab bars.

1.02 RELATED REQUIREMENTS

- A. Section 06 1000 - Rough Carpentry: Concealed supports for accessories, including in wall framing and plates.
- B. Section 10 21 13.19 - Plastic Toilet Compartments.

1.03 REFERENCE STANDARDS

- A. ASTM A123/A123M - Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products 2017.
- B. ASTM A269/A269M - Standard Specification for Seamless and Welded Austenitic Stainless Steel Tubing for General Service 2015a (Reapproved 2019).
- C. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process 2020.
- D. ASTM A666 - Standard Specification for Annealed or Cold-Worked Austenitic Stainless Steel Sheet, Strip, Plate, and Flat Bar 2015.
- E. ASTM B456 - Standard Specification for Electrodeposited Coatings of Copper Plus Nickel Plus Chromium and Nickel Plus Chromium 2017.
- F. ASTM C1036 - Standard Specification for Flat Glass 2016.
- G. ASTM C1503 - Standard Specification for Silvered Flat Glass Mirror 2018.

1.04 ADMINISTRATIVE REQUIREMENTS

- A. Coordinate the work with the placement of internal wall reinforcement, concealed ceiling supports, and reinforcement of toilet partitions to receive anchor attachments.

1.05 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide data on accessories describing size, finish, details of function, attachment methods.
- C. Manufacturer's Installation Instructions: Indicate special procedures and conditions requiring special attention.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Products listed are made by Bobrick Washroom Equipment, Inc.
- B. Other Acceptable Manufacturers:
 - 1. A & J Washroom Accessories Inc: www.ajwashroom.com/#sle.
 - 2. American Specialties, Inc: www.americanspecialties.com/#sle.
 - 3. Bradley Corporation: www.bradleycorp.com/#sle.
 - 4. Substitutions: Section 01 60 00 - Product Requirements.
- C. All items of each type to be made by the same manufacturer.

2.02 MATERIALS

- A. Accessories - General: Shop assembled, free of dents and scratches and packaged complete with anchors and fittings, steel anchor plates, adapters, and anchor components for installation.

- B. Stainless Steel Sheet: ASTM A666, Type 304.
- C. Stainless Steel Tubing: ASTM A269, Type 304 or 316.
- D. Galvanized Sheet Steel: Hot-dipped galvanized steel sheet, ASTM A653/A653M, with G90/Z275 coating.
- E. Mirror Glass: Float glass, ASTM C1036 Type I, Class 1, Quality Q2, with silvering, protective and physical characteristics complying with ASTM C1503.
- F. Adhesive: Two component epoxy type, waterproof.
- G. Fasteners, Screws, and Bolts: Hot dip galvanized, tamper-proof , security type.
- H. Expansion Shields: Fiber, lead, or rubber as recommended by accessory manufacturer for component and substrate.

2.03 FINISHES

- A. Stainless Steel: No. 4 satin brushed finish, unless otherwise noted.
- B. Chrome/Nickel Plating: ASTM B456, SC 2, satin finish, unless otherwise noted.
- C. Baked Enamel: Pretreat to clean condition, apply one coat primer and minimum two coats epoxy baked enamel.
- D. Galvanizing for Items Other than Sheet: Comply with ASTM A123/A123M; galvanize ferrous metal and fastening devices.
- E. Shop Primed Ferrous Metals: Pretreat and clean, spray apply one coat primer and bake.
- F. Back paint components where contact is made with building finishes to prevent electrolysis.

2.04 TOILET ROOM ACCESSORIES

- A. As indicated on drawings.
- B. Grab Bars: Stainless steel, nonslip grasping surface finish.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify existing conditions before starting work.
- B. Verify exact location of accessories for installation.
- C. Verify that field measurements are as indicated on drawings.

3.02 PREPARATION

- A. Deliver inserts and rough-in frames to site for timely installation.
- B. Provide templates and rough-in measurements as required.

3.03 INSTALLATION

- A. Install accessories in accordance with manufacturers' instructions in locations indicated on drawings.
- B. Install plumb and level, securely and rigidly anchored to substrate.
- C. Mounting Heights: As required by accessibility regulations, unless otherwise indicated.
- D. Mounting Heights and Locations: As required by accessibility regulations and as indicated on drawings.

3.04 SCHEDULE

- A. Refer to drawings for scheduled accessories.

END OF SECTION

**THIS PAGE CONCLUDES
THE
SPECIFICATIONS
FOR THE
DAVID CITY BALLFIELD RESTROOM ADDITION
FOR
DAVID CITY, NEBRASKA**

SHEET SIZE: ARCH E1 (24.0" x 36.00 INCHES)

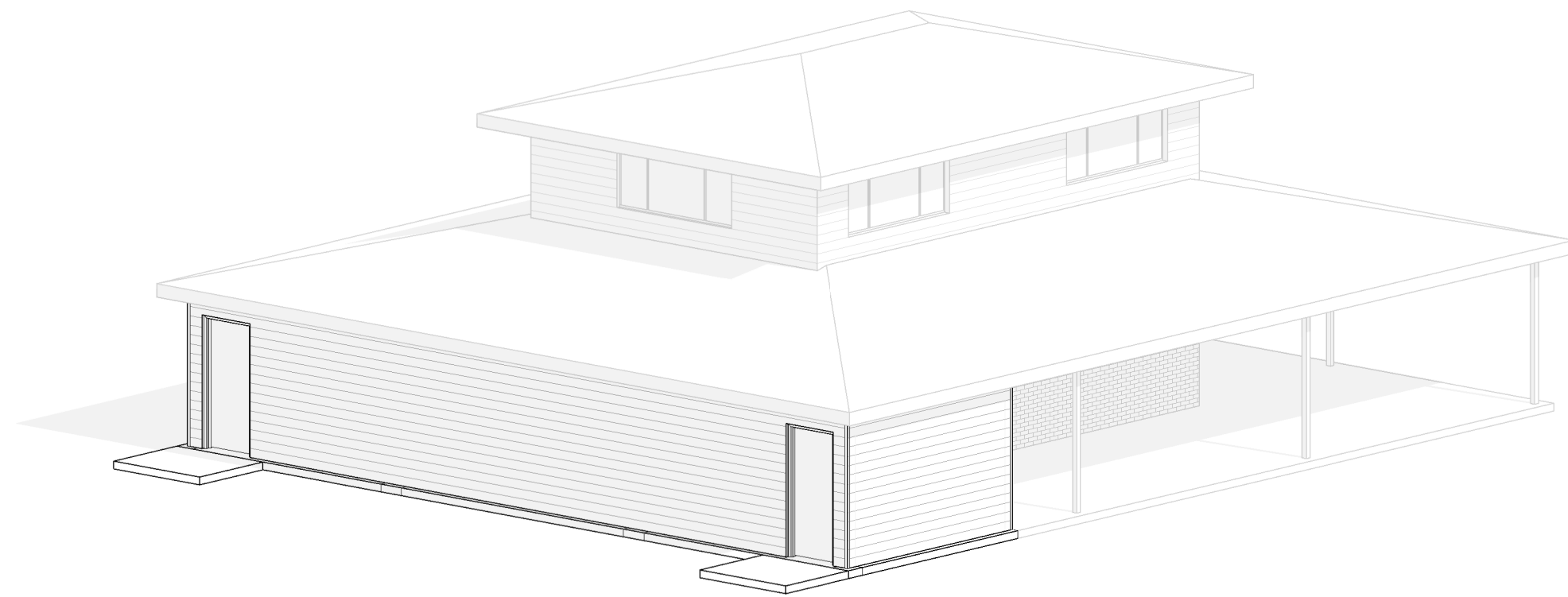
CONTRACT DOCUMENTS FOR THE:

David City Ballfield RR Addition

David City, Nebraska
100 M Rd, David City, NE 68632

JEO PROJECT NO.: 251890.00

BUILDING PERSPECTIVE



SCALE: N.T.S

SYMBOLS

	REFERENCED DEMOLITION NOTE		REFERENCED NOTE
	COLUMN REFERENCE GRID LINES		BUILDING SECTION
	ROOM NAME & NO.		WALL SECTION
	DOOR NO.		DETAIL
	STOREFRONT / CURTAIN WALL TYPE		INTERIOR ELEVATIONS
	WINDOW TYPE		ENLARGED DETAIL
	WALL TYPE		REVISION
	EQUIPMENT OR FIXTURE		PHOTOGRAPH REFERENCE
	ELEVATION		

INDEX OF SHEETS

GENERAL	
G101	COVER SHEET, SHEET INDEX, & GENERAL NOTES
CIVIL	
C101	REMOVALS, SITE LAYOUT & UTILITY PLAN
C201	SITE GRADING & EROSION CONTROL PLAN
STRUCTURAL	
S001	GENERAL NOTES
S101	FOUNDATION PLAN
ARCHITECTURAL	
A001	ARCHITECTURAL DEMOLITION FLOOR PLAN
A101	ARCHITECTURAL FLOOR PLAN
A111	REFLECTED CEILING PLAN
A201	BUILDING ELEVATIONS
A301	BUILDING SECTIONS
A401	ENLARGED PLANS & INTERIOR ELEVATIONS
A501	ARCHITECTURAL DETAILS & SCHEDULES
PLUMBING	
P000	PLUMBING NOTES, SPECIFICATIONS AND SYMBOLS
PD101	PLUMBING DEMOLITION FLOOR PLAN
P101	PLUMBING FLOOR PLANS
P201	PLUMBING SCHEDULES & DETAILS
MECHANICAL	
M000	HVAC NOTES, SPECIFICATIONS & SYMBOLS
M101	HVAC FLOOR PLAN
M201	HVAC SCHEDULES & DETAILS
ELECTRICAL	
E000	ELECTRICAL GENERAL PROJECT NOTES & SYMBOLS
E101	LIGHTING FLOOR PLANS
E201	POWER FLOOR PLANS
E301	PANELS SCHEDULES
E302	LIGHTING SCHEDULES
E401	ELECTRICAL SPECIFICATIONS

STANDARD ABBREVIATIONS

A/E	ARCHITECT/ENGINEER	MFR	MANUFACTURER
ACT	ACOUSTIC CEILING TILE	MIN	MINUTES
AFB	ABOVE FINISHED FLOOR	MISC	MISCELLANEOUS
ALUM	ALUMINUM	NIC	NOT IN CONTRACT
ALT	ALTERNATE	NTS	NOT TO SCALE
ASPH	ASPHALT	OC	ON CENTER
BD	BOARD	OFCI	OWNER FURNISHED/ CONTRACTOR INSTALLED
BLDG	BUILDING	OFOI	OWNER FURNISHED/ OWNER INSTALLED
B.O.	BOTTOM OF	OH	OVERHEAD
CFCI	CONTRACTOR FURNISHED / CONTRACTOR INSTALLED	PNT	PAINT
C.T.	CERAMIC TILE	PLAM	PLASTIC LAMINATE
CJ	CONTROL JOINT	PLYWD	PLYWOOD
CL	CENTER LINE	PREFAB	PREFABRICATED
CLR	CLEAR	PRE-FIN.	PRE-FINISHED
CMU	CONCRETE MASONRY UNIT	PVMT	PAVEMENT
COL	COLUMN	RB	RESILIENT BASE
CONC	CONCRETE	REF	REFERENCE
CONT	CONTINUOUS	REINF	REINFORCEMENT
CPT	CARPET	REQ	REQUIRED
DEMO	DEMOLISH/DEMOLITION	SALV	SALVAGE
DIST	DISTANCE	SC	SOLID CORE
DS	DOWNSPOUT	SCHED	SCHEDULE
EIFS	EXT INSUL & FINISH SYSTEM	SEAL	SEALANT/ SEALER
EA	EACH	SF	SQUARE FOOT
ELEC	ELECTRICAL	SIM	SIMILAR
ELEV	ELEVATOR	SPEC	SPECIFICATION
ENGR	ENGINEER	S. SURF	SOLID SURFACE
EQ	EQUAL	SS	STAINLESS STEEL
EQUIP	EQUIPMENT	ST	STAIN
EQUIV	EQUIVALENT	STD	STANDARD
EW	EACH WAY	STOR	STORAGE
EXIST	EXISTING	STRUCT	STRUCTURAL
EXH FN	EXHAUST FAN	T&B	TOP AND BOTTOM
EXT	EXTERIOR	T&G	TONGUE AND GROOVE
FD	FLOOR DRAIN	T&D	TO BE DETERMINED
FE	FIRE EXTINGUISHER	TD	TRENCH DRAIN
FEC	FIRE EXTINGUISHER CABINET	TEMP	TEMPORARY
FIN	FINISH	TO	TOP OF
GALV	GALVANIZED	TOT	TOTAL
GLU LAM	GLUE LAMINATED	TYP	TYPICAL
GYP	GYPSUM BOARD	UNFIN	UNFINISHED
HW	HARDWARE	UNO	UNLESS NOTED OTHERWISE
HM	HOLLOW METAL	UTIL	UTILITY
HORIZ	HORIZONTAL	VERT	VERTICAL
HT	HEIGHT	VT	VINYL TILE
INSUL	INSULATION	W	WITH
INT	INTERIOR	W/O	WITHOUT
LAV	LAVATORY	W/R	WATER RESISTANT
LF	LINEAR FOOT	WC	WATER CLOSET
MAINT	MAINTENANCE	WD	WOOD
MAX	MAXIMUM	WMT	WALK-OFF MAT
MECH	MECHANICAL		
MEZZ	MEZZANINE		

CONTACTS

OWNER:	Address:	Contact Info:
DAVID CITY	City of David City 490 E St, P.O. Box 191 David City, NE 68632	Will Reiter wreiter@davidcityne.gov P: 402.367.3135

COORDINATING PROFESSIONAL	Address:	Contact Info:
JEO CONSULTING GROUP	JEO Consulting Group 2000 Q Street Suite 500 Lincoln, NE 68503	Bryan Solko bsolko@jeo.com P: 402.435.3080

I, Bryan Solko AM THE COORDINATING PROFESSIONAL ON THE DAVID CITY BALLFIELD RESTROOM ADDITION PROJECT

CIVIL ENGINEER:	Address:	Contact Info:
JEO CONSULTING GROUP	JEO Consulting Group 11213 Davenport Street Suite 200 Omaha, NE 68154	Spencer Olson solson@jeo.com P: 402.964.3975

STRUCTURAL ENGINEER	Address:	Contact Info:
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ARCHITECT	Address:	Contact Info:
JEO ARCHITECTURE INC	JEO Consulting Group 2000 Q St Suite 500 Lincoln, NE 68503	Bryan Solko bsolko@jeo.com P: 402.435.3080

MECHANICAL ENGINEER:	Address:	Contact Info:
AES ADVANCED ENGINEERING SYSTEMS	Advanced Engineering Systems, Inc 4630 Antelope Creek Rd, Suite 200 Lincoln, NE 68506	Vishal Khanna vishal.khanna@a-e-sys.com P: 402.488.0075

ELECTRICAL ENGINEER:	Address:	Contact Info:
AES ADVANCED ENGINEERING SYSTEMS	Advanced Engineering Systems, Inc 4630 Antelope Creek Rd, Suite 200 Lincoln, NE 68506	Josh Rich josh.rich@a-e-sys.com P: 402.488.0075

GENERAL CONSTRUCTION NOTES

- General notes apply to all trades working on the project.
- Do not scale drawings.
- Verify all dimensions and required clearances between existing conditions and shop drawings prior to fabrication and installation.
- The drawings show existing conditions as accurately as possible based on available information. Contractor(s) shall field verify all dimensions, locations, utilities, equipment, etc. prior to the start of demolition or new construction. Report any discrepancies to the Architect before proceeding with the work.
- Conduct operations so as to permit public access around the site. Walks and driveways to be used by the public shall be maintained in a safe condition and shall be kept free and clear of the Contractor's equipment, materials and debris.
- Contractor(s) shall cooperate with the Owner in the scheduling and execution of the work and use of the site. Contractor(s) shall notify the Owner a minimum of 48 hours before commencement of any work operation for which testing or special observation is required.
- Contractor's operations and storage of materials shall be confined to the minimum area(s) of the site necessary to accomplish the work. The location of the area(s) shall be approved by the Owner.
- Contractor(s) shall exercise all reasonable precautions for the protection of persons and property on site. Safety provisions of applicable laws and building and construction codes shall be observed.
- Contractor(s) shall protect their work, the work of others, and existing items shown to remain. Do not damage materials shown to remain in place. Any work damaged by Contractor(s) shall be returned to the condition prior to damage and equal to adjacent surfaces.
- Security shall be maintained in all situations. Make provisions so the normal functions of the site can be maintained through the construction period.
- Contractor(s) shall provide temporary fences and barricades as required to protect the public.
- Verify all existing conditions are as indicated on the drawings prior to start of construction. Any discrepancies shall be reported to the Architect who will render a decision on any required revisions.
- All work shall be completed in accordance with all National, State, and local codes having jurisdiction.



JEO ARCHITECTURE INC

1937 N CHESTNUT ST
WAHOO, NE 68066
800.723.8567 | jeo.com

ORGANIZATION CERTIFICATION OF:
AUTHORIZATION NUMBER: CA-3929

PRELIMINARY
NOT FOR
CONSTRUCTION
100%
DATE:
PRELIMINARY

ISSUE

MARK DATE DESCRIPTION

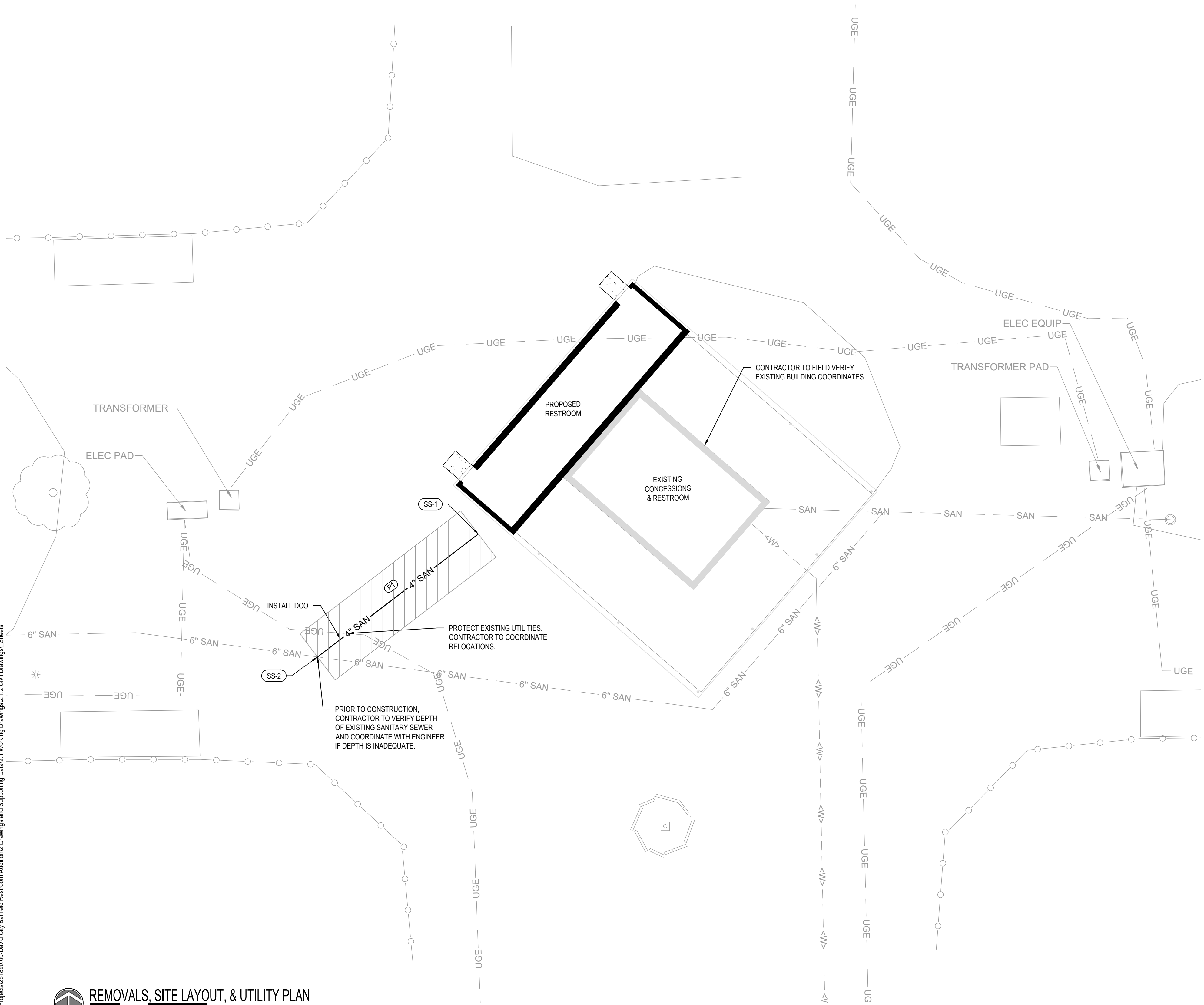
David City Ballfield RR Addition

David City, Nebraska
100 M Rd, David City, NE 68632

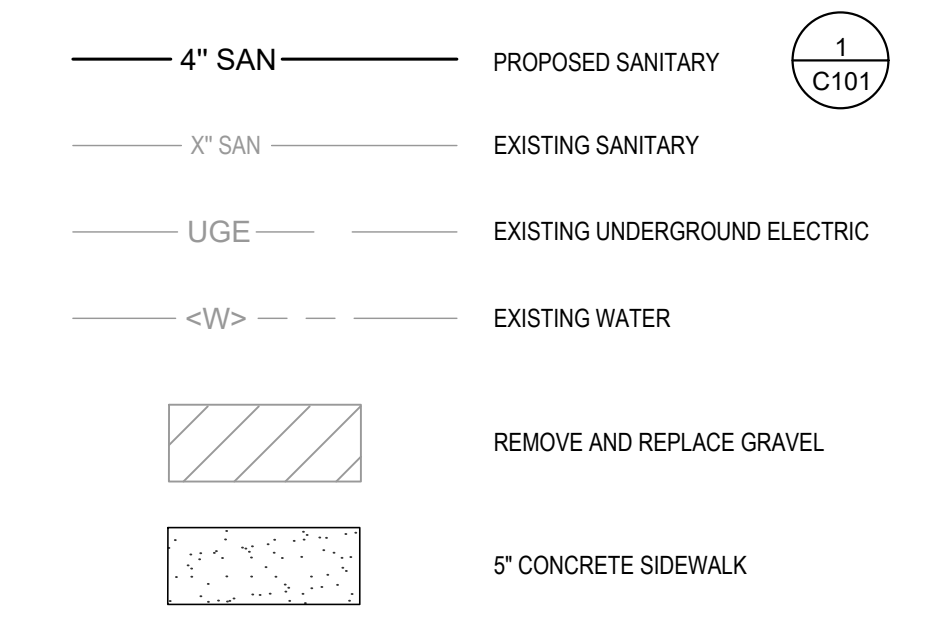
JEO PROJECT NO: 251890.00
DRAWN BY: DB
QAQC: BS
SHEET SIZE: 24" x 36"
DATE: 02.19.2026

COVER SHEET, SHEET INDEX, & GENERAL NOTES

Autodesk Docs://David City Ballfield RR Addition/251890.00 - David City Ballfield Restroom Addition - ARCH_v25.rvt

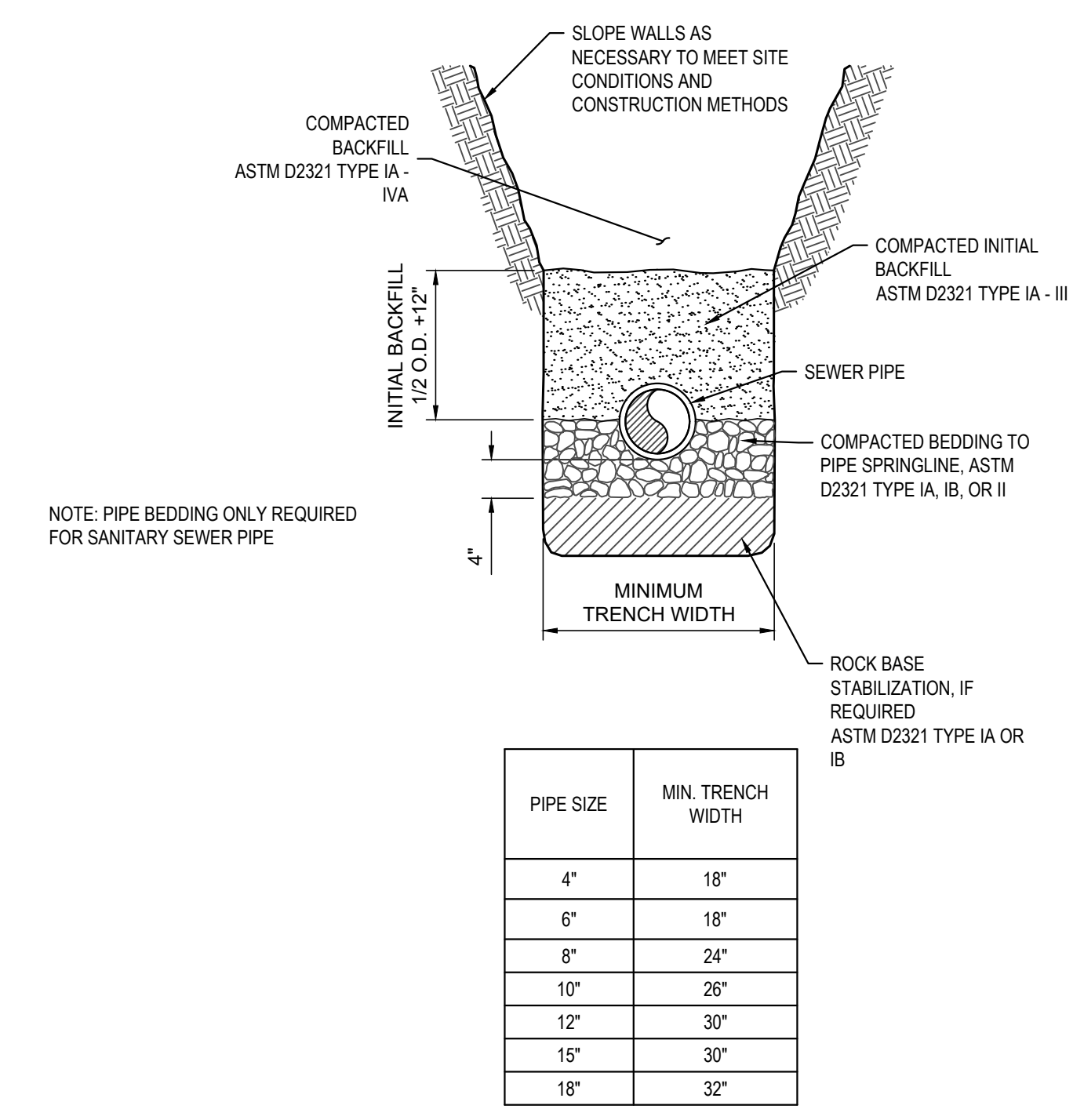


SITE UTILITY LEGEND



Pipe Name	Structure to Structure	Size	Length	Slope	Desc.
P1	SS-2 to SS-1	4"	35'	-5.69%	PVC Pipe

Structure Name	Rim Elev.	Invert Elev.	Desc.
SS-1	RIM = 1612.543	P1 INV. IN: 1612.00	Building Connection, Reference Mechanical/Plumbing
SS-2	RIM = 1610.501	P1 INV. OUT: 1610.02	Existing Sanitary Sewer Line Connection



1 SANITARY SEWER / WATER TRENCH
N.T.S.

PRELIMINARY
 NOT FOR CONSTRUCTION
100%
 DATE:
 PRELIMINARY

ISSUE

MARK	DATE	DESCRIPTION
------	------	-------------

David City Ballfield RR Addition

David City, Nebraska
 100 M Rd, David City, NE 68632

JEO PROJECT NO.: 251890.00
 DRAWN BY: [DCK]
 QAQC: [SDO]
 Additional Data:



GRADING & EROSION CONTROL LEGEND

- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- FIELD VERIFY & MATCH EXISTING
- SILT FENCE
- LIMITS OF CONSTRUCTION



JEO CONSULTING GROUP

1937 N CHESTNUT ST
 WAHOO, NE 68066
 800.723.8567 | jeo.com

JEO CONSULTING, INC.
 ORGANIZATION CERTIFICATE OF
 AUTHORIZATION NUMBER: CA-0069

PRELIMINARY
 NOT FOR
 CONSTRUCTION
100%
 DATE:
 PRELIMINARY

ISSUE

MARK	DATE	DESCRIPTION
------	------	-------------

David City Ballfield RR Addition

David City, Nebraska
 100 M Rd, David City, NE 68632

JEO PROJECT NO.: 251890.00
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 Additional Data:

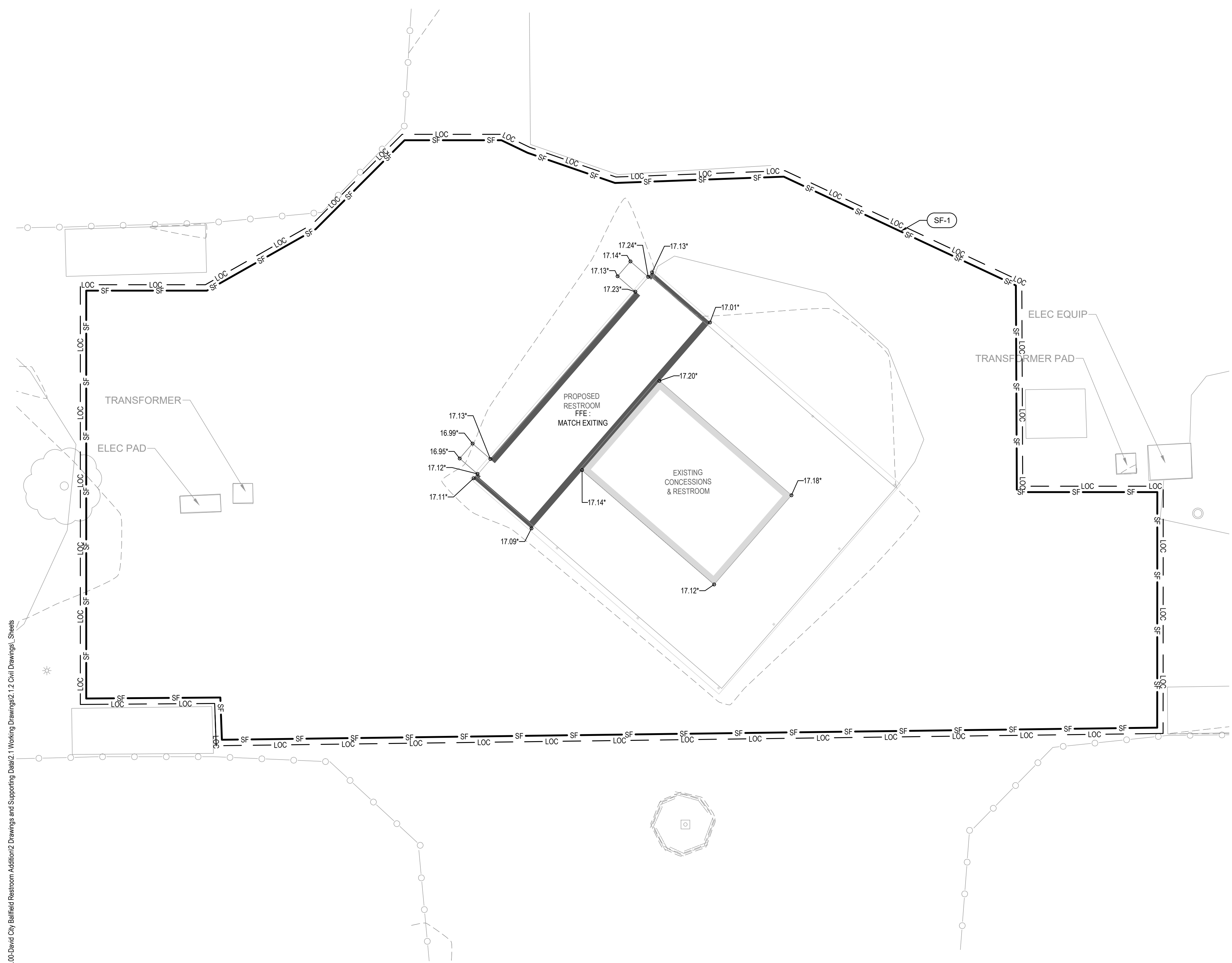


Know what's below.
 Call before you dig.



SITE GRADING & EROSION CONTROL PLAN

C201



SITE GRADING & EROSION CONTROL PLAN

Sheet Size: ARCH D (24.0 x 36.00 INCHES)

GOVERNING CODES:

2018 INTERNATIONAL BUILDING CODE
ASCE 7-16
ACI 318-14 (CAST-IN-PLACE CONCRETE)
AISC 14TH EDITION (STRUCTURAL STEEL)
ACI 530-14 (CMU)

DESIGN LOADS:

BUILDING CATEGORY = II
ROOF LOAD
MINIMUM ROOF LIVE LOAD = .20 psf
SNOW LOAD
GROUND SNOW (Pg) = .25 psf
FLAT ROOF SNOW (Pfl) = .20 psf
SNOW EXPOSURE (Ce) = 1.0
THERMAL FACTOR (Ct) = 1.1
IMPORTANCE FACTOR (Is) = 1.0
RAIN ON SNOW (Pg > 20 psf) = NA
UNBALANCED SNOW LOADS = ASCE 7 Section 7.6
WIND LOADS
BASIC WIND SPEED = 115 mph
TOPOGRAPHIC FACTOR (Kzt) = 1.0
EXPOSURE = C
CLADDING = SEE APPLICABLE TABLES IN IBC 2018

GENERAL

- 1. FOR FIELD LAYOUT AND SHOP DETAILING, THE CONTRACTOR MUST VERIFY AND COORDINATE DIMENSIONS ON ARCHITECTURAL, MECHANICAL AND STRUCTURAL DRAWINGS AND IMMEDIATELY REPORT ANY DISCREPANCIES IN WRITING TO THE ARCHITECT AND ENGINEER OF RECORD.
2. THE CONTRACTOR SHALL SHORE AND BRACE ALL BEAMS CARRYING MASONRY AS REQUIRED TO PREVENT MOVEMENT DURING WALL ERECTION.
3. THE CONTRACTOR SHALL DETERMINE THE LOCATION OF UTILITY SERVICES IN THE AREA TO BE EXCAVATED BEFORE BEGINNING EXCAVATION.
4. IN NO CASE SHALL DIMENSIONS BE SCALED FROM PLANS, SECTIONS OR DETAILS ON THE STRUCTURAL DRAWINGS.
5. THE GENERAL CONTRACTOR SHALL REPORT ALL NON-CONFORMING TEST REPORTS TO THE ENGINEER OF RECORD FOR REVIEW BEFORE PROCEEDING.
6. THE CONTRACTOR IS RESPONSIBLE FOR BRACING ALL STRUCTURAL ELEMENTS, WITHOUT OVERSTRESSING, AS REQUIRED UNTIL PROJECT IS COMPLETE.
7. PIPES, DUCTWORK AND OTHER MECHANICAL OR PLUMBING FIXTURES TO BE SUPPORTED FROM THE TOP CHORD OF BAR JOISTS ONLY UNLESS OTHERWISE NOTED OR APPROVED BY THE ENGINEER OF RECORD.
8. WRITTEN CLARIFICATION IS TO BE OBTAINED FROM THE STRUCTURAL ENGINEER FOR ANY DISCREPANCIES BETWEEN THE STRUCTURAL DRAWINGS AND THE PROJECT SPECIFICATIONS.
9. SEE THE AISC CODE OF STANDARD PRACTICE FOR BUILDINGS AND BRIDGES SECTION 4.3 FOR ELECTRONIC DATA INTERCHANGE PRACTICES, PROCEDURES, AND LIABILITIES.

FOUNDATIONS

- 1. ALLOWABLE BEARING CAPACITY = 1500 PSF (ASSUMED)
2. A GEOTECHNICAL ENGINEER TO BE RETAINED TO PROVIDE CONTINUOUS TESTING AND OBSERVATION DURING ALL EARTHWORK AND FOUNDATION CONSTRUCTION PHASES AND VERIFY ALL RECOMMENDATIONS ARE BEING IMPLEMENTED.
3. PROTECT FOUNDATION EXCAVATIONS FROM FROST. DO NOT PLACE CONCRETE ON FROZEN GROUND.
4. FOUNDATION EXCAVATIONS SHALL BE KEPT FREE OF LOOSE MATERIAL AND STANDING WATER AND SHALL BE CHECKED AND APPROVED BY THE GEOTECHNICAL ENGINEER BEFORE THE PLACEMENT OF CONCRETE.
5. FROST DEPTH = 42". CONTRACTOR TO COORDINATE FOUNDATION WITH GRADING PLAN TO MAINTAIN THIS MINIMUM REQUIREMENT ABOVE BOTTOM OF ALL FOOTINGS.
6. CONSTRUCTION DETAILS FOR ALL SLABS-ON-GRADE SHALL BE IN ACCORDANCE WITH STANDARD INDUSTRY PRACTICE AND THE SOILS REPORT.
7. ALL FOOTING EXCAVATIONS AND SLAB SUBGRADE TO BE INSPECTED BY THE GEOTECHNICAL ENGINEER PRIOR TO PLACEMENT OF CONCRETE AND SHALL TEST ALL FILL FOR REQUIRED COMPACTION.
8. ANY AND ALL BACKFILL MATERIAL TO BE APPROVED BY THE GEOTECHNICAL ENGINEER PRIOR TO CONSTRUCTION. FILL TO BE INSTALLED IN 6" TO 8" LIFTS AND COMPACTED TO THE DEGREE AS SPECIFIED IN THE GEOTECHNICAL REPORT.
9. ALL FOOTINGS TO BE CENTERED UNDER WALLS, PIERS OR COLUMNS UNLESS OTHERWISE NOTED.
10. ANY UNDERMINING THAT IS REQUIRED FOR CONSTRUCTION IS THE RESPONSIBILITY OF THE CONTRACTOR.
11. PROVIDE ISOLATION JOINTS IN THE SLAB ON GRADE AROUND ALL COLUMNS.
12. WHERE RIGID INSULATION IS TO BE USED BENEATH SLAB ON GRADE, THE COMPRESSIVE STRENGTH OF THE INSULATION IS TO BE 40 PSI MIN. U.N.O. ON PLANS OR DETAILS

STRUCTURAL LUMBER AND FRAMING

- 1. DESIGN AND CONSTRUCTION OF ALL WOOD MEMBERS ALONE OR AS A SYSTEM COMPONENT TO BE IN ACCORDANCE WITH THE CODE AND THE FOLLOWING:
A. NATIONAL DESIGN SPECIFICATIONS FOR WOOD AND FASTENING OF WOOD MEMBERS (NDS)
B. WESTERN WOOD PRODUCTS ASSOCIATION
C. NATIONAL LUMBER MANUFACTURERS ASSOCIATION
D. NATIONAL FOREST PRODUCTS ASSOCIATION (NFPA)
E. NATIONAL PLYWOOD ASSOCIATION
F. U.S. PRODUCTS STANDARD PS20
2. ALL WOOD CONSTRUCTION SHALL CONFORM TO THE TIMBER CONSTRUCTION MANUAL, LATEST EDITION, AND THE I.B.C.
3. PROVED 1"x4" CROSS-BRIDGING NOT OVER 8 FEET O.C. FOR ALL WOOD JOISTS.
4. PROVIDE 2X SOLID BLOCKING BETWEEN JOISTS AND AT ALL SUPPORTS
5. ALL TIMBER FOR LOAD BEARING ASSEMBLIES - BEAMS, COLUMNS, STUDS, BLOCKING, NAILERS AND MISCELLANEOUS LUMBER - SHALL BE SPF#2 OR BTR. GRADE (SPRUCE-PINE-FIR(MIN)) UNLESS NOTED OTHERWISE.
6. MEMBERS SPECIFIED FOR USE IN STRUCTURAL COLUMNS AND BEAMS (INCLUDING HEADERS) SHALL BE VOID OF ANY SIGNIFICANT DEFECTS (I.E. CHECKING, WARPING, SPLITS, KERFS) AT TIME OF ERECTION.
7. NO SPLICING OF LOAD BEARING STUDS SHALL BE ALLOWED UNDER ANY CIRCUMSTANCES.
8. ALL FRAMING NOT SPECIFICALLY DETAILED IN THE DRAWINGS SHALL MEET THE REQUIREMENTS OF THE REFERENCED DESIGN BUILDING CODE AS A MINIMUM.
9. ALL TIMBER COMPONENTS IN DIRECT CONTACT WITH MASONRY OR CONCRETE SHALL BE PRESSURE TREATED OR OTHERWISE PROTECTED FROM DEGRADING ELEMENTS.
10. STRAP TIES AND OTHER FASTENERS TO BE BY SIMPSON-STRONG-TIES AS NOTED ON THE PLAN OR EQUAL.
11. ALL FASTENERS TO TREATED WOOD SHALL BE HOT DIPPED GALVANIZED (HDG) OR EQUAL.
12. NAIL ALL WOOD MEMBERS IN ACCORDANCE WITH IBC TABLE 2304.9.1 UNLESS NOTED OTHERWISE.
13. LAMINATED VENEER LUMBER (LVL) (AS MANUFACTURED BY TRUSS-JOIST BY WEYERHAEUSER) SHALL HAVE MINIMUM ALLOWABLE STRESSES OF:
A. Fb = 875 PSI
B. Ft = 450 PSI
C. Fv = 135 PSI
D. Fc = 425 PSI (PERPENDICULAR TO GRAIN)
E. Fc = 1,150 PSI (PARALLEL TO GRAIN)
F. E = 1,400,000 PSI
14. FASTEN ALL PLYS OF BEAMS AND HEADERS TOGETHER WITH NAILS AND/OR BOLTS IN MULTI-PLY APPLICATIONS PER MANUFACTURERS RECOMMENDATIONS & PER IBC.
15. INSTALL ALL PRODUCTS IN ACCORDANCE WITH MANUFACTURER INSTRUCTIONS AND RECOMMENDATIONS.
16. ALL EXTERIOR MEMBERS TO BE WOLMANIZED, TREATED, OR OTHERWISE PROTECTED FROM THE ELEMENTS.
17. BOTTOM PLATES OF NON LOAD BEARING WALLS CAN BE ANCHORED TO CONCRETE FLOOR WITH #8 CONCRETE NAILS OR POWER-DRIVEN FASTENERS AT 32" O.C. (OR EQUAL)
18. 3/4" THICK 3216 APA RATED EXPOSURE 1 PLYWOOD TO BE USED AS ROOF SHEATHING. 3/4" THICK 4824 APA RATED EXPOSURE 2 PLYWOOD TO BE USED AS SUBFLOOR SHEATHING. SHEATHING TO COMPLY WITH PRODUCT STANDARD PS1.
19. ALL HARDWARE USED IN EXTERIOR APPLICATIONS TO BE NON STAINING AND NON CORROSIVE.
20. PROVIDE FASTENERS APPROVED FOR USE WITH ACOQAC2 TREATED LUMBER WHERE APPLICABLE.
21. SIMPSON CONNECTORS USED IN CONTACT WITH ACOQAC2 TREATED LUMBER SHALL BE ZMAX (G185) OR POST-HOT-DIPPED GALVANIZED MINIMUM STAINLESS STEEL CONNECTORS ARE RECOMMENDED. SUBSTITUTION OF CONNECTORS FROM A MANUFACTURER OTHER THAN SIMPSON STRONG-TIE INC. MUST BE APPROVED BY THE ARCHITECT PRIOR TO USE.
22. NAIL SIZES INDICATED ARE "COMMON" NAILS. STAPLES ARE NOT ALLOWED.
23. WHERE WOOD IS INDICATED TO BE SHOT TO BEAM, PROVIDE 2 LINES OF SIMPSON PDPW POWDER ACTUATED FASTENERS AT 24" O.C. - STAGGERED.

CONCRETE

- 1. REINFORCED CONCRETE TO HAVE THE FOLLOWING 28 DAY COMPRESSIVE STRENGTHS (F'c):
A. FOOTINGS
a. MAX W/C RATIO = 0.53
b. AIR ENTRAINMENT = 6 +/- 1.5
c. MAX FLY ASH (CLASS C) = 18%
B. C.I.P. WALLS
a. MAX W/C RATIO = 0.45
b. AIR ENTRAINMENT = 6 +/- 1.5%
c. MAX FLY ASH (CLASS C) = 18%
C. SLABS ON GRADE
a. MAX W/C RATIO = 0.45
b. AIR ENTRAINMENT = 6 +/- 1.5%
c. MAX FLY ASH (CLASS C) = 18%
2. CONCRETE TO BE REGULAR WEIGHT WITH ASTM-C150 TYPE 1 PORTLAND CEMENT. ALL FINE AND COARSE AGGREGATES TO CONFORM TO ASTM-C33
3. CONCRETE TO CONFORM TO LATEST ADDITION OF ACI-301, "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS"
4. PROVIDE CLEAR COVER PROTECTION FOR REINFORCING BARS AS FOLLOWS FOR CAST-IN-PLACE (C.I.P) CONCRETE:
A. CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH = 3"
B. CONCRETE EXPOSED TO EARTH AND WEATHER (FORMED)
a. #5 AND SMALLER = 1 1/2"
b. #6 AND LARGER = 2"
C. CONCRETE NOT EXPOSED TO WEATHER AND NOT IN CONTACT WITH GROUND:
a. SLABS AND WALLS = 3/4"
b. BEAMS AND COLUMNS = 1 1/2"
5. LATEST ADDITION OF ACI-318 BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE TO BE FOLLOWED.
6. LATEST ADDITION OF ACI-117 STANDARD TOLERANCES FOR CONCRETE CONSTRUCTION TO BE FOLLOWED.
7. LATEST ADDITION OF ACI-347 RECOMMENDED PRACTICE FOR CONCRETE FRAMEWORK TO BE FOLLOWED.
8. ALL WATER TO BE POTABLE.
9. ALL CONCRETE EXPOSED TO WEATHER SHALL HAVE 5% TO 7 1/2% AIR ENTRAINMENT.
10. ACI-305 TO BE FOLLOWED FOR HOT WEATHER CONCRETING.
11. ACI-306 TO BE FOLLOWED FOR COLD WEATHER CONCRETING.
12. SUBMIT A CONCRETE MIX DESIGN FOR APPROVAL BY THE PROJECT ENGINEER. THE MIX DESIGN SHALL INCLUDE THE PROPORTIONS AND TEST RESULTS OR CERTIFICATIONS FOR ALL COMPONENTS OF THE MIX IN ACCORDANCE WITH THE LATEST ACI 301. SUBMIT DOCUMENTED RESULTS OF "FIELD TEST DATA" OR "TRIAL MIXTURES" IN ACCORDANCE WITH ACI 301 FOR CONCRETE USED. THE MIX DESIGNS SHALL MEET THE FOLLOWING GUIDELINES:
13. ALL ANCHOR RODS TO CONFORM TO ASTM-F1554, GRADE A36 E OR S WITH FULL THREADED PROJECTIONS.
14. SLABS ON GRADE TO BE CAST ALLOWING A SUFFICIENT NUMBER OF JOINTS TO ADEQUATELY CONTROL SHRINKAGE CRACKING. SAW CUTTING SHALL BE DONE AS SOON AS PRACTICAL AFTER CASTING OR WITHIN 16 HOURS OF INITIAL PLACING OPERATION.
15. SLEEVES AND OPENINGS IN WALLS, BEAMS AND SLABS NOT SHOWN ON STRUCTURAL DRAWINGS OR OUTSIDE THE PARAMETERS OF TYPICAL SLEEVE DETAILS ARE NOT PERMITTED, UNLESS APPROVED BY THE STRUCTURAL ENGINEER.
16. CONDUIT AND PIPES EMBEDDED IN SLABS, WALLS OR BEAMS SHALL BE NO LARGER IN OUTSIDE DIMENSION THAN 1/3 THE OVERALL MEMBER THICKNESS AND SHALL BE PLACED NO CLOSER THAN 3 DIAMETERS OR WIDTHS ON CENTER.
17. PROVIDE WATERSTOPS IN ALL BELOW GRADE CONSTRUCTION JOINTS AND AT OTHER LOCATIONS AS SHOWN.
18. INTERIOR SLAB ON GRADE TO HAVE 15-MIL. VAPOR BARRIER PLACED DIRECTLY UNDER SLAB.
19. BEGIN CURING OF SLAB AS SOON AS WATER IS NOT VISIBLE ON SURFACE. SLAB SURFACE TO BE KEPT MOIST FOR NO LESS THAN SEVEN (7) DAYS.
20. ALL INTERIOR HOUSEKEEPING PADS UNDER MECHANICAL, PLUMBING, & ELECTRICAL EQUIPMENT TO BE 4" CONCRETE REINFORCED W/ #4 REBAR AT 12" O.C. EA. WAY AT MID DEPTH. G.C. TO COORDINATE SIZE AND LOCATION OF PADS WITH RESPECTIVE TRADE.
21. MECHANICALLY VIBRATE CONCRETE PER STANDARD PRACTICE. DO NOT USE VIBRATOR TO MOVE CONCRETE.
22. SLABS ON GRADE TO BE AS NOTED ON PRINTS BY LOCATION PLACED ON 15 MIL VAPOR BARRIER ON 4" COMPACTED GRANULAR FILL AND ON ENGINEERED FILL AS SPECIFIED IN GEOTECHNICAL REPORT.
23. SLABS UNDER ANY LOAD BEARING INTERIOR WALLS TO BE THICKENED TO 12" AND HAVE (2) #5 BARS INSTALLED CONTINUOUSLY UNO. SEE PLAN AND DETAILS FOR FOOTING DESIGN.
24. SCREEDING, RE-STRAIGHTENING AND FINISHING OPERATIONS TO COMPLY WITH ACI-302.1R RECOMMENDATIONS.

CONCRETE REINFORCEMENT

- 1. ALL REINFORCING STEEL TO BE ASTM-A615, GRADE 60 (Fy=60,000psi) DEFORMED BARS UNLESS OTHERWISE NOTED.
2. ALL REINFORCING STEEL THAT IS CALLED OUT TO BE WELDED IN DRAWINGS TO BE ASTM-A706. WELDING IS ONLY ALLOWED WHEN CALLED OUT ON PLANS OR DETAILS UNLESS APPROVED BY EOR.
3. WELDED WIRE FABRIC (SMOOTH) SHALL BE INSTALLED IN FLAT SHEETS (NOT ROLLED) AND BE GRADE 65 (65ksi YIELD STRENGTH) ACCORDING TO ASTM-A185
4. ALL REINFORCING BARS TO BE DETAILED AND PLACED IN ACCORDANCE WITH THE LATEST EDITION OF ACI-315 MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES.
5. ALL REINFORCING, INCLUDING DOWELS, SHALL BE SECURELY TIED AND CAST WITH THE LOWER MEMBER. PLACING REINFORCING AFTER CONCRETE HAS BEEN PLACED (FLOATING, WET-SET) IS NOT ALLOWED.
6. ALL REINFORCING MARKED CONTINUOUS TO BE AS LONG LENGTHS AS POSSIBLE. LAP BARS AS NOTED IN TYPICAL REINFORCING NOTES. LAPS SHALL OCCUR IN LOW REGIONS OF STRESS ONLY. PROVIDE CORNER BARS OF THE SAME SIZE AND QUANTITY AS THE CONTINUOUS REINFORCING AT ALL CONCRETE FOOTINGS/WALL CORNERS OR 90 DEGREE BENDS AT ALL CONCRETE FOOTING/WALL INTERSECTIONS.
7. FIELD BENDING OF REINFORCING PARTIALLY EMBEDDED IN CONCRETE IS NOT ALLOWED UNLESS SPECIFICALLY NOTED ON THE DRAWINGS.
8. ALL REINFORCING SHALL BE CONTACT LAP SPICED OR DOWELED 36 BAR DIAMETERS MINIMUM OR 12" (WHICHEVER IS GREATER), BARS TO BE LAPPED SPLICED ONLY IN AREAS OF LOW STRESS. ALL BARS TO BE CONTINUOUS OTHERWISE.
9. ALL DOWELS SHALL BE SET 3" FROM THE BOTTOM OF FOOTING AND SHALL EXTEND ABOVE THE TOP OF FOOTING THE MINIMUM DISTANCE REQUIRED FOR LAP LENGTHS OR AS NOTED IN THE DRAWINGS. DOWELS BETWEEN FOUNDATION AND WALLS TO BE INSTALLED AND BE THE SAME GRADE, SIZE AND SPACING AS THE VERTICAL WALL REINFORCING UNLESS OTHERWISE NOTED.
10. PROVIDE BENT CORNER BARS TO MATCH HORIZONTAL REINFORCING AT ALL CORNERS AND INTERSECTIONS. (SEE STANDARD DETAIL)
11. EPOXYADHESIVE TO BE HILTI HIT-HY 200 OR APPROVED EQUIVALENT

SHOP DRAWINGS:

SHOP DRAWINGS TO BE SUPPLIED TO THE ARCHITECT AND ENGINEER OF RECORD FOR REVIEW. SHOP DRAWINGS ARE REQUIRED FOR THE FOLLOWING ITEMS:

Table with 2 columns: ITEM, P.E. SEALED. Row 1: CONCRETE REINFORCING, P.E. SEAL NOT REQ'D

SHOP DRAWINGS TO INCLUDE BUT NOT BE LIMITED TO: LAYOUT, SIZE, ORIENTATION, LENGTHS, THICKNESS, LAPS, EMBEDMENT, MATERIAL STRENGTH, QUANTITY, SPACING, DETAILED CONNECTIONS, CALCULATIONS, EMBEDDED PLATES, ETC.

TESTING

- THE FOLLOWING WORK ITEMS ARE REQUIRED TO BE TESTED PER IBC SECTION 1704.
1. EARTHWORK - COMPACTION TESTS - CONTINUOUS
2. REINFORCED CONCRETE - COMPRESSIVE STRENGTH, SLUMP, AIR ENTRAINMENT PERIODIC AS NOTED IN SPEC.

TYPICAL REINFORCING NOTES

- 1. REINFORCING BAR DEVELOPMENT AND LAP SPICE LENGTH SHALL BE AS SHOWN IN TABLE UNLESS NOTED OTHERWISE.
2. THE LENGTHS SHOWN IN THE TABLE ARE BASED ON THE FOLLOWING CONCRETE COVERAGE AND REINFORCING CENTER TO CENTER (C.C.) SPACING:
A. BEAMS OR COLUMNS:
a. COVER GREATER THAN OR EQUAL TO 1.0 BAR DIA.
b. C.C. SPACING GREATER THAN OR EQUAL TO 2.0 BAR DIA.
B. ALL OTHERS:
a. COVER GREATER THAN OR EQUAL TO 1.0 BAR DIA.
b. C.C. SPACING GREATER THAN OR EQUAL TO 3.0 BAR DIA.
3. TOP BARS ARE DEFINED AS HORIZONTAL REINFORCEMENT SUCH THAT MORE THAN 12" OF FRESH CONCRETE IS CAST IN THE MEMBER BELOW THE DEVELOPMENT LENGTH OR SPICE.
4. DEVELOPMENT LENGTH AND SPICE LENGTH SHOWN SHALL NOT APPLY IF ANY ONE OF THE FOLLOWING CONDITIONS ACCUR:
A. Fc < 3,000 PSI
B. Fy < 60,000 PSI
C. THE COVER OR C.C. SPACING IS NOT AS LISTED ABOVE
D. THE REINFORCING STEEL IS EPOXY COATED
E. LIGHT WEIGHT CONCRETE IS USED
5. CENTER TO CENTER SPACING IS DEFINED AS BELOW:

Diagrams showing development length and splices for hooked bars. Includes tables for fc = 3,000 psi and fc = 4,000 psi, and diagrams for critical sections and minimum diameters of bend.

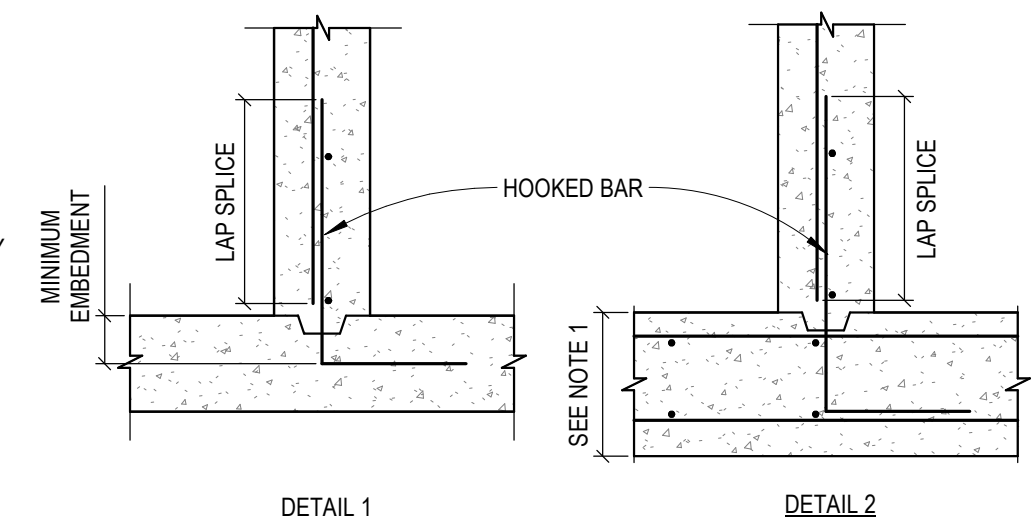
Diagrams showing horizontal wall/footing reinforcement details. Includes corner bars, lap splices, and standard 90 degree hooks. Labels include 'LAP SPICE', 'CORNER BAR', 'STANDARD 90° HOOK U.N.O.', 'DOWEL TYP.', and 'PROVIDE (2)-#5'S @ TERMINATIONS OF C.I.P. CONCRETE WALLS - TYP.'

TYPICAL REINFORCING NOTES

NO SCALE

DEVELOPMENT LENGTH NOTES

- 1. WHERE DRAWINGS ARE DETAILED SIMILAR TO DETAIL 2 (BELOW) EXTEND THE EMBEDMENT LENGTH SUCH THAT THE HOOKED BAR CONTACTS THE LAYER OF MAIN REINFORCING SHOWN.
2. EMBEDMENT LENGTHS IN CHART ARE TYPICAL EXCEPT AS NOTED IN DETAIL 2 (BELOW) OR AS INDICATED ON DRAWINGS.



JEO ARCHITECTURE INC

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WAHOO, NE 68066
800.723.8567 | jeo.com

ORGANIZATION CERTIFICATION OF:
AUTHORIZATION NUMBER: CA-3929

CONSULTANT TITLE AND DISCIPLINE
ORGANIZATION CERTIFICATE OF
AUTHORIZATION NUMBER: XX-000
ADDRESS
CITY, ST 00000
000.000.0000

PRELIMINARY NOT FOR CONSTRUCTION 100% DATE: PRELIMINARY

ISSUE

Table with 3 columns: MARK, DATE, DESCRIPTION

David City Ballfield RR Addition

David City, Nebraska
100 M Rd, David City, NE 68632

JEO PROJECT NO: 251890.00
DATE: 08.02.2021
QAQC: Checker
DRAWN BY: Author
SHEET SIZE: 24" x 36"

GENERAL NOTES

GENERAL NOTES

3/4" = 1'-0"

Autodesk Docs/David City Ballfield RR Addition/251890-David City Ballfield Struct/251890

PRELIMINARY
NOT FOR
CONSTRUCTION
100%
DATE:
PRELIMINARY

ISSUE

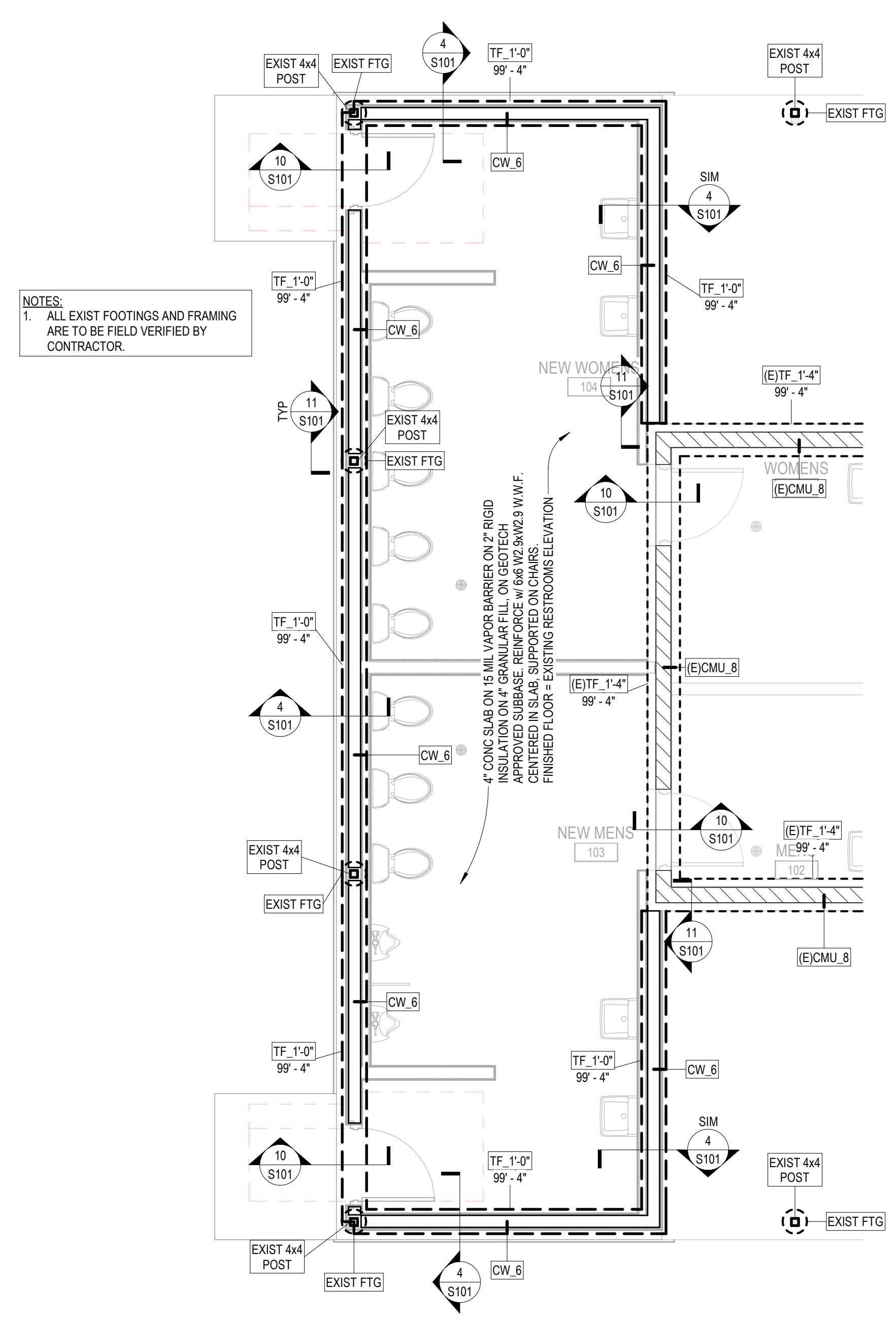
MARK	DATE	DESCRIPTION

David City Ballfield RR Addition

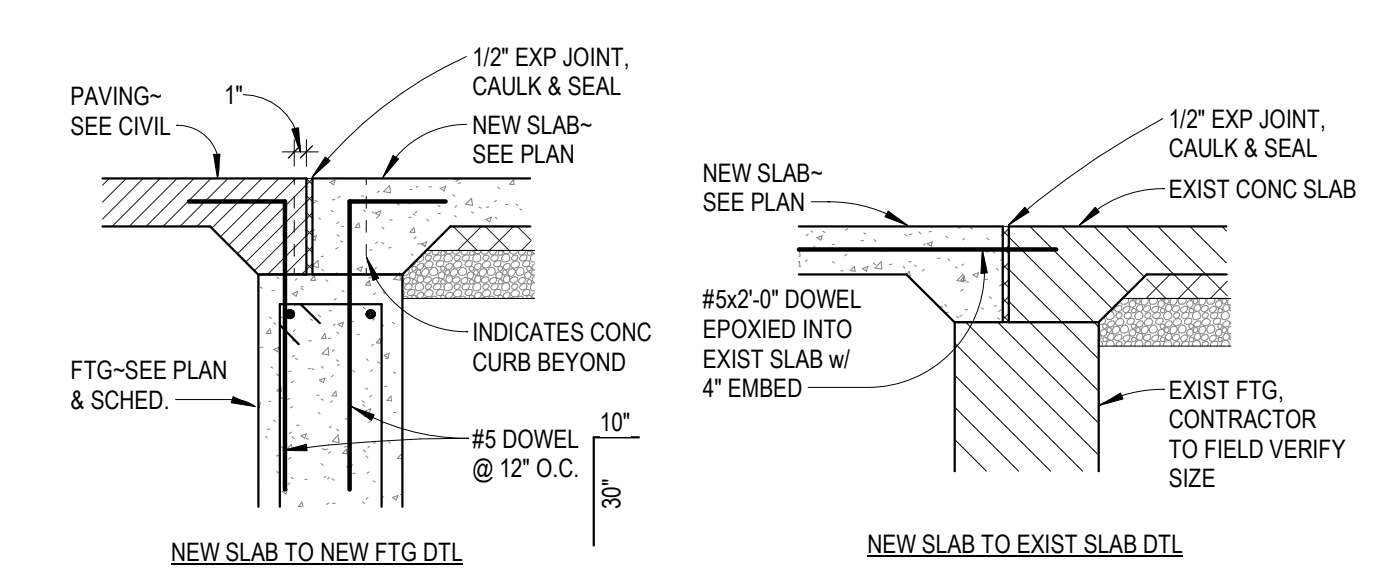
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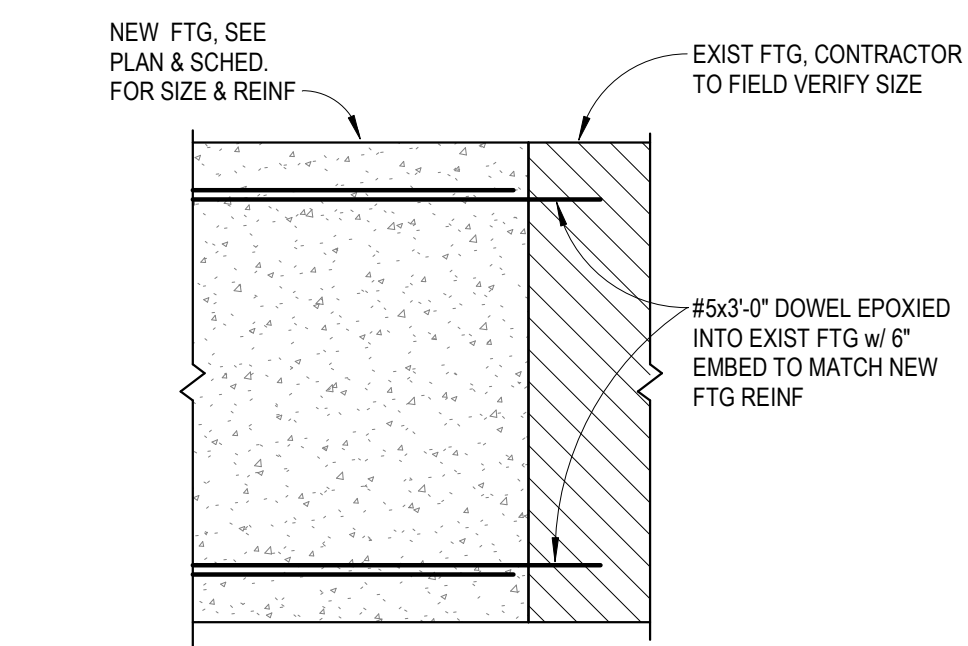
FOUNDATION PLAN



ADDITION FOUNDATION PLAN
1/4" = 1'-0"



TYPICAL DETAIL @ DOOR OPENING
3/4" = 1'-0"



TYPICAL NEW TO EXIST FTG DETAIL
3/4" = 1'-0"

FOOTING SCHEDULE

DESIGNATION	SIZE			REINFORCING	REMARKS
	W	x L	x D		
TF. 1'-0"	1'-0"	CONT.	3'-4"	(2) #5/CONT. T&B w/ #4 STIRRUPS @ 48" O.C.	

FOOTING SCHEDULE NOTES:
1. TOP OF FOOTING (T.O.F.) ELEVATION = 99'-4" UNLESS NOTED BENEATH FTG TAG = XX'-XX" ON PLAN OR IN TABLE ABOVE
2. AT FOOTING INTERSECTIONS STEEL PLACEMENT, SIZE, AND SPACING TO BE FROM MORE STRINGENT @ OVERLAP
3. ABBREVIATIONS
A. CF= CONTINUOUS FOOTING
B. DS= DRAG STRUT
C. PF= PAD FOOTING
D. TF= TRENCH FOOTING
E. RW= RETAINING WALL FOOTING
F. (E)= INDICATES EXISTING AND TO BE FIELD VERIFIED BY CONTRACTOR

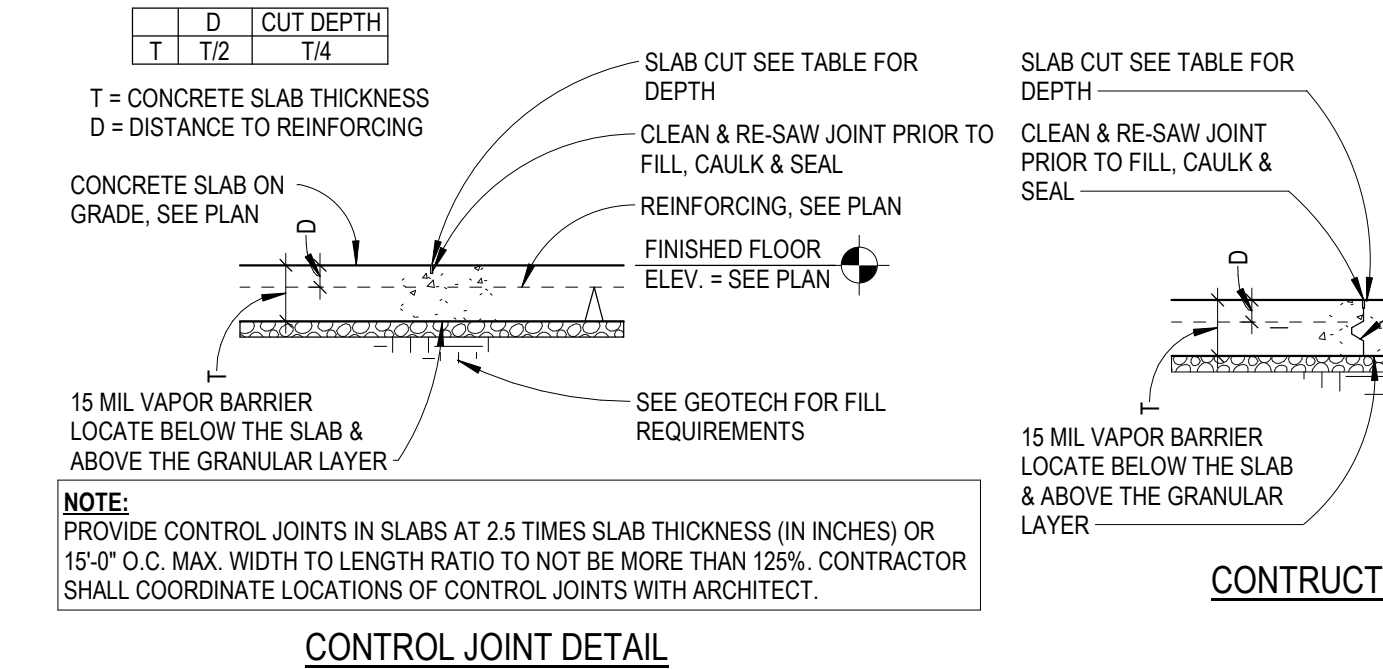
FOOTING SCHEDULE
NO SCALE

CONCRETE WALL/CURB SCHEDULE

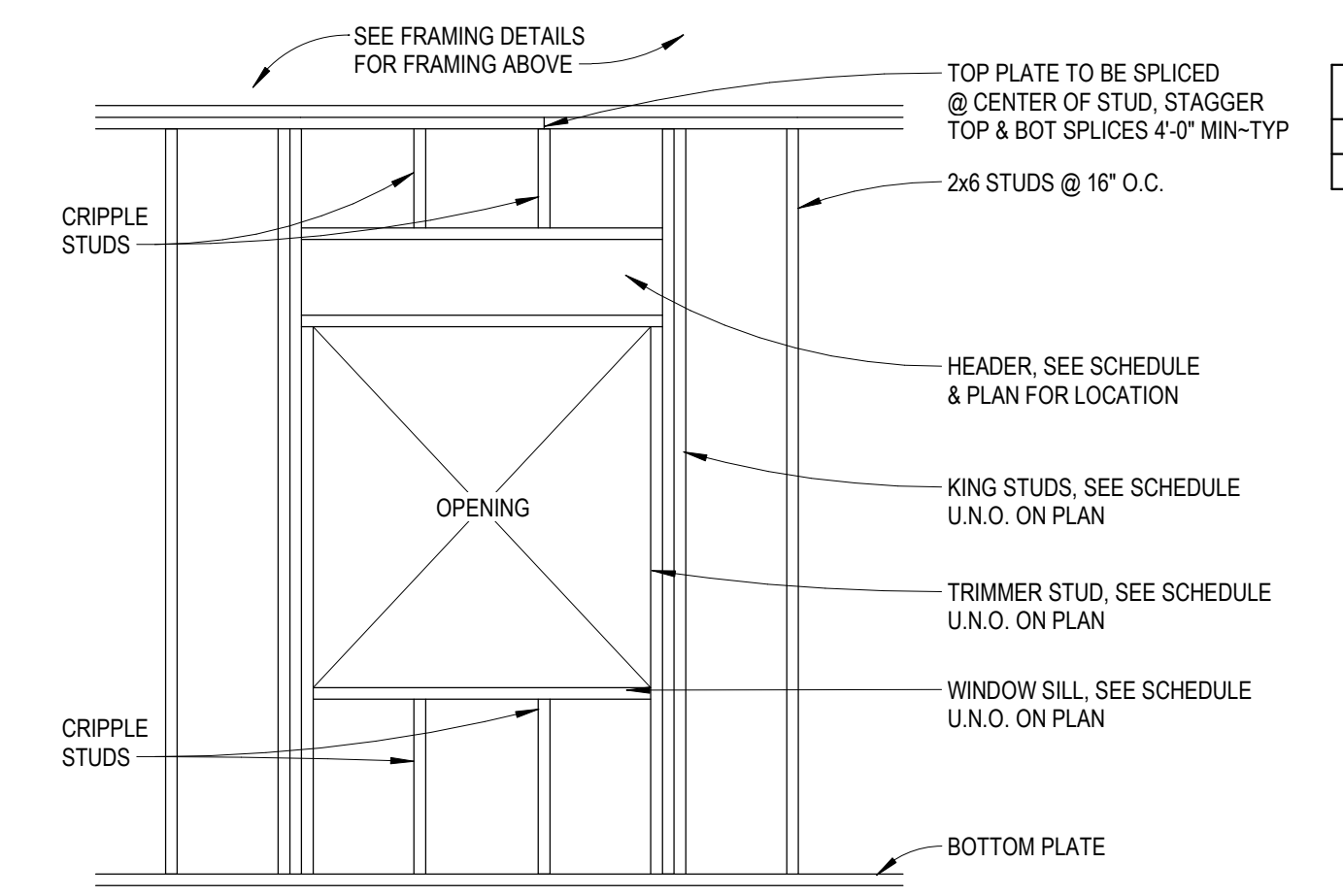
DESIGNATION	WIDTH	REINFORCING		REMARKS
		HORIZ.	VERT.	
CW.6	6"	#5 CONT. @ 12" O.C.	#5 @ 12" O.C. CENTERED IN CURB	TOP OF WALL = 100'-0" U.N.O.

CONCRETE CURB SCHEDULE NOTES:
1. DOWEL BAR SIZE & NUMBER TO MATCH VERTICAL REINFORCING & TO HAVE STD 90° HOOK
2. SEE REINFORCING NOTES FOR ALL REBAR LAPS
3. DOWEL TAILS TO BEND TO NEAREST OUTSIDE PERIMETER OF FOOTING

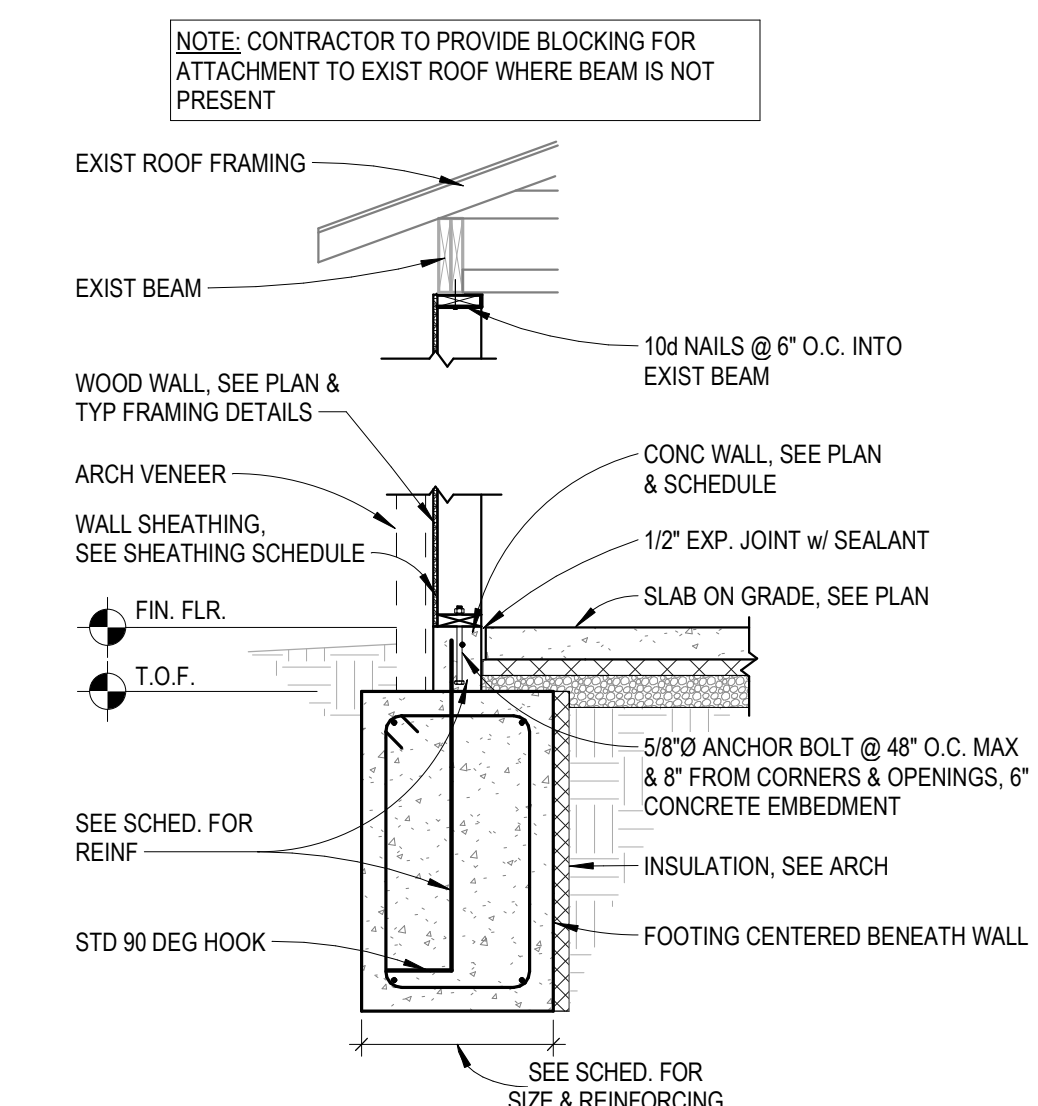
CONCRETE WALL SCHEDULE
NO SCALE



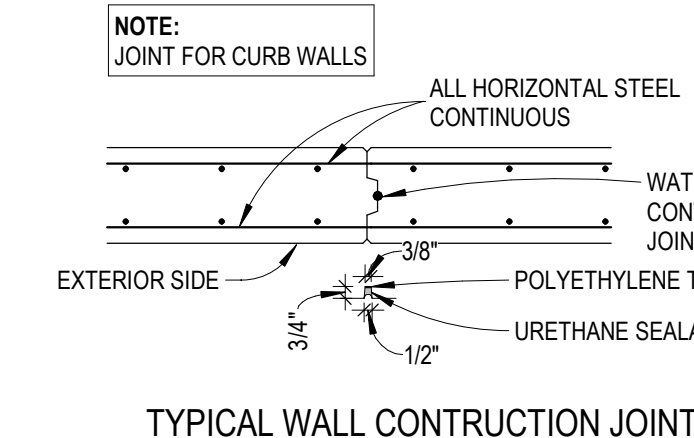
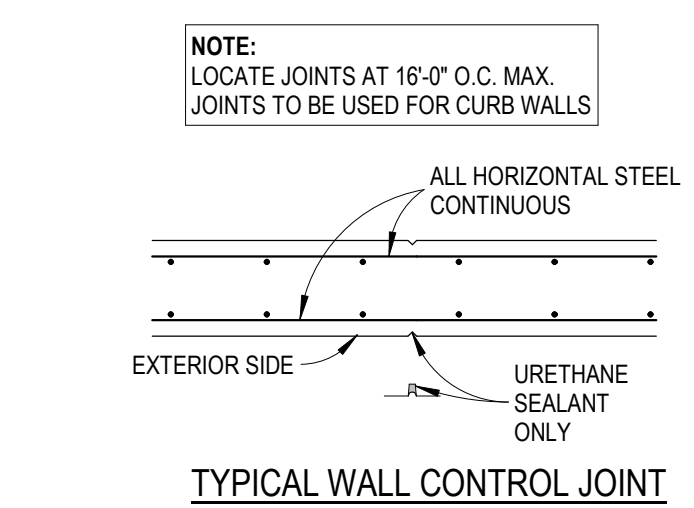
TYPICAL SLAB CONTROL & CONST. JOINT DETAIL
1/2" = 1'-0"



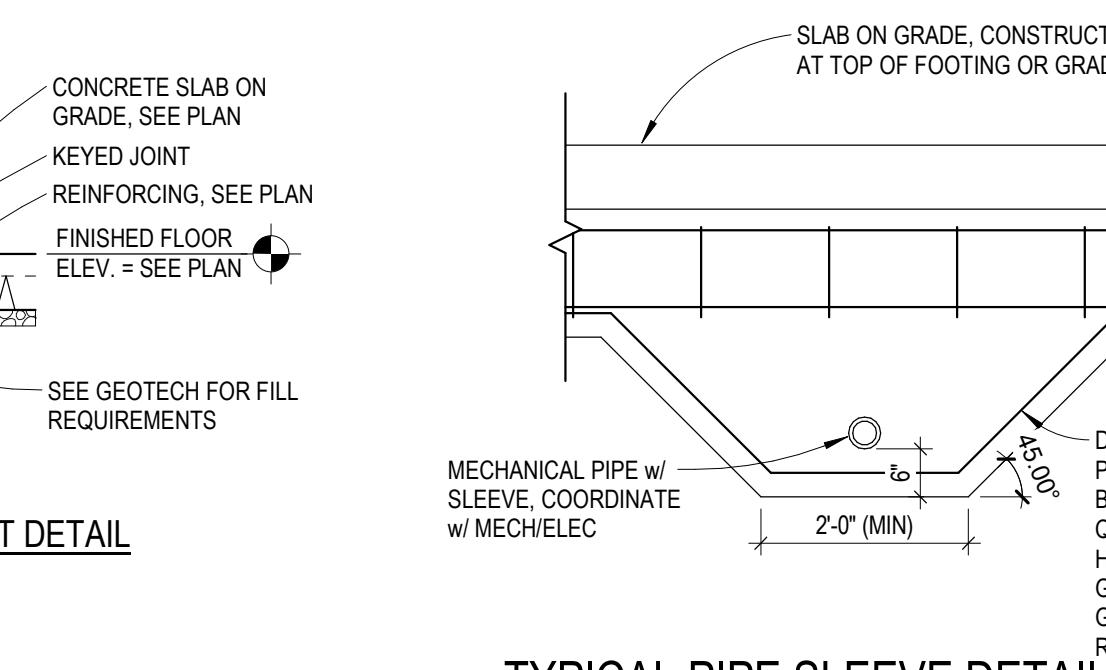
TYPICAL WOOD FRAMING DETAILS
1/2" = 1'-0"



TYP EXT. TRENCH FOOTING DETAIL
1/2" = 1'-0"



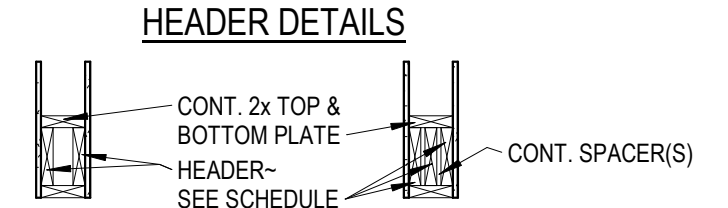
TYP WALL CONST./CONTROL JOINT DTL
1/2" = 1'-0"



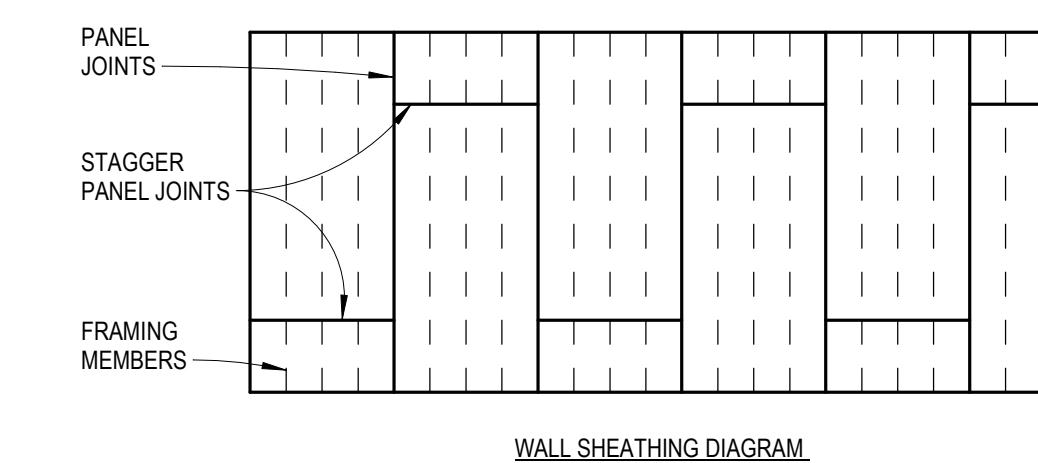
TYPICAL PIPE SLEEVE DETAIL
1/2" = 1'-0"

WOOD HEADER SCHEDULE

HEADER SIZE	TRIMMER STUDS	KING STUDS	SILL
(2)-2x8-TYPICAL	2	2	1



- TWO PLY HEADER** **THREE PLY HEADER**
- HEADER SCHEDULE NOTES:**
- ALL WOOD HEADERS ARE DESIGNED AS "BOX BEAMS", 2x TOP AND BOTTOM PLATE REQUIRED AS SHOWN ON HEADER DETAIL UNLESS NOTED OTHERWISE.
 - NAIL ALL PLYS OF MULTI-PLY COLUMNS TOGETHER W/ 16ds @ 6" O.C. STAGGERED FULL HEIGHT.
 - PLACE FULL HT. PLYWOOD FILLERS AS NEEDED BETWEEN PLYS OF MULTI-PLY HEADERS.
 - 6'-0" AND LONGER HEADER SPANS TO HAVE (1) SIMPSON MSTA STRAP TIE PER SIDE, PER END CENTERED OVER BEARING STUD AND HEADER. FILL ALL NAIL HOLES PER MFG. REQUIREMENTS.



WOOD ROOF/WALL SHEATHING SCHEDULE

MARK	SHEATHING THICKNESS	BLOCKING	EDGE NAILING	FIELD NAILING	MINIMUM NOMINAL WIDTH OF FRAMING MEMBER	MINIMUM NAIL PENETRATION
WALL-TYP	1/2"	YES	8D @ 6" O.C.	8D @ 12" O.C.	2"	1 3/8"

NOTES:

- SHEATHING TO BE APA RATED STRUCTURAL 1 PLYWOOD OR OSB WITH A 40/20 SPAN RATING, EXPOSURE 1, GROUP 1 SPECIES.
- STAGGER NAILS AS REQUIRED TO AVOID SPLITTING FRAMING MEMBERS.
- PROVIDE (2)-2xs (MINIMUM) AT THE ENDS OF ALL WALLS AND ADJACENT TO ALL OPENINGS. (2 FULL STUDS OR 1 FULL STUD & REQUIRED TRIMMERS FOR HEADER BEARING)
- SEE IBC 2012 CHAPTER 23, TABLE 2306.3 FOR FURTHER INFORMATION.
- SHEATHING TO BE PROPERLY SPACED FOR EXPANSION. H-CLIPS ARE ALLOWED AT CONTRACTOR'S DISCRETION.
- FOLLOW ALL APAP RECOMMENDATIONS FOR INSTALLATION OF SHEATHING.
- LAYOUT ROOF AND FLOOR SHEATHING WITH STAGGERED JOINTS.
- ALL SHEATHING TO BE NAILED TO BLOCKING. NAILING SPACING TO MATCH EDGE NAILING SPACING-TYPICAL.

TYPICAL WOOD WALL/ROOF SHEATHING SCHEDULE
3/4" = 1'-0"

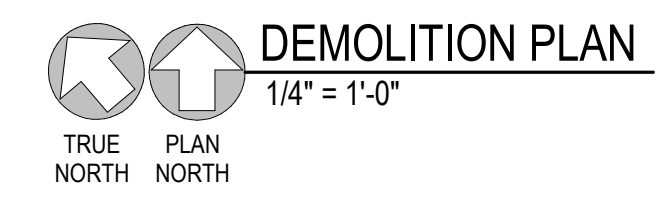
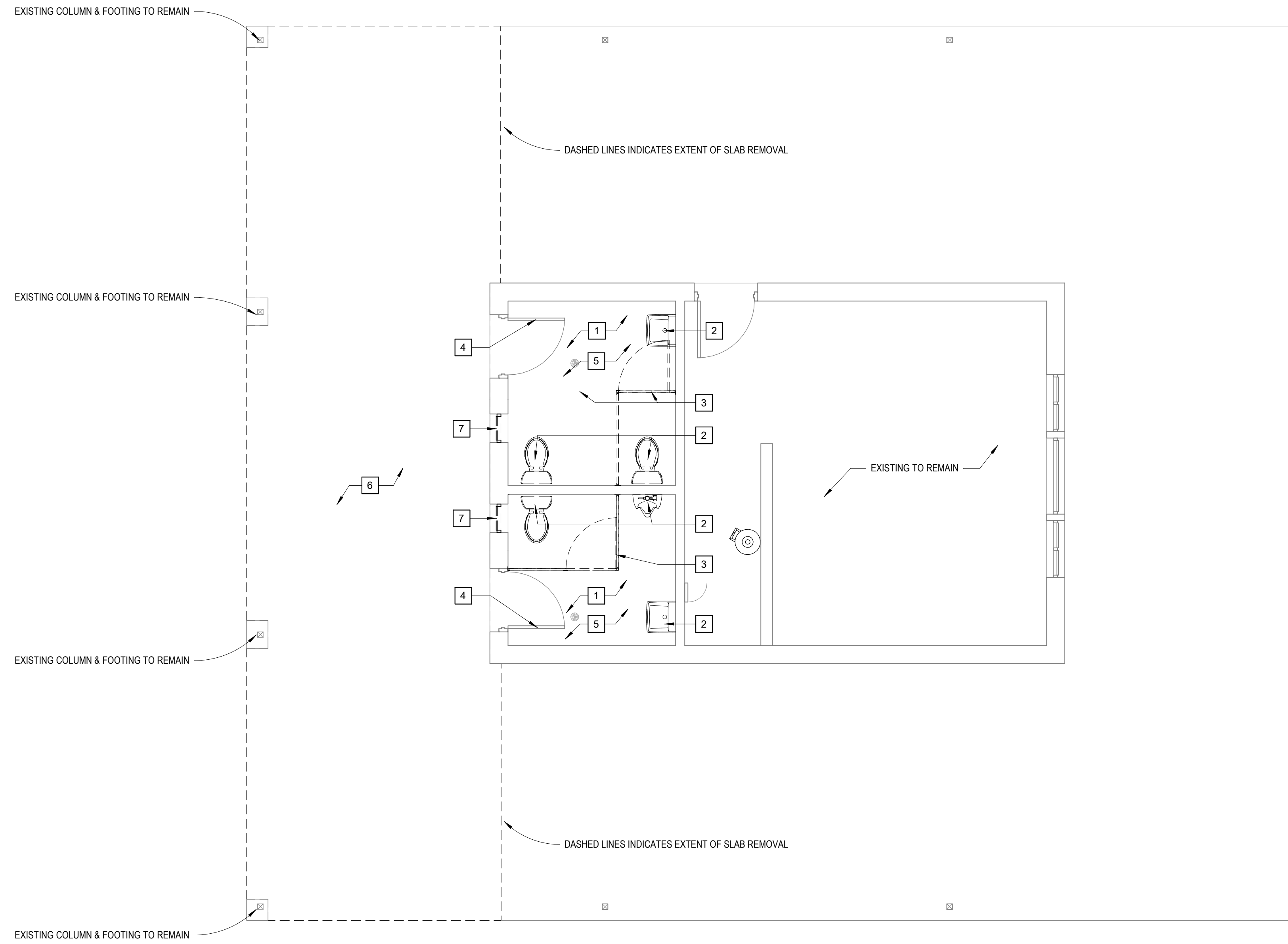


EXISTING PHOTOS

DEMOLITION NOTES	
NO.	NOTE
1	REMOVE EXISTING FLOOR SLAB AND BASE MATERIAL COMPLETE AND PREPARE FOR NEW FINISH.
2	REMOVE EXISTING FIXTURES COMPLETE.
3	REMOVE TOILET PARTITIONS COMPLETE.
4	REMOVE DOOR LEAF AND HARDWARE COMPLETE. SALVAGE AND PREP FRAME FOR RE-USE, TO RECEIVE NEW FINISH AS SCHEDULED.
5	REMOVE EXISTING WALL FINISH, CEILING, SOFFIT TO COMPLETE THE WORK. CLEAN AND PATCH SUBSTRATE TO RECEIVE NEW FINISH AS SCHEDULED.
6	REMOVE EXISTING FLOOR SLAB & SOFFIT TO COMPLETE THE WORK. CLEAN AND PATCH SUBSTRATE TO RECEIVE NEW FINISH AS SCHEDULED.
7	REMOVE EXISTING WINDOW COMPLETE. PATCH AND PREP FOR FRAME OUT OF NEW OPENING AS REQUIRED.

GENERAL DEMOLITION NOTES

- ALL BOLD OR FULL TONE DASHED - LINES INDICATE ITEMS TO BE REMOVED OR RELOCATED. ALL LIGHT OR HALF-TONE LINES INDICATE EXISTING ITEMS TO REMAIN.
- WHERE DEMOLITION OCCURS ADJACENT TO SURFACES INDICATED TO REMAIN, CARE SHOULD BE TAKEN NOT TO DESTROY OR DAMAGE EXISTING SURFACES. IF DAMAGE OCCURS, IT IS THE CONTRACTOR'S RESPONSIBILITY TO PATCH AND REPAIR THESE SURFACES TO ORIGINAL CONDITION. GENERAL CONTRACTOR SHALL COORDINATE WITH MECHANICAL AND ELECTRICAL CONTRACTORS TO PATCH EXISTING SURFACES DAMAGED BY DEMOLITION OR INSTALLATION OF NEW MECHANICAL AND/OR ELECTRICAL SYSTEMS.
- THE OWNER RESERVES THE FIRST RIGHT OF SALVAGE ON ALL ITEMS. ANY ITEMS NOT SALVAGED BY THE OWNER SHALL BE REMOVED AND DISPOSED OF OFF SITE.
- THE CONTRACTOR SHALL COORDINATE WITH THE OWNER ALL PROVISIONS FOR DEBRIS REMOVAL, SHUT-OFFS, ETC.
- CONTRACTOR TO PROVIDE AND INSTALL PLASTIC SHEETING SPANNING FROM FLOOR TO CEILING AND WALL TO WALL TO ACT AS A TEMPORARY DEBRIS AND DUST BARRIER TO PROTECT REMAINING PORTIONS OF THE ROOM. BARRIER SHALL BE IN PLACE PRIOR TO THE START OF WORK. (TYP.)
- PATCH AND REPAIR ALL HOLES OR PENETRATIONS THRU FIRE RATED WALLS, FLOOR OR ROOF WITH APPROVED FIRESTOPPING MATERIALS.
- REMOVE THE EXISTING PLUMBING FIXTURES IN THEIR ENTIRETY. PATCH AND REPAIR EXISTING FLOOR AND WALL SURFACES AS REQUIRED TO RECEIVE NEW FINISHES. CONTRACTOR SHALL REMOVE ALL ASSOCIATED THRU ROOF PIPE VENTS IN THEIR ENTIRETY. PATCH AND REPAIR EXISTING ROOF DECK PENETRATIONS AND ROOF SYSTEM AS REQUIRED TO ENSURE A WEATHERTIGHT ASSEMBLY. REFER TO THE MECHANICAL AND ELECTRICAL DRAWINGS FOR ADDITIONAL DEMOLITION NOTES.



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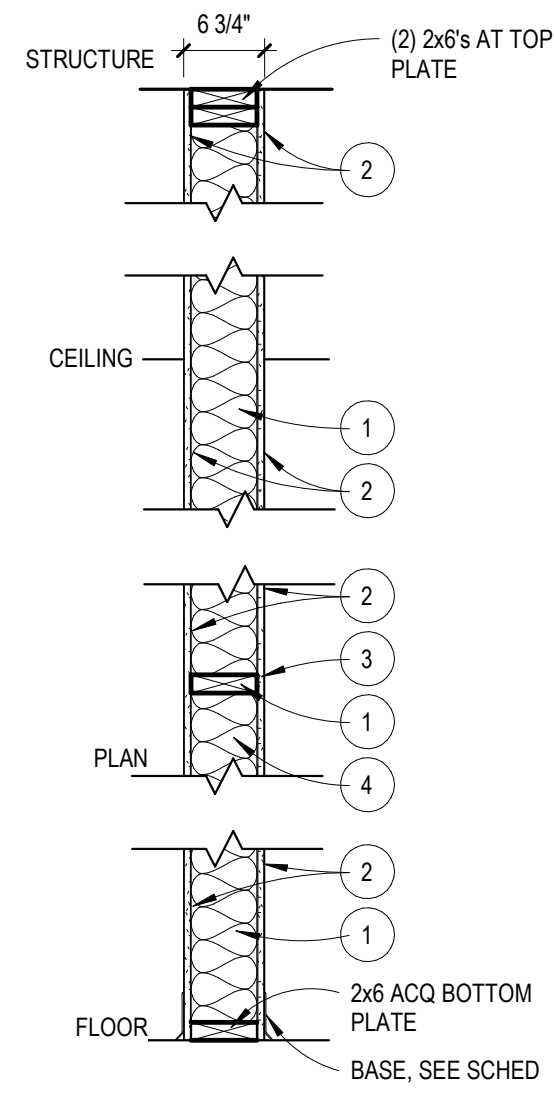
David City Ballfield RR Addition

David City, Nebraska
100 M Rd, David City, NE 68632

JEO PROJECT NO: 251890.00
DATE: 02.19.2026
QAQC: BS
DRAWN BY: DB
SHEET SIZE: 24" x 36"

**ARCHITECTURAL
DEMOLITION FLOOR PLAN**

Sheet Size: ARCH D (24.0 x 36.00 INCHES)

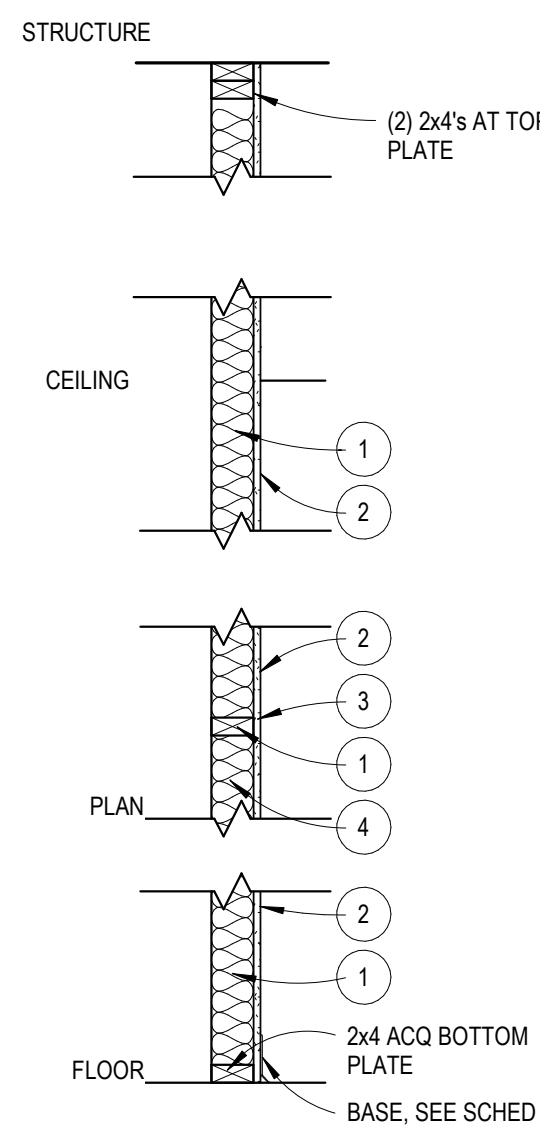


- 1 WOOD STUDS NOMINAL 2x6 INCH, SPACED 16" O.C.
- 2 GYPSUM BOARD 5/8" THICK WALLBOARD PAPER OR VINYL SURFACED, WITH BEVELED, SQUARE, OR TAPERED EDGES, APPLIED EITHER HORIZONTALLY OR VERTICALLY. WALLBOARD NAILED 7" O.C. WITH 6d CEMENT COATED NAILS 1 7/8" LONG, 0.0915" SHANK DIAMETER AND 1/4" DIAMETER HEADS. WHEN USED IN WIDTHS OF OTHER THAN 48", WALLBOARD IS TO BE INSTALLED HORIZONTALLY.
- 3 JOINTS AND NAILHEADS NAILHEADS EXPOSED OR COVERED WITH JOINT COMPOUND, EXCEPT WHERE REQUIRED FOR SPECIFIC EDGE CONFIGURATION. FOR TAPERED, ROUNDED-EDGE WALLBOARD, JOINTS COVERED WITH JOINT COMPOUND OR FIBER TAPE AND JOINT COMPOUND. AS AN ALTERNATE, NOMINAL 3/32" THICK GYPSUM VENEER PLASTER MAY BE APPLIED TO THE ENTIRE SURFACE OF CLASSIFIED VENEER BASEBOARD. JOINTS REINFORCED.
- 4 BATTS AND BLANKETS (WHEN INDICATED) BEARING THE U.L. CLASSIFICATION MARK. MINERAL WOOL INSULATION PLACED IN STUD CAVITIES.

NOTE: DESCRIPTION ABOVE INDICATES GENERAL ASSEMBLY REQUIREMENTS TO MEET U.L. REQUIREMENTS FOR THIS SPECIFIC DESIGNATION. REFER TO PLANS AND SPECS. FOR SPECIFIC PRODUCT SELECTIONS WITHIN THE GUIDELINES NOTED ABOVE.

NON-RATED

WALL TYPE 'W1'
3/4" = 1'-0"

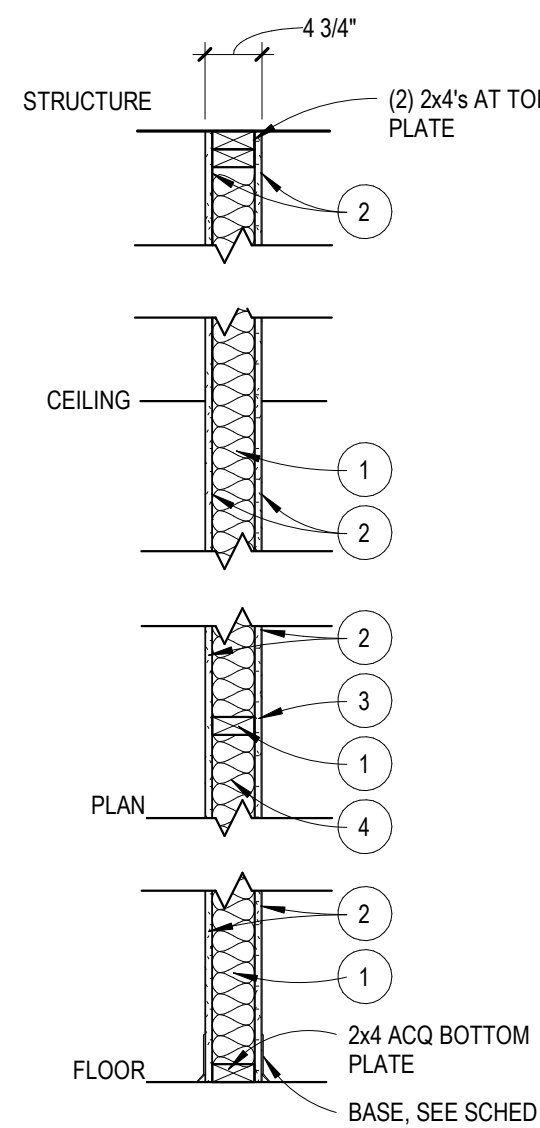


- 1 WOOD STUDS NOMINAL 2x4 INCH, SPACED 16" O.C.
- 2 GYPSUM BOARD 5/8" THICK WALLBOARD PAPER OR VINYL SURFACED, WITH BEVELED, SQUARE, OR TAPERED EDGES, APPLIED EITHER HORIZONTALLY OR VERTICALLY. WALLBOARD NAILED 7" O.C. WITH 6d CEMENT COATED NAILS 1 7/8" LONG, 0.0915" SHANK DIAMETER AND 1/4" DIAMETER HEADS. WHEN USED IN WIDTHS OF OTHER THAN 48", WALLBOARD IS TO BE INSTALLED HORIZONTALLY.
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NON-RATED

WALL TYPE 'W2'
3/4" = 1'-0"

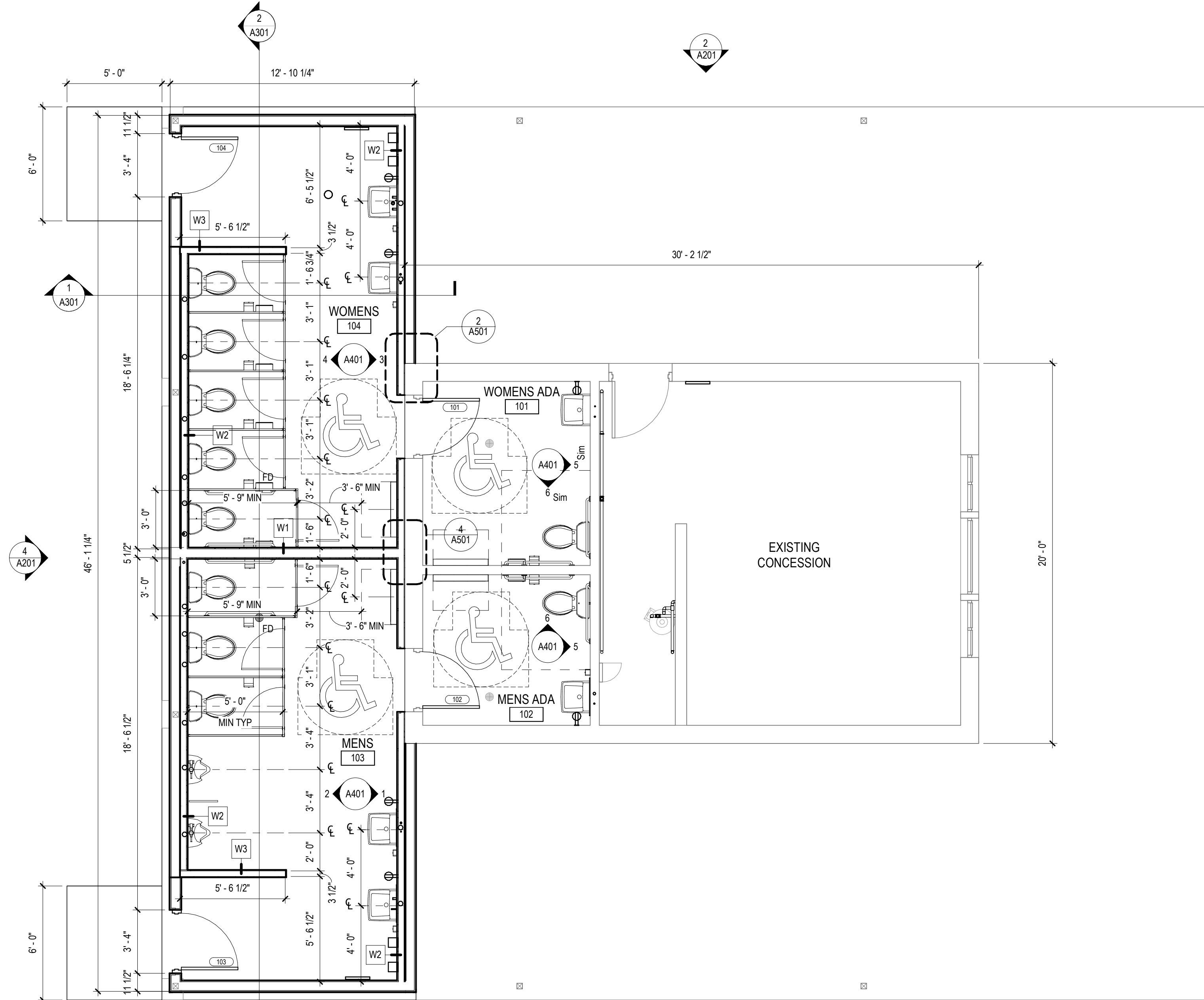


- 1 WOOD STUDS NOMINAL 2x4 INCH, SPACED 16" O.C.
- 2 GYPSUM BOARD 5/8" THICK WALLBOARD PAPER OR VINYL SURFACED, WITH BEVELED, SQUARE, OR TAPERED EDGES, APPLIED EITHER HORIZONTALLY OR VERTICALLY. WALLBOARD NAILED 7" O.C. WITH 6d CEMENT COATED NAILS 1 7/8" LONG, 0.0915" SHANK DIAMETER AND 1/4" DIAMETER HEADS. WHEN USED IN WIDTHS OF OTHER THAN 48", WALLBOARD IS TO BE INSTALLED HORIZONTALLY.
- 3 JOINTS AND NAILHEADS NAILHEADS EXPOSED OR COVERED WITH JOINT COMPOUND, EXCEPT WHERE REQUIRED FOR SPECIFIC EDGE CONFIGURATION. FOR TAPERED, ROUNDED-EDGE WALLBOARD, JOINTS COVERED WITH JOINT COMPOUND OR FIBER TAPE AND JOINT COMPOUND. AS AN ALTERNATE, NOMINAL 3/32" THICK GYPSUM VENEER PLASTER MAY BE APPLIED TO THE ENTIRE SURFACE OF CLASSIFIED VENEER BASEBOARD. JOINTS REINFORCED.
- 4 BATTS AND BLANKETS (WHEN INDICATED) BEARING THE U.L. CLASSIFICATION MARK. MINERAL WOOL INSULATION PLACED IN STUD CAVITIES.

NOTE: DESCRIPTION ABOVE INDICATES GENERAL ASSEMBLY REQUIREMENTS TO MEET U.L. REQUIREMENTS FOR THIS SPECIFIC DESIGNATION. REFER TO PLANS AND SPECS. FOR SPECIFIC PRODUCT SELECTIONS WITHIN THE GUIDELINES NOTED ABOVE.

NON-RATED

WALL TYPE 'W3'
3/4" = 1'-0"



FIRST LEVEL FLOOR PLAN
1/4" = 1'-0"
TRUE NORTH PLAN NORTH

GENERAL CODE NOTES

THIS SECTION SUMMARIZES THE APPLICABLE PROVISIONS OF THE CODES REGULATING DESIGN AND CONSTRUCTION OF THE PROPOSED PROJECT.

1. FOR ADDITIONAL INTERIOR PARTITION TYPES AND INFORMATION, SEE SHEET(S) A101
2. ONE (1) PORTABLE FIRE EXTINGUISHER FOR EVERY 11,250 SF AND 75' MAX. TRAVEL. (IBC TABLE 906.3) REFER TO CODE PLANS FOR LOCATIONS.

APPLICABLE CODES

- APPLICABLE CODES:**
 2018 INTERNATIONAL BUILDING CODE
 2012 NFPA 101 LIFE SAFETY
 2018 UNIFORM PLUMBING CODE
 2018 UNIFORM MECHANICAL CODE
 NEBRASKA STATE ENERGY CODE, SEC 81-1601 THROUGH 81-1626
 2018 INTERNATIONAL ENERGY CONSERVATION CODE
 2018 NATIONAL FUEL GAS CODE
 2010 ADAAG
 2009 ICC/ANSI A117.1

BUILDING STATISTICS

TYPE OF CONSTRUCTION:
TYPE VB - UNPROTECTED / NON-SPRINKLERED

CLASSIFICATION OF OCCUPANCY:
B - BUSINESS (LESS THAN 50 OCCUPANTS)

GENERAL PLAN NOTES

1. ALL WALL TYPES TO BE "W1" U.N.O. SEE A101 FOR OTHER PARTITION TYPES.
2. ALL EXTERIOR DIMENSIONS ARE REFERENCED FROM:
 PEMB: OUT TO OUT OF STEEL
 MASONRY: OUT TO OUT OF MASONRY
 WOOD/METAL STUD FRAMING: OUT TO OUT OF SHEATHING.
3. ALL INTERIOR DIMENSIONS ARE REFERENCED FROM FACE OF STUD TO FACE OF STUD.
4. DIMENSIONS TO EXISTING WALLS ARE TO FACE OF FINISH U.N.O.
5. REFER TO THE CODE REVIEW PLANS ON SHEET G102 FOR ALL DESIGNATED WALL RATINGS.
6. WHEN PARTITIONS OF DIFFERENT RATINGS ARE LOCATED ALONG THE SAME WALL, ALIGN FINISH FACE OR WALL AS REQUIRED.
7. REFER TO THE ROOM FINISH SCHEDULE FOR ALL INTERIOR FINISHES.
8. PROVIDE CONTINUOUS 2x BLOCKING IN WALLS AS REQUIRED FOR ALL WALL MOUNTED CASEWORK, FIXTURES, ACCESSORIES, AND EQUIPMENT. ANCHOR BLOCKING BETWEEN THE STUDS AT THE FACE OF THE STUDS FOR THE ENTIRE WIDTH OF THE ITEM TO BE MOUNTED TO THE WALL. COORDINATE THE VERTICAL LOCATION OF THE BLOCKING WITH THE MOUNTING HEIGHT OF THE ITEM TO BE MOUNTED.
9. FIRE EXTINGUISHER TO BE MOUNTED 4'-0" ABOVE FINISHED FLOOR TO TOP OF FIRE EXTINGUISHER HANDLE.
10. CONTRACTOR TO COORDINATE LOCATIONS OF ADDITIONAL PENETRATIONS THROUGH WALLS AND FLOORS NOT INDICATED ON ARCHITECTURAL DRAWINGS. RE: MECH PLUMBING AND ELECTRICAL. REFER TO STRUCTURAL DRAWINGS FOR LUNTEL AND FRAMING REQUIREMENTS.
11. FIRE ALARM AND SUPPRESSION: DESIGN BUILD CONTRACTOR TO PROVIDE AS REQUIRED PER FIRE AND LOCAL CODES. SUBMIT THE DESIGN SUBMITTAL TO ARCHITECT PER SPECIFICATION SECTION 01300.
12. PROVIDE GYP. BOARD CONTROL JOINTS AT WALLS OVER 25'-0" IN LENGTH.
13. FRAME DOOR OPENINGS 5" FROM FACE OF PERPENDICULAR WALL UNLESS NOTED OTHERWISE.



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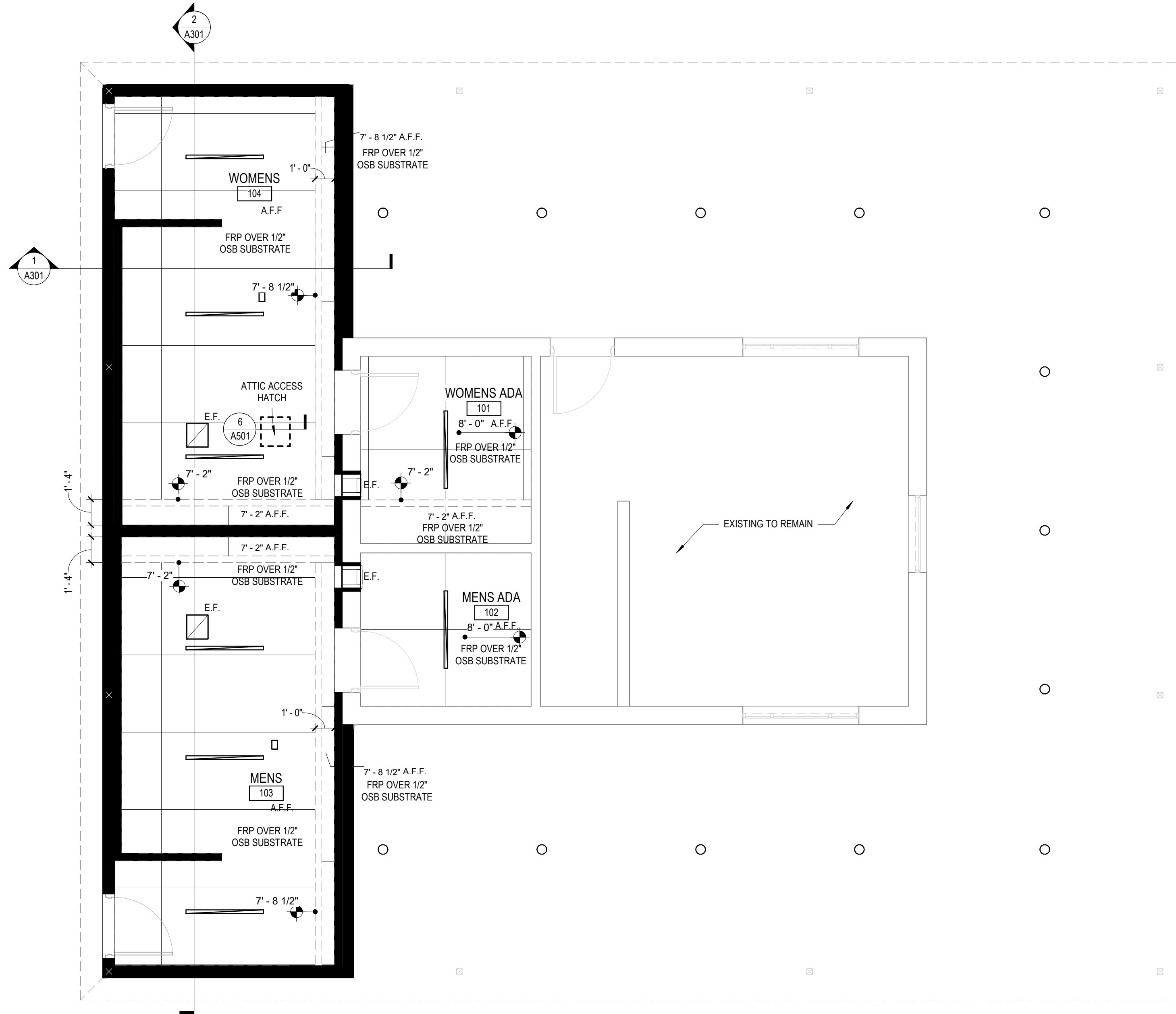
David City Ballfield RR Addition

David City, Nebraska
100 M Rd, David City, NE 68632

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 DRAWN BY: DB
 SHEET SIZE: 24" x 36"

ARCHITECTURAL FLOOR PLAN

Autodesk Docs://David City Ballfield RR Addition/251890.00 - David City Ballfield Restroom Addition - ARCH_V05.rvt



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

RCP GENERAL NOTES

1. REFLECTED CEILING PLAN GENERAL NOTES APPLY TO ALL REFLECTED CEILING PLAN SHEETS.
2. ALL CEILING GRIDS/PANELS SHALL BE CENTERED IN EACH ROOM UNLESS NOTED OTHERWISE.
3. SEE ROOM FINISH SCHEDULE FOR CEILING FINISHES UNLESS NOTED OTHERWISE ON THE REFLECTED CEILING PLAN.
4. CEILING HEIGHT AS NOTED FOR ACOUSTIC PANEL CEILINGS SHALL BE MEASURED TO THE FINISH FACE OF THE GRID FROM THE FINISHED FLOOR.
5. ALL FINISHED CEILINGS TO BE 10'-0" AFF UNLESS NOTED OTHERWISE.
6. PAINT ALL HORIZONTAL AND VERTICAL SURFACES OF SOFFITS TO MATCH ADJACENT WALL COLOR AND FINISH UNLESS NOTED OTHERWISE.
7. ALL ELECTRICAL FIXTURES, SPEAKERS, SMOKE AND THERMAL DETECTORS, MECHANICAL GRILLES, SPRINKLER HEADS, AND OTHER CEILING MOUNTED DEVICES, SHALL BE CENTERED BETWEEN CEILING GRIDS UNLESS NOTED OTHERWISE.
8. REFER TO MECHANICAL/ELECTRICAL FOR DETAIL ON ELECTRICAL AND MECHANICAL FIXTURE UNO.
9. PROVIDE SUSPENSION SYSTEM AROUND ELECTRICAL FIXTURES, MECHANICAL GRILLES, DIFFUSERS, AND OTHER CEILING MOUNTED DEVICES, AT ACOUSTICAL PANEL CEILINGS.
10. ALL DIMENSIONS ON REFLECTED CEILING PLANS ARE TO THE FACE OF FINISHED WALL, FACE OF FINISHED BULKHEAD, AND CENTER LINE OF COLUMNS UNLESS NOTED OTHERWISE.
11. IN AREAS WITH EXPOSED STRUCTURE CEILINGS, COORDINATE EXACT LOCATIONS OF MECHANICAL GRILLES, DIFFUSERS, DUCTWORK AND ELECTRICAL FIXTURES WITH EACH REPRESENTATIVE SUBCONTRACTOR.
12. SPRINKLER HEAD LOCATIONS ARE NOT SHOWN ON THE REFLECTED CEILING PLAN. THE FIRE SPRINKLER CONTRACTOR SHALL SUBMIT SHOP DRAWINGS AND CALCULATIONS FOR THE SYSTEM.



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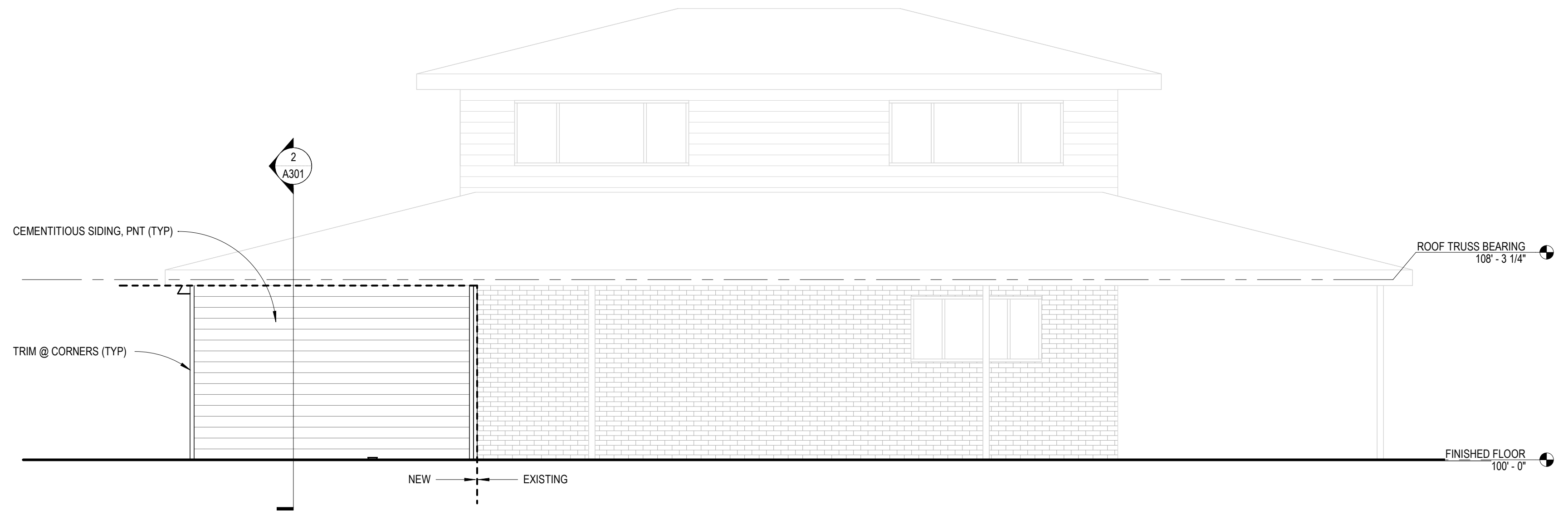
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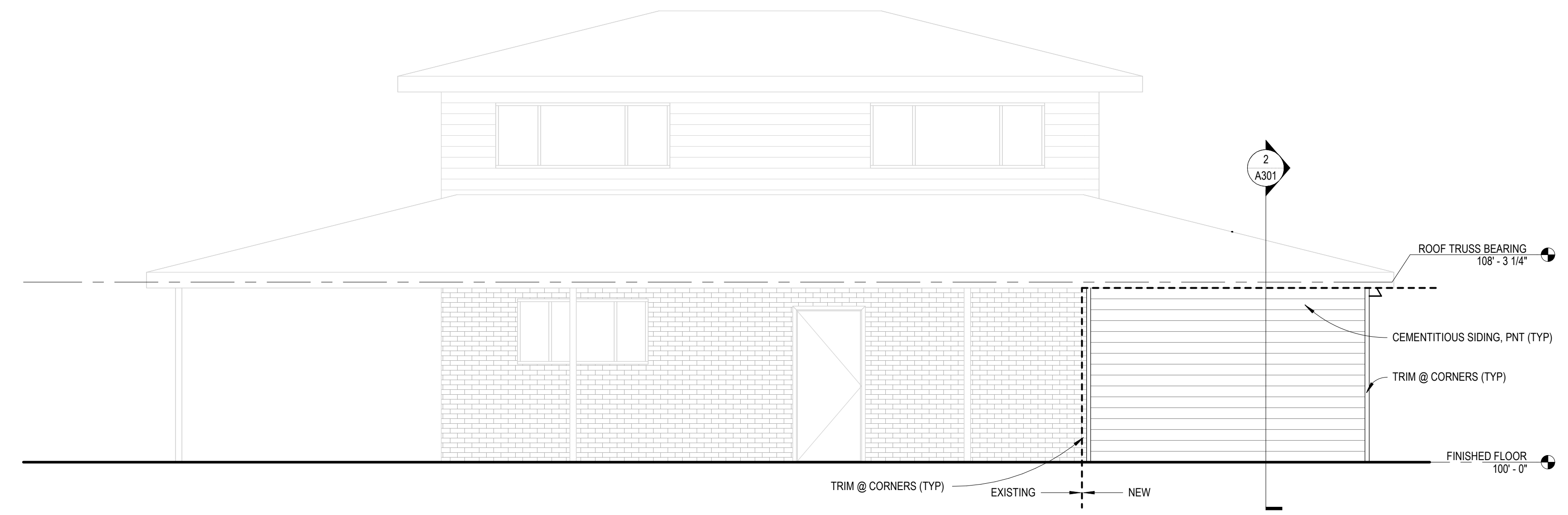
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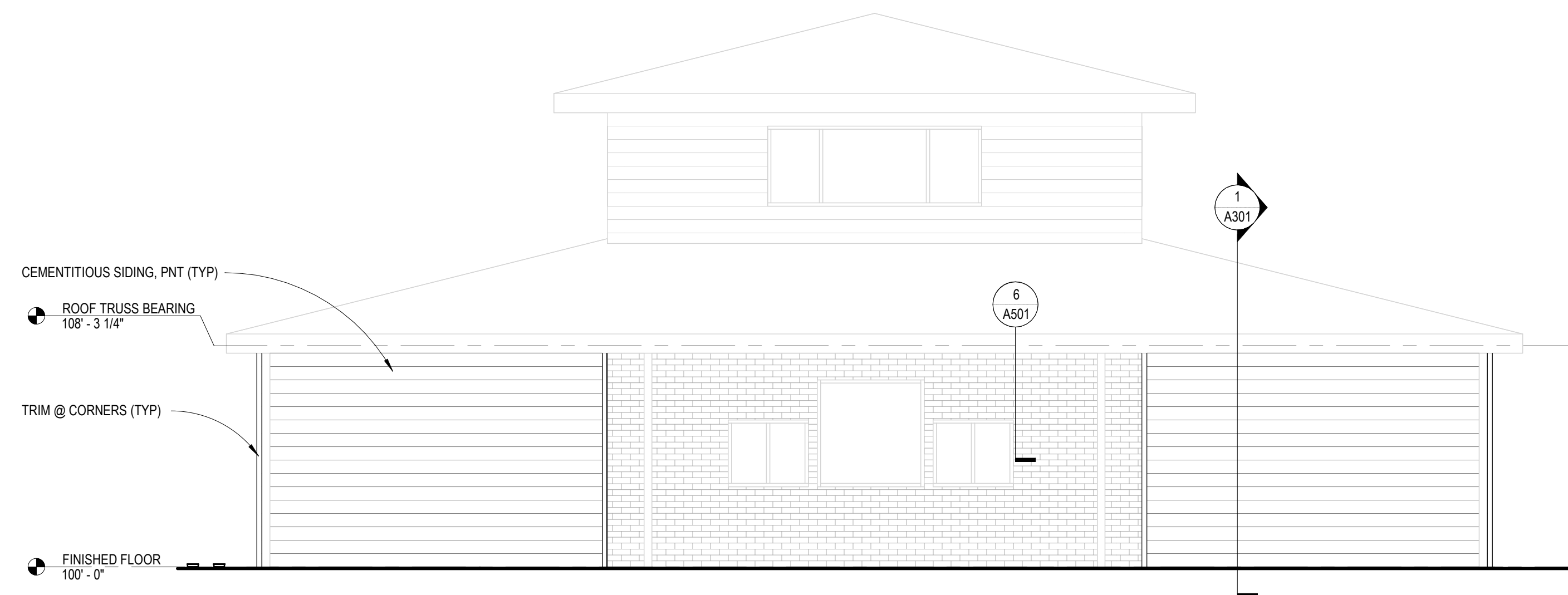
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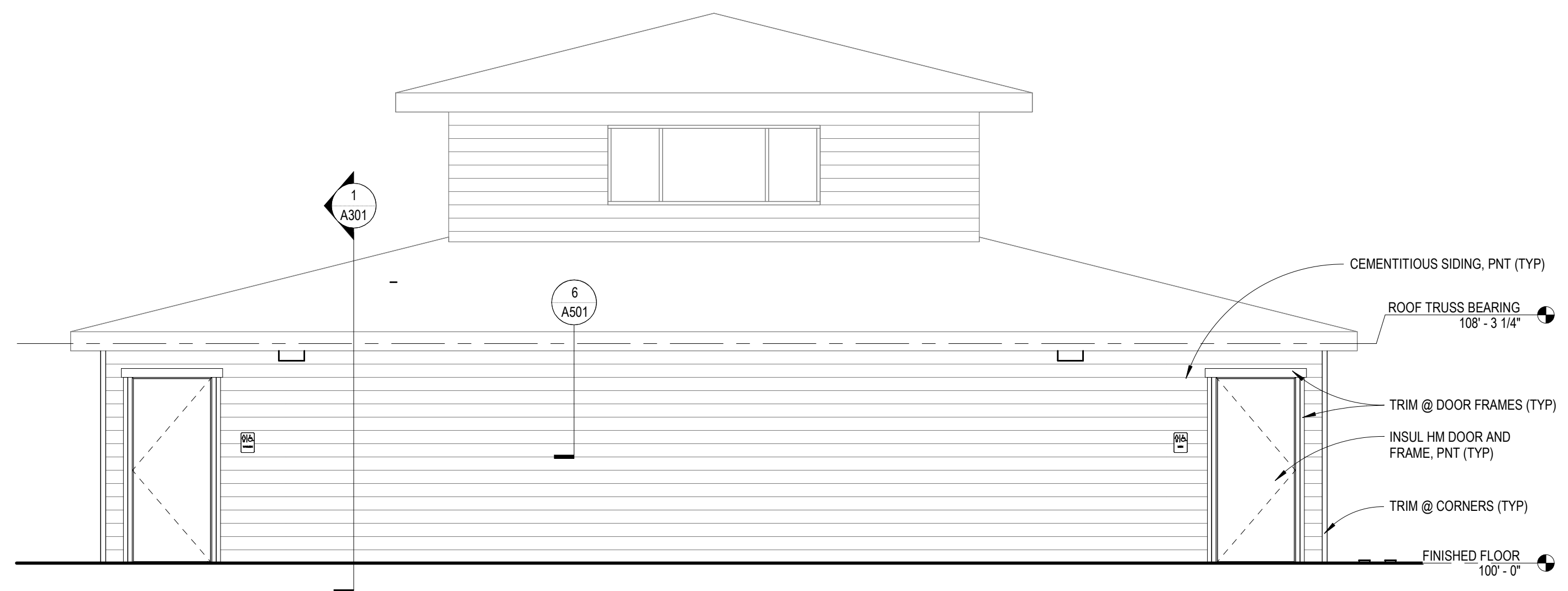
1 SOUTH ELEVATION
1/4" = 1'-0"



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



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



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

ISSUE

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BUILDING ELEVATIONS

Sheet Size: ARCH D (24.0 x 36.00 INCHES)

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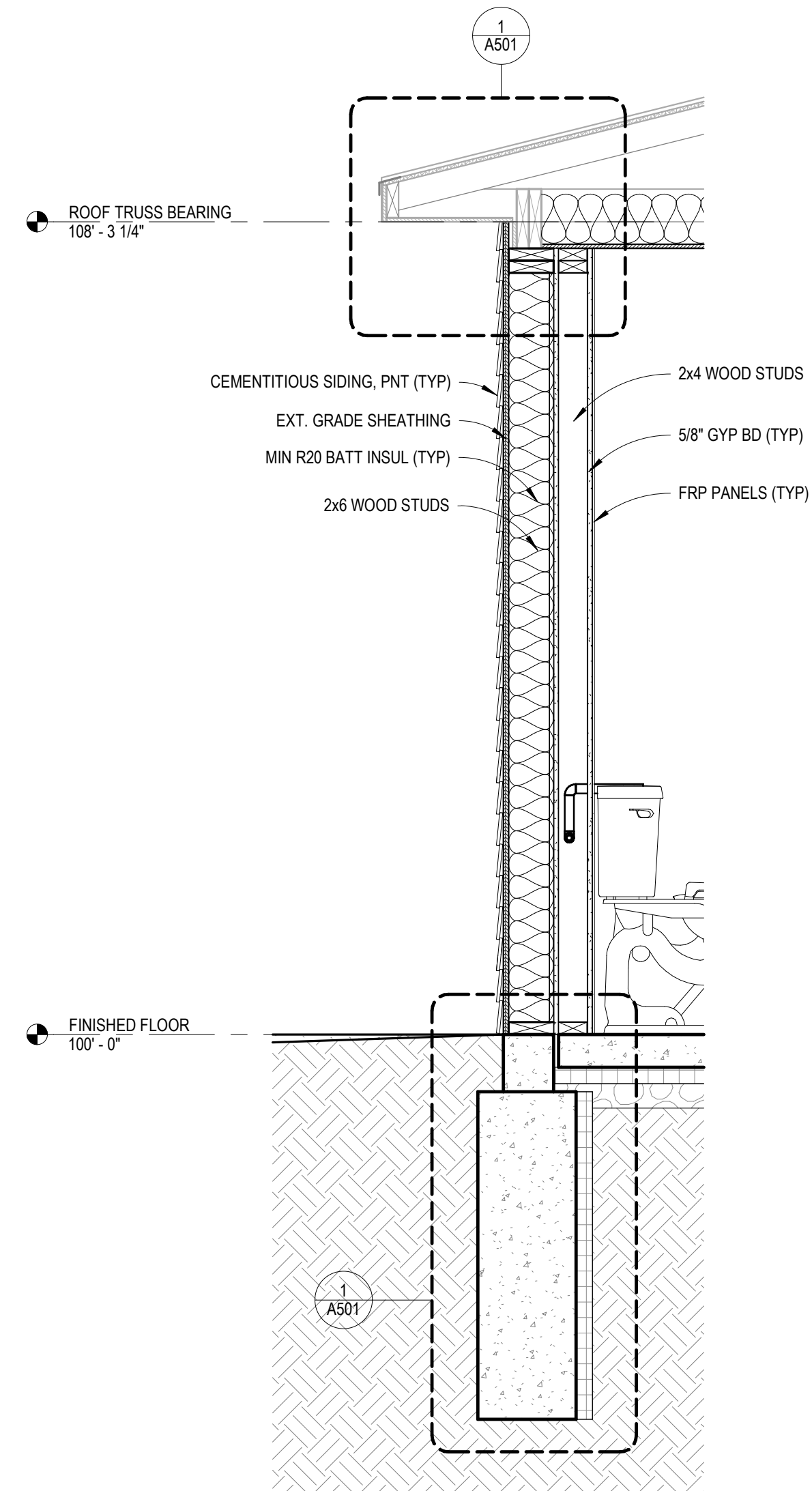
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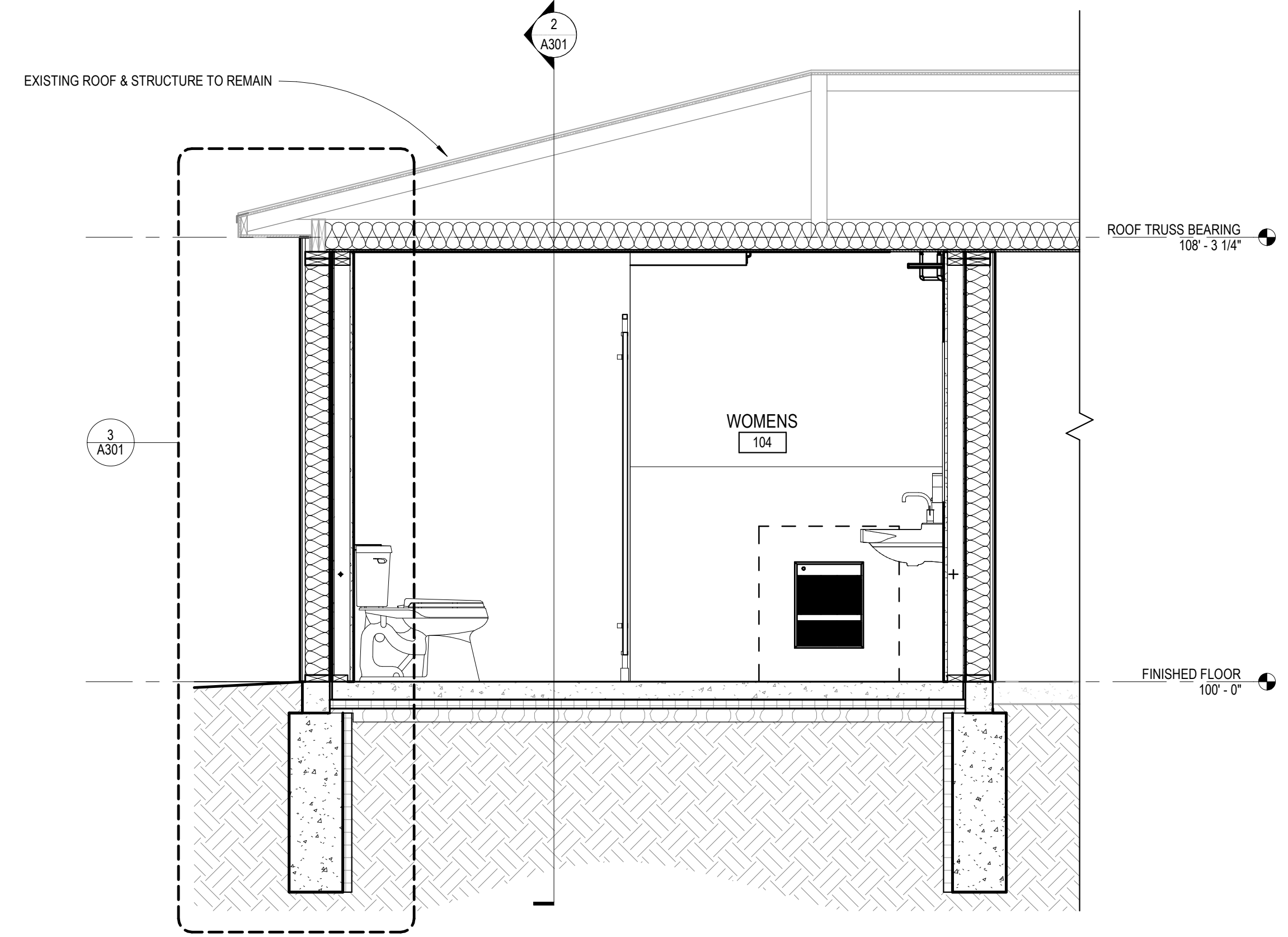
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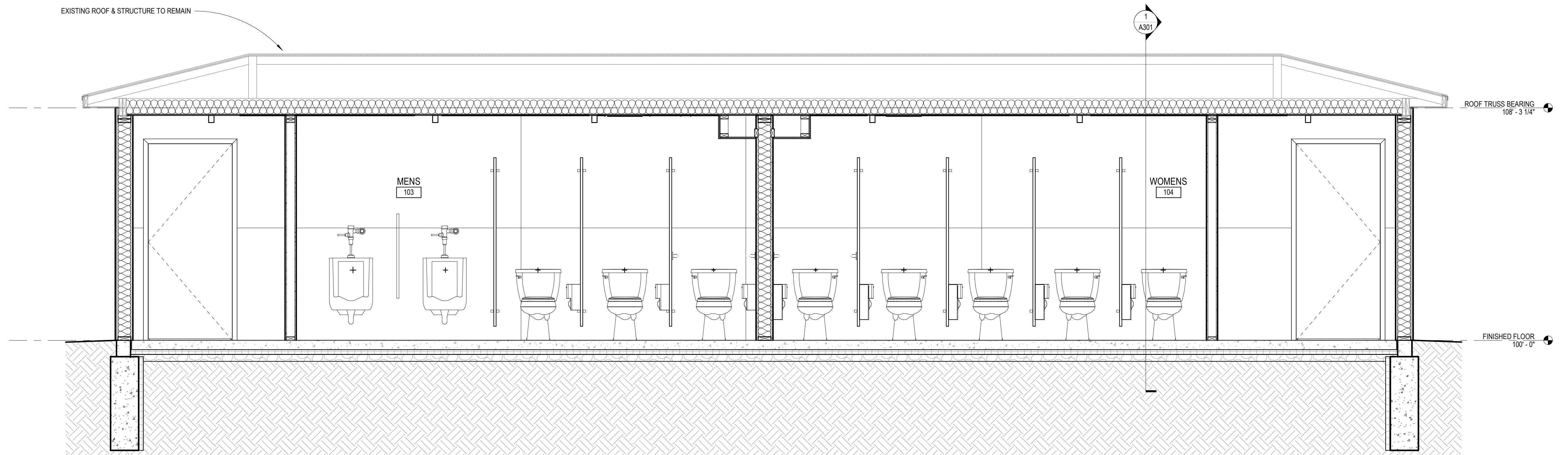
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3 WALL SECTION
3/4" = 1'-0"



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



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

ISSUE

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BUILDING SECTIONS

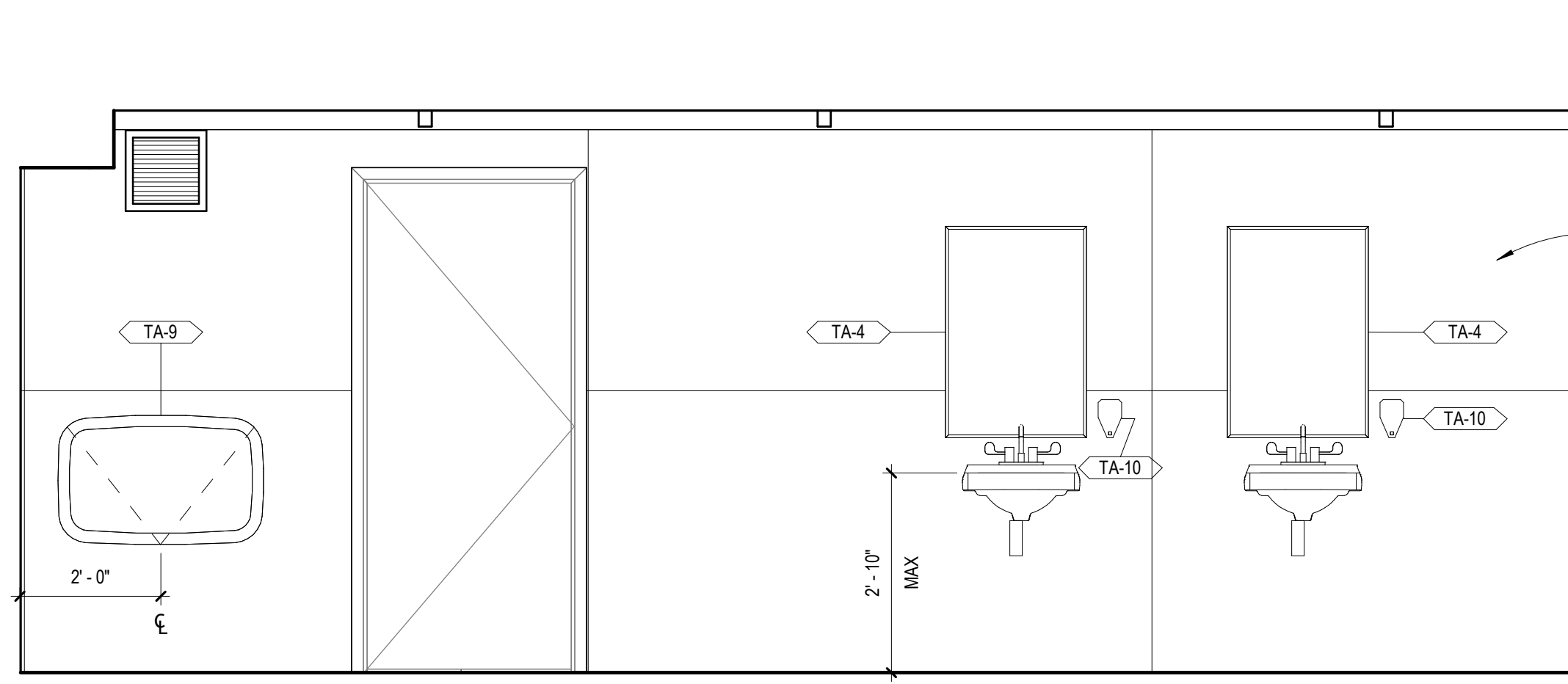


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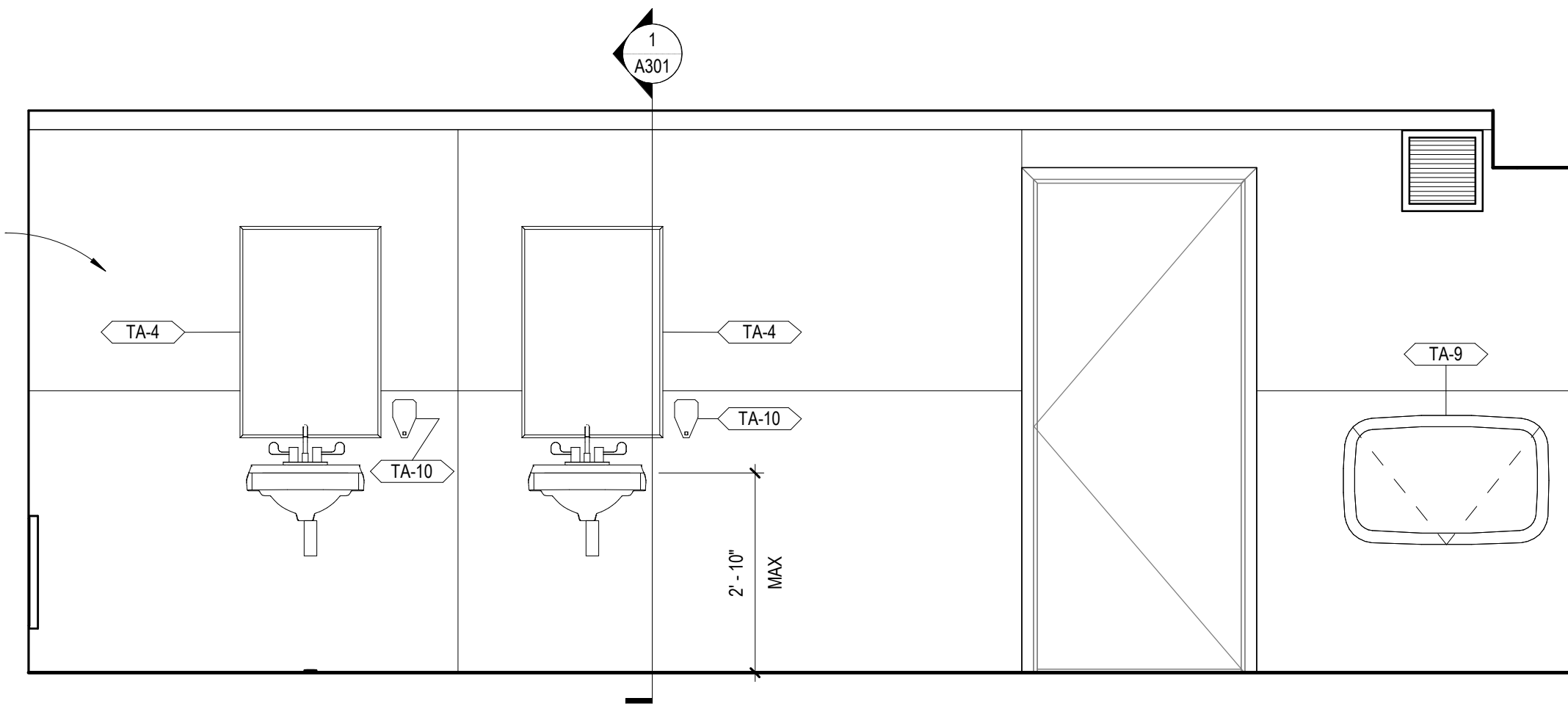
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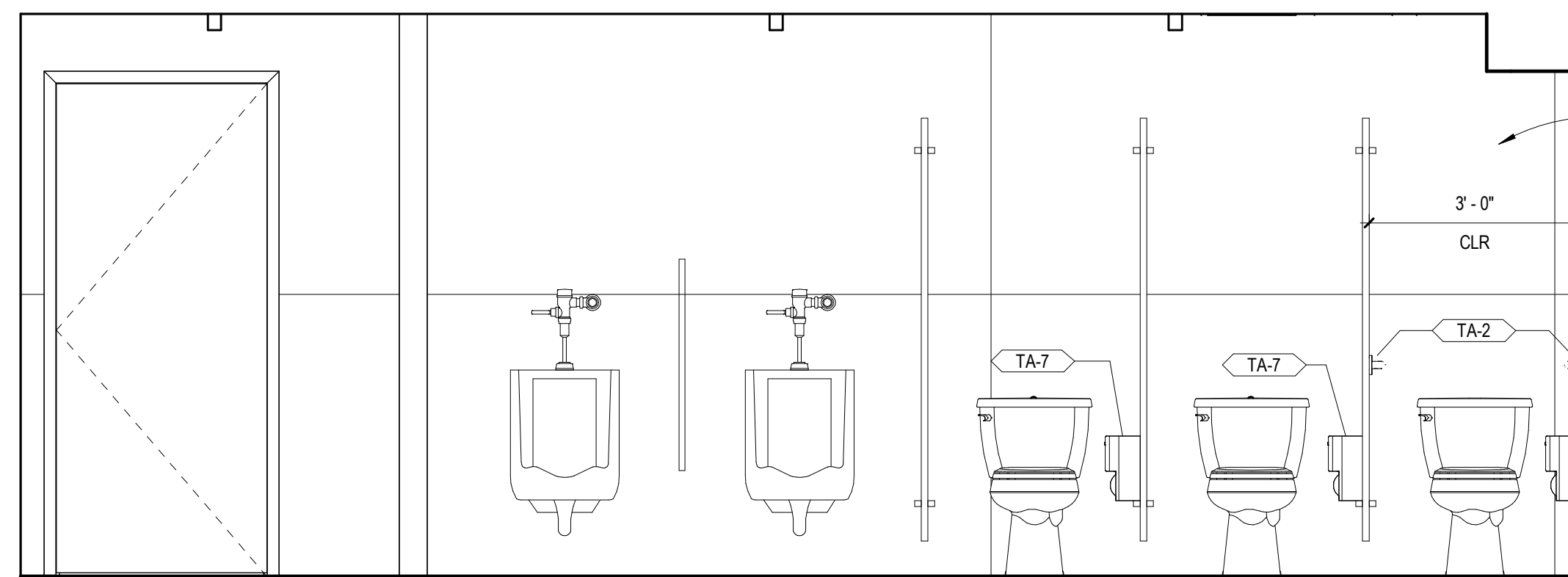
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CITY, ST 00000
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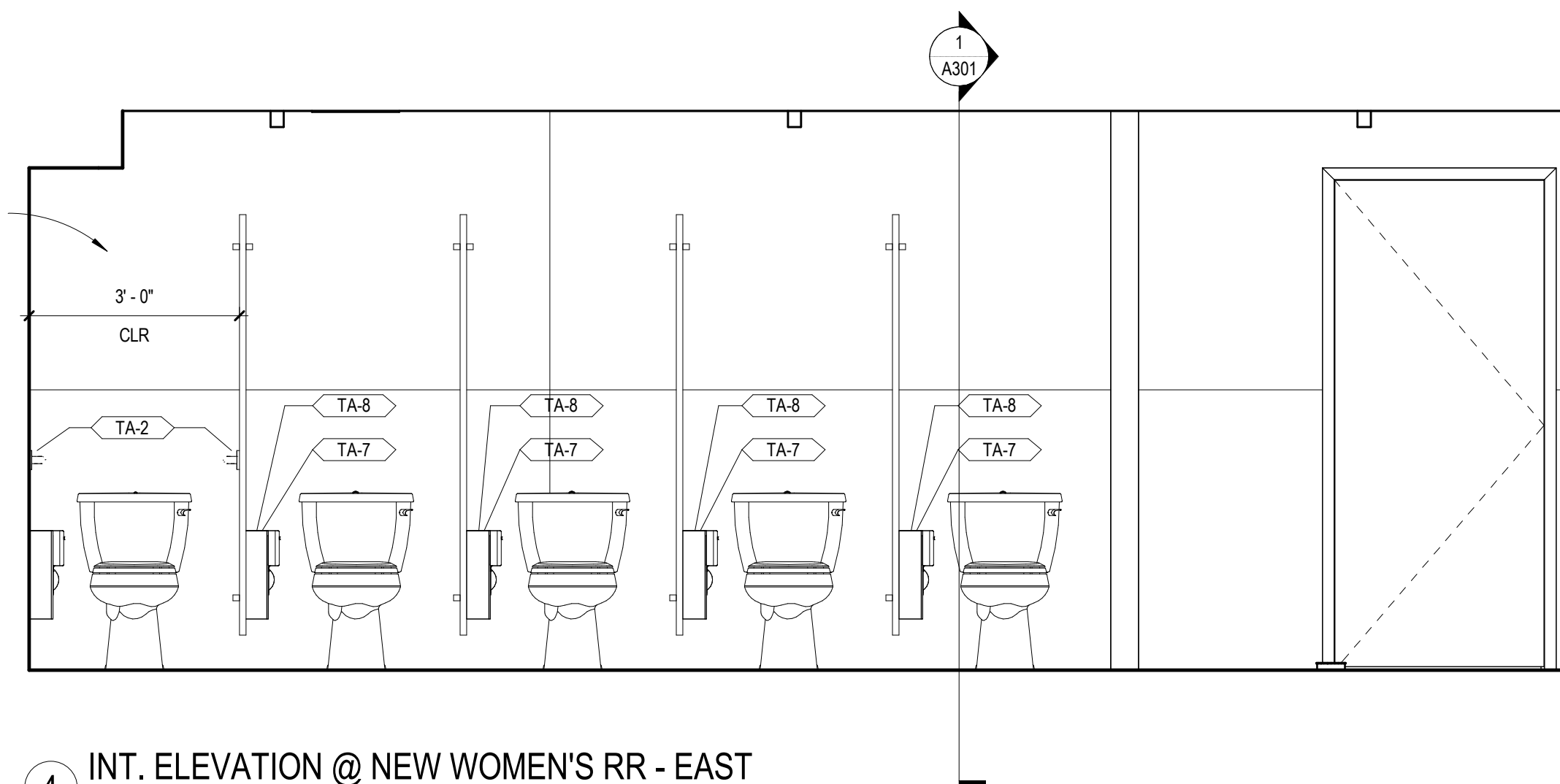
1 INT. ELEVATION @ NEW MEN'S RR - EAST
1/2" = 1'-0"



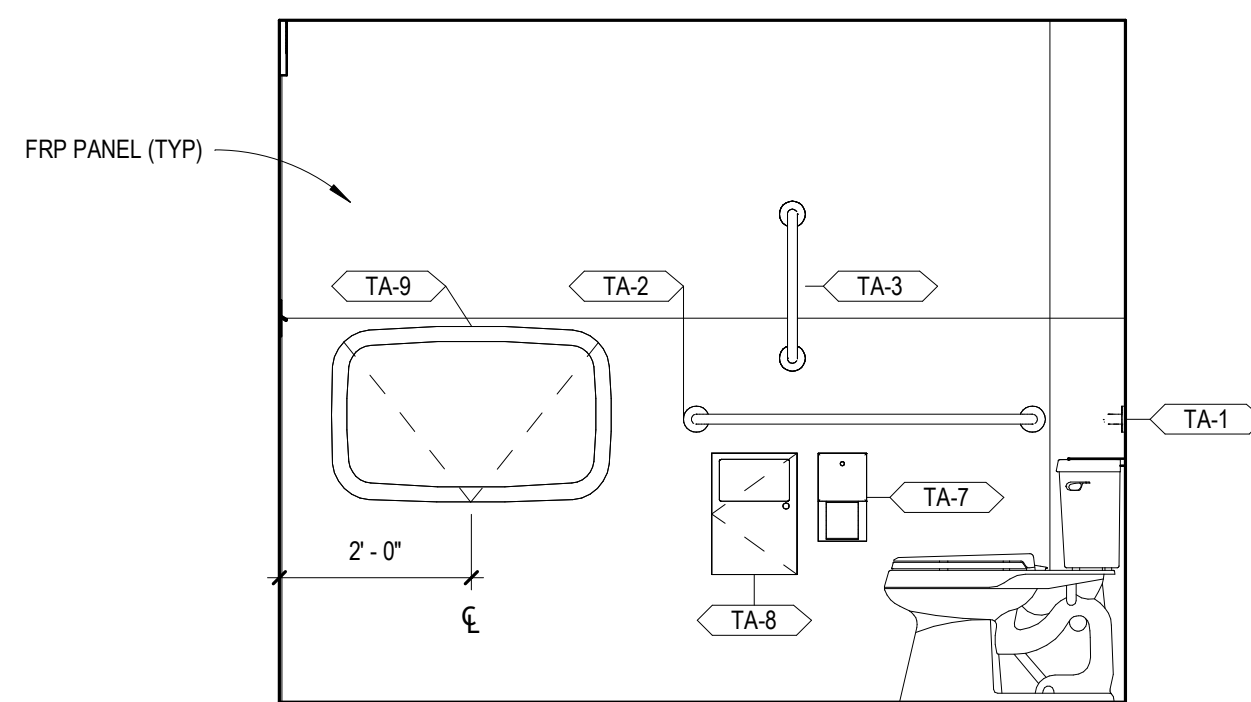
3 INT. ELEVATION @ NEW WOMEN'S RR - WEST
1/2" = 1'-0"



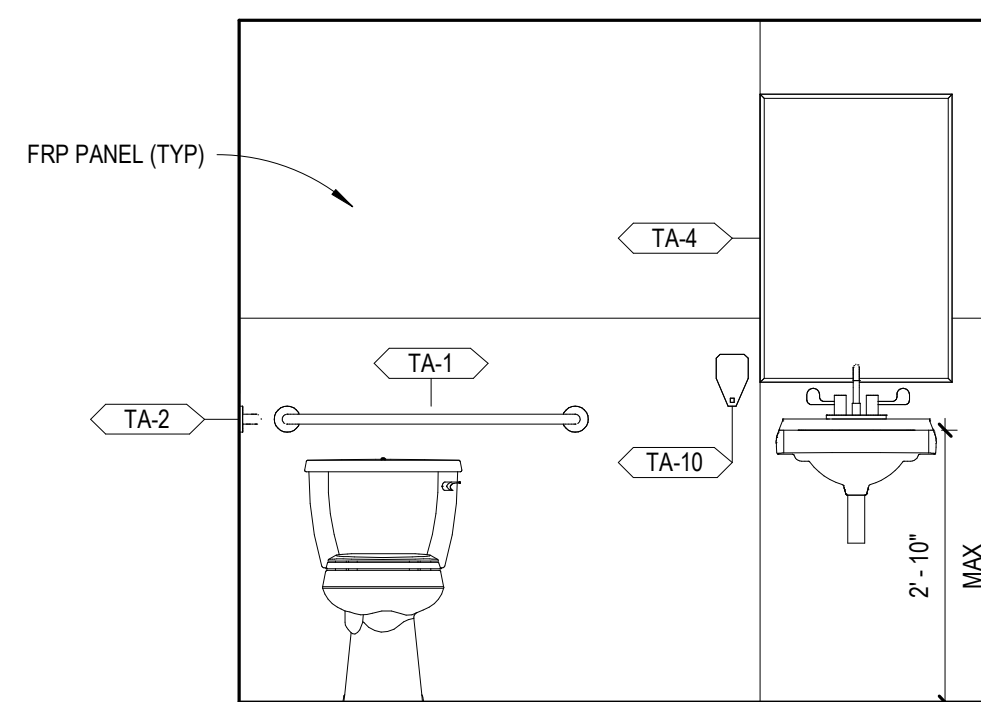
2 INT. ELEVATION @ NEW MEN'S RR - WEST
1/2" = 1'-0"



4 INT. ELEVATION @ NEW WOMEN'S RR - EAST
1/2" = 1'-0"



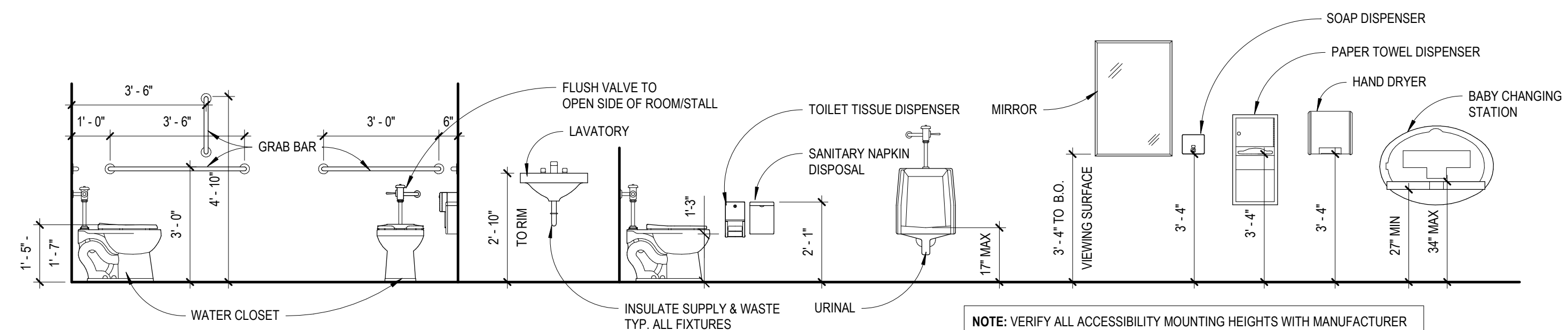
6 INT. ELEVATION @ ADA - TYP.
1/2" = 1'-0"



5 INT. ELEVATION @ ADA - TYP.
1/2" = 1'-0"

TOILET ACCESSORY SCHEDULE					
◀ TA-X ▶ SYMBOL USED TO DENOTE TOILET ACCESSORIES					
TYPE MARK	ACCESSORY	MFR	MODEL	MOUNTING HEIGHT	RESPONSIBILITY
TA-1	38" GRAB BAR	BOBRICK	B-5806x36	38" AFF TO TOP OF GRIPPING SURFACE	CFCI
TA-2	42" GRAB BAR	BOBRICK	B-5806x42	38" AFF TO TOP OF GRIPPING SURFACE	CFCI
TA-3	18" GRAB BAR	BOBRICK	B-5806x18	40" AFF TO CENTER OF BOTTOM SUPPORT	CFCI
TA-4	MIRROR 24Wx36H	BOBRICK	B-165 2436	40" AFF TO BOTTOM OF REFLECTING SURFACE	CFCI
TA-7	TOILET PAPER DISPENSER	BOBRICK	B-2888	OUTLET OF DISPENSER TO BE 15'-48" AFF AND 7'-9" FROM FRONT OF TOILET TO CL OF DISPENSER	CFCI
TA-8	SANITARY NAPKIN DISPOSAL	BOBRICK	B-254	OPENING TO BE 19'-48" AFF	CFCI
TA-9	KB200-00 - BABY CHANGING STATION	BOBRICK	KB200-00		CFCI
TA-10	SOAP DISPENSER	GOJO	TFX TOUCH FREE DISPENSER	40" A.F.F. TO SPOUT OF DISPENSER	CFCI

NOTES:
 1. ALL TOILET ACCESSORIES LISTED ARE BY BOBRICK OR EQUIVALENT. GRAB BAR ANCHORS, MOUNTING ACCESSORIES AND WALL BLOCKING SHALL BE DESIGNED BY THE MANUFACTURER TO WITHSTAND 250 LB CONCENTRATED LOAD APPLIED TO ANY PORTION OF THE GRAB BAR. INSTALLATION OF GRAB BARS SHALL COMPLY WITH ANY ADDITIONAL REQUIREMENTS OF LOCAL GOVERNING AGENCIES.
 2. FURNISH INSERTS AND ANCHORING DEVICES WHICH MUST BE BUILT INTO WALLS.



NOTE: VERIFY ALL ACCESSIBILITY MOUNTING HEIGHTS WITH MANUFACTURER

PRELIMINARY
 NOT FOR
 CONSTRUCTION
 100%
 DATE:
 PRELIMINARY

ISSUE

MARK DATE DESCRIPTION

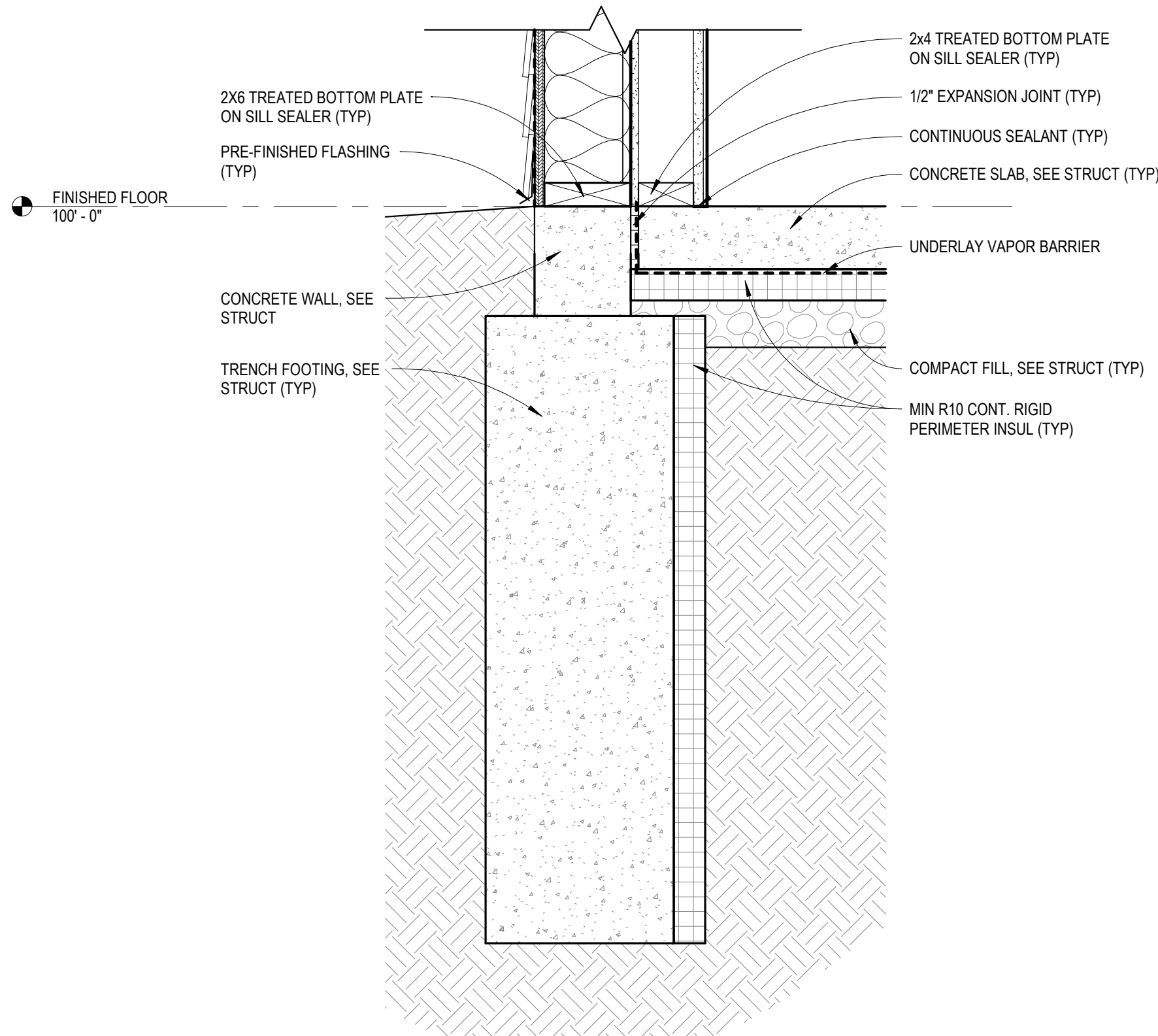
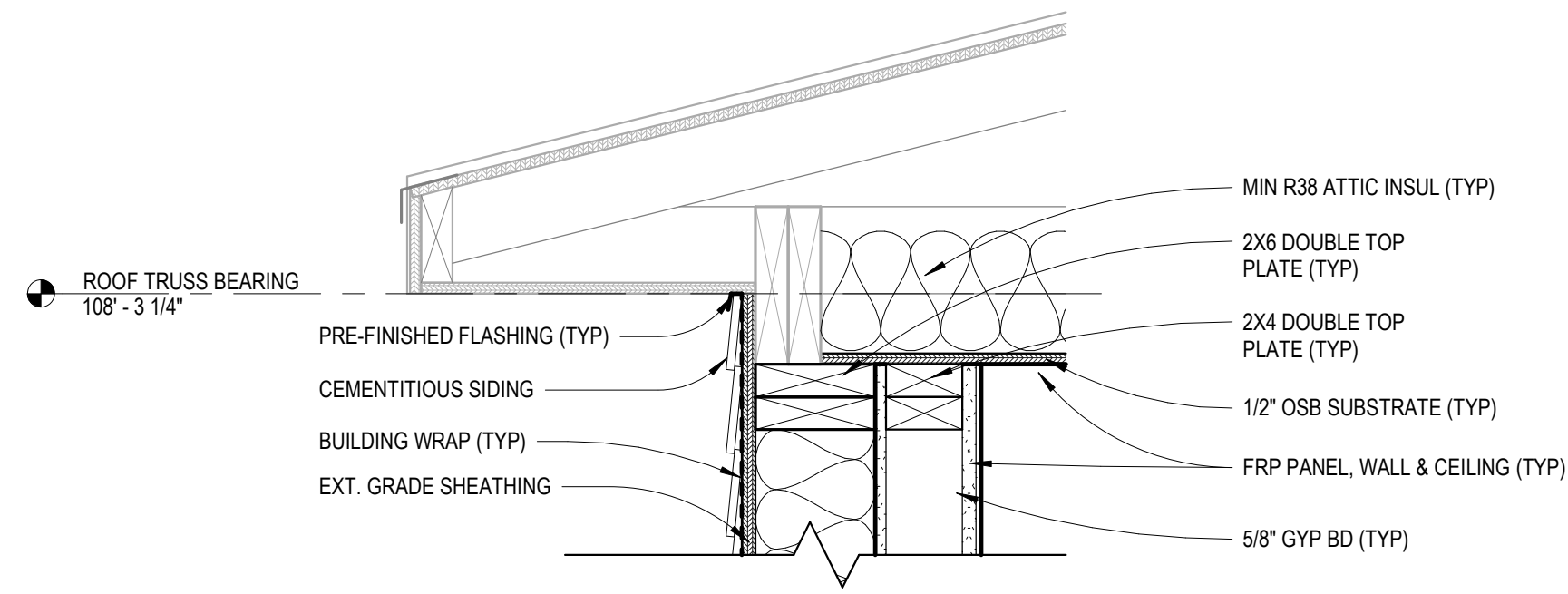
David City Ballfield RR Addition

David City, Nebraska
100 M Rd, David City, NE 68632

JEO PROJECT NO: 251890.00
 DATE: 02.19.2026
 QAQC: BS
 DRAWN BY: DB
 SHEET SIZE: 24" x 36"

ENLARGED PLANS & INTERIOR ELEVATIONS

Sheet Size: ARCH D (24.0 x 36.00 INCHES)



ROOM FINISH SCHEDULE

ROOM NO.	ROOM NAME	FLR MAT'L	BASE MAT'L	NORTH WALL		EAST WALL		SOUTH WALL		WEST WALL		CEILING		Signage	SHEET SPECIFIC NOTES
				MAT'L	FINISH	MAT'L	FINISH	MAT'L	FINISH	MAT'L	FINISH	MAT'L	FINISH		
101	WOMENS ADA	CONC	FRP	FRP	--	FRP	--	FRP	--	FRP	--	FRP	--	No	
102	MENS ADA	CONC	FRP	FRP	--	FRP	--	FRP	--	FRP	--	FRP	--	No	
103	MENS	CONC	FRP	FRP	--	FRP	--	FRP	--	FRP	--	FRP	--	Yes	
104	WOMENS	CONC	FRP	FRP	--	FRP	--	FRP	--	FRP	--	FRP	--	Yes	

GENERAL NOTES: APPLY TO ALL SPACES AS APPLICABLE

- SEE SPEC AND MOUNTING HEIGHT DETAIL FOR ALL ROOM SIGNAGE INFORMATION.
- PROVIDE AND INSTALL WATER RESISTANT GYPSUM BOARD IN ALL WET & DAMP AREAS.
- REFER TO SPECIFICATIONS FOR ALL FINISH MATERIALS. FINISH MATERIAL COLORS TO BE SELECTED FROM MFR STANDARD RANGES AFTER BID IS AWARDED.
- PAINT ALL INTERIOR HOLLOW METAL DOORS AND FRAMES XXX.X.

ABBREVIATIONS
CONC. = CONCRETE / SEALED, REFER TO SPECIFICATIONS FOR SCHEDULE

DOOR & FRAME SCHEDULE

000 SYMBOL USED TO DENOTE DOORS

DOOR NO.	HW SET	DOOR DIMENSIONS			DOOR TYPE	DOOR PROPERTIES			FIRE RATING	FRAME PROPERTIES			COMMENTS
		WIDTH	HEIGHT	THICK.		MAT'L	FINISH	FRAME TYPE		MAT'L	FINISH	FRAME DEPTH	
101	1.0	3'-0"	7'-0"	1 3/4"	FL	HM	PNT	0	EXISTING	EXISTING	PNT	5 3/4"	EXISTING FRAME, REMOVE & REPLACE DOOR LEAF & HARDWARE, V.I.F.
102	1.0	3'-0"	7'-0"	1 3/4"	FL	HM	PNT	0	EXISTING	EXISTING	PNT	5 3/4"	EXISTING FRAME, REMOVE & REPLACE DOOR LEAF & HARDWARE, V.I.F.
103	1.0	3'-0"	7'-0"	1 3/4"	FL	HM	PNT	0	1	HM	PNT	5 3/4"	REFER TO DETAIL 3/A501
104	1.0	3'-0"	7'-0"	1 3/4"	FL	HM	PNT	0	1	HM	PNT	5 3/4"	REFER TO DETAIL 3/A501

NOTES:

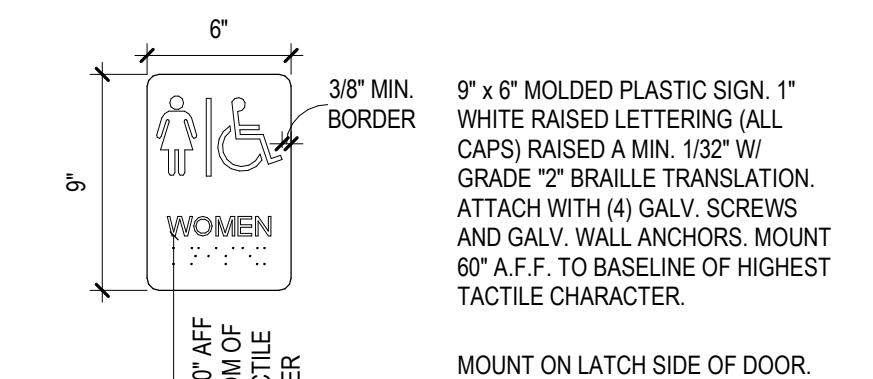
- REFER TO PROJECT SPECIFICATIONS.
- DOOR AND FRAME TYPES ARE AS INDICATED ON THIS SHEET
- GLAZING, ALL GLASS IS CLEAR PLATE GLASS UNLESS NOTED OTHERWISE.
- REFER TO SPEC FOR HARDWARE GROUPS

COMMENTS:

- IF THERE ARE COMMENTS THAT ARE APPLICABLE TO MULTIPLE DOORS, WRITE THEM HERE AND IN THE SCHEDULE REFERENCE BACK TO THE SPECIFIC COMMENT #

ABBREVIATIONS

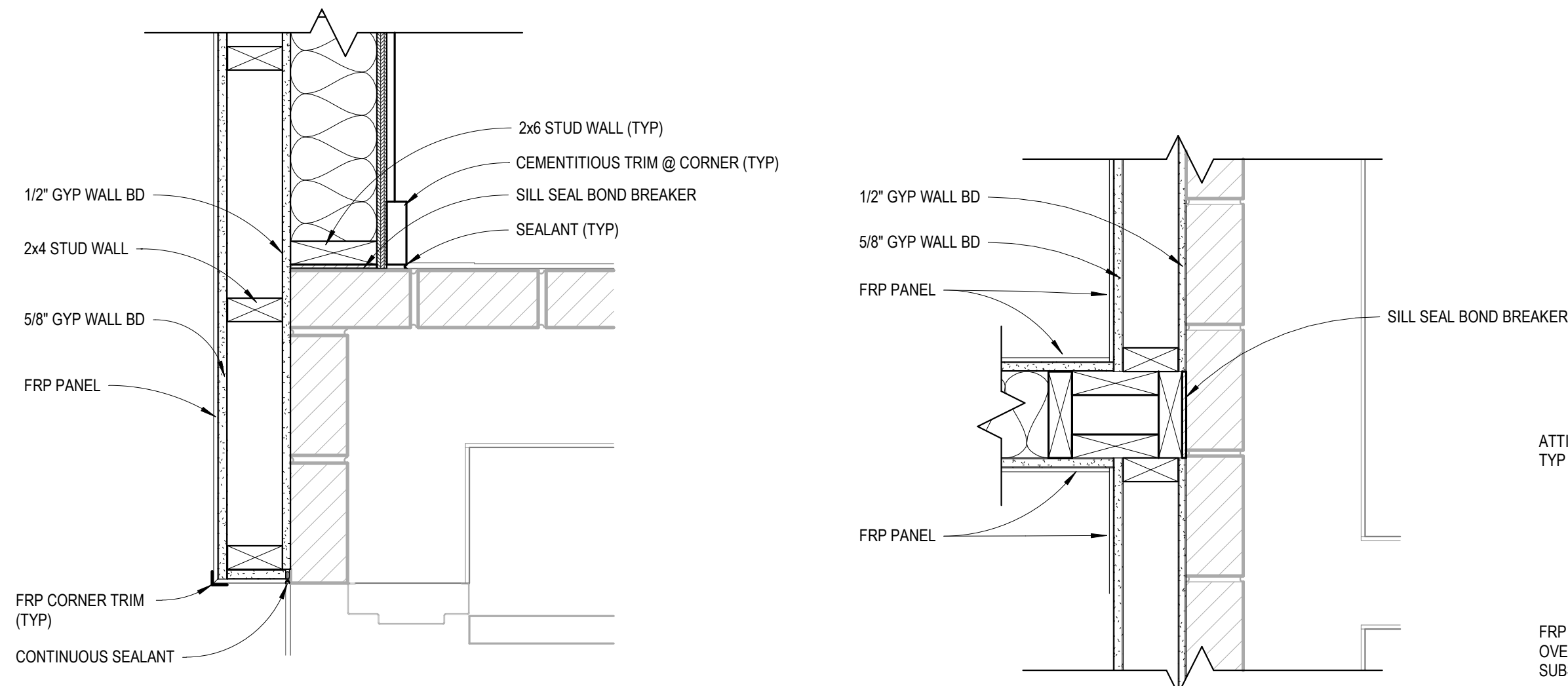
ALUM = ALUMINUM
HM = HOLLOW METAL
HW = HARDWARE SET (REFER TO SPECIFICATIONS)
OCCD = OVERHEAD COILING COUNTER DOOR
PNT = PAINT (REFER TO ROOM FINISH SCHED.)
PRE-FIN = PREFINISHED
SC / WD = SOLID CORE WOOD
S.S. = STAINLESS STEEL
ST = STAIN (REFER TO SPECIFICATIONS)



RESTROOM SIGNAGE

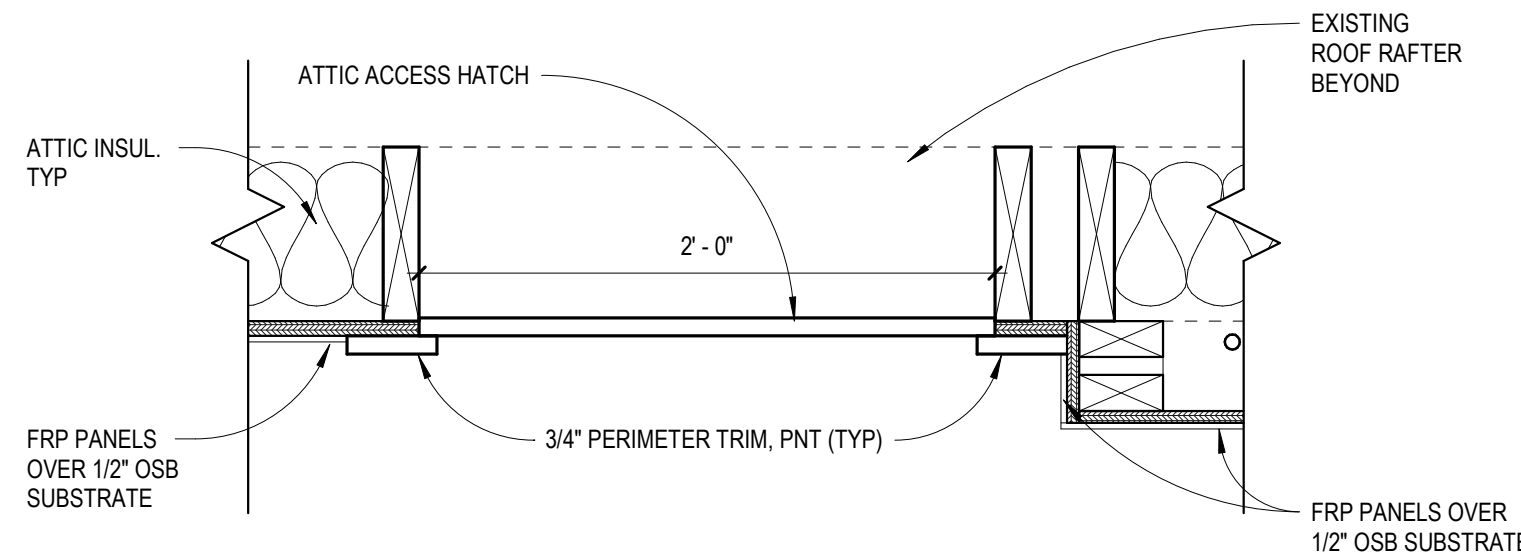
TYPICAL MOUNTING HEIGHTS
1 1/2" = 1'-0"

1 TOP OF WALL & BASE DETAILS
1 1/2" = 1'-0"

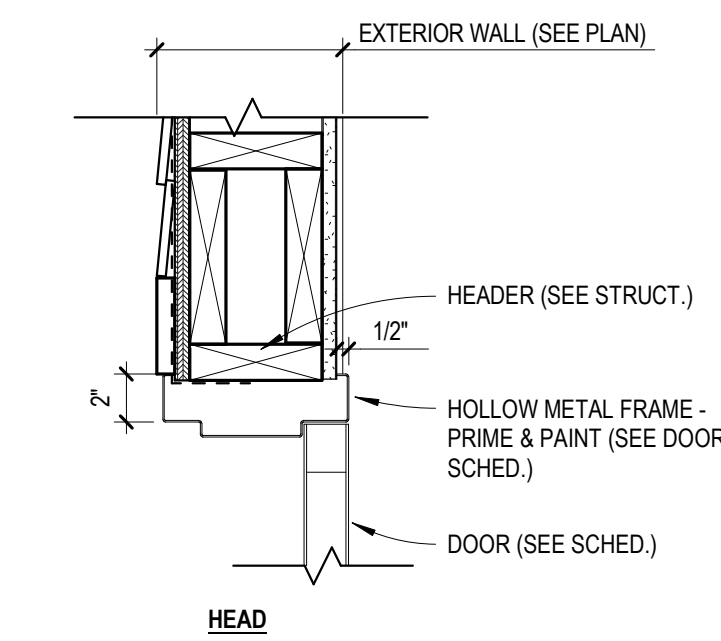


2 WALL TRANSITION DETAIL
1 1/2" = 1'-0"

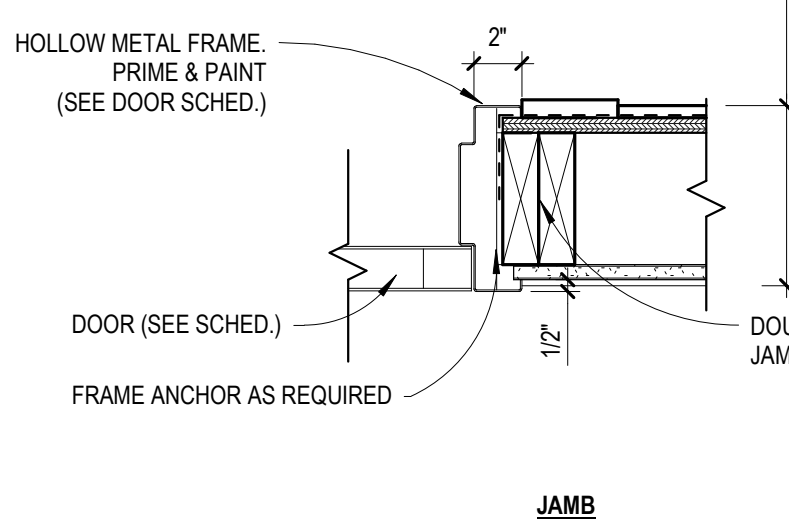
4 CENTER WALL TRANSITION DETAIL
1 1/2" = 1'-0"



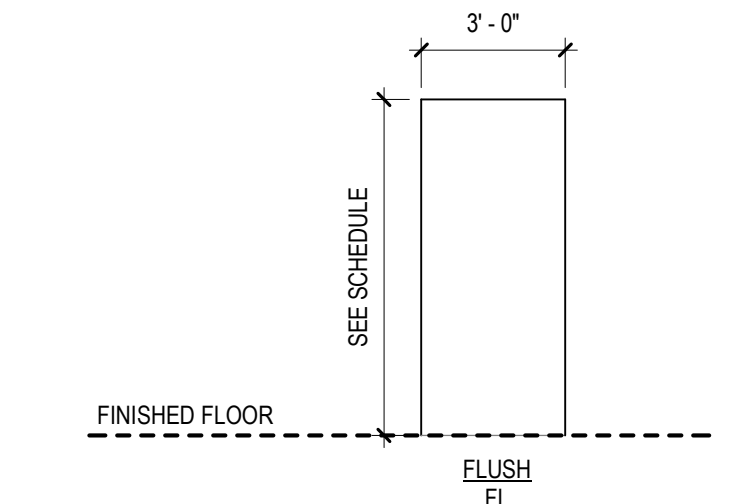
6 ATTIC HATCH DETAIL
1 1/2" = 1'-0"



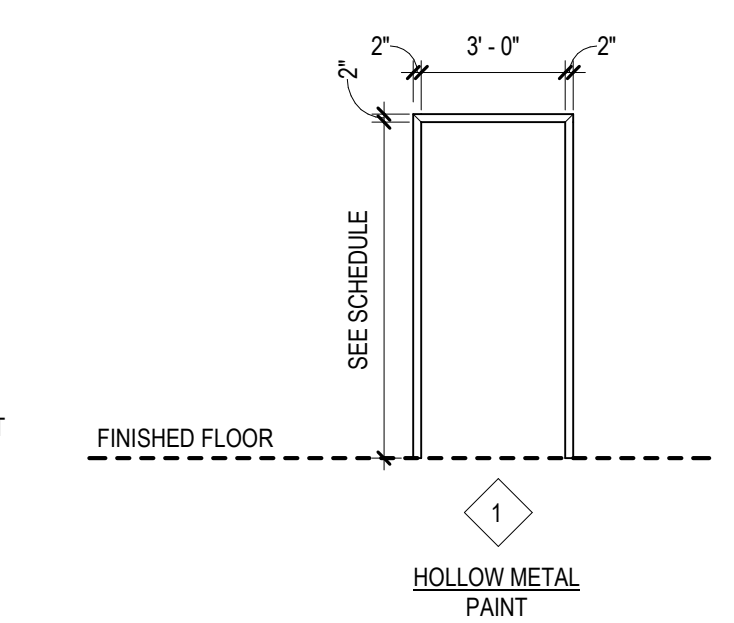
NOTE: THROAT SIZE TO BE DETERMINED IN FIELD AFTER VERIFICATION OF WALL/PARTITION WIDTH



3 DOOR DETAIL
1 1/2" = 1'-0"



DOOR TYPES
1/4" = 1'-0"



FRAME TYPES
1/4" = 1'-0"



JEO ARCHITECTURE INC

1937 N CHESTNUT ST
WAHOO, NE 68066
800.723.8567 | jeo.com

ORGANIZATION CERTIFICATION OF:
AUTHORIZATION NUMBER: CA-3929

CONSULTANT TITLE AND DISCIPLINE
ORGANIZATION CERTIFICATE OF
AUTHORIZATION NUMBER: XX-000
ADDRESS
CITY, ST 00000
000.000.0000

PRELIMINARY
 NOT FOR
 CONSTRUCTION
 100%
 DATE:
 PRELIMINARY

ISSUE

MARK DATE DESCRIPTION

**David City Ballfield RR
Addition**

David City, Nebraska
100 M Rd, David City, NE 68632

JEO PROJECT NO: 251890.00
DATE: 02.19.2026
QAQC: BS
DRAWN BY: DB
SHEET SIZE: 24" x 36"

ARCHITECTURAL DETAILS & SCHEDULES

Autodesk Docs/David City Ballfield RR Addition/251890.00 - David City Ballfield Restroom Addition - ARCH_V25.rvt

ABBREVIATIONS & SMBOLS

GENERAL LIST - NOT ALL MAY APPLY

(E)	EXISTING
(R)	RELOCATED
(D)	DEMOLISHED
ADJ	ADJACENT, ADJUSTABLE
AFF	ABOVE FINISHED FLOOR
AHJ	AUTHORITY HAVING JURISDICTION
ALT	ALTERNATE
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE
APPROX	APPROXIMATELY
ARCH	ARCHITECT, ARCHITECTURE
ASHRAE	AMERICAN SOCIETY OF HEATING AND REFRIGERATION ENGINEERS
ASME	AMERICAN SOCIETY OF MECHANICAL ENGINEERS
ASTM	AMERICAN SOCIETY OF TESTING AND MATERIALS
AVG	AVERAGE
BAS	BUILDING AUTOMATION SYSTEM
BFP	BACKFLOW PREVENTER
BJS	BELOW JOIST SPACE
BUDG	BUILDING
BTU	BRITISH THERMAL UNITS
BTUH	BRITISH THERMAL UNITS PER HOUR
CAP	CAPACITY
CUBT	CUBIC FEET
DB	DRY BULB
DCW	DOMESTIC COLD WATER
DECQ	DOUBLE EXTERIOR CLEANOUT
DEG, °	DEGREE(S)
DEMO	DEMOLITION
DFU	DRAINAGE FIXTURE UNITS
DIAM, Ø	DIAMETER
DHW	DOMESTIC HOT WATER
DN	DOWN
DWG	DRAWING
EIO	EXTERIOR CLEANOUT
EFF	EFFICIENCY
EQUIP	EQUIPMENT
ESP	EXTERNAL STATIC PRESSURE
EWT	ENTERING WATER TEMPERATURE
EXIST	EXISTING
F	FAHRENHEIT
FDC	FIRE DEPARTMENT CONNECTION
FSC	FOOD SERVICE CONTRACTOR
FT	FEET
FUT	FUTURE
GAL	GALLON(S)
GALV	GALVANIZED
GC	GENERAL CONTRACTOR
GFH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
HORIZ	HORIZONTAL
HP	HORSEPOWER
IBC	INTERNATIONAL BUILDING CODE
IE	INVERT ELEVATION
IECC	INTERNATIONAL ENERGY CONSERVATION CODE
IFC	INTERNATIONAL FIRE CODE
IN	IN JOIST SPACE
IN	INCHES
IMC	INTERNATIONAL MECHANICAL CODE
IPC	INTERNATIONAL PLUMBING CODE
INSUL	INSULATION
KW	KILOWATT
LAT	LEAVING AIR TEMPERATURE
LBS	POUNDS
LWT	LEAVING WATER TEMPERATURE
MAX	MAXIMUM
MBH	THOUSAND BTU'S PER HOUR
MECH	MECHANICAL
MC	MECHANICAL CONTRACTOR
MCA	MINIMUM CIRCUIT AMPACITY
MFR	MANUFACTURER
MIN	MINIMUM
MISC	MISCELLANEOUS
MOP	MAXIMUM OVER CURRENT PROTECTION
NC	NORMALLY CLOSED
NFA	NATIONAL FIRE PROTECTION ASSOCIATION
NO	NORMALLY OPEN
NTS	NOT TO SCALE
OPENING	OPENING
OPNG	OPENING
PC	PLUMBING CONTRACTOR
PD	PRESSURE DROP
PH, Ø	PHASE
PIV	POST INDICATOR VALVE
PLVB	PLUMBING
PRV	PRESSURE REDUCING VALVE
PSI	POUNDS PER SQUARE INCH
PSIG	POUNDS PER SQUARE INCH, GAUGE
QTY	QUANTITY
RCR	REFLECTED CEILING PLAN
RECIRC	RECIRCULATION
REQD	REQUIRED
REV	REVISION
RH	RELATIVE HUMIDITY
RPM	REVOLUTIONS PER MINUTE
RPZ	REDUCED PRESSURE ZONE
SCHED	SCHEDULE
SENS	SENSIBLE
SPEC	SPECIFICATION
SQFT, FT²	SQUARE FEET
STD	STANDARD
SURF	SURFACE
SUSP	SUSPENDED
TD	TEMPERATURE DIFFERENTIAL
TEMP	TEMPERATURE
TJS	THROUGH JOIST SPACE
TSP	TOTAL STATIC PRESSURE
TYP	TYPICAL
UF	UNDER FLOOR
UL	UNDERWRITERS LABORATORIES
UMC	UNIFORM MECHANICAL CODE
UPC	UNIFORM PLUMBING CODE
W	WATTS
WB	WET BULB
WC	WATER COLUMN
WG	WATER GAUGE
WGHT	WEIGHT
WPD	WATER PRESSURE DROP
WSFU	WATER SUPPLY FIXTURE UNITS
V	VOLT
VERT	VERTICAL
VFD	VARIABLE FREQUENCY DRIVE
VTR	VENT THRU ROOF

KEY NOTE

	CROSS SECTION INDICATOR
	D = DETAIL DRAWING
	P = PARTIAL DRAWING
	R = RISER DIAGRAM
	S = CROSS SECTION DRAWING
	NEW TO EXISTING CONNECTION
	EXISTING PIPE ABOVE GRADE
	EXISTING PIPE BELOW GRADE
	DEMOLITION PIPE
	PIPING BREAK MARK
	PIPING ABOVE GROUND FLOOR
	PIPING BELOW GROUND FLOOR
	WATER SERVICE PIPING
	SANITARY SEWER PIPING
	STORM SEWER PIPING
	FIRE SERVICE PIPING
	DOMESTIC COLD WATER PIPING
	DOMESTIC HOT WATER PIPING
	REVERSE OSMOSIS WATER PIPING
	FILTERED WATER
	SOFTENED WATER
	SOFTENED COLD WATER
	SOFTENED HOT WATER
	BELOW GRADE SANITARY WASTE PIPING
	ABOVE GRADE SANITARY WASTE PIPING
	VENT PIPING
	GREASE TRAP PIPING
	HUMIDITY DRAIN PIPING
	RAIN WATER PIPING
	OVERFLOW RAIN WATER PIPING
	GAS PIPING
	GAS VENT PIPING
	HEAT PUMP RETURN PIPING
	CHILLED WATER SUPPLY PIPING
	CHILLED WATER RETURN PIPING
	HOT WATER HEATING SUPPLY PIPING
	HOT WATER HEATING RETURN PIPING
	CONDENSER WATER SUPPLY PIPING
	CONDENSER WATER RETURN PIPING
	FUEL OIL SUPPLY PIPING
	FUEL OIL RETURN PIPING
	FUEL OIL VENT PIPING
	LOW PRESSURE STEAM SUPPLY PIPING
	MEDIUM PRESSURE STEAM SUPPLY PIPING
	STEAM CONDENSATE RETURN PIPING
	PIPE BELOW JOIST SPACE
	PIPE IN JOIST SPACE
	PIPE THROUGH JOIST SPACE
	FLOW ARROW
	WASTE PIPING CONNECTION
	WASTE PIPING ELBOW 90°
	WASTE PIPING ELBOWS UP AND DOWN
	PIPING ELBOWS 45° AND 90°
	PIPING ELBOWS UP AND DOWN
	PIPING TEES UP, DOWN AND STRAIGHT
	BALL VALVE
	GATE VALVE
	BUTTERFLY VALVE
	CALIBRATED BALANCE VALVE
	UNION
	CHECK VALVE
	STRAINER
	VALVE IN VERTICAL PIPING
	WALL HYDRANT
	BELOW AND ABOVE GRADE CLEAN OUT
	FLOOR DRAIN AND COVER
	SINK P-TRAP
	BELOW AND ABOVE GRADE P-TRAP
	ROOF DRAIN (REGULAR AND OVERFLOW)
	DOWN SPOUT
	OBSERVATION POINT FOR TESTING
	PRESSURE SENSOR IN PIPING
	TEMPERATURE SENSOR IN PIPING
	EQUIPMENT DESIGNATION

PLUMBING SPECIFICATIONS

GENERAL CONSTRUCTION METHODS

- ALL WORK SHALL BE PER ALL APPLICABLE CODES, ORDINANCES, RULES & REGULATIONS, AS WELL AS PER LOCAL UTILITY REQUIREMENTS AND THOSE OF OTHER AUTHORITIES HAVING JURISDICTION. THE ENTIRE INSTALLATION SHALL BE IN ACCORDANCE WITH CURRENT MODERN INDUSTRY STANDARDS USING FIRST GRADE EQUIPMENT & MATERIALS NEW & PREVIOUSLY UNUSED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL PERMITS, LICENSES, FEES & INSPECTIONS.
- IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO VISIT THE JOB SITE AND BECOME INTIMATELY FAMILIAR WITH EXISTING CONDITIONS AS WELL AS WITH CONSTRUCTION DOCUMENTS. PLANS ARE SCHEMATIC IN NATURE AND SHOW GENERAL ARRANGEMENT OF SYSTEMS. THE CONTRACTOR SHALL PROVIDE ALL LABOR & MATERIALS TO PROVIDE THE ENTIRE PROJECT AS A READY TO OPERATE INSTALLATION.
- ALL DISRUPTIONS OF EXISTING SYSTEMS MUST BE COORDINATED WITH OWNER 2 WEEKS PRIOR TO ANY WORK BEING DONE.
- ALL SPACES MUST BE KEPT COMPLETELY CLEAN. A DUST BARRIER AND NEGATIVE AIR PRESSURE IN WORK AREA IS RESPONSIBILITY OF CONTRACTOR. COORDINATE WITH OWNER EXHAUST DUCT OUTDOORS.
- ALL CUTTING & PATCHING IS THE RESPONSIBILITY OF THE CONTRACTOR. ALL WORK SHALL BE DONE IN A NEAT & WORKMANLIKE MANNER BY SKILLED CRAFTSMEN. PIPE OPENINGS THROUGH FLOORS SHALL BE DRILLED (UP TO 1" IN SIZE) OR CORED (ABOVE 1").
- THE CONTRACTOR SHALL BE RESPONSIBLE TO REPAIR ANY DAMAGE CAUSED TO THE PROJECT WITHOUT COST TO THE OWNER.
- ANY CONFLICTS BETWEEN CONSTRUCTION DOCUMENTS, CODES & MANUFACTURERS INSTALLATION RECOMMENDATIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER FOR CLARIFICATION AS SOON AS POSSIBLE AND BEFORE INSTALLATION. THE CONTRACTOR SHALL BID THE LARGER QUANTITY OR BETTER QUALITY OF WORK, IF THERE ARE CONFLICTS.
- FIRE & SMOKE INTEGRITY OF ALL WALLS, FLOORS, CEILING, ETC. SHALL BE MAINTAINED. BARRIERS SHALL BE PROVIDED AS REQUIRED. MATERIALS USED SHALL BE UL CLASSIFIED & FACTORY MUTUAL APPROVED. INSTALLATION SHALL BE PER MANUFACTURERS RECOMMENDATIONS & UL STANDARDS.
- CONTRACTOR SHALL SUBMIT ELECTRONIC COPIES OF SHOP DRAWINGS DETAILING ALL MATERIALS & EQUIPMENT PROPOSED TO BE USED.
- CONTRACTOR SHALL GUARANTEE ALL MATERIALS, EQUIPMENT & LABOR FOR A MINIMUM PERIOD OF ONE YEAR UNLESS A LONGER PERIOD IS SPECIFIED ELSEWHERE FROM DATE OF SUBSTANTIAL COMPLETION & FINAL ACCEPTANCE OF WORK.
- CONTRACTOR SHALL PROVIDE "AS-BUILT" RECORD DRAWINGS AT END OF PROJECT.
- CONTRACTOR SHALL PROVIDE OPERATION & MAINTENANCE MANUALS AND OWNER TRAINING TO OWNER AND/OR OWNERS REPRESENTATIVE ON OPERATION AND MAINTENANCE PROCEDURES. TRAINING SHALL CONSIST OF FOUR (4) SESSIONS FOR THE OWNER AND/OR OWNERS REPRESENTATIVE. EACH SESSION SHALL BE 2 HOURS IN LENGTH. THE FIRST TWO (2) SHALL BE IN THE FIRST MONTH AFTER SUBSTANTIAL COMPLETION AND THE 3RD SESSION SHALL BE IN THE 3RD MONTH AND 4TH SESSION IN THE 6TH MONTH. TRAINING SESSIONS SHALL PROVIDE OWNER WITH TRAINING ON EQUIPMENT AND OVERALL SYSTEM.

220500 GENERAL REQUIREMENTS - PLUMBING

- SUBMITTALS
 - PRODUCT DATA: FOR THE FOLLOWING WITHIN 90 DAYS OF CERTIFICATE OF OCCUPANCY:
 - ALL SCHEDULED EQUIPMENT AND PIPING.
 - WELDING CERTIFICATES.
 - WARRANTIES.
 - THREE (3) COPIES OF O&M MANUALS.
 - PROVIDE THREE (3) COPIES OF VIDEO RECORDINGS COVERING REQUIRED MAINTENANCE, TROUBLE SHOOTING AND SHUTDOWN OF SPECIFIED EQUIPMENT.
- DELIVERY, STORAGE, AND HANDLING
 - DELIVER PIPES AND TUBES WITH FACTORY-APPLIED END CAPS. MAINTAIN END CAPS THROUGH SHIPPING, STORAGE, AND HANDLING TO PREVENT PIPE END DAMAGE AND TO PREVENT ENTRANCE OF DIRT, DEBRIS AND MOISTURE.
 - STORE PLASTIC PIPES PROTECTED FROM DIRECT SUNLIGHT. SUPPORT TO PREVENT SAGGING AND BENDING.
- COORDINATION
 - ARRANGE FOR PIPE SIZES, CHASES, SLOTS, AND OPENINGS IN BUILDING STRUCTURE DURING PROGRESS OF CONSTRUCTION, TO ALLOW FOR PLUMBING INSTALLATIONS.
 - COORDINATE INSTALLATION OF REQUIRED SUPPORTING DEVICES AND SET SLEEVES IN POURED-IN-PLACE CONCRETE AND OTHER STRUCTURAL COMPONENTS AS THEY ARE CONSTRUCTED.
 - COORDINATE REQUIREMENTS FOR CONCEALED PANELS AND DOORS FOR PLUMBING ITEMS REQUIRING ACCESS THAT ARE CONCEALED BEHIND FINISHED SURFACES. ACCESS PANELS AND DOORS ARE SPECIFIED IN DIVISION 05 SECTION "ACCESS DOORS AND FRAMES."
- PLUMBING DEMOLITION
 - DISCONNECT, DEMOLISH, AND REMOVE PLUMBING SYSTEMS, EQUIPMENT, AND COMPONENTS INDICATED TO BE REMOVED.
 - PIPING TO BE REMOVED: REMOVE PORTION OF PIPING INDICATED TO BE REMOVED AND CAP OR PLUG REMAINING PIPING WITH SAME OR COMPATIBLE PIPING MATERIAL.
 - EQUIPMENT TO BE ABANDONED IN PLACE: DRAIN PIPING AND CAP OR PLUG PIPING WITH SAME OR COMPATIBLE PIPING MATERIAL.
 - EQUIPMENT TO BE REMOVED AND REINSTALLED: DISCONNECT AND CAP SERVICES AND REMOVE. CLEAN, AND STORE EQUIPMENT, WHEN APPROPRIATE.
 - EQUIPMENT TO BE REMOVED AND SALVAGED: DISCONNECT AND CAP SERVICES AND REMOVE EQUIPMENT AND DELIVER TO OWNER.
- IF PIPE, INSULATION, OR EQUIPMENT TO REMAIN IS DAMAGED OR IS UNSERVICEABLE, REMOVE DAMAGED OR UNSERVICEABLE PORTIONS AND REPLACE WITH NEW PRODUCTS OF EQUAL CAPACITY AND QUALITY.
- PIPING SYSTEMS - COMMON REQUIREMENTS
 - DRAWING PLANS, SCHEMATICS, AND DIAGRAMS INDICATE GENERAL LOCATION AND ARRANGEMENT OF PIPING SYSTEMS. INDICATED LOCATIONS AND ARRANGEMENTS WERE USED TO SIZE PIPE AND CALCULATE FRICTION LOSS, EXPANSION, PUMP SIZING, AND OTHER DESIGN CONSIDERATIONS. INSTALL PIPING AS INDICATED UNLESS DEVIATIONS TO LAYOUT ARE APPROVED ON COORDINATION DRAWINGS.
 - PROVIDE PIPE LABELING ON ALL NEW PIPING WITH PRE-PRINTED, COLOR-CODED WITH LETTERING MATCHING DRAWING DESIGNATIONS AND SHOWING FLOW DIRECTION. LETTERING MUST BE A MINIMUM OF 1/2" IN SIZE. PIPE LABELS SHALL BE ON ALL PIPING ABOVE ACCESSIBLE CEILING, EXPOSED AREAS, TUNNELS AND IN MECHANICAL ROOMS EVERY 30' AND AT ALL ACCESS DOORS. VERIFY LABEL COLORING SCHEME WITH ENGINEER AND OWNER PRIOR TO ORDERING.
 - INSTALL PIPING IN CONCEALED CEILING, UNLESS OTHERWISE INDICATED AND EXCEPT IN EQUIPMENT ROOMS AND SERVICE AREAS.
 - INSTALL PIPING INDICATED TO BE EXPOSED AND PIPING IN EQUIPMENT ROOMS AND SERVICE AREAS AT RIGHT ANGLES OR PARALLEL TO BUILDING WALLS. DIAGONAL RUNS ARE PROHIBITED UNLESS SPECIFICALLY INDICATED OTHERWISE.
 - INSTALL PIPING ABOVE ACCESSIBLE CEILING TO ALLOW SUFFICIENT SPACE FOR CEILING PANEL REMOVAL.
 - INSTALL PIPING TO PERMIT VALVE SERVICING & TO ALLOW FOR APPLICATION OF INSULATION.
 - INSTALL PIPING ADJACENT TO EQUIPMENT AND SPECIALTIES TO ALLOW FOR PROPER SERVICE AND MAINTENANCE.
 - INSTALL PIPING AT INDICATED SLOPES. FREE OF SAGS AND BENDS.
 - INSTALL FITTINGS FOR CHANGES IN DIRECTION AND BRANCH CONNECTIONS.
 - INSTALL UNIONS AND SHUT-OFF VALVES AT FINAL CONNECTIONS TO EACH PIECE OF EQUIPMENT, MACHINE, AND SPECIALTY.
 - SELECT SYSTEM COMPONENTS WITH PRESSURE RATING EQUAL TO OR GREATER THAN SYSTEM OPERATING PRESSURE.
 - INSTALL ESCUTCHEONS FOR PENETRATIONS OF WALLS, CEILING, AND FLOORS. M. SLEEVES ARE NOT REQUIRED FOR CORE-DRILLED HOLES.
 - PERMANENT SLEEVES ARE NOT REQUIRED FOR HOLES FORMED BY REMOVABLE PE SLEEVES.
 - INSTALL SLEEVES FOR PIPES PASSING THROUGH CONCRETE AND MASONRY WALLS AND CONCRETE FLOOR AND ROOF SLABS.
 - INSTALL SLEEVES FOR PIPES PASSING THROUGH CONCRETE AND MASONRY WALLS, GYPSUM-BOARD PARTITIONS, AND CONCRETE FLOOR AND ROOF SLABS.
 - EXTERIOR-WALL PIPE PENETRATIONS: SEAL PENETRATIONS USING SLEEVES AND MECHANICAL SLEEVE SEALS.
 - FIRE-BARRIER PENETRATIONS: MAINTAIN INDICATED FIRE RATING OF WALLS, PARTITIONS, CEILING, AND FLOORS AT PIPE PENETRATIONS. SEAL PIPE PENETRATIONS WITH FIRESTOP MATERIALS.
 - VERIFY FINAL EQUIPMENT LOCATIONS FOR ROUGH-IN.
 - JOIN PIPE AND FITTINGS ACCORDING TO MANUFACTURERS RECOMMENDATIONS.
 - INSTALL EQUIPMENT LEVEL AND PLUMB AND TO ALLOW MAXIMUM POSSIBLE HEADROOM UNLESS SPECIFIC MOUNTING HEIGHTS ARE NOT INDICATED. ALL EQUIPMENT SHALL BE INSTALLED TO ALLOW FOR PROPER MAINTENANCE ACCORDING TO MANUFACTURERS RECOMMENDATIONS.
 - INSTALL HANGERS, SUPPORTS, CLAMPS, AND ATTACHMENTS AS REQUIRED TO PROPERLY SUPPORT PIPING FROM THE BUILDING STRUCTURE. PROVIDE SHEET METAL SADDLES AT ALL HANGERS ON INSULATED PIPING TO PROTECT INSULATION. SUPPORTS SHALL BE ADJUSTED ACCORDINGLY.
 - ALL PIPING SHALL BE LABELED WITH PRE-COLORED (NON-ADHESIVE) TYPE PLASTIC LABELS. LABELS SHALL INCLUDE PIPING SYSTEM TYPE WITH DIRECTIONAL ARROWS. PIPING IN EXPOSED PUBLIC AREAS SHALL NOT BE LABELED.
- INSULATION GENERAL INSTALLATION REQUIREMENTS
 - INSTALL INSULATION MATERIALS, ACCESSORIES, AND FINISHES WITH SMOOTH, STRAIGHT, AND EVEN SURFACES, FREE OF VOIDS THROUGHOUT THE LENGTH OF PIPING INCLUDING FITTINGS, VALVES, AND SPECIALTIES.
 - INSTALL INSULATION MATERIALS, FORMS, VAPOR BARRIERS OR RETARDERS, JACKETS, AND THICKNESSES REQUIRED FOR EACH ITEM OF PIPE SYSTEM AS SPECIFIED IN INSULATION SYSTEM SCHEDULES.
 - INSTALL INSULATION WITH TIGHT LONGITUDINAL SEAMS AND END JOINTS. BOND SEAMS AND JOINTS WITH ADHESIVE RECOMMENDED BY INSULATION MATERIAL MANUFACTURER. INSTALL INSULATION WITH LEAST NUMBER OF JOINTS PRACTICAL.
 - INSTALL PVC ELBOW PROTECTORS ON ALL INSULATED FITTINGS IN ALL EXPOSED PUBLIC AREAS INCLUDING MECHANICAL, JANITOR AND STORAGE ROOMS.
- INSPECTIONS & TESTING
 - DO NOT ENCLOSE, COVER, OR PUT PIPING INTO OPERATION UNTIL IT HAS BEEN INSPECTED AND APPROVED BY AUTHORITIES HAVING JURISDICTIONS.
 - TEST ALL NEW PIPING WITNESSED BY ARCHITECT/ OWNER/ ENGINEER AT HIS OPTION (PROVIDE MINIMUM 72 HOURS NOTICE). DRAINAGE & VENT LINES SHALL BE TESTED WITH 10' HEAD FOR MINIMUM 30 MINUTES WITHOUT DROP. WATER PIPING SHALL BE TESTED WITH 120 PSI WATER TO HOLD THIS PRESSURE FOR A PERIOD OF 24 HOURS.
 - ALL GAS PIPING SHALL BE TESTED WITH SOAPY WATER UNDER OPERATING PRESSURE.
- CLEANING
 - CLEAN AND DISINFECT POTABLE DOMESTIC WATER PIPING AS FOLLOWS:
 - PURGE NEW PIPING AND PARTS OF EXISTING PIPING THAT HAVE BEEN ALTERED, EXTENDED, OR REPAIRED BEFORE USING.
 - USE PURGING AND DISINFECTING PROCEDURES PRESCRIBED BY AUTHORITIES HAVING JURISDICTION IF METHODS ARE NOT PRESCRIBED. USE PROCEDURES DESCRIBED IN EITHER AWWA C651 OR AWWA C652 OR FOLLOW PROCEDURES DESCRIBED BELOW:
 - FLUSH PIPING SYSTEM WITH CLEAN, POTABLE WATER UNTIL DIRTY WATER DOES NOT APPEAR AT OUTLETS.
 - FILL AND ISOLATE SYSTEM ACCORDING TO EITHER OF THE FOLLOWING:
 - FILL SYSTEM OR PART THEREOF WITH WATER/CHLORINE SOLUTION WITH AT LEAST 50 PPM (50 MG/L) OF CHLORINE. ISOLATE WITH VALVES AND ALLOW TO STAND FOR 24 HOURS.
 - FILL SYSTEM OR PART THEREOF WITH WATER/CHLORINE SOLUTION WITH AT LEAST 200 PPM (200 MG/L) OF CHLORINE. ISOLATE AND ALLOW TO STAND FOR THREE HOURS.
 - FLUSH SYSTEM WITH CLEAN, POTABLE WATER UNTIL NO CHLORINE IS IN WATER COMING FROM SYSTEM AFTER THE STANDING TIME.
 - SUBMIT WATER SAMPLES IN STERILE BOTTLES TO AUTHORITIES HAVING JURISDICTION. REPEAT PROCEDURES IF BIOLOGICAL EXAMINATION SHOWS CONTAMINATION.
 - PREPARE AND SUBMIT REPORTS OF PURGING AND DISINFECTING ACTIVITIES.
 - CLEAN INTERIOR OF ALL PIPING SYSTEMS. REMOVE DIRT AND DEBRIS AS WORK PROGRESSES.

GENERAL PROJECT NOTES

GENERAL NOTES

- ALL PIPING SHALL BE CUT TO LENGTH AND REAMED TO FULL INSIDE DIAMETER WITH THE PROPER TOOLS. SPRINGING OR RUBBING OF PIPES ARE NOT ALLOWED.
- NO BUSHINGS ARE BE ALLOWED, ONLY ECCENTRIC FITTINGS ARE ALLOWED.
- ALL PIPE PENETRATIONS THROUGH WALLS, CEILING, FLOORS, AND STRUCTURE SHALL BE COMPLETELY SEALED. FIRE CAULK SHALL BE USED IN FIRE RATED PARTS. PROVIDE SUFFICIENTLY LARGE ENOUGH TO COVER OPENING IN WALL. SHALL BE USED IN ALL EXPOSED LOCATIONS (MECHANICAL ROOMS AND JANITORS CLOSET NOT INCLUDED).
- CONTRACTOR IS RESPONSIBLE FOR ALL TRANSITIONS, ELBOWS, OFFSETS IN PIPING TO MAKE SYSTEMS FIT WITHIN SPACE AND STRUCTURE PROVIDED.
- ALL PIPE, FIXTURES, AND EQUIPMENT (INSTALLED AND NOT INSTALLED) SHALL BE PROTECTED DURING CONSTRUCTION AND CLEANED BEFORE USE. PIPING SHALL BE COVERED AND HAVE THE ENDS TAPED SHUT WHILE BEING STORED.
- NO PIPING EXCLUDING PLUMBING VENT AND GAS PIPING SHALL BE INSTALLED IN AN UNCONDITIONED SPACE.
- THE ENTIRE INSTALLATION SHALL BE IN ACCORDANCE WITH ALL APPLICABLE LOCAL, CITY, STATE AND NATIONAL CODES, LAWS, ACTS AND ORDINANCES AND ALL AUTHORITIES HAVING JURISDICTION, THE OWNERS INSURANCE COMPANY REQUIREMENTS, UTILITY COMPANY REQUIREMENTS, APPLICABLE INDUSTRY STANDARDS OF GOOD PRACTICE AND SAFETY. THE MANUFACTURERS STRICTEST REQUIREMENTS AND RECOMMENDATIONS FOR EQUIPMENT AND PRODUCT APPLICATION AND INSTALLATION.
- DRAWINGS ARE LARGELY SCHEMATIC IN NATURE. THOUGH A LOT OF DETAILS MAY BE SHOWN THEY ARE NOT INTENDED TO SHOW EVERY DETAIL. IT IS THE CONTRACTORS RESPONSIBILITY TO COORDINATE WITH ALL OTHER TRADES AND EXISTING SITE CONDITIONS TO PROVIDE A FULLY FUNCTIONAL SYSTEM PER THE INTENT OF DESIGN. ALL REQUIRED PIPING, SUPPORTS AND DUCTS SHALL BE PROVIDED FOR A FULLY FUNCTIONAL SYSTEM PER THE DESIGN INTENT. IF ROUTING IS NOT SHOWN ON THE PLANS, COORDINATE WITH THE ENGINEER PRIOR TO BIDDING.
- IF ANY CONFLICTING INFORMATION IS PROVIDED ON THE DRAWINGS, THE MORE STRINGENT/EXPENSIVE SHOULD BE BID UNLESS A ADDENDUM CAN BE ISSUED IN TIME TO CORRECT THE SITUATION.

GENERAL COORDINATION

- ALL WORK SHALL BE COORDINATED BETWEEN TRADES BEFORE ANY CONSTRUCTION OR FABRICATING BEGINS IN A "KICK-OFF" MEETING. CONTACT ENGINEER/ARCHITECT FOR QUESTIONS.
- IT SHALL BE THE RESPONSIBILITY OF THE MECHANICAL CONTRACTOR TO COORDINATE WITH THE ELECTRICAL CONTRACTOR ON ALL ELECTRICAL REQUIREMENTS FOR THE EQUIPMENT PRIOR TO PRACTICE AND SAFETY. THE MANUFACTURERS STRICTEST REQUIREMENTS AND RECOMMENDATIONS FOR EQUIPMENT AND PRODUCT APPLICATION AND INSTALLATION.
- NO PIPING SHALL BE INSTALLED ABOVE ANY ELECTRICAL PANEL.
- EXACT LOCATION OF ALL PIPING AND SUPPORTS SHALL BE COORDINATED WITH STRUCTURE, LIGHTS, CEILING GRID, HVAC, PLUMBING FIXTURES. COORDINATE LOCATION WITH FIRE SPRINKLER PIPING IF APPLICABLE. SEE ELECTRICAL LIGHTING PLANS AND ARCHITECTURAL REFLECTED CEILING PLANS FOR COORDINATION.
- EXACT ROUTING OF ALL PIPING THROUGH THE ROOF/CEILING SHALL BE COORDINATED WITH STRUCTURE. VERIFY LOCATION WITH GC/ARCHITECT PRIOR TO CUTTING HOLES.
- WHEN ALL WORK IS COMPLETED NO MATERIALS SHALL BE LEFT ON SITE UNLESS SPECIFICALLY REQUESTED BY THE OWNER. ALL MATERIALS TO BE DISPOSED OF PROPERLY.
- CONTRACTOR TO FIRE SEAL WALLS, CEILING AS REQUIRED AND MAINTAIN ALL FIRE RATINGS.

WARRANTY

- ENTIRE PROJECT INCLUDING ALL MATERIALS AND LABOR SHALL BE WARRANTED FOR A MINIMUM OF 1 YEAR FROM SUBSTANTIAL COMPLETION.

PRIOR APPROVALS AND FILE SHARING

- ALL SHEETS REQUESTED IN CAD (DWG) FORMAT PRIOR TO TRANSMISSION OF FILES, THE REQUESTING PARTY MUST SIGN AND RETURN DOCUMENT DISCLAIMER TO AES.
- PRIOR APPROVAL OF MECHANICAL, ELECTRICAL AND PLUMBING SUBSTITUTION PRODUCTS IS NOT REQUIRED.
- PROPOSED SUBSTITUTIONS OF MECHANICAL, ELECTRICAL AND PLUMBING PRODUCTS MUST BE SUBMITTED FOR REVIEW DURING THE SHOP DRAWING/PRODUCT DATA SUBMITTAL STAGE.
- PROPOSED SUBSTITUTIONS SHALL BE EQUAL TO OR SUPERIOR IN ALL RESPECTS TO THE SPECIFIED PRODUCT.
- PROPOSED SUBSTITUTIONS SHALL HAVE THE SAME WARRANTY AS THE SPECIFIED PRODUCT.
- PROPOSED SUBSTITUTIONS WILL HAVE NO ADVERSE EFFECT ON THE OTHER TRADES.
- PROPOSED SUBSTITUTION WILL NOT AFFECT DIMENSIONS AND FUNCTIONAL CLEARANCES.
- PRODUCT DATA AND SHOP DRAWING FOR PROPOSED SUBSTITUTIONS MUST BE PROJECT SPECIFIC AND INCLUDING ALL COMPONENTS IDENTIFIED FOR COMPARISON TO THE ORIGINAL PRODUCT.
- THE BURDEN OF PROOF OF THE EQUIVALENCE ON THE PROPOSED SUBSTITUTION IS ON THE PROPOSER.

CLOSEOUTS

- CONTRACTOR SHALL PROVIDE "AS-BUILT" RECORD DRAWINGS AND OPERATION & MAINTENANCE MANUALS TO THE OWNER AT END OF PROJECT WITHIN 90 DAYS OF OCCUPANCY.
- CONTRACTOR SHALL PROVIDE OWNER TRAINING TO OWNER AND/OR OWNERS REPRESENTATIVE ON OPERATION AND MAINTENANCE PROCEDURES. TRAINING SHALL CONSIST OF FOUR (4) SESSIONS FOR THE OWNER AND/OR OWNERS REPRESENTATIVE. EACH SESSION SHALL BE 2 HOURS IN LENGTH. THE FIRST TWO (2) SHALL BE IN THE FIRST MONTH AFTER SUBSTANTIAL COMPLETION AND THE 3RD SESSION SHALL BE IN THE 3RD MONTH AND 4TH SESSION IN THE 6TH MONTH. TRAINING SESSIONS SHALL PROVIDE OWNER WITH TRAINING ON EQUIPMENT AND OVERALL SYSTEM.

SUBMITTALS

- PRODUCT DATA: FOR THE FOLLOWING:
- ALL SCHEDULED EQUIPMENT AND PIPING.
 - WELDING CERTIFICATES.
 - WARRANTIES.
 - COMPLETE CERTIFIED TAB REPORTS
 - THREE (3) COPIES OF O&M MANUALS.
 - PROVIDE THREE (3) COPIES OF VIDEO RECORDINGS COVERING REQUIRED MAINTENANCE, TROUBLE SHOOTING AND SHUTDOWN OF SPECIFIED EQUIPMENT.

SHEET LIST - PLUMBING

SHEET NUMBER	SHEET NAME
P000	PLUMBING NOTES, SPECIFICATIONS AND SYMBOLS
P010	PLUMBING DEMOLITION FLOOR PLAN
P101	PLUMBING FLOOR PLANS
P201	PLUMBING SCHEDULES AND DETAILS



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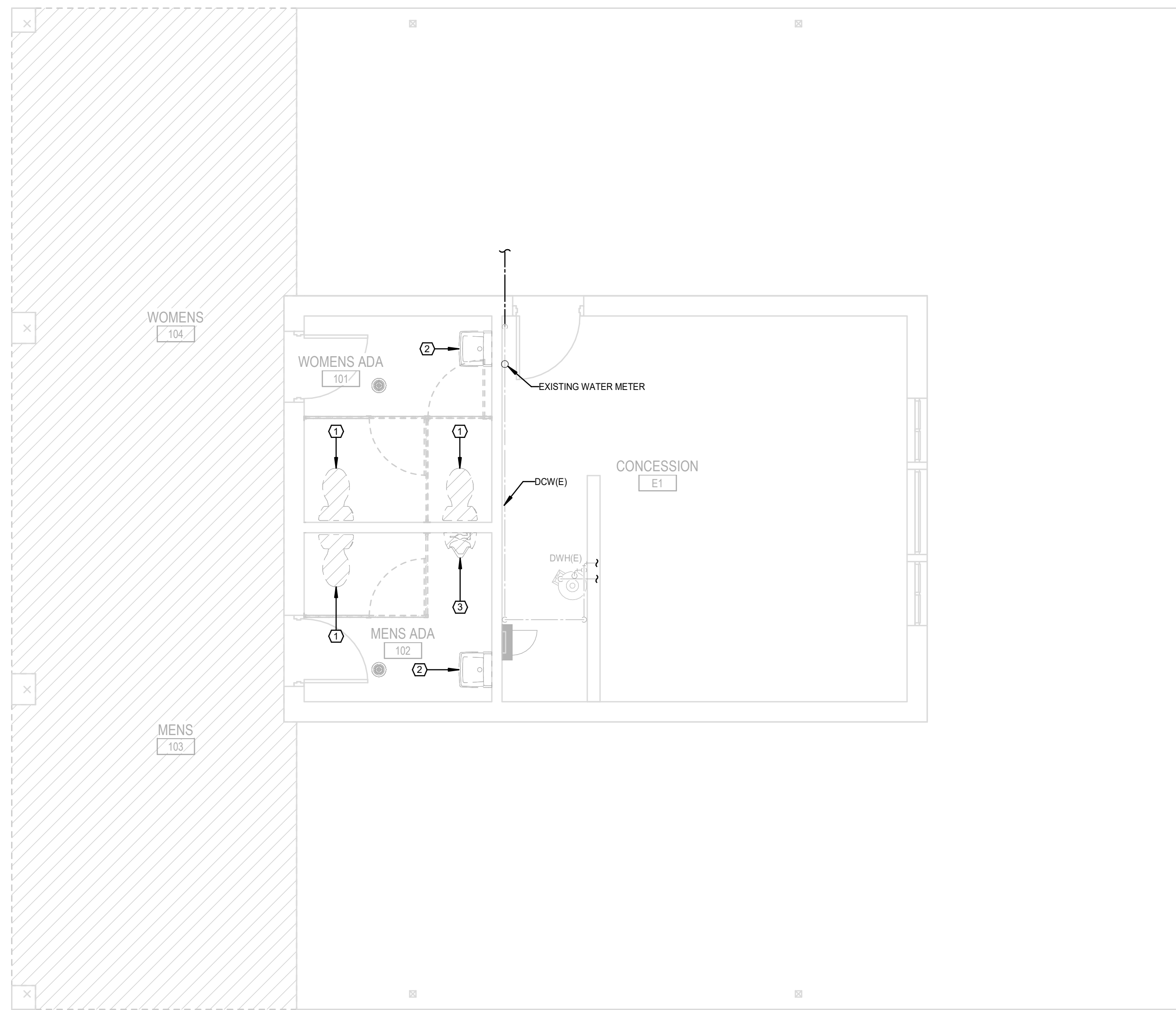
MARK	DATE	DESCRIPTION

David City Ballfield RR Addition

David City, Nebraska
100 M Rd, David City, NE 68632

JEO Project No: 251890.00
Date: 02.19.2026
QAQC: JM
Drawn By: JW

PLUMBING NOTES, SPECIFICATIONS AND SYMBOLS



KEY NOTES

SYMBOL = (X)

- 1 REMOVE EXISTING WATER CLOSET AND ALL ASSOCIATED DOMESTIC COLD WATER, WASTE, AND VENT PIPING TO FURTHEST EXTENTS AND CAP.
- 2 REMOVE EXISTING LAVATORY. ALL ASSOCIATED DOMESTIC WATER, WASTE AND VENT PIPING SHALL REMAIN FOR CONNECTION TO NEW LAVATORY.
- 3 REMOVE EXISTING URINAL AND ALL ASSOCIATED DOMESTIC COLD WATER, WASTE, AND VENT PIPING TO FURTHEST EXTENTS AND CAP.



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DEMOLITION FLOOR PLAN - PLUMBING
 1/4" = 1'-0"
 TRUE NORTH PLAN NORTH

David City Ballfield RR Addition

David City, Nebraska
100 M Rd, David City, NE 68632

JEO Project No: 251890.00
 Date: 02.19.2026
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**PLUMBING
DEMOLITION FLOOR
PLAN**

Sheet Size: ARCH D (24.0 x 36.00 INCHES)

Autodesk Docs/\\David City Ballfield RR Addition\26022 - AES Central_R25.rvt

KEY NOTES

SYMBOL =

- 1 EXTEND AND CONNECT NEW SANITARY PIPING FROM NEW PLUMBING FIXTURE TO EXISTING MAIN. CONTRACTOR TO VERIFY LOCATION, SIZE, DEPTH AND CONDITION BEFORE INSTALLATION. CONTRACTOR TO SAW CUT FLOOR AS REQUIRED TO INSTALL NEW UNDER FLOOR PIPING. PATCH AND REPAIR FLOOR AS REQUIRED TO MATCH EXISTING.
- 2 SEE CIVIL PLAN FOR CONTINUATION. COORDINATE INVERT ELEVATION OF PIPING EXISTING BUILDING WITH CIVIL ENGINEER SITE PLAN. PIPING SHALL BE A MINIMUM OF 3'-0" BELOW FINISHED GRADE.
- 3 EXTEND 4" VENT UP TO 4" VTR.
- 4 INSTALL NEW LAVATORY IN SAME LOCATION AS REMOVED LAVATORY. EXTEND AND CONNECT ALL DOMESTIC WATER, WASTE AND VENT PIPING AS REQUIRED.
- 5 CONNECT NEW 3/4" DOMESTIC HOT WATER PIPING TO EXISTING DOMESTIC HOT WATER AT LOW POINT OF SYSTEM. SO PIPING CAN BE WINTERIZED. FIELD VERIFY EXACT SIZE AND LOCATION OF EXISTING PRIOR TO NEW TO EXISTING CONNECTION.
- 6 SLOPE DOMESTIC COLD WATER PIPING BACK TO WINTERIZE BLOWOUT ADAPTER TO ALLOW PIPING TO BE DRAINED AND WINTERIZED. INSTALL BLOWOUT ADAPTER AND SHUT-OFF VALVE IN VERTICAL PIPE. BLOWOUT ADAPTER SHALL BE YOO 800 WINTERIZE BLOWOUT ADAPTER WITH 1/4" MALE QUICK PLUG AND 3/4" FEMALE GARDEN HOSE THREADING. BRASS QUICK FITTING WITH BALL VALVE (OR EQUAL).
- 7 PROVIDE ACCESS PANEL IN WALL TO GET TO LOW POINT TO DRAIN TO BUCKET.
- 8 INSTALL BUCKET ACCESSIBLE AIR VENT AT HIGH POINT IN WATER PIPING TO ALLOW VENTING DURING DRAINING OF SYSTEM. PROVIDE 3/4" HOSE CONNECTION ON EACH WITH A CHAINED CAP.
- 9 PIPING TO BE INSTALLED IN SOFFIT. COORDINATE WITH ARCHITECT PRIOR TO INSTALLATION.
- 10 CONNECT NEW 1-1/2" DOMESTIC COLD WATER PIPING TO EXISTING DOMESTIC COLD WATER IN CONCESSION AREA. CONNECT TO EXISTING DOMESTIC COLD WATER AT LOW POINT OF SYSTEM WHERE EXISTING DOMESTIC COLD WATER ENTERS BUILDING. SO SYSTEM CAN BE WINTERIZED. FIELD VERIFY EXACT SIZE AND LOCATION OF EXISTING DOMESTIC COLD WATER PRIOR TO NEW TO EXISTING CONNECTION. IF EXISTING DOMESTIC COLD WATER LINE IS SMALLER THAN WHAT IS REQUIRED A NEW 1-1/2" WATER SERVICE LINE FROM THE CITY MAIN WILL BE REQUIRED.



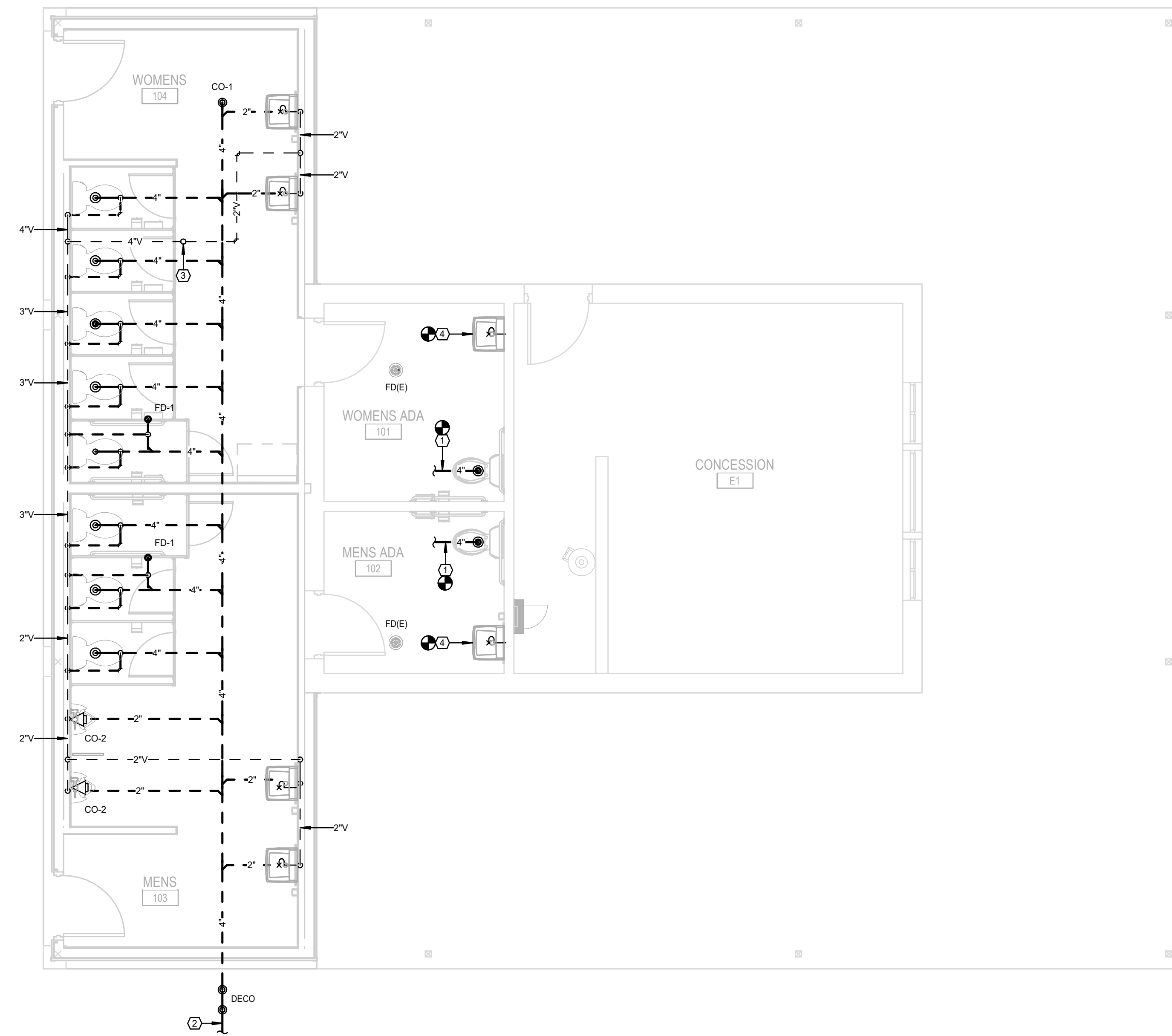
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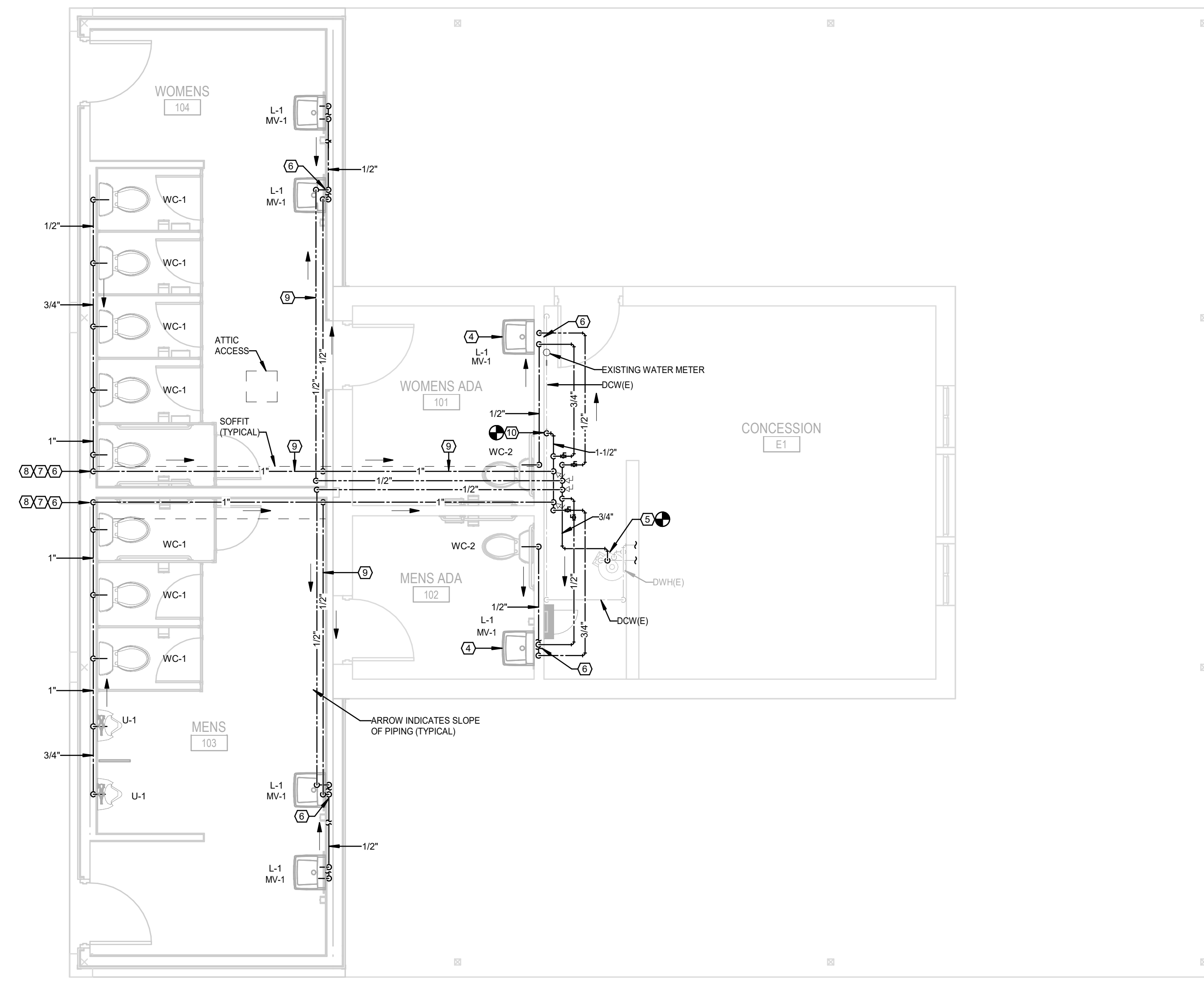
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FLOOR PLAN - WASTE AND VENT
1/4" = 1'-0"
TRUE NORTH



FLOOR PLAN - DOMESTIC
1/4" = 1'-0"
TRUE NORTH

ISSUE

MARK	DATE	DESCRIPTION
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David City Ballfield RR Addition

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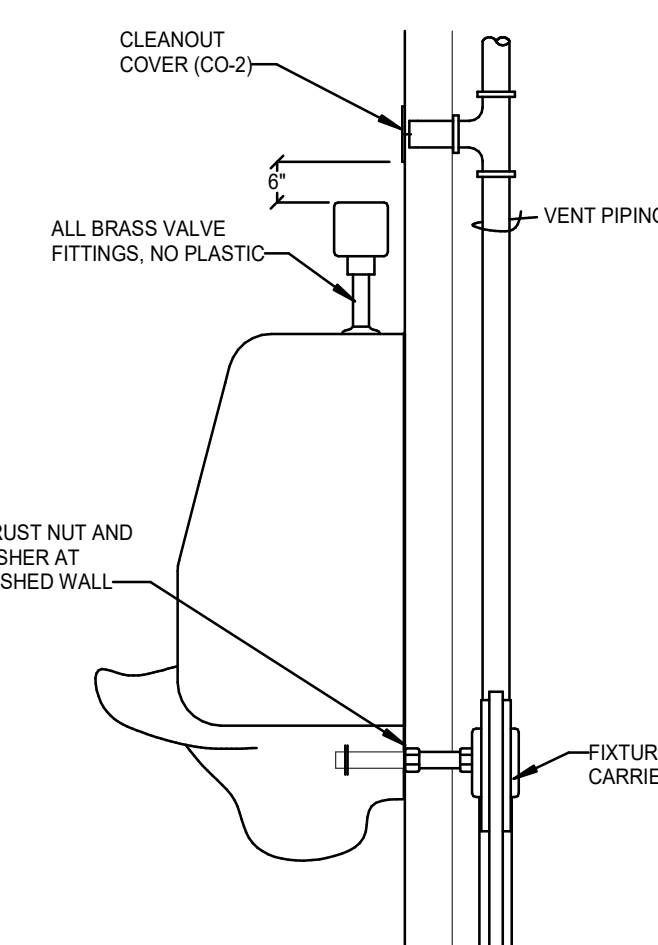
PLUMBING FLOOR PLANS

**DETAILS SHALL BE USED IN ALL APPLICABLE SITUATIONS
WHETHER SPECIFICALLY CALLED OUT OR NOT**

MARK	FIXTURE	MANUFACTURER	MODEL #	PIPING SIZE TO FIXTURE				ACCESSORIES	FIXTURE DESCRIPTION AND OPTIONS
				CW	HW	WASTE	VENT		
CO-1	CLEAN OUT	JAY R. SMITH	4020	-	-	4"	-	-	CAST IRON FIXTURE, PROVIDE NICKEL BRONZE ROUND ADJUSTABLE TOP, VERIFY TYPE OF FLOORING FOR TYPE OF TOP REQUIRED. FOR CARPET MARKER USE SURFIX X.
CO-2	CLEAN OUT	JAY R. SMITH	4710	-	-	4"	-	-	CHROME WALL COVER
FD-1	FLOOR DRAIN	JAY R. SMITH	2005	-	-	2"	2"	-	PROVIDE FLASHING COLLAR, SEEPAGE OPENING AND NICKEL BRONZE ROUND ADJUSTABLE STRAINER
L-1	LAVATORY	AMERICAN STANDARD	"LUCERNE" 0355.012	1/2"	1/2"	2"	1-1/2"	-	AMERICAN STANDARD 785.004 SINGLE HANDLE FAUCET WITH OPEN GRID DRAIN, CONCEALED WALL CARRIER, 1-1/2" DEARBORN 510 TRAP WITH CLEANOUT ON BOTTOM OF TRAP, TRUEBRO LAV GUARD 2 INSULATION KIT.
MV-1	MIXING VALVE	POWERS	LFE480	3/8"	3/8"	-	-	-	VITREOUS CHINA, 4" CENTERS FIXTURE, VERIFY MOUNTING HEIGHT WITH ARCHITECTURAL. INSTALL MIXING VALVE (MV-1) UNDER LAVATORY
U-1	URINAL	AMERICAN STANDARD	"WASHBROOK" 6690.001	3/4"	-	2"	1-1/2"	-	LEAD FREE ROUGH BRONZE CONSTRUCTION, MINIMUM FLOW .5 GPM AND MAXIMUM FLOW 4 GPM. SET AT 105° OUTLET TEMPERATURE. VITREOUS CHINA, WALL HUNG, TOP SPUD, 0.5 GPM. VERIFY ROUGH-IN HEIGHT TO LIP WITH ARCHITECTURAL ELEVATIONS.
WC-1	WATER CLOSET	AMERICAN STANDARD	"CADET PRO" 215CB.104	1/2"	-	4"	2"	-	SLOAN ROYAL 186-0.5 FLUSH VALVE, CONCEALED WALL CARRIER.
WC-2	(H) WATER CLOSET	AMERICAN STANDARD	"CADET PRO" 215FC.104	1/2"	-	4"	2"	-	VITREOUS CHINA, TWO-PIECE, BOTTOM OUTLET, FLOOR MOUNT, FLUSH TANK, ELONGATED BOWL, SIPHON JET FIXTURE. VITREOUS CHINA, TWO-PIECE, BOTTOM OUTLET, FLOOR MOUNT, FLUSH TANK, ELONGATED BOWL, SIPHON JET FIXTURE. FLUSH LEVER SHALL BE ON OPEN SIDE OF WATER CLOSET TO MEET ADA STANDARDS.

PLUMBING FIXTURE SCHEDULE NOTES

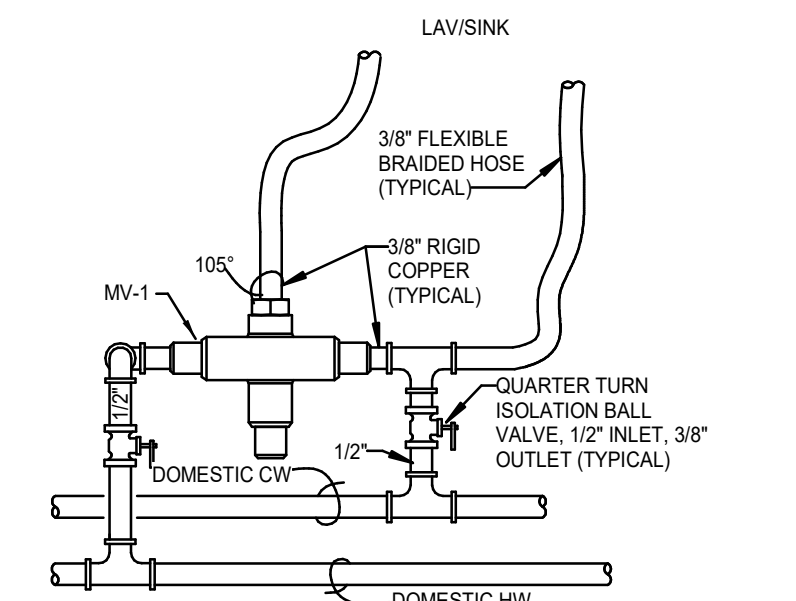
- ALL VENT/WASTE PIPING UNDERGROUND MUST BE 2" OR LARGER IF NOT SHOWN ON DRAWINGS.
- FOLLOW PIPING SIZES AS SHOWN ON SCHEDULE UNLESS INDICATED OTHERWISE ON DRAWINGS.
- (H) INDICATES HANDICAP FIXTURE.
- HAVE ALL PLUMBING FIXTURES APPROVED BY OWNER, ARCHITECT AND TENANT PRIOR TO ORDERING.
- PROVIDE TRUEBRO LAV GUARD 2 INSULATION KIT ON ALL EXPOSED WASTE, HOT AND COLD WATER PIPING AND QUARTER TURN BALL VALVES UNDER ALL SINKS, COUNTER AND WALL HUNG LAVATORIES.
- PROVIDE QUARTER TURN BALL VALVE AT SUPPLY CONNECTION TO EACH PLUMBING FIXTURE.
- PROVIDE 2" CLEANOUT UNDER SINK AT AN ACCESSIBLE LOCATION.
- PROVIDE LOOSE KEY STOP AT SUPPLY CONNECTION TO EACH PLUMBING FIXTURE.
- A 1/8" COPPER VERTICAL AIR CHAMBER SHALL BE INSTALLED ON ALL FLUSH VALVE FIXTURES.



3 URINAL DETAIL NTS

DETAIL NOTES

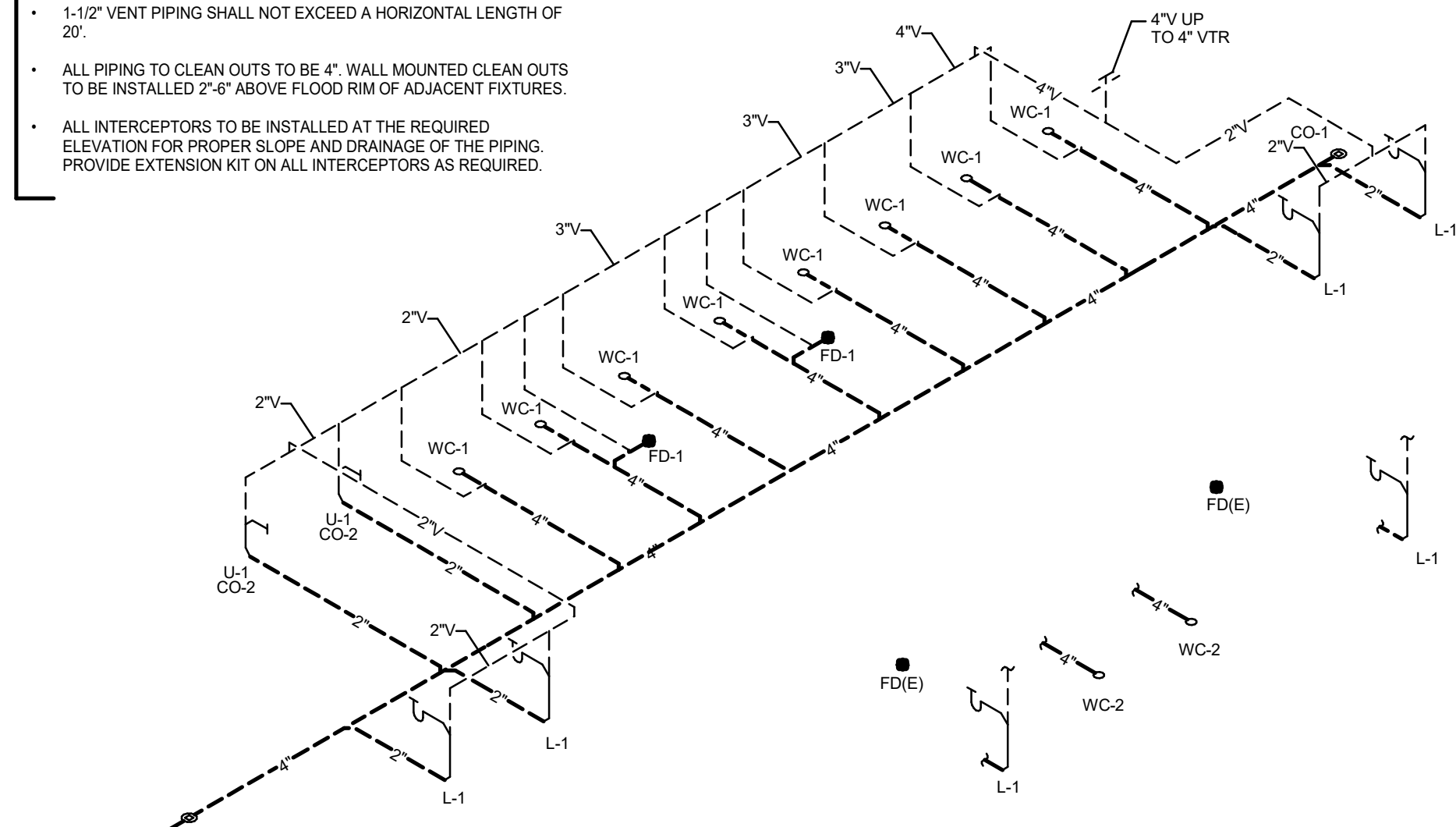
- ALL PIPING MUST BE INSTALLED IN A NICE CLEAN WORKMANSHIP LIKE MANNER.
- ALL PIPING FROM MAIN SHALL BE 1/2".
- INSTALL PER MANUFACTURER'S RECOMMENDATIONS.
- PROVIDE ESCUTCHEONS AT ALL WALL PENETRATIONS.



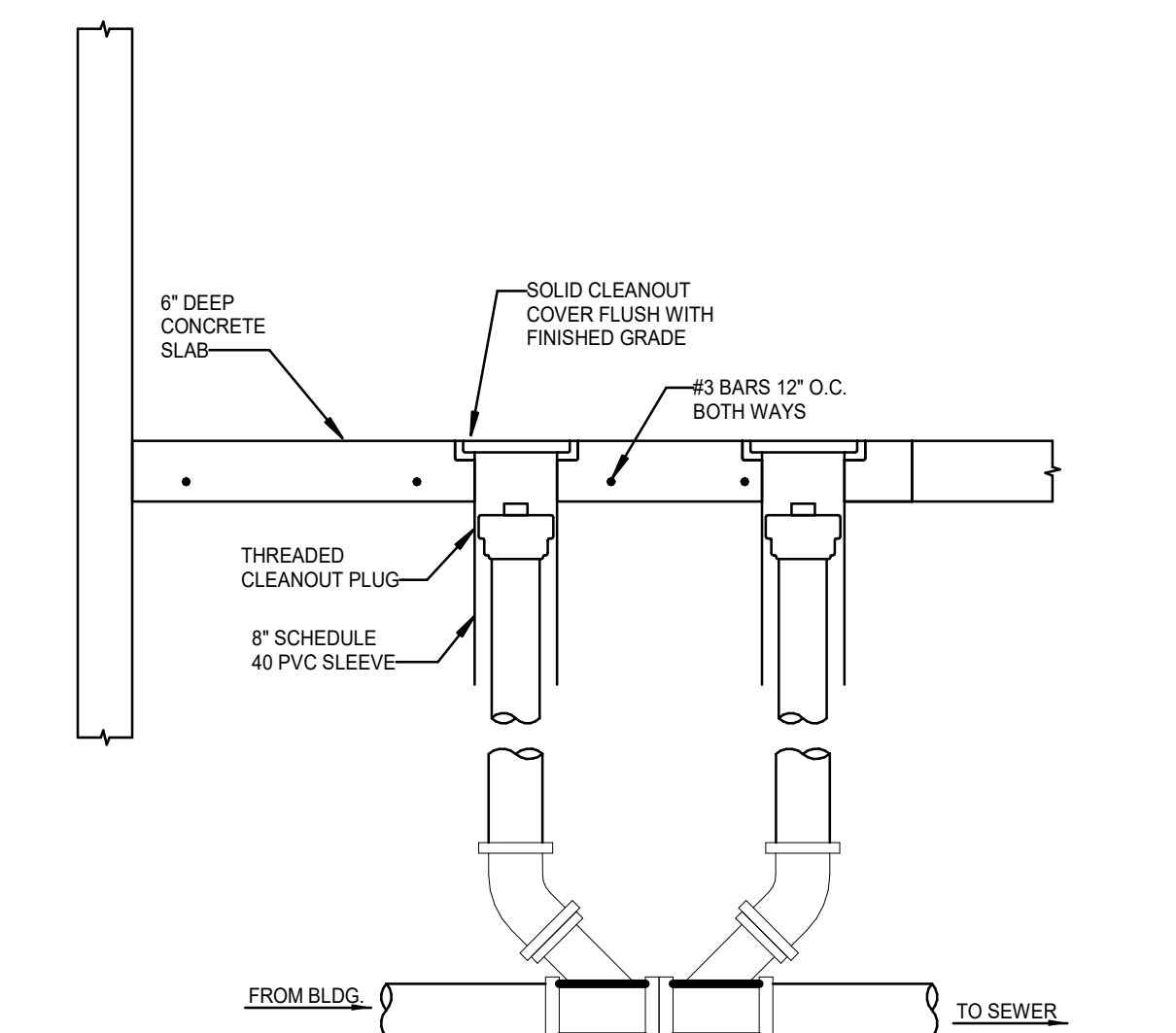
4 MIXING VALVE DETAIL NTS

WASTE & VENT RISER CRITERIA

- ALL WASTE & VENT UNDERGROUND PIPING TO BE A MINIMUM OF 2".
- SLOPE ALL PIPING A MINIMUM OF 1/8" PER FOOT AND MORE IF SPECIFICALLY NOTED.
- 1-1/2" VENT PIPING SHALL NOT EXCEED A HORIZONTAL LENGTH OF 20'.
- ALL PIPING TO CLEAN OUTS TO BE 4". WALL MOUNTED CLEAN OUTS TO BE INSTALLED 2'-6" ABOVE FLOOD RIM OF ADJACENT FIXTURES.
- ALL INTERCEPTORS TO BE INSTALLED AT THE REQUIRED ELEVATION FOR PROPER SLOPE AND DRAINAGE OF THE PIPING. PROVIDE EXTENSION KIT ON ALL INTERCEPTORS AS REQUIRED.



6 WASTE RISER NTS



5 DOUBLE EXTERIOR CLEANOUT DETAIL NTS

PIPE SUPPORT SCHEDULE

PIPE MATERIAL	1/2"-1-1/4"		1-1/2"		2"		2-1/2"		3"		4"		6"		8"		10"		12"-UP		NOTES	
	MAX SPACING	ROD SIZE	MAX SPACING	ROD SIZE	MAX SPACING	ROD SIZE	MAX SPACING	ROD SIZE	MAX SPACING	ROD SIZE	MAX SPACING	ROD SIZE	MAX SPACING	ROD SIZE	MAX SPACING	ROD SIZE	MAX SPACING	ROD SIZE	MAX SPACING	ROD SIZE		
STEEL	8'	3/8"	9'	3/8"	10'	3/8"	11'	1/2"	12'	1/2"	12'	10'	5/8"	10'	3/4"	10'	7/8"	12'	7/8"	12'	7/8"	1.2, 3
COPPER	6'	3/8"	6'	3/8"	8'	3/8"	10'	1/2"	10'	1/2"	10'	5/8"	10'	3/4"	10'	7/8"	10'	7/8"	10'	7/8"	1.2, 3	
PVC/CIPVC	4'	3/8"	4'	3/8"	4'	3/8"	4'	3/8"	4'	3/8"	4'	1/2"	4'	1/2"	4'	5/8"	4'	3/4"	4'	7/8"	1.2, 3	
POLYETHYLENE	3'	3/8"	3'	3/8"	3'	3/8"	NA	3/8"	4.5'	3/8"	6'	1/2"	6'	1/2"	6'	5/8"	6'	3/4"	6'	7/8"	1.2, 3	

PIPE SUPPORT SCHEDULE NOTES

- PIPING SUPPORT VERTICALLY EVERY 12' OR EVERY LEVEL WHICH EVER IS LESS.
- SPACING SCHEDULED IS THE MAXIMUM DISTANCE. SUPPORTS CAN BE INSTALLED IN SMALLER INTERVALS AND MAY NEED TO BE IF THE STRUCTURE CAN NOT HANDLE THE LOAD AT THE MAXIMUM SPACING. VERIFY WITH STRUCTURAL. A MINIMUM OF ONE SUPPORT FOR EVERY BRANCH OR PIPE SEGMENT IN EACH DIRECTION CHANGE SHALL BE PROVIDED. TWO (2) HANGERS MUST BE PROVIDED ON ALL LENGTH OF PIPE LONGER THAN 10'.
- ALL SUPPORTS SHOULD BE ANCHORED SECURELY TO THE STRUCTURE BUT NOT THE PIPING. THE SUPPORT SHOULD ALLOW FREE MOVEMENT CAUSED BY THERMAL EXPANSION. PIPING STRAPS AND CLAMPS THAT HOLD THE PIPING TIGHT TO THE STRUCTURE WILL NOT BE ALLOWED. TYPICAL ACCEPTABLE SUPPORTS INCLUDE BUT ARE NOT LIMITED TO CLEVIS HANGERS, ADJUSTABLE SWIVEL RING SUPPORT, ROLLER HANGER AND DOUBLE BOLT PIPE CLAMP.

PIPE MATERIAL AND INSULATION

PIPE	PIPE SIZE	RELATION TO GRADE	MATERIAL	PIPING		MIN. SLOPE	VALVES	COMPLY WITH	INSULATION TYPE	PIPING INSULATION		DENSITY LBS/FT ³	MIN. AT TEMP	NOTES	
				FITTING TYPE	INSULATION MATERIAL					INSULATION THICKNESS	INSULATION				
DOMESTIC COLD WATER	1/2"-1-1/2"	ABOVE	TYPE 1" COPPER	LEAD FREE SOLDER	-	-	BALL	ASTM B 88	MOLDED SECTION	JACKETED FIBERGLASS	1/2"	3	22	75	1.3
DOMESTIC HOT WATER	1/2"-1-1/2"	ABOVE	TYPE 1" COPPER	LEAD FREE SOLDER	-	-	BALL	ASTM B 88	MOLDED SECTION	JACKETED FIBERGLASS	1"	3	22	75	1.3
SANITARY WASTE	2"-3"	BELOW	SCHEDULE 40 PVC	PRIMED AND GLUED	1/4\"/>										

PIPE MATERIAL AND INSULATION GENERAL NOTES

- DOMESTIC WATER INSULATION REQUIREMENTS:
 - HOT WATER RECIRCULATION PIPING SHALL BE INSULATED PER INTERNATIONAL ENERGY CONSERVATION CODE.
 - DOMESTIC COLD WATER MAINS SHALL BE INSULATED WITH 1" THICK, HINGED WITH SELF SEALING LAP FIBERGLASS PIPE INSULATION.
 - NO INSULATION ON ANY OF THE PIPING SERVING APARTMENTS (UNITS) UNLESS REQUIRED BY CODE.
- INSTALL ALL PIPING ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.
- ALL PIPING SHALL BE TESTED, CLEANED AND CERTIFIED FOR INTENDED USE. ALL PIPING SYSTEMS SHALL BE PRESSURE TESTED WITH 1-1/2 TIMES THE OPERATING PRESSURE FOR NO LESS THAN 4 HOURS. PIPING TO BE CLEANED AND FLUSHED WITH CRITICAL CONTROL VALVES BYPASSED.
- ALL FITTINGS CONNECTING TO DI-ELECTRIC FITTINGS SHALL BE SOFT SOLDERED TO THE PIPING. NO DI-ELECTRIC UNIONS SHALL BE USED.
- ALL WELDED PIPE AND FUSION WELDED SHALL BE WELDED BY A CERTIFIED WELDER/FUSION CONTRACTOR. ALL WELDING SHALL BE DONE BY A CERTIFIED WELDER (CERTIFICATED MUST BE SUBMITTED) AND ALL WORK SHALL BE STAMPED. BOLTED FLANGES SHALL BE INSTALLED ON 2" AND LARGER PIPE TO SECTIONALIZE SYSTEM INTO WORKABLE SECTIONS. INSULATION SHALL GO AROUND FLANGES.
- PROVIDE PIPE LABELING ON ALL NEW PIPING WITH PRE-PRINTED, COLOR-CODED WITH LETTERING MATCHING DRAWING DESIGNATIONS AND SHOWING FLOW DIRECTION. LETTERING MUST BE A MINIMUM OF 1-1/2" IN SIZE. PIPE LABELS SHALL BE ON ALL PIPING ABOVE ACCESSIBLE CEILINGS, EXPOSED AREAS, TUNNELS AND IN MECHANICAL ROOMS EVERY 30' AND AT ALL ACCESS DOORS. VERIFY LABEL COLORING SCHEME WITH ENGINEER AND OWNER PRIOR TO ORDERING.

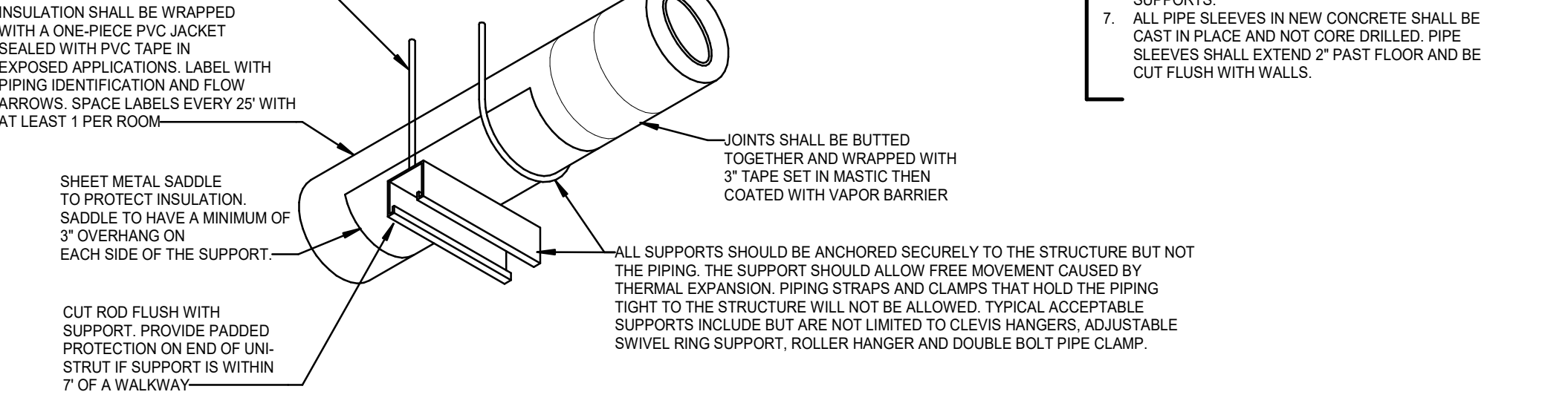
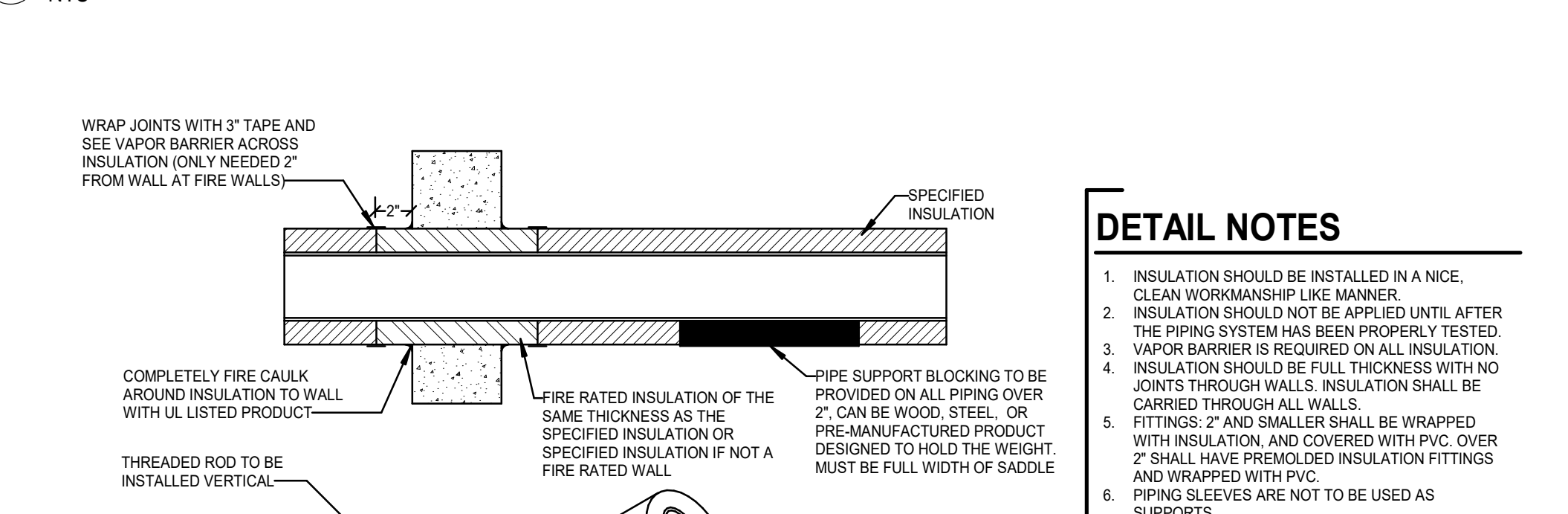
VALVE SCHEDULE

- CALIBRATED BALANCE VALVES: SHALL BE A BRONZE OR BRASS BALL VALVE WITH A SET SCREW STOP.
- BALL VALVE: SHALL BE NSF RATED FOR ROTABLE WATER, BRASS OR BRONZE BODY WITH CHROME PLATED BRONZE BALL.
- BUTTERFLY VALVE: SHALL BE CAST IRON BODY WITH FLANGED ENDS, WAFFER STYLE VALVES ARE NOT ALLOWED.
- GATE VALVE: SHALL BE A BRONZE OR CAST IRON BODY WITH A RISING STEM AND SOLID BRONZE WEDGE.
- GLOBE VALVE: SHALL BE A BRONZE OR CAST IRON BODY WITH A BRONZE DISC.
- ALL VALVES SHALL BE LINE SIZE FULL PORT INSTALLED WITH FULL STEM/HANDLE MOVEMENT. HANDLES SHALL NEVER BE INSTALLED VERTICALLY DOWN.

PIPE MATERIAL AND INSULATION SCHEDULE NOTES

- INSULATION & ADHESIVE SHALL HAVE A FLAME SPREAD RATING OF 25 OR LESS AND A SMOKE DEVELOPED RATING OF 50 OR LESS ACCORDING TO ASTM STANDARD AND NFPA 255. INSULATION SHALL BE INSTALLED BY A SKILLED INSTALLER IN A CLEAN WORKMANSHIP LIKE MANNER AFTER THE SYSTEM HAS BEEN PROPERLY TESTED. ALL JOINTS SHALL BE PROPERLY SEALED TO KEEP INTEGRITY OF VAPOR BARRIER INTACT. ALL INSULATION SHALL HAVE PVC JACKETS ON ALL ELBOWS AND THE ENTIRE PIPING SHALL BE JACKETS WITH PVC WHERE EXPOSED IN PUBLICLY ACCESSIBLE AREAS.
- NO INSULATION IS REQUIRED UNLESS PIPING IS A PLASTIC MATERIAL NOT MEETING 25/50 FLAME AND SMOKE RATING IN A RETURN AIR PLENUM (SEE NOTE 1 IF INSULATION IS REQUIRED).
- CROSS-LINKED POLYETHYLENE (PEX) PIPING WITH CRIMPED FITTINGS IS AN ACCEPTABLE ALTERNATIVE ONLY IF ALLOWED BY LOCAL CODES. INSULATION WILL STILL BE REQUIRED.
- SCHEDULE 40 PVC DWV PIPING WITH PRIMED AND GLUED FITTINGS IS AN ACCEPTABLE ALTERNATIVE ONLY IF PIPING IS NOT SERVING ANY DRAINS THAT MAY HAVE WATER HOTTER THAN 140° IN IT OR EXPOSED IN ANY KITCHEN AND ALLOWED BY LOCAL CODES. ALL EXPOSED PIPING IN KITCHENS SHALL BE COPPER. INSTALL INSULATION ON PIPING IN A CEILING PLENUM RETURN ACCORDING TO REQUIREMENTS OF LOCAL JURISDICTION. 1 HOUR FIRE WRAP SHALL BE USED UNLESS LOCAL JURISDICTION ALLOWS ALTERNATIVE PRODUCTS. ALL UNDERGROUND PIPING SHALL BE INSTALLED PER ASTM D2221.

1 PIPE SUPPORT DETAIL NTS



2 FIBERGLASS INSULATION PIPING DETAIL NTS

DETAIL NOTES

- INSULATION SHOULD BE INSTALLED IN A NICE, CLEAN WORKMANSHIP LIKE MANNER.
- INSULATION SHOULD NOT BE APPLIED UNTIL AFTER THE PIPING SYSTEM HAS BEEN PROPERLY TESTED.
- VAPOR BARRIER IS REQUIRED ON ALL INSULATION.
- INSULATION SHOULD BE FULL THICKNESS WITH NO JOINTS THROUGH WALLS. INSULATION SHALL BE CARRIED THROUGH ALL WALLS.
- FITTINGS: 2" AND SMALLER SHALL BE WRAPPED WITH INSULATION, AND COVERED WITH PVC. OVER 2" SHALL HAVE PREMOULDED INSULATION FITTINGS AND WRAPPED WITH PVC.
- PIPING SLEEVES ARE NOT TO BE USED AS SUPPORTS.
- ALL PIPE SLEEVES IN NEW CONCRETE SHALL BE CAST IN PLACE AND NOT CORE DRILLED. PIPE SLEEVES SHALL EXTEND 2" PAST FLOOR AND BE CUT FLUSH WITH WALLS.



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ISSUE

MARK	DATE	DESCRIPTION
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David City Ballfield RR Addition

David City, Nebraska
100 M Rd, David City, NE 68632

JEO Project No: 251890.00
Date: 02.19.2026
QAQC: JW
Drawn By: JM

PLUMBING SCHEDULES AND DETAILS

ABBREVIATIONS & SYMBOLS

GENERAL LIST - NOT ALL MAY APPLY

(E)	EXISTING		KEY NOTE
(R)	RELOCATED		CROSS SECTION INDICATOR
(D)	DIAMETER		D = DETAIL DRAWING
ACH	AIR CHANGES PER HOUR		P = PARTIAL DRAWING
ADJ	ADJUSTABLE		R = RISER DIAGRAM
AFF	ABOVE FINISHED FLOOR		S = CROSS SECTION DRAWING
AHJ	AUTHORITY HAVING JURISDICTION		
ALT	ALTERNATE		
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE		
APPROX	APPROXIMATELY		
ARCH	ARCHITECT, ARCHITECTURE		
ASHRAE	AMERICAN SOCIETY OF HEATING AND REFRIGERATION ENGINEERS		
ASME	AMERICAN SOCIETY OF MECHANICAL ENGINEERS		
ASTM	AMERICAN SOCIETY OF TESTING AND MATERIALS		
AVG	AVERAGE		
BAS	BUILDING AUTOMATION SYSTEM		
BJS	BELOW JOIST SPACE		
BLDG	BUILDING		
BTU	BRITISH THERMAL UNITS		
BTUH	BRITISH THERMAL UNITS PER HOUR		
CAP	CAPACITY		
CFM	CUBIC FEET PER MINUTE		
CLG	COOLING		
CUFT	CUBIC FEET		
DB	DRY BULB		
DEG.	DEGREE(S)		
DEM.	DEMOLITION		
DIA.	DIAMETER		
DN	DOWN		
DWG	DRAWING		
EAT	ENTERING AIR TEMPERATURE		
EER	ENERGY EFFICIENCY RATIO		
EFF	EFFICIENCY		
EQUIP	EQUIPMENT		
ESP	EXTERNAL STATIC PRESSURE		
EWI	ENTERING WATER TEMPERATURE		
EXIST	EXISTING		
F	FAHRENHEIT		
FBM	FEET PER MINUTE		
FSC	FOOT SERVICE CONTRACTOR		
FT	FOOT, FEET		
FTU	FUTURE		
GALV	GALVANIZED		
GC	GENERAL CONTRACTOR		
HZ	HORIZONTAL		
HP	HORSEPOWER		
HT	HEATING		
HVAC	HEATING, VENTILATION, & AIR CONDITIONING		
IBC	INTERNATIONAL BUILDING CODE		
IECC	INTERNATIONAL ENERGY CONSERVATION CODE		
IFC	INTERNATIONAL FIRE CODE		
IN	IN JOIST SPACE		
IN	INCHES		
IMC	INTERNATIONAL MECHANICAL CODE		
IPC	INTERNATIONAL PLUMBING CODE		
INSUL	INSULATION		
KW	KILOWATT		
LAT	LEAVING AIR TEMPERATURE		
LBS	POUNDS		
MAX	MAXIMUM		
MBH	THOUSAND BTUS PER HOUR		
MECH	MECHANICAL		
MC	MECHANICAL CONTRACTOR		
MCA	MINIMUM CIRCUIT AMPACITY		
MFR	MANUFACTURER		
MIN	MINIMUM		
MISC	MISCELLANEOUS		
MOP	MAXIMUM OVER CURRENT PROTECTION		
MTL	METAL		
NC	NORMALLY CLOSED		
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION		
NO	NORMAL / OPEN		
NPS	NOT TO SCALE		
OPNG	OPENING		
PC	PLUMBING CONTRACTOR		
PD	PRESSURE DROP		
PH	PHASE		
PI	POST INDICATOR VALVE		
PSI	POUNDS PER SQUARE INCH		
PSIG	POUNDS PER SQUARE INCH, GAUGE		
QTY	QUANTITY		
RCP	REFLECTED CEILING PLAN		
REQD	REQUIRED		
REV	REVISION		
RH	RELATIVE HUMIDITY		
RPM	REVOLUTIONS PER MINUTE		
SCHED	SCHEDULE		
SENS	SENSIBLE		
SEER	SEASONAL ENERGY EFFICIENCY RATIO		
SMACNA	SHEET METAL AND AIR CONDITIONING CONTRACTORS NATIONAL ASSOCIATION		
SPEC	SPECIFICATION		
SOFT, FT	SQUARE FEET		
STD	STANDARD		
SURF	SURFACE		
SUSP	SUSPENDED		
TD	TEMPERATURE DIFFERENTIAL		
TEMP	TEMPERATURE		
TJS	THROUGH JOIST SPACE		
TSP	TOTAL STATIC PRESSURE		
TYP	TYPICAL		
UF	UNDER FLOOR		
UL	UNDERWRITERS LABORATORIES		
UMC	UNIFORM MECHANICAL CODE		
UPC	UNIFORM PLUMBING CODE		
W	WAITS		
WB	WET BULB		
WC	WATER COLUMN		
WG	WATER GAUGE		
WGHT	WEIGHT		
V	VOLT		
VERT	VERTICAL		
VFD	VARIABLE FREQUENCY DRIVE		

HVAC SPECIFICATIONS

GENERAL CONSTRUCTION METHODS

- ALL WORK SHALL BE PER ALL APPLICABLE CODES, ORDINANCES, RULES & REGULATIONS, AS WELL AS PER LOCAL UTILITY REQUIREMENTS AND THOSE OF OTHER JURISDICTIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS, LICENSES, FEES & INSURANCE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS, LICENSES, FEES & INSURANCE.
- IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VISIT THE JOB SITE AND BECOME INTIMATELY FAMILIAR WITH EXISTING CONDITIONS AS WELL AS WITH CONSTRUCTION DOCUMENTS. PLANS ARE SCHEMATIC IN NATURE AND SHOW GENERAL ARRANGEMENT OF SYSTEMS. THE CONTRACTOR SHALL PROVIDE ALL LABOR & MATERIALS TO PROVIDE THE ENTIRE PROJECT AS A READY TO OPERATE INSTALLATION.
- ALL DISRUPTIONS OF EXISTING SYSTEMS MUST BE COORDINATED WITH OWNER 2 WEEKS PRIOR TO ANY WORK BEING DONE.
- ALL SPACES MUST BE KEPT COMPLETELY CLEAN. A DUST BARRIER AND NEGATIVE AIR PRESSURE IN WORK AREA IS RESPONSIBILITY OF CONTRACTOR. COORDINATE WITH OWNER (EXHAUST DUCT OUTDOORS).
- ALL CUTTING & PATCHING IS THE RESPONSIBILITY OF THE CONTRACTOR. ALL WORK SHALL BE DONE IN A NEAT & WORKMANLIKE MANNER BY SKILLED CRAFTSMEN. PIPE OPENINGS THROUGH FLOORS SHALL BE DRILLED (UP TO 1" IN SIZE) OR CORED (ABOVE 1").
- THE CONTRACTOR SHALL BE RESPONSIBLE TO REPAIR ANY DAMAGE CAUSED TO THE PROJECT WITHOUT COST TO THE OWNER.
- ANY CONFLICTS BETWEEN CONSTRUCTION DOCUMENTS, CODES & MANUFACTURER'S INSTALLATION RECOMMENDATIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER FOR CLARIFICATION AS SOON AS POSSIBLE AND BEFORE INSTALLATION. THE CONTRACTOR SHALL BID THE LARGER QUANTITY OR BETTER QUALITY OF WORK, IF THERE ARE CONFLICTS.
- FIRE & SMOKE INTEGRITY OF ALL WALLS, FLOORS, CEILING, ETC. SHALL BE MAINTAINED. BARRIERS SHALL BE PROVIDED AS REQUIRED. MATERIALS USED SHALL BE UL CLASSIFIED & FACTORY MUTUAL APPROVED. INSTALLATION SHALL BE PER MANUFACTURER'S RECOMMENDATIONS & UL STANDARDS.
- CONTRACTOR SHALL SUBMIT ELECTRONIC COPIES OF SHOP DRAWINGS DETAILING ALL MATERIALS & EQUIPMENT PROPOSED TO BE USED.
- CONTRACTOR SHALL GUARANTEE ALL MATERIALS, EQUIPMENT & LABOR FOR A MINIMUM PERIOD OF ONE YEAR UNLESS A LONGER PERIOD IS SPECIFIED ELSEWHERE FROM DATE OF SUBSTANTIAL COMPLETION & FINAL ACCEPTANCE OF WORK.
- CONTRACTOR SHALL PROVIDE "AS-BUILT" RECORD DRAWINGS AT END OF PROJECT.
- CONTRACTOR SHALL PROVIDE OPERATION & MAINTENANCE MANUALS AND OWNER TRAINING TO OWNER AND/OR OWNER'S REPRESENTATIVE ON OPERATION AND MAINTENANCE PROCEDURES. TRAINING SHALL CONSIST OF FOUR (4) SESSIONS FOR THE OWNER AND/OR OWNER'S REPRESENTATIVE. EACH SESSION SHALL BE 2 HOURS IN LENGTH. THE FIRST TWO (2) SHALL BE IN THE FIRST MONTH AFTER SUBSTANTIAL COMPLETION AND THE 3RD SESSION SHALL BE IN THE 3RD MONTH AND 4TH SESSION IN THE 6TH MONTH. TRAINING SESSIONS SHALL PROVIDE OWNER WITH TRAINING ON EQUIPMENT AND OVERALL SYSTEM.
- CONTRACTOR SHALL BE RESPONSIBLE TO BRING UPDATED INFORMATION ON THE FOLLOWING TOPICS TO EACH CONSTRUCTION MEETING OR UPON REQUEST.
 - DISCUSSION OF PREVIOUS MINUTES
 - WORK COMPLETED IN PREVIOUS PERIOD
 - WORK ANTICIPATED FOR SUBSEQUENT PERIOD
 - PROJECT SCHEDULE AND REVIEW
 - SUBMITTAL SCHEDULE AND STATUS OF SUBMITTALS (WITH A RUNNING LOG OF SUBMITTALS)
 - REVIEW OF OFF-SITE FABRICATION AND EQUIPMENT DELIVERY SCHEDULES
 - CHANGES TO WORK/CHANGE ORDER REVIEW (WITH A RUNNING LOG OF CHANGE ORDERS)
 - RFI REVIEW (WITH A RUNNING LOG)
 - ACCESS/SITE UTILIZATION/TEMP FACILITIES
 - SAFETY
 - HOUSEKEEPING
 - QUALITY & TESTING
 - OWNER CONCERNS/QUESTIONS
 - ENGINEER/ARCHITECT CONCERNS/QUESTIONS
 - GENERAL CONTRACTOR CONCERNS/QUESTIONS
 - SUB-CONTRACTOR CONCERNS/QUESTIONS
 - COLD AIR DECK DUCT
 - HOT AIR DECK DUCT
 - OTHER MISCELLANEOUS ITEMS/ISSUES
 - NEXT MEETING DATE/TIME

230500 GENERAL REQUIREMENTS - HVAC

- 1.1 SUBMITTALS
 - PRODUCT DATA: FOR THE FOLLOWING WITHIN 90 DAYS OF CERTIFICATE OF OCCUPANCY:
 - ALL SCHEDULED EQUIPMENT AND PIPING
 - WELDING CERTIFICATES
 - COMPLETE CERTIFIED TAB REPORTS
 - THREE (3) COPIES OF O&M MANUALS
 - THREE (3) COPIES OF VIDEO RECORDINGS COVERING REQUIRED MAINTENANCE, TROUBLE SHOOTING AND SHUTDOWN OF SPECIFIED EQUIPMENT
 - IF THE HVAC SYSTEM TOTAL HEATING CAPACITY IS OVER 400,000 BTUH THEN A FINAL COMMISSIONING REPORT SHALL BE PROVIDED. THE REPORT SHALL BE ORGANIZED WITH MECHANICAL SYSTEMS AND SERVICE HOT WATER SYSTEM OPENINGS IN SEPARATE SECTIONS WITH INDEPENDENT REVIEWS. THE REPORT SHALL INCLUDE THE FOLLOWING:
 - FUNCTIONAL PERFORMANCE TEST RESULTS
 - LIST OF DEFICIENCIES FOUND DURING TESTING ALONG WITH PROPOSED OR USED CORRECTIVE MEASURES.
 - FUNCTIONAL PERFORMANCE TEST PROCEDURES USED DURING COMMISSIONING INCLUDING MEASURABLE CRITERIA FOR TEST ACCEPTANCE.
- 1.2 DELIVERY, STORAGE, AND HANDLING
 - DUCTWORK AND EQUIPMENT MUST BE COVERED WHEN BEING STORED ON SITE TO PREVENT ENTRANCE OF DIRT, DEBRIS, AND MOISTURE. DUCTWORK MUST BE CLEAN ON THE INSIDE BEFORE INSTALLATION.
- 1.3 COORDINATION
 - ARRANGE FOR DUCT SPACES, CHASES, SLOTS, AND OPENINGS IN BUILDING STRUCTURE AND INSULATION FACIES BY APPLYING SAME FACING MATERIAL OVER DAMAGED AREAS. EXTENDING PATCHES AT LEAST 4 INCHES (100 MM) BEYOND DAMAGED AREAS. ADHERE, STAPLE, AND SEAL PATCHES SIMILAR TO BUTT JOINTS.
 - INSULATION THROUGH EXISTING THROUGH ALL ROOF, WALL, AND FLOOR PENETRATIONS.
 - COORDINATE REQUIREMENTS FOR ACCESS PANELS AND DOORS FOR HVAC ITEMS REQUIRING ACCESS THAT ARE CONCEALED BEHIND FINISHED SURFACES.
- 1.4 HVAC DEMOLITION
 - REMOVE, DISMANTLE, AND REMOVE HVAC SYSTEMS, EQUIPMENT, AND COMPONENTS INDICATED TO BE REMOVED.
 - DUCTS TO BE REMOVED: REMOVE PORTION OF DUCTS INDICATED TO BE REMOVED AND LEAVE REMAINING DUCTS WITH SAME OR COMPATIBLE DUCTWORK MATERIAL.
 - EQUIPMENT TO BE REMOVED: DISCONNECT AND CAP SERVICES AND REMOVE EQUIPMENT.
 - EQUIPMENT TO BE REMOVED AND REINSTALLED: DISCONNECT AND CAP SERVICES AND REMOVE, CLEAN, AND STORE EQUIPMENT; WHEN APPROPRIATE, REINSTALL, RECONNECT, AND MAKE EQUIPMENT OPERATIONAL.
 - EQUIPMENT TO BE REMOVED AND SALVAGED: DISCONNECT AND CAP SERVICES AND REMOVE EQUIPMENT AND DELIVER TO OWNER.
- IF DUCT, INSULATION, OR EQUIPMENT TO REMAIN IS DAMAGED IN APPEARANCE OR IS UNSERVICEABLE, REMOVE DAMAGED OR UNSERVICEABLE PORTIONS AND REPLACE WITH NEW PRODUCTS OF EQUAL CAPACITY AND QUALITY.
- 1.5 COMMON REQUIREMENTS
 - DRAWING PLANS, SCHEMATICS, AND DIAGRAMS INDICATE GENERAL LOCATION AND ARRANGEMENT OF PIPING SYSTEMS. INDICATED LOCATIONS AND ARRANGEMENTS WERE USED TO SIZE PIPE AND CALCULATE FRICTION LOSS, EXPANSION, PUMP SIZES, AND FLOOR DESIGN CONSIDERATIONS. INSTALL PIPING AS INDICATED UNLESS DEVIATIONS TO LAYOUT ARE APPROVED ON COORDINATION DRAWINGS.
 - DUCT LABELING ON ALL NEW DUCT WITH PRE-PRINTED, COLOR-CODED WITH LETTERING DESIGNATIONS AND SHOWING FLOW DIRECTION. LETTERING MUST BE A MINIMUM OF 1-1/2" IN SIZE. PIPE LABELS SHALL BE ON ALL PIPING ABOVE ACCESSIBLE CEILING, EXPOSED AREAS, TUNNELS AND IN ALL MECHANICAL ROOMS EVERY 30' AND AT ALL ACCESS DOORS. VERIFY LABEL COLORING SCHEME WITH ENGINEER AND OWNER PRIOR TO ORDERING.
 - INSTALL DUCTWORK IN CONCEALED LOCATIONS, UNLESS OTHERWISE INDICATED.
 - MECHANICAL ROOMS EVERY 30' AND AT ALL ACCESS DOORS. VERIFY LABEL COLORING SCHEME WITH ENGINEER AND OWNER PRIOR TO ORDERING.
 - INSTALL DUCTWORK ABOVE ACCESSIBLE CEILING TO ALLOW SUFFICIENT SPACE FOR CEILING PANEL REMOVAL.
 - INSTALL DUCTWORK TO ALLOW FOR APPLICATION OF INSULATION.
 - MATERIALS FOR PENETRATIONS OF WALLS, CEILING, AND FLOORS.
 - SLEEVES ARE NOT REQUIRED FOR CORE-DRILLED HOLES.
 - PERMANENT SLEEVES ARE NOT REQUIRED FOR HOLES FORMED BY REMOVABLE PE PANELS.
 - INSTALL SLEEVES FOR DUCTS PASSING THROUGH CONCRETE AND MASONRY WALLS AND CONCRETE FLOOR AND ROOF SLABS.
 - FIRE-BARRIER PENETRATIONS: MAINTAIN INDICATED FIRE RATING OF WALLS, PARTITIONS, CEILING, AND FLOORS AT DUCT PENETRATIONS. INSTALL REQUIRE DAMPERS AND SEAL PENETRATIONS WITH FIRESTOP MATERIALS.
 - VERIFY FINAL EQUIPMENT LOCATIONS FOR ROUGH-IN.
 - INSTALL EQUIPMENT LEVEL AND PLUMB AND TO ALLOW MAXIMUM POSSIBLE HEADROOM UNLESS SPECIFIC MOUNTING HEIGHTS ARE NOT INDICATED. ALL EQUIPMENT SHALL BE INSTALLED TO ALLOW FOR PROPER MAINTENANCE ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.
 - INSTALL HANGERS, SUPPORTS, AND ATTACHMENTS AS REQUIRED TO PROPERLY SUPPORT DUCTWORK FROM THE BUILDING STRUCTURE.
 - IF DUCT IS GOING TO BE PAINTED, THOROUGHLY CLEAN AND DRY OUTSIDE OF DUCT WITH A WARM SOAPY SOLUTION CONSISTING OF "SIMPLE GREEN" CLEANER AND WATER PRIOR TO BEING PAINTED. THIS SHALL BE WITNESSED BY THE GENERAL CONTRACTOR AND PAINTER.
 - ALL TURNING VANES SHALL BE DOUBLE WALL GALVANIZED STEEL CONSTRUCTION VANES SET INTO A VANE RING WITH SUPPORTS PERPENDICULAR TO VANE RING. RING SHALL BE MOUNTED TO DUCT. VANES SHALL BE PROVIDED IN ALL SQUARE ELBOWS.
 - FLEXIBLE DUCT CONNECTIONS SHALL BE MADE FROM FLAME-RETARDANT OR NON-COMBUSTIBLE FABRICS, ANY COATINGS MUST COMPLY WITH UL 181, CLASS 1. CONNECTOR SHALL BE FACTORY FABRICATED WITH A 3-1/2" OR 5-3/4" FABRIC STRIP. 2 STRIPS OF GALVANIZED SHEET STEEL.
 - HIGH EFFICIENCY TAKE OFF SHALL BE SINGLE PIECE CONSTRUCTION OR PRE-SEALED BY THE FACTORY. DAMPER HANDLE STANDOFFS SHALL BE PROVIDED WHEN DUCT IS TO BE WRAPPED. DAMPER HANDLES MUST BE LOCKABLE AT ANY POSITION. TAKEOFF SHALL BE PRE-SEALED ON BOTTOM FLANGE TO CONNECT TO MAIN DUCT.
 - ALL JOINTS, SEAMS AND CONNECTIONS (LONGITUDINAL AND TRANSVERSE) EXCEPT CONTINUOUSLY WELDED OR LOCKING JOINTS ON DUCTS OPERATING AT LESS THAN 2" WAG PRESSURE, AND CONNECTIONS BETWEEN DUCT AND EQUIPMENT SHALL BE SECURELY SEALED USING:
 - MECHANICAL FASTENERS WITH SEALS, GASKETS OR MASTICS
 - MESH AND MASTIC SEALING SYSTEM (MUST BE LISTED AND LABELED IN ACCORDANCE WITH UL 181A OF UL 181B)
 - TAPE (MUST BE LISTED AND LABELED IN ACCORDANCE WITH UL 181A OF UL 181B)
 - HVAC CONTRACTOR TO PROVIDE AND INSTALL ALL REQUIRED THERMOSTAT AND CONTROL WIRING TO THERMOSTATS, MOTORIZED DAMPERS, TRANSFORMERS, TIME-CLOCKS, ETC. ALL MOTORIZED DAMPERS TO BE 24 VOLT.
 - ALL PIPING AND DUCTWORK SHALL BE LABELED WITH PRE-PRINTED, COLOR-CODED WITH LETTERING MATCHING DRAWING DESIGNATIONS AND SHOWING FLOW DIRECTION. PIPING AND DUCTWORK IN EXPOSED PUBLIC AREAS SHALL NOT BE LABELED. LABELS SHALL BE INSTALLED AT A MINIMUM OF EVERY 20' AND EACH PIECE OF EQUIPMENT.
 - ALL EQUIPMENT SHALL BE LABELED WITH ALUMINUM, STAINLESS STEEL OR PLASTIC (ABLE TO WITHSTAND 160°F) EQUIPMENT TAGS. LABELS MUST BE A MINIMUM OF 3" WIDE BY 7" TALL AND SECURED TO THE EQUIPMENT WITH RIVETS OR PERMANENT ADHESIVES.

230700 HVAC INSULATION

- 1.1 GENERAL INSULATION REQUIREMENTS
 - INSTALL INSULATION MATERIALS, ACCESSORIES, AND FINISHES WITH SMOOTH, EVEN SURFACES. FREES OF VOIDS THROUGHOUT THE LENGTH OF DUCTS AND FITTINGS. INSTALL INSULATION MATERIALS, VAPOR BARRIERS OR RETARDERS, JACKETS, AND THICKNESSES REQUIRED FOR EACH ITEM OF DUCT SYSTEM AS SPECIFIED IN INSULATION SYSTEM SCHEDULES.
 - INSTALL INSULATION WITH LONGITUDINAL SEAMS AT TOP AND BOTTOM OF HORIZONTAL RUNS. INSTALL MULTIPLE LAYERS OF INSULATION WITH LONGITUDINAL AND END SEAMS STAGGERED. INSTALL INSULATION WITH TIGHT LONGITUDINAL SEAMS AND END JOINTS. BOND SEAMS AND JOINTS WITH ADHESIVE RECOMMENDED BY INSULATION MATERIAL MANUFACTURER.
 - INSULATION WITH LEAST NUMBER OF JOINTS PRACTICAL.
 - WHERE VAPOR BARRIER IS INDICATED, SEALS, JOINTS, SEAMS, AND PENETRATIONS IN INSULATION AT HANGERS, SUPPORTS, ANCHORS, AND OTHER PROJECTIONS WITH VAPOR-BARRIER MASTIC.
 - INSTALL INSULATION CONTINUOUSLY THROUGH HANGERS AND AROUND ANCHOR ATTACHMENTS.
 - FOR INSULATION APPLICATION WHERE VAPOR BARRIERS ARE INDICATED, EXTEND INSULATION ON ANCHOR LEGS FROM POINT OF ATTACHMENT TO SUPPORTED ITEM TO POINT OF ATTACHMENT TO STRUCTURE. TAPER AND SEAL ENDS AT ATTACHMENT TO STRUCTURE WITH VAPOR-BARRIER MASTIC.
 - INSTALL INSERT MATERIALS AND INSTALL INSULATION TO TIGHTLY JOIN THE INSERT. SEAL INSULATION TO INSULATION INSERTS WITH ADHESIVE OR SEALING COMPOUND RECOMMENDED BY INSULATION MATERIAL MANUFACTURER.
 - INSTALL INSULATION WITH FACTORY-APPLIED JACKETS AS SPECIFIED IN INSULATION SYSTEM SCHEDULE.
 - CUT INSULATION IN A MANNER TO AVOID COMPRESSING INSULATION MORE THAN 75 PERCENT OF ITS NOMINAL THICKNESS.
 - FINISH INSTALLATION WITH SYSTEMS AT OPERATING CONDITIONS. REPAIR JOINT SEPARATIONS AND CRACKING DUE TO THERMAL MOVEMENT.
 - INSULATION THROUGH EXISTING THROUGH ALL ROOF, WALL, AND FLOOR PENETRATIONS. ADHERE, STAPLE, AND SEAL PATCHES SIMILAR TO BUTT JOINTS.
 - INSTALL INSULATION CONTINUOUSLY THROUGH ALL ROOF, WALL, AND FLOOR PENETRATIONS.
- 1.2 FIRE-RATED INSULATION SYSTEM INSTALLATION
 - WHERE FIRE-RATED INSULATION SYSTEM IS INDICATED, SECURE SYSTEM TO DUCTS AND DUCT HANGERS AND SUPPORTS TO MAINTAIN A CONTINUOUS FIRE RATING.
 - INSULATE DUCT ACCESS PANELS AND DOORS TO ACHIEVE SAME FIRE RATING AS DUCT.
 - INSTALL FIRESTOPPING AT PENETRATIONS THROUGH FIRE-RATED ASSEMBLIES.

230993 TESTING, ADJUSTING, AND BALANCING FOR HVAC

- 1.1 SUBMITTALS
 - SUBMIT 3 COPIES OF CERTIFIED TAB WRITTEN REPORTS. REPORTS MUST BE APPROVED BY DESIGN TEAM.
 - DESIGN TEAM HAS THE RIGHT TO SPOT CHECK AND CONFIRM BALANCING SYSTEMS. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE BALANCING CONTRACTOR AND ANY REBALANCING SHALL BE DONE AT NO ADDITIONAL COST.
- 1.2 ONLY APPROVED CONTRACTORS ALLOWED
 - AIR AND FLUID MANAGEMENT, 217 S WILSON STREET, WILBER NE 68466
 - BALCON AIR AND WATER BALANCING, 708 S 1 STREET, OMAHA NE 68106
 - SYSTEMS MANAGEMENT AND BALANCING, 925 SE OLSON DR, WAUKEE IA 50623
 - CERRIS SYSTEMS, 9751 S 142ND STREET, OMAHA NE 68138
- 1.3 GENERAL PROCEDURES FOR BALANCING SYSTEMS
 - PREPARE TEST REPORTS FOR BOTH FANS AND OUTLETS. OBTAIN MANUFACTURER'S O&M MANUALS AND DESIGN CONSIDERATIONS. INSTALL PIPING AS INDICATED. THE SUMMATION OF REQUIRED OUTLET VOLUMES WITH REQUIRED FAN VOLUMES.
 - BALANCING CONTRACTOR SHALL BALANCE ALL AIR AND WATER FLOW RATES AS REQUIRED TO BE WITHIN A TOLERANCE OF -10% TO +5% OF DESIGN DOCUMENTS.
 - BALANCER SHALL WORK WITH ENGINEER TO ADJUST SYSTEMS AND CALIBRATE TO ACHIEVE SPECIFIED PRESSURE DIFFERENTIALS.
 - COORDINATE WITH MANUFACTURER ON MINIMUM AND MAXIMUM WITH SET POINTS EQUIPPED, DAMPERS, AND VALVES. VERIFY CONTROL TO SET VALVES NEEDED.
- 1.4 FINAL REPORT
 - GENERAL: PREPARE A CERTIFIED WRITTEN REPORT; TABULATE AND DIVIDE THE REPORT INTO SEPARATE SECTIONS FOR TESTED SYSTEMS AND BALANCED SYSTEMS.
 - INCLUDE A CERTIFICATION SHEET AT THE FRONT OF THE REPORT'S BINDER. SIGNED AND SEALED BY THE CERTIFIED TESTING AND BALANCING ENGINEER.
 - INCLUDE A LIST OF INSTRUMENTS USED FOR PROCEDURES, ALONG WITH PROOF OF CALIBRATION.

233300 HVAC AIR DUCT ACCESSORIES

- 1.1 COMMON REQUIREMENTS
 - FIRE DAMPERS SHALL BE DYNAMIC TYPE RATED AND LABELED ACCORDING TO UL 555. DAMPERS SHALL BE RATED UP TO 2" WIG STATIC PRESSURE AND MINIMUM 2000 FPM VELOCITY. FIRE RATING SHALL BE 1-1/2 HOUR. FRAME SHALL BE A CURTAIN TYPE WITH BLADES OUTSIDE OF THE AIR STREAM. MOUNTING SLEEVE SHALL BE FACTORY INSTALLED. ALL DAMPERS SHALL BE RATED TO BE INSTALLED IN THE HORIZONTAL OR VERTICAL POSITION. COORDINATE MOUNTING ORIENTATION WITH PLANS. REPLACEABLE 165°F FUSIBLE LINK SHALL BE USED. DAMPER MUST BE INSTALLED ACCORDING TO MANUFACTURER INSTALLATION INSTRUCTIONS.
 - SMOKE DAMPERS SHALL BE LEAKAGE CLASS 1 RATED AND LABELED ACCORDING TO UL 555S. FRAME SHALL BE CONSTRUCTED WITH NO WELDING AND HAVE MOUNTING FLANGES. DAMPERS SHALL BE OF THE SAME MATERIAL AS THE CONNECTING DUCT. BLADE SEALS SHALL BE RATED FOR 550°F. DAMPER SHALL BE A FALL CLOSE UNLESS SPECIFIED OTHERWISE. ACTUATOR SHALL BE TWO-POSITION UNLESS SPECIFIED AS MODULATING WITH POSITION INDICATING AND MOMENTARY TEST SWITCH. ACTUATOR TO BE MOUNTED OUTSIDE OF DUCT. DAMPER MUST BE INSTALLED ACCORDING TO MANUFACTURER INSTALLATION INSTRUCTIONS.
 - COMBINATION FIRE-SMOKE DAMPERS SHALL MEET REQUIREMENTS FOR FIRE AND SMOKE DAMPERS.
 - FLANGE CONNECTIONS SHALL BE ADD OR ROLL FORM TO MATCH CONNECTING DUCTWORK. NO FOAM TAPE OR PLASTIC GLEATS ARE ALLOWED.
 - TURNING VANES SHALL BE DOUBLE WALL CONSTRUCTION AND BE CONSTRUCTED ACCORDING TO SMACNA'S HVAC DUCT CONSTRUCTION STANDARDS.
 - ACCESS DOORS SHALL BE CONSTRUCTED ACCORDING TO SMACNA'S HVAC DUCT CONSTRUCTION STANDARDS. PROVIDE FOAM GASKETING.
 - FLEXIBLE CONNECTORS SHALL COMPLY WITH UL 181, CLASS 1. CONNECTORS MUST BE INSTALLED WITH 1" OF SLACK.
- 1.2 COMMON REQUIREMENTS
 - FIRE DAMPERS SHALL BE DYNAMIC TYPE RATED AND LABELED ACCORDING TO UL 555. DAMPERS SHALL BE RATED UP TO 2" WIG STATIC PRESSURE AND MINIMUM 2000 FPM VELOCITY. FIRE RATING SHALL BE 1-1/2 HOUR. FRAME SHALL BE A CURTAIN TYPE WITH BLADES OUTSIDE OF THE AIR STREAM. MOUNTING SLEEVE SHALL BE FACTORY INSTALLED. ALL DAMPERS SHALL BE RATED TO BE INSTALLED IN THE HORIZONTAL OR VERTICAL POSITION. COORDINATE MOUNTING ORIENTATION WITH PLANS. REPLACEABLE 165°F FUSIBLE LINK SHALL BE USED. DAMPER MUST BE INSTALLED ACCORDING TO MANUFACTURER INSTALLATION INSTRUCTIONS.
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 - FLEXIBLE CONNECTORS SHALL COMPLY WITH UL 181, CLASS 1. CONNECTORS MUST BE INSTALLED WITH 1" OF SLACK.

GENERAL PROJECT NOTES

- THE ENTIRE INSTALLATION SHALL BE IN ACCORDANCE WITH ALL APPLICABLE LOCAL, CITY, STATE AND NATIONAL CODES, LAWS, ACTS AND ORDINANCES AND ALL AUTHORITIES HAVING JURISDICTION, THE OCCUPANCY AND SAFETY SURVEYS, FREES OF VOIDS THROUGHOUT THE LENGTH OF DUCTS AND FITTINGS. INSTALL INSULATION MATERIALS, VAPOR BARRIERS OR RETARDERS, JACKETS, AND THICKNESSES REQUIRED FOR EACH ITEM OF DUCT SYSTEM AS SPECIFIED IN INSULATION SYSTEM SCHEDULES.
 - DRAWINGS ARE LARGELY SCHEMATIC IN NATURE. THOUGH A LOT OF DETAILS MAY BE SHOWN THEY ARE NOT INTENDED TO SHOW EVERY DETAIL. IT IS THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE WITH ALL OTHER TRADES AND EXISTING SITE CONDITIONS TO PROVIDE A FULLY FUNCTIONAL SYSTEM PER THE INTENT OF DESIGN. ALL REQUIRED PIPING, SUPPORTS AND DUCTS SHALL BE PROVIDED FOR A FULLY FUNCTIONAL SYSTEM PER THE DESIGN INTENT. IF ROUTING IS NOT SHOWN ON THE PLANS, COORDINATE WITH THE ENGINEER PRIOR TO BIDDING.
 - IF ANY CONFLICTING INFORMATION IS PROVIDED ON THE DRAWINGS, THE MORE STRINGENT/EXPENSIVE SHOULD BE BID UNLESS A ADDENDUM CAN BE ISSUED IN TIME TO CORRECT THE SITUATION.
- ### GENERAL COORDINATION
- ALL WORK SHALL BE COORDINATED BETWEEN TRADES BEFORE ANY CONSTRUCTION BEGINS IN A "KICK-OFF" MEETING. CONTACT ENGINEER/ARCHITECT FOR QUESTIONS.
 - PHASING OF PROJECT SHALL BE CLOSELY COORDINATED WITH THE GENERAL CONTRACTOR AND ARCHITECTURAL PLANS. ANY ADDITIONAL DAMPER, VALVE, OR ACCESSORY SHALL BE PROVIDED AT NO ADDITIONAL COST. EACH PHASE SHALL BE 100% COMPLETE WHEN TURNED OVER TO THE OWNER.
 - IT SHALL BE THE RESPONSIBILITY OF THE MECHANICAL CONTRACTOR TO COORDINATE WITH THE ELECTRICAL CONTRACTOR ON ALL ELECTRICAL REQUIREMENTS FOR THE EQUIPMENT PRIOR TO ORDERING. ALL REQUIREMENT CHANGES SHALL BE THE RESPONSIBILITY OF THE MECHANICAL CONTRACTOR/ SUPPLIER AT NO ADDITIONAL COST TO THE PROJECT.
 - NO DUCT OR PIPING SHALL BE INSTALLED ABOVE ANY ELECTRICAL PANEL.
 - EXACT LOCATION OF ALL PIPING, DUCTS, DIFFUSERS, GRILLES AND SUPPORTS SHALL BE COORDINATED WITH STRUCTURE, LIGHTS, CEILING GRID, HVAC, PLUMBING FIXTURES. COORDINATE LOCATION WITH FIRE SPRINKLER PIPING IF APPLICABLE. SEE ELECTRICAL LIGHTING PLANS AND ARCHITECTURAL REFLECTED CEILING PLANS FOR COORDINATION.
 - WHEN ALL WORK IS COMPLETED NO MATERIALS SHALL BE LEFT ON SITE UNLESS SPECIFICALLY REQUESTED BY THE OWNER. ALL MATERIALS TO BE DISPOSED OF PROPERLY.
 - CONTRACTOR TO FIRE SEAL WALLS, CEILING AS REQUIRED AND MAINTAIN ALL FIRE RATINGS.
- ### WARRANTY
- ENTIRE PROJECT INCLUDING ALL MATERIALS AND LABOR SHALL BE WARRANTED FOR A MINIMUM OF 1 YEAR FROM SUBSTANTIAL COMPLETION.
- ### PRIOR APPROVALS AND FILE SHARING
- ALL SHEETS REQUESTED IN CAD (DWG) FORMAT PRIOR TO TRANSMISSION OF FILES. THE REQUESTING PARTY MUST SIGN AND RETURN "DOCUMENT DISCLAIMER" TO AES.
 - PRIOR APPROVAL OF MECHANICAL, ELECTRICAL AND PLUMBING SUBSTITUTION PRODUCTS IS NOT REQUIRED.
 - PROPOSED SUBSTITUTIONS OF MECHANICAL, ELECTRICAL AND PLUMBING

Sheet Size: ARCH D (24.0 x 36.00 INCHES)

Autodesk Docs/David City Ballfield RR Addition/26022 - AES Central_R25.rvt

KEY NOTES

SYMBOL =

1. EXTEND 10" EXHAUST DUCT UP THROUGH ROOF AND TERMINATE WITH PITCHED ROOF CAP. TERMINATION SHALL BE AT LEAST 3' AWAY FROM ANY WINDOW.
2. EXHAUST FAN TO BE INSTALLED AS HIGH AS POSSIBLE.
3. EXHAUST FAN AND ASSOCIATED GRILLE TO BE INSTALLED IN EXISTING WINDOW OPENING.
4. DUCTWORK TO BE INSTALLED IN ATTIC SPACE.



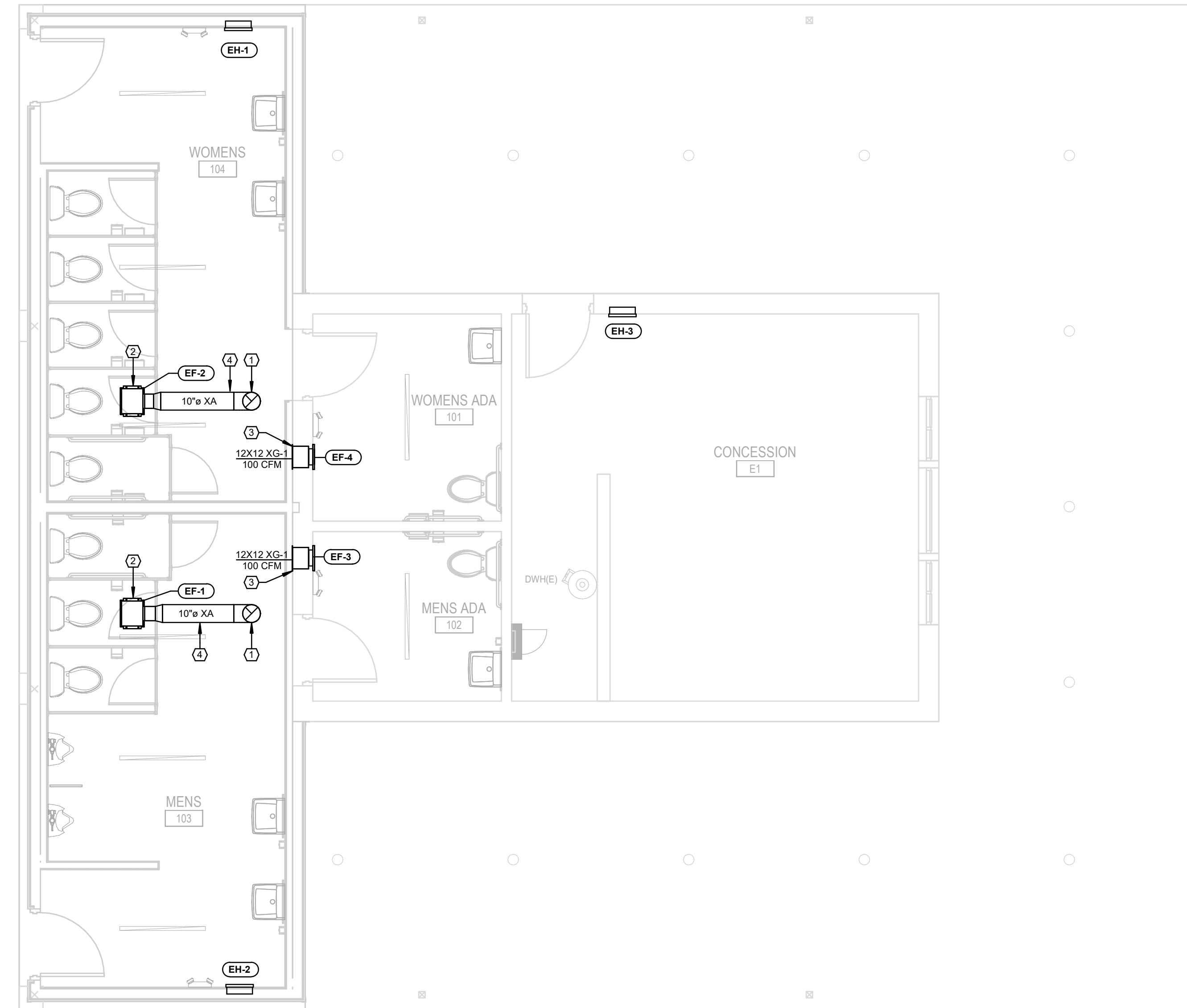
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FLOOR PLAN - HVAC
1/4" = 1'-0"

ISSUE

MARK	DATE	DESCRIPTION
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David City Ballfield RR Addition

David City, Nebraska
100 M Rd, David City, NE 68632

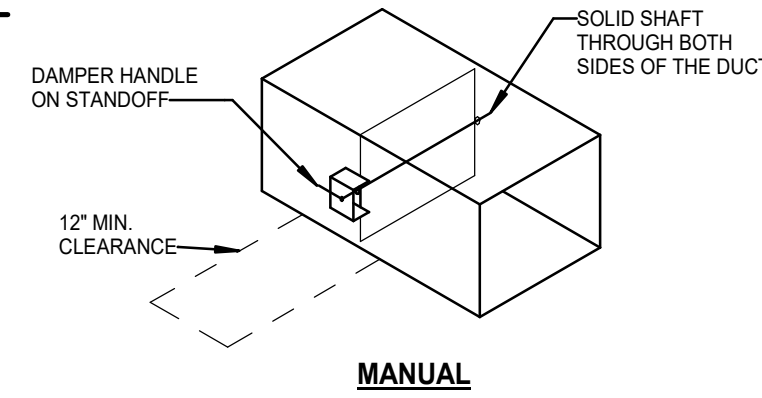
JEO Project No: 251890.00
Date: 02.19.2026
QAQC: JW
Drawn By: JM

HVAC FLOOR PLAN

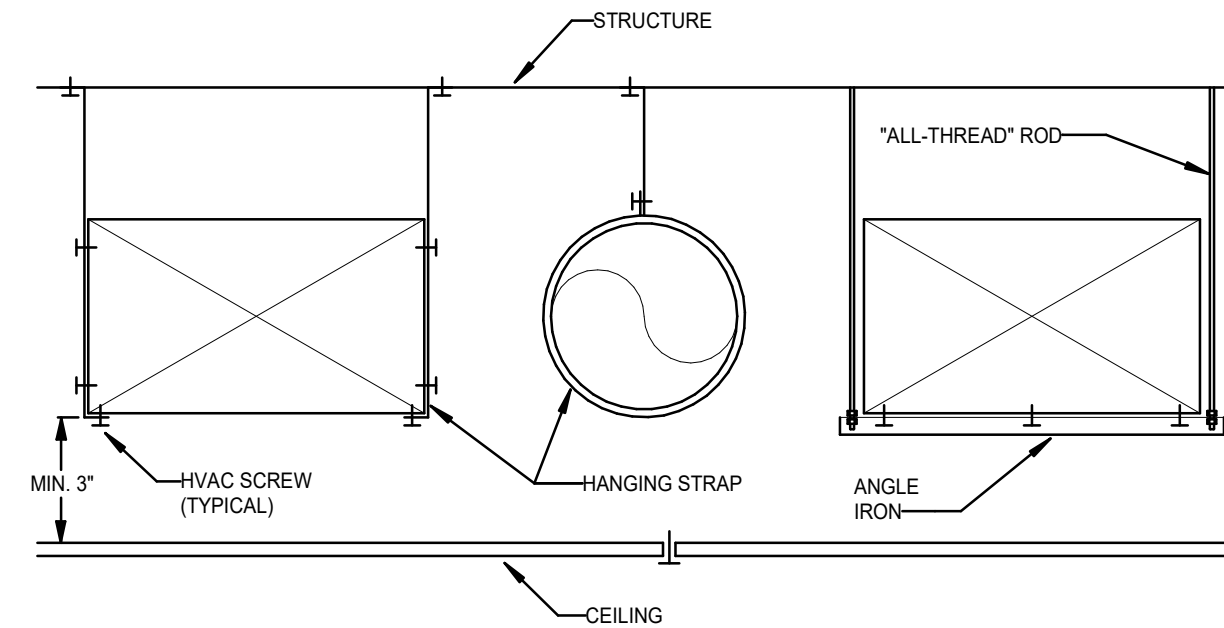
**DETAILS SHALL BE USED IN ALL APPLICABLE SITUATIONS
WHETHER SPECIFICALLY CALLED OUT OR NOT**

DETAIL NOTES

- WHEN TYPICAL INSTALLATION IS NOT POSSIBLE CONSULT ARCHITECT, MECHANICAL AND STRUCTURAL ENGINEERS BEFORE INSTALLATION.
- INSTALLATION WITH FULL ACCESS TO ALL COMPONENTS ARE THE RESPONSIBILITY OF THE CONTRACTOR. ANY CHANGES MADE TO THE INSTALLATION SHALL BE MADE AT NO ADDITIONAL COST. IF ACCESS DOORS IN WALLS ARE REQUIRED, THEY WILL BE THE RESPONSIBILITY OF THE CONTRACTOR. FIRE RATED ACCESS DOOR SHOULD BE PROVIDED IN RATED WALLS.
- WHERE THE INSULATION STOPS FOR THE DAMPER, THE EDGE OF THE INSULATION SHALL BE CAPPED WITH 1" DEEP METAL NOSING. THIS SHALL BE RIVETED TO THE DUCT.
- DETAIL APPLIES TO SQUARE AND ROUND DUCTS.



1 DAMPER DETAIL
NTS



2 DUCT SUPPORT DETAIL
NTS

DUCT MATERIAL AND INSULATION

DUCT	DUCT LOCATION	SPACE	DUCT CONSTRUCTION				DUCT INSULATION					
			MATERIAL	TYPE	CONNECTION	TYPE	MATERIAL	SKIN TYPE	THICKNESS	DENSITY LB/FT ³	MIN. R VALUE	NOTES
EXHAUST / RELIEF AIR	CONCEALED	PARTIALLY CONDITIONED	GALVANIZED STEEL	SINGLE WALL	SLIP & DRIVE	WRAP	FIBERGLASS	ALUMINUM FSK JACKET	2"	3/4	5	1,2,3,4
EXHAUST / RELIEF AIR	CONCEALED	CONDITIONED	GALVANIZED STEEL	SINGLE WALL	SLIP & DRIVE	WRAP	FIBERGLASS	ALUMINUM FSK JACKET	1"	3/4	3	1,2,3,4
EXHAUST / RELIEF AIR	CONCEALED	UNCONDITIONED	GALVANIZED STEEL	SINGLE WALL	SLIP & DRIVE	WRAP	FIBERGLASS	ALUMINUM FSK JACKET	3"	3/4	8	1,2,3,4

SPACE DEFINITION

- PARTIALLY CONDITIONED SPACE: A SPACE THAT HAS A TEMPERATURE DIFFERENTIAL BETWEEN THE AIR IN DUCT AND THE SURROUNDING GREATER THAN 15'. EXAMPLES INCLUDE ATTIC SPACE (WITH INSULATION ON ROOF), CRAWL SPACE, GARAGE, MECHANICAL/ELECTRICAL ROOM, NON PLENUM RETURN CEILING SPACE.
- CONDITIONED SPACE: A SPACE THAT HAS A TEMPERATURE DIFFERENTIAL BETWEEN THE AIR IN THE DUCT AND THE SURROUNDING LESS THAN 15'. EXAMPLES INCLUDE: ABOVE CEILING RETURN PLENUM SPACE, HEATED AND COOLED SPACE.
- UNCONDITIONED SPACE: A SPACE WHOSE TEMPERATURE IS THE SAME AS OUTDOORS OR WORSE (FURTHER FROM ROOM SET POINT) OR IS THE OUTDOORS. EXAMPLES INCLUDE ATTIC WITH INSULATION AT CEILING, DUCT CHASES.
- EXTERIOR (OUTSIDE): LOCATED OUTSIDE OF THE BUILDING ENVELOPE. EXPOSED TO THE WEATHER.

DUCT LOCATION DEFINITION

- CONCEALED: ANY NON VISIBLE DUCT. EXAMPLES INCLUDE: MECHANICAL ROOMS, JANITORS ROOMS, ATTICS AND CRAWL SPACES.
- EXPOSED: ANY VISIBLE DUCT IN ANY PUBLIC OR OCCUPIABLE SPACE. EXAMPLES INCLUDE: STORAGE ROOMS, CLOSETS

WHERE DUCT INSULATION IS SPECIFIED:

- ALL DUCTS SHALL BE COMPLETELY INSULATED ON ALL SIDES ENCOMPASSING DUCT SUPPORTS/ HANGERS WITH INSULATION SEALED TO SUPPORTS AS THEY PENETRATE INSULATION.
- ALL SUPPLY AND FRESH AIR DIFFUSERS AND REGISTERS INCLUDING DUCT BOOTS SHALL BE COMPLETELY WRAPPED IN INSULATION DOWN TO THE CEILING TO PREVENT CONDENSATION.
- ALL INSULATION HOLES FROM TESTING AND BALANCING SHALL BE RE-SEALED.
- ALL BALANCING DAMPERS SHALL HAVE THE HANDLES OUTSIDE THE INSULATION, WITH A PROPER STANDOFF/ SHAFT LENGTH TO ALLOW PROPER DAMPER ADJUSTMENT.

DUCT MATERIAL AND INSULATION SCHEDULE NOTES

- ALL DUCTWORK SHALL BE CONSTRUCTED, REINFORCED AND SUPPORTED ACCORDING TO CURRENT MECHANICAL CODE, SMACNA STANDARDS, AND PER REQUIREMENTS OF CURRENT EDITION OF INTERNATIONAL ENERGY CODES. DUCTS SHALL BE CONSTRUCTED BASED ON THE TOTAL FAN PRESSURE THE DUCTS ARE CONNECTED TO (A MINIMUM OF 2") AND BE TAKEN AS POSITIVE ON THE FAN DISCHARGE SIDE AND NEGATIVE ON THE FAN SUCTION SIDE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE FAN PRESSURES BEFORE BIDDING AND CONSTRUCTION. SINGLE WALL DUCT SHALL BE SEALED WITH EITHER FOIL TAPE OR DUCT SEAL COMPOUND ON ALL JOINTS INCLUDING LONG TRANSVERSE JOINTS. FOR LOW PRESSURE (< 2" W.C.) NON SPIRAL DUCT, ADJUSTABLE 1/2" RADIUS ELBOWS AND SNAPLOCK PIPE ARE ACCEPTABLE. FOR DUCT MATE/DOC CONNECTIONS FOAM TAPE, PLASTIC CLEATS ARE NOT ACCEPTABLE. BUTYL TAPE, METAL CLEATS AND NUT & BOLTS MUST BE USED.
- INSULATION SHALL HAVE A FHC OF 25/50 AND BE CLASSIFIED AS MEETING THE REQUIREMENTS OF LIMITED COMBUSTIBILITY.
- DUCT WRAP INSULATION SHALL COMPLY WITH ASTM C 553. TAPE AND SEAL INSULATION ACCORDING TO MANUFACTURER'S RECOMMENDATIONS. EVERY JOINT SHALL BE COMPLETELY TAPPED WITH FACED TAPE (MEETING UL181 STANDARD) TO MATCH INSULATION AND COMPLETELY SEAL INSULATION PER MANUFACTURER'S RECOMMENDATIONS.
- PROVIDE INSULATION ON FIRST 15' OF DUCT FROM EXTERIOR TERMINATION.

EXHAUST FANS

MARK	MANUFACTURER	MODEL #	CFM	E.S.P. WG	FAN TYPE	HP	VOLT	FAN MOTOR DATA				MOTOR TYPE	FEI	FAN LOCATION	CONTROLS	AREA(S) SERVED	NOTES
								PHASE	RPM	SONES	DRIVE						
EF-1	GREENHECK	SP-A390	350	0.50	CENTRIFUGAL	FRAC	120	1	1350	5	DIRECT	PSC	-	NEW MENS	SWITCH	MENS	1
EF-2	GREENHECK	SP-A390	350	0.50	CENTRIFUGAL	FRAC	120	1	1350	5	DIRECT	PSC	-	NEW WOMENS	SWITCH	WOMENS	1
EF-3	BROWN	509	200	0.25	CENTRIFUGAL	FRAC	120	1	2500	8.5	DIRECT	PSC	-	MENS	SWITCH	MENS ADA	1
EF-4	BROWN	509	200	0.25	CENTRIFUGAL	FRAC	120	1	2500	8.5	DIRECT	PSC	-	WOMENS	SWITCH	WOMENS ADA	1

EXHAUST FAN SCHEDULE NOTES

- FAN TO BE PROVIDED WITH INTEGRAL SPEED CONTROLLER, BACKDRAFT DAMPER, AND THERMAL ELEMENT SWITCH.

ELECTRIC HEATERS

MARK	MANUFACTURER	MODEL #	HEATER TYPE	UNIT/ DUCT SIZE	BTU/HR	VOLUME CFM	ELECTRICAL			AREA SERVED	NOTES
							KW	VOLT	PHASE		
EH-1	QMARK	AWH4504F	WALL	18-1/4" H X 14-3/8" W X 3-7/8" D	16.4	100	4.8	240	1	WOMENS 104	1.2
EH-2	QMARK	AWH4504F	WALL	18-1/4" H X 14-3/8" W X 3-7/8" D	16.4	100	4.8	240	1	MENS 103	1.2
EH-3	QMARK	AWH4504F	WALL	18-1/4" H X 14-3/8" W X 3-7/8" D	16.4	100	4.8	240	1	CONCESSIONS	1.2

ELECTRIC HEATER SCHEDULE NOTES

- MAINTAIN ALL RECOMMENDED CLEARANCES FOR ACCESS.
- PROVIDE WITH INTEGRAL THERMOSTAT, DISCONNECT, SUMMER / WINTER FAN SWITCH AND RECESSED WALL KIT.

DIFFUSERS, GRILLES, REGISTERS AND LOUVERS

MARK	FIXTURE	MANUFACTURER	MODEL #	DAMPER	FINISH	MOUNTING TYPE	DESCRIPTION AND OPTIONS	
							ALUMINUM, 45° BLADE DEFLECTION, 3/4" BLADE SPACING, BLADES PARALLEL TO FLOOR. PROVIDE SIZE AS SHOWN ON DRAWINGS.	
XG-1	EXHAUST GRILLE	NAILOR	5145H	OPPOSED BLADE	WHITE	SURFACE MOUNT		

DIFFUSERS, GRILLES, REGISTERS AND LOUVERS SCHEDULE NOTES

- COORDINATE FINISH COLOR WITH ARCHITECT. LOCATION AND MOUNTING TYPE FOR ALL REGISTER, GRILLES AND DIFFUSERS WITH GENERAL CONTRACTOR PRIOR TO ORDERING.
- PROVIDE SIZE AND SHAPE AS SHOWN ON THE DRAWING.



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MARK DATE DESCRIPTION

**David City Ballfield RR
Addition**

David City, Nebraska
100 M Rd, David City, NE 68632

JEO Project No: 251890.00
Date: 02.19.2026
QAQC: JW
Drawn By: JM

**HVAC SCHEDULES AND
DETAILS**

ELECTRICAL SYMBOLS & ABBREVIATIONS

GENERAL NOTES

- THIS LEGEND IS GENERAL IN NATURE. NOT ALL SYMBOLS SHOWN ARE USED
- MOUNTING HEIGHTS ARE FROM ABOVE FINISHED FLOOR TO CENTER OF BOX, UNLESS NOTED OTHERWISE

	KEY NOTE DESIGNATION		BELL - STAND ALONE DEVICE OR CONNECTED TO MASTER CLOCK		A AMPERES
	FEEDER TAG - SEE BRANCH CIRCUIT AND FEEDER SCHEDULE		CLOCK - STAND ALONE DEVICE OR CONNECTED TO MASTER CLOCK		AFB ABOVE FINISHED FLOOR
	EQUIPMENT DESIGNATION, REFER TO EQUIPMENT CONNECTION SCHEDULE		DUCT SMOKE DETECTOR		AFG ABOVE FINISHED GRADE
	SEQUENCE OF OPERATION TAG - REFER TO LIGHTING CONTROL SEQUENCE OF OPERATION		DOOR CONTACT		AFI ARC FAULT CIRCUIT INTERRUPTER
	LOW VOLTAGE SWITCH - TAG INDICATES TYPE, REFER TO LOW VOLTAGE SWITCH SCHEDULE		MOTOR CONNECTION		AWG AMERICAN WIRE GAUGE
	LINE VOLTAGE SWITCH @ 48" AFF - TAG INDICATES TYPE (2 = DOUBLE POLE, 3 = THREE WAY, 4 = FOUR WAY, D = DIMMER, K = KEY, M = MOMENTARY, O = OCCUPANT SENSING, P = PILOT, T = TIMER). WHERE DOUBLE POLE SWITCHES SERVE MECHANICAL EQUIPMENT, LOCATE SWITCH ADJACENT TO UNIT. WHERE NO TYPE IS INDICATED PROVIDE SINGLE POLE SWITCH.		Ceiling Mount Speaker		BFG BELOW FINISH GRADE
	MANUAL STARTER WITH TOGGLE - PROVIDE THERMAL ELEMENT IF MOTOR IS NOT INTERNALLY PROTECTED		TELEVISION OUTLET @ 18" AFF - ROUTE 1" CONDUIT TO ABOVE ACCESSIBLE CEILING, UNLESS NOTED OTHERWISE		BOF BOTTOM OF FIXTURE
	START/STOP SWITCH @ 48" AFF		WALL MOUNT CLOCK OUTLET @ 90" AFF - ROUTE 3/4" CONDUIT TO ABOVE ACCESSIBLE CEILING, UNLESS NOTED OTHERWISE		C CONDUIT
	Ceiling Mount Light Fixture - NUMBER INDICATES DESIGNATION, REFER TO LIGHT FIXTURE SCHEDULE		PHOTO CONTROLLER		CCTV CLOSED-CIRCUIT TELEVISION
	Ceiling Mount Light Fixture with EMERGENCY/LIFE SAFETY POWER SOURCE - NUMBER INDICATES DESIGNATION, REFER TO LIGHT FIXTURE SCHEDULE		WALL MOUNT SPEAKER - FOR SPACES WITH 12" OR LOWER CEILING HEIGHTS, MOUNT @ 54" AFF TO BOTTOM OF SPEAKER OR WIRE GUARD, WHICHEVER IS LOWER. FOR SPACES WITH CEILING HEIGHTS GREATER THAN 12", MOUNT AT 120" AFF TO BOTTOM OR SPEAKER OR WIREGUARD, WHICHEVER IS LOWER. ROUTE 3/4" CONDUIT TO ABOVE ACCESSIBLE CEILING UNLESS NOTED OTHERWISE.		CLG CEILING
	WALL MOUNT LIGHT FIXTURE - NUMBER INDICATES DESIGNATION, REFER TO LIGHT FIXTURE SCHEDULE		BOILER SHUTDOWN SWITCH @ 48" AFF		CO CARBON MONOXIDE
	WALL MOUNT LIGHT FIXTURE WITH EMERGENCY/LIFE SAFETY POWER SOURCE - NUMBER INDICATES DESIGNATION, REFER TO LIGHT FIXTURE SCHEDULE		CARD READER @ 48" AFF		COF CENTER OF FIXTURE
	LIGHT FIXTURE - NUMBER INDICATES DESIGNATION, REFER TO LIGHT FIXTURE SCHEDULE		ELECTRIC STRIKE		CU COPPER
	LIGHT FIXTURE WITH EMERGENCY/LIFE SAFETY POWER SOURCE - NUMBER INDICATES DESIGNATION, REFER TO LIGHT FIXTURE SCHEDULE		MAGNETIC DOOR HOLDER		(D) INDICATES ITEM TO BE DEMOLISHED
	CEILING MOUNT, SINGLE FACE EXIT SIGN - ARROW INDICATES DIRECTION - NUMBER INDICATES DESIGNATION, REFER TO LIGHT FIXTURE SCHEDULE		INTERCOM CALL-IN SWITCH @ 48" AFF		DW DISHWASHER
	CEILING MOUNT, DOUBLE FACE EXIT SIGN - ARROW INDICATES DIRECTION - NUMBER INDICATES DESIGNATION, REFER TO LIGHT FIXTURE SCHEDULE		JUNCTION BOX @ 18" AFF - ROUTE 3/4" CONDUIT TO ABOVE ACCESSIBLE CEILING, UNLESS NOTED OTHERWISE		(E) INDICATES EXISTING ITEM
	WALL MOUNT EXIT SIGN - ARROW INDICATES DIRECTION - NUMBER INDICATES DESIGNATION, REFER TO LIGHT FIXTURE SCHEDULE		KEYPAD @ 48" AFF		EM EMERGENCY
	COMBINATION EXIT SIGN AND EMERGENCY LIGHTING UNIT - NUMBER INDICATES DESIGNATION, REFER TO LIGHT FIXTURE SCHEDULE		MICROPHONE OUTLET @ 18" AFF		EMD ESTIMATED MAXIMUM DEMAND
	EMERGENCY LIGHTING UNIT - NUMBER INDICATES DESIGNATION, REFER TO LIGHT FIXTURE SCHEDULE		MAGNETIC LOCK		EMT ELECTRICAL METALLIC TUBING
	TRACK LIGHTING - NUMBER INDICATES DESIGNATION, REFER TO LIGHT FIXTURE SCHEDULE		EMERGENCY RESPONDER COMMUNICATIONS ENHANCEMENT SYSTEM		ERRCS EMERGENCY RESPONDER RADIO COMMUNICATIONS SYSTEM
	CEILING FAN - NUMBER INDICATES DESIGNATION, REFER TO LIGHT FIXTURE SCHEDULE		NURSE CALL @ 48" AFF		EXP EXPLOSION PROOF
	POLE MOUNT LIGHT FIXTURE - NUMBER INDICATES TYPE, REFER TO LIGHT FIXTURE SCHEDULE		PANIC BUTTON		F FRACTIONAL
	CEILING MOUNT OCCUPANT SENSOR - TAG INDICATES TYPE (D = DUAL TECH, H = HIGH BAY, P = PASSIVE INFRARED, T = LOW TEMPHIGH HUMIDITY). REFER TO SEQUENCE OF OPERATION FOR REQUIRED FUNCTIONALITY.		RELAY		F FIRE ALARM
	WALL MOUNT OCCUPANT SENSOR - SUBSCRIPT INDICATES TYPE (D = DUAL TECH, H = HIGH BAY, P = PASSIVE INFRARED, T = LOW TEMPHIGH HUMIDITY). REFER TO SEQUENCE OF OPERATION FOR REQUIRED FUNCTIONALITY.		REQUEST TO RELEASE ACTUATOR		FAAP FIRE ALARM ANNUNCIATOR PANEL
	SIMPLEX RECEPTACLE @ 18" AFF		VOLUME CONTROL @ 48" AFF		FACP FIRE ALARM CONTROL PANEL
	DUPLEX RECEPTACLE @ 18" AFF		FIRE ALARM PULL STATION @ 48" AFF TO TOP		FMC FLEXIBLE METAL CONDUIT
	SPECIAL RECEPTACLE @ 18" AFF		FIRE ALARM FLASHING STROBE LIGHT @80" AFF TO BOTTOM OR 6" BELOW CEILING		FSEC FOOD SERVICE EQUIPMENT CONTRACTOR
	QUADPLEX RECEPTACLE @ 18" AFF		CEILING MOUNT FIRE ALARM FLASHING STROBE LIGHT @80" AFF TO BOTTOM OR 6" BELOW CEILING		GD GARBAGE DISPOSAL
	HORIZONTAL DUPLEX RECEPTACLE @ 44" AFF		FIRE ALARM HORN AND FLASHING STROBE LIGHT @80" AFF TO BOTTOM OR 6" BELOW CEILING		GFI GROUND FAULT CIRCUIT INTERRUPTER
	ISOLATED GROUND DUPLEX RECEPTACLE @ 18" AFF		CEILING MOUNT FIRE ALARM HORN AND FLASHING STROBE LIGHT @80" AFF TO BOTTOM OR 6" BELOW CEILING		GNF GROUND
	SPLIT DUPLEX RECEPTACLE @ 18" AFF		FIRE ALARM SPEAKER AND FLASHING STROBE LIGHT @80" AFF TO BOTTOM OR 6" BELOW CEILING		HA HOSPITAL GRADE
	CEILING MOUNT OR SUSPENDED DUPLEX RECEPTACLE		CEILING MOUNT FIRE ALARM SPEAKER AND FLASHING STROBE LIGHT @80" AFF TO BOTTOM OR 6" BELOW CEILING		HVAC HEATING, VENTILATION & AIR CONDITIONING
	FLOOR RECEPTACLE		FIRE ALARM HORN @80" AFF TO BOTTOM OR 6" BELOW CEILING		KAIC THOUSAND AMPS INTERRUPTING CAPACITY
	COMBINATION FLOOR BOX		FIRE ALARM BELL @ 80" AFF TO BOTTOM OR 6" BELOW CEILING		KVA KILOVOLT AMPERES
	TELEPHONE OUTLET @ 18" AFF - REFER TO LOW VOLTAGE ROUGH-IN DETAIL		SMOKE DETECTOR		KW KILOWATTS
	DATA OUTLET @ 18" AFF - REFER TO LOW VOLTAGE ROUGH-IN DETAIL		THERMAL HEAT DETECTOR		LED LIGHT EMITTING DIODE
	12 CONDUCTOR TELEPHONE/DATA OUTLET @ 18" AFF - NUMBERS INDICATE JACKS REQUIRED (NO NUMBER INDICATES ONE (1) JACK) - REFER TO LOW VOLTAGE ROUGH-IN DETAIL		WATER FLOW SWITCH		MCA MINIMUM CIRCUIT AMPACITY
	FUSIBLE DISCONNECT SWITCH @ 54" AFF		TAMPER SWITCH		MCM THOUSAND CIRCULAR MILS
	NON-FUSIBLE DISCONNECT SWITCH @ 54" AFF		POST INDICATOR VALVE		MOCP MAXIMUM OVER CURRENT PROTECTION
	MOTOR STARTER @ 54" AFF		SINGLE BED CALL LIGHT		MW MICROWAVE
	COMBINATION STARTER @ 54" AFF		DOUBLE BED CALL LIGHT		NEC NATIONAL ELECTRIC CODE
	ENCLOSED CIRCUIT BREAKER		DOOR CHIME @ 80" AFF		NFPA NATIONAL FIRE PROTECTION ASSOCIATION
	PLUGMOLD RACEWAY MULTIOUTLET SYSTEM		SURFACE MOUNT, LIGHTING AND APPLIANCE PANELBOARD @ 72" AFF TO TOP - LETTER INDICATES DESIGNATION - HATCHING INDICATES REQUIRED CLEARANCE		NL NIGHT LIGHT
	PAD MOUNT TRANSFORMER		FLUSH MOUNT, LIGHTING AND APPLIANCE PANELBOARD @ 72" AFF TO TOP - LETTER INDICATES DESIGNATION - HATCHING INDICATES REQUIRED CLEARANCE		P POLE
	DRY TRANSFORMER		CONDUIT IN WALL OR CEILING - SYMBOL REPRESENTS UNSWITCHED CIRCUIT		PVC POLYVINYL CHLORIDE NON METALLIC RACEWAY
	TELEPHONE PEDESTAL		DATA RACEWAY		(R) INDICATES ITEM TO BE RELOCATED
	TELEVISION PEDESTAL		DATA & TELEPHONE RACEWAY		RGS RIGID GALVANIZED STEEL CONDUIT
	WIRELESS ACCESS POINT		EMERGENCY CIRCUIT		RSC RIGID STEEL CONDUIT
			FIBER OPTICS RACEWAY		SPD SURGE PROTECTION DEVICE
			GENERATOR POWER OUTPUT		SS STAINLESS STEEL
			OVERHEAD SECONDARY ELECTRICAL SERVICE		TEL TELEPHONE
			TELEPHONE RACEWAY		TOF TOP OF FIXTURE
			TELEVISION RACEWAY		TR TAMPERS RESISTANT
			CONDUIT TO BE CONCEALED UNDER FLOOR		TV TELEVISION
			UNDERGROUND ELECTRICAL		V VOLTS
			UNDERGROUND PRIMARY ELECTRICAL SERVICE		VA VOLT-AMPERES
			UNDERGROUND SECONDARY ELECTRICAL SERVICE		VFD VARIABLE FREQUENCY DRIVE
			CONDUIT OR RACEWAY TO BE REMOVED		W WATTS
					WG WIRE GUARD
					WP WEATHERPROOF
					XMR TRANSFORMER

ELECTRICAL GENERAL NOTES

DEMOLITION GENERAL NOTES

- THESE PLANS REPRESENT THE BEST INFORMATION AVAILABLE DURING ON-SITE INVESTIGATION AND/OR EXISTING DRAWINGS. THERE MAY BE MORE DEVICES TO BE REMOVED THAN SHOWN. THE ELECTRICAL CONTRACTOR SHALL VISIT THE JOBSITE PRIOR TO SUBMITTING A BID. THE BUILDING NEEDS TO REMAIN FUNCTIONAL DURING ALL PHASES OF CONSTRUCTION. COORDINATE ALL REQUIREMENTS WITH THE OWNER AND ARCHITECT. MAINTAIN THE INTEGRITY OF ALL DEVICES NOT REQUIRED TO BE REMOVED.
- ALL DASHED ITEMS AND ITEMS NOTED WITH (D) SHALL BE REMOVED IN THEIR ENTIRETY. THIS INCLUDES WIRING DEVICES, CONDUIT/RACEWAY, ARROWS, AND ALL ASSOCIATED WIRING/CABLING TO EXTENT POSSIBLE.
- EXISTING ITEMS SHOWN IN LIGHT SHADE ARE TO REMAIN AND SHALL BE PROTECTED. ALL DEVICES SHOWN WITH (R) ARE TO BE REMOVED AND RELOCATED. RETEST ALL AFFECTED DEVICES TO MAINTAIN CIRCUIT INTEGRITY OF ALL EXISTING CIRCUITS AND CONNECTIONS.
- EXISTING ELECTRICAL CONDUIT WHICH IS NOT CONCEALED IN WALLS OR FLOOR SLAB AND WHICH IS NOT BEING REUSED SHALL BE REMOVED. WIRING SHALL BE REMOVED AND ABANDONED UNLESS CONDUIT SHALL BE CUT OFF FLUSH WHERE IT ENTERS THE FLOOR OR WALL AND SEALED. EXISTING CONDUIT TO REMAIN SHALL BE SUPPORTED.
- WHERE DEVICES ARE TO BE REMOVED FROM EXISTING SURFACES OR ABANDONED, THE CONTRACTOR SHALL INSTALL BLANK WALL PLATES. EXTRA CARE SHOULD BE TAKEN TO NOT DAMAGE EXISTING SURFACES OR FINISHES. ALL REPAIR COSTS SHALL BE AT THE EXPENSES OF THE CONTRACTOR. REPAIR ALL HOLES FROM THE REMOVAL OF ELECTRICAL ITEMS AND PATCH/PAIN TO MATCH EXISTING.
- ALL NEW WIRING/CONDUITS SHALL BE CONCEALED IN NEW WALLS AND ALSO IN EXISTING WALLS WHERE POSSIBLE. EVERY EFFORT SHALL BE MADE TO CONCEAL WIRING IN EXISTING WALLS. 3/4" FLEXIBLE METALLIC CONDUIT MAY BE USED AND ROUTED THROUGH EXISTING WALLS. BOXES SHALL BE CUT IN AND RECESSED WHERE POSSIBLE. SURFACE MOUNT CONDUIT INSTALLATIONS ARE ACCEPTABLE ONLY IN UNFINISHED AREAS (I.E. MECHANICAL AND ELECTRICAL ROOMS).
- SURFACE INSTALLATIONS IN FINISHED AREAS SHALL BE PERMITTED ONLY IF ABSOLUTELY NECESSARY. IF IT IS NOT PHYSICALLY POSSIBLE OR PRACTICAL TO CONCEAL RACEWAYS, THE CONTRACTORS SHALL BE PREPARED TO FURNISH AND INSTALL ONE-PIECE STEEL SURFACE RACEWAY, WIREMOLD 700 SERIES OR EQUAL, WITH COLOR SELECTED BY ARCHITECT. FOR NEW DEVICES SHOWN ON EXISTING GYP-BOARD WALLS, CONTRACTOR SHALL BE CUT NEW RECESSED MODEL J-BOX INTO WALL AND ROUTE 3/4" FLEXIBLE METALLIC CONDUIT INSIDE WALL FROM J-BOX TO ABOVE CEILING TO ACCESSIBLE AREA. CONDUIT ENDS SHALL BE RECAIMD AND FREE OF BURRS. SURFACE MOUNT ENDT IS ACCEPTABLE IN UNFINISHED AREAS.
- NEW BOXES SHALL BE CUT IN & RECESSED WHERE POSSIBLE. ELECTRICAL CONTRACTOR SHALL MAKE EVERY EFFORT TO CONCEAL NEW RACEWAYS IN EXISTING WALLS (3/4" FMC WILL BE PERMITTED). EXPOSED RACEWAYS WILL BE PERMITTED IN UNFINISHED AREAS ONLY.
- IF IT IS NOT PHYSICALLY POSSIBLE OR PRACTICAL TO CONCEAL RACEWAYS, ELECTRICAL CONTRACTOR SHALL BE PREPARED TO FURNISH/INSTALL ONE-PIECE STEEL SURFACE RACEWAY, WIREMOLD 700 SERIES OR EQUAL. COLOR TO BE APPROVED BY OWNER.
- PATCH, REPAIR, PAINT WALLS WHERE DEVICES HAVE BEEN REMOVED. PROVIDE COVERPLATES OVER UNUSED OR ABANDONED J-BOXES.
- CONTRACTOR SHALL BE RESPONSIBLE FOR ALL REQUIRED CUTTING, PATCHING AND REPAIRING OF EXISTING WALLS WHERE NEW DEVICES/CONDUIT ARE TO BE INSTALLED RECESSED.
- ALL ABANDONED AND UNUSED CABLING SHALL BE REMOVED UNLESS LABELED FOR FUTURE USE AND SUPPORTED BACK TO SOURCES. CONTRACTOR TO VISIT SITE PRIOR TO BIDDING FOR FIELD CONDITIONS.

LIGHTING FIXTURE GENERAL NOTES

- REFER TO ARCHITECTURAL REFLECTED CEILING PLAN(S) FOR EXACT LOCATION OF ALL CEILING MOUNTED DEVICES.
- ALL LIGHT FIXTURES SHALL HAVE 0-3" MINIMUM CLEARANCE FROM PIPING, DUCTWORK, ETC. COORDINATE WITH ALL TRADES.
- WHERE INFRARED HEATERS ARE PRESENT, LOCATE LIGHT FIXTURES NO CLOSER THAN THE MINIMUM DISTANCE RECOMMENDED BY THE INFRARED HEATER MANUFACTURER. COORDINATE REQUIREMENTS WITH VENDOR.
- TAKE STEPS TO COVER AND PROTECT PERIMETER AND ARCHITECTURAL FINISHES FROM PAINTING AND PAINT SPRAY. REMOVING LENSES IS NOT ADEQUATE PROTECTION. LENSES OR DIODES WITH PAINT ON THEM SHALL BE REPLACED AT NO ADDITIONAL COST TO OWNER.
- MOUNT 2X2 LIGHT FIXTURES WITH CENTER BASKETS SUCH THAT THE CENTER BASKET IS PERPENDICULAR TO THE LONG DIMENSION OF THE ROOM.
- LIGHT FIXTURES RECESSED IN CEILINGS, FLOORS, OR WALLS SHALL NOT BE USED TO ACCESS OUTLET, PULL OR JUNCTION BOXES OR CONDUIT BODIES, UNLESS THE BOX OR CONDUIT BODY IS AN INTEGRAL PART OF THE LISTED LIGHT FIXTURE.
- PROVIDE ENCLOSURES OVER RECESSED LIGHT FIXTURES INSTALLED IN RATED CEILINGS SO ALL CODE REQUIRED RATINGS ARE MAINTAINED. REFER TO ARCHITECTURAL DRAWINGS FOR CEILING TYPES AND RATINGS. FULLY COORDINATE ALL REQUIREMENTS WITH THE GENERAL CONTRACTOR.
- THE CANOPY PORTION OF SUSPENDED LIGHT FIXTURES INSTALLED IN A FINISHED SPACE WITH AN EXPOSED-TO-STRUCTURE CEILING SHALL BE INSTALLED DIRECTLY TO THE BOTTOM OF THE STRUCTURAL DECK OR BOTTOM OF STRUCTURAL MEMBER UNLESS OTHERWISE NOTED. SUSPENDING THE BOX/CANOPY AT A LOWER MOUNTING HEIGHT VIA UNISTRUT, ALL-THREAD, OR SIMILAR MEANS IS NOT ACCEPTABLE. NOTIFY ENGINEER IMMEDIATELY IF ON-SITE CONDITIONS WILL RESULT IN A MOUNTING CONFLICT.
- FOR SUSPENDED LIGHT FIXTURES WITH ROUND CANOPIES IN EXPOSED CEILING AREAS, ENSURE THAT THE ELECTRICAL CONNECTION BOX IS COMPLETELY COVERED. PARTIALLY COVERED ELECTRICAL BOXES ARE NOT ACCEPTABLE. PROVIDE ROUND DEVICE RING COVERS AS REQUIRED.
- FOR SUSPENDED LIGHT FIXTURES WITH SEPARATE MOUNTING AND POWER CORD CABLES, PROVIDE ZIP TIES OR SIMILAR TO KEEP MULTIPLE CABLES COMING OUT OF THE SAME LIGHT FIXTURE LOCATION TIGHTLY GROUPED TOGETHER. UTILIZE A COMMON SOUTHCHEM PLATE FOR MULTIPLE CABLES COMING OUT OF THE SAME LIGHT FIXTURE LOCATION TO THE GREATEST EXTENT POSSIBLE. WHERE PROJECT CONDITIONS DO NOT ALLOW A COMMON SOUTHCHEM PLATE, THE SEPARATE SOUTHCHEM PLATES SHALL BE LOCATED AS CLOSE TO EACH OTHER AS POSSIBLE AND ALIGNED WITH THE LIGHT FIXTURE.
- SUSPENDED LIGHT FIXTURES - COORDINATE EXACT LOCATION AND MOUNTING ELEVATION WITH ARCHITECTURAL DETAILS.
- WHERE SUBJECT TO SWAYING, BRACE SUSPENDED FIXTURES AND/OR DEVICES AS REQUIRED TO PREVENT SWAYING. COORDINATE REQUIREMENTS WITH VENDOR.
- WALL MOUNTED LIGHT FIXTURES - COORDINATE EXACT LOCATION WITH ARCHITECTURAL DETAILS. COORDINATE FRAMING AND BOX SUPPORTS PRIOR TO ROUGH-IN FOR EXACT PLACEMENT OF BOX TO ACHIEVE CENTERING AND ALIGNMENT WITH FINAL ARCHITECTURAL FINISHES.
- WALL MOUNTED EXIT SIGNS: MOUNT SO BOTTOM OF SIGN IS 6" ABOVE TOP OF DOOR/WINDOW FRAME, AND CENTERED HORIZONTALLY ON DOOR/WINDOW, UNLESS NOTED OTHERWISE.

LIGHTING CONTROL GENERAL NOTES

- LOWER-CASE SUBSCRIPT(S) ADJACENT LUMINAIRES AND MANUAL LIGHTING CONTROL DEVICES WITHIN THAT SPACE SHALL CONTROL THE APPLICABLE LIGHTING CONTROL ZONE(S).
- CIRCUITING IS NOT SHOWN BETWEEN MANUAL LIGHTING CONTROL DEVICES AND LUMINAIRES CONTROLLED.
 - WHERE A SPACE INCLUDES A SINGLE ZONE OF CONTROL, THE LIGHTING CONTROL DEVICES WITHIN THAT SPACE SHALL CONTROL ALL OF THE LIGHTING WITHIN THE SPACE.
 - WHERE A SPACE INCLUDES MULTIPLE ZONES OF CONTROL, CONNECT LIGHTING CONTROL DEVICES AS INDICATED BY ZONE SUBSCRIPTS INDICATED ON LIGHTING PLANS. CONTROL AS INDICATED ON LOW VOLTAGE SWITCH SCHEDULE, LIGHTING CONTROL PLAN, LIGHTING CONTROL SEQUENCE OF OPERATION, AND ZONE SUBSCRIPTS.
- DIMMING PERCENTAGES INDICATED ON PLANS REPRESENT THE PERCENTAGE OF DELIVERED LUMENS WITH RESPECT TO FULL OUTPUT DELIVERED LUMENS.
- PROVIDE A SEPARATE NEUTRAL WIRE FOR DIMMED LIGHTING CIRCUITS AND DIMMED ZONES SHARING THE SAME CIRCUIT AS REQUIRED. COORDINATE REQUIREMENTS WITH VENDOR.
- GROUPED SUBSCRIPTS OF 2 OR MORE SHALL SHARE THE SAME BACK BOX. PROVIDE BARRIERS BETWEEN NORMAL AND EMERGENCY/LIFE SAFETY SOURCES.
- PROVIDE UNSWITCHED CONNECTION FROM LOCAL EMERGENCY/LIFE SAFETY CIRCUIT TO ALL EXITS TO ENSURE THAT THEY REMAIN ENERGIZED AT ALL TIMES.
- PHOTOCELL(S) CONTROLLING EXTERIOR LIGHTING SHALL BE LOCATED ON THE ROOF AND AIMED NORTH UNLESS NOTED OTHERWISE. CONCEAL PHOTOCELL(S) FROM VIEW OF GROUND-LEVEL PEDESTRIANS.
- ALL LIGHTING CONTROL DEVICES SHALL BE INSTALLED BEFORE THE FACTORY STARTUP AND PROGRAMMING AGENT IS ON-SITE. WHERE PHASED CONSTRUCTION/PROGRAMMING IS IMPLEMENTED, ALL LIGHTING CONTROL DEVICES FOR THE APPLICABLE PHASE OF CONSTRUCTION SHALL BE INSTALLED BEFORE THE FACTORY STARTUP AND PROGRAMMING AGENT IS ON-SITE FOR THAT PHASE OF CONSTRUCTION.
- WHEN INSTALLED IN SPACES WITH EXPOSED-TO-STRUCTURE CEILINGS, OCCUPANT SENSORS SHALL BE MOUNTED DIRECTLY TO BOTTOM OF STRUCTURAL DECK OR BOTTOM OF STRUCTURAL MEMBER. SUSPENDING THE BOX/CANOPY AT A LOWER MOUNTING HEIGHT VIA UNISTRUT, ALL-THREAD, OR SIMILAR MEANS IS NOT ACCEPTABLE UNLESS APPROVED BY ARCHITECT. NOTIFY ENGINEER IMMEDIATELY IF ON-SITE CONDITIONS WILL RESULT IN A MOUNTING CONFLICT OR NEGATIVELY IMPACT THE SENSOR COVERAGE PATTERN.
- PLACE OCCUPANT SENSORS TO AVOID THE SENSOR HAVING A VIEW OUTSIDE OF THE SPACE BEING CONTROLLED. CEILING MOUNTED SENSORS SHALL BE PLACED CLOSE TO THE WALLS CONTAINING DOORS. WALL-MOUNTED SENSORS SHALL BE MOUNTED ON WALLS CONTAINING THE DOORS TO AVOID VIEWS OUTSIDE OF THE ROOM. OCCUPANT SENSORS SHALL BE PLACED CLOSE TO THE WALLS CONTAINING DOORS. WALL-MOUNTED SENSORS SHALL BE MOUNTED ON WALLS CONTAINING THE DOORS TO AVOID VIEWS OUTSIDE OF THE ROOM. OCCUPANT SENSORS SHALL BE PLACED CLOSE TO THE WALLS CONTAINING DOORS. WALL-MOUNTED SENSORS SHALL BE MOUNTED ON WALLS CONTAINING THE DOORS TO AVOID VIEWS OUTSIDE OF THE ROOM. OCCUPANT SENSORS SHALL BE PLACED CLOSE TO THE WALLS CONTAINING DOORS. WALL-MOUNTED SENSORS SHALL BE MOUNTED ON WALLS CONTAINING THE DOORS TO AVOID VIEWS OUTSIDE OF THE ROOM.
- MOUNT OCCUPANT SENSORS A MINIMUM OF THREE FEET AWAY FROM SUPPLY AIR VENTS.

LIGHTING CONTROL COMMISSIONING GENERAL NOTES

- START-UP, PROGRAM, AND COMMISSION LIGHTING CONTROLS PER CONSTRUCTION DOCUMENTS. THE SYSTEM SHALL BE PROGRAMMED TO MEET ENERGY CODE, SEQUENCE OF OPERATIONS, AND THE INTENT SHOWN ON THE DRAWINGS.
- PROVIDE NOTICE TO COMMISSIONING AGENT OF REQUIRED SITE VISITS MEETINGS ON SITE A MINIMUM OF SEVEN DAYS IN ADVANCE.
- PROVIDE FUNCTIONAL TESTING OF LIGHTING CONTROLS THAT COMPLY WITH IEC 61381-2018 REQUIREMENTS. FUNCTIONAL TESTING INCLUDES TESTING FOR PROPER CALIBRATION, ADJUSTMENT, PROGRAMMING, AND WORKING CONDITION. THE TESTING INDIVIDUAL:
 - SHALL PROVIDE DOCUMENTATION CERTIFYING FUNCTIONAL TESTING HAS BEEN SUCCESSFULLY COMPLETED TO ENGINEER FOR REVIEW PRIOR TO PASSING FINAL INSPECTION.
 - SHALL IDENTIFY ANY DEFICIENCIES FOUND DURING TESTING THAT HAVE NOT BEEN CORRECTED AT THE TIME OF REPORT PREPARATION.
 - SHALL CLEARLY IDENTIFY ANY CONTROL DEVIATIONS NECESSARY DUE TO SUBMITTED CONTROL SYSTEM'S FUNCTIONALITY, ALONG WITH PROPOSED SEQUENCE OF OPERATIONS.
- CONTRACTOR SHALL PROVIDE OWNER:
 - DOCUMENTATION CERTIFYING LIGHTING CONTROLS MEET PERFORMANCE CRITERIA WITHIN 90 DAYS OF RECEIPT OF CERTIFICATE OF OCCUPANCY.
 - OPERATING AND MAINTENANCE MANUALS COMPLYING WITH IECC 2018 C408.3.2.2.

POWER/SPECIAL SYSTEMS GENERAL NOTES

- PROVIDE A 4"x4"x2' 10" DEEP J-BOX WITH 1" C. STUBBED TO ABOVE CEILING TO ACCESSIBLE AREA FOR ALL TELECOMMUNICATION OUTLET LOCATIONS SHOWN. PROVIDE A PULLSTRING IN EACH CONDUIT. CABLING AND TERMINATIONS ARE BY OWNER.
- SECURITY SYSTEM. ALL RESPECTIVE DEVICES, CABLING, & EQUIPMENT BY OTHERS.
- COORDINATE DEVICES TO BE INSTALLED IN MILLWORK WITH MILLWORK CONTRACTOR.
- VERIFY LOCATION AND COORDINATE REQUIREMENTS OF ALL EQUIPMENT WITH PROCESSING EQUIPMENT, MANUFACTURING ASSEMBLIES, SUPPLIES, ETC. PRIOR TO INSTALLATION.
- EACH BRANCH CIRCUIT SHALL HAVE A SEPARATE NEUTRAL WIRE. ONE GREEN EQUIPMENT GROUND WIRE SHALL BE INSTALLED IN EACH CONDUIT WITH (3) OR LESS BRANCH CIRCUITS.
- WIRING DEVICES IN LIVING UNITS SHALL BE INSTALLED OFFSET IN ADJACENT UNIT WALLS AND NOT BACK TO BACK, IN ORDER TO MINIMIZE NOISE BETWEEN LIVING SPACES.
- FIRE ALARM CONTRACTOR SHALL FURNISH AND INSTALL DUCT SMOKE DETECTORS AND SHUTDOWN RELAYS FOR EACH SUPPLY DUCT 2,000 CFM OR GREATER, EACH RETURN DUCT 2,000 CFM OR GREATER, AND EACH COMBINED PLENUM RETURN SYSTEM 2,000 TOTAL CFM OR GREATER. FOR RETURN AIR SYSTEMS 15,000 CFM OR GREATER, PROVIDE DUCT SMOKE DETECTOR AND SHUTDOWN RELAY AT EACH LEVEL. SUCH SMOKE DETECTORS SHALL BE LOCATED UPSTREAM OF THE CONNECTION BETWEEN THE RETURN AIR RISER AND ANY AIR DUCTS OR PLENUMS. COORDINATE ALL EQUIPMENT REQUIREMENTS AND LOCATIONS WITH MECHANICAL CONTRACTOR PRIOR TO BIDDING. CONNECT TO FIRE ALARM SYSTEM AS REQUIRED. COORDINATE REQUIREMENTS WITH VENDOR.
- PROVIDE SMOKE DETECTOR AT EVERY FIRE ALARM CONTROL PANEL PAD EXTENDER (WITHIN 5-F.T.). CONTRACTOR TO DETERMINE LOCATIONS BASED ON POWER REQUIREMENTS AND VOLTAGE DROP.
- FIRE ALARM AND/OR ERRCSDAS DESIGNERS/INSTALLERS TO INCLUDE COST AND TIME OF PERFORMING A RADIO AND CELLULAR FREQUENCY TEST FOR THE BUILDING AFTER THE CORE, SHELL, WINDOWS, AND DOORS ARE COMPLETED. TO DETERMINE IF ERRCDS AND DAS SYSTEMS ARE REQUIRED TO MEET THE REQUIREMENTS OF THE AHJ. THE ERRCDS AND DAS SYSTEMS SHALL BE DESIGNED BY A CERTIFIED EMERGENCY RF FREQUENCY DESIGNER AND INSTALLED ACCORDING TO THE LATEST NFPA AND IFC REQUIREMENTS AND APPROVED BY THE AHJ AND FREQUENCY LICENSE HOLDERS. FIRE ALARM AND/OR ERRCSDAS SYSTEMS DESIGNERS/INSTALLERS SHALL COORDINATE WITH ELECTRICAL DESIGNER AND ELECTRICAL CONTRACTOR TO PROVIDE REQUIRED RISER SLEEVES, RACEWAYS, DEDICATED POWER OUTLETS AND ANTENNA ROOF SLEEVE/PITCH-POCKETS. ALL RACEWAYS SHALL BE GROUNDED PER MOTOROLA R56 AND BICSI STANDARDS.

SHEET LIST - ELECTRICAL

SHEET NUMBER	SHEET NAME
E000	ELECTRICAL GENERAL PROJECT NOTES & SYMBOLS
E101	LIGHTING FLOOR PLANS
E201	POWER FLOOR PLANS
E301	PANEL SCHEDULES
E302	LIGHTING SCHEDULES
E401	ELECTRICAL SPECIFICATIONS



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402-488-0075

PRELIMINARY
NOT FOR
CONSTRUCTION
100%
DATE:
PRELIMINARY

ISSUE

MARK DATE DESCRIPTION

David City Ballfield RR Addition

David City, Nebraska
100 M Rd, David City, NE 68632

JEO Project No: 251890.00
Date: 02.19.2026
QA/QC: JR
Drawn By: MAM

ELECTRICAL GENERAL PROJECT NOTES & SYMBOLS

Sheet Size: ARCH D (24.0 x 36.00 INCHES)

KEY NOTES SYMBOL = ☒

1 CONNECT TO EXISTING BATHROOM LIGHTING CIRCUIT.



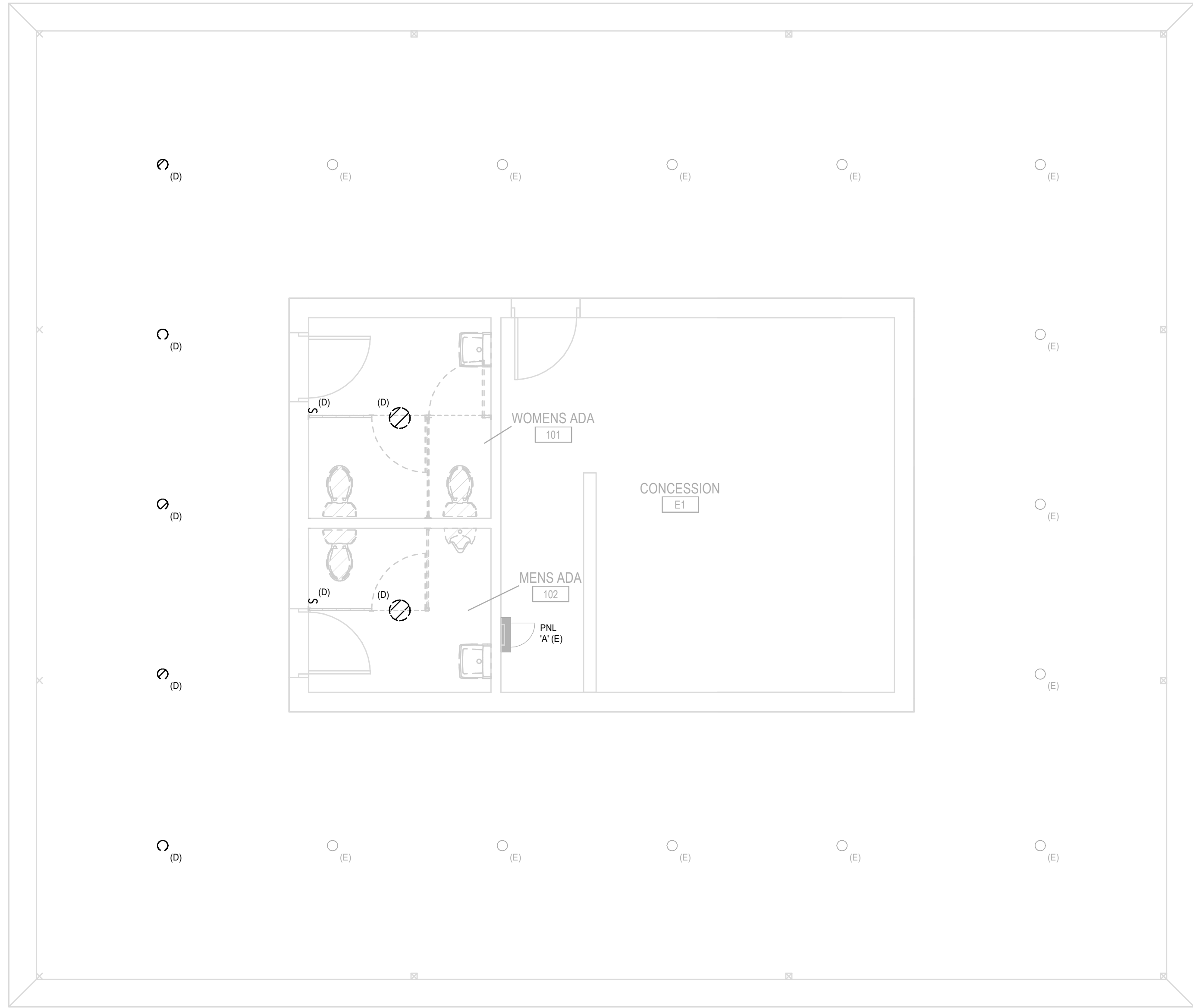
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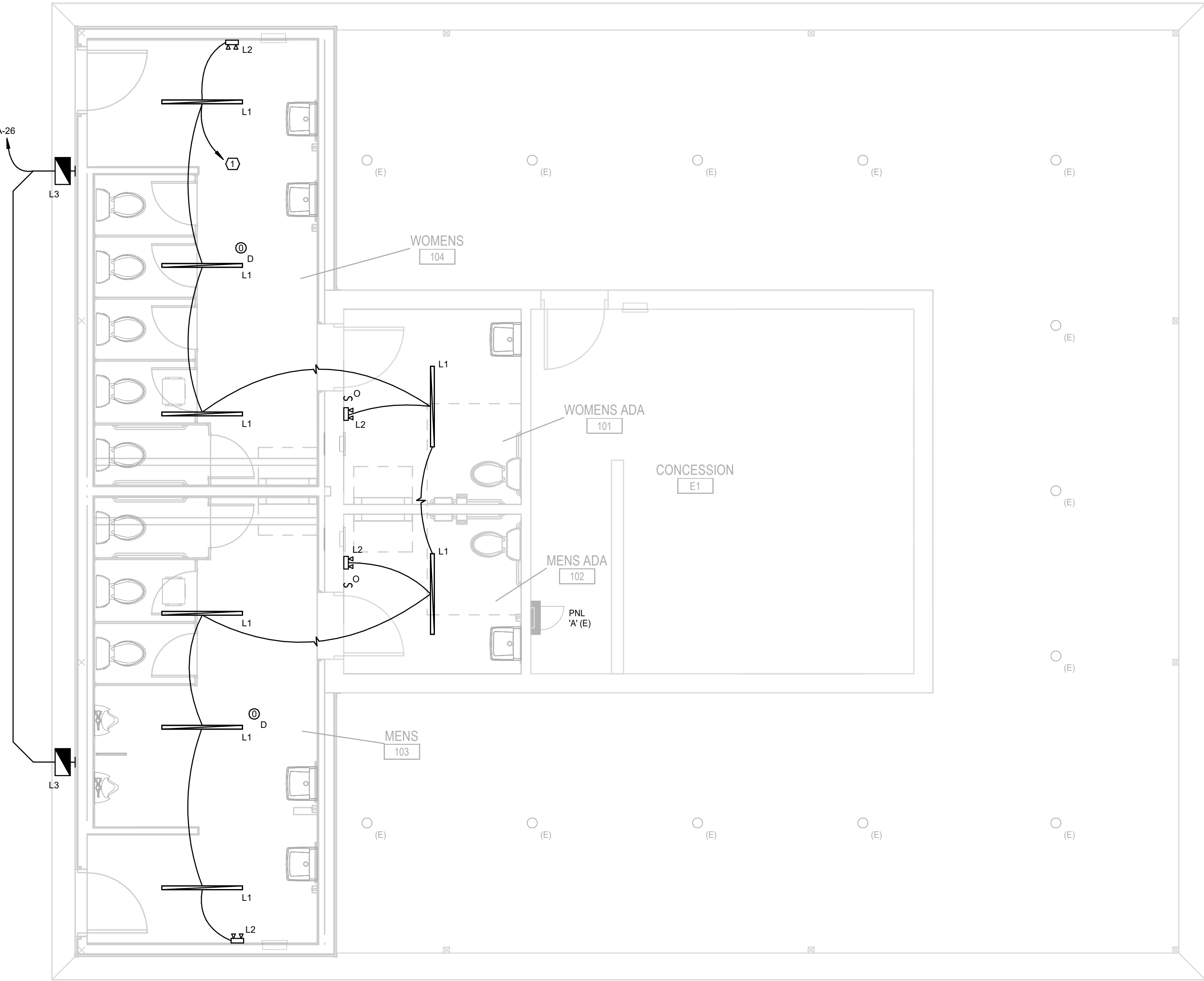
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FIRST FLOOR LIGHTING PLAN - DEMO
1/4" = 1'-0"
TRUE NORTH PLAN NORTH



FIRST FLOOR LIGHTING PLAN
1/4" = 1'-0"
TRUE NORTH PLAN NORTH

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LIGHTING FLOOR PLANS

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KEY NOTES SYMBOL = ☒

1 CONNECT EXHAUST FAN TO LOCAL SWITCHED LIGHTING CIRCUIT. SEE SHEET E101.



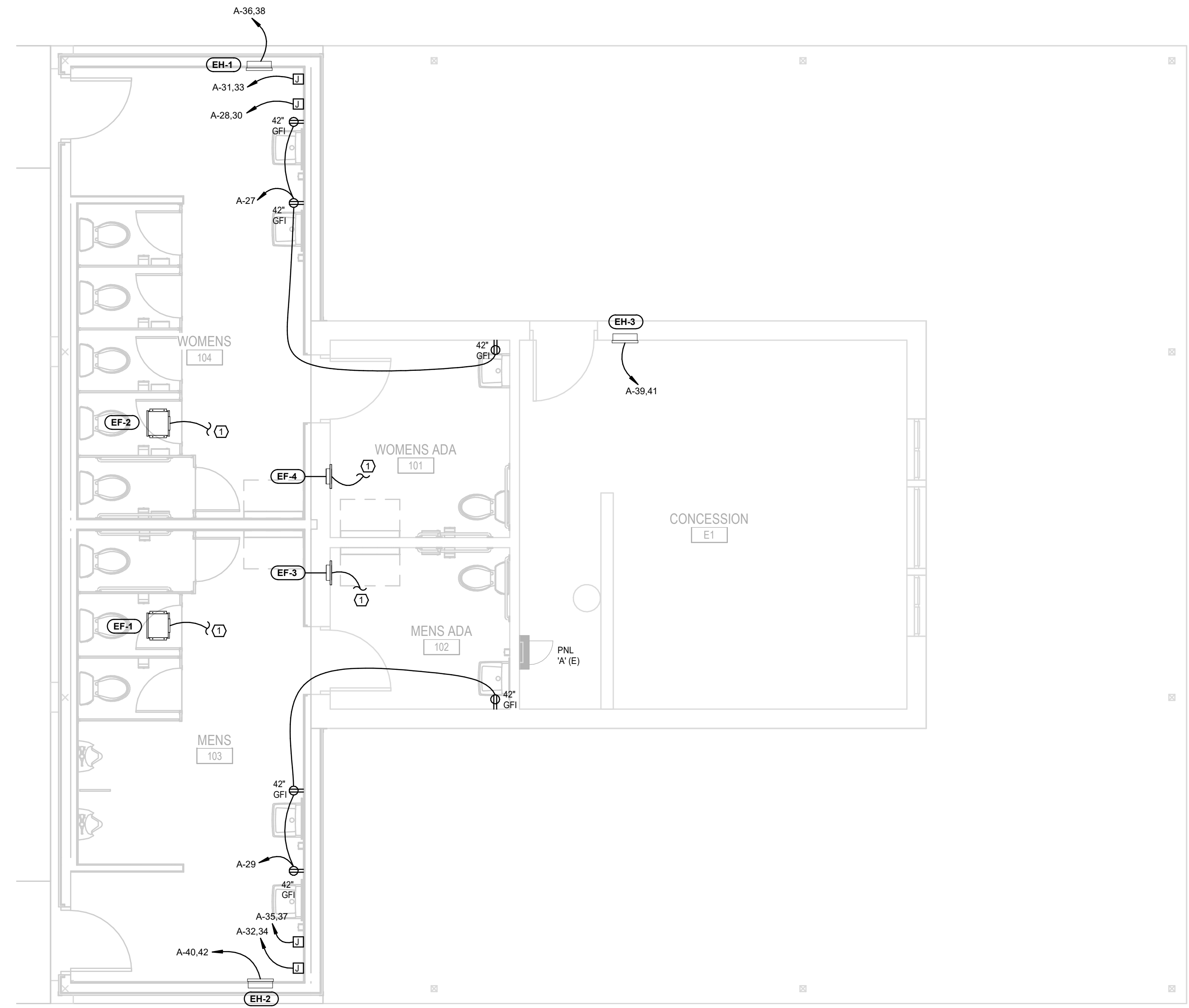
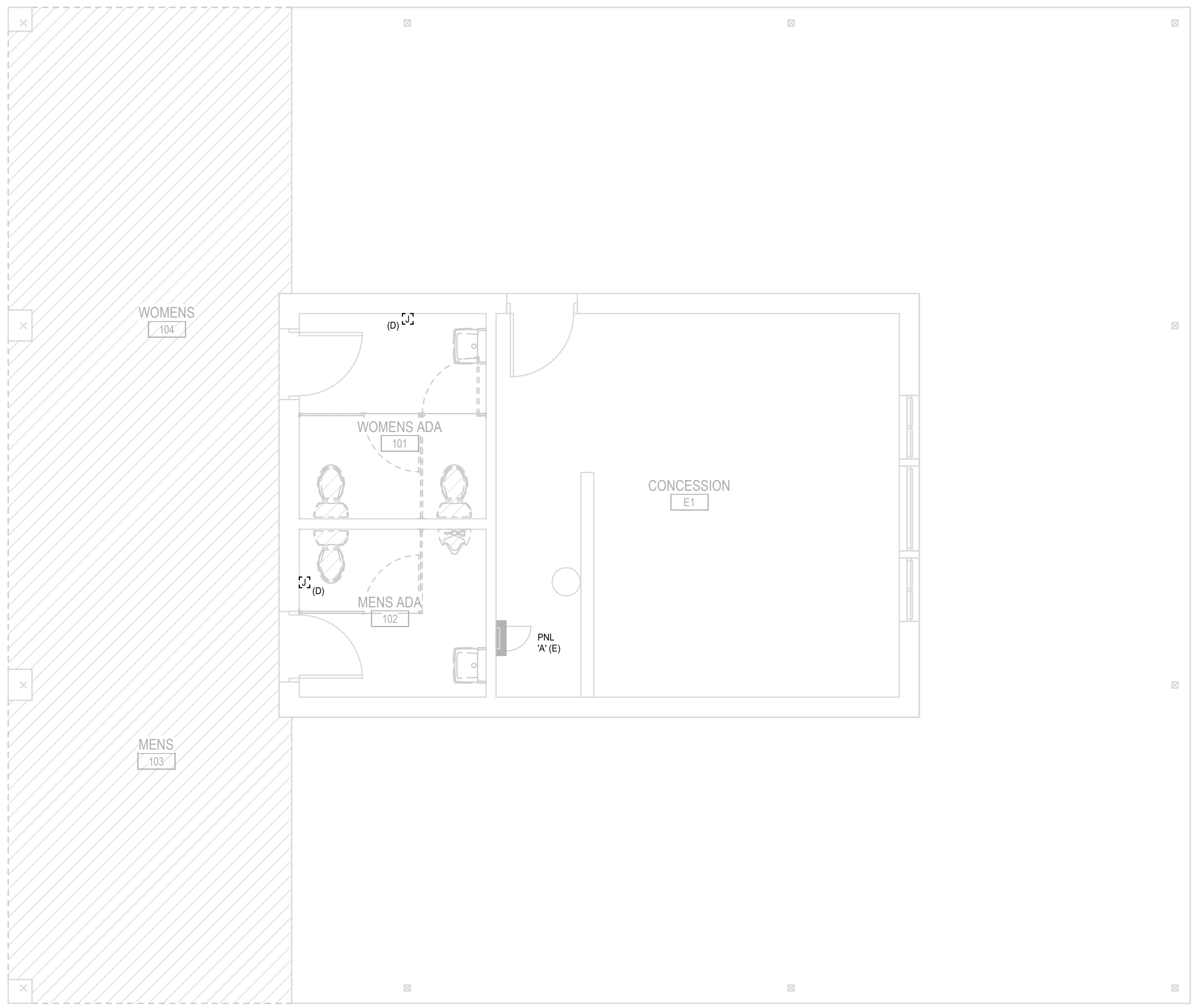
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FIRST FLOOR POWER PLAN - DEMO
1/4" = 1'-0"
TRUE NORTH PLAN NORTH

FIRST FLOOR POWER PLAN
1/4" = 1'-0"
TRUE NORTH PLAN NORTH

POWER FLOOR PLANS

FEEDER SCHEDULE

Table with columns: TAG, COPPER, ALUMINUM. Contains feeder schedules for 2 WIRE + GROUND, 3 WIRE + GROUND, and 4 WIRE + GROUND, including conductor sizes and material types.

FEEDER SCHEDULE GENERAL NOTES:

- A. THIS IS A MASTER SCHEDULE. ALL SIZES MAY NOT OCCUR IN ALL PROJECTS.
B. ALUMINUM CONDUCTORS (LINE, NEUTRAL, OR GROUND) SMALLER THAN #10 ARE NOT ALLOWED.
C. FIELD VERIFY CABLE SIZES DO NOT RESULT IN TOTAL CIRCUIT VOLTAGE DROP GREATER THAN 5% AFTER ACCOUNTING FOR INTENDED CABLE ROUTING.

PANEL SCHEDULE: A

Panel schedule table with columns: NOTE, CKT, CIRCUIT DESCRIPTION, AMP, POLE, A, B, POLE, AMP, CIRCUIT DESCRIPTION, CKT, NOTE. Includes location, supply, and enclosure information.

- NOTES:
1. PROVIDE NEW BREAKER.

EQUIPMENT CONNECTION SCHEDULE

Table with columns: TAG, DESCRIPTION, DATA (KW, HP, FLA, MCA, MOPP, VOLTAGE, PHASE), FEEDER, PLUG, NEMA CONFIG., CONNECTION (DIRECT, DISCONNECT, MOTOR STARTER), NOTES.

EQUIPMENT CONNECTION SCHEDULE GENERAL NOTES:

- REFER TO APPROVED SHOP DRAWING SUBMITTALS FOR EXACT REQUIREMENTS PRIOR TO ROUGH-IN.
ANY SUBSTITUTIONS TO SPECIFIED EQUIPMENT SHALL BE AT THE EXPENSE OF THE SUPPLIER.
ELECTRICAL CONNECTIONS AND INTERCONNECTIONS TO ALL MECHANICAL ELECTRICAL EQUIPMENT SHALL BE DONE BY THE ELEC. CONTR. UNLESS NOTED OTHERWISE.

NOTES

- 1. -

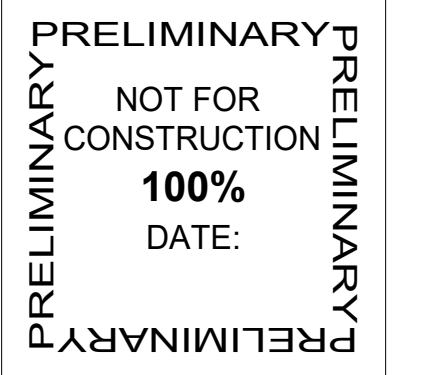


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ISSUE

MARK DATE DESCRIPTION

David City Ballfield RR Addition

David City, Nebraska
100 M Rd, David City, NE 68632

JEO Project No: 251890.00
Date: 02.19.2026
QAQC: JR
Drawn By: MAM

PANEL SCHEDULES

TAG	DESCRIPTION	AUTO ON			AUTO DIM/OFF			AUX	REC	NWK	NOTES
		OCCUPANCY	TIME SWITCH	PHOTOCELL	VACANCY	TIME SWITCH	PHOTOCELL				
EXD	EXTERIOR DECORATIVE	-	SEE NOTE(S)	100%	-	SEE NOTE(S)	0%	-	-	-	
EXS	EXTERIOR SETBACK	-	SEE NOTE(S)	100%	-	SEE NOTE(S)	0%	-	-	-	
NDA	NO AUTOMATIC CONTROLS	-	-	-	-	-	-	-	-	-	1
O1A	OCCUPANCY SENSOR - PARTIAL ON	50%	-	-	0%	-	-	-	-	-	
O2A	OCCUPANCY SENSOR - FULL ON	100%	-	-	0%	-	-	-	-	-	
O3A	OCCUPANCY SENSOR - PARTIAL OFF	100%	-	-	10%	-	-	-	-	-	
OPN	OPEN OFFICE	SEE NOTE(S)	-	-	SEE NOTE(S)	-	-	-	-	-	
T1A	TIME SWITCH - MANUAL AFTER HOURS	-	100%	-	-	0%	-	-	-	-	
T2A	TIME SWITCH - AUTOMATIC AFTER HOURS	50%	100%	-	0%	-	-	-	-	-	
T3A	TIME SWITCH - AUTOMATIC OFF ONLY	-	-	-	-	0%	-	-	-	-	
V1A	VACANCY SENSOR - FULL OFF	-	-	-	0%	-	-	-	-	-	
V2A	VACANCY SENSOR - PARTIAL OFF	-	-	-	50%	-	-	-	-	-	

LIGHTING CONTROL SEQUENCE OF OPERATION GENERAL NOTES:

- A. THIS IS A MASTER SCHEDULE. ALL CONTROL TYPES, DEVICE TYPES, ETC. MAY NOT BE USED ON ALL PROJECTS.
- B. REFERENCE LIGHTING PLANS FOR FURTHER INFORMATION.

CONTROL SYSTEM:

- A. WHEN EXTERIOR POLE MOUNTED LIGHT FIXTURES ARE INDICATED TO BE DIMMED, PROVIDE CONTROL OF LIGHT FIXTURE VIA [WIRELESS LIGHTING CONTROL] [MULTI-LEVEL STEP DIMMING] [UPPER 0-10V CONDUCTORS RUN IN A CONDUIT SEPARATE FROM ANY LINE VOLTAGE CONDUCTORS]. COORDINATE REQUIREMENTS WITH VENDOR.
- B. INTEGRATE UL-924 DEVICES OR RELAYS WITH FIRE ALARM SYSTEM. IN THE EVENT OF A FIRE ALARM, EMERGENCY/LIFE SAFETY LIGHTING SHALL ENERGIZE TO FULL BRIGHTNESS REGARDLESS OF PREVIOUS LIGHTING CONTROL STATE. REFERENCE UL-924 DETAIL FOR FURTHER INFORMATION.
- C. REFER TO LIGHTING PLANS FOR DEVICE TYPES, QUANTITIES, AND LOCATIONS. REFER TO LOW VOLTAGE SWITCH SCHEDULE FOR LIGHTING CONTROL CONFIGURATION, OPERATION, AND BUTTON LABELING. PROVIDE TYPE AND QUANTITY OF DEVICES AS REQUIRED TO PROVIDE COMPLETE COVERAGE OF SPACE AND INTENDED SYSTEM OPERATION.
- D. UNLESS NOTED OTHERWISE, DIMMED INTERIOR AND BUILDING MOUNTED LIGHTING SHALL UTILIZE CONTINUOUS DIMMING. COORDINATE DIMMER TYPE (FORWARD PHASE, REVERSE PHASE, 0-10V, ETC.) AND DIMMER COMPATIBILITY WITH SUBMITTED LIGHT FIXTURE AND LIGHTING CONTROL MANUFACTURER.
- E. PROVIDE ALL LIGHTING CONTROL SYSTEM COMPONENTS, CONTROL WIRING, AND SYSTEM PROGRAMMING FOR A COMPLETE AND FULLY FUNCTIONAL SYSTEM THAT CONTROLS AND DIMS LIGHT FIXTURES AS SPECIFIED IN THE LIGHTING CONTROL SEQUENCE OF OPERATION.

OCCUPANT SENSORS:

- A. PROVIDE OCCUPANT SENSORS AS REQUIRED TO PROVIDE COMPLETE COVERAGE OF SPACE AND INTENDED SYSTEM OPERATION AS INDICATED ON LIGHTING PLANS AND LIGHTING CONTROL SEQUENCE OF OPERATION. OCCUPANT SENSORS SHALL BE INSTALLED SO THAT NO POSSIBILITY EXISTS WHERE THE SENSORS MAY BE COVERED OR COVERAGE BLOCKED DURING ROUTINE USE. ADD ADDITIONAL SENSORS AS REQUIRED TO PROVIDE COMPLETE COVERAGE OF SPACE.
- B. PROVIDE 20 MINUTE TIMEOUT FOR OCCUPANT SENSORS UNLESS INDICATED OTHERWISE.
- C. UNLESS INDICATED OTHERWISE OCCUPANT SENSOR(S) SHALL CONTROL ALL LIGHTING WITHIN THE LIGHTING CONTROL AREA THAT SENSOR IS LOCATED IN (INCLUDING UNDERCABINET LIGHTING).
- D. IF TWO OR MORE OCCUPANT SENSORS ARE LOCATED IN THE SAME LIGHTING CONTROL AREA, OCCUPANCY DETECTED BY ANY SENSOR SHALL RESET SENSOR TIMEOUT FOR ALL SENSORS IN THE LIGHTING CONTROL AREA.
- E. WHEN LIGHTING CONTROLLED BY AN OCCUPANCY SENSOR IS MANUALLY SWITCHED OFF, THE LIGHTING SHALL REMAIN OFF FOR AS LONG AS MOVEMENT IS DETECTED. AFTER SENSOR TIMEOUT HAS EXPIRED, OCCUPANCY SENSOR OPERATION SHALL REVERT TO ON UPON MOVEMENT DETECTION.
- F. MICROWAVE TYPE OCCUPANT SENSORS ARE NOT ALLOWED UNLESS OTHERWISE NOTED.

TIME SWITCH CONTROL:

- A. WHEN TIME SWITCH CONTROL IS INDICATED, THE HOURS BELOW SHALL BE IN EFFECT UNLESS OTHERWISE NOTED. COORDINATE FINAL HOURS OF OPERATION WITH OWNER PRIOR TO SYSTEM COMMISSIONING. HOURS OF OPERATION SHALL BE ABLE TO BE ADJUSTED IN THE FUTURE AS REQUIRED BY OWNER.
 - a. DAYTIME HOURS OF OPERATION SHALL BE FROM [## AM TO ## PM].
 - b. NIGHTTIME HOURS OF OPERATION SHALL BE FROM [## AM TO ## PM].
- B. LIGHT FIXTURES SHALL BE ENERGIZED TO THE LEVEL INDICATED ON THE LIGHTING CONTROL SEQUENCE OF OPERATION DURING HOURS OF OPERATION.
- C. WHERE INDICATED, OCCUPANT SENSOR-BASED AUTOMATIC ON AND AUTOMATIC OFF FUNCTIONALITY SHALL APPLY OUTSIDE OF HOURS OF OPERATION. OCCUPANT SENSORS SHALL NOT OVERRIDE INDICATED TIME SWITCH FUNCTIONALITY DURING HOURS OF OPERATION.
- D. PROVIDE DIM AND/OR BLINK WARNING FIVE MINUTES PRIOR TO TIME SWITCH AUTOMATICALLY DE-ENERGIZING LIGHTS.
- E. THE TIME SWITCH CONTROL EQUIPMENT SHALL HAVE A MINIMUM SEVEN DAY CLOCK AND BE CAPABLE OF BEING SET FOR SEVEN DIFFERENT DAY TYPES PER WEEK.
- F. TIME SWITCH CONTROLLED INTERIOR LIGHTING SHALL BE SHUT OFF FOR NOT LESS THAN 24 HOURS ON FACILITY-OBSERVED HOLIDAYS. COORDINATE APPLICABLE HOLIDAYS WITH OWNER PRIOR TO SYSTEM COMMISSIONING.
- G. TIME SWITCH CONTROLLED EXTERIOR LIGHTING SHALL BE DIMMED TO 70% DURING TIMES WHEN NORMAL OPERATION WOULD BE AT 100% ON FACILITY-OBSERVED HOLIDAYS. COORDINATE APPLICABLE HOLIDAYS WITH OWNER PRIOR TO SYSTEM COMMISSIONING.
- H. THE TIME SWITCH CONTROL EQUIPMENT SHALL HAVE PROGRAM BACKUP CAPABILITIES PREVENTING THE LOSS OF PROGRAM AND TIME SETTINGS DURING POWER OUTAGES OF AT LEAST 10 HOURS.
- I. PROVIDE STANDALONE TIME SWITCH DEVICE(S) AS REQUIRED TO ACHIEVE THE INDICATED TIME SWITCH CONTROL FUNCTIONALITY. WHERE TIME SWITCH CONTROL FUNCTIONALITY IS INHERENT TO DEVICES/EQUIPMENT PROVIDED BY THE SUBMITTED LIGHTING CONTROL MANUFACTURER, SEPARATE TIME SWITCH CONTROL DEVICES ARE NOT REQUIRED. COORDINATE REQUIREMENTS WITH VENDOR.
- J. PROVIDE NETWORKED CONNECTION TO LIGHTING CONTROL SYSTEM HEAD END EQUIPMENT AS REQUIRED BY SUBMITTED LIGHTING CONTROL MANUFACTURER TO ACHIEVE THE INDICATED TIME SWITCH CONTROL FUNCTIONALITY. COORDINATE REQUIREMENTS WITH VENDOR.

NOTES:

- 1. NO AUTOMATIC DIM/OFF CONTROLS SHALL BE PROVIDED.

TAG	DESCRIPTION	SUBS			MANUFACTURER	MODEL NUMBER	LED SOURCE			APPARENT LOAD (VA)	VOLTAGE	DIMMING % (TYPE)	FINISH	MOUNTING SURFACE - CEILING	NOTES
		N	P	Y			DELIVERED LUMENS	CCT (K)	MIN. CRI						
L1	4" LINEAR			X	METALUX	4V73LD5-4-G-UNV-L840-CD-U	4,428	4000	80	32	120	0-10V	WHITE	SURFACE - CEILING	
L2	DUAL HEAD EM FIXTURE			X	LITHONIA	EU2L				2	120		WHITE	SURFACE - WALL	
L3	EXTERIOR WALL PACK W/ BATTERY BACKUP			X	LUMARK	XTOR8B-W-BK-CBP	6,129	4000	70	58	120		BLACK	SURFACE - WALL	

LIGHT FIXTURE SCHEDULE GENERAL NOTES:

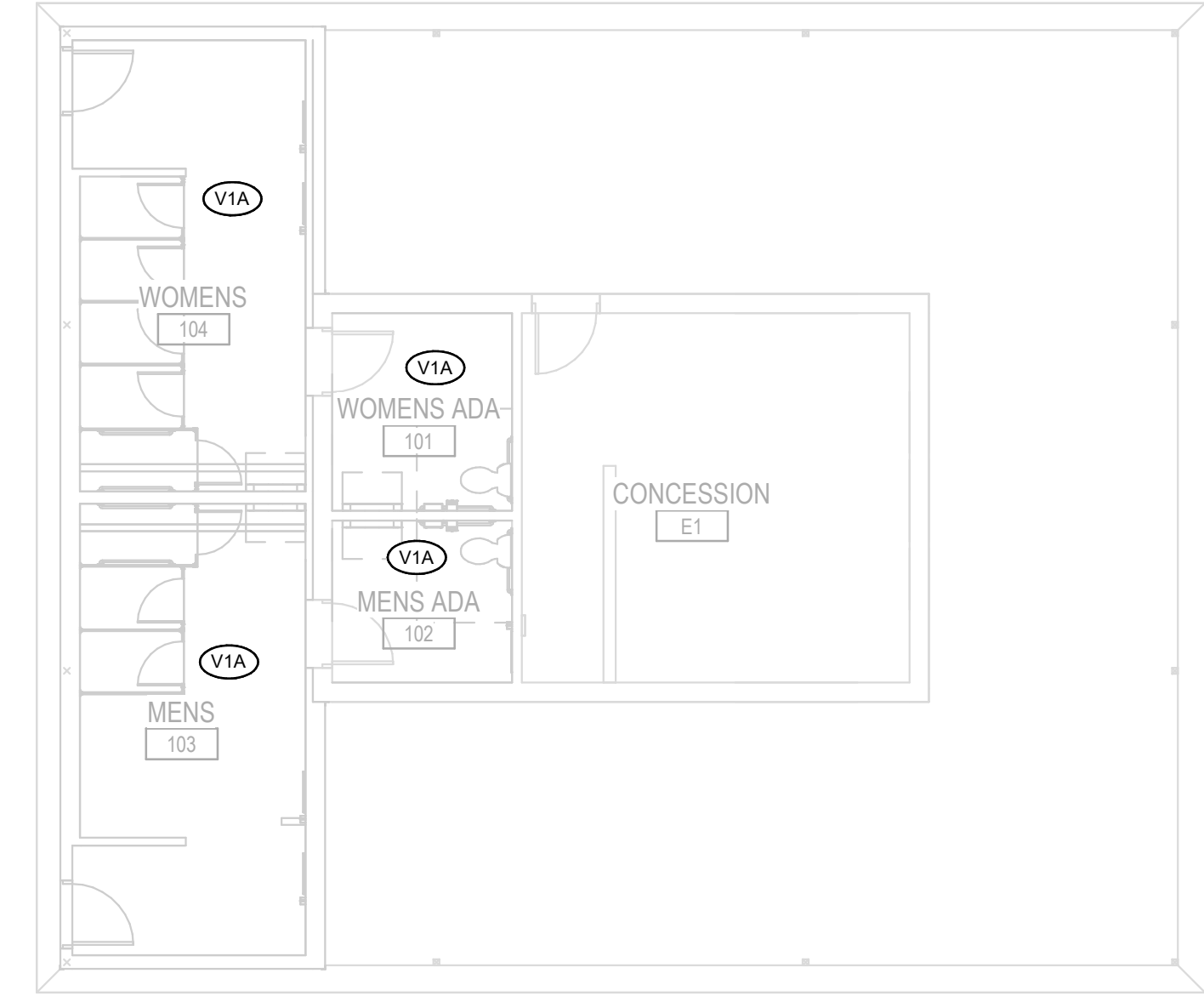
- A. SUBSTITUTIONS:
 - a. WHERE INDICATED WITH 'N' (NO), NO SUBSTITUTIONS WILL BE ACCEPTED.
 - b. WHERE INDICATED WITH 'P' (PRIOR APPROVAL), SUBSTITUTIONS MUST BE APPROVED PRIOR TO BID.
 - c. WHERE INDICATED WITH 'Y' (YES), IT IS ACCEPTABLE TO SUBMIT LIGHT FIXTURES FROM EQUIVALENT MANUFACTURERS, PROVIDED THE EQUIVALENT LIGHT FIXTURE IS OF THE SAME BUILD QUALITY, EFFICACY, OUTPUT, COLOR TEMPERATURE, DISTRIBUTION, FINISH, AND AESTHETIC AS THE SCHEDULED LIGHT FIXTURE.
 - d. IF A LIGHT FIXTURE IS SUBMITTED AS EQUIVALENT WITHOUT PRIOR APPROVAL AND IS NOT ACCEPTED DURING THE SHOP DRAWING REVIEW PROCESS, ANY ADDITIONAL COSTS INCURRED AS A RESULT OF PROVIDING A LIGHT FIXTURE THAT MATCHES THE SCHEDULED SPECIFICATIONS SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. THE OWNER SHALL NOT INCUR ANY ADDITIONAL COSTS RESULTING FROM PROVIDING A LIGHT FIXTURE THAT MATCHES THE SCHEDULED SPECIFICATIONS.
- B. MODEL NUMBER VERIFICATION - CONTRACTOR SHALL VERIFY LIGHT FIXTURE INSTALLATION REQUIREMENTS AND MODEL NUMBER PRIOR TO ORDERING. REFERENCE THE BELOW LEGEND FOR MODEL NUMBER SPECIFICATION SYMBOLS.
 - a. # - LENGTH TAKEN FROM DRAWINGS
 - b. * - REFERENCE LIGHT FIXTURE SCHEDULE COLUMN(S) FOR ORDERING INFORMATION.
 - c. "BLANK" OPTION IS SPECIFIED OR NO OPTION IS REQUIRED.
 - d. % - CONTRACTOR IS RESPONSIBLE FOR COORDINATING SPECIFICATION OPTION SELECTION WITH INSTALLATION CONDITIONS.
- C. DIMMING % - INDICATES DIMMING PROTOCOL (FORWARD PHASE, REVERSE PHASE, 0-10V, DMX, DALI, ETC.) AND REQUIRED MINIMUM DIMMING % (10%, 1%, 0.1%, DIM TO DARK, ETC.). COORDINATE EXACT DIMMING PROTOCOL AND DRIVER COMPATIBILITY WITH SUBMITTED LUMINAIRE AND LIGHTING CONTROL MANUFACTURER(S).
- D. DIMMING DRIVERS - COORDINATE LINEAR VS. LOGARITHMIC DIMMING REQUIREMENTS WITH LIGHTING CONTROL, DIMMING RELAY/DIMMER SWITCH. FOR ANY GIVEN CONTROL ZONE, IT IS NOT ACCEPTABLE FOR THE RELAY/SWITCH AND DRIVER TO BOTH UTILIZE LINEAR DIMMING, OR TO BOTH UTILIZE LOGARITHMIC DIMMING. REFERENCE LOW VOLTAGE SWITCH SCHEDULE FOR FURTHER INFORMATION.
- E. CEILING COORDINATION:
 - a. ALL CEILING MOUNTED LIGHT FIXTURE TYPES SHALL HAVE LIGHT FIXTURE MOUNTING COORDINATED WITH GRID TYPE OR CEILING MATERIAL TYPE. PROVIDE GYP. MOUNTING FRAMES AS REQUIRED DUE TO CEILING CONSTRUCTION.
 - b. REFER TO ARCHITECTURAL SHEETS FOR GRID TYPE USED IN EACH AREA. LIGHT FIXTURES INSTALLED IN 9/16" GRID SHALL BE PROVIDED WITH MOUNTING CLIPS IF RECOMMENDED BY LIGHT FIXTURE MANUFACTURER.
 - c. VERIFY TRIM COMPATIBILITY WITH CEILING TYPES INDICATED IN ARCHITECTURAL REFLECTED CEILING PLAN PRIOR TO ORDERING LIGHT FIXTURES. WHERE LIGHT FIXTURES ARE MOUNTED IN GYP, CEILING USE MUD-IN FLANGE OPTION.
- F. LINEAR LIGHT FIXTURES - LIGHT FIXTURES IDENTIFIED WITH NORMAL, EMERGENCY/LIFE SAFETY, AND/OR DAYLIGHT ZONE SECTIONS SHALL BE PROVIDED WITH DEDICATED EMERGENCY/LIFE SAFETY AND/OR DAYLIGHT ZONE DRIVER(S) SEPARATED FROM NORMAL DRIVER(S) BY BARRIER(S). PROVIDE LABEL READING "WARNING - LIGHT FIXTURE SUPPLIED WITH MULTIPLE CIRCUITS - NORMAL, EMERGENCY/LIFE SAFETY, AND/OR DAYLIGHT ZONE". PLACE LABEL ON DRIVER COVER(S). EXIT SIGNS: PROVIDE QUANTITY AND TYPE OF FACES AND EXIT DIRECTION CHEVRONS AS INDICATED ON PLANS. PROVIDE MOUNTING TYPE AS INDICATED ON PLANS.

NOTES:

- 1. XXX

LIGHTING CONTROL PLAN

- A. REFERENCE LIGHTING PLAN(S), AND LIGHTING CONTROL SEQUENCE OF OPERATION FOR FURTHER INFORMATION.
- B. HATCHED AREAS INDICATE INDIVIDUAL LIGHTING CONTROL AREAS. IN SPACES WHERE NO HATCH IS PRESENT, THE LIGHTING CONTROL AREA BOUNDARY SHALL MATCH THE AREA ENCLOSED BY FLOOR-TO-CEILING WALLS.
- C. WHERE PRESENT, TAGS BEGINNING WITH "F" INDICATE THE LIGHTING CONTROL AREA NUMBER.
- D. WHERE MULTIPLE LIGHTING CONTROL ZONES ARE CONTAINED WITHIN A SINGLE LIGHTING CONTROL AREA, THE INDICATED LIGHTING CONTROL SEQUENCE OF OPERATION TYPE SHALL BE APPLICABLE FOR THE ENTIRETY OF THE LIGHTING CONTROL AREA.
- E. UNLESS OTHERWISE NOTED, THE OCCUPANT SENSOR AND/OR TIME SWITCH AREA(S) OF COVERAGE SHALL MATCH THE LIGHTING CONTROL AREAS.
- F. REFER TO LIGHTING CONTROL SEQUENCE OF OPERATION FOR AUTOMATIC LIGHTING CONTROL DEVICES REQUIRED BASED ON LIGHTING CONTROL TAGS. PROVIDE ALL NECESSARY DEVICES AND ACCESSORIES AS REQUIRED TO PROVIDE THE LEVEL OF CONTROL SPECIFIED WITHIN SEQUENCE OF OPERATION FOR EACH GIVEN CONTROL TYPE.



FIRST FLOOR LIGHTING CONTROL PLAN
1/8" = 1'-0"
TRUE NORTH PLAN NORTH



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ISSUE

MARK	DATE	DESCRIPTION

David City Ballfield RR Addition

David City, Nebraska
100 M Rd, David City, NE 68632

JEO Project No: 251890.00
Date: 02.19.2026
QA/QC: JR
Drawn By: MAM

LIGHTING SCHEDULES

ELECTRICAL SPECIFICATIONS

260000 GENERAL REQUIREMENTS

RULES & REGULATIONS: THE WORK COVERED UNDER THESE SPECIFICATIONS IS INTENDED TO INCLUDE THE FURNISHING OF ALL EQUIPMENT, MATERIALS & LABOR OR REASONABLY INCIDENTAL TO THE COMPLETE OPERATING INSTALLATION OF SYSTEMS. ALL WORKMATERIALS SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE NATIONAL ELECTRIC CODE, THE NATIONAL FIRE PROTECTION ASSOCIATION & SHALL COMPLY WITH ALL FEDERAL/STATE/LOCAL CODES & AUTHORITY HAVING JURISDICTION. THOROUGHLY FAMILIARIZE ONESELF WITH THE PLANS, SPECIFICATIONS & CONDITIONS COVERING THE JOB & REVIEW ALL SHEETS FOR EXTENT OF WORK. NOTIFY ARCHITECT/ENGINEER IMMEDIATELY IF ANY DISCREPANCIES/UNUSUAL CONDITIONS ARE ENCOUNTERED. IN THE EVENT OF CONFLICT, THE MORE STRINGENT/EXPENSIVE SHOULD BE BID UNLESS AN ADDENDUM CAN BE ISSUED TO CORRECT THE SITUATION. THESE PLANS ARE SCHEMATIC IN NATURE & ARE NOT INTENDED TO SHOW EVERY DETAIL.

APPLICATIONS: THE CONTRACTOR SHALL ARRANGE TO COMPLY WITH ALL PERMITS/GENESIS REQUIRED FOR WORK UNDER THIS CONTRACT & SHALL BE OBTAINED/PAID FOR BY THE CONTRACTOR.

OUTAGES: ALL WORK SHALL BE ARRANGED SO THAT POWER IS AVAILABLE TO THE EXISTING BUILDING AT ALL TIMES, EXCEPT FOR SHORT PERIODS NECESSARY TO COMPLETE WORK. THE CONTRACTOR SHALL COORDINATE SERVICE INTERRUPTIONS WITH OWNER/MAINTENANCE STAFF. SERVICE TO EXISTING AREAS SHALL NOT BE DISCONNECTED UNTIL NEW OR TEMPORARY CONNECTIONS ARE MADE.

TEMPORARY POWER: THE CONTRACTOR SHALL BE RESPONSIBLE FOR TEMPORARILY SUPPLYING POWER PRIOR TO PERMANENT INSTALLATION OF SERVICE EQUIPMENT. ALL TEMPORARY INSTALLATIONS SHALL BE REMOVED AT THE END OF THE PROJECT.

DEMOLITION: THESE PLANS REPRESENT THE BEST INFORMATION AVAILABLE DURING SITE INVESTIGATION/EXISTING DRAWINGS. THEY MAY NOT IDENTIFY EVERY ITEM. THE CONTRACTOR IS RESPONSIBLE FOR ALL ELECTRICAL ITEMS WHICH MUST BE REMOVED FOR NEW CONSTRUCTION. EXTRA CARE SHOULD BE TAKEN NOT TO DAMAGE EXISTING FINISHES. ALL REPAIRS SHALL BE AT THE EXPENSE OF THE CONTRACTOR. RACEWAYS THAT ARE NOT CONCEALED IN WALLS/FLOOR SLAB & ARE NOT TO BE REUSED, SHALL BE REMOVED. WIRE SHALL BE REMOVED TO SOURCE. ABANDONED CONDUIT SHALL BE CUT OFF FLUSH WHERE IT ENTERS THE WALL/FLOOR & SEALED. EXISTING RACEWAYS SHALL BE SUPPORTED IF NOT CODE COMPLIANT. PROVIDE PLANK OR WALL PLATE FOR DEVICES REMOVED FROM EXISTING WALLS. PATCH ALL HOLES FROM THE REMOVAL OF ELECTRICAL ITEMS & PAINT. RECONNECT EXISTING ELECTRICAL ITEMS TO THE NEW ELECTRICAL SYSTEM. ELECTRICAL SYSTEMS IN UNAFFECTED AREAS ARE NOT TO BE DISTURBED. OWNER SHALL HAVE FIRST SALVAGE RIGHTS ON ALL ITEMS REMOVED. ALL MATERIALS, NOT CLAIMED AS SALVAGE, FROM PREMISES, ALL MATERIALS TO BE DISPOSED OF PROPERLY.

QUALITY ASSURANCE: ELECTRICAL COMPONENTS, DEVICES, & ACCESSORIES, LISTED & LABELED AS DEFINED IN NFPA 70, BY A QUALIFIED TESTING AGENCY, & MARKED FOR INTENDED LOCATION & APPLICATION.

CLEANUP: THE CONTRACTOR SHALL BE RESPONSIBLE FOR CLEANUP DURING & AT CONCLUSION OF CONSTRUCTION PERIOD. NO MATERIALS SHALL BE LEFT ON SITE WHEN WORK IS COMPLETED. ALL MATERIALS SHALL BE DISPOSED OF PROPERLY. OWNER SHALL HAVE SALVAGE RIGHTS ON ALL ITEMS.

WARRANTY: THE CONTRACTOR SHALL WARRANT ALL WORK & MATERIALS UNDER THIS CONTRACT FOR A PERIOD OF ONE-1 YEAR FROM FINAL ACCEPTANCE. THE CONTRACTOR SHALL AGREE TO REPAIR/REPLACE, FREE OF CHARGE, ANY ITEM WHICH IS DEFECTIVE DUE TO FAULTY WORKMANSHIP.

SHOP DRAWINGS: THE CONTRACTOR SHALL STAMP, DATE & SIGN EACH SUBMITTAL TO INDICATE CONFORMANCE WITH CONTRACT DOCUMENTS. THE ARCHITECT/ENGINEER SHALL BE THE FINAL JUDGE OF ITEMS SUBSTITUTED FOR THOSE SHOWN. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OF SHOP DRAWINGS DETAILING THE FOLLOWING ITEMS: CABLE TRAYS, LOW VOLTAGE CABLING, RACK AND EQUIPMENT, ARCH FLASH, COORDINATION, AND SHORT CIRCUIT STUDIES, LIGHTING CONTROLS, TRANSFORMERS, PANELBOARDS, SWITCHBOARDS, ELECTRICITY METERING, WIRING DEVICES, ENCLOSED SWITCHES AND BREAKERS, ENCLOSURE CONTROLLERS, GENERATORS, AND TRANSFER SWITCHES, LIGHTING AND LIGHT POLES, AND FIRE ALARM.

CLOSEOUT DOCUMENTS: AN O&M MANUAL SHALL BE PROVIDED WITHIN 90 DAYS OF CERTIFICATE OF OCCUPANCY AND SHALL INCLUDE THE FOLLOWING:
A. NAME AND ADDRESS OF THE SERVICE AGENCY FOR INSTALLED EQUIPMENT.
B. VERBIAGE OF HOW EACH SYSTEM IS INTENDED TO OPERATE, INCLUDING RECOMMENDED SETPOINTS.
C. SUBMITTAL OF O&M DATA INCLUDING ALL SELECTED OPTIONS OF EACH PIECE OF LIGHTING EQUIPMENT AND LIGHTING CONTROLS. REQUIRED ROUTINE MAINTENANCE, CLEANING AND RECOMMENDED RELAMPING CLEARLY OUTLINED.
D. A SCHEDULE FOR INSPECTING AND RECALIBRATING ALL LIGHTING CONTROLS.

CLOSEOUT REPORT: A CLOSEOUT REPORT SHALL BE PROVIDED FOR ALL PROJECTS THAT REQUIRE COMMISSIONING. THE REPORT SHALL INCLUDE THE FOLLOWING:
A. FUNCTIONAL PERFORMANCE TEST RESULTS.
B. LIST OF ALL DEFICIENCIES FOUND DURING TESTING ALONG WITH PROPOSED OR USED CORRECTIVE MEASURES.

260500 COMMON WORK RESULTS

COORDINATION: COORDINATE ARRANGEMENT, MOUNTING, & SUPPORT OF ELECTRICAL EQUIPMENT SO CONNECTING RACEWAYS, CABLES, WIREWAYS, CABLE TRAYS, & BUSWAYS WILL BE CLEAR OF OBSTRUCTIONS & OF THE WORKING & ACCESS SPACE OF OTHER EQUIPMENT.

COMMON REQUIREMENTS FOR ELECTRICAL INSTALLATION:
COMPLY WITH NECA 1.
EQUIPMENT: INSTALL TO FACILITATE SERVICE, MAINTENANCE, & REPAIR OR REPLACEMENT OF COMPONENTS OF BOTH ELECTRICAL EQUIPMENT & OTHER NEARBY INSTALLATIONS. CONNECT IN SUCH A WAY AS TO FACILITATE FUTURE DISCONNECTING WITH MINIMUM INTERFERENCE OF OTHER ITEMS IN THE VICINITY.

SLEEVE INSTALLATION FOR ELECTRICAL PENETRATIONS:
FIRE-RATED ASSEMBLIES: INSTALL SLEEVES FOR PENETRATIONS OF FIRE-RATED FLOOR & WALL ASSEMBLIES UNLESS OPENINGS COMPATIBLE WITH FIRESTOP SYSTEM USED ARE FABRICATED DURING CONSTRUCTION OF FLOOR OR WALL.
CUT SLEEVES TO LENGTH FOR MOUNTING FLUSH WITH BOTH SURFACES OF WALLS.
EXTEND SLEEVES INSTALLED IN FLOORS ABOVE FINISH FLOOR LEVEL.
SEAL SPACE OUTSIDE OF SLEEVES WITH GROUT FOR PENETRATIONS OF CONCRETE AND MASONRY.
INTERIOR PENETRATIONS OF NON-FIRE-RATED WALLS & FLOORS: SEAL ANNUAL SPACE BETWEEN SLEEVE & RACEWAY OR CABLE USING JOINT SEALANT APPROPRIATE FOR SIZE, DEPTH, & LOCATION OF JOINT.
FIRE-RATED ASSEMBLY PENETRATIONS: MAINTAIN INDICATED FIRE RATING OF WALLS, PARTITIONS, CEILING, & FLOORS AT RACEWAY & CABLE PENETRATIONS. INSTALL SLEEVES & SEAL RACEWAY & CABLE PENETRATION SLEEVES WITH FIRESTOP MATERIALS.
ROOF PENETRATION SLEEVES: SEAL PENETRATION OF INDIVIDUAL RACEWAYS AND CABLES WITH FLEXIBLE BOOT-TYPE FLASHING UNITS APPLIED IN COORDINATION WITH ROOFING WORK.

SLEEVE-SEAL INSTALLATION:
INSTALL TO SEAL EXTERIOR WALL PENETRATIONS.
USE TYPE & NUMBER OF SEALING ELEMENTS RECOMMENDED BY MANUFACTURER FOR RACEWAY OR CABLE MATERIAL & SIZE.

260519 LOW VOLTAGE CONDUCTORS AND CABLES

SUMMARY: BUILDING WIRES & CABLES RATED 600 V & LESS.

CONDUCTORS & CABLES:
COPPER CONDUCTORS: COMPLY WITH NEMA WC 70.
CONDUCTOR INSULATION: COMPLY WITH NEMA WC 70 FOR TYPE THHN-THWN.

CONDUCTOR MATERIAL APPLICATIONS:
FEEDERS: COPPER, SOLID FOR NO. 10 AWG & SMALLER, STRANDED FOR NO. 8 AWG & LARGER.
BRANCH CIRCUITS: COPPER, SOLID FOR NO. 10 AWG & SMALLER, STRANDED FOR NO. 8 AWG & LARGER, STRANDED FOR NO. 10 AWG & SMALLER IS ACCEPTABLE.

CONDUCTOR INSULATION & MULTICONDUCTOR CABLE APPLICATIONS & WIRING METHODS: TYPE THHN-THWN, SINGLE CONDUCTORS IN RACEWAY, NO. 12 AWG, UNLESS OTHERWISE INDICATED.

INSTALLATION OF CONDUCTORS & CABLES: CONCEAL CABLES IN FINISHED WALLS, CEILING, & FLOORS, UNLESS OTHERWISE INDICATED. INSTALL EXPOSED CABLES PARALLEL & PERPENDICULAR TO SURFACES OF EXPOSED STRUCTURAL MEMBERS, & FOLLOW SURFACE CONTOURS WHERE POSSIBLE. LOW VOLTAGE CABLES NOT INSTALLED IN RACEWAY SHALL BE PLENUM RATED. ALL BRANCH CIRCUITS SHALL HAVE A SEPARATE GREEN GROUND WIRE & SEPARATE NEUTRAL WIRE.

IDENTIFICATION: IDENTIFY & COLOR-CODE CONDUCTORS & CABLES ACCORDING TO NEC, ARTICLE 210.5.

FIELD QUALITY CONTROL: AFTER INSTALLING CONDUCTORS & CABLES & BEFORE ELECTRICAL CIRCUITRY HAS BEEN ENERGIZED, TEST FOR COMPLIANCE WITH REQUIREMENTS. PERFORM EACH VISUAL & MECHANICAL INSPECTION & ELECTRICAL TEST STATED IN NETA ACCEPTANCE TESTING SPECIFICATION. CERTIFY COMPLIANCE WITH TEST PARAMETERS.

260526 NATIONAL AND BONDING

QUALITY ASSURANCE: COMPLY WITH UL 467 FOR GROUNDING & BONDING MATERIAL & EQUIPMENT.

EQUIPMENT GROUNDING: INSTALL INSULATED EQUIPMENT GROUNDING CONDUCTORS WITH ALL FEEDERS & BRANCH CIRCUITS. INSTALL INSULATED EQUIPMENT GROUND CONDUCTORS WITH THE FOLLOWING ITEMS, IN ADDITION TO THOSE REQUIRED BY FEEDERS & BRANCH CIRCUITS, LIGHTING CIRCUITS, RECEPTACLE CIRCUITS, SINGLE/THREE-PHASE MOTOR & APPLIANCE BRANCH CIRCUITS, FLEXIBLE RACEWAY RUNS, COMPUTER & RACK-MOUNTED ELECTRONIC EQUIPMENT CIRCUITS.

INSTALLATION: GROUNDING CONDUCTORS: ROUTE ALONG SHORTEST & STRAIGHTEST PATHS POSSIBLE. UNLESS OTHERWISE INDICATED OR REQUIRED BY CODE, AVOID OBSTRUCTING ACCESS OR PLACING CONDUCTORS WHERE THEY MAY BE SUBJECT TO STRAIN, IMPACT, DAMAGE.

260529 HANGERS AND SUPPORTS

CONDUIT & CABLE SUPPORT DEVICES: STEEL HANGERS, CLAMPS, & ASSOCIATED FITTINGS, DESIGNED FOR TYPES & SIZES OF RACEWAY OR CABLE TO BE SUPPORTED.

EXECUTION: COMPLY WITH NECA 1 AND NECA 101 FOR APPLICATION OF HANGERS & SUPPORTS FOR ELECTRICAL EQUIPMENT & SYSTEMS. SPACE SUPPORTS FOR EMT, IMC, RMC AS REQUIRED BY NFPA 70. MINIMUM ROD SIZE SHALL BE 1/4 INCH IN DIAMETER.

INSTALLATION: COMPLY WITH NECA 1 & NECA 101 FOR INSTALLATION REQUIREMENTS. ANCHOR & FASTEN ELECTRICAL ITEMS & THEIR SUPPORTS TO BUILDING STRUCTURAL ELEMENTS, CUT, FIT, & PLACE MISCELLANEOUS METAL SUPPORTS ACCURATELY IN LOCATION, ALIGNMENT, & ELEVATION TO SUPPORT ANCHOR ELECTRICAL MATERIAL & EQUIPMENT.

CONCRETE BASES: CONSTRUCT BASES OF DIMENSIONS INDICATED BY NOT LESS THAN 4 INCHES LARGER IN BOTH DIRECTIONS THAN SUPPORTED UNIT, AND SO ANCHORS WILL BE A MINIMUM OF 10 BOLT DIAMETERS FROM EDGE OF THE BASE. ANCHOR EQUIPMENT TO CONCRETE BASE, CHAMFER EDGES OF CONCRETE.

260533 RACEWAYS AND BOXES

SUMMARY: RACEWAYS, FITTINGS, BOXES, ENCLOSURES, & CABINETS FOR ELECTRICAL WIRING. RACEWAYS SHALL BE LOCATED & ROUTED SUCH THAT THEY ARE PERPENDICULAR & PARALLEL TO WALLS, CEILING & STRUCTURES. THEY SHALL NOT BE RUN DIAGONALLY OR AT OBTUSE ANGLES IF AT ALL POSSIBLE. ENGINEER SHALL BE NOTIFIED & MADE AWARE OF POSSIBLE UNFORESEEN SITUATIONS DEVIATING FROM THIS REQUIREMENT.

QUALITY ASSURANCE: COMPLY WITH NFPA 70.

RACEWAY APPLICATIONS:
OUTDOORS:
EXPOSED CONDUIT: RIGID STEEL CONDUIT
CONCEALED CONDUIT: ABOVEGROUND: RIGID STEEL CONDUIT
UNDERGROUND CONDUIT: RMC, TYPE EPC-40-PVC, DIRECT BURIED
CONDUIT FOR VIBRATING EQUIPMENT: LFMC
BOXES & ENCLOSURES: ABOVEGROUND: NEMA 250, TYPE 3R OR 4

INDOOR:
EXPOSED: NOT SUBJECT TO PHYSICAL DAMAGE; EMT
CONCEALED IN CEILINGS & INTERIOR WALLS & PARTITIONS: EMT
CONCEALED IN PRECAST: PVC-40
CONDUIT FOR VIBRATING EQUIPMENT: FMC, EXCEPT USE LFMC IN DAMP OR WET LOCATIONS
DAMP OR WET LOCATION: RIGID STEEL CONDUIT
RACEWAYS FOR OPTICAL FIBER OR COMMUNICATIONS CABLE: EMT
BOXES & ENCLOSURES: NEMA 250, TYPE 1, EXCEPT USE NEMA 250, TYPE 4 STAINLESS STEEL OR NONMETALLIC IN DAMP OR WET LOCATIONS

RACEWAY FITTINGS: COMPATIBLE WITH RACEWAYS & SUITABLE FOR USE & LOCATION. STEEL, SET-SCREW OR COMPRESSION TYPE.

EXECUTION:
WIRING SHALL BE INSTALLED IN RACEWAYS, UNLESS OTHERWISE INDICATED.
RUNS ARE DIAGRAMMATIC. ACTUAL LOCATIONS SHALL BE DETERMINED IN THE FIELD.
RACEWAYS IN GENERAL (EXCEPT WHERE OTHERWISE INDICATED) SHALL BE ELECTRICAL METALLIC TUBING, 3/4" MINIMUM SIZE.
IN THE RARE OCCASIONS THAT A DEVICE DOES NOT ACCEPT A 3/4" CONDUIT A 1/2" CONDUIT IS ACCEPTABLE AS LONG AS THE 1/2" CONDUIT IS KEPT TO A LENGTH NO LONGER THAN 6'-0" IN LENGTH.
AT NO TIME SHALL THE NATIONAL ELECTRICAL CODE CONDUIT FILL REQUIREMENTS BE EXCEEDED.

INSTALLATION:
CONCEAL CONDUIT & EMT WITH FINISHED WALLS, CEILING, & FLOORS, UNLESS OTHERWISE INDICATED.
INSTALL CONDUITS PARALLEL, OR PERPENDICULAR TO BUILDING LINES.
INSTALL PULL WIRES IN EMPTY RACEWAYS; USE POLYPROPYLENE OR MONOFILAMENT PLASTIC LINE WITH NOT LESS THAN 1/8" MINIMUM TENSILE STRENGTH. LEAVE AT LEAST 12 INCHES OF SLACK AT EACH END OF PULL WIRE.
EQUIPMENT SUBJECT TO VIBRATION, NOISE TRANSMISSION, OR MOVEMENT & FOR TRANSFORMERS & MOTORS, SHALL HAVE A MAXIMUM LENGTH OF 30 INCHES FOR FLEXIBLE CONDUIT.
APPLY FIRE STOPPING TO ELECTRICAL PENETRATIONS OF FIRE-RATED FLOOR & WALL ASSEMBLIES TO RESTORE ORIGINAL FIRE-RESISTANCE RATING OF ASSEMBLY.

260533 IDENTIFICATION

QUALITY ASSURANCE: COMPLY WITH ANSI A13.1, COMPLY WITH NFPA 70. ADHESIVE-ATTACHED LABELING MATERIALS, INCLUDING LABEL STOCKS, LAMINATING ADHESIVES, & INKS USED BY LABEL PRINTERS, SHALL COMPLY WITH UL 969.

INSTALLATION: INSTALL IDENTIFICATION MATERIALS AT LOCATIONS FOR MOST CONVENIENT VIEWING WITHOUT INTERFERENCE WITH OPERATION & MAINTENANCE OF EQUIPMENT.

EQUIPMENT IDENTIFICATION LABELS: APPLY LABELS TO DISCONNECT SWITCHES & PROTECTION EQUIPMENT, CENTRAL OR MASTER UNITS, CONTROL PANELS, CONTROL STATIONS, TERMINAL CABINETS, & RACKS OF EACH SYSTEM. SYSTEMS INCLUDE POWER, LIGHTING, CONTROL, COMMUNICATION, SIGNAL, MONITORING, & ALARM SYSTEMS UNLESS EQUIPMENT IS PROVIDED WITH ITS OWN IDENTIFICATION. LABEL SWITCHBOARDS & PANELBOARDS WITH DESIGNATION, VOLTAGE, & PHASE.

LABELING INSTRUCTIONS:
INDOOR EQUIPMENT: SELF-ADHESIVE, ENGRAVED, LAMINATED ACRYLIC OR MELAMINE LABEL. PROVIDE A SINGLE LINE OF TEXT WITH 1/2" HIGH LETTERS ON 1-1/2" HIGH LABEL, WHERE TWO-2 LINES OF TEXT ARE REQUIRED, USE TWO LINES OF 1/2" HIGH LETTERS ON DARK-GRAY BACKGROUND.
OUTDOOR EQUIPMENT: ENGRAVED, LAMINATED ACRYLIC OR MELAMINE LABEL.
ELEVATED COMPONENTS: INCREASE SIZES OF LABELS & LETTERS TO THOSE APPROPRIATE FOR VIEWING FROM THE FLOOR.

260923 LIGHTING CONTROL DEVICES

INDOOR OCCUPANCY SENSORS:
GENERAL DESCRIPTION: WALL-OR CEILING-MOUNTING, SOLID-STATE UNITS WITH A SEPARATE RELAY UNIT. OPERATION: UNLESS OTHERWISE INDICATED, TURN LIGHTS ON WHEN COVERED AREA IS OCCUPIED & OFF WHEN UNOCCUPIED; WITH AT TIME DELAY FOR TURNING LIGHTS OFF, ADJUSTABLE OVER MINIMUM RANGE OF 1' TO 15 MINUTES.

SENSOR OUTPUT: CONTACTS RATED TO OPERATE THE CONNECTED RELAY, COMPLYING WITH UL 773A. SENSOR SHALL BE POWERED FROM THE RELAY UNIT.
RELAY UNIT: DRY CONTACTS RATED FOR 20-A BALLAST LOAD AT 120- AND 277-V AC, FOR 13-A TUNGSTEN AT 120V- AC, AND FOR 1 HP AT 120-V AC. POWER SUPPLY TO SENSOR SHALL BE 24-V DC, 15-mA, CLASS 2 POWER SOURCE AS DEFINED BY NFPA 70.

MOUNTING:
SENSOR: SUITABLE FOR MOUNTING IN ANY POSITION ON A STANDARD OUTLET BOX.
REFRACTORS: INTERNALLY MOUNTED THROUGH A 1/2-INCH KNOCKOUT IN A STANDARD ELECTRICAL ENCLOSURE. TIME-DELAY AND SENSITIVITY ADJUSTMENTS: RECESSED & CONCEALED BEHIND HINGED DOOR.
INDICATOR: LED, TO SHOW WHEN MOTION IS BEING DETECTED DURING TESTING & NORMAL OPERATION OF THE SENSOR.

BYPASS SWITCH: OVERRIDE THE ON FUNCTION IN CASE OF SENSOR FAILURE.
AUTOMATIC LIGHT-LEVEL SENSOR: ADJUSTABLE FROM 2 TO 200 FC, KEEP LIGHTING OFF WHEN SELECTED LIGHTING LEVEL IS PRESENT.
PIR TYPE: CEILING MOUNTING; DETECT OCCUPANCY BY SENSING A COMBINATION OF HEAT & MOVEMENT IN AREA OF COVERING DEVICE.

DETECTOR SENSITIVITY: DETECT OCCURRENCES OF 6-INCH MINIMUM MOVEMENT OF ANY PORTION OF A HUMAN BODY PRESENTS IN THE FIELD OF VIEW OF THE TARGET AREA OR LESS THAN 36 IN.
DETECTOR COVERAGE (ROOM): DETECT OCCUPANCY ANYWHERE IN A CIRCULAR AREA OF 1000 SQ FT WHEN MOUNTED ON A 96-INCH HIGH CEILING.
DETECTOR COVERAGE (CORRIDOR): DETECT OCCUPANCY WITHIN 90 FEET WHEN MOUNTED ON A 10-FOOT HIGH CEILING.

PROVIDE PRODUCT DATA FOR EACH TYPE OF SENSOR. MARK SUBMITTAL WITH SAME DESIGNATIONS AS SCHEDULED.

262726 WIRING DEVICES

QUALITY ASSURANCE: COMPLY WITH NFPA 70.

STRAIGHT BLADE RECEPTACLES:
CONVENIENCE RECEPTACLES, 125V, 20A, COMPLY WITH NEMA WD 1, NEMA WD 6 CONFIGURATION 5-20R, & UL 498 SPECIFICATION GRADE, PASS & SEYMOUR 5362 OR EQUAL.

GFCI RECEPTACLES: STRAIGHT BLADE, FEED-THROUGH TYPE, COMPLY WITH NEMA WD 1, NEMA WD 6, UL 498, & UL 943, CLASS A, & INCLUDE INDICATOR LIGHT THAT IS LIGHTED WHEN DEVICE IS TRIPPED.
DUPLEX GFCI CONVENIENCE RECEPTACLES, 125V, 20A, PASS & SEYMOUR 2095 OR EQUAL.

TOGGLE SWITCHES: COMPLY WITH NEMA WD 1 & UL 20. SPECIFICATION GRADE.
SWITCHES: 120/277V, 20A, PASS & SEYMOUR PS20A21 OR EQUAL.

WALL PLATES:
SINGLE & COMBINATION TYPES TO MATCH CORRESPONDING WIRING DEVICES.
MATERIAL FOR FINISHED SPACES: SMOOTH, HIGH-IMPACT THERMOPLASTIC (0.035-INCH-THICK, SATIN-FINISHED STAINLESS STEEL).
MATERIAL FOR UNFINISHED SPACES: GALVANIZED STEEL.

MATERIAL FOR DAMP LOCATIONS: CAST ALUMINUM WITH SPRING-LOADED LIFT COVER, & LISTED & LABELED FOR USE IN "WET LOCATIONS".
WALL PLATE: WEATHER-PROOF COVER PLATES: NEMA 250, COMPLYING WITH TYPE 3R WEATHER-RESISTANT, DIE-CAST ALUMINUM WITH LOCKABLE COVER.

FINISHES:
DEVICE COLOR:
WIRING DEVICES CONNECTED TO NORMAL POWER SYSTEM: AS SELECTED BY ARCHITECT UNLESS OTHERWISE INDICATED OR REQUIRED BY NFPA 70 OR DEVICE LISTING. MATCH EXISTING WHERE APPLICABLE.
WIRING DEVICES CONNECTED TO EMERGENCY POWER SYSTEM: RED
WALL PLATE COLOR: FOR PLASTIC COVERS, MATCH DEVICE COLOR.

INSTALLATION: COMPLY WITH NECA 1, INCLUDING MOUNTING HEIGHTS LISTED IN THAT STANDARD, UNLESS OTHERWISE INDICATED. TAKE STEPS TO INSURE THAT DEVICES & THEIR BOXES ARE PROTECTED. INSTALL WIRING DEVICES AFTER ALL WALL PREPARATION, INCLUDING PAINTING, IS COMPLETE, UNLESS OTHERWISE INDICATED. MOUNT FLUSH WITH LONG DIMENSION VERTICAL & WITH GROUNDING TERMINAL OF RECEPTACLES ON BOTTOM. GROUP ADJACENT SWITCHES UNDER SINGLE, MULTIGANG WALL PLATES. INSTALL THE RECEPTACLES & TELEPHONE DATA IN 18" APART, & THE WALL SWITCHES AT 48" APART, UNLESS OTHERWISE INDICATED. DO NOT INSTALL/OCCUPY OUTLETS BACK-TO-BACK EVEN IF ASSOCIATED WITH DIFFERENT SYSTEMS.

FIELD QUALITY CONTROL: PERFORM TESTS & INSPECTIONS, VERIFY THAT DEVICE & OUTLET BOX ARE SECURELY MOUNTED, CORRECT CIRCUIT CONDITIONS, REMOVE MALFUNCTIONING UNITS & REPLACE WITH NEW, & RETEST.

262913 ENCLOSED CONTROLLERS

MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE SQUARE D OR A COMPARABLE PRODUCT.

COORDINATION: COORDINATE LAYOUT & INSTALLATION OF ENCLOSED CONTROLLERS WITH OTHER CONSTRUCTION INCLUDING CONDUIT, PIPING, EQUIPMENT, & ADJACENT SURFACES. MAINTAIN REQUIRED WORKSPACE CLEARANCES & REQUIRED CLEARANCES FOR EQUIPMENT ACCESS DOORS & PANELS.

PRODUCTS:
FULL-VOLTAGE CONTROLLERS:
COMPLY WITH NEMA ICS 2, GENERAL PURPOSE, CLASS A.
MOTOR-STARTING SWITCHES: "QUICK-MAKE, QUICK-BREAK" TOGGLE OR PUSH-BUTTON ACTION; MARKED TO SHOW WHETHER UNIT IS OFF OR ON.
FUNCTIONAL, HORSEPOWER MANUAL CONTROLLERS: "QUICK-MAKE, QUICK-BREAK" TOGGLE OR PUSH-BUTTON ACTION; MARKED TO SHOW WHETHER UNIT IS OFF, ON, OR TRIPPED.
OVERLOAD RELAYS: INVERSE-TIME-CURRENT CHARACTERISTICS; NEMA ICS 2, CLASS 20 TRIPPING CHARACTERISTICS; HEATERS MATCHED TO NAMEPLATE FULL-LOAD CURRENT OF AN ISOLATED PROTECTED MOTOR; EXTERNAL RESET PUSH BUTTON; BIMETALLIC TYPE.
COMBINATION MAGNETIC CONTROLLER: FACTORY-ASSEMBLED COMBINATION OF MAGNETIC CONTROLLER, OCPD, & DISCONNECTING MEANS.

AUXILIARY CONTACTS: N.O.N.C., ARRANGED TO ACTIVATE BEFORE SWITCH BLADES OPEN.
NONFUSIBLE DISCONNECTING MEANS: NEMA KS 1, HEAVY-DUTY, HORSEPOWER-RATED, NONFUSIBLE SWITCH. LOCKABLE HANDLE: ACCEPTS THREE PADLOCKS & INTERLOCKS WITH COVER IN CLOSED POSITION.

ENCLOSURES: NEMA ICS 6, TO COMPLY WITH ENVIRONMENTAL CONDITIONS AT INSTALLED LOCATION.
CLEAN INDOOR LOCATIONS: TYPE 1
OUTDOOR LOCATIONS: TYPE 3R
KITCHEN AREAS: TYPE 4X, STAINLESS STEEL.
OTHER WET OR DAMP INDOOR LOCATIONS: TYPE 4
INDOOR LOCATIONS SUBJECT TO DUST, FILING DIRT, & DRIPPING NONCORROSIVE LIQUIDS: TYPE 12

ACCESSORIES: GENERAL REQUIREMENTS FOR CONTROL CIRCUIT & PILOT DEVICES: NEMA ICS 5, FACTORY INSTALLED IN CONTROLLER ENCLOSURE COVER UNLESS OTHERWISE INDICATED.

INSTALLATION: INSTALL ENCLOSED CONTROLLERS ON WALLS WITH TOPS AT UNIFORM HEIGHT & BY BOLTING UNITS TO WALL OR MOUNTING ON LIGHTWEIGHT STRUCTURAL-STEEL CHANNELS BOLTED TO WALL. FOR CONTROLLERS NOT AT WALLS, PROVIDE FREESTANDING RACKS. INSTALL WIRING BETWEEN ENCLOSED CONTROLLERS & REMOTE DEVICES.

ADJUSTING: SET FIELD-ADJUSTABLE SWITCHES, AUXILIARY RELAYS, TIME-DELAY RELAYS, TIMERS, & OVERLOAD-TRIP PICKUP & TRIP RANGES.

265100 INTERIOR LIGHTING

GENERAL REQUIREMENTS FOR LIGHTING FIXTURES & COMPONENTS.
RECESSED FIXTURES: COMPLY WITH NEMA LE 4 FOR CEILING COMPATIBILITY FOR RECESSED FIXTURES.
METAL PARTS: FREE OF BURRS & SHARP CORNERS & EDGES.
SHEET METAL COMPONENTS: STEEL, UNLESS OTHERWISE INDICATED. FORM & SUPPORT TO PREVENT WARPING & SAGGING.
DOORS, FRAMES, & OTHER INTERNAL ACCESS: SMOOTH OPERATING, FREE OF LIGHT LEAKAGE UNDER OPERATING CONDITIONS, & DESIGNED TO PERMIT RELAMPING WITHOUT USE OF TOOLS, DESIGNED TO PREVENT DOORS, FRAMES, LENSES, DIFFUSERS, & OTHER COMPONENTS FROM FALLING ACCIDENTALLY DURING RELAMPING & WHEN SECURED IN OPERATING POSITION.
DIFFUSERS & GLOBES:
ACRYLIC LIGHTING DIFFUSER: 100 PERCENT VIRGIN ACRYLIC PLASTIC, HIGH RESISTANCE TO YELLOWING & OTHER CHANGES DUE TO AGING, EXPOSURE TO HEAT, & UV RADIATION.
LENS THICKNESS: AT LEAST 0.125-INCH MINIMUM, UNLESS OTHERWISE INDICATED.
UV STABILIZED.
GLASS: ANNEALED CRYSTAL GLASS, UNLESS OTHERWISE INDICATED.

EXIT SIGNS:
GENERAL REQUIREMENTS FOR EXIT SIGNS: COMPLY WITH UL 924, FOR SIGN COLORS, VISIBILITY, LUMINANCE, & LETTERING SIZE. COMPLY WITH AUTHORITIES HAVING JURISDICTION.
INTERNALLY LIGHTED SIGNS:
LAMPS FOR AC OPERATION: LEGS, 50,000 HOURS MINIMUM RATED LAMP LIFE.
SELF-DUMPED EXIT SIGNS (BATTERY TYPE): INTEGRAL AUTOMATIC CHARGER IN A SELF-CONTAINED POWER PACK.

EMERGENCY LIGHTING UNITS:
GENERAL REQUIREMENTS FOR EMERGENCY LIGHTING UNITS: SELF-CONTAINED UNITS COMPLYING WITH UL 924.

LIGHTING FIXTURE SUPPORT COMPONENTS:
COMPLY WITH DIVISION 26 SECTION "HANGERS & SUPPORTS FOR ELECTRICAL SYSTEMS" FOR CHANNEL- & ANGLE-IRON SUPPORTS & NONMETALLIC CHANNEL & ANGLE SUPPORTS.
SINGLE-STEM HANGERS: 1/2-INCH STEEL TUBING WITH SWIVEL BALL FITTINGS & CEILING CANOPY. FINISH SAME AS FIXTURE.
TWIN-STEM HANGERS: TWO, 1/2-INCH STEEL TUBES WITH SINGLE CANOPY DESIGNED TO MOUNT A SINGLE FIXTURE. FINISH SAME AS FIXTURE.

INSTALLATION:
COMPLY WITH NECA 1.
LUMINAIRE LEVEL, PLUMB AND SQUARE WITH CEILINGS AND WALL UNLESS OTHERWISE INDICATED.
SUPPORTS:
SIZED AND RATED FOR LUMINAIRE WEIGHT.
ABLE TO MAINTAIN LUMINAIRE POSITION AFTER CLEANING AND RELAMPING.
PROVIDE SUPPORT FOR LUMINAIRE WITHOUT CAUSING DEFLECTION OF CEILING OR WALL.
LUMINAIRE MOUNTING DEVICES SHALL BE CAPABLE OF SUPPORTING A HORIZONTAL FORCE OF 100% OF LUMINAIRE WEIGHT AND VERTICAL FORCE OF 400% OF LUMINAIRE WEIGHT.

SUSPENDED LIGHTING FIXTURE SUPPORT:
PENDANTS AND RODS: WHERE LONGER THAN 48 INCHES, BRACE TO LIGHT SWINGING.
2. STEM-MOUNTED, SINGLE UNIT FIXTURES: SUSPEND WITH TWIN STEM HANGERS.
3. CONTINUOUS ROWS: USE TUBING OR STEM FOR WIRING AT ONE POINT AND TUBING OR ROD FOR SUSPENSION FOR EACH UNIT LENGTH OF FIXTURE CHASSIS INCLUDING ONE AT EACH END OR AIRCRAFT CABLE AS SPECIFIED IN LIGHT FIXTURE SCHEDULE.

LIGHT FIXTURES RECESSED IN SUSPENDED CEILINGS SHALL BE ATTACHED TO GRID AND HAVE TWO (2) WIRES MINIMUM INSTALLED AT DIAGONAL CORNERS TO STRUCTURE.

265119 INTERIOR LED LIGHTING

PROVIDE PRODUCT DATA FOR EACH TYPE OF LIGHTING FIXTURE. USE SAME DESIGNATIONS INDICATED ON DRAWINGS.

RECESSED FIXTURE: COMPLY WITH NEMA LE 4 FOR CEILING COMPATIBILITY FOR RECESSED FIXTURES. COMPLY WITH NFPA 70, IEEE C2, AND CALIFORNIA TITLE 24 (WHERE REQUIRED).

LED LUMINAIRES:
COMPLY WITH UL 1598 AND UL 8750
LAMPS DIMMABLE FROM 100 PERCENT TO 10 PERCENT OF MAXIMUM LIGHT OUTPUT.
EACH LUMINAIRE SHALL BE RATED FOR A MINIMUM OPERATIONAL LIFE (L70) OF 50,000 HOURS AS DEFINED BY IES LM-80 AND TM-21.
ABSOLUTE PHOTO-METRICS SHALL BE AVAILABLE FOR EACH LUMINAIRE BASED ON IES LM-79.
INDIVIDUAL LEADS WITHIN THE LUMINAIRE SHALL BE CONNECTED SUCH THAT LOSS OR FAILURE OF A SINGLE LED WILL NOT RESULT IN THE LOSS OF THE ENTIRE ARRAY.
LED LAMPS SHALL HAVE A MINIMUM CRI OF 80.
LUMINAIRE POWER FACTOR: 0.90 OR HIGHER.
TOTAL HARMONIC DISTORTION: LESS THAN 20 PERCENT.

ADJUST AMBIE LUMINAIRES IN THE PRESENCE OF ARCHITECT, COORDINATE CONDUCTOR QUANTITY WITHIN ROOMS TO MATCH WITH FIXTURE LOCATION AND LIGHTING CONTROL REQUIREMENTS, 0-10V DIMMING FIXTURES REQUIRE ADDITIONAL CONDUCTORS FOR LIGHTING CONTROL.

TEST EMERGENCY LIGHTING: INTERRUPT POWER SUPPLY TO DEMONSTRATE PROPER OPERATION. VERIFY TRANSFER FROM NORMAL POWER TO BATTERY AND RETRANSFER TO NORMAL. TEST SHALL BE 90 MINUTE ON BATTERY SOURCE ONLY AND SHALL MAINTAIN LUMINATION. REPLACE UNITS/BATTERIES THAT FAIL TESTING.

265600 EXTERIOR LIGHTING

GENERAL REQUIREMENTS FOR LUMINAIRES:
LUMINAIRES SHALL COMPLY WITH UL 1598 & BE LISTED & LABELED FOR INSTALLATION IN WET LOCATION BY AN NRTL, ACCEPTABLE TO AUTHORITIES HAVING JURISDICTION.
METAL PARTS: FREE OF BURRS & SHARP CORNERS & EDGES.
SHEET METAL COMPONENTS: CORROSION-RESISTANT ALUMINUM UNLESS OTHERWISE INDICATED. FORM & SUPPORT TO PREVENT WARPING & SAGGING.
HOUSINGS: RIGIDLY FORMED, WEATHER- & LIGHT-TIGHT ENCLOSURES THAT WILL NOT WARP, SAG, OR DEFORM IN USE. PROVIDE FILTER/BREATHER FOR ENCLOSED LUMINAIRES.
DOORS, FRAMES, & OTHER INTERNAL ACCESS: SMOOTH OPERATING, FREE OF LIGHT LEAKAGE UNDER OPERATING CONDITIONS, & DESIGNED TO PERMIT RELAMPING WITHOUT USE OF TOOLS, DESIGNED TO PREVENT DOORS, FRAMES, LENSES, DIFFUSERS, & OTHER COMPONENTS FROM FALLING ACCIDENTALLY DURING RELAMPING & WHEN SECURED IN OPERATING POSITION. DOORS SHALL BE REMOVABLE FOR CLEANING OR REPLACING LENSES, DESIGNED TO DISCONNECT BALLAST WHEN DOOR OPENS.
EXPOSED HARDWARE MATERIAL: STAINLESS STEEL.
PLASTIC PARTS: HIGH RESISTANCE TO YELLOWING & OTHER CHANGES DUE TO AGING, EXPOSURE TO HEAT, & UV RADIATION.
LENSES AND REFRACTORS GASKETS: USE HEAT- & AGING-RESISTANT RESILIENT GASKETS TO SEAL & CUSHION LENSES & REFRACTORS IN LUMINAIRE DOORS.
LUMINAIRE FINISH: MANUFACTURER'S STANDARD PAINT APPLIED TO FACTORY-ASSEMBLED & TESTED LUMINAIRE BEFORE SHIPPING. WHERE INDICATED, MATCH FINISH PROCESS & COLOR OF POLES OR SUPPORT MATERIALS.
FACTORY-APPLIED FINISH FOR ALUMINUM LUMINAIRES: CLASS 1, COLOR ANODIC FINISH: AA-M3C22A42/A44 (MECHANICAL FINISH: MEDIUM SATIN; CHEMICAL FINISH: ETCHED, MEDIUM MATTE; ANODIC COATING: ARCHITECTURAL CLASS 1, INTEGRALLY COLORED OR ELECTROLYTICALLY DEPOSITED COLOR COATING 0.018 MM OR THICKER) COMPLYING WITH AAMA 611.
COLOR: NATURAL ALUMINUM.
FACTORY-APPLIED LABELS: COMPLY WITH UL 1598. INCLUDE RECOMMENDED LAMPS & BALLASTS. LABELS SHALL BE LOCATED WHERE THEY WILL BE READILY VISIBLE TO SERVICE PERSONNEL, BUT NOT SEEN FROM NORMAL VIEWING ANGLES WHEN LAMPS ARE IN PLACE.

GENERAL REQUIREMENTS FOR POLES & SUPPORT COMPONENTS:
STRUCTURAL CHARACTERISTICS: COMPLY WITH ASHPTC TS-4-M.
STRENGTH ANALYSIS: FOR EACH POLE, MULTIPLY THE ACTUAL EQUIVALENT PROJECTED AREA OF LUMINAIRES & BRACKETS BY A FACTOR OF 1.3 TO OBTAIN THE EQUIVALENT PROJECTED AREA TO BE USED IN POLE SELECTION STRENGTH ANALYSIS.
LUMINAIRE ATTACHMENT PROVISIONS: COMPLY WITH LUMINAIRE MANUFACTURER'S MOUNTING REQUIREMENTS. USE STAINLESS-STEEL FASTENERS & MOUNTING BOLTS UNLESS OTHERWISE INDICATED.
MOUNTING: FASTENERS, & APPURTENANCES: CORROSION-RESISTANT ITEMS COMPATIBLE WITH SUPPORT COMPONENTS.

MATERIALS: SHALL NOT CAUSE GALVANIC ACTION AT CONTACT POINTS.
ANCHOR BOLTS, LEVELING NUTS, BOLT CAPS, & WASHERS: HOT-DIP GALVANIZED AFTER FABRICATION UNLESS OTHERWISE INDICATED.
ANCHOR-BOLT TEMPLATE: PLYWOOD OR STEEL.
HANDLE: OVAL-SHAPED, WITH MINIMUM CLEAR OPENING OF 2-1/2 BY 5 INCHES, WITH COVER SECURED BY STAINLESS-STEEL CAPTIVE SCREWS.
CONCRETE POLE FOUNDATIONS: CAST IN PLACE, WITH ANCHOR BOLTS TO MATCH POLE-BASE FLANGE.

STEEL POLES:
SOURCE LIMITATIONS: OBTAIN POLES FROM SINGLE MANUFACTURER OR PRODUCER.
SOURCE LIMITATIONS: FOR POLES, OBTAIN EACH COLOR, GRADE, FINISH, TYPE, AND VARIETY OF POLE FROM SINGLE SOURCE WITH RESOURCES TO PROVIDE PRODUCTS OF CONSISTENT QUALITY IN APPEARANCE AND PHYSICAL PROPERTIES.
POLES: COMPLY WITH ASTM A500/A500M, GRADE B CARBON STEEL WITH A MINIMUM YIELD OF 46,000 PHSI (017 MPa); ONE-PIECE CONSTRUCTION UP TO 40 FEET (12 M) IN HEIGHT WITH ACCESS HANDLE ON POLE WALL.

SHAPE: [ROUND, TAPERED] [ROUND, STRAIGHT] [SQUARE, TAPERED] [SQUARE, STRAIGHT].
MOUNTING PROVISIONS: BUTT FLANGE FOR BOLTED MOUNTING ON FOUNDATION OR BREAKAWAY SUPPORT.

BRACKETS FOR LUMINAIRES: DETACHABLE, CANTILEVER, WITHOUT UNDERBRACE. ADAPTOR FITTING WELDED TO POLE, ALLOWING THE BRACKET TO BE BOLTED TO THE POLE. MOUNTED ADAPTER, THEN BOLTED TOGETHER WITH [STAINLESS] [GALVANIZED] STEEL BOLTS.

CROSS SECTION: TAPERED OVAL, WITH STRAIGHT TUBULAR END SECTION TO ACCOMMODATE LUMINAIRE. MATCH POLE MATERIAL AND FINISH.

POLE-TOP TENONS: FABRICATED TO SUPPORT LUMINAIRE OR LUMINAIRES AND BRACKETS INDICATED, AND SECURELY FASTENED TO POLE TOP.

**City of David City
Recreation Department**

Date: February 24th, 2026

To: Mayor and City Council
From: William Reiter, Recreation Director
Re: David City Ballfield Restroom Addition – Plan Approval Recommendation

I will be unable to attend the upcoming City Council meeting due to a previously scheduled County Planning Commission hearing and meeting.

After reviewing the construction plans for the David City Ballfield Restroom Addition and consulting with the project engineer, I recommend approval of the project contingent upon the inclusion of ventilation for the lean-to roof area that will enclose the new restroom.

Because the restroom addition will convert previously open space into an enclosed ceiling cavity, proper intake and exhaust ventilation is necessary to prevent moisture accumulation and to ensure long-term building durability. The project engineer has acknowledged this need and indicated that ventilation will be added to the plans.

This recommendation is intended to protect the City's long-term maintenance interests while allowing the project to proceed without delay.

Respectfully submitted,

William Reiter



Recreation Director
City of David City

**City of David City
Recreation Department**

Date: February 24th, 2026

To: Mayor and City Council
From: William Reiter, Recreation Director
Re: TIPS USA- membership

Mayor and Members of the Council,

I would like to briefly explain why I am recommending approval of membership in TIPS (The Interlocal Purchasing System).

TIPS is a national cooperative purchasing entity used by public agencies, schools, and municipalities to procure construction and services through competitively solicited contracts. The purpose of joining TIPS is not to avoid bidding requirements, but to use a procurement method that has already completed a full competitive solicitation process meeting state and federal standards.

Membership gives the City an additional legally compliant procurement option. It does not obligate the City to purchase anything, nor does it eliminate Council oversight or approval authority. Each project would still come before the Council for authorization.

The benefit is administrative efficiency and risk reduction. For large or specialized projects, traditional bidding can delay timelines and increase the risk of failed bids or rebidding. Cooperative purchasing allows the City to use an already-established competitive contract, reducing project delays while maintaining compliance with procurement regulations.

This is particularly important when projects involve grants or construction timelines. Having multiple procurement tools available helps ensure the City can complete projects within funding deadlines while maintaining proper documentation and audit compliance.

In short, joining TIPS does not commit the City to spending funds — it simply expands the procurement tools available to the City so future projects can be completed efficiently, competitively, and in compliance with applicable regulations.

For these reasons, I recommend approval of TIPS membership as a procedural tool for future projects.

Thank you.

William Reiter



Recreation Director
City of David City



MEMBERSHIP
B E N E F I T S

ABOUT TIPS

Purchasing Cooperative

TIPS is a national purchasing cooperative offering competitively solicited contracts to education government and nonprofit agencies, saving them both time and money. TIPS provides a proven, streamlined process that eliminates the purchasing stress for Members.



www.tips-usa.com

866-839-8477

TIPS MEMBERS

are able to save time and money without the delay and expense because TIPS completes the competitive bid process for you

BENEFITS

Full-Line Contract Solutions

- Choose the products & services desired

Leveraging Relationships

- Select the Vendor desired to purchase from & work with
- TIPS is always available to assist in the process & confirm pricing

Quality Pricing

- Avoid low-bids and low-quality awards.
- Receive national volume, ceiling-based, discounted pricing
- Submit your own RFQ and specs through our Member Portal in one easy step

WHO CAN JOIN

The benefits of using TIPS are available to Education, Government and Non-Profit Agencies



TIPS is the purchasing cooperative of Region 8 Education Service Center, the **Lead Public Agency**.



TIPS has the **legislative authority** to establish contracts for government and education agencies **nationwide**.



Membership is **FREE** with no purchasing obligation or liability. Members gain immediate access to our competitively procured contracts with **quality vendors**.



