FEH DESIGN

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CASCADE PUBLIC LIBRARY

CASCADE, IOWA

DESIGN DEVELOPMENT BOOKLET

PROJECT DIRECTORY

Cascade Public Library

Second Avenue SW
Cascade, IA 52033
Lisa Kotter – City Administrator
Melissa Kane – Library Director

FEH Design

951 Main Street
Dubuque, IA 52001

Kevin Eipperle	Principal in Charge	563 583 4900
Christy Monk	Architect	563 583 4900
Michael Gehl	Intern Architect	563 583 4900
Bryan Blair	Structural Engineer	563 583 4900
Elliot Carlovsky	Structural Designer	563 583 4900
Karen Greiner	Interior Designer	563 583 4900
Ellie Wigginton	Interior Designer	563 583 4900
Dieter Muhlack	Mechanical Engineer	563 542 9005
Brian Fuller	Electrical Engineer	608 277 1728
Pat Norton	Civil Engineer	563 495 3307

THANK YOU!

Thank you to the group of individuals who make up the Core Committee and the citizens who participated in the meetings and design charrette workshops. Everyone's input and guidance were invaluable in the review, evaluation, and design process.

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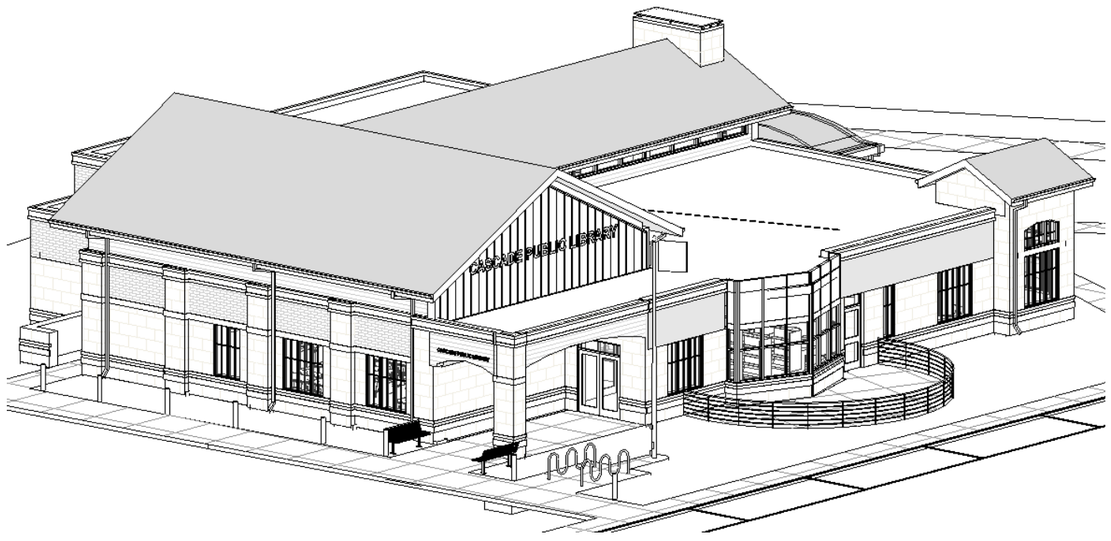
Authorization to Proceed

The undersigned representative for the Cascade Public Library, acknowledges that the Design Development Documents, as compiled and attached hereto, have been received as complete and accurate, and authorize proceeding into the Construction Document phase for the project.

Signature: _____

Date: _____



GOALS FOR SUCCESS

Create a new Cascade Library that:

- provides adequate space for a robust collection.
- offers adequate space for delivering services and programming.
- provides access to current, 21st Century technologies and tools (i.e., internet, computers, digital media, 3D printer, laser cutter).
- is expandable and flexible to accommodate change in the future to best insure its longevity.
- is built with materials to withstand the test of time.
- is developed after a thorough evaluation of the possible options to best insure is suitability for the community.
- becomes a space for the community to gather.
- is inviting and welcoming to people of all ages, especially preteens/teens that are overlooked by current library spaces.
- is family friendly and an exciting and fun place to visit.
- provides barrier free access for everyone.
- is a safe and secure place for all users.
- is centrally located and has walking access.
- reflects the Heart and Soul values of Cascade:
  - C – Community: We cherish our history but look towards the future to bring together long-time residents and newcomers alike.
  - A- Atmosphere: We pride ourselves on the generous, kind people who support one another, creating a family atmosphere.
  - S – Safety: We are dedicated to sustaining a well-kept, safe community that everyone can call home.
  - C – Convenience: We value our centrally-located community with amenities for all.
  - A – Activities: We treasure the activities that bring our community together through music, sports, faith & other events.
  - D – Development: We value our local businesses and industries that create jobs and encourage growth & revitalization.
  - E – Education: We invest in future generations by offering excellent choices in childcare, schools & extracurricular activities

SPACE NEEDS / OUTLINE PROGRAM

Adult

Adult Collections	515
Reader Seating	954
Computer/ Technology Stations	273
Adult Sub-Total	**1,742 NASF**

Young Adult

Children's Collection	32
Reader Seating	182
Computer/ Technology Stations	90
Young Adult Sub-Total	**304 NASF**

Children's/Youth

Children's Collection	715
Reader Seating	409
Computer/ Technology Stations	40
Children's/Youth Sub-Total	**1,164 NASF**

Meeting Spaces

Public Meeting Room	1,125
Meeting Space Sub-Total	**1,125 NASF**

Other Spaces

Coffee Bar	64
Friends Book Area	25
Miscellaneous Spaces	35
Supply Storage	44
General Storage	155
Entrance Lobby	155
Service/Loading Entrance	52
Other Spaces Sub-Total	**530 NASF**

Staff Spaces

Director's Office	190
Circulation Workstations	320
General Staff Workspace	400
Staff Lunch/Break Room	180
Staff Spaces Sub-Total	**1,090 NASF**

SUMMARY

ASSIGNABLE TOTAL SQUARE FOOTAGE	**6,250 Net Assignable SF**
Net to Gross SF Efficiency Factor @ 31% =	1,730 SF
TOTAL	**7,685 Gross Square Feet**

OPINION OF PROBABLE COST

Project Number: 2021310
Phase: Design Development

Owner : City of Cascade
Project : New Library

Date : 5/4/23
Estimator : KE

FEH DESIGN

DESCRIPTION	QTY	UNIT	COST/SF	Design Development 5/4/2023 TOTALS	Schematic Design 3/7/2023	Concept Design 9/1/2021 TOTALS
Building Construction Costs:						
1 GENERAL REQUIREMENTS 7%, Overhead 5%, Profit 5%	1	LS		353,326	279,444	
2 SITEWORK & utilities	1	LS		336,595	366,857	
3 SELECTIVE DEMOLITION	1	LS		0	12,000	
4 SUBSTRUCTURE	1	LS		139,882	135,682	
5 SUPERSTRUCTURE	1	LS		171,212	205,857	
6 EXTERIOR ENCLOSURE	1	LS		357,230	371,300	
7 ROOFING	1	LS		151,551	145,776	
8 INTERIOR CONSTRUCTION	1	LS		289,743	289,260	
9 SPECIALTIES AND EQUIPMENT	1	LS		61,190	83,390	
10 CONVEYING SYSTEMS	1	LS		0	0	
11 FIRE PROTECTION	1	LS		0	0	
12 PLUMBING	1	LS		70,603	49,316	
13 MECHANICAL HVAC	1	LS		275,310	269,415	
14 ELECTRICAL	1	LS		158,435	152,075	
15 SECURITY	1	LS		31,440	31,440	
16 VOICE, DATA & SPECIAL SYSTEMS	1	LS		33,000	33,000	
SubTotal			309.10	2,429,517	2,424,812	2,067,065
Design / Bid Contingency 6.5%				157,919	181,861	310,060
Building Construction Costs SubTotal				2,587,435	2,606,673	2,377,125
Construction Contingency 5%				129,372	130,334	237,712
BUILDING CONSTRUCTION COST TOTAL				**$2,716,807**	**$2,737,007**	**$2,614,837**
Soft Costs:						
40.00 Site Acquisition (land and/or property) Real Property Costs;	1	LS	207,000.00	207,000	207,000	213,025
40.01 Site Acquisition related costs; Realtors, Title Co., Appraisals	1	LS	0.00	0	0	0
40.10 Structure Deconstruction, 2 houses bid by City	1	LS	12,000.00	12,000	0	0
40.30 Remove foundations & cisterns	1	LS	0.00	0	0	0
40.40 Hazard Material survey, sample, test	1	LS	1,600.00	1,600	1,600	2,500
40.50 Hazardous material abatement	1	SF	12,800.00	12,800	12,800	12,800
40.60 Legal Fees	1	LS	3,500.00	3,500	3,500	3,500
40.70 Ownership and Deconstruction Insurance	1	LS	0.00	0	0	0
40.80 Phase 1 Environmental Study	1	LS	4,000.00	4,000	4,000	0
40.90 Phase 1 Archeological Study	1	LS	0.00	0	0	0
40.11 Sale of Existing property - Library	1	LS	(148,625.00)	(148,625)	(148,625)	(148,625)
41.00 Professional Fees: Architectural & Engineering Design Fees SD, DD, CD, BN, CA	1	LS	229,000.00	229,000	229,000	228,798
41.20 Library Programming	1	LS	0.00	0	0	0
41.30 Civil Engineering	1	LS	0.00	0	0	0
41.60 Reimbursable expenses	1	LS	9,000.00	9,000	9,000	9,000
41.60 Commissioning	1	LS	8,000.00	8,000	8,000	8,000
41.80 LEED certification services	1	LS	0.00	0	0	0
41.90 Information & Technology Design Fees;	1	LS	3,689.00	3,689	3,689	3,689
41.10 Furnishing Design, selection, bidding Fees, 13%	1	LS	24,976.00	24,976	24,976	24,976
41.11 Geo Thermal Horizontal Test Well - did not pursue	1	LS	0.00	0	0	0
41.12 Site Survey	1	LS	3,750.00	3,750	3,750	4,000
41.13 Geotechnical subsurface investigation;	1	LS	3,500.00	3,400	3,400	9,000
41.14 Quality Control Material Testing & Inspections	1	LS	16,000.00	16,000	16,000	16,000
42.00 Printing, shipping, & plan room Costs for Construction Documents	1	LS	7,500.00	7,500	7,500	7,500
43.00 State Construction documents review Fees	1	LS	2,500.00	2,500	2,500	2,500
44.00 City Plan Review Permits and Fees	1	LS	0.00	0	0	0
45.00 Builders Risk Insurance	1	LS	4,000.00	4,000	4,000	4,000
46.00 Construction Utility costs by Owner	1	LS	6,000.00	6,000	6,000	6,000
47.00 Fixtures, Furnishings, blinds, & Equip Allowance $25/SF	7,685	SF	25.00	192,125	192,125	192,125
47.10 Appliances: fridge, coffee maker, ice maker, cooler	1	EA	1,000.00	1,000	1,000	0
48.00 Technology & Computer Equipment Allowance, (less use of existing)	7,685	SF	6.00	46,110	46,110	46,110
49.00 Energy & Utility Rebates	1	LS	0.00	0	(4,000)	(4,000)
50.00 Equipment & Utility Connections	1	LS	0.00	0	0	0
50.10 Power Pole removal/relocation	1	LS	0.00	0	0	0
51.00 Moving costs	1	LS	5,000.00	5,000	5,000	5,000
52.00 Ground breaking and dedication ceremonies	1	LS	2,000.00	2,000	2,000	2,000
53.00 Fundraising Consultanting & grant writing	1	LS	25,000.00	25,000	30,000	30,000
54.00 Soft Costs Contingency during design & construction	1	LS	25,000.00	25,000	25,000	25,000
54.00 Donor Recognition	1	LS	2,000.00	2,000	2,000	2,000
55.00 Library Art	1	LS	0.00	0	0	0
57.00 Referendum or other campaign facilitation by consultant	1	LS	0.00	0	0	15,000
Soft Cost SubTotal				708,325	697,325	719,898
Building Construction Cost Total				2,716,807	2,737,007	2,614,837
PROJECT TOTAL COST				**$3,425,132**	$3,434,332	$3,334,735

Optional Alternates	Design Dev phase estimate	Schematic phase estimate	concept phase estimate
1. Add solar panels at roof	$40,000		
2. East Shade Structure	$67,000		
3. Ground Heat Exchanger - geothermal increase	$68,000		

OPINION OF PROBABLE COST

Project Number: 2021310
Phase: Design Development

Owner : City of Cascade
Project: New Library

Date : 5/4/23
Estimator : KE

FEH DESIGN

DESCRIPTION	QTY	UNIT	COST	TOTALS
Building Construction Costs:				
1 GENERAL REQUIREMENTS 7.00%, Overhead 5%, Profit 5%	1	LS	353,326	353,326
2 SITEWORK				
. Clearing & grubbing	1	LS	5,000.00	5,000
. Concrete curb & gutter removal	150	LF	10.00	1,500
Pavement removal	3,000	SF	1.00	3,000
. Strip topsoil & stockpile	600	CY	18.00	10,800
. Retaining Wall - low at children's patio	56	LF	80.00	4,480
Retaining Wall - low at adult patio	70	LF	80.00	5,600
Tree removal - by owner	0	EA	700.00	0
. Trench back fill	130	CY	45.00	5,850
Excavation, haul and backfill at footings at basement	3,600	SF	2.00	7,200
Engineered Backfill	140	CY	27.00	3,780
Site Grading	100	CY	20.00	2,000
. Truck Export	80	CY	15.00	1,200
. Place/Replace topsoil	600	CY	18.00	10,800
. Fine Grade soil/Topsoil	140	CY	10.00	1,400
. Amended Planting Soil, 18" depth	10	CY	50.00	500
. Compact subgrade below asphalt paving	10,000	SF	0.40	4,000
. New concrete curb & gutter B6.12	220	LF	32.00	7,040
Traffic Control	2	EA	260.00	520
. Handicap signs	2	EA	250.00	500
. Pavement striping/markings 4" yellow, white preferred	450	LF	4.00	1,800
Pavement striping/markings ADA spaces	40	LF	4.00	160
. Excavation & Compact subgrade below pedestrian paving	55	TON	35.00	1,925
. Asphalt paving, 10" base aggregate, 3.5" asphalt (concrete)	9,850	SF	6.00	59,100
Asphalt street repair	1,170	SF	3.00	3,510
. Pedestrian paving 5" PCC	4,200	SF	6.00	25,200
Children's outdoor patio	460	SF	8.00	3,680
Adult's outdoor patio	1,000	SF	8.00	8,000
Bike rach and flag pole area	150	SF	8.00	1,200
Patio aggregate base	110	CY	35.00	3,850
Engraving Brick pavers at patio for donors	200	EA	20.00	4,000
. ADA detectible warnings - truncated domes	4	EA	500.00	2,000
. Sod at Building	1,600	SF	2.00	3,200
. Seeding and Mulching	1	LS	1,400.00	1,400
. Concrete cut/ramp	20	LF	25.00	500
. Site furnishings, patio benches, bike racks, signage, ect. - donor funded	2	EA	1,500.00	3,000
. Silt Fence Erosion Control	300	LF	5.00	1,500
. Bollards	12	EA	350.00	4,200
. Inlet protection, erosion control	1	EA	4,500.00	4,500
. Sanitary sewer service 4"PVC	120	LF	70.00	8,400
Connect/tap to existing Sanitary Sewer	1	EA	2,500.00	2,500
. Sanitary sewer cleanout	1	EA	300.00	300
. Water service 6" PVC	120	LF	95.00	11,400
. Water Connection permit & tap	1	LS	2,500.00	2,500
Water valve and Box 6"	1	LS	1,500.00	1,500
. PIV	1	EA	2,300.00	2,300
. Storm Sewer 8" HDPE	190	LF	75.00	14,250
. Tap existing manhole	1	EA	1,500.00	1,500
. Protect existing storm sewer	1	LS	1,500.00	1,500
. Downspout Connections	4	EA	1,500.00	6,000
Downspout Connection line 10" HDPE	200	LF	20.00	4,000
. Landscaping, seed, mulch, topsoil, patio plantings	1	LS	4,500.00	4,500
Electrical Transformer - is it provided by municipal utility?	1	LS	24,000.00	24,000
. Electrical Transformer pad and building connection	1	LS	3,000.00	3,000
. Splash Blocks on roof	10	EA	120.00	1,200
Rain Barrels	1	EA	750.00	750
Empty raceway, cameras, WAP, etc.	1	LS	2,500.00	2,500
Roof canopy - shade structure - by alternate	0	SF	37.00	0
Flag Pole	1	EA	3,000.00	3,000
Flag Pole lighting	1	EA	1,200.00	1,200
Electronic monument site sign	1	EA	24,000.00	24,000
. Exterior Lighting - Decorative bollards	3	EA	2,800.00	8,400
. Exterior lighting - parking lot	1	EA	2,200.00	2,200
3 SELECTIVE DEMOLITION				
. Structure deconstruction - separate bid by owner	0	SF	6.00	0
4 SUBSTRUCTURE				
. Soil Improvement	1	LS	12,000.00	12,000
. Shade Structure foundations - by alternate	0	LS	1,800.00	0
. Perimeter footings, 368'	1,200	SF	7.80	9,360
. Perimeter foundation	368	LF	104.00	38,272
. Column foundations, 9 columns at interior, 6 columns at perimeter	15	EA	1,750.00	26,250
. Patio stoops	4	EA	2,100.00	8,400
. Slab on grade, reinf, vapor barrier, sub grade	7,600	SF	6.00	45,600
5 SUPERSTRUCTURE				
Columns - HSS 5x5	6	EA	630.00	3,780
Columns HSS 8x8	0	EA	50.00	0
. Canopy Roof support Structure - by alternate	0	EA	500.00	0
. Wood columns 10x10	60	LF	55.00	3,300
Glulam beams	300	LF	36.00	10,800
Wood roof deck - SIPs	4,700	LF	14.00	65,800
Wood T&G deck	4,580	LF	8.00	36,640

OPINION OF PROBABLE COST

Project Number: 2021310 | Owner : **City of Cascade** | Date : 5/4/23
Phase: Design Development | Project: New Library | Estimator : KE

FEH DESIGN

	DESCRIPTION	QTY	UNIT	COST	TOTALS
.	Attic trusses	1,872	SF	12.80	23,962
	Attic flooring, plywood, & side walls	1,660	LF	5.50	9,130
	Wood Trusses - heavy timber 21' wide	3	EA	3,200.00	9,600
	HSS 5x5	0	LF	45.00	0
	HSS4x2	0	LF	36.00	0
	L2x2	0	LF	6.00	0
	L3x3	0	LF	9.00	0
	L4x4	0	LF	10.00	0
	L6x6, L7x4	0	LF	12.00	0
	Joist girder 32GPS	0	LF	150.00	0
	10K	0	LF	14.00	0
	12K	0	LF	13.00	0
	14K	0	LF	12.50	0
	24LH - due to solar	0	LF	20.00	0
	Topping Slab	0	SF	5.00	0
.	Roof Structural frames to support roof top HVAC equipment	1	EA	2,200.00	2,200
	Metal roof deck	0	SF	5.00	0
	Metal roof deck - clerestory Epic deck	0	SF	18.00	0
.	Floor structure	0	SF	5.00	0
.	Structural Detailing - connection plates	1	LS	6,000.00	6,000
6	EXTERIOR ENCLOSURE				
	8" studs Gyp & Plywd, 3" insul and wall panel - at upper attic	900	SF	22.00	19,800
	8" studs, 4" stone, 2.5" insul.	3,200	SF	32.00	102,400
	8" studs, 4" brick, 2.5" insul.	2,800	SF	28.00	78,400
	8" Cone, 4" stone, 2.5" insul.	0	SF	30.00	0
	8" cone, 4" CMU, 2.5" insul.	0	SF	30.00	0
	6" studs, 4" masonry	0	SF	30.00	0
	6" studs, 6" EIFS	0	SF	11.00	0
	Brick and stone accents - labor	1	LS	15,000.00	15,000
.	Exterior metal panels	0	SF	20.00	0
.	Vapor and Moisture barriers	6,900	SF	2.50	17,250
	Translucent panel clerestory windows	240	EA	48.00	11,520
.	Windows triple 6'x5'-8"h	12	EA	1,900.00	22,800
	Windows double 4'x5'-8"h	3	EA	1,500.00	4,500
	Windows single 2'x5'-8"	4	EA	1,200.00	4,800
	Windows triple 6'x3'h arch top	2	EA	1,400.00	2,800
	Windows 3'x4'	0	EA	1,000.00	0
	Louvers	2	EA	900.00	1,800
.	Book drop slots	2	EA	1,400.00	2,800
.	Exterior Entry signage	1	EA	2,200.00	2,200
.	Downspouts and leader boxes	6	EA	800.00	4,800
.	Soffit at canopy	120	SF	28.00	3,360
	Soffit below balconies	0	SF	24.00	0
.	Curtain wall	300	SF	50.00	15,000
.	Aluminum doors, frames, hardware & security relocation - bi parting	7	EA	3,000.00	21,000
.	Exterior HM doors frames & hardware	0	EA	2,800.00	0
.	Rough Carpentry	1	LS	6,000.00	6,000
.	Exterior metal letter signage	2	EA	3,000.00	6,000
	Exterior painting,	1	LS	5,000.00	5,000
	Spray Foam insulation	1	LS	5,000.00	5,000
.	Sealants	1	LS	5,000.00	5,000
7	ROOFING				
.	Membrane roofing system - low slope Duralast	4,579	SF	6.00	27,474
	Rigid roof insulation at Membrane roofing system - low slope 15% cost increase	4,579	SF	6.60	30,221
	Ice dam	900	SF	8.25	7,425
	Nail base insulation board at plastic shingles	4,577	SF	6.20	28,377
	Canopy roofs at east patio - by alternate bid	0	SF	12.00	0
	Metal Flashing	380	LF	13.00	4,940
.	East Entry roof	0	SF	6.00	0
.	Internal roof drains and piping, scuppers	6	EA	1,200.00	7,200
	Roof Hatches	1	EA	1,300.00	1,300
	Roof Pavers	120	SF	8.50	1,020
	Sloped roof area	4,577	SF	9.00	41,193
	Lightning protection	0	LS	5,500.00	0
.	Gutters and downspout connections	160	LF	15.00	2,400
8	INTERIOR CONSTRUCTION				
.	Silo wall studs	150	SF	15.00	2,250
	silo stone veneer	150	SF	12.00	1,800
	silo roof	110	SF	23.00	2,530
	silo above entry	12	SF	24.00	288
	silo paint	150	SF	1.50	225
	6" mtl studs & 3 5/8" studs Gyp two sides, walls	3,800	SF	7.00	26,600
	4" mtl studs, Gyp one side, walls	0	SF	4.94	0
	3 5/8" mtl studs, Gyp & plywd one side, walls	0	SF	5.40	0
	1 5/8" mtl studs, Gyp one side dbl layer, walls	0	SF	5.10	0
	DBL 3 5/8" mtl studs, Gyp one side dbl layer, bulk head	0	SF	6.10	0
.	Wood Doors, hardware & frames	15	EA	2,800.00	42,000
.	Interior windows and wall glass	780	SF	30.00	23,400
.	Hollow metal doors and frames	3	EA	500.00	1,500
.	Wall finish treatment, Tile	500	SF	15.00	7,500
	Wall finish treatment, paint	39,000	SF	1.00	39,000
	Wall finish treatment, FRP in janitor closets	260	SF	4.00	1,040
.	Ceilings 2x2 ACT	3,800	SF	6.30	23,940

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FEH DESIGN

	DESCRIPTION	QTY	UNIT	COST	TOTALS
	Ceilings Gyp Bd	0	SF	6.80	0
.	Special acoustical ceiling in children's	240	SF	35.00	8,400
.	Ceiling bulkhead	300	LF	24.00	7,200
.	Ceiling trim	1,600	SF	4.50	7,200
	Ceiling element over computers	1	LS	5,000.00	5,000
.	Meeting room movable wall system, manual for small	0	LS	60,000.00	0
.	LVT	1,700	SF	8.00	13,600
	Entrance carpet	150	SF	5.00	750
	Ceramic tile	300	SF	18.00	5,400
	Carpet	4,800	SF	4.00	19,200
	Special Children's entry structure	1	LS	7,000.00	7,000
	Sealed Concrete	500	SF	1.00	500
	Wall Base - vinyl	900	LF	1.60	1,440
	Wall Base - wood	1,200	LF	5.00	6,000
.	Wall Base - ceramic	115	LF	5.00	575
.	Solid surface window sills	90	LF	18.00	1,620
.	Door trim 400 & Window trim 600	900	LF	6.25	5,625
	Fire stopping, sealant	0	LS	6,000.00	0
	Casework - base & wall cabinets	36	LF	440.00	15,840
.	Casework - circ desk, reference desk, help desk	22	LF	560.00	12,320
9	SPECIALTIES AND EQUIPMENT				
.	Toilet accessories - TPH, SNH, PTH	12	EA	200.00	2,400
	Toilet accessories - grab bars	9	EA	310.00	2,790
	Toilet accessories - changing tables	4	EA	500.00	2,000
	Toilet Accessories - Mirrors	4	EA	200.00	800
	Toilet Accessories - install lav drain pipe temperature protection kits	3	EA	200.00	600
.	Fire Extinguisher cabinets	3	EA	1,200.00	3,600
	Fire Extinguisher	4	EA	300.00	1,200
	Built in fireplace	1	LS	3,500.00	3,500
	Corner guards	10	EA	100.00	1,000
	Key box	1	EA	400.00	400
.	Display cases	1	EA	850.00	850
	Wall and door protection	8	EA	300.00	2,400
	Marker Board Walls/Marker Boards	2	EA	800.00	1,600
	Tack board	4	EA	400.00	1,600
.	Projection screen	2	EA	3,500.00	7,000
.	Window Treatments - (6) interior and (15) exterior	21	EA	650.00	13,650
.	Acoustical Panels - adult area	200	SF	19.00	3,800
.	Appliances - built-in	2	LS	2,500.00	5,000
.	Dedication Plaque	1	LS	2,500.00	2,500
	Donor & state Recognition area	1	EA	1,500.00	1,500
.	Interior signage, 200 door/room, 12 zone signs, raised letters	1	LS	3,000.00	3,000
10	CONVEYING SYSTEMS				
.	Elevator 2 stop	0	LS	120,000.00	0
11	FIRE PROTECTION				
.	New Fire Sprinkler	0	SF	6.50	0
.	Fire Sprinkler entrance	0	LS	6,000.00	0
.	New Fire department Connection	0	LS	1,500.00	0
.	Fire Alarm system - Fire alarm control panel	0	LS	36,474.00	0
12	PLUMBING				
.	Plumbing Fixtures, Toilets, lavs, showers, hoppers, Mop sink, EWC	7,860	SF	4.00	31,440
	Plumbing Equipment	7,860	SF	1.40	11,004
	Domestic Distribution, piping	7,860	SF	3.00	23,580
.	Roof drains	4,579	SF	1.00	4,579
13	MECHANICAL HVAC				
.	Ductwork, piping, equipment	7,860	SF	28.50	224,010
.	Insulation	7,860	SF	1.50	11,790
.	Balancing Only	7,860	SF	0.50	3,930
	Exhaust to existing restrooms	4	EA	3,000.00	12,000
.	DDC - Controls Standalone	7,860	SF	3.00	23,580
14	ELECTRICAL				
.	Service & Distribution	7,860	LS	2.00	15,720
.	Feeders	7,860	LS	0.75	5,895
.	Lighting and Controls, LED, Exterior Building Lighting	7,860	LS	10.00	78,600
.	Wiring Devices	7,860	LS	7.00	55,020
	Patio power and data connections	1	LS	1,200.00	1,200
	Patio lighting	0	LS	3,500.00	0
	silo element lighting	1	LS	2,000.00	2,000
.	Solar photovoltaic system on roof (moved to alternate)	0	LS	0.00	0
	Solar connections and inverters DC to AC (moved to alternate)	0	LS	0.00	0
15	SECURITY				
.	video surveillance, CCTV raceways, cameras, cabling	7,860	LS	3.00	23,580
.	Access control raceways, and devices, doors, VMS upgrades (3 locations only)	7,860	SF	1.00	7,860
16	VOICE, DATA & SPECIAL SYSTEMS				
.	Area of refuge - Lobby	1	LS	8,000.00	8,000
	AV equipement/ sound systems	1	LS	5,000.00	5,000
.	Paging and intercom system	0	LS	20,746.00	0
.	Raceways, structured data cabling and trim devices	1	LS	20,000.00	20,000
				309.38	2,431,717
	Design / Bid Contingency 6.5%				158,062
	Building Construction Costs SubTotal				2,589,778
	Construction Contingency 5%				129,489
	BUILDING CONSTRUCTION COST TOTAL				**$2,719,267**

DESCRIPTION	QTY	UNIT	COST	TOTALS
Silo for Children's area				
4" stud wall with gyp on inside 8' tall x19'	150	SF	15.00	2,250
2 5/8" Limestone veneer	140	SF	12.00	1,680
Silo roof	110	SF	23.00	2,530
Silo upper entry	12	SF	24.00	288
Painting	150	SF	1.50	225
Lighting	1	LS	2,000.00	2,000
Misc	1	LS	1,000.00	1,000
OH&P	1	LS	3,000.00	3,000
Design				997.3
			Total	13,970
			Design / Bid Contingency 7.5%	1,048
			Building Construction Costs SubTotal	15,018
			Construction Contingency 5%	751
			BUILDING CONSTRUCTION COST TOTAL	**$15,769**

TIMELINE

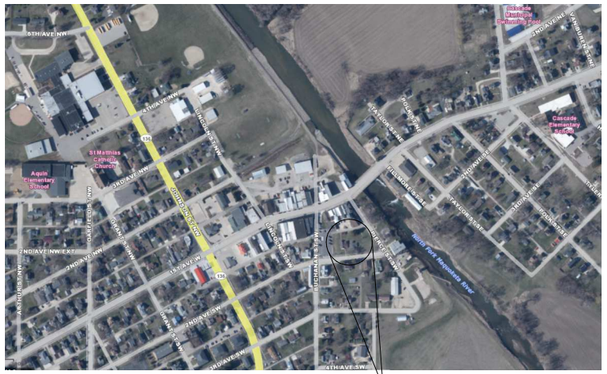
Schematic Design kick-off meeting	Noon Fri.	Jan. 20, 2023
33% Schematic Design meeting	Noon Fri.	Feb. 3, 2023
60% Schematic Design meeting	Noon Thur.	Feb. 16, 2023
90% Schematic Design meeting – budget update	Noon Fri.	Mar. 3, 2023
Authorization meeting to proceed with DDs (City Council)	Mon.	Mar. 13, 2023
5% Design Development meeting	Noon Fri.	Mar. 17, 2023
33% Design Development meeting	Noon Fri.	Mar. 31, 2023
60 % Design Development meeting – budget update	Noon Fri.	Apr. 14, 2023
90% Construction and Bid Document meeting	Noon Fri.	Apr. 28, 2023
Authorization meeting to proceed with CDs (City Council)	Mon.	May 8, 2023
5% Construction and Bid Documents meeting	Noon Fri.	May 12, 2023
35% Construction and Bid Documents meeting	Noon Fri.	June 2, 2023
65% Construction and Bid Documents meeting	Noon Fri.	June 23, 2023
95% Construction and Bid Documents meeting	Noon Fri.	July 14, 2023

Library Board Meeting		
City Council meeting To set Public Hearing	Mon.	July 10, 2023
City Council meeting Public Hearing to adopt plans, specs, and form of contract	Mon.	July 24, 2023
Issue Bid documents	Fri.	July 28, 2023
Pre-bid meeting	Tues.	Aug 8, 2023
Bidding – Final Documents DUE	3:00 Thurs.	Sept. 7, 2023
Arch. Recommendation	Wed.	Sept. 25, 2023
City Council meeting Award/approve contracts	Mon.	Sept. 25, 2023
Start Construction Period		
Complete Construction		10 months.
Furniture installation		
Technology installation		
Move into building.		

CITY OF CASCADE
CASCADE PUBLIC LIBRARY

SECOND AVENUE SW.
CASCADE, IOWA

DESIGN DEVELOPMENT



VICINITY MAP
NOT TO SCALE

CONTACT INFORMATION

ARCHITECT
FEH DESIGN
951 MAIN STREET
DUBUQUE, IOWA 52001

PH: (563)583-4900

STRUCTURAL
FEH DESIGN
951 MAIN STREET
DUBUQUE, IOWA 52001

PH: (563)583-4900

MECHANICAL
DELTA 3 ENGINEERING
875 S CHESTNUT STREET
PLATTEVILLE, WISCONSIN 53818

PH: (608)348-5355

PLUMBING
DELTA 3 ENGINEERING
875 S CHESTNUT STREET
PLATTEVILLE, WISCONSIN 53818

PH: (608)348-5355

CIVIL
BUESING & ASSOCIATES
1212 LOCUST STREET
DUBUQUE, IOWA 52001

PH: (563)556-4389

ELECTRICAL
DELTA 3 ENGINEERING
875 S CHESTNUT STREET
PLATTEVILLE, WISCONSIN 53818

PH: (608)348-5355

SHEET INDEX

PRELIMINARY
NOT FOR CONSTRUCTION

FEH DESIGN
SIOUX CITY, IA (712) 252-3889
DES MOINES, IA (515) 288-2000
DUBUQUE, IA (563) 583-4900
OCONOMOWOC, WI (262) 988-2055
FEHDESIGN.COM

IN ASSOCIATION WITH

SHEET TITLE
TITLE SHEET

PROJECT TITLE
CITY OF CASCADE
CASCADE PUBLIC LIBRARY
SECOND AVENUE SW.
CASCADE, IOWA

DATE ISSUED 3 MAY 2023

REV. NO.	DATE

PROJECT NUMBER
2021310

SHEET
TS

C:\Users\michaelg\Documents\2021310 Cascade Library R22 Central_michaelgk3E27.rvt

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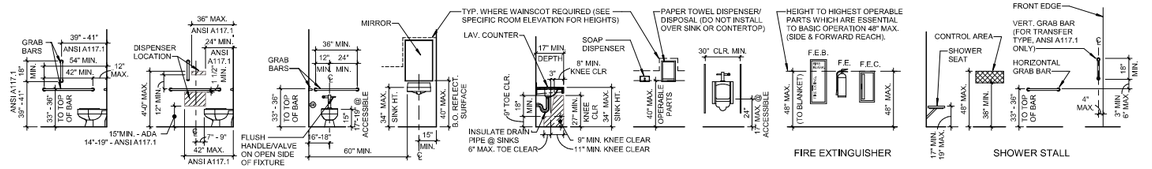
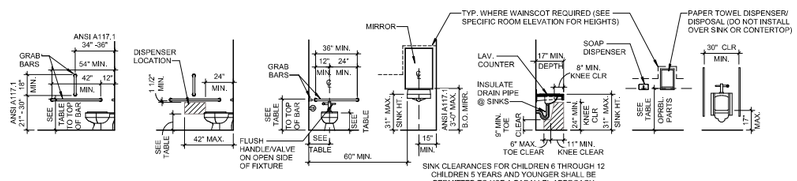
ACCESSIBLE & STANDARD MOUNTING HEIGHTS - 2010 ADA STANDARD FOR ACCESSIBLE DESIGN AND ANSI A117.1



PLUMBING FIXTURES AND ACCESSORIES FOR ADULTS



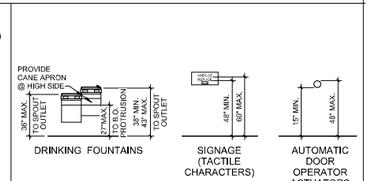
SINK CLEARANCES FOR CHILDREN 6 THROUGH 12
CHILDREN 5 YEARS AND YOUNGER SHALL BE PERMITTED TO USE A PARALLEL APPROACH

2010 ADA STANDARDS FOR ACCESSIBLE DESIGN - SECTION 604.9 ADVISORY SPECIFICATIONS FOR WATER CLOSETS SERVING CHILDREN AGES 3 THROUGH 12			
	AGES 3 AND 4	AGES 5 THROUGH 8	AGES 9 THROUGH 12
WATER CLOSET CENTERLINE	12 INCHES	12 TO 15 INCHES	15 TO 18 INCHES
TOILET SEAT HEIGHT	11 TO 12 INCHES	12 TO 15 INCHES	15 TO 17 INCHES
GRAB BAR HEIGHT	18 TO 20 INCHES	20 TO 25 INCHES	25 TO 27 INCHES
DISPENSOR HEIGHT	14 INCHES	14 TO 17 INCHES	17 TO 19 INCHES

2010 ADA STANDARDS FOR ACCESSIBLE DESIGN - SECTION 308.1 ADVISORY SPECIFICATIONS FOR REACH RANGES SERVING CHILDREN AGES 3 THROUGH 12			
FORWARD OR SIDE REACH	AGES 3 AND 4	AGES 5 THROUGH 8	AGES 9 THROUGH 12
HIGH (MAXIMUM)	36 INCHES	40 INCHES	44 INCHES
LOW (MINIMUM)	20 INCHES	18 INCHES	16 INCHES

REACH RANGES FOR CHILDREN

PLUMBING FIXTURES AND ACCESSORIES FOR CHILDREN



NOTE:

REFERENCE ADA 2010 STANDARDS FOR ACCESSIBLE DESIGN FOR FURTHER INFORMATION

ELEVATIONS SHOWN ARE FOR MOUNTING LOCATIONS ONLY AND NOT FOR SPECIFIC ROOMS. SEE ELEVATIONS ELSEWHERE FOR SPECIFIC ROOM ELEVATIONS.

ALL DIMENSIONS ARE FROM FINISHED SURFACE.

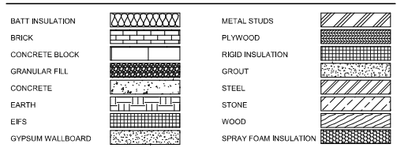
CONSULT ARCHITECT IF DISCREPANCIES ARE DISCOVERED BETWEEN THESE DIMENSIONS AND DETAIL DIMENSIONS.

REFER TO PROJECT MANUAL FOR ACCESSORY MODEL NUMBERS.

REFER TO SECTION 22 & 26 OF THE PROJECT MANUAL FOR FURTHER REQUIREMENTS.

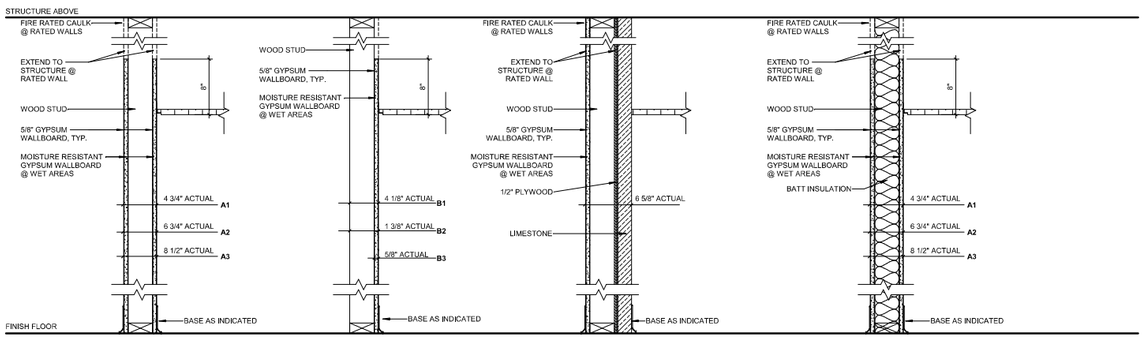
NOT ALL ITEMS SHOWN MAY BE APPLICABLE.

MATERIAL LEGEND



ABBREVIATIONS: ARCHITECTURAL DRAWING LIST, SOME DESIGNATIONS MAY NOT BE APPLICABLE

A	AB	ANCHOR BOLT
	A/C	AIR CONDITIONING
	ACT	ACOUSTICAL CEILING TILE
	ADA	AMERICANS WITH DISABILITIES ACT
	ADJ	ADJACENT
	AFF	ABOVE FINISHED FLOOR
	AFG	ABOVE FINISHED GRADE
	AGG	AGGREGATE
	AHU	AIR HANDLING UNIT
	ALT	ALTERNATE
	AL	ALUMINUM
	ANC	ANCHOR
	ANOD	ANODIZED
	ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE
	APC	ACOUSTICAL PANEL CEILING
	APPROX	APPROXIMATELY
	ARCH	ARCHITECT
	AS REQ'D	AS REQUIRED
	ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
	ATTEN	ATTENUATION
B	BD	BOARD
	BIT	BITUMINOUS
	BLDG	BUILDING
	BLK	BLOCK
	BLKG	BLOCKING
	BM	BEAM
	BN	BULLNOSE
	BO	BOTTOM OF
	BOC	BOTTOM OF CONCRETE
	BOT	BOTTOM
	BRG	BEARING
	BUR	BUILT-UP ROOFING
C	CAB	CABINET
	CB	CEMENT BOARD
	CFCI	CONTRACTOR FURNISHED, CONTRACTOR INSTALLED
	CG	CORNER GUARD
	CH BD	CHALK BOARD
	CI	CAST IRON
	CIP	CAST-IN-PLACE
	CJ	CONTROL JOINT
	CLG	CEILING
	CLR	CLEAR
	CMT	CERAMIC MOSAIC TILE
	CMU	CONCRETE MASONRY UNIT
	CNTR	COUNTER
	CO	CLEAN OUT
	COL	COLUMN
	CONC	CONCRETE
	CONST	CONSTRUCTION
	CONT	CONTINUOUS
	COORD	COORDINATE
	CORR	CORRIDOR
	CP	COMPOSITE PANEL
	CPT	CARPET
	CS	CONCRETE SEALED
	CSK	COUNTERSINK
	CT	CERAMIC TILE
	CTR	CENTER, CENTERED
	CUH	CABINET UNIT HEATER
	CW	CURTAIN WALL
D	DBL	DOUBLE
	DEMO	DEMOLITION
	DEPT	DEPARTMENT
	DF	DRINKING FOUNTAIN
	DIA	DIAMETER
	DIAG	DIAGONAL
	DIM	DIMENSION
	DISP	DISPENSER
	DN	DOWN
	DR	DOOR
	DS	DOWNSPOUT
	DTL	DETAIL
	DW	DISHWASHER
	DWG	DRAWING
	DWL	DOWEL
E	(E)	EXISTING
	EA	EACH
	EC	ELECTRICAL CONTRACTOR
	EIFS	EXTERIOR INSULATION AND FINISH SYSTEM
	EJ	EXPANSION JOINT
	ELEV	ELEVATION
	ELEC	ELECTRICAL
	EMERG	EMERGENCY
	ENAM	ENAMEL
	ENCL	ENCLOSURE
	EQ	EQUAL
	EQUIP	EQUIPMENT
	EVTR	ELEVATOR
	EXH	EXHAUST
	EXST	EXISTING
	EXP	EXPOSED
	EXT	EXTERIOR
F	FA	FIRE ALARM
	FCU	FAN COIL UNIT
	FD	FLOOR DRAIN
	FDN	FOUNDATION
	FE	FIRE EXTINGUISHER
	FEC	FIRE EXTINGUISHER CABINET
	FF	FACTORY FINISH
	FHC	FIRE HOSE CABINET
	FHMS	FLAT HEAD MACHINE SCREW
	FIN	FINISH
	FIXT	FIXTURE
	FLASH	FLASHING
	FLEX	FLEXIBLE
	FLUOR	FLUORESCENT
	FLR	FLOOR
	FOF	FACE OF FINISH
	FR	FRAME
	FRP	FIBERGLASS REINFORCED POLYESTER
	FT	FOOT
	FTG	FOOTING
	FURR	FURRING
	F.V.	FIELD VERIFY
G	G, GND	GROUND
	GA	GAUGE
	GALV	GALVANIZED
	GB	GYPSUM BOARD
	GB	GRAB BAR
	GC	GENERAL CONTRACTOR
	GFCI	GROUND FAULT CIRCUIT INTERRUPTER
	GHM	GALVANIZED HOLLOW METAL
	GL	GLASS
	GWB	GYPSUM WALL BOARD
	GYP	GYPSUM
	GYP BD	GYPSUM BOARD
H	HB	HOSE BIB
	HC	HOLLOW CORE
	HDWD	HARDWOOD
	HDWR	HARDWARE
	HM	HOLLOW METAL
	HORIZ	HORIZONTAL
	HR	HOUR
	HSS	HOLLOW STRUCTURAL STEEL
	HT	HEIGHT
	HTG	HEATING
	HTR	HEATER
	HVAC	HEATING, VENTILATION, & AIR CONDITIONING
	HW	HOT WATER
I	ID	INSIDE DIAMETER
	IG	INSULATED GLASS
	IGHM	INSULATED GALVANIZED HOLLOW METAL
	IN	INCH
	INC	INCANDESCENT
	INSUL	INSULATED, INSULATION, INSULATING
	INT	INTERIOR
J	JAN	JANITOR
	JB	JUNCTION BOX
	JST	JOIST
	JT	JOINT
L	LAM	LAMINATE
	LAV	LAVATORY
	LGMF	LIGHT GAUGE METAL FRAMING
	LLV	LONG LEG VERTICAL
	LTG	LIGHTING
	LVL	LAMINATED VENEER LUMBER
	LVR	LOUVER
M	MACH	MACHINE
	MAH	MAXIMUM ATTAINABLE HEIGHT
	MAN	MANUAL
	MANUF	MANUFACTURER
	MAX	MAXIMUM
	MB	MARKER BOARD
	MC	MECHANICAL CONTRACTOR
	MECH	MECHANICAL
	MEMB	MEMBRANE
	MEZZ	MEZZANINE
	MFG	MANUFACTURER
	MH	MANHOLE
	MIL	MILLIMETER
	MIN	MINIMUM
	MISC	MISCELLANEOUS
	MO	MASONRY OPENING
	MRGB	MOISTURE RESISTANT GYPSUM BOARD
	MTC	EMPTY CONDUIT
	MTD	MOUNTED
	MTL	METAL
	MUL	MULLION
N	(N)	NEW
	N/A	NOT APPLICABLE
	NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
	NIC	NOT IN CONTRACT
	NOM	NOMINAL
	NTS	NOT TO SCALE
	NUM	NUMBER
O	OC	ON CENTER
	OD	OVERFLOW DRAIN, OUTSIDE DIAMETER
	OFCI	OWNER FURNISHED, CONTRACTOR INSTALLED
	OFOI	OWNER FURNISHED, OWNER INSTALLED
	OH	OVERHEAD
	OPNG	OPENING
	OPP	OPPOSITE
	OTS	OPEN TO STRUCTURE
P	P BD	PARTICLE BOARD
	PA	PUBLIC ADDRESS
	PART	PARTIAL
	PC	PRE-CAST
	PCLN	PORCELAIN
	PJ	PANEL JOINT
	PL	PROPERTY LINE
	PLAM	PLASTIC LAMINATE
	PLAS	PLASTER
	PLT	PLATE
	PLYWD	PLYWOOD
	PNL	PANEL
	PNT	PAINT
	PR	PAIR
	PRFIN	PREFINISHED
	PRI	PRIMARY
	PSF	POUNDS PER SQUARE FOOT
	PSI	POUNDS PER SQUARE INCH
	PT	POINT
	PTN	PARTITION
	PVC	POLYVINYL CHLORIDE
	PWR	POWER
Q	QT	QUARRY TILE
R	R, RAD	RADIUS
	RA	RETURN AIR
	RB	RUBBER BASE
	RCP	REFLECTED CEILING PLAN
	RD	ROOF DRAIN
	REBAR	REINFORCING BAR
	REC	RECEPTACLE
	REF	REFRIGERATOR
	REFL	REFLECTED
	REFR	REFERENCE, REFER
	REINF	REINFORCING
	REQ'D	REQUIRED
	RESIL	RESILIENT
	RH	RANGE HOOD
	RJ	REVEAL JOINT
	RM	ROOM
	RND	ROUND
	RO	ROUGH OPENING
	RTU	ROOF TOP UNIT
	RV	ROOF VENT
S	SA	SUPPLY AIR
	SB	SPLASH BLOCK
	SC	SOLID CORE
	SCHED	SCHEDULE
	SD	SOAP DISPENSER
	SECT	SECTION
	SH V	SHEET VINYL
	SHR	SHOWER
	SHT	SHEET
	SHTG	SHEETING
	SIM	SIMILAR
	SQ	SQUARE
	SS	STAINLESS STEEL
	STD	STANDARD
	STL	STEEL
	STN	STAIN
	STOR	STORAGE
	STRUC	STRUCTURAL
	SURF	SURFACE
	SUSP	SUSPENDED
	SYM	SYMMETRICAL
T	T	TEMPERED
	T & G	TONGUE & GROOVE
	TB	TACK BOARD
	TEL	TELEPHONE
	TELECOM	TELECOMMUNICATIONS
	TERR	TERRAZZO
	TF	TOP FLANGE
	THRU	THROUGH
	TO	TOP OF
	TOB	TOP OF BEAM
	TOC	TOP OF CONCRETE
	TOF	TOP OF FOOTING
	TOS	TOP OF STEEL
	TPD	TOILET PAPER DISPENSER
	TRN	TRANSPARENT
	TS	TUBE STEEL
	TSTAT	THERMOSTAT
	TV	TELEVISION
	TYP	TYPICAL
U	UNF	UNIFORM
	UNO	UNLESS NOTED OTHERWISE
	UON	UNLESS OTHERWISE NOTED
	UPS	UNINTERRUPTIBLE POWER SUPPLY
	UR	URINAL
V	V	VOLTS
	VAV	VARIABLE AIR SUPPLY VOLUME
	VB	VINYL BASE
	VCT	VINYL COMPOSITION TILE
	VER	VERIFY
	VERT	VERTICAL
	VEST	VESTIBULE
	VSF	VINYL SHEET FLOORING
	VTR	VENT THROUGH ROOF
	VWC	VINYL WALL COVERING
W	W	WATTS
	W/	WITH
	W/O	WITHOUT
	WC	WATER CLOSET
	WD	WOOD
	WH	WATER HEATER
	WP	WATERPROOF
	WR	WATER RESISTANT
	WT	WEIGHT
	WW	WINDOW WALL
	WWF	WELDED WIRE FABRIC



TYPE "A" GYPSUM WALLBOARD WALLS

A1 - 2X4 WOOD STUD WITH 1 LAYER 5/8" GYPSUM WALLBOARD ON EACH SIDE (4 3/4") (UL-U305 @ FIRE RATED WALL, 1HR)

A2 - 2X6 WOOD STUD WITH 1 LAYER 5/8" GYPSUM WALLBOARD ON EACH SIDE (6 3/4") (SIMILAR TO UL-U305 @ FIRE RATED WALL, 1HR)

A3 - 2X8 WOOD STUD WITH 1 LAYER 5/8" GYPSUM WALLBOARD ON EACH SIDE (8 1/2") (SIMILAR TO UL-U305 @ FIRE RATED WALL, 1HR)

NOTES FOR ALL TYPE "A" WALLS
USE MOISTURE RESISTANT GYPSUM WALLBOARD AND EXTERIOR TREATED STUD AT TOILETS AND OTHER WET AREAS.
NOTE: REFER TO UL FIRE-RESISTANCE DESIGN FOR ADDITIONAL INFORMATION @ FIRE RATED WALLS

TYPE "B" GYPSUM WALLBOARD WALLS

B1 - 2X4 WOOD STUD WITH 1 LAYER 5/8" GYPSUM WALLBOARD ON ONE SIDE (4 1/4") B2 - 1X2 WOOD FURRING WITH 1 LAYER 5/8" GYPSUM WALLBOARD ON ONE SIDE (1 1/2") B3 - 1 LAYER 5/8" GYPSUM WALL BOARD (5/8")

NOTES FOR ALL TYPE "B" WALLS
USE MOISTURE RESISTANT GYPSUM WALLBOARD AND EXTERIOR TREATED STUD AT TOILETS AND OTHER WET AREAS.

TYPE "C" GYPSUM WALLBOARD AND STONE

C1 - 2X4 WOOD STUD WITH 1 LAYER 5/8" GYPSUM WALLBOARD ON ONE SIDE AND LIMESTONE ON THE OTHER SIDE(6 5/8")

TYPE "D" GYPSUM WALLBOARD WALLS

D1 - 2X4 WOOD STUD WITH 1 LAYER 5/8" GYPSUM WALLBOARD ON EACH SIDE (4 3/4") (UL-U305 @ FIRE RATED WALL, 1HR)

D2 - 2X6 WOOD STUD WITH 1 LAYER 5/8" GYPSUM WALLBOARD ON EACH SIDE (6 3/4") (SIMILAR TO UL-U305 @ FIRE RATED WALL, 1HR)

D3 - 2X8 WOOD STUD WITH 1 LAYER 5/8" GYPSUM WALLBOARD ON EACH SIDE (8 1/2") (SIMILAR TO UL-U305 @ FIRE RATED WALL, 1HR)

NOTES FOR ALL TYPE "D" WALLS
USE MOISTURE RESISTANT GYPSUM WALLBOARD AND EXTERIOR TREATED STUD AT TOILETS AND OTHER WET AREAS.

WALL TYPES

SCALE: 1 1/2" = 1'-0"

ARCHITECTURAL GENERAL NOTES

1. THESE CONSTRUCTION DRAWING SHEETS ARE TO BE READ IN CONJUNCTION WITH THE PROJECT MANUAL.
2. WHEN DRAWINGS AND PROJECT MANUAL CONFLICT, BIDDER SHALL REQUEST WRITTEN CLARIFICATION FROM THE ARCHITECT PRIOR TO BIDDING. IF CLARIFICATION IS NOT OBTAINED PRIOR TO BIDDING, THE FOLLOWING SHALL BE USED TO DETERMINE SCOPE OF BID: MATERIAL SIZE AND QUANTITY SHALL BE DETERMINED BY DRAWINGS, QUALITY IS DETERMINED BY PROJECT MANUAL. FINAL DETERMINATION SHALL BE BY THE ARCHITECT OR ENGINEER PRIOR TO CONSTRUCTION OR FABRICATION.
3. ERRORS ARE TO BE REPORTED IMMEDIATELY TO THE ARCHITECT.
4. STRUCTURAL DRAWINGS GOVERN FOR SIZES, SPACING, AND CONNECTIONS OF ALL STRUCTURAL MATERIALS AND MEMBERS. IN THE CASE OF DISCREPANCIES, CONSULT WITH THE ARCHITECT/ENGINEER BEFORE COMMENCEMENT OF WORK.
5. INSTALL VAPOR BARRIERS DIRECTLY BELOW ALL CONCRETE INTERIOR SLAB-ON-GRADE U.O.N. OR A WATERPROOFING MEMBRANE IS INDICATED.
6. REFER TO STRUCTURAL DRAWINGS FOR EXACT DIMENSIONS AND LOCATIONS OF FLOOR OPENINGS. COORDINATE ADDITIONAL OPENINGS REQUIRED WITH STRUCTURAL ENGINEER.
7. THE CONTRACTOR SHALL ARRANGE FOR THE PREMISES TO BE MAINTAINED IN AN ORDERLY MANNER THROUGHOUT THE COURSE OF THE JOB. MAINTAIN CLEANLINESS THROUGHOUT - DO NOT BLOCK EXITS, ENTRANCES, LOBBIES, CORRIDORS, ETC. PROTECT AREA FROM DAMAGE WHICH MAY OCCUR FROM DEMOLITION DUST, WATER, ETC. PROVIDE AND MAINTAIN TEMPORARY BARRICADES, CLOSURE WALLS, ETC. AS REQUIRED TO PROTECT THE PUBLIC DURING THE PERIOD OF CONSTRUCTION. DAMAGE OF EXISTING STRUCTURES AND EQUIPMENT SHALL BE REPAIRED OR REPLACED TO THE SATISFACTION OF THE OWNER AT THE EXPENSE OF THE CONTRACTOR.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING ALL LEFTOVER MATERIALS, DEBRIS, TOOLS, AND EQUIPMENT INVOLVED AT THE CONCLUSION OF THE INSTALLATION. THE CONTRACTOR SHALL LEAVE ALL AREAS CLEAN. ALL FIXTURES AND REUSABLE MATERIALS TO BE REMOVED ARE TO BE STORED OR DISPOSED OF AS PER OWNERS INSTRUCTIONS.
9. CONTRACTOR SHALL TAKE PRECAUTIONS TO PREVENT WORKERS FROM INJURY OR EXPOSURE TO DANGEROUS MATERIALS DURING THE WORK BY THE CONTRACTOR, AS PER OSHA REGULATIONS AND FIRE-WATCH AS PER THE SUPPLEMENTAL CONDITIONS IN THE PROJECT MANUAL.
10. DO NOT SCALE DRAWINGS. NOTIFY ARCHITECT / ENGINEER IF ADDITIONAL DIMENSIONS ARE REQUIRED OR DISCREPANCIES DISCOVERED.
11. ALL EXISTING DIMENSIONS ARE TO BE VERIFIED ON SITE.
12. CONTRACTOR TO VERIFY EXISTING CONDITIONS AND DIMENSIONS PRIOR TO SHOP DRAWING APPROVAL AND CONSTRUCTION. SEE PROJECT MANUAL WHERE FIELD VERIFICATION CANNOT BE OBTAINED PRIOR TO SHOP DRAWING APPROVAL.
13. DIMENSIONS ARE ACTUAL. DIMENSIONS FOR MASONRY WALLS ARE GIVEN FROM FACE TO FACE OF WALL. DIMENSIONS FOR STUD WALL IS TO FACE OF FINISH WALL OR TO CENTER OF WALL AT CENTER OF STUD.
14. ABBREVIATIONS AND MATERIAL REPRESENTATIONS ON ARCHITECTURAL DRAWINGS MAY NOT BE LISTED ON 'ABBREVIATIONS' AND 'MATERIAL LEGEND' TABLES - THIS SHEET.
15. SEE TYPICAL MOUNTING HEIGHTS FOR EQUIPMENT AND FIXTURES THIS SHEET.
16. FOR ADDITIONAL PLAN INFORMATION REFER TO PARTIAL ENLARGED PLANS OR TO ENLARGED PLANS ON THE DRAWINGS.
17. REFER TO MECHANICAL AND ELECTRICAL DRAWINGS FOR ANY ADDITIONAL EQUIPMENT BOARDS REQUIRED.
18. PROVIDE FINISHED END OR FRONT PANELS ON ALL SURFACES OF CASEWORK THAT ARE EXPOSED TO VIEW.

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SHEET TITLE: GENERAL NOTES AND LEGENDS

PROJECT TITLE: CITY OF CASCADE
CASCADE PUBLIC LIBRARY
SECOND AVENUE SW.
CASCADE, IOWA

DATE ISSUED 3 MAY 2023

REV. NO.	DATE

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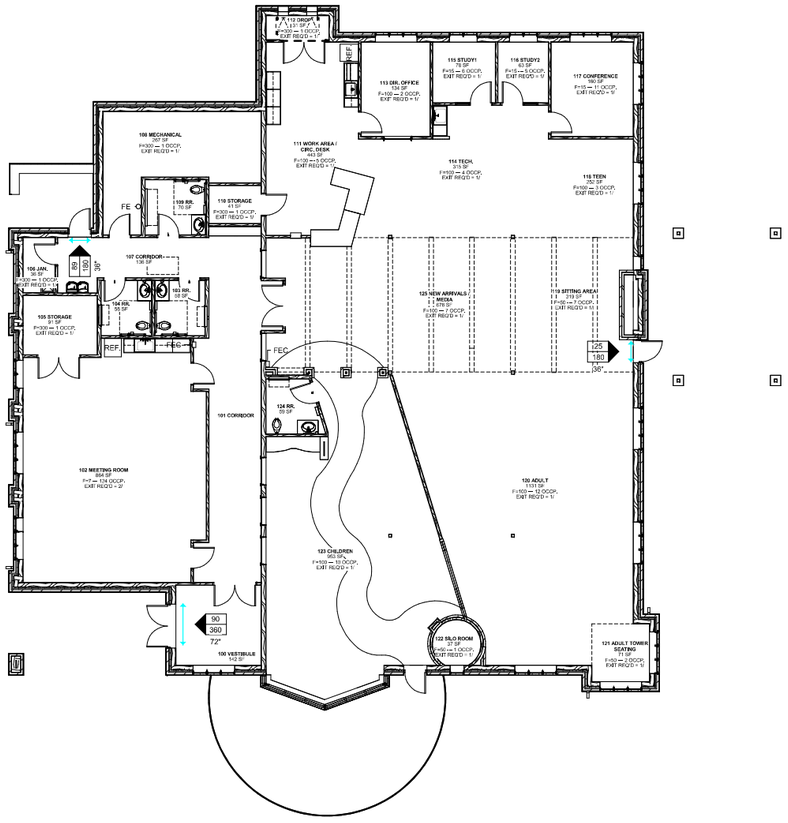
SHEET AG1.1



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1 BUILDING CODE PLAN - MAIN LEVEL
SCALE: 1/8" = 1'-0"

OCCUPANCY LOAD SCHEDULE				
NUMBER	NAME	AREA	OCCUPANT LOAD FACTOR	OCCUPANT LOAD
100	VESTIBULE	142 SF		
101	CORRIDOR	438 SF		
102	MEETING ROOM	864 SF	7	124
103	RR.	58 SF		
104	RR.	58 SF		
105	STORAGE	91 SF	300	1
106	JAN.	36 SF	300	1
107	CORRIDOR	136 SF		
108	MECHANICAL	267 SF	300	1
109	RR.	70 SF		
110	STORAGE	41 SF	300	1
111	WORK AREA / CIRC. DESK	443 SF	100	5
112	DROP	31 SF	300	1
113	DIR. OFFICE	134 SF	100	2
114	TECH.	315 SF	100	4
115	STUDY1	78 SF	15	6
116	STUDY2	63 SF	15	5
117	CONFERENCE	160 SF	15	11
118	TEEN	252 SF	100	3
119	SITTING AREA	319 SF	50	7
120	ADULT	1131 SF	100	12
121	ADULT TOWER SEATING	71 SF	50	2
122	SILO ROOM	37 SF	50	1
123	CHILDREN	953 SF	100	10
124	RR.	59 SF		
125	NEW ARRIVALS / MEDIA	678 SF	100	7
		6925 SF		204

CODE PLAN LEGEND

TRAVEL DISTANCE 1' - 0"

TRAVEL DISTANCE TAG
EXIST ACCESS TRAVEL DISTANCE PER IBC2012 1016.1

100 NAME
100 SF — BUSINESS
P=15 = 85 OCCP,
EXIT REQ'D = 2/ 71FROV., =2

ROOM TAG
ROOM NUMBER ROOM NAME
AREA (SF) — FUNCTION OF SPACE PER TABLE 1004.1.2
OCCUPANT LOAD FACTOR — OCCUPANT LOAD
EXITS REQUIRED — EXIST PROVIDED

0
240
48"

CORRIDOR TAG
ASSIGNED OCCUPANT LOAD ON THE CORRIDOR
ALLOWED OCCUPANT LOAD ON THE CORRIDOR
CLEAR CORRIDOR WIDTH

D100 >90W
1 DOOR, 1 PR@ A/D
60"REQ'D / 70"ACT.,
SWINGING

DOOR TAG
DOOR NUMBER - FIRE RATING (IF APPLICABLE)
OCCUPANT LOAD SERVED / PANIC HARDWARE
REQUIRED WIDTH / ACTUAL WIDTH
SINGLE OR DOUBLE DOOR / SPRINKLER OR NON-SPRINKLER

S50 NAME
100 OCCP., =< 1 HR
REQ'D 120" => ACT'L = 48"
EXCEPTION
EXIT ACCESS STAIRWAY

STAIR TAG
ROOM NUMBER ROOM NAME
OCCUPANT LOAD SERVED — FIRE RATING
REQUIRED WITH — ACTUAL WIDTH (BETWEEN HANDRAIL ON BOTH)
EXCEPTION USED (IF OPEN STAIR)

FIRE SEPARATION LEGEND

- - - - 1 HOUR FIRE BARRIER (45M DOORS)

CODE INFORMATION

PROJECT DESCRIPTION:
NEW LIBRARY BUILDING ON 3 LOTS IN THE CITY OF CASCADE.

APPLICABLE CODES:
2015 - INTERNATIONAL BUILDING CODE
2018 - INTERNATIONAL MECHANICAL CODE
2018 - UNIFORM PLUMBING CODE
2015 - INTERNATIONAL FUEL GAS CODE
2012 - INTERNATIONAL ENERGY CODE
2015 - INTERNATIONAL EXISTING BUILDING CODE
2017 - NATIONAL ELECTRICAL CODE
2015 - INTERNATIONAL FIRE CODE
2010 - ADAAG

OCCUPANCY TYPE (CHAPTER 3)
TYPE: A-3 OCCUPANCY LIBRARY

BUILDING HEIGHTS AND AREAS (CHAPTER 5)
BASIC ALLOWABLE
6,000 GROSS SQ.FT.
1 STORIES,
40'- 0" HIGH ABOVE GRADE
FRONTAGE INCREASE = 4,500 GROSS SQ. FT.

PROPOSED BUILDING
7,686 GROSS SQ.FT.
1,000 SF ATTIC
1 STORY
30'- 0" HIGH ABOVE GRADE
BUILDING PERIMETER = 379 FEET
BUILDING FRONTAGE = 319 FEET
TYPE A-3 OCCUPANCY = 7,686 SF

TYPES OF CONSTRUCTION (CHAPTER 6)
TYPE V-B CONSTRUCTION

FIRE-RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS (TABLE 601)
PRIMARY STRUCTURAL FRAME ———— 0 HOUR
BEARING WALLS
EXTERIOR ———— 0 HOUR
INTERIOR ———— 0 HOUR
NONBEARING WALLS AND PARTITIONS - EXTERIOR ———— 0 HOUR
NONBEARING WALLS AND PARTITIONS - INTERIOR ———— 0 HOUR
FLOOR CONSTRUCTION AND ASSOCIATED SECONDARY MEMBERS - 0 HOUR
ROOF CONSTRUCTION AND ASSOCIATED SECONDARY MEMBERS — 0 HOUR

FIRE-RESISTANCE RATING REQUIREMENTS FOR EXTERIOR WALLS BASED ON
FIRE SEPARATION DISTANCE (TABLE 602)
X < 5FT 1 HOUR
5FT ≤ X < 10FT 1 HOUR
10FT ≤ X < 30FT 0 HOUR
X ≥ 30FT 0 HOUR

FIRE AND SMOKE PROTECTION FEATURES (CHAPTER 7)
EXTERIOR OPENING REQUIREMENTS (TABLE 705.8)

FIRE PROTECTION SYSTEMS (CHAPTER 9)

FIRE ALARM	REQUIRED-PROVIDED
FIRE ALARM CONTROL PANEL	REQUIRED-PROVIDED
REMOTE ANNUNCIATOR PANEL	NOT REQUIRED-NOT PROVIDED
SMOKE DETECTION	REQUIRED-PROVIDED
HEAT DETECTION	REQUIRED-PROVIDED
FIRE PUMP	NOT REQUIRED-NOT PROVIDED
BACKUP POWER	NOT REQUIRED-NOT PROVIDED
SUPPRESSION - STANDPIPES	NOT REQUIRED-NOT PROVIDED
SUPPRESSION - AUTOMATIC SPRINKLER	NOT REQUIRED-NOT PROVIDED
FIRE EXTINGUISHERS	REQUIRED-PROVIDED: PER NFPA 10
TYPE I COMMERCIAL HOOD	NOT REQUIRED-NOT PROVIDED

WATER SUPPLY - FLOW TESTS
STATIC _____
RESIDUAL _____
FLOW _____
DATE AND LOCATION _____
DATE OF ORIGINAL SYSTEM INSTALLATION _____

MEANS OF EGRESS (CHAPTER 10)
1004 DESIGN OCCUPANT LOADS
TOTAL OCCUPANTS 204
1005.1 EGRESS WIDTH
MEANS OF EGRESS CAPACITY FACTOR = 0.3 INCH (1005.3.2)
1008 MEANS OF EGRESS ILLUMINATION
TO BE ILLUMINATED ALL TIMES (1008.2)
1009.1 ACCESSIBLE MEANS OF EGRESS
1 MOE = 1 REQUIRED
MORE THAN 2 MOE = NOT LESS THAN TWO REQUIRED
1010.1.1 WIDTH OF DOOR
MINIMUM CLEAR WIDTH OF 32 INCHES
1010.1.2.1 DOOR SWING
SWING IN THE DIRECTION OF EGRESS TRAVEL (50 OR MORE OCCUPANT LOAD)
1013.1 EXIT SIGNS
NO MORE THAN 100 FEET VIEWING DISTANCE
1013.5, 1013.6 EXIT SIGN ILLUMINATION
EXIT SIGNS SHOULD BE INTERNALLY OR EXTERNALLY ILLUMINATED
1017.2 EXIT ACCESS TRAVEL DISTANCE (TABLE 1017.2)
200 FEET WITH OUT SPRINKLER
1020.2 MINIMUM CORRIDOR WIDTH (TABLE 1020.2)

ANY FACILITIES NOT LISTED BELOW	44 INCHES
ACCESS TO AND UTILIZATION OF EQUIPMENT	24 INCHES
WITH AN OCCUPANT LOAD OF LESS THAN 50	36 INCHES
WITHIN A DWELLING UNIT	36 INCHES
IN GROUP E WITH A CORRIDOR HAVING AN OCCUPANT LOAD OF 100 OR MORE	72 INCHES
IN CORRIDORS AND AREAS SERVING STRETCHER TRAFFIC IN AMBULATORY CARE FACILITIES	72 INCHES
GROUP I-2 IN AREAS WHERE REQUIRED FOR BED MOVEMENT	96 INCHES

1020.4 DEAD ENDS
20 FEET IN LENGTH
1022 EXITS
AS SHOWN ON THE PLAN
1028.1 EXIT DISCHARGE
EXITS SHALL DISCHARGE DIRECTLY TO THE EXTERIOR OF THE BUILDING

ROOF ASSEMBLIES AND ROOFTOP STRUCTURES (CHAPTER 15)
1505.1 FIRE CLASSIFICATION (TABLE 1505.1)
MINIMUM ROOF COVERING CLASSIFICATION C

PLUMBING SYSTEMS (CHAPTER 29)
MINIMUM NUMBER OF REQUIRED PLUMBING FIXTURES (TABLE 2902.1)

	WATER CLOSETS MALE	WATER CLOSETS FEMALE	LAVATORIES	DRINKING FOUNTAIN	SERVICE SINK
93 MEN	1		1		
93 WOMEN		2	1		
TOTAL	1	2	2	1	
REQUIRED	1	2	2	1	1
PROVIDED	2	2	4	2	1

2010 ADA STANDARDS FOR ACCESSIBLE DESIGN
PARKING SPACES
PARKING SPACES PROVIDED ———— 31
ACCESSIBLEPARKING SPACES PROVIDED — 2 (INCLUDING 2 VAN PARKING)

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SHEET TITLE
BUILDING CODE PLAN

PROJECT TITLE
CITY OF CASCADE
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CASCADE, IOWA

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SHEET
AG1.2

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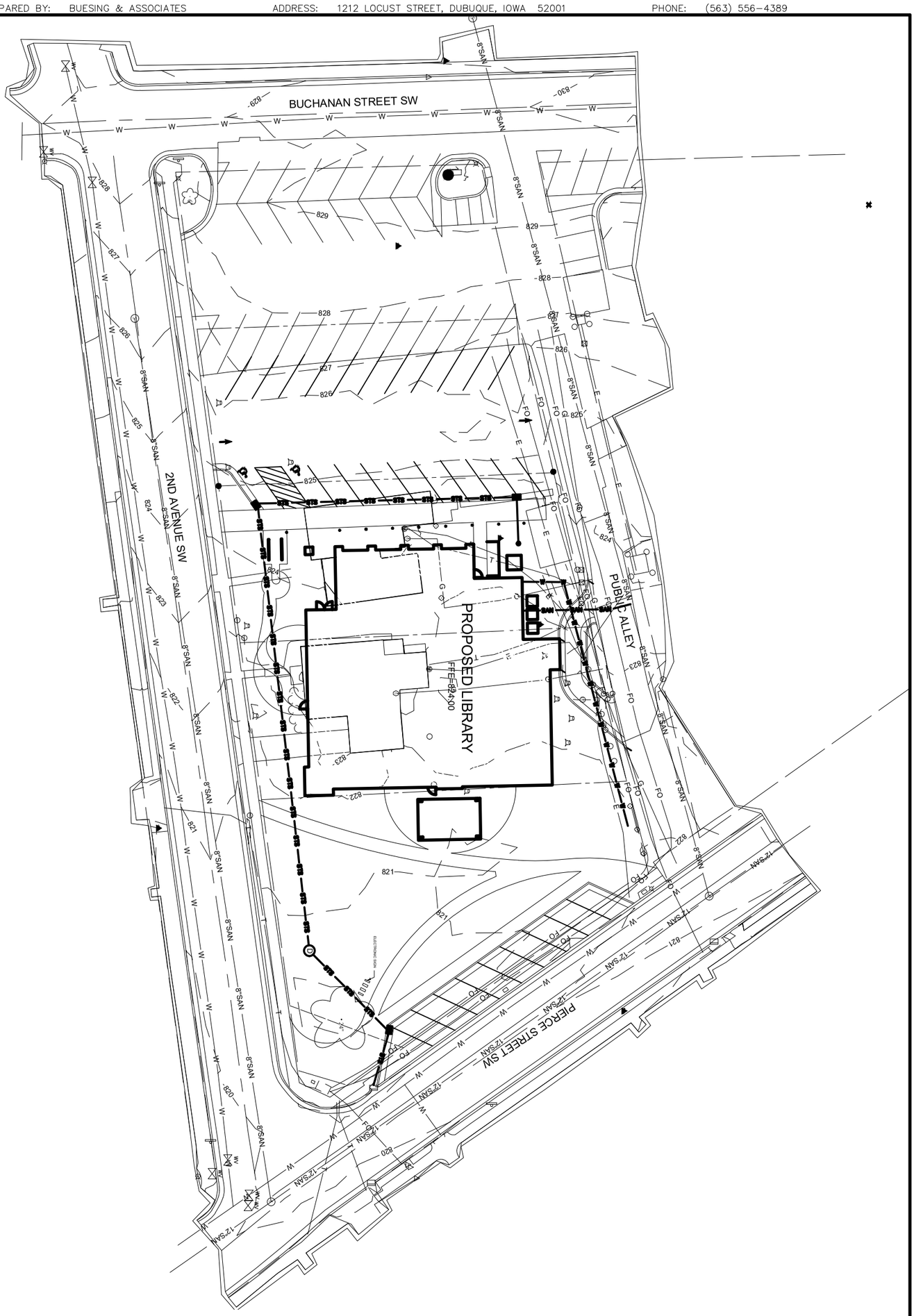
PREPARED BY: BUESING & ASSOCIATES ADDRESS: 1212 LOCUST STREET, DUBUQUE, IOWA 52001 PHONE: (563) 556-4389



0 10' 20' 40'
1" = 40' (11"X17")
1" = 20' (22"X34")

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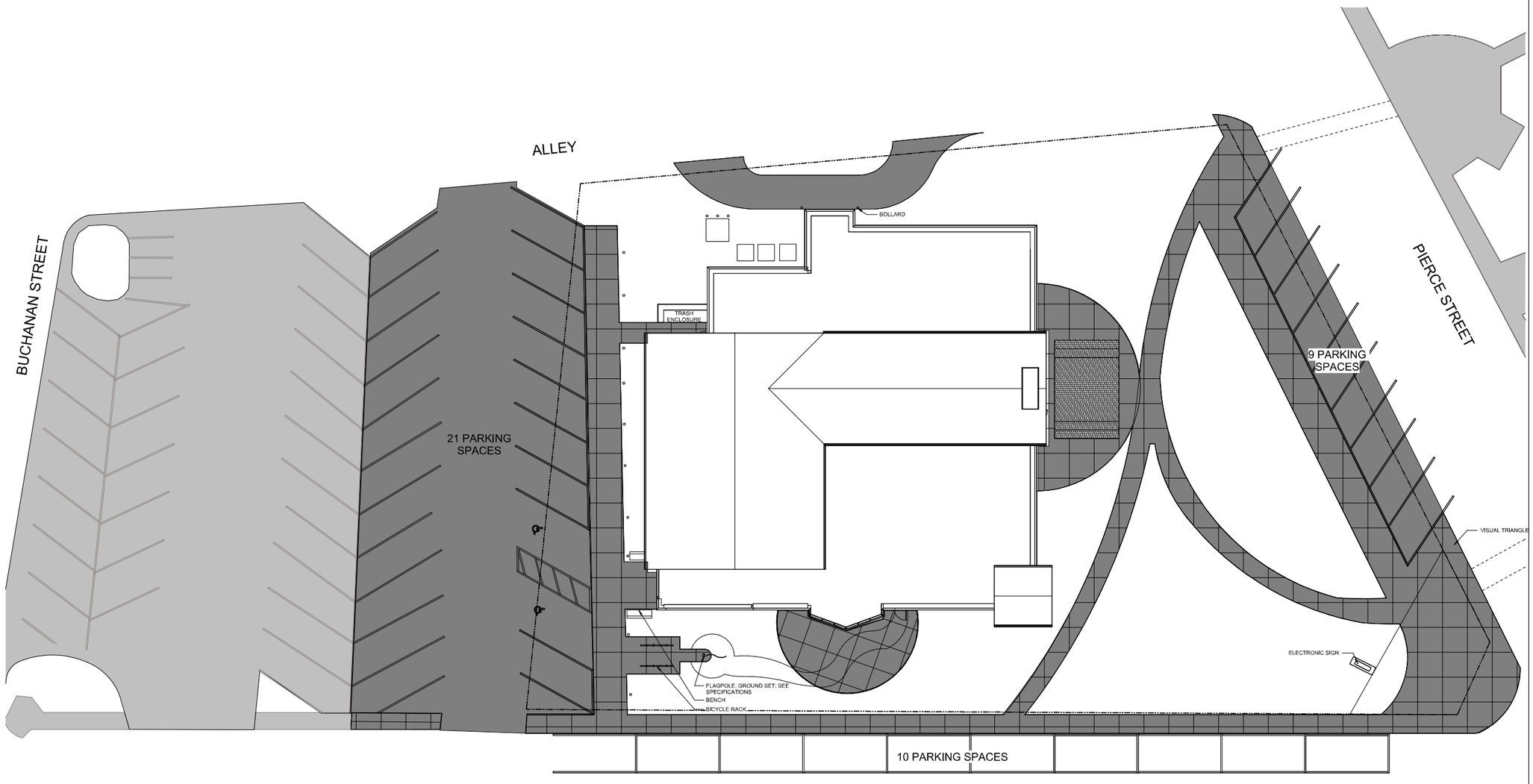
SHEET TITLE	PROJECT	NO. 23081		DATE	REVISIONS	DRAWN BY:
SITE LAYOUT PLAN CASCADE PUBLIC LIBRARY CASCADE, IOWA	PREPARED FOR: FEH DESIGN 951 MAIN STREET DUBUQUE, IA 52001		BUESING ASSOCIATES INC. ENGINEERS AND SURVEYORS 1212 LOCUST ST, DUBUQUE, IA (563) 556-4389	04.28.2023		PJN
				SCALE:		CHECKED BY:
				SEE BAR SCALE		PJN



N

1 SITE PLAN
SCALE: 1" = 10'-0"

EXISTING PARKING

NEW PARKING

NEW CONCRETE SIDEWALK/PATIO

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PROJECT NUMBER
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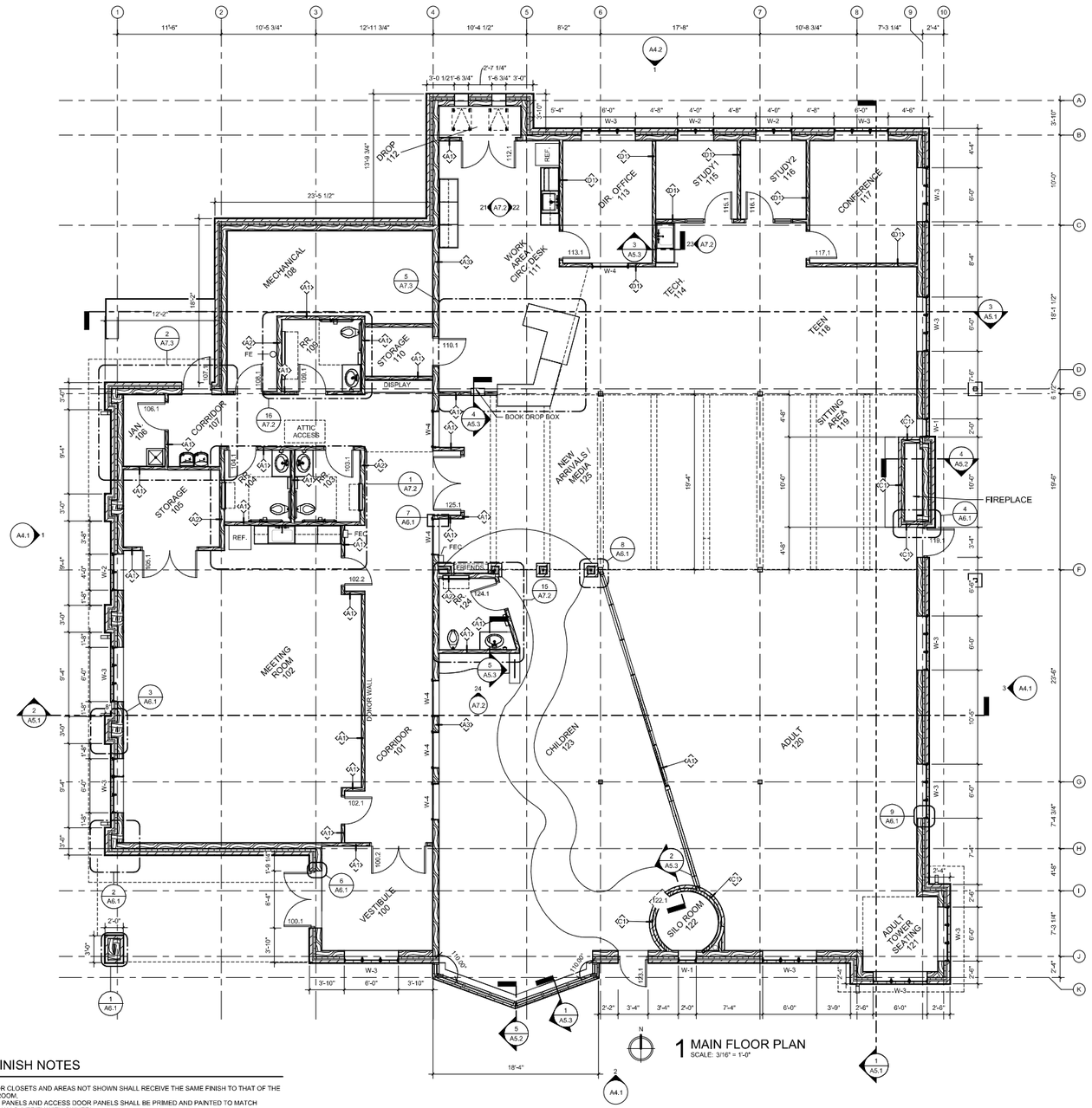

ROOM FINISH SCHEDULE LEGEND

FLOORS

CPT	CARPET TILE
CT	CERAMIC TILE
SC	SEALED CONCRETE
WCPT	WALK-OFF CARPET TILE

BASE

CT	CERAMIC TILE BASE
RB	RESILIENT BASE
WD	WOOD BASE

WALL

CT	CERAMIC TILE
P	PAINT

CEILING

ACT-1	ACOUSTICAL CEILING TILE, TYPE 1
ACT-2	ACOUSTICAL CEILING TILE, TYPE 2
EXP	EXPOSED STRUCTURE, NO PAINT
EXP-P	EXPOSED STRUCTURE, PAINT
GB-P	GYPSUM BOARD, PAINT
WP	WOOD PANEL

ROOM SCHEDULE

NUMBER	NAME	FLOOR FINISH	BASE FINISH	WALL NORTH	WALL SOUTH	WALL EAST	WALL WEST	CEILING FINISH	COMMENTS
100	VESTIBULE	WCPT-1	RB	P	P	P	P	ACT	
101	CORRIDOR	LVT-1	RB	P	P	P	P	ACT	
102	MEETING ROOM	LVT-1	RB	P	P	P	P	ACT	
103	RR.	CT-1	CT	CT/P	CT/P	CT/P	CT/P	GB-P	
104	RR.	CT-1	CT	CT/P	CT/P	CT/P	CT/P	GB-P	
105	STORAGE	SC	RB	P	P	P	P	EXP	
106	JAN.	SC	RB	P	P	P	P	EXP	
107	CORRIDOR	LVT-1	RB	P	P	P	P	ACT	
108	MECHANICAL	SC	RB	P	P	P	P	EXP	
109	RR.	CT-1	CT	CT/P	CT/P	CT/P	CT/P	GB-P	
110	STORAGE	SC	RB	P	P	P	P	EXP	
111	WORK AREA / CIRC. DESK	CPT-1	RB	P	P	P	P	ACT/GB-P	
112	DROP	CPT-1	RB	P	P	P	P	EXP	
113	DIR. OFFICE	CPT-1	RB	P	P	P	P	ACT	
114	TECH.	CPT-1	RB	P	-	-	-	EXP	
115	STUDY1	CPT-1	RB	P	P	P	P	ACT	
116	STUDY2	CPT-1	RB	P	P	P	P	ACT	
117	CONFERENCE	CPT-1	RB	P	P	P	P	ACT	
118	TEEN	CPT-1	RB	P	-	P	P	EXP	
119	SITTING AREA	CPT-1, CT-2	RB	-	-	P	-	EXP	
120	ADULT	CPT-1	RB	P	P	P	P	EXP	
121	ADULT TOWER SEATING	CPT-1	RB	P	P	P	P	EXP	
122	SILO ROOM	CPT-3	RB					EXP	
123	CHILDREN	CPT-2, CPT-3	RB	P	P	P	P	EXP	
124	RR.	CT-1	CT	CT/P	CT/P	CT/P	CT/P	GB-P	
125	NEW ARRIVALS / MEDIA	CPT-1	RB	P	P	P	-	EXP	

ROOM FINISH NOTES

1. FINISHES FOR CLOSETS AND AREAS NOT SHOWN SHALL RECEIVE THE SAME FINISH TO THAT OF THE ADJACENT ROOM.
2. ELECTRICAL PANELS AND ACCESS DOOR PANELS SHALL BE PRIMED AND PAINTED TO MATCH ADJACENT WALLS (VERIFY WITH OWNER).
3. CONCRETE FLOORS THAT ARE NOT SCHEDULED FOR A FINISH FLOOR MATERIAL SHALL RECEIVE SEALER PER THE PROJECT MANUAL. CONCRETE FLOORS ARE TO BE CLEANED OF ALL FOREIGN MATERIAL PRIOR TO THE APPLICATION OF THE SEALER.
4. PROVIDE EXPANSION JOINTS AT ALL SLAB EDGES AGAINST EXTERIOR WALLS. REFER TO STRUCTURAL.
5. SLOPE INTERIOR FLOOR SLAB TO DRAIN AT 1/8" PER FOOT WHERE SLOPED SLABS ARE INDICATED, U.N.O.
6. FLOOR SLAB TO BE SLOPED DOWN AROUND DRAINS WHERE FLOOR SLAB IS NOT INDICATED TO BE SLOPED, EXCEPT IN RESTROOMS WITH TILE. IN RESTROOMS WITH TILE, INSTALL DRAIN TO BE FLUSH WITH ADJACENT FLOOR TILE. REFER TO MECHANICAL DRAWINGS FOR ALL FLOOR DRAINS.
7. FLOOR DRAINS AND TRENCH DRAINS INDICATED FOR LOCATION AND CONFIGURATION ONLY. REFER TO MECHANICAL DRAWINGS FOR PRODUCT AND PIPING INFORMATION.
8. JOINT LAYOUT LOCATIONS SHOWN ARE FOR BIDDING PURPOSES ONLY. VERIFY LAYOUT / LOCATIONS WITH ARCHITECT PRIOR TO BEGINNING WORK AND SUBMIT JOINT LAYOUT DRAWING FOR APPROVAL.
9. VERIFY WALL AND FLOOR TILE PATTERN LAYOUT WITH ARCHITECT PRIOR TO BEGINNING WORK.
10. 4X4, 8X8 TILE JOINTS (BOTH ON WALL AND FLOOR) ARE TO ALIGN WITH MASONRY JOINTS ON WALL. WHERE TILE JOINTS DO NOT ALIGN WITH THAT OF CMU, CUT TILES AT MIDDLE OF THE RUN OR AT THE DOOR, OR AS SHOWN ON FLOOR FINISH PLANS. IF DISCREPANCY IS FOUND, CONTACT ARCHITECT BEFORE LAYING TILE.
11. DEPRESS CONCRETE SLABS FOR FLOOR FINISHES OVER 1/2" DEPTH. VERIFY DEPTH REQUIRED.
12. ALL FLOOR FINISH TRANSITIONS TO BE LOCATED UNDER DOOR CENTERLINES, U.N.O.

FLOOR PLAN LEGEND

- BULLNOSE CMU OUTSIDE CORNER
- FE — FIRE EXTINGUISHER ON BRACKET (FE)
- FEC — FIRE EXTINGUISHER CABINET (FEC)

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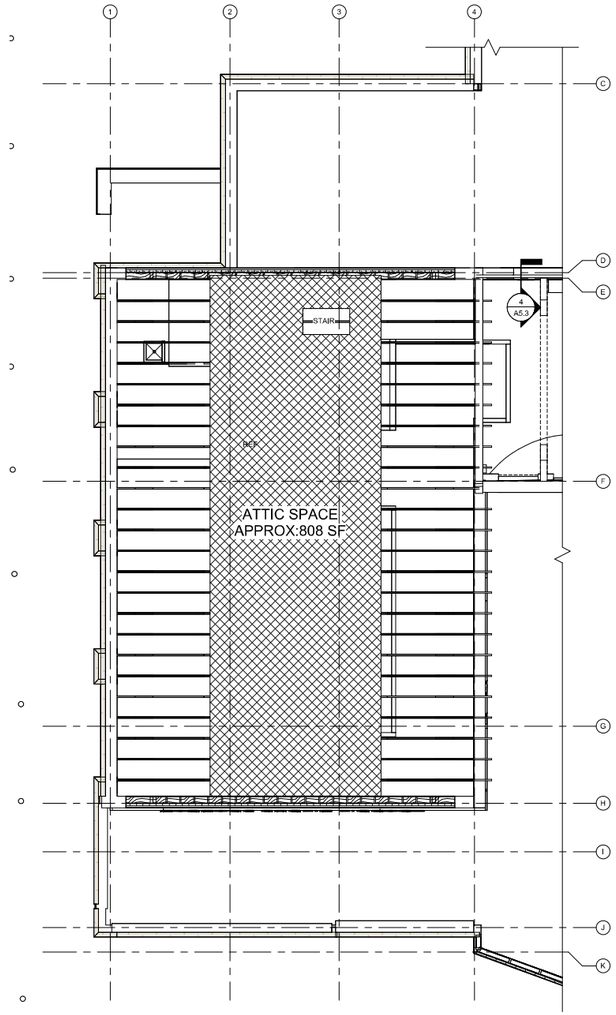

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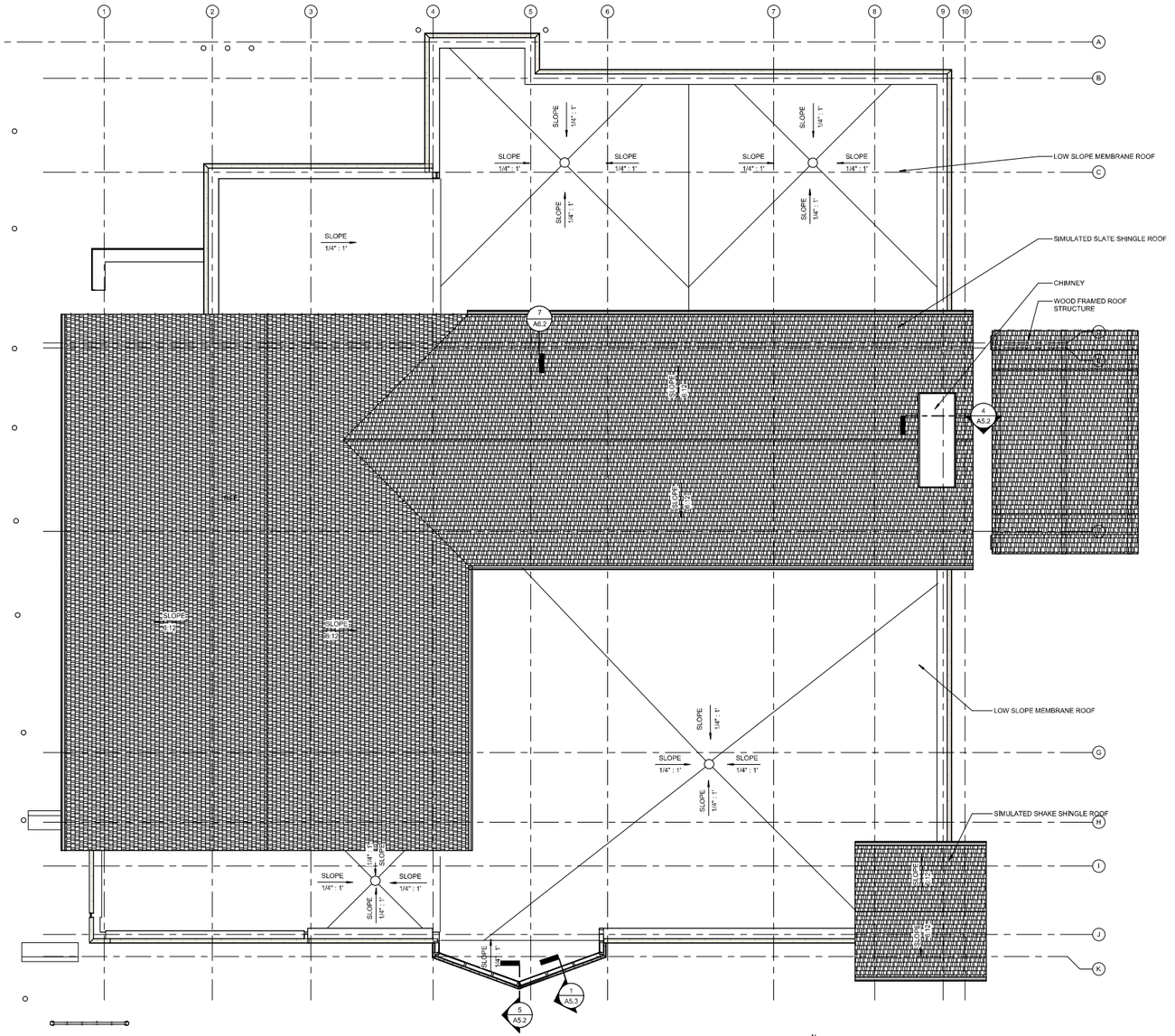
1 ATTIC PLAN
SCALE: 3/16" = 1'-0"



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2 ROOF PLAN
SCALE: 3/16" = 1'-0"

NOTE: SLOPE @ 1/4" PER FOOT
SLOPE 6:12 AT SHINGLES
ROOF R-VALUE R-30 AVERAGE

ROOF PLAN LEGEND

AVTR	-	ACID VENT THRU ROOF
CU	-	CONDENSING UNIT
DS	-	DOWN SPOUT
GRV	-	GRAVITY VENT
MAU	-	MAKE UP AIR UNIT
OD	-	OVERFLOW DRAIN
OS	-	OVERFLOW SCUPPER
PRV	-	POWER ROOF VENTILATOR
RAHU	-	ROOF TOP AIR HANDLING UNIT
RD	-	ROOF DRAIN
SD	-	SCUPPER DRAIN
TI	-	TAPERED INSULATION
VTR	-	VENT THRU ROOF

ROOF PAD

ATTIC FLOOR

TAPERED INSULATION

SHINGLES

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PROJECT TITLE
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PROJECT NUMBER
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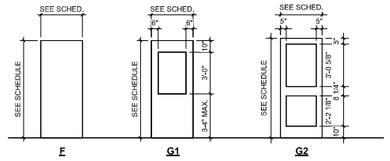
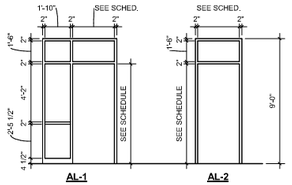
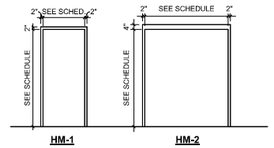


DOOR TYPE ELEVATIONS
SCALE: 1/4" = 1'-0"



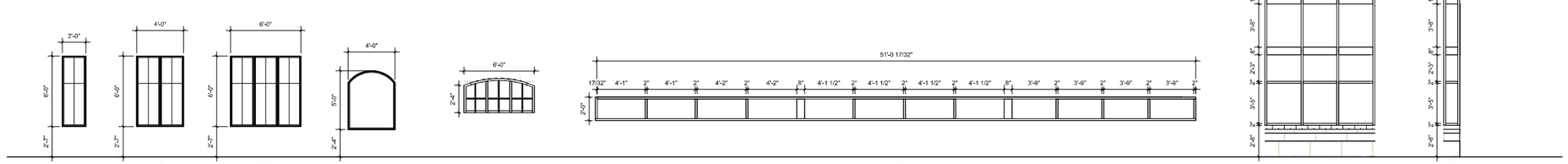
FRAME TYPE ELEVATIONS - AL
SCALE: 1/4" = 1'-0"

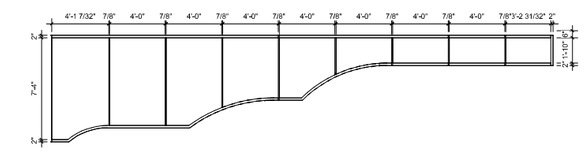


FRAME TYPE ELEVATIONS - HM
SCALE: 1/4" = 1'-0"

DOOR SCHEDULE

NUMBER	DOOR SIZE WIDTH	DOOR SIZE HEIGHT	DOOR TYPE	DOOR MATERIAL	GLAZING	FRAME SIZE FRAME WIDTH	FRAME SIZE FRAME HEIGHT	FRAME TYPE	FIRE RATING	Hardware Set	COMMENTS
100.1	6'-0"	7'-2"	G2	AL	ISG	6'-4"	8'-8"	HM-2			
100.2	6'-0"	7'-2"	G2	AL	SG	6'-4"	9'-0"	HM-2			
102.1	3'-0"	7'-0"	G1	WD	SG	3'-4"	7'-2"	HM-1			
102.2	3'-0"	7'-0"	G1	WD	SG	3'-4"	7'-2"	HM-1			
103.1	3'-0"	7'-0"	F	WD		3'-4"	7'-2"	HM-1			
104.1	3'-0"	7'-0"	F	WD		3'-4"	7'-2"	HM-1			
105.1	6'-0"	7'-0"	F	WD		6'-4"	7'-4"	HM-2			
106.1	3'-0"	7'-0"	F	WD		3'-4"	7'-2"	HM-1			
107.1	3'-0"	7'-0"	F	HM		3'-4"	7'-2"	HM-1			
108.1	3'-0"	7'-0"	F	WD		3'-4"	7'-2"	HM-1			
109.1	3'-0"	7'-0"	F	WD		3'-4"	7'-2"	HM-1			
110.1	3'-0"	7'-0"	F	WD		3'-4"	7'-2"	HM-1			
112.1	6'-0"	7'-0"	F	WD		6'-4"	7'-2"	HM-2			
113.1	3'-0"	7'-0"	G1	WD	SG	3'-4"	7'-2"	HM-1			
115.1	3'-0"	7'-2"	G2	AL	SG	3'-4"	9'-0"	AL-1			
116.1	3'-0"	7'-2"	G2	AL	SG	3'-4"	9'-0"	AL-1			
117.1	3'-0"	7'-2"	G2	AL	SG	3'-4"	9'-0"	AL-2			
119.1	3'-0"	7'-2"	G2	AL	ISG	3'-4"	8'-8"	AL-2			
122.1	2'-0"	3'-6"				2'-0"	3'-6"				
123.1	3'-0"	7'-2"	G2	AL	ISG	3'-4"	8'-8"	AL-2			
124.1	3'-0"	7'-0"	F	WD		3'-4"	7'-2"	HM-1			
125.1	6'-0"	7'-2"	G2	WD	SG	6'-4"	7'-4"	HM-1			





WINDOW TYPE ELEVATIONS
SCALE: 1/4" = 1'-0"

DOOR / WINDOW SCHEDULE LEGEND

COMMENTS

(1) XXXXXX
(2) XXXXXX

MATERIAL

AL	ALUMINUM
HM-G	HOLLOW METAL - GALVANIZED
HM	HOLLOW METAL
WD	WOOD

GLAZING

IG	INSULATED GLAZING
SG	SAFETY GLAZING
TP	TRANSLUCENT PANEL
ISG	INSULATED SAFETY GLAZING

DOOR NOTES

1. ALL DOORS TO BE 1-3/4" THICK U.O.N.
2. ADJUST DOOR CLOSURES SO THAT MAXIMUM EFFORTS TO OPERATE DOORS SHALL NOT EXCEED 5 LBS. FOR INTERIOR DOORS (EXCEPT FIRE DOORS) AS PER STATE HANDICAP REQUIREMENTS.
3. RATED DOORS ARE TO BE SELF-CLOSING AND POSITIVE LATCHING.
4. ALL FIRE-RATED ASSEMBLIES SHALL BE PROVIDED WITH APPROVED GASKETING MATERIAL INSTALLED TO PROVIDE A SEAL WHERE THE DOOR MEETS THE STOP ON BOTH SIDES AND AT THE TOP.
5. GLASS AND GLAZING SHALL COMPLY WITH THE CURRENT INTERNATIONAL BUILDING CODE (IBC) FOR HUMAN IMPACT. GLASS DOORS, ADJACENT PANELS, AND ALL GLAZED OPENINGS WITHIN 18" OF ADJACENT FLOOR SHALL BE OF GLASS APPROVED FOR IMPACT HAZARD.
6. DIMENSIONS FOR DOORS, WINDOWS, AND LOUVERS IN CONCRETE MASONRY AND PRECAST WALLS ARE NOMINAL FRAME SIZES. COORDINATE MANUFACTURER'S REQUIREMENTS WITH ACTUAL ROUGH OPENING DIMENSIONS.
7. WHERE METAL THRESHOLDS ARE CUT TO FIT DOOR JAMBS, PROVIDE SEALANT ALONG EDGES OF THRESHOLD AT JAMB.
8. MANUFACTURER'S INSTALLATION INSTRUCTIONS SHALL BE AVAILABLE ON THE JOB SITE FOR ALL RATED DOOR ASSEMBLIES.

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DOOR SCHEDULE

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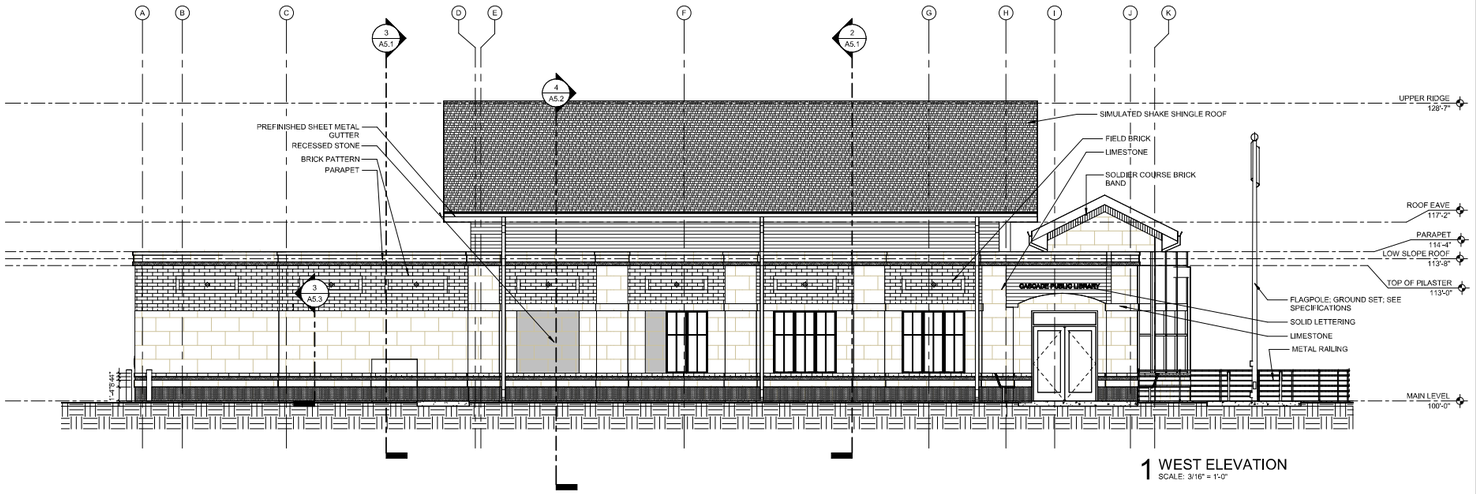
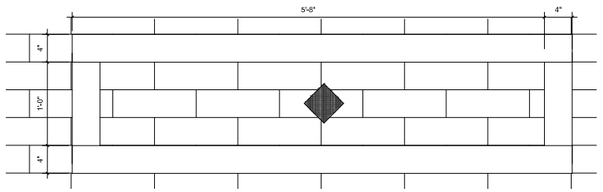
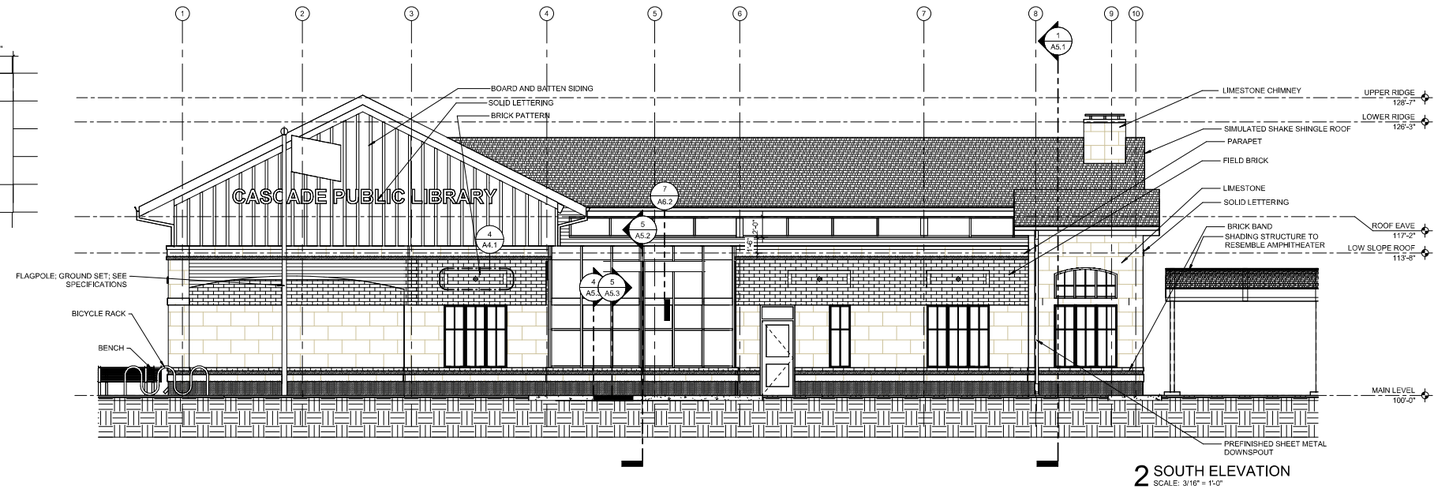


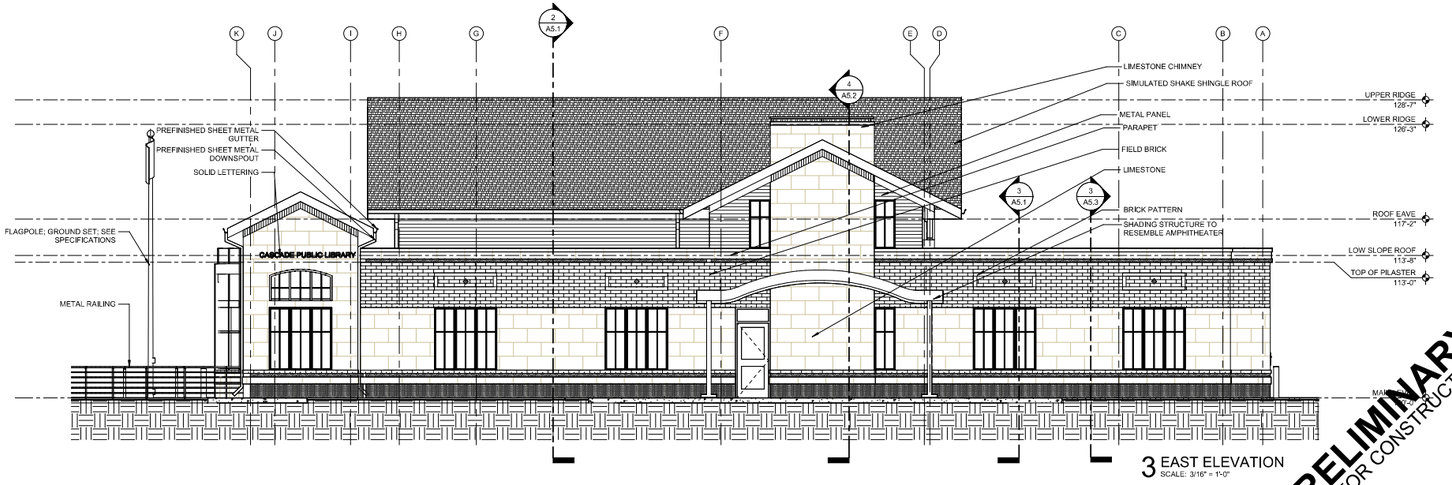
1 WEST ELEVATION
SCALE: 3/16" = 1'-0"



4 BRICK PATTERN
SCALE: 1 1/2" = 1'-0"



2 SOUTH ELEVATION
SCALE: 3/16" = 1'-0"



3 EAST ELEVATION
SCALE: 3/16" = 1'-0"

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SHEET
A4.1

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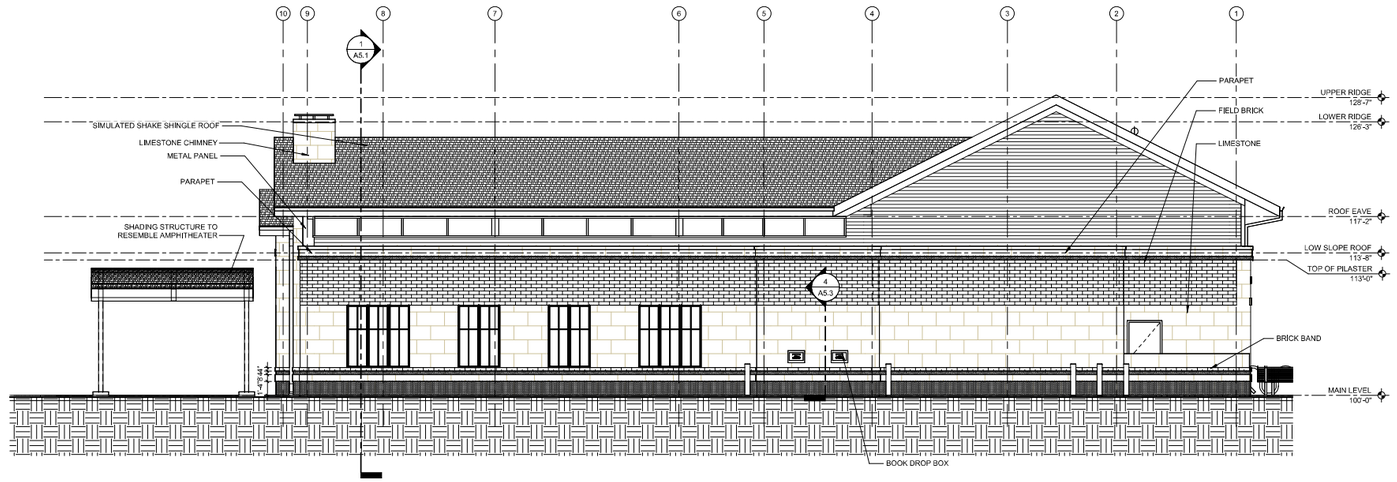
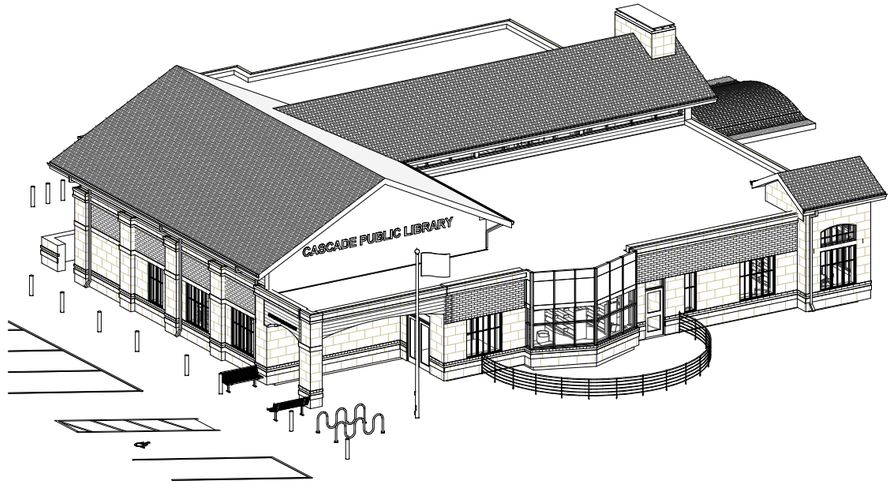


1 NORTH ELEVATION
SCALE: 3/16" = 1'-0"



2 3D VIEW - SOUTH WEST
SCALE:

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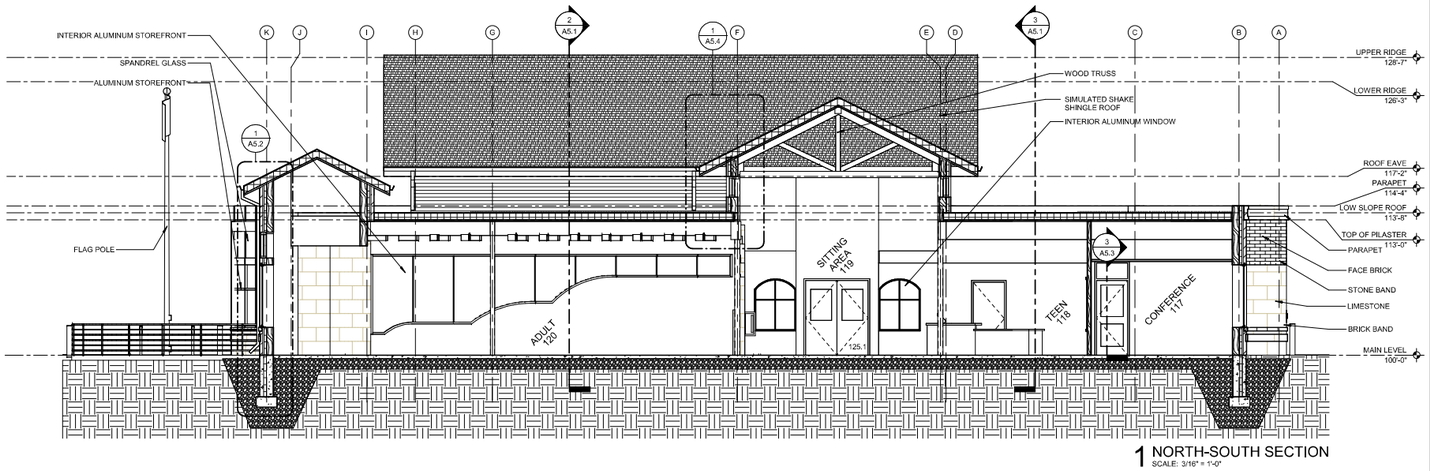
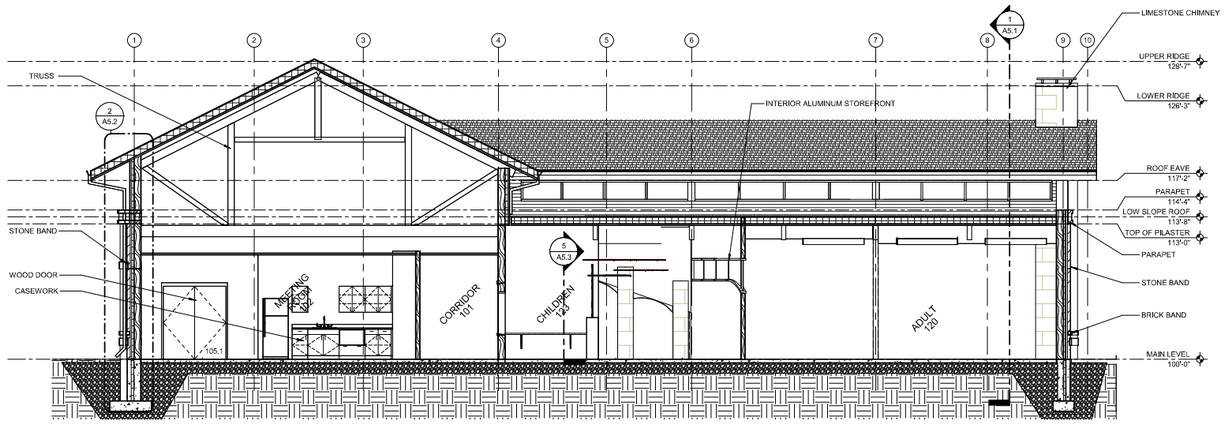
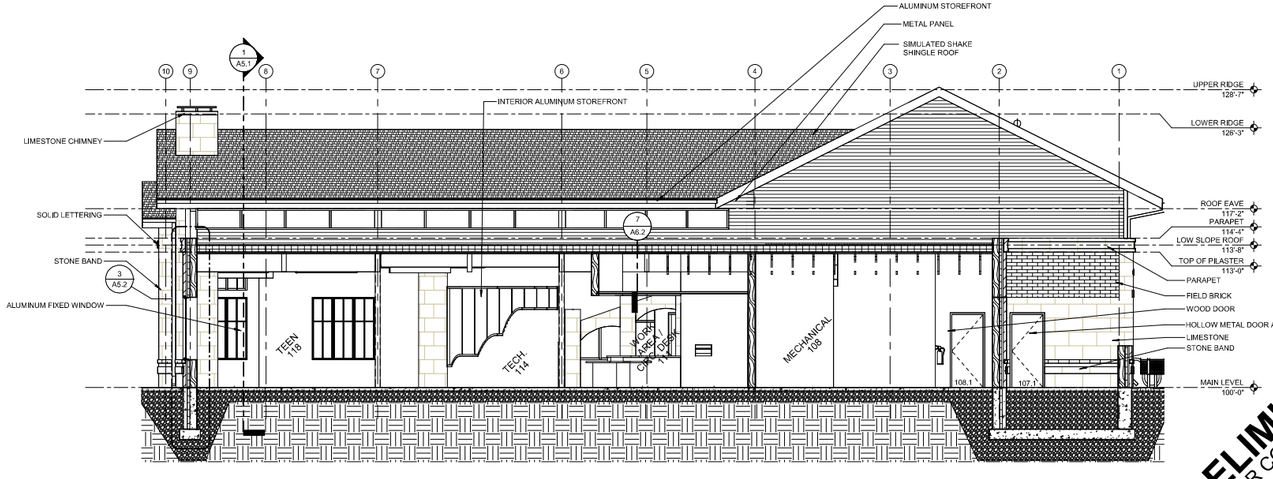
A4.2



1 NORTH-SOUTH SECTION
SCALE: 3/16" = 1'-0"



2 EAST-WEST SECTION
SCALE: 3/16" = 1'-0"



3 WEST-EAST SECTION
SCALE: 3/16" = 1'-0"

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SHEET
A5.1

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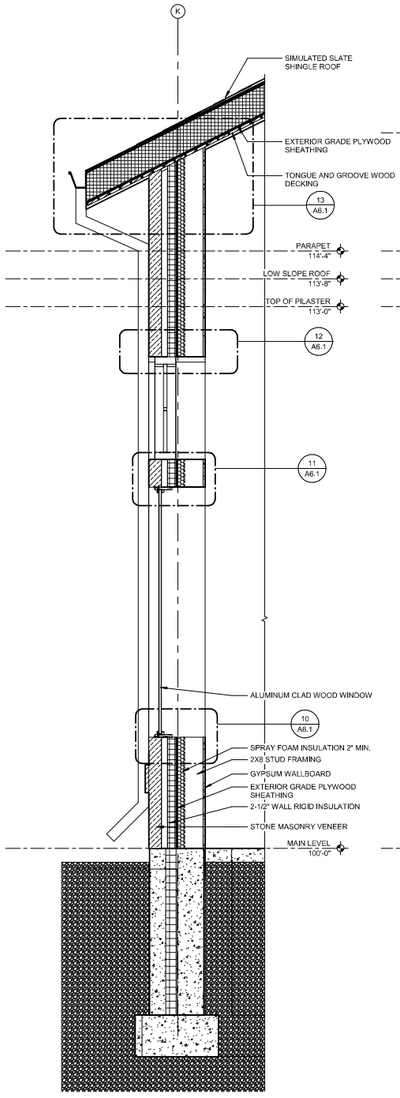
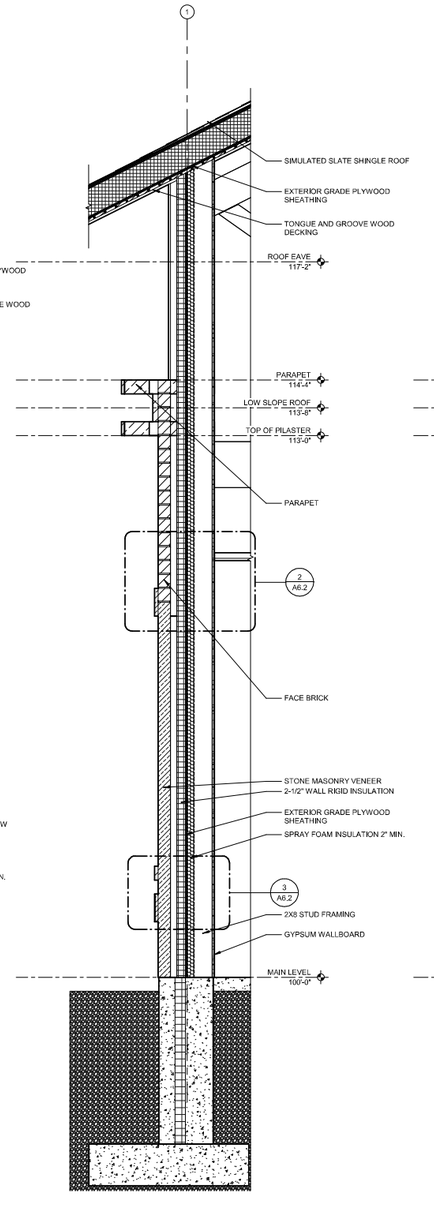
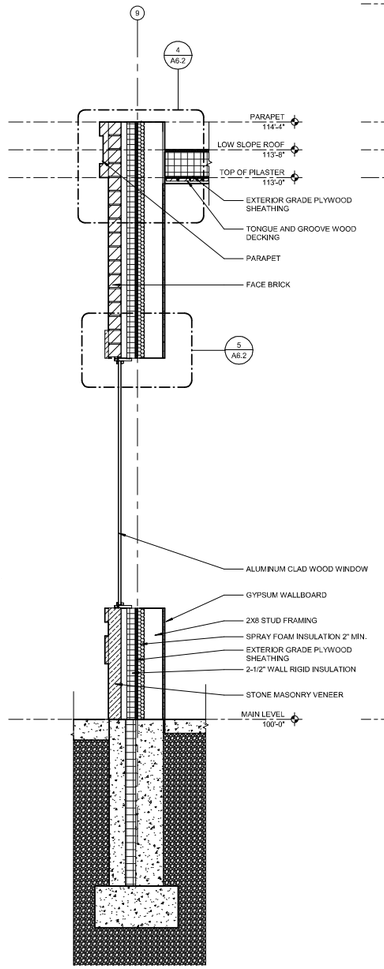


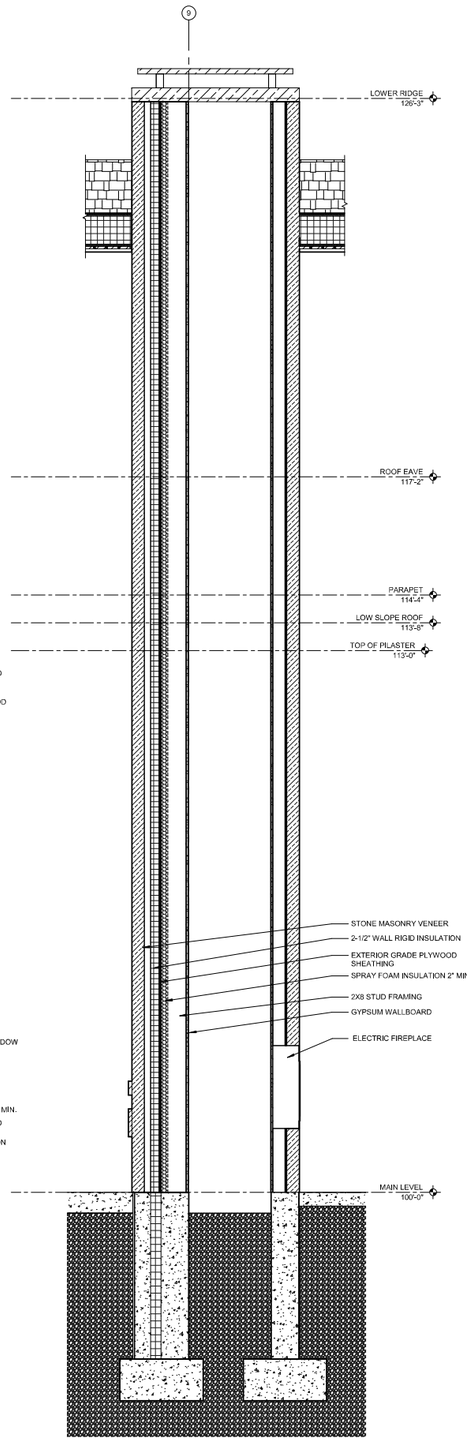
1 TOWER WALL
SCALE: 3/4" = 1'-0"



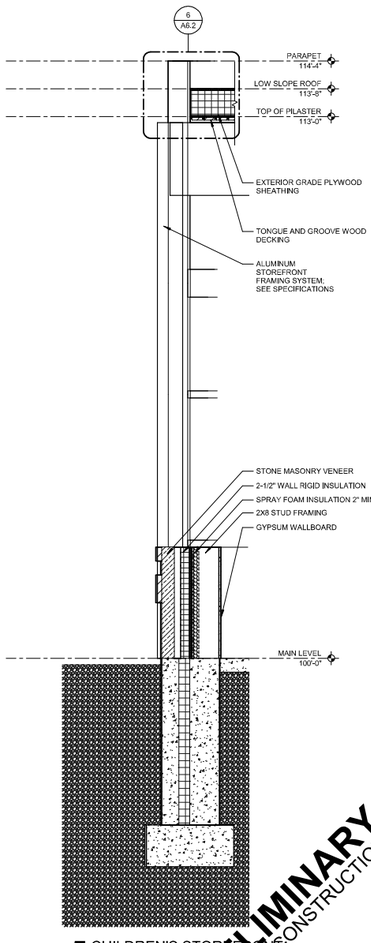
2 WEST WALL
SCALE: 3/4" = 1'-0"



3 WINDOW 118 SECTION
SCALE: 3/4" = 1'-0"



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



5 CHILDREN'S STORY TIME
SCALE: 3/4" = 1'-0"

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SHEET
A5.2

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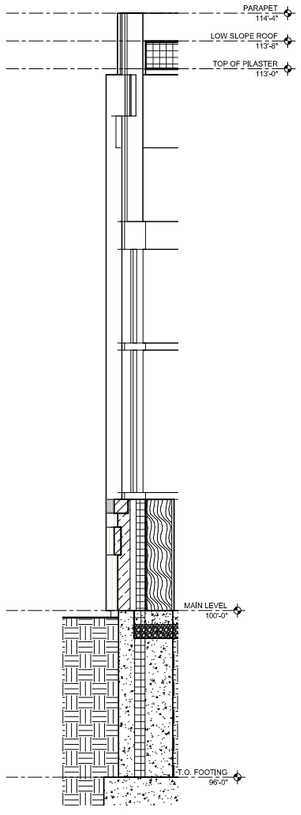
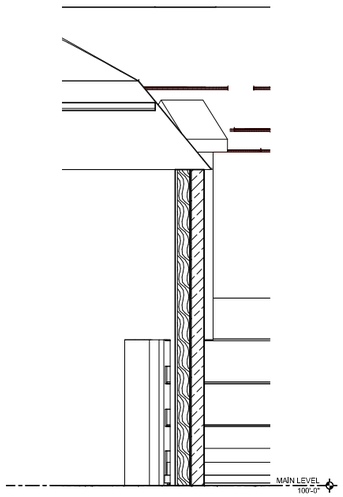
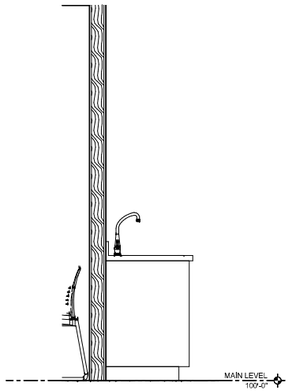


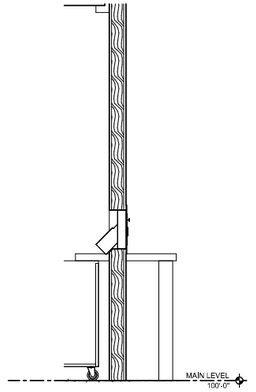
1 CHILDREN'S STOREFRONT SECTION
SCALE: 3/4" = 1'-0"



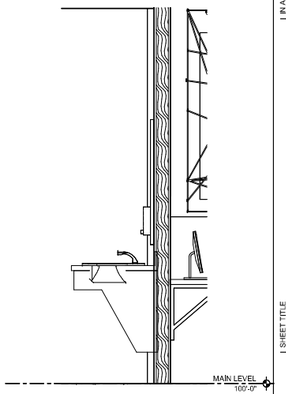
2 SILO WALL SECTION
SCALE: 3/4" = 1'-0"



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



4 INTERIOR BOOK DROP
SCALE: 3/4" = 1'-0"



5 CHILD RR.
SCALE: 3/4" = 1'-0"

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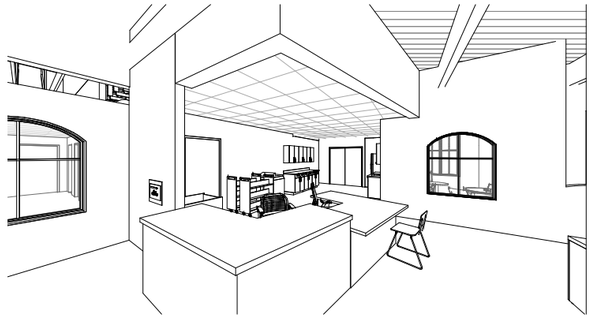
A5.3

1 LIBRARY ENTRY
SCALE:

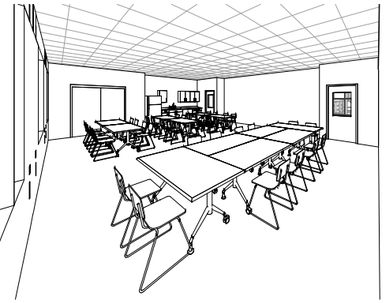
2 FIREPLACE SEATING
SCALE:

3 CHILDRENS ENTRY
SCALE:

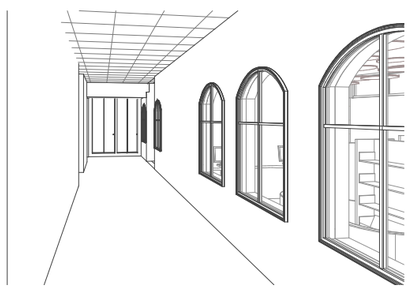
4 TOWER SEATING
SCALE:



5 CIRC DESK
SCALE:



6 MEETING ROOM
SCALE:



8 ENTRY CORRIDOR
SCALE:

7 ADULT AREA GLASS WALL
SCALE:

9 CHILDRENS SILO
SCALE:

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SHEET
A7.1

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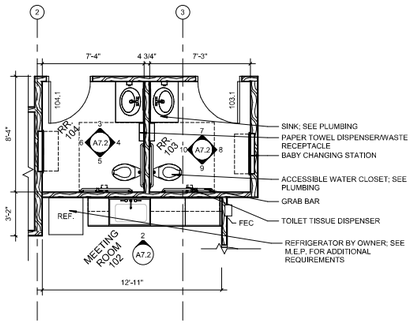
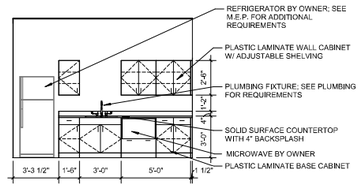
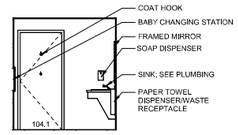


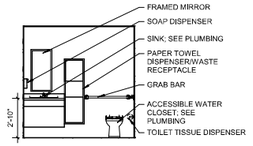
1 R.R. AND MEETING ROOM
SCALE: 1/4" = 1'-0"



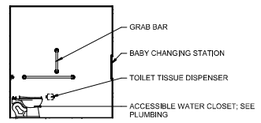
2 MEETING ROOM KITCHENETTE
SCALE: 1/4" = 1'-0"



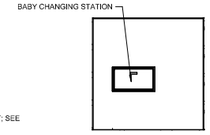
3 RR 104 NORTH
SCALE: 1/4" = 1'-0"



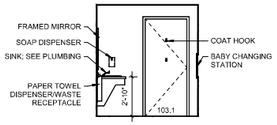
4 RR 104 EAST
SCALE: 1/4" = 1'-0"



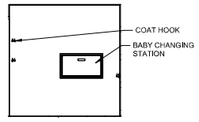
5 RR 104 SOUTH
SCALE: 1/4" = 1'-0"



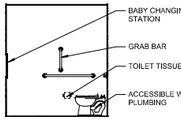
6 RR 104 WEST
SCALE: 1/4" = 1'-0"



7 RR 103 NORTH
SCALE: 1/4" = 1'-0"



8 RR 103 EAST
SCALE: 1/4" = 1'-0"



9 RR 103 SOUTH
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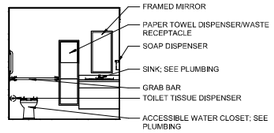
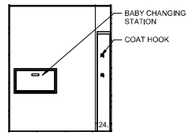
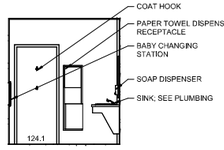


10 RR 103 WEST
SCALE: 1/4" = 1'-0"



11 RR 124 NORTH
SCALE: 1/4" = 1'-0"



12 RR 124 EAST
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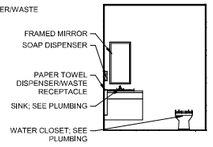

13 RR 124 SOUTH
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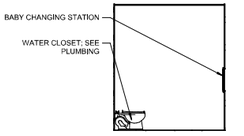

14 RR 124 WEST
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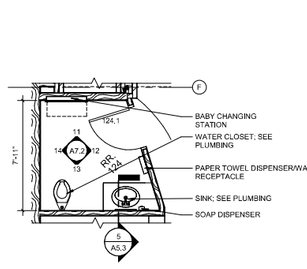
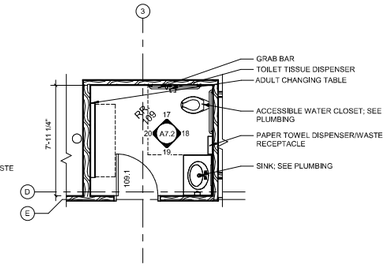


15 CHILDRENS R.R. 124
SCALE: 1/4" = 1'-0"



16 R.R. 109
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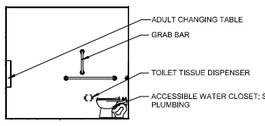
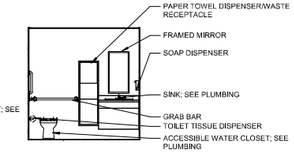
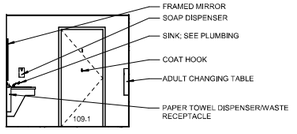


17 RR 109 NORTH
SCALE: 1/4" = 1'-0"



18 RR 109 EAST
SCALE: 1/4" = 1'-0"



19 RR 109 SOUTH
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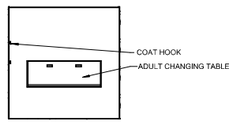
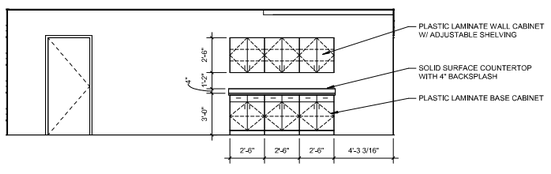
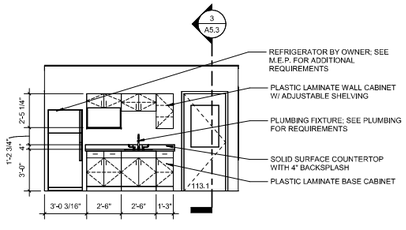


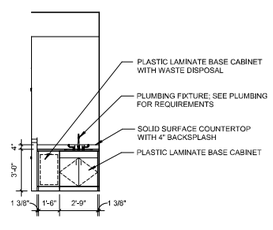
20 RR 109 WEST
SCALE: 1/4" = 1'-0"



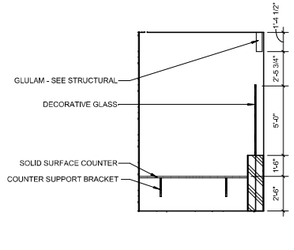
21 STAFF WORKROOM WEST
SCALE: 1/4" = 1'-0"



22 STAFF WORKROOM EAST
SCALE: 1/4" = 1'-0"



23 COFFEE BAR
SCALE: 1/4" = 1'-0"



24 CHILDREN'S COMPUTER DESK
SCALE: 1/4" = 1'-0"

PRELIMINARY
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FEH DESIGN
OCONOMOWOC, WI (262) 968-2055
DUBUQUE, IA (563) 583-4900
DES MOINES, IA (515) 288-2000
SIOUX CITY, IA (712) 252-3889
FEHDESIGN.COM

IN ASSOCIATION WITH

SHEET TITLE
INTERIOR ELEVATIONS

PROJECT TITLE
CITY OF CASCADE
CASCADE PUBLIC LIBRARY
SECOND AVENUE SW.
CASCADE, IOWA

DATE ISSUED 3 MAY 2023

REV. NO.	DATE

PROJECT NUMBER
2021310

SHEET
A7.2

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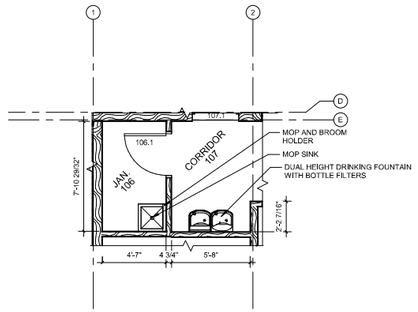

2 JANITOR'S CLOSET
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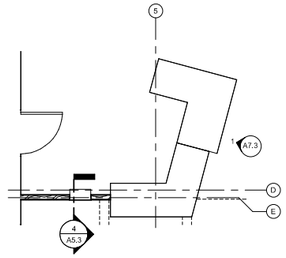

5 CIRCULATION DESK
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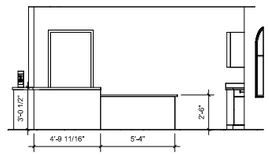
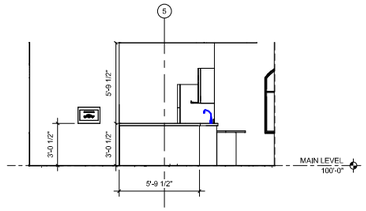


1 CIRCULATION DESK - NORTH WEST
SCALE: 1/4" = 1'-0"



3 CIRCULATION DESK - NORTH
SCALE: 1/4" = 1'-0"

FEH DESIGN
SIOUX CITY, IA (712) 252-3889
DES MOINES, IA (515) 288-2000
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IN ASSOCIATION WITH

SHEET TITLE
ENLARGED PLANS

PROJECT TITLE
CITY OF CASCADE
CASCADE PUBLIC LIBRARY
SECOND AVENUE SW.
CASCADE, IOWA

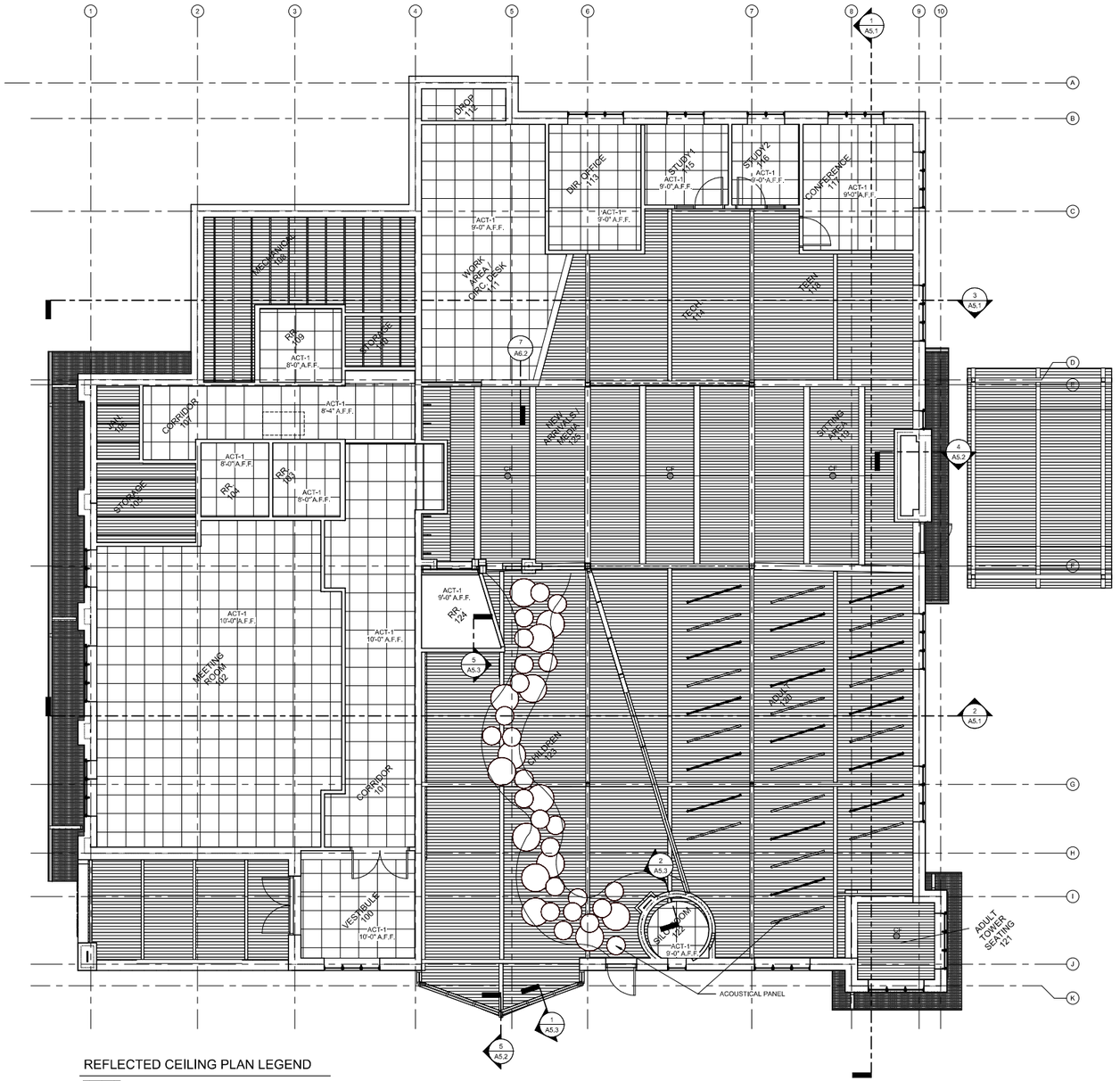
DATE ISSUED 3 MAY 2023

REV. NO. DATE

PROJECT NUMBER
2021310

SHEET
A7.3

PRELIMINARY
NOT FOR CONSTRUCTION



REFLECTED CEILING PLAN NOTES

1. CEILING GRID TO BE CENTERED EACH WAY WITHIN ROOMS AND ARE AS SHOWN ON THE REFLECTED CEILING PLAN, U.N.O.
2. ALL ELECTRICAL, MECHANICAL, PLUMBING AND FIRE PROTECTION DEVISED TO BE CENTERED WITHIN CEILING TILES, U.N.O.
3. REFER TO MECHANICAL, ELECTRICAL, PLUMBING, AND FIRE PROTECTION (IF APPLICABLE) DRAWINGS FOR DUCTWORK, DEVICES, EQUIPMENT, & FIXTURES NOT SHOWN ON THE REFLECTED CEILING PLANS. COORDINATE LOCATION OF THESE ITEMS WITH THOSE SHOWN.
4. IN ROOMS AND/OR AREAS SCHEDULED TO HAVE EXPOSED STRUCTURE, ALL WALL MATERIALS AND FINISHES TO EXTEND TO UNDERSIDE OF ROOF OR FLOOR DECK, U.N.O.
5. CEMENT BOARD AND GYPSUM BOARD CEILINGS TO BE INSTALLED ON SUSPENSION SYSTEM PER PROJECT MANUAL, U.N.O.
6. WALL GYPSUM BOARD SHALL EXTEND 6" MINIMUM ABOVE HIGHEST ADJACENT CEILING AT PARTITIONS NOT IDENTIFIED TO BE FULL-HEIGHT. BRACE TOP OF WALL TO STRUCTURE ABOVE WITH METAL FRAMING AT 48" O.C. EACH WAY.
7. GYPSUM BOARD VERTICAL RETURNS ON SOFFITS AND BULKHEADS TO EXTEND 6" MINIMUM ABOVE HIGHEST ADJACENT CEILING HEIGHT, U.N.O.
8. REFER TO MECHANICAL DRAWINGS & PROJECT MANUAL FOR REQUIRED LOCATIONS OF ACCESS PANELS IN GYPSUM BOARD OR CEMENT BOARD CEILINGS NOT SHOWN ON THE REFLECTED CEILING PLANS. COORDINATE PANEL LOCATION WITH ARCHITECT.
9. PAINT ALL EXPOSED STEEL, CONDUIT, DUCTWORK, PIPING, ETC. IN ROOMS AND/OR AREAS NOTED OR SCHEDULED TO RECEIVED PAINTED FINISHES.
10. PROVIDE SUPPORT WIRE ABOVE THE CEILING AT 2'-0" O.C. ON CEILING GRID MEMBERS AROUND ALL CEILING MOUNTED PROJECTION SCREEN LOCATIONS NOTED ON THE DRAWINGS.
11. PROVIDE ESCUTCHEONS AT ALL CEILING PENETRATIONS, U.N.O.
12. HOLD GYPSUM BOARD AND/OR CEMENT BOARD 1/2" OFF STRUCTURE.
13. SEE TYPICAL WALL TYPES FOR TOP OF WALL CONSTRUCTION.

REFLECTED CEILING PLAN LEGEND

- ACOUSTIC TILE CEILING
- GYPSUM WALL BOARD
- WOOD DECKING
- SOFFIT

NOTES:

* ALL WALLS TO STRUCTURE UNLESS NOTED OTHERWISE.

**AT FIRE RATED WALLS, SEAL TO STRUCTURE WITH FIRESAFING INSULATION / MASTIC AT GYP BOARD WALLS OR FIRE CAULK AT MASONRY WALLS.

N

1 MAIN LEVEL REFLECTED CEILING PLAN
SCALE: 3/16" = 1'-0"

PRELIMINARY
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FEH DESIGN

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SHEET TITLE
REFLECTED CEILING PLANS

PROJECT TITLE
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CASCADE PUBLIC LIBRARY
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CASCADE, IOWA

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PROJECT NUMBER
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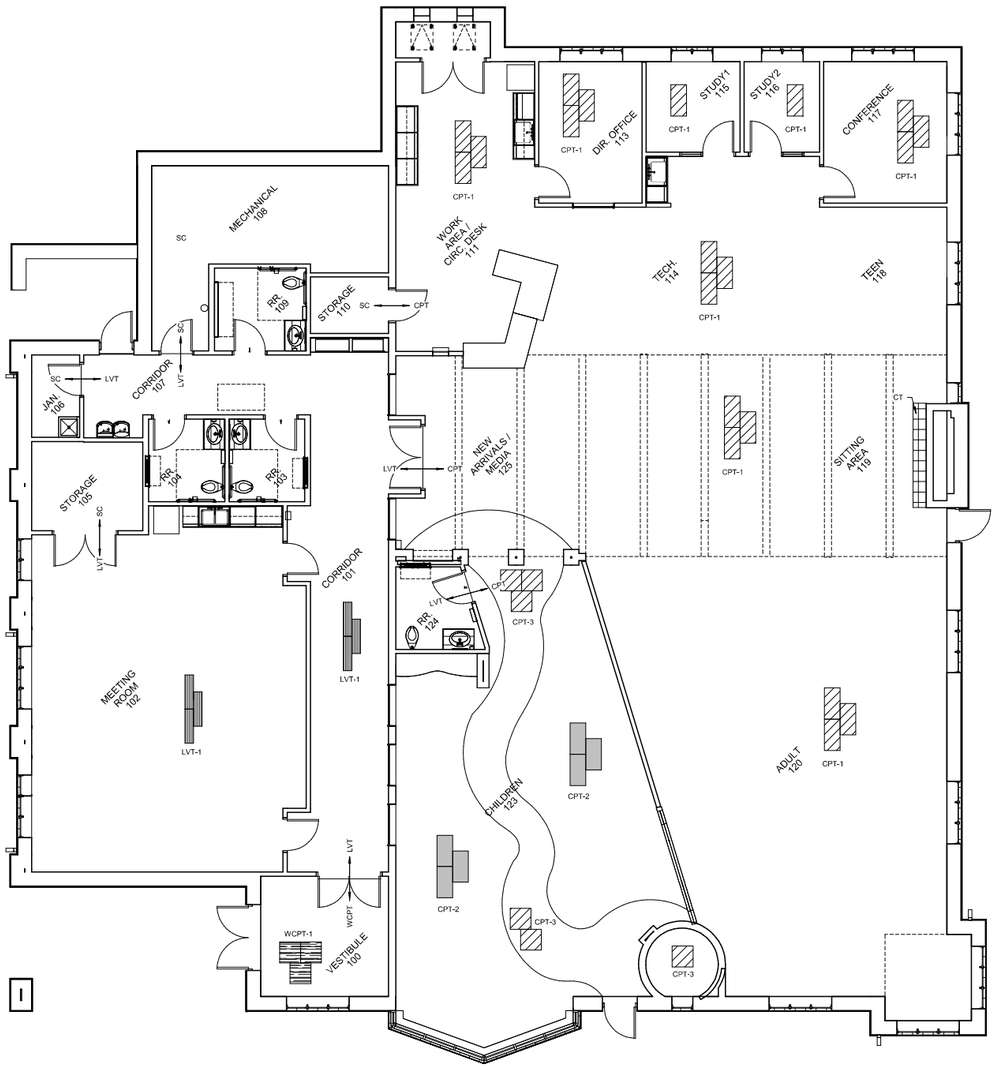


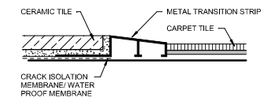
1 MAIN LEVEL FLOOR FINISH PLAN
SCALE: 3/16" = 1'-0"

ROOM FINISH NOTES

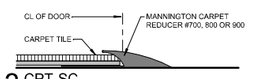
1. FINISHES FOR CLOSETS AND AREAS NOT SHOWN SHALL RECEIVE THE SAME FINISH TO THAT OF THE ADJACENT ROOM.
2. ELECTRICAL PANELS AND ACCESS DOOR PANELS SHALL BE PRIMED AND PAINTED TO MATCH ADJACENT WALLS (VERIFY WITH OWNER).
3. CONCRETE FLOORS THAT ARE NOT SCHEDULED FOR A FINISH FLOOR MATERIAL SHALL RECEIVE SEALER PER THE PROJECT MANUAL. CONCRETE FLOORS ARE TO BE CLEANED OF ALL FOREIGN MATERIAL PRIOR TO THE APPLICATION OF THE SEALER.
4. PROVIDE EXPANSION JOINTS AT ALL SLAB EDGES AGAINST EXTERIOR WALLS. REFER TO STRUCTURAL.
5. SLOPE INTERIOR FLOOR SLAB TO DRAIN AT 1/8" PER FOOT WHERE SLOPED SLABS ARE INDICATED, U.N.O..
6. FLOOR SLAB TO BE SLOPED DOWN AROUND DRAINS WHERE FLOOR SLAB IS NOT INDICATED TO BE SLOPED, EXCEPT IN RESTROOMS WITH TILE. IN RESTROOMS WITH TILE, INSTALL DRAIN TO BE FLUSH WITH ADJACENT FLOOR TILE. REFER TO MECHANICAL DRAWINGS FOR ALL FLOOR DRAINS.
7. FLOOR DRAINS AND TRENCH DRAINS INDICATED FOR LOCATION AND CONFIGURATION ONLY, REFER TO MECHANICAL DRAWINGS FOR PRODUCT AND PIPING INFORMATION.
8. JOINT LAYOUT LOCATIONS SHOWN ARE FOR BIDDING PURPOSES ONLY. VERIFY LAYOUT / LOCATIONS WITH ARCHITECT PRIOR TO BEGINNING WORK AND SUBMIT JOINT LAYOUT DRAWING FOR APPROVAL.
9. VERIFY WALL AND FLOOR TILE PATTERN LAYOUT WITH ARCHITECT PRIOR TO BEGINNING WORK.
10. 4X4, 8X8 TILE JOINTS (BOTH ON WALL AND FLOOR) ARE TO ALIGN WITH MASONRY JOINTS ON WALL. WHERE TILE JOINTS DO NOT ALIGN WITH THAT OF CMU, CUT TILES AT MIDDLE OF THE RUN OR AT THE DOOR, OR AS SHOWN ON FLOOR FINISH PLANS. IF DISCREPANCY IS FOUND, CONTACT ARCHITECT BEFORE LAYING TILE.
11. DEPRESS CONCRETE SLABS FOR FLOOR FINISHES OVER 1/2" DEPTH. VERIFY DEPTH REQUIRED.
12. ALL FLOOR FINISH TRANSITIONS TO BE LOCATED UNDER DOOR CENTERLINES, U.N.O.

FLOOR FINISH LEGEND

- SC: SEALED CONCRETE
- CPT-1 : CARPET TILE, TYPE 1
- CPT-2: CARPET TILE, TYPE 2
- CPT-3: CARPET TILE, TYPE 3
- CT: CERAMIC TILE
- LVT: LUXARY VINYL TYLE
- WCPT: WALK OFF CARPET TILE



2 CT-CPT
SCALE: 12" = 1'-0"



3 CPT-SC
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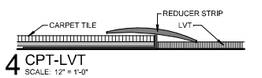

4 CPT-LVT
SCALE: 12" = 1'-0"

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SHEET TITLE
FLOOR FINISH PLANS

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CASCADE, IOWA

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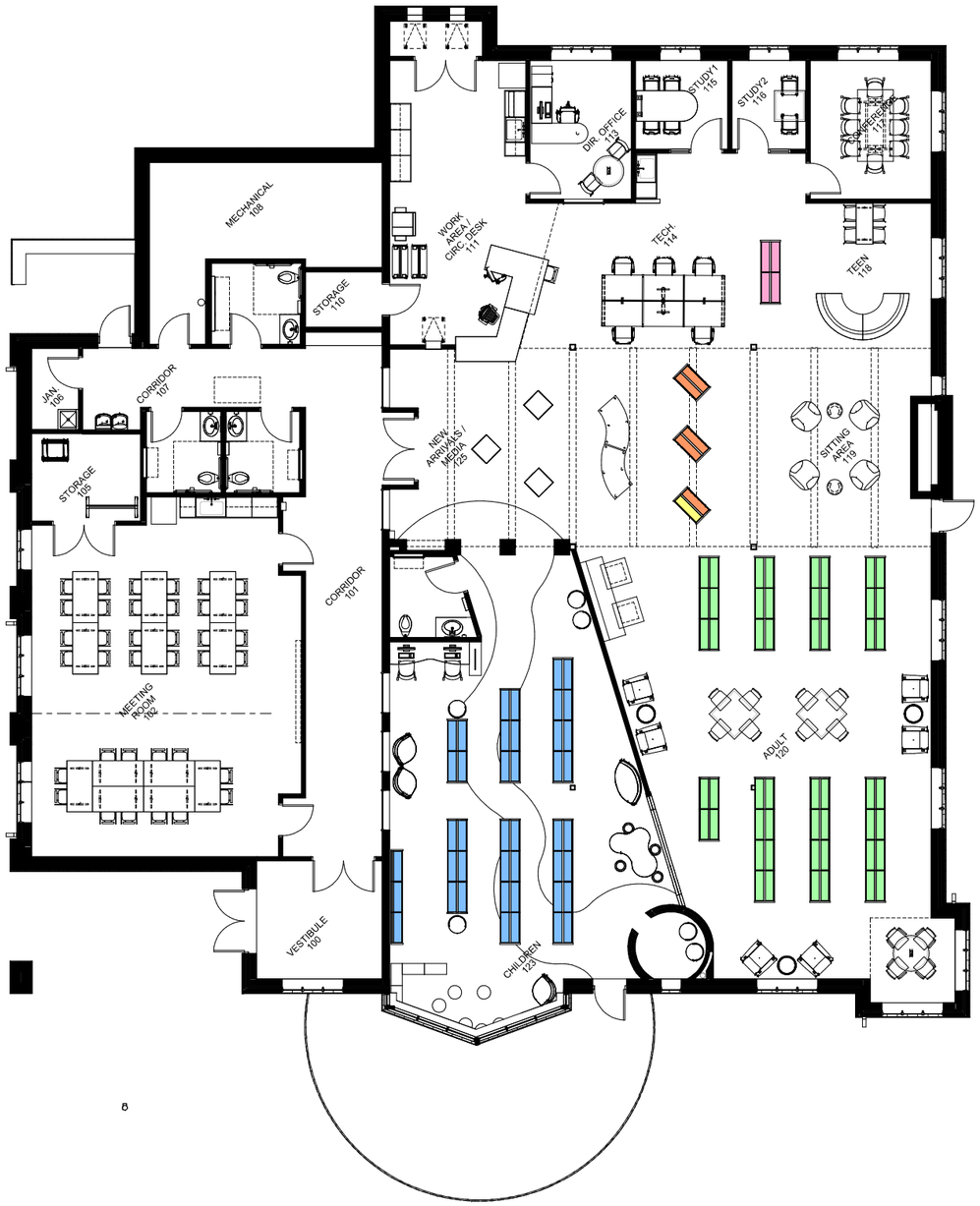

ADULT COLLECTIONS = 52/52 SF 5H (66"H)

DVD = 5/4 SF 6H (66"H)

AUDIOBOOKS = 1/1 SF 6H (66"H)

TEEN = 4/4 SF 5H (66"H)

CHILDREN'S = 43/42 SF 3/4H (54"H)

N

1 MAIN FLOOR FURNITURE PLAN
SCALE: 3/16" = 1'-0"

PRELIMINARY
NOT FOR CONSTRUCTION

FEH DESIGN
SIOUX CITY, IA (712) 252-3889
DES MOINES, IA (515) 288-2000
DUBUQUE, IA (563) 583-4900
OCONOMOWOC, WI (262) 988-2055
FEHDESIGN.COM

SHEET TITLE
FURNITURE LAYOUT PLANS

PROJECT TITLE
CITY OF CASCADE
CASCADE PUBLIC LIBRARY
SECOND AVENUE SW.
CASCADE, IOWA

DATE ISSUED 3 MAY 2023

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PROJECT NUMBER
2021310

SHEET
A10.1

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GENERAL NOTES

DESIGN CRITERIA:

1. CODES AND STANDARDS:
   2015 IBC/ASCE 7-10
   OCCUPANCY/RISK CATEGORY: II

2. DESIGN DEAD LOADS:
   SIPS ROOF SYSTEM (MAIN): 20 PSF (INCLUDES JOIST WEIGHTS)
   SIPS ROOF SYSTEM (CELRESTORY): 22 PSF (INCLUDES TRUSS WEIGHTS)

3. DESIGN LIVE LOADS:
   ROOF:
   MINIMUM LIVE LOAD: 20PSF
   (SEE SNOW DRIFT LOADING PLAN ON S2.0)
   GROUND SNOW LOAD: Pg = 30 PSF
   SNOW EXPOSURE FACTOR: Ce = 1.0
   SNOW THERMAL FACTOR: Ct = 1.0
   SNOW LOAD IMPORTANCE FACTOR: 1.0
   PLUS ALLOWANCE FOR DRIFTED AND UNBALANCED SNOW

   FLOOR:
   CORRIDORS/LOBBY: 100PSF
   LIBRARY STACK LOADING: 150 PSF
   MECHANICAL ROOMS: 150 PSF OR POSTED M,E,P LOADS
   STORAGE (LIGHT): 125PSF
   OFFICES: 65PSF (50PSF + 15PSF PARTITION) UNIFORM OR 2000 LB CONC.

4. WIND LOAD:
   BASIC WIND SPEED: 109 M.P.H.
   WIND EXPOSURE: C
   WIND DIRECTIONAL FACTOR: 0.85
   TOPOGRAPHIC FACTOR: 1.0
   WIND ANALYSIS FOR LOW RISE BUILDING BASED ON ASCE 7-16/2018 IBC.
   SUPPLIER OF COMPONENTS OF STRUCTURE RESPONSIBLE FOR CALCULATING WIND LOADS BASED ON THE VALUES LISTED ABOVE.
   UPLIFT PRESSURE TO BE CONSIDERED ON ALL ROOF COMPONENTS.

5. SEISMIC LOAD:
   SPECTRAL ACCELERATIONS: Ss = 0.071
   SPECTRAL ACCELERATIONS: S1 = 0.054
   SITE COEFFICIENTS: Fa = 1.6
   Fv = 2.4
   DESIGN SPECTRAL RESPONSE ACCELERATION: Sds = 0.076
   DESIGN SPECTRAL RESPONSE ACCELERATION: Sd1 = 0.086
   RISK/OCCUPANCY CATEGORY: II
   IMPORTANCE FACTOR: I = 1.0
   SITE CLASS: D
   SEISMIC DESIGN CATEGORY: B

6. SEISMIC - RESISTING SYSTEM:
   A. STEEL ORDINARY MOMENT FRAMES
      R = 3 1/2, Cd = 3, OVERSTRENGTH FACTOR = 3
   B. LIGHT-FRAME (WOOD) WALLS SHEATHING WITH WOOD STRUCTURAL PANELS RATED FOR SHEAR RESISTANCE OR STEEL SHEETS.
      R = 6 1/2, Cd = 4, OVERSTRENGTH FACTOR = 3

FOUNDATIONS

DESIGN:

1. THE FOUNDATION HAS BEEN DESIGNED IN ACCORDANCE WITH THE RECOMMENDATIONS MADE ON THE GEOTECHNICAL EXPLORATION REPORT BY: CHOSEN VALLEY TESTING INC. REPORT # 21458.23.IAW COMPLETED ON APRIL 6TH, 2023.

2 BACKFILLING:
   A. DO NOT BACKFILL PIT WALLS UNTIL ADEQUATE TEMPORARY BRACING IS INSTALLED.
   B. BACKFILL UNDER FOUNDATION WITH CONCRETE OR AS APPROVED BY SOILS ENGINEER.

3. SOIL MODULUS OF SUBGRADE REACTION (Ks) = 150 POUNDS PER CUBIC INCH.

SPREAD FOOTINGS:

1. FOOTINGS SHALL BEAR ON SOIL CAPABLE OF SUSTAINING A NET BEARING PRESSURE UNDER FULL SERVICE LIVE AND DEAD LOAD AS FOLLOWS:
   2,500 PSF FOR FOUNDATIONS BEARING ON SUITABLE NATIVE SOILS OR ENGINEERED FILL AS DETERMINED BY ONSITE GEOTECHNICAL OBSERVATIONS.

2. TOP OF FOOTING (TOF) ELEVATIONS ARE SHOWN ON THE PLANS.

3. FOOTING MAY BE EARTH FORMED.

4. ALL BEARING MATERIAL SHALL BE INSPECTED BY A QUALIFIED TECHNICIAN PRIOR TO CONCRETE PLACEMENT. A QUALIFIED TECHNICIAN SHALL BE THE SOLE JUDGE AS TO THE SUITABILITY OF THE BEARING MATERIAL. FOOTING ELEVATIONS SHALL BE ADJUSTED AS REQUIRED. OVEREXCAVATION MAY BE REQUIRED.

5. BOTTOM OF EXTERIOR FOOTINGS SHALL BEAR A MINIMUM OF 42" BELOW FINAL GRADE FOR HEATED STRUCTURES AND 60" BELOW FINAL GRADE FOR UNHEATED STRUCTURES.

6. SLIDING RESISTANCE (VALUES INCLUDE A 1.50 SAFETY FACTOR)
   A. PASSIVE EQUIVALENT FLUID PRESSURE = 400 PCF.
   B. COEFFICIENT OF FRICTION = 0.4

INTERIOR SLAB JOINT PLACEMENT

1. INTERIOR CONSTRUCTION JOINTS
   A. PROVIDE CONSTRUCTION JOINTS:
      1.) AT ALL COLD JOINTS IN SLABS
      2.) AS REQUIRED BY THE DRAWINGS

2. INTERIOR CONTROL JOINTS:
   A. EXPOSED SLABS (THOSE WHICH RECEIVE NO FINISHED FLOOR SURFACE MATERIAL) SHALL BE POURED IN LONG STRIPS WITH SAWED OR TOOLED CONTROL JOINTS. STRIP WIDTHS SHALL NOT EXCEED . AT CONTRACTOR'S OPTION, CONCRETE MAY BE PLACED IN A CHECKER BOARD PATTERN, ALLOWING 72 HOURS BETWEEN ADJACENT POURS. DISTANCE BETWEEN CONTROL JOINTS SHALL NOT EXCEED TABULATED VALUES, SHALL BE LOCATED TO CONFORM TO BAY SPACING WHENEVER POSSIBLE (AT COLUMN CENTERLINES, HALF BAYS, ETC.), AND BE LOCATED AS REQUIRED BY THE DRAWINGS.
   B. ALL CONTROL JOINTS ARE TO BE FILLED WITH THE SEALANT INDICATED IN THE SPECIFICATIONS. FOLLOW MANUFACTURERS RECOMMENDATIONS FOR INSTALLATION.
   C. COVERED SLABS (THOSE WHICH RECEIVE FINISHED FLOOR SURFACE MATERIALS SHALL BE MONOLITHICALLY POURED IN AREAS AS LARGE AS CONTRACTOR DESIRES. JOINTS SHALL CONFORM TO CONSTRUCTION JOINT DESIGN.

3. INTERIOR ISOLATION JOINTS:
   A. PROVIDE ISOLATION JOINTS:
      1. AT ALL COLUMNS
      2. AT ALL JUNCTIONS OF SLABS AND VERTICAL SURFACES
      3. AS REQUIRED BY DRAWINGS

SLAB-ON-GRADE CONTROL JOINT SPACING	
SLAB THICKNESS	MAXIMUM JOINT SPACING
4"	12'-0"
5"	13'-0"

CONCRETE

1. CONCRETE SHALL HAVE A 28-DAY COMPRESSIVE STRENGTH AND DENSITY, IN ACCORDANCE WITH THE SPECIFICATION.

2. REINFORCING SHALL CONFORM TO A.S.T.M. A615, GR. 60, INCLUDING TIES AND STIRRUPS.

3. WELDED WIRE FABRIC SHALL CONFORM TO A.S.T.M. A185.

4. ALL REINFORCING SHALL BE DETAILED, FABRICATED AND PLACED, IN ACCORDANCE WITH A.C.I. DETAILING MANUAL.

5. ALL REINFORCING SHALL BE SUPPORTED IN FORMS, SPACED WITH NECESSARY ACCESSORIES AND SHALL BE SECURELY WIRED TOGETHER, IN ACCORDANCE WITH C.R.S.I. "REINFORCING BAR DETAILING".

6. MINIMUM CONCRETE COVER, UNLESS NOTED OTHERWISE:
   A. UNFORMED SURFACE IN CONTACT WITH THE GROUND: 3 IN.
   B. FORMED SURFACES EXPOSED TO EARTH OR WEATHER: 1 1/2 IN. FOR #5 BAR OR SMALLER 2 IN FOR #6 BAR OR LARGER
   C. FORMED SURFACES NOT EXPOSED TO EARTH OR WEATHER:
      1. WALLS, SLABS: 3/4 IN.
      2. BEAMS, GIRDERS AND COLUMNS (TO TIES OR STIRRUPS): 1 1/2 IN.

7. ALL CONSTRUCTION JOINTS SHOWN ON DRAWINGS SHALL BE INCORPORATED INTO THE STRUCTURE, UNLESS THEIR ELIMINATION IS APPROVED BY THE ENGINEER. ADDITIONAL CONSTRUCTION JOINTS, REQUIRED TO FACILITATE CONSTRUCTION, SHALL BE LOCATED AT POINTS OF MINIMUM SHEAR AND SHALL BE DETAILED ON SHOP DRAWINGS. REINFORCEMENT SHALL PASS CONTINUOUSLY THROUGH THE JOINT.

8. ALL ABUTTING CONCRETE MEMBERS SHALL BE DOWELED TOGETHER, UNLESS POURED MONOLITHICALLY. DOWELS SHALL BE EQUAL IN SIZE AND SPACING TO THE REINFORCING IN THE ADJACENT MEMBER.

9. UNLESS OTHERWISE SHOWN IN THE ARCHITECTURAL DRAWINGS, PROVIDE 3/4" CHAMFERS AT ALL EDGES THAT ARE EXPOSED TO VIEW IN THE FINISHED STRUCTURE.

10. SEE ARCHITECTURAL DRAWINGS FOR DOOR AND WINDOW OPENINGS, DRIP SLOTS, REGLETS, MASONRY ANCHORS, PRECAST BEARING LEDGES, BRICK LEDGE ELEVATIONS AND FOR MISCELLANEOUS EMBEDDED PLATES, BOLTS, ANCHORS, ANGLES, ETC.

11. REFER TO ARCHITECTURAL DRAWINGS FOR CONCRETE FINISHES. WHERE FINISH IS NOT SPECIFIED, CONFORM TO REQUIREMENTS OF A.C.I. 301.

12. MECHANICAL, PLUMBING, AND ELECTRICAL DRAWINGS SHALL BE REFERRED TO FOR DRAINS, SLEEVES, OUTLET BOXES, CONDUIT, ANCHORS, ETC.

13. LAP SPLICES SHALL BE IN ACCORDANCE WITH THE FOLLOWING TABLE, UNLESS NOTED OTHERWISE. WHERE CLASSES ARE NOT CALLED OUT ON DRAWINGS, USE CLASS "B", CASE 2 SPLICES. SPLICES f'c = 4000PSI, fy = 60,000PSI

TENSION LAP SPLICE FOR TOP BARS, * GRADE 60		
LAP SPLICE LENGTH (INCHES)		
BAR SIZE		f'c = 4,000 P.S.I.
#3		37
#4		49
#5		61
#6		73
#7		106
#8		121
* "TOP BARS" ARE DEFINED AS ANY BAR WITH MORE THAN 12" OF CONCRETE CAST BELOW THE BAR.		

TENSION LAP SPLICE FOR OTHER BARS, GRADE 60		
LAP SPLICE LENGTH (INCHES)		
BAR SIZE		f'c = 4,000 P.S.I.
#3		28
#4		37
#5		47
#6		56
#7		81
#8		93

COMPRESSION LAP SCHD.	
LAP LENGTH (INCHES)	
f'c = 3,000 P.S.I. OR GREATER	
BAR SIZE	30 db
#3	12
#4	15
#5	19
#6	23
#7	26
#8	30

NOTES:

1. TABLES ARE BASED ON ACI 318-05 SEC. 12.2.2.
2. ALL SPLICES TO BE CLASS "B" TENSION SPLICE UNLESS OTHERWISE NOTED.
3. SPLICE PLAIN WELDED WIRE FABRIC BY LAPPING ONE FULL MESH SPACE PLUS 2 INCHES.
4. FOR LIGHT WEIGHT CONCRETE, MULTIPLY LENGTHS IN TABLE BY 1.3
5. FOR EPOXY COATED REINFORCEMENT, MULTIPLY LENGTHS IN TABLE BY 1.5.
6. COMPRESSION DOWEL EMBEDMENT: 22 BAR DIAMETERS

14. REFER TO MECHANICAL DRAWINGS FOR HOUSEKEEPING PADS AND INERTIA BASES AT MECHANICAL EQUIPMENT.

15. REFER TO MECHANICAL DRAWINGS FOR UNDERFLOOR AND PERIMETER FOUNDATION DRAIN.

16. BASE PLATES, ANCHOR BOLTS, SUPPORT ANGLES, ETC., BELOW GRADE SHALL BE COVERED WITH A MINIMUM OF 3" CONCRETE.

17. PROVIDE CONTINUOUS WATERSTOP AT HORIZONTAL AND VERTICAL JOINTS AT ELEVATOR PIT

18. WHERE REINFORCING IS NOT INDICATED OR DEFINED, INCLUDE FOR BID PURPOSES ONLY.
    A. WALLS: #5 EACH WAY EACH FACE. SPACING IN INCHES = 140/(WALL THICKNESS IN INCHES BUT NOT OVER 18"O.C.
    B. BEAMS: 1-#9 CONTINUOUS TOP AND BOTTOM FOR EACH 100 SQUARE INCHES OF BEAM CROSS SECTIONAL AREA AND #4 STIRRUPS SPACED AT 1/2 OF BEAM DEPTH, FULL LENGTH OF BEAM.
    C. COLUMNS: 1-#9 VERTICAL PER 50 SQUARE INCHES OF CROSS SECTIONAL AREA AND #3 TIES AT 9"O.C.
    D. SLABS: #5 EACH WAY TOP AND BOTTOM. SPACING IN INCHES = 100/(SLAB THICKNESS IN INCHES) BUT NOT OVER 18"O.C.

    ON SHOP DRAWINGS, INDICATE ABOVE REINFORCING AS "PER GENERAL NOTES". SUCH REINFORCING MAY BE REVISED OR RELOCATED BY STRUCTURAL ENGINEER DURING SHOP DRAWING REVIEW.

19. PROVIDE CONCRETE EQUIPMENT PADS, INERTIA BASES AND CURBS AS NOTED ELSEWHERE IN CONTRACT DOCUMENTS. UNLESS NOTED, DOWEL PADS WITH #4 x 0'-6" PROJECTING 3" FROM CONCRETE BELOW AT 18"O.C. EACH WAY. REINFORCE PADS WITH #4@18 EACH WAY TOP AND BOTTOM.

20. MASONRY DOWELS: PROVIDE, PLACE, AND SPACE TO MATCH MASONRY REINFORCING.

21. PROVIDE STANDARD HOOKS ON BARS TERMINATING AT A CONCRETE FACE UNLESS NOTED (E.G.: EDGES OF OPENINGS, SLAB EDGES, EXPANSION JOINTS, ENDS OF BEAMS, AND AT: TOP, BOTTOM AND ENDS OF WALLS, ETC...).

22. PROVIDE 2-#5 (MIN.) @ EACH SIDE OF OPENING. EXTEND 2'-0 BEYOND OPENINGS.

23. SEE MISC. NOTE #16 FOR EPOXY / ADHESIVE ANCHORS.

24. GROUT ALL BEAM POCKETS SOLID WITH NON-SHRINK GROUT AFTER BEAM INSTALLATION AND DEAD LOAD FULLY APPLIED, U.N.O.

STRUCTURAL STEEL

1. STEEL SHALL CONFORM TO THE FOLLOWING GRADES:

ALL WF (U.N.O.):	A992 GRADE 50 (FY=50)
ALL ANGLE, BASE PLATES, CONN. PLATES (U.N.O.):	A36 (FY=36)
STRUCTURAL PIPE:	A53 (FY=35)
STRUCTURAL TUBE:	A500 GRADE B (FY=46)

2. ALL STRUCTURAL STEEL SHALL BE DETAILED, FABRICATED, AND ERECTED IN ACCORDANCE WITH THE A.I.S.C. CODE OF STANDARD PRACTICE, EXCEPT AS MODIFIED IN THESE NOTES AND THE PROJECT SPECIFICATIONS.

3. CONNECTIONS MAY BE BOLTED OR WELDED. THE FABRICATOR IS RESPONSIBLE FOR THE DESIGN, OF CONNECTIONS NOT DESIGNED ON THE DRAWINGS. GENERALLY, CONNECTIONS SHOWN ON THE STRUCTURAL DRAWINGS ARE SCHEMATIC AND ARE ONLY INTENDED TO SHOW THE RELATIONSHIP OF MEMBERS CONNECTED. ANY CONNECTION THAT IS NOT SHOWN OR IS NOT COMPLETELY DETAILED ON THE STRUCTURAL DRAWINGS SHALL BE DESIGNED BY AN ENGINEER, REGISTERED IN DESIGNED BY AN ENGINEER, REGISTERED IN THE STATE OF IOWA, RETAINED BY THE FABRICATOR. COMPLETELY DETAILED MEANS THE FOLLOWING INFORMATION IS SHOWN ON THE DETAIL:
   A. ALL PLATE DIMENSIONS AND GRADES.
   B. ALL WELD SIZES, LENGTHS, PITCHES, AND RETURNS.
   C. ALL HOLE SIZES AND SPACINGS.
   D. NUMBER AND TYPES OF BOLTS: WHERE BOLTS ARE SHOWN BUT NO NUMBER IS GIVEN, THE CONNECTION HAS NOT BEEN COMPLETELY DETAILED.
   E. WHERE PARTIAL INFORMATION IS GIVEN, IT SHALL BE THE MINIMUM REQUIREMENT FOR THE CONNECTION.

   DESIGN CALCULATIONS FOR TYPICAL BEAM CONNECTIONS AND ALL PRIMARY BRACING AND HANGER CONNECTIONS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL PRIOR TO FABRICATION.

4. CONNECTION DESIGN FORCES:
   A. BEAMS, GREATER OF:
      1. 55% OF TOTAL ALLOWABLE UNIFORM LOAD CAPACITY FROM A.I.S.C 14TH EDITION TABLES FOR ALLOWABLE LOADS ON BEAMS, Wc/L
      2. REACTIONS SHOWN ON DRAWINGS.
      3. 10 KIPS.
   B. MOMENT CONNECTIONS INDICATED ON THE DRAWINGS THUS: DESIGN FOR MOMENT SHOWN OR, IF NOT SHOWN, DEVELOP MOMENT CAPACITY OF MEMBER WITH fb = 0.66 FY.
   C. MAINTAIN TENSION CAPACITY OF COLUMNS, DIAGONALS AND MEMBERS SUBJECT TO TENSION AT BOLT HOLES, NOTCHES, OR COPES.
   D. CONNECTION FORCE NOTATION:
      P [ ] = AXIAL FORCE IN KIPS: [+] TENSION, [-] COMPRESSION
      V OR ( ) = SHEAR IN KIPS
      M = MOMENT IN FOOT KIPS
      T = TORSION IN FOOT KIPS

5. THE MINIMUM PLATE THICKNESS SHALL BE 3/8.

6. BOLTED CONNECTIONS:
   A. MINIMUM BOLT DIAMETER = 3/4"
   B. SLIP CRITICAL CONNECTIONS OF A325SC OR A490SC BOLTS SHALL BE USED FOR ALL BOLTED CONNECTIONS OF BRACING MEMBERS, MOMENT CONNECTIONS, CANTILEVERS, AND AS SHOWN ON THE DRAWINGS. OVERSIZED AND LONG-SLOTTED HOLES ARE ALLOWED FOR FRICTION CONNECTIONS.
   C. ALL OTHER BOLTED CONNECTIONS SHALL BE BEARING TYPE USING A325N OR A490N BOLTS. OVERSIZED HOLES AND LONG-SLOTTED HOLES ARE NOT ALLOWED UNLESS SHOWN ON THE DRAWINGS.
   D. A307 BOLTS MAY BE USED WHERE INDICATED ON THE DRAWINGS.
   E. PROTRUDING BOLT HEADS, SHAFTS OR NUTS SHALL NOT EXTEND INTO NOR PROHIBIT THE APPLICATION OF ARCHITECTURAL FINISHES AND THEY SHALL NOT EXTEND INTO NOR PROHIBIT THE PLACEMENT OF STEEL DECKING TO THE CORRECT LINE AND ELEVATION.
   F. THE FABRICATOR IS RESPONSIBLE FOR VERIFYING THE TENSION CAPACITY OF AXIALLY LOADED MEMBERS AFTER A SECTION IS REDUCED FOR BOLT HEADS. MEMBER SIZE MAY BE INCREASED OR CONNECTION PLATES ADDED AS REQUIRED.
   G. SHOP DRAWINGS SHALL INDICATE THE TYPE OF BOLT USED IN EACH CONNECTION AND THE ALLOWABLE VALUES USED FOR THE VARIOUS BOLT TYPES.

7. WELDED CONNECTIONS:
   A. WELDS ARE CONTINUOUS UNLESS NOTED.
   B. ALL FILLET WELDS: A.I.S.C. MINIMUM BUT NOT LESS THAN 1/8" UNLESS NOTED OTHERWISE.
   C. ALL WELDING SHALL BE IN ACCORDANCE WITH THE "STRUCTURAL WELDING CODE" (A.W.S. D1.1) PUBLISHED BY THE AMERICAN WELDING SOCIETY. ELECTRODES FOR WELDING SHALL COMPLY WITH THE REQUIREMENTS OF TABLE 4.1.1 OF (A.W.S. D1.1).
   D. ALL GROOVE WELDS SHALL BE COMPLETE PENETRATION UNLESS NOTED OTHERWISE.

8. SPLICING OF STEEL MEMBERS, UNLESS SHOWN ON THE DRAWINGS, IS PROHIBITED WITHOUT WRITTEN APPROVAL OF THE ARCHITECT.

9. NO CHANGE IN SIZE OR POSITION OF THE STRUCTURAL ELEMENTS SHALL BE MADE OF HOLES, SLOTS, CUTS, ETC., AND ARE NOT PERMITTED THROUGH ANY MEMBER UNLESS THEY ARE DETAILED ON THE APPROVED SHOP DRAWINGS.

10. NO FINAL BOLTING OR WELDING SHALL BE MADE UNTIL AS MUCH OF THE STRUCTURE HAS BEEN PROPERLY ALIGNED AND WILL THEREBY BE STIFFENED.

11. UNLESS NOTED OTHERWISE, BEAMS SHALL BEAR 8" MINIMUM ON CONCRETE OR MASONRY. ANCHOR BEAMS TO MASONRY WITH A GOVERNMENT-TYPE ANCHOR.

12. FABRICATE ALL BEAMS WITH THE MILL CAMBER UP.

13. SHEAR STUDS: CONFORM TO A.W.S. D1.1, SHOP WELD EXCEPT WHERE APPLIED THROUGH METAL DECK.

14. MATERIALS AND JOINTS FOR MOMENT CONNECTIONS AND CONNECTIONS FOR VERTICALLY BRACED ELEMENTS SHALL CONFORM TO THE FOLLOWING:
    A. MATERIALS SHALL CONFORM TO SEISMIC PROVISIONS, SECTION 6 AND SUPPLEMENT NO. 1.
    B. STEEL PLATES AND SHAPES SHALL HAVE A MINIMUM CHARPY V-NOTCH TOUGHNESS CONFORMING TO SEISMIC PROVISIONS SECTION 6.3, AND SUPPLEMENT NO. 1.
    C. BOLTED AND WELDED JOINTS TO CONFORM TO SEISMIC PROVISION SECTIONS 7, AND SUPPLEMENT NO. 1.

SHOP-FABRICATED WOOD TRUSSES

1. DESIGN, DETAILING, FABRICATION AND ERECTION SHALL BE GOVERNED BY:
   A. TRUSS PLATE INSTITUTE – NATIONAL DESIGN STANDARD OR METAL PLATE CONNECTED WOOD TRUSS CONSTRUCTION.
   B. AMERICAN INSTITUTE OF TIMBER CONSTRUCTION OR APA OR EWS - TIMBER CONSTRUCTION STANDARDS.
   C. AMERICAN FOREST AND PAPER ASSOCIATION - NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION.
2. SUBMIT, FOR APPROVAL, DETAILED SHOP DRAWINGS. THE SHOP DRAWINGS SHALL SHOW ALL DESIGN CRITERIA, LAYOUT, MEMBER SIZES AND LUMBER GRADES, DESIGN STRESSES, CONNECTION DETAILS, REQUIRED BEARING LENGTHS AND BRACING REQUIREMENTS. THE SHOP DRAWINGS SHALL BEAR THE SEAL OF A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF IOWA.
3. MATERIALS:
   A. LUMBER - SOUTHERN PINE #2 OR BETTER.
   B. BOLTS - ASTM A307.
   C. CONNECTORS-TRUSS MEMBER CONNECTOR PLATES SHALL BE NOT LESS THAN 20 GAGE GALVANIZED STEEL PLATES.
   D. LIGHT-GAGE JOIST HANGERS AND FRAMING ANCHORS - GALVANIZED STEEL FOR THE FULL LOAD CARRYING CAPACITY OF THE SUPPORTED MEMBER. PROVIDE SIMPSON "STRONG-TIE" OR APPROVED EQUAL.
4. FABRICATION:
   A. ALL MEMBERS SHALL BE CUT TO BEAR FROM STRAIGHT LUMBER AND BUTTED TIGHT.
   B. ALL MEMBERS AND CONNECTOR PLATES SHALL BE PROPERLY PLACED IN JIGS UNTIL THE CONNECTOR PLATES HAVE BEEN PRESSED INTO PLACE.
5. ERECTION:
   A. ALL TRUSSES SHALL BE BRACED DURING ERECTION. ERECTION BRACING SHALL HOLD TRUSSES STRAIGHT AND PLUMB UNTIL DECKING AND PERMANENT BRACING HAVE BEEN FASTENED. PROPER HANDLING AND ERECTION BRACING SHALL BE SOLELY THE RESPONSIBILITY OF THE CONTRACTOR.
   B. PROVIDE AND INSTALL PERMANENT TRUSS BRACING IN ACCORDANCE WITH THE REFERENCED STANDARDS AND THE APPROVED SHOP DRAWINGS.
      1) WEB MEMBER HORIZONTAL BRACING SHALL BE CONTINUOUS ALONG THE LENGTH OF THE ROOF. PROVIDE DIAGONAL WEB MEMBER BRACING BETWEEN EACH HORIZONTAL LINE OF BRACING AND THE SHEATHED TRUSS TOP CHORD AT 20'-0" INTERVALS ALONG THE LENGTH OF THE ROOF, AND AT EACH END.
      2) IF THE TOP OR BOTTOM CHORDS OF THE TRUSSES ARE NOT PERMANENTLY BRACED BY SHEATHING, PROVIDE CONTINUOUS HORIZONTAL BRACING FOR THE UN-BRACED CHORDS AT A MINIMUM OF 5'-0" ON CENTER ALONG THE LENGTH OF THE TRUSS, AND PROVIDE DIAGONAL BRACING AT THESE LOCATIONS, BETWEEN THE TOP AND BOTTOM TRUSS CHORDS, AT 20'-0" ON CENTER ALONG THE LENGTH OF THE ROOF, AND AT EACH END.
6. MISCELLANEOUS
   A. DESIGN AND SUPPLY CONNECTIONS FOR TRUSSES TO GIRDER TRUSSES, TRUSS PLY TO PLY AND TRUSS FIELD SPLICES.
   B. GIRDER TRUSSES - MINIMUM TWO PLYS AND FASTENED TOGETHER PER MANUFACTURER'S RECOMMENDATIONS.
   C. TRUSS PROFILES SHOWN ARE FOR SCHEMATIC PURPOSES ONLY. THE TRUSS DESIGNER IS RESPONSIBLE FOR CALCULATING THE TRUSS GEOMETRIES AND LOADING.
   D. ADJACENT TRUSSES OF THE SAME PROFILE SHALL HAVE WEB MEMBERS IN LINE TO PERMIT PASSAGE OF MECHANICAL DUCTS.
   E. TRUSS ANCHORAGES AND HOLD-DOWNS ARE BASED ON TRUSS LAYOUT SHOWN. COORDINATE FINAL LOCATION OF MULTI-PLY STUDS UNDER GIRDER TRUSSES WITH TRUSS SHOP DRAWINGS.
   F. NO STRUCTURAL ELEMENTS ARE TO BE CUT UNLESS SPECIFICALLY APPROVED BY THE TRUSS ENGINEER.

ROUGH CARPENTRY

1. SPECIFICATIONS AND STANDARDS:
   A. DESIGN AND DETAILING OF CONNECTIONS SHALL CONFORM TO THE NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION RECOMMENDED PRACTICE BY THE AMERICAN FOREST AND PAPER ASSOCIATION.
2. MATERIALS:
   A. ONLY USE DIMENSIONAL LUMBER - SPRUCE-PINE-FIR #1/#2 OR BETTER: E = 1,400,000 PSI. Fb = 875 PSI. Fv = 135 PSI. Fc = 1150 PSI. DIMENSIONAL LUMBER FOR PRESSURE TREATED AND FRT STRESSES – BEFORE TREATMENT – SOUTHERN PINE #1 OR BETTER E = 1,600,000 PSI. Fb = 1250 PSI (2x8). Fy = 175 PSI. Fc = 1500 PSI (2x8).
   B. GLUE LAMINATED BEAMS (GLB): PLANT MANUFACTURED OF 1" TO 1-1/2" DOUGLAS FIR OR SOUTHERN PINE LAMS GLUED IN A CONTINUOUS PROCESS WITH ALL GRAIN PARALLEL TO THE LENGTH OF THE MEMBER. DESIGN IN ACCORDANCE WITH THE REFERENCE STANDARD IN 1A ABOVE.
   C. NAILS: COMMON WIRE NAILS: ASTM F1667.
   D. STEEL CONNECTION MATERIALS: ASTM A36.
   E. BOLTS: ASTM A307 WITH 2 WASHERS.
   F. WOOD SCREWS: ASME B18.6.1.
   G. LAG BOLTS: ASME B18.2.1.
   H. METAL FRAMING ANCHORS AND CONNECTORS: 16 OR 18 GA. GALVANIZED STEEL (ASTM A653, G60) SIZED FOR FULL LOAD CARRYING CAPACITY OF SUPPORTED MEMBER. NOMENCLATURE BASED ON ANCHORS MANUFACTURED BY SIMPSON STRONG-TIE CO. INC.
   I. ALL SHEATHING TO HAVE EXTERIOR GLUE.
   J. PRESERVATIVE TREATMENT
      1) AWPA U1.
      2) PRESSURE-TREAT ABOVE-GROUND ITEMS WITH WATER-BORNE PRESERVATIVES, CATEGORY UC3b.
      3) PRESSURE-TREAT MEMBERS IN CONTACT WITH GROUND WITH WATER-BORNE PRESERVATIVES, CATEGORY UC4a.
      4) STEEL FASTENERS AND CONNECTION MATERIALS IN CONTACT WITH PRESERVATIVE TREATED MATERIAL SHALL BE HOT-DIPPED GALVANIZED PER ASTM A153.
3. CONSTRUCTION REQUIREMENTS:
   A. MAKE ALL CUTS TRUE AND SQUARE FOR FULL BEARING AT STRUCTURAL JOINTS.
   B. SPLICE WALL TOP PLATES ONLY AT STUDS. STAGGER SPLICES AT LEAST TWO STUDS SPACES. OVERLAP DOUBLE TOP PLATES AT CORNERS AND INTERSECTIONS WITH BEARING PARTITIONS.
   C. CONNECT ALL FRAMING SECURELY TOGETHER WITH NAILS, SPIKES, OR FRAMING ANGLES.
   D. ANCHOR WALL SILL PLATES TO FOUNDATION PER WOOD WALL SCHEDULE. THERE SHALL BE A MINIMUM OF TWO ANCHORS PER SECTION OF PLATE WITH ONE ANCHOR LOCATED WITHIN TWELVE INCHES FROM THE ENDS OF EACH SECTION OF PLATE.
   E. DOUBLE TOP PLATE CONNECTIONS
      1) AT LAP JOINTS AT CORNERS AND WALL INTERSECTIONS: OVERLAP UPPER TOP PLATE OF INTERSECTING WALL OVER LOWER PLATE OF WALL INTERSECTED. SIMILAR OVERLAPPING OF TOP PLATE IS REQUIRED AT CORNERS. THE REQUIRED FASTENING IS (2) 16D NAILS.
      2) ATTACH UPPER TOP PLATE TO LOWER TOP PLATE WITH (1) 16D NAIL EVERY 16".
      3) TOP PLATE SPLICES: SPLICES OF DOUBLE TOP PLATES TO HAVE AT LEAST 24" OF OVERLAP ON EACH SIDE OF END JOINT, AND BE FASTENED WITH MINIMUM OF (8) 16D NAILS, ON EACH SIDE OF END JOINT. LOCATE SPLICES AT CENTER OF STUD.

POST-INSTALLED ANCHORS

1. POST-INSTALLED ANCHORS SHALL ONLY BE USED WHERE SPECIFIED ON THE DRAWINGS. CONTRACTOR SHALL OBTAIN APPROVAL FROM THE ENGINEER OF RECORD PRIOR TO USING POST-INSTALLED ANCHORS FOR MISSING OR MISPLACED CAST-IN-PLACE ANCHORS.

2. ANCHORS INSTALLED IN CONCRETE BASE MATERIAL SHALL HAVE CURRENT ICC APPROVAL FOR BOTH CRACKED AND UNCRACKED CONCRETE IN ACCORDANCE WITH ACI 355.2, ICC ES AC193 AND ICC ES AC308.

3. THREADED ANCHOR RODS ADHESIVE ANCHORS SHALL BE ASTM A36 OR ASTM F1554 GRADE 36. ADHESIVE USED SHALL BE A STRUCTURAL GRADE, TWO-PART EPOXY THAT MEETS THE REQUIREMENTS OF ASTM C-881 TYPES I AND IV, GRADE 3, CLASSES A,B OR C.

4. ADHESIVE ANCHORS SHALL NOT BE USED IN OVERHEAD APPLICATIONS. OVERHEAD CONDITIONS ARE SUBJECT TO SUSTAINED DEAD LOADS RESULTING FROM ADHESIVE CREEP. EXPANSION, SCREW, WEDGE OR OTHER MECHANICAL TYPE ANCHORS SHALL BE USED IN THIS TYPE OF APPLICATION.

5. AVOID CONFLICTS WITH EXISTING REBAR WHEN DRILLING HOLES. HOLES SHALL BE DRILLED AND CLEANED PER THE MANUFACTURER'S INSTRUCTIONS. ANCHORS SHALL BE INSTALLED PER THE MANUFACTURER'S INSTALLATION INSTRUCTIONS AT NOT LESS THAN MINIMUM END/EDGE AND/OR SPACING REQUIREMENTS.

6. ADHESIVE ANCHORS SHALL BE INSTALLED WITHIN THE TEMPERATURE REQUIREMENTS PROVIDED BY THE ADHESIVE MANUFACTURER. THE GENERAL CONTRACTOR SHALL NOTIFY THE ENGINEER IF TEMPERATURES ARE NOT WITHIN THE PROPER RANGE.

7. SUBSTITUTION REQUESTS, FOR PRODUCTS OTHER THAN THOSE LISTED BELOW, SHALL BE SUBMITTED TO THE ENGINEER WITH CALCULATIONS THAT ARE PREPARED AND SEALED BY A REGISTERED PROFESSIONAL ENGINEERING IN THE STATE OF IOWA SHOWING THAT THE SUBSTITUTED PRODUCT WILL ACHIEVE AN EQUIVALENT CAPACITY USING THE APPROPRIATE DESIGN PROCEDURE REQUIRED BY THE IBC BUILDING CODE. PRODUCT ICC-ES CODE REPORTS SHALL BE INCLUDED WITH THE SUBMITTAL PACKAGE.

THE FOLLOWING ANCHOR PRODUCTS ARE PRE-APPROVED FOR ADHESIVE ANCHORS.

BASE MATERIAL	ADHESIVE ANCHOR PRODUCT	ICC ES REPORT
CONCRETE	HILTI HIT RE-500-V3	ESR-3814
CONCRETE	HILTI HIT HY-200	ESR-3187
MASONRY	HILTI HIT HY-270	ESR-4143/4144

THE FOLLOWING ANCHOR PRODUCTS ARE PRE-APPROVED FOR EXPANSION ANCHORS.

BASE MATERIAL	EXPANSION ANCHOR PRODUCT	ICC ES REPORT
CONCRETE	SIMPSON STRONG-BOLT	ESR-1771
CONCRETE	HILTI KWIK BOLT TZ	ESR-1971

THE FOLLOWING ANCHOR PRODUCTS ARE PRE-APPROVED FOR SCREW ANCHORS.

BASE MATERIAL	EXPANSION ANCHOR PRODUCT	ICC ES REPORT
CONCRETE	SIMPSON TITEN-HD	ESR-2713
MASONRY	HILTI KWIK HUS-EZ	ESR-3056

DEFERRED SUBMITTALS

1. PER IBC SECTION 106.3.4.2 THE FOLLOWING ITEMS ARE DEFERRED SUBMITTALS ITEMS:
   STRUCTURAL STEEL CONNECTIONS
   STEEL STAIRS
   COLD-FORMED METAL TRUSSES
   PRECAST FLOOR SLAB
   STEEL JOISTS
   WOOD TRUSSES
   PRECAST WALL PANELS
   STRUCTURALLY INSULATED PANELS (SIP)

2. DEFERRED SUBMITTAL ITEMS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW. ONCE REVIEWED, CONTRACTOR SHALL FORWARD TO THE BUILDING DEPARTMENT OR AUTHORITY HAVING JURISDICTION FOR APPROVAL. FABRICATION AND/OR INSTALLATION OF DEFERRED SUBMITTAL ITEMS SHALL NOT OCCUR UNTIL APPROVAL IS RECEIVED.

MISCELLANEOUS

1. STRUCTURAL DRAWINGS ARE INTENDED TO BE USED WITH ARCHITECTURAL AND MECHANICAL DRAWINGS. CONTRACTOR IS RESPONSIBLE FOR COORDINATING SUCH REQUIREMENTS INTO THEIR SHOP DRAWINGS AND WORK.

2. NO OPENING SHALL BE MADE IN ANY STRUCTURAL MEMBER WITHOUT THE WRITTEN APPROVAL OF THE ARCHITECT.

3. NO CHANGE IN SIZE OR DIMENSION OF STRUCTURAL MEMBERS SHALL BE MADE WITHOUT THE WRITTEN APPROVAL OF THE ARCHITECT.

4. OPENINGS 1'-4" AND LESS ON A SIDE ARE GENERALLY NOT SHOWN ON THE STRUCTURAL DRAWINGS. REFER TO ARCHITECTURAL AND MECHANICAL DRAWINGS FOR SUCH OPENINGS.

5. THE CONTRACTOR IS RESPONSIBLE FOR LIMITING THE AMOUNT OF CONSTRUCTION LOAD IMPOSED UPON STRUCTURAL FRAMING. CONSTRUCTION LOADS SHALL NOT EXCEED THE DESIGN CAPACITY OF THE FRAMING AT THE TIME THE LOADS ARE IMPOSED.

6. THE STRUCTURE IS DESIGNED TO FUNCTION AS A UNIT UPON COMPLETION. THE CONTRACTOR IS RESPONSIBLE FOR FURNISHING ALL TEMPORARY BRACING AND/OR SUPPORT THAT MAY BE REQUIRED AS THE RESULT OF THE CONTRACTOR'S CONSTRUCTION METHODS AND/OR SEQUENCES.

7. UNLESS OTHERWISE NOTED, FIRE PROOFING METHODS AND MATERIALS FOR STRUCTURAL MEMBERS ARE NOT SHOWN ON STRUCTURAL DRAWINGS. REFER TO ARCHITECTURAL DRAWINGS AND SPECIFICATIONS FOR FIRE RATING REQUIREMENTS, FIRE PROOFING METHODS AND MATERIALS.

8. DO NOT SCALE THESE DRAWINGS, USE DIMENSIONS.

9. CONTRACTOR'S CONSTRUCTION AND/OR ERECTION SEQUENCES SHALL RECOGNIZE AND CONSIDER THE EFFECTS OF THERMAL MOVEMENTS OF STRUCTURAL ELEMENTS DURING THE CONSTRUCTION PERIOD. EXPANSION JOINTS SHOWN ON THE DRAWINGS HAVE BEEN DESIGNED TO ACCOMMODATE ANTICIPATED THERMAL MOVEMENT AFTER THE BUILDING IS COMPLETE.

10. THE CONTRACTOR SHALL INFORM THE ARCHITECT IN WRITING OF ANY DEVIATION FROM THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL NOT BE RELIEVED OF THE RESPONSIBILITY FOR SUCH DEVIATION BY THE ARCHITECT'S APPROVAL OF SHOP DRAWINGS, PRODUCT DATA, ETC., UNLESS HE HAS SPECIFICALLY INFORMED THE ARCHITECT OF SUCH DEVIATION AT THE TIME OF SUBMISSION, AND THE ARCHITECT HAS GIVEN WRITTEN APPROVAL TO THE SPECIFIC DEVIATION.

11. ALL THINGS WHICH, IN THE OPINION OF THE CONTRACTOR, APPEAR TO BE DEFICIENCIES, OMISSIONS, CONTRADICTIONS, OR AMBIGUITIES, IN THE PLANS AND SPECIFICATIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT. PLANS AND/OR SPECIFICATIONS WILL BE CORRECTED, OR WRITTEN INTERPRETATION OF THE ALLEGED DEFICIENCY, OMISSION, CONTRADICTION OR AMBIGUITY WILL BE MADE BY THE ARCHITECT BEFORE THE EFFECTED WORK PROCEEDS.

12. CHECK ALL DIMENSIONS AGAINST REQUIREMENTS OF OTHER CONTRACT DOCUMENTS. FIELD VERIFY DIMENSIONS RELATING TO EXISTING CONDITIONS PRIOR TO ORDERING MATERIALS AND FABRICATION.

13. WHERE DIMENSIONS OR WEIGHTS OF EQUIPMENT OR SYSTEMS ARE VARIABLE FROM MANUFACTURER TO MANUFACTURER, VERIFY DIMENSIONS AND WEIGHTS SHOWN ON DRAWINGS WITH SELECTED MANUFACTURER PRIOR TO ORDERING MATERIALS. NOTIFY STRUCTURAL ENGINEER OF DISCREPANCIES. DO NOT PLACE EQUIPMENT WHEN SHIPPING OR OPERATING WEIGHT EXCEEDS WEIGHT.

14. DO NOT PLACE EQUIPMENT WHEN SHIPPING OR OPERATING WEIGHTS EXCEEDS WEIGHTS INDICATED ON STRUCTURAL DRAWINGS.

15. NO MODIFICATION, ALTERATION OR REPAIR SHALL BE MADE WITHOUT PRIOR REVIEW BY STRUCTURAL ENGINEER. SUBMIT DETAILS AND CALCULATIONS PREPARED BY A PROFESSIONAL ENGINEER REGISTERED IN STATE WHERE PROJECT IS LOCATED AND EMPLOYED BY CONTRACTORS.

16. EPOXY / ADHESIVE ANCHORS SHALL BE INSTALLED WITHIN THE TEMPERATURE REQUIREMENTS PROVIDED BY THE EPOXY / ADHESIVE MANUFACTURER. THE GENERAL CONTRACTOR SHALL NOTIFY THE ARCHITECT / ENGINEER IF TEMPERATURES ARE NOT WITHIN THE PROPER RANGE.

17. VERIFY ELEVATOR PIT DIMENSIONS, LOCATIONS, LOADINGS AND DETAILS WITH SUPPLIERS PRIOR TO THE FABRICATION AND/OR INSTALLATION OF ANY MATERIAL.

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FEH DESIGN
SIOUX CITY, IA (712) 252-3889
DES MOINES, IA (515) 288-2000
DUBUQUE, IA (563) 583-4900
OCONOMOWOC, WI (262) 968-2055
FEHDESIGN.COM

IN ASSOCIATION WITH

SHEET TITLE
GENERAL NOTES

PROJECT TITLE
CITY OF CASCADE
CASCADE OUBLIC LIBRARY
SECOND AVENUE SW.
CASCADE, IOWA

DATE ISSUED 05/03/2023
REV. NO. DATE

PROJECT NUMBER
2021310

SHEET
S0.1

SPECIAL INSPECTIONS

1. THE FOLLOWING ELEMENTS OF CONSTRUCTION SHALL REQUIRE SPECIAL INSPECTIONS PER IBC 2015. OWNER TO FURNISH INSPECTION UNLESS INSTRUCTED OTHERWISE BY THE CONSTRUCTION CONTRACT.

   A. SPECIAL INSPECTION IN NOT A SUBSTITUTE FOR INSPECTION BY A CITY/COUNTY INSPECTOR SPECIALLY INSPECTED WORK WHICH IS INSTALLED OR COVERED WITHOUT THE APPROVAL OF THE CITY/COUNTY INSPECTOR IS SUBJECT TO REMOVAL OR EXPOSURE.

   B. THE SPECIAL INSPECTORS MUST BE CERTIFIED BY THE CITY/COUNTY TO PERFORM THE TYPES OF INSPECTION SPECIFIED.

   C. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO INFORM THE SPECIAL INSPECTOR OR INSPECTION AGENCY AT LEAST ONE WORKING DAY PRIOR TO PERFORMING ANYWORK THAT REQUIRES SPECIAL INSPECTION. A WORK PERFORMED WITHOUT REQUIRED SPECIAL INSPECTION IS SUBJECT TO REMOVAL.

   D. SUBMIT WRITTEN REPORTS WITHIN TWO DAYS OF TESTING TO ENGINEER OF RECORD.

TABLE 1705.6
REQUIRED VERIFICATION AND INSPECTION OF SOILS

VERIFICATION AND INSPECTION TASK	CONTINUOUS DURING TASK LISTED	PERIODICALLY DURING TASK LISTED
1. VERIFY MATERIALS BELOW FOOTINGS ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY	—	X
2. VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL.	—	X
3. PERFORM CLASSIFICATION AND TESTING OF COMPACTED FILL MATERIALS	—	X
4. VERIFY USE OF PROPER MATERIALS, DENSITIES AND LIFT THICKNESSES DURING PLACEMENT AND COMPACTION OF COMPACTED FILL.	X	—
5. PRIOR TO PLACEMENT OF CONTROLLED FILL, OBSERVE SUBGRADE AND VERIFY THAT SITE HAS BEEN PREPARED PROPERLY.	—	X

TABLE 1705.3
REQUIRED VERIFICATION AND INSPECTION OF CONCRETE CONSTRUCTION

VERIFICATION AND INSPECTION	CONTINUOUS	PERIODIC	REFERENCED STANDARD	IBC REFERENCE
1. INSPECT REINFORCEMENT, INCLUDING PRESTRESSING TENDONS, AND VERIFY PLACEMENT	—	X	ACI 318: Ch. 20, 25.2, 25.3, 26.5.1-26.5.3	1908.4
2. REINFORCING BAR WELDING: A. VERIFY WELDABILITY OF REINFORCING BARS OTHER THAN ASTM A 706; B. INSPECT SINGLE-PASS FILLET WELDS, MAXIMUM 5/16"; AND C. INSPECT ALL OTHER WELDS	— — X	X X	AWS D1.4 ACI 318: 26.5.4	—
3. INSPECT ANCHORS CAST IN CONCRETE	—	X	ACI 318: 17.8.2	—
4. INSPECTION OF ANCHORS INSTALLED IN HARDENED CONCRETE MEMBERS. [a] A. ADHESIVE ANCHORS INSTALLED IN HORIZONTALLY OR UPWARDLY INCLINED ORIENTATIONS TO RESIST SUSTAINED TENSION LOADS. B. MECHANICAL ANCHORS AND ADHESIVE ANCHORS NOT DEFINED IN 4.A.	X	 X	ACI 318: 17.8.2.4 ACI 318: 17.8.2	—
5. VERIFYING USE OF REQUIRED DESIGN MIX.	—	X	ACI 318: Ch. 19, 26.4.3, 26.4.4	1904.1, 1904.2, 1908.2, 1908.3
6. PRIOR TO CONCRETE PLACEMENT, FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE THE TEMPERATURE OF THE CONCRETE	X	—	ASTM C 172 ASTM C 31 ACI 318: 26.4.5, 26.12	1908.10
7. INSPECT CONCRETE AND SHOTCRETE PLACEMENT FOR PROPER APPLICAITON TECHNIQUES	X	—	ACI 318: 26.4.5	1908.6, 1908.7, 1908.8
8. VERIFY MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES	—	X	ACI 318: 26.4.7-26.4.9	1908.9
9. INSPECT PRESTRESSED CONCRETE FOR: a. APPLICATION OF PRESTRESSED FORCES; AND b. GROUTING OF BONDED PRESTRESSING TENDONS.	X X	— —	ACI 318: 26.9.2.1 ACI 318: 26.9.2.3	—
10. INSPECT ERECTION OF PRECAST CONCRETE MEMBERS.	—	X	ACI 318: Ch. 26.8	—
11. VERIFY IN-SITU CONCRETE STRENTH, PRIOR TO STRESSING OF TENONS IN POSTTENSIONED CONCRETE AND PRIOR TO REMOVAL OF SHORES AND FORMS FROM BEAMS AND STRUCTURAL SLABS.	—	X	ACI 318: 26.10.2	—
12. INSPECT FORMWORK FOR SHAPE, LOCATION AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED.	—	X	ACI 318: 26.10.1(b)	—

A. TESTING OF POST-INSTALLED ANCHORS MUST ALSO COMPLY WITH THE ANCHOR MANUFACTURER'S RECOMMENDED TESTING AND VERIFICATION AS WELL AS THE TESTING AND VERIFICATION INDICATED IN THAT PRODUCT'S ICC-ES REPORT.

REQUIRED VERIFICATION AND INSPECTION OF STEEL CONSTRUCTION

VERIFICATION AND INSPECTION	CONTINUOUS	PERIODIC	REFERENCED STANDARD	IBC REFERENCE
1. MATERIAL VERIFICATION OF HIGH-STRENGTH BOLTS, NUTS AND WASHERS:				
a. IDENTIFICATION MARKINGS TO CONFORM TO ASTM STANDARDS SPECIFIED IN THE APPROVED CONSTRUCTION DOCUMENTS.	—	X	APPLICABLE ASTM MATERIAL SPECIFICATION AND AISC 360, SECTION A3.3	
b. MANUFACTURER'S CERTIFICATE OF COMPLIANCE REQUIRED.	—	X	--	—
2. INSPECTION OF HIGH-STRENGTH BOLTING:				
a. SNUG-TIGHT JOINTS.	—	X	AISC 360, SECTION M2.5	1704.3.3
b. PRETENSIONED AND SLIP CRITICAL JOINTS USING TURN-OF-NUT WITH MATCHMARKING, TWIST-OFF BOLT OR DIRECT TENSION INDICATOR METHODS OF INSTALLATION.	—	X		
b. PRETENSIONED AND SLIP-CRITICAL JOINTS USING TURN-OF-NUT WITHOUT MATCHMARKING OR CALIBRATED WRENCH METHODS OF INSTALLATION.	X	—		
3. MATERIAL VERIFICATION OF STRUCTURAL STEEL AND COLD-FORMED STEEL DECK:				
a. FOR STRUCTURAL STEEL, IDENTIFICATION MARKINGS TO CONFORM TO AISC 360.	—	X	AISC 360, SECTION M5.5	
b. FOR OTHER STEEL, IDENTIFICATION MARKINGS TO CONFORM TO ASTM STANDARDS SPECIFIED IN THE APPROVED CONSTRUCTION DOCUMENTS.	—	X	APPLICABLE ASTM MATERIAL STANDARDS	—
b. MANUFACTURER'S CERTIFIED MILL TEST REPORTS.	—	X		—
4. MATERIAL VERIFICATION OF WELD FILLER MATERIALS:				
a. IDENTIFICATION MARKINGS TO CONFORM TO AWS SPECIFICATION IN THE APPROVED CONSTRUCTION DOCUMENTS.	—	X	AISC 360 SECTION A3.5 AND APPLICABLE AWS A5 DOCUMENTS	
b. MANUFACTURER'S CERTIFICATE OF COMPLIANCE REQUIRED	—	X	--	
5. INSPECTION OF WELDING:				
a. STRUCTURAL STEEL AND COLD-FORMED STEEL DECK:				
1) COMPLETE AND PARTIAL PENETRATION GROOVE WELDS.	X	—	AWS D1.1	1704.3.1
2) MULTIPASS FILLET WELDS.	X	—		
3) SINGLE-PASS FILLET WELDS > 5/16"	X	—		
4) PLUG AND SLOT WELDS.	X	—		
5) SINGLE-PASS FILLET WELDS ≤ 5/16"	—	X		
6) FLOOR AND DECK WELDS.	—	X	AWS D1.3	
b. REINFORCING STEEL:				
1) VERIFICATION OF WELDABILITY OF REINFORCING STEEL OTHER THAN ASTM A 706.	—	X	AWS D1.4 ACI 318: SECTION 3.5.2	—
2) REINFORCING STEEL RESISTING FLEXURAL AND AXIAL FORCES IN INTERMEDIATE AND SPECIAL MOMENT FRAMES, AND BOUNDARY ELEMENTS OF SPECIAL STRUCTURAL WALLS OF CONCRETE AND SHEAR REINFORCING	X	—		
3) SHEAR REINFORCEMENT.	X	—		
4) OTHER REINFORCING STEEL.	—	X		
6. INSPECTION OF STEEL FRAME JOINT DETAILS FOR COMPLIANCE:				
a. DETAILS SUCH AS BRACING AND STIFFENING.	—	X	--	1704.3.2
b. MEMBER LOCATIONS.	—	X		
c. APPLICATION OF JOINT DETAILS AT EACH CONNECTION.	—	X		

TABLE N5.4-1
INSPECTION TASKS PRIOR TO WELDING

INSPECTON TASKS PRIOR TO WELDING	QC	QA
WELDING PROCEDURE SPECIFICATIONS (WPS$_s$) AVAILABLE	P	P
MANUFACTURER CERTIFICATIONS FOR WELDING CONSUMABLES AVAILABLE	P	P
MATERIAL IDENTIFICATIONS (TYPE/GRADE)	O	O
WELDER IDENTIFICATION SYSTEM [1]	O	O
FIT-UP GROOVE WELDS (INCLUDING JOINT GEOMETRY) • JOINT PREPARATION • DIMENSIONS (ALIGNMENT, ROOT OPENING, ROOTFACES, BEVEL) • CLEANLINESS (CONDITION OF STEEL SURFACES • TACKING (TACK WELD QUALITY AND LOCATION) • BACKING TYPE AND FIT (IF APPLICABLE)	O	O
CONFIGURATION AND FINISH OF ACCESS HOLES	O	O
FIT-UP OF FILLET WELDS • DIMENSIONS (ALIGNMENT, GAPS AT ROOT) • CLEANLINESS (CONDITION OF STEEL SURFACES) • TACKING (TACK WELD QUALITY AND LOCATION)	O	O
CHECK WELDING EQUIPMENT	O	—
WELDER QUALIFICATION RECORDS AND CONTINUITY RECORDS	P	O

[1] THE FABRICATOR ERECTOR, AS APPLICABLE, SHALL MAINTAIN A SYSTEM BY WHICH A WELDER WHO HAS WELDED A JOINTOF A MEMBER CAN BE IDENTIFIED. STAMPS, IF USED, SHALL BE THE LOW-STRESS TYPE

P- PERFORM - THESE TASKS SHALL BE PERFORMED FOR EACH WELDED JOINT OR MEMBER
O: OBSERVE - THE INSPECTOR SHALL OBSERVE THESE ITEMS ON A RANDOM BASIS. OPERATIONS NEED NOT BE DELAYED PENDING THESE INSPECTIONS

TABLE N5.4-2
INSPECTION TASKS DURING WELDING

INSPECTON TASKS DURING WELDING	QC	QA
USE OF QUALIFIED WELDERS	O	O
CONTROL AND HANDLING OF WELDING CONSUMABLES • PACKAGING • EXPOSURE CONTROL	O	O
NO WELDING OVER CRACKED TACK WELDS	O	O
ENVIRONMENTAL CONDITIONS • WIND SPEED WITHIN LIMITS • PRECIPITATION AND TEMPERATURE	O	O
WPS FOLLOWED • SETTINGS ON WELDING EQUIPMENT • TRAVEL SPEED • SELECTED WELDING MATERIALS • SHIELDING GAS TYPE/FLOW RATE • PREHEAT APPLIED • INTERPASS TEMPERATURE MAINTAINED (MIN./MAX.) • PROPER POSITION (F, V, H, OH)	O	O
WELDING TECHNIQUES • INTERPASS AND FINAL CLEANING • EACH PASS WITHIN PROFILE LIMITATIONS • EACH PASS MEETS QUALITY REQUIREMENTS	O	O

P: PERFORM - THESE TASKS SHALL BE PERFORMED FOR EACH WELDED JOINT OR MEMBER
O: OBSERVE - THE INSPECTOR SHALL OBSERVE THESE ITEMS ON A RANDOM BASIS. OPERATIONS NEED NOT BE DELAYED PENDING THESE INSPECTIONS

TABLE N5.4-3
INSPECTION TASKS AFTER WELDING

INSPECTON TASKS AFTER WELDING	QC	QA
WELDS CLEANED	P	P
SIZE LENGTH AND LOCATION OF WELDS	P	P
WELDS MEET VISUAL ACCEPTANCE CRITERIA • CRACK PROHIBITION • WELD/BASE-METAL FUSION • CRATER CROSS SECTION • WELD PROFILES • WELD SIZE • UNDERCUT • POROSITY	O	O
ARC STRIKES	O	O
K-AREA [1]	O	O
BACKING REMOVED AND WELD TABS REMOVED (IF REQUIRED)	O	O
REPAIR ACTIVITIES	O	O
DOCUMENT ACCEPTANCE OR REJECTION OF WELDED JOINT OR MEMBER	O	O

[1] WHEN WELDING OF DOUBLER PLATES, CONTINUITY PLATES OR STIFFENERS HAS BEEN PERFORMED IN THE K-AREA, VISUALLY INSPECT THE WEB K-AREA FOR CRACKS WITHIN 3 in. (75 mm) OF THE WELD.

P: PERFORM - THESE TASKS SHALL BE PERFORMED FOR EACH WELDED JOINT OR MEMBER
O: OBSERVE - THE INSPECTOR SHALL OBSERVE THESE ITEMS ON A RANDOM BASIS. OPERATIONS NEED NOT BE DELAYED PENDING THESE INSPECTIONS

PART 1: SCHEDULE OF SPECIAL INSPECTIONS			
1705.5 WOOD CONSTRUCTION			
Verification and Inspection Task	Continuous During Task Listed	Periodically During Task Listed	Remarks
1. INSPECTION OF THE FABRICATION PROCESS OF WOOD STRUCTURAL ELEMENTS AND ASSEMBLIES IN ACCORDANCE WITH...	-	X	
2. FOR HIGH-LOAD DIAPHRAGMS, VERIFY GRADE AND THICKNESS OF STRUCTRAL PANEL SHEATHING AGREE WITH APPROVED BUILDING...			
3. FOR HIGH-LOAD DIAPHRAGMS, VERIFY NOMINAL SIZE OF FRAMING MEMBERS AT ADJOINING PANEL EDGES, NAIL OR STAPLE DIAMETER AND LENGTH, NUMBER OF FASTENER LINES , AND THAT SPACING BETWEEN FASTENERS IN EACH LINES AND AT EDGE MARGINS AGREE WITH APPROVED BUILDING PLANS			
4. METAL-PLATE CONNECTED WOOD TRUSSES SPANNING 60 FEET OR GREATER: VERIFY TEMPORARY AND PERMANENT RESTRAINT/BRACING ARE INSTALLED IN ACCORDANCE WITH THE APPROVED TRUSS SUBMITTAL PACKAGE			

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SHEET TITLE
SPECIAL INSPECTIONS

PROJECT TITLE
CITY OF CASCADE
CASCADE OUBLIC LIBRARY
SECOND AVENUE SW.
CASCADE, IOWA

DATE ISSUED 05/03/2023
REV. NO. DATE

PROJECT NUMBER
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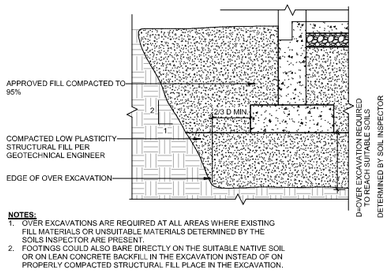
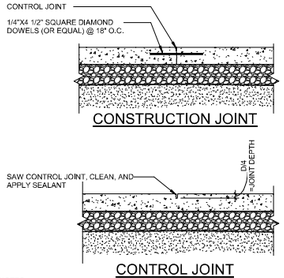


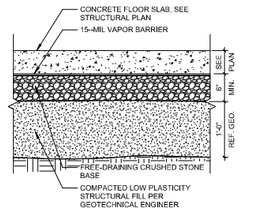
NOTES:
1. OVER EXCAVATIONS ARE REQUIRED AT ALL AREAS WHERE EXISTING FILL MATERIALS OR UNSUITABLE MATERIALS DETERMINED BY THE SOILS INSPECTOR ARE PRESENT.
2. FOOTINGS COULD ALSO BARE DIRECTLY ON THE SUITABLE NATIVE SOIL OR ON LEAN CONCRETE BACKFILL IN THE EXCAVATION INSTEAD OF ON PROPERLY COMPACTED STRUCTURAL FILL PLACE IN THE EXCAVATION.

1 TYPICAL OVEREXCAVATION DETAIL
SCALE: 1/2" = 1'-0"

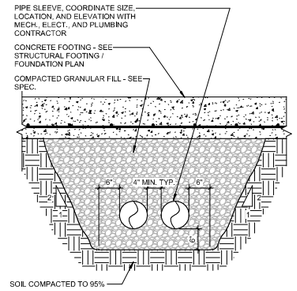


NOTES:
1. CONSTRUCTION AND/OR CONTROL JOINTS ARE INTERCHANGEABLE AT THE CONTRACTORS OPTION. SEE PLANS FOR JOINT LOCATIONS.
2. SAW CUTTING OF JOINTS SHALL BE DONE AS THE CONCRETE SETS SUFFICIENTLY TO PERMIT CUTTING WITHOUT CHIP, SPALLING OR TEARING, BUT NOT MORE THAN 24 HR. AFTER PLACING.
3. ACI RECOMMENDATION: PLACE SLABS IN LONG RECTANGULAR STRIPS IN ALTERNATE PANELS, WIDTH OF STRIPS TO BE APPROX. 10'-0"

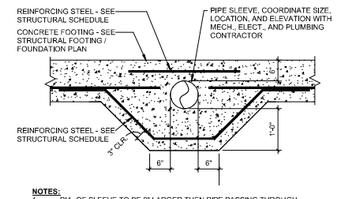
2 TYPICAL SLAB-ON-GRADE CONTROL AND CONSTRUCTION JOINTS DETAIL
SCALE: 3/4" = 1'-0"



3 TYPICAL SLAB-ON-GRADE DETAIL
SCALE: 1" = 1'-0"

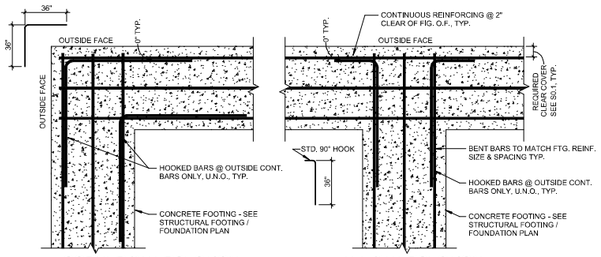


4 TYPICAL PIPE SLEEVE UNDER CONTINUOUS FOOTING
SCALE: 3/4" = 1'-0"

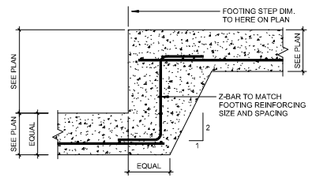


NOTES:
1. DIA. OF SLEEVE TO BE 2" LARGER THEN PIPE PASSING THROUGH. MAXIMUM PIPE SLEEVE DIAMETER TO BE 12" OR LESS TO USE THIS DETAIL.
2. WHERE PIPE SLEEVE OPENING IS GREATER THAN 12" THE CONTRACTOR IS TO STEP THE FOOTING PER "TYPICAL STEP FOOTING DETAIL" SO PIPE SLEEVE PASSES THROUGH FOUNDATION WALL. CONTRACTOR TO REINFORCE OPENING IN THE WALL PER "TYP. DETAIL AT OPENING IN WALL"

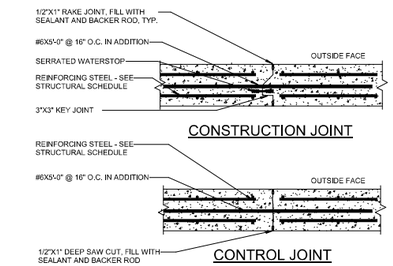
5 TYPICAL PIPE SLEEVE THROUGH CONTINUOUS FOOTING
SCALE: 3/4" = 1'-0"



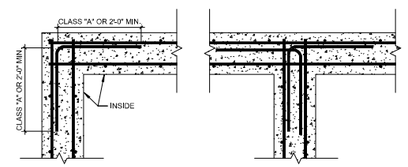
6 TYPICAL FOOTING INTERSECTION REINFORCEMENT
SCALE: 3/4" = 1'-0"



7 TYPICAL STEP FOOTING DETAIL
SCALE: 3/4" = 1'-0"

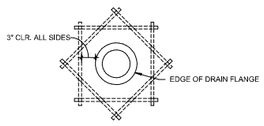


8 TYPICAL DETAIL OF VERTICAL CONSTRUCTION AND CONTROL JOINT IN CONCRETE WALLS
SCALE: 3/4" = 1'-0"

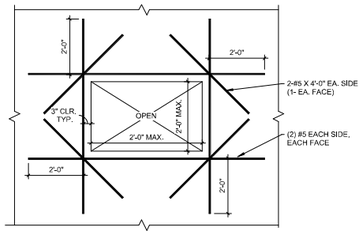


NOTE:
1. SIZE AND SPACING OF CORNER/INTERSECTING BARS SAME AS HORIZONTAL BARS.
2. IF A CONSTRUCTION OR CONTROL JOINT OCCURS AT CORNER OR INTERSECTION, RAKE A 1/2"X1" JOINT AND FILL WITH SEALANT AND BACKER ROD, TYP.

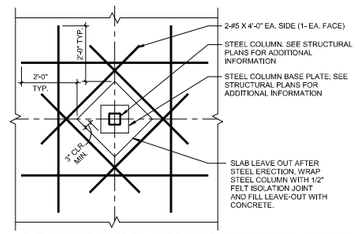
9 TYPICAL CORNER BAR DETAIL
SCALE: 3/4" = 1'-0"



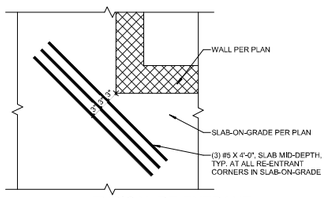
10 TYPICAL REINFORING AT FLOOR DRAIN
SCALE: 1" = 1'-0"



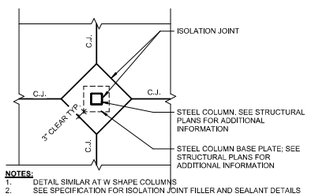
11 TYPICAL DETAIL AT OPENINGS IN SLAB OR WALLS
SCALE: 1/2" = 1'-0"



12 TYPICAL ISOLATION JOINT DETAIL AT WF
SCALE: 1/2" = 1'-0"



TYPICAL RE-ENTRANT CORNER SLAB
13 REINFORCEMENT DETAIL
SCALE: 3/4" = 1'-0"



NOTES:
1. DETAIL SIMILAR AT W SHAPE COLUMNS
2. SEE SPECIFICATION FOR ISOLATION JOINT FILLER AND SEALANT DETAILS

14 TYPICAL ISOLATION JOINT DETAIL
SCALE: 1/2" = 1'-0"

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SHEET TITLE
TYPICAL FOUNDATION DETAILS

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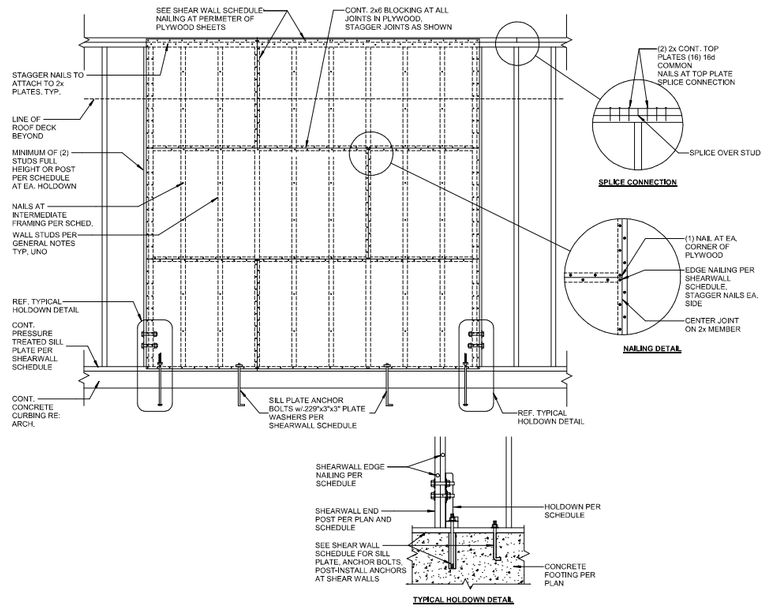
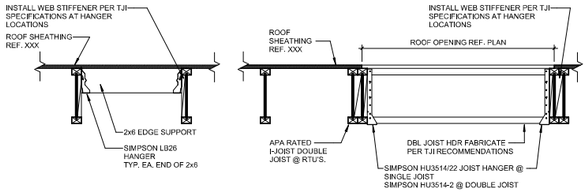
S0.3

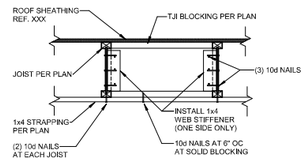


1 SHEATHING ELEVATION
SCALE: 1/2" = 1'-0"

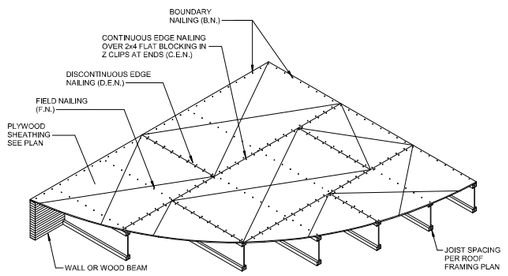


SINGLE OPENING DOUBLE OPENING

2 ROOF OPENING DETAILS
SCALE: 1" = 1'-0"



3 JOIST BLOCKING DETAILS
SCALE: 1" = 1'-0"



ROOF DIAPHRAGM NAILING SCHEDULE					
DIAPHRAGM ZONE	SHEATHING	NAILS	NAILING		
			EDGE (E.N.)	BOUNDARY (B.N.)	FIELD (F.N.)
BLOCKED	EXPOSURE I APA 24/16 SHEATHING (PART OF SIP ROOFING SYSTEM)	PER MANUF.	BY MANUF.	BY MANUF.	BY MANUF.

NOTES:
1. RUN LONG DIMENSION OF PLYWOOD PERPENDICULAR TO JOIST.
2. NAIL SIZE AND SPACING AS NOTED IN SCHEDULE.
3. NAILS SHALL HAVE A MIN. 3/8" EDGE DISTANCE.
4. USE BOUNDARY NAILING CONTINUOUS @ ALL NAILING ZONE BOUNDARIES; SEE PLAN FOR ZONE EXTENTS.
5. FOR BOUNDARY NAILING LESS THAN 4" O.C., FRAMING AT ADJOINING PANEL EDGES SHALL BE 3" O.C. MINIMAL OR WIDER, AND NAILS SHALL BE STAGGERED.

4 TYPICAL ROOF DIAPHRAGM AND EDGE NAILING
SCALE: 1" = 1'-0"

5 TYPICAL HOLDOWN DETAILS
SCALE: 1 1/2" = 1'-0"

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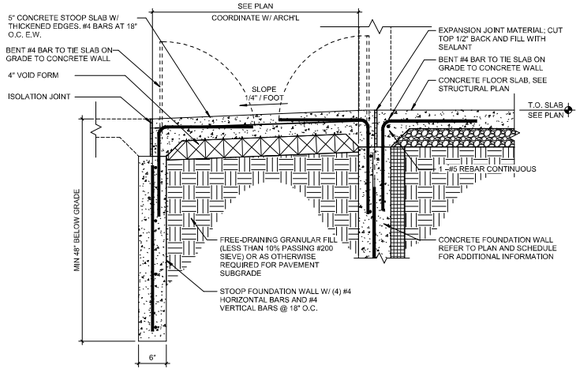
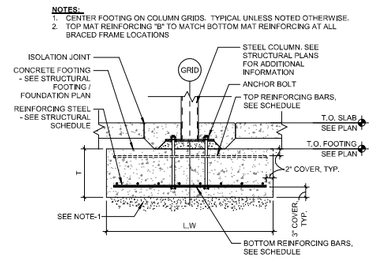
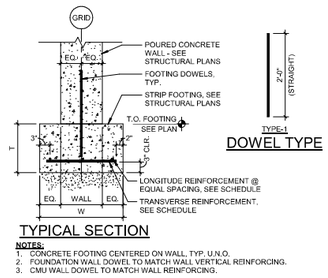


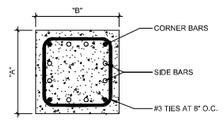
2 NEW STOOP DETAIL
SCALE: 1" = 1'-0"



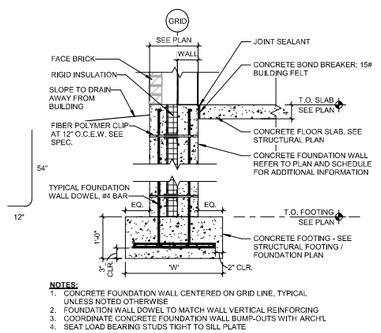
3 TYPICAL CONCRETE SPREAD FOOTING DETAIL
SCALE: 3/4" = 1'-0"



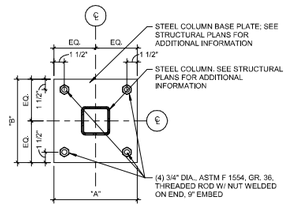
4 TYPICAL WALL FOOTING DETAIL
SCALE: 3/4" = 1'-0"



5 TYPICAL FOUNDATION PIER DETAIL
SCALE: 1 1/2" = 1'-0"



TYPICAL WALL FOOTING DETAIL - INSULATED
6 FOUNDATION WALL - STUD
SCALE: 3/4" = 1'-0"



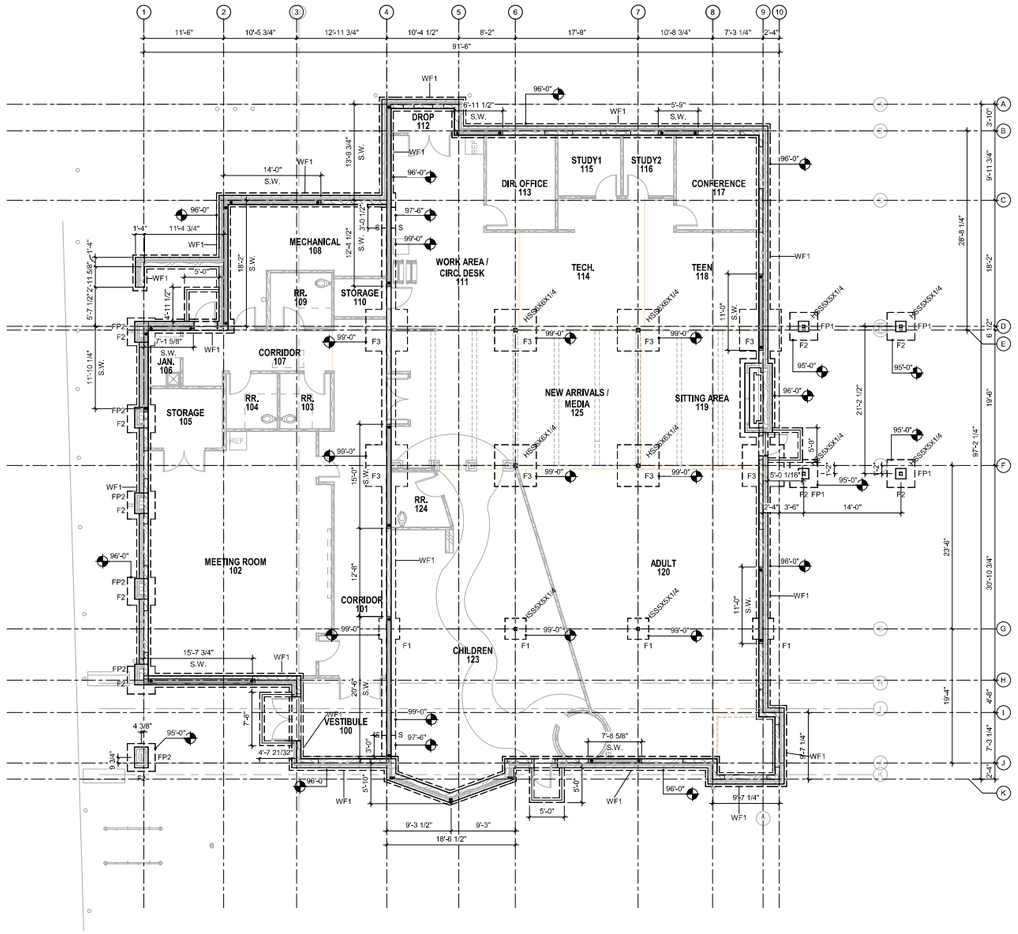
7 TYPICAL HSS COLUMN BASE PLATE
SCALE: 1 1/2" = 1'-0"

S1.0 - CONCRETE SPREAD FOOTING SCHEDULE					
MARK	LENGTH	WIDTH	THICKNESS	REINFORCING	REMARKS
F1	3'-0"	3'-0"	12"	(3) #5 EACH WAY @ BOTTOM/ N/A @ TOP	
F2	4'-0"	4'-0"	12"	(4) #5 EACH WAY @ BOTTOM/TOP	
F3	6'-0"	6'-0"	12"	(7) #5 EACH WAY @ BOTTOM/TOP	

S1.0 - CONCRETE WALL FOOTING SCHEDULE					
MARK	WIDTH	THICKNESS	REINFORCING	DOWELS	REMARKS
WF1	2'-0"	12"	(2) #5 BARS LONG. / #5 @ 24" O.C. TRANS.	TYPE-1 @ 24"	

S1.0 - FOUNDATION PIER SCHEDULE			
MARK	SIZE ("A"X"B")	REINFORCEMENT	NOTES
FP1	18"X18"	(4) #5 BARS @ CORNER/ (1) #5 EACH FACE @ SIDE	
FP2	23.5"x35.5"	(4) #5 BARS @ CORNER/ (2) #5 EACH FACE @ SIDE	

S1.1 - WALL SCHEDULE				
MARK	WALL TYPE	THICKNESS	REINFORCING	NOTES
	16" CONCRETE	16"	#5 AT 16" O.C. EW. EF.	
W11	8" CONCRETE	8"	#5 AT 16" O.C. EW	7
W11E	8" CONCRETE WITH INSULATION	15 5/8"	#5 AT 16" O.C. EW	7



1 FOUNDATION PLAN
SCALE: 1/8" = 1'-0"

SCALE: 1/8" = 1'-0"

FOUNDATION PLAN NOTES:

SLAB-ON-GRADE:

1. TOP OF SLAB ELEVATION AS NOTED. ARCHITECTURAL ELEVATION 100'-0" CORRESPONDS TO CIVIL ELEVATION **XXX.XX**. SEE CIVIL DRAWINGS.
2. SLAB-ON-GRADE TO BE 4" THICK WITH 4LB/CY MACROFIBER REINFORCEMENT OVER 15 MIL VAPOR BARRIER OVER 6" MINIMUM OF FREE -DRAINING CRUSHED ROCK OR CLEAN 1" DIAMETER ROCK DEVIOD OF FINES, REF. S0.3.
3. CONTRACTOR TO COORDINATE SLOPING OF SLABS TO FLOOR DRAINS WITH ARCH. AND PLUMBING.
4. SEE ARCHITECTURAL DRAWINGS FOR LOCATIONS OF RAMPS, DEPRESSED SLABS, STEPPED SLABS, STOOPS AND NON-BEARING PARTITION WALLS.
5. TYPICAL CONSTRUCTION/CONTROL JOINTS AT 10'-0" O.C., MAX., TYP. SEE CONSTRUCTION/CONTROL JOINT PLACEMENT PLAN ON SHEET S2.0 FOR JOINT LOCATIONS.

GENERAL:

1. FOR GENERAL NOTES, SPECIAL INSPECTIONS, AND TYPICAL DETAILS SEE SHEETS S0.1 AND S0.2.
2. SEE SHEET S0.3 FOR TYPICAL SLAB ON GRADE AND TYPICAL FOUNDATION DETAILS.
3. SEE THIS SHEET FOR WALL AND FOOTING SCHEDULE AND BASE PLATE SCHEDULES.
4. COORDINATE OPENINGS IN WALLS AND SLABS WITH MECHANICAL, ELECTRICAL, AND PLUMBING CONTRACTORS. SEE SHEET S0.3 FOR TYPICAL OPENING DETAILS.
5. NO FIELD CUTTING OF OPENINGS ALLOWED.
6. REFER TO THE ARCHITECTURAL DRAWINGS AND/OR COORDINATE WITH THE ARCHITECT REGARDING ADDITIONAL DIMENSIONS AND ELEVATIONS.

FOOTINGS/FOUNDATION WALLS:

1. ALL FOOTINGS TO BE CENTERED UNDER WALLS AND/OR COLUMNS, U.N.O.
2. FOOTING REINFORCEMENT CENTERED BELOW CONC. PIER WHERE FOOTING PLAN DIMENSION(S) EXCEED SCHEDULED VALUE, TYP.
3. PROVIDE (1) BOTTOM MAT #5@12" E.W. AT ALL UN-SCHEDULED SPREAD FOOTINGS, TYP. U.N.O.
4. CENTER SCHEDULED FOOTING(S) BELOW COLUMN (OR BEAM BRG.) TYP. AT COMBINED FOOTINGS.
5. TOP OF EXTERIOR FOOTING ELEVATION AS NOTED ON PLAN, MIN. 4'-0" BELOW EXTERIOR GRADE.
6. TOP OF INTERIOR FOOTING ELEVATION AS NOTED ON PLAN, MIN. 1'-0" BELOW TOP OF SLAB ELEVATION.
7. TOP OF TYPICAL NEW FOUNDATION WALLS TO BE 100'-0" U.N.O.
8. TOP OF TYPICAL EXTERIOR PIERS TO BE 100'-8" U.N.O.
9. COORDINATE TOP OF FOOTING ELEVATIONS WITH CROSSING MECHANICAL PLUMBING LINE INVERTS AND ELECTRICAL LINE LOCATIONS. WHENEVER POSSIBLE, STEP FOOTINGS DOWN ON EITHER SIDE OF LINE AND SLEEVE THROUGH FOUNDATION WALLS. COORDINATE BLOCKOUTS IN FOUNDATION WALL AS NEEDED. SEE DETAIL 6/S-0.3 WHEN PIPE FALLS WITHIN FOOTING AND DETAIL 7/S-0.3 WHEN PIPE FALLS BELOW FOOTING.
10. CONCRETE FOUNDATION WALLS TO BE REINFORCED WITH #5 AT 12" O.C.E.W., PROVIDE CORNER BARS PER TYPICAL DETAILS AT CORNERS AND INTERSECTIONS.

S —— S INDICATES FOOTING STEP LOCATION - REF. S0.3 FOR TYPICAL STEP FOOTING DETAIL

INDICATES LOAD BEARING STUD WALL

INDICATES LOAD BEARING STUD SHEAR WALL AND HOLD-DOWNS.

REFERENCE NOTES ON S1.1 FOR LOAD BEARING STUD WALL AND LOAD BEARING STUD SHEAR WALL INFORMATION.

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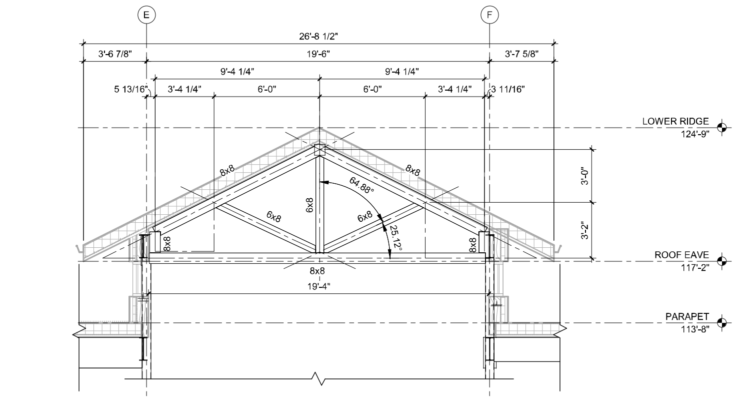
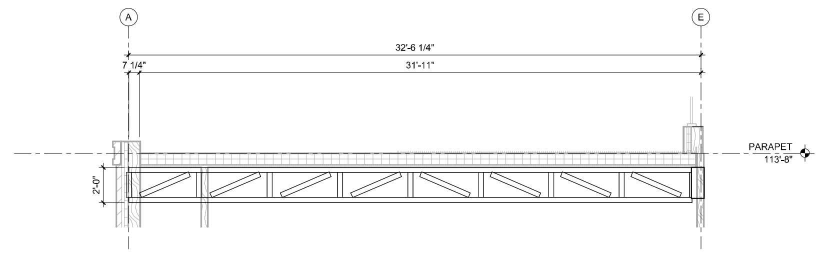
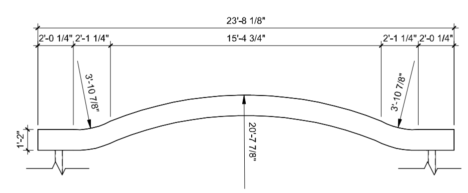


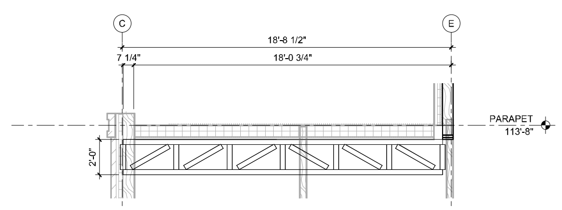
2 TRUSS T3
SCALE: 1/4" = 1'-0"



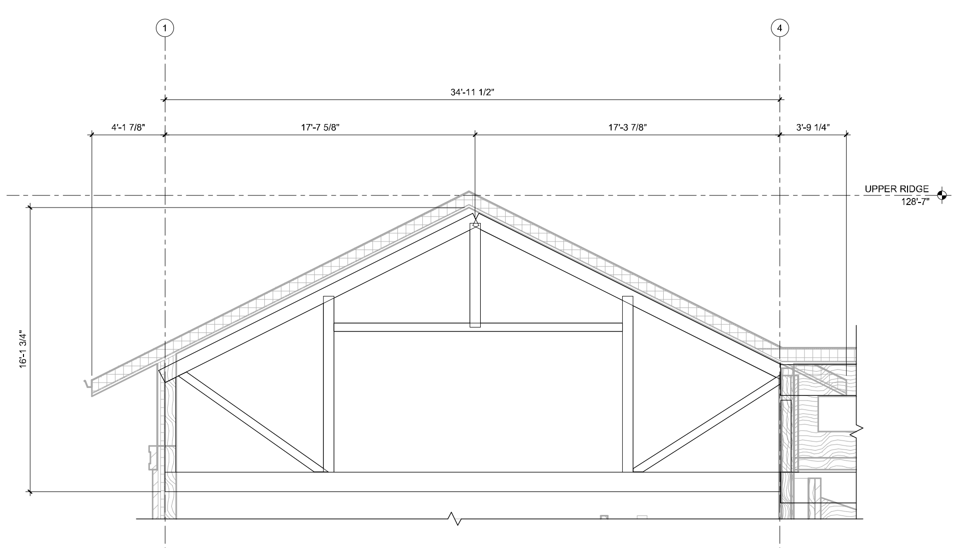
3 TRUSS T2
SCALE: 1/4" = 1'-0"



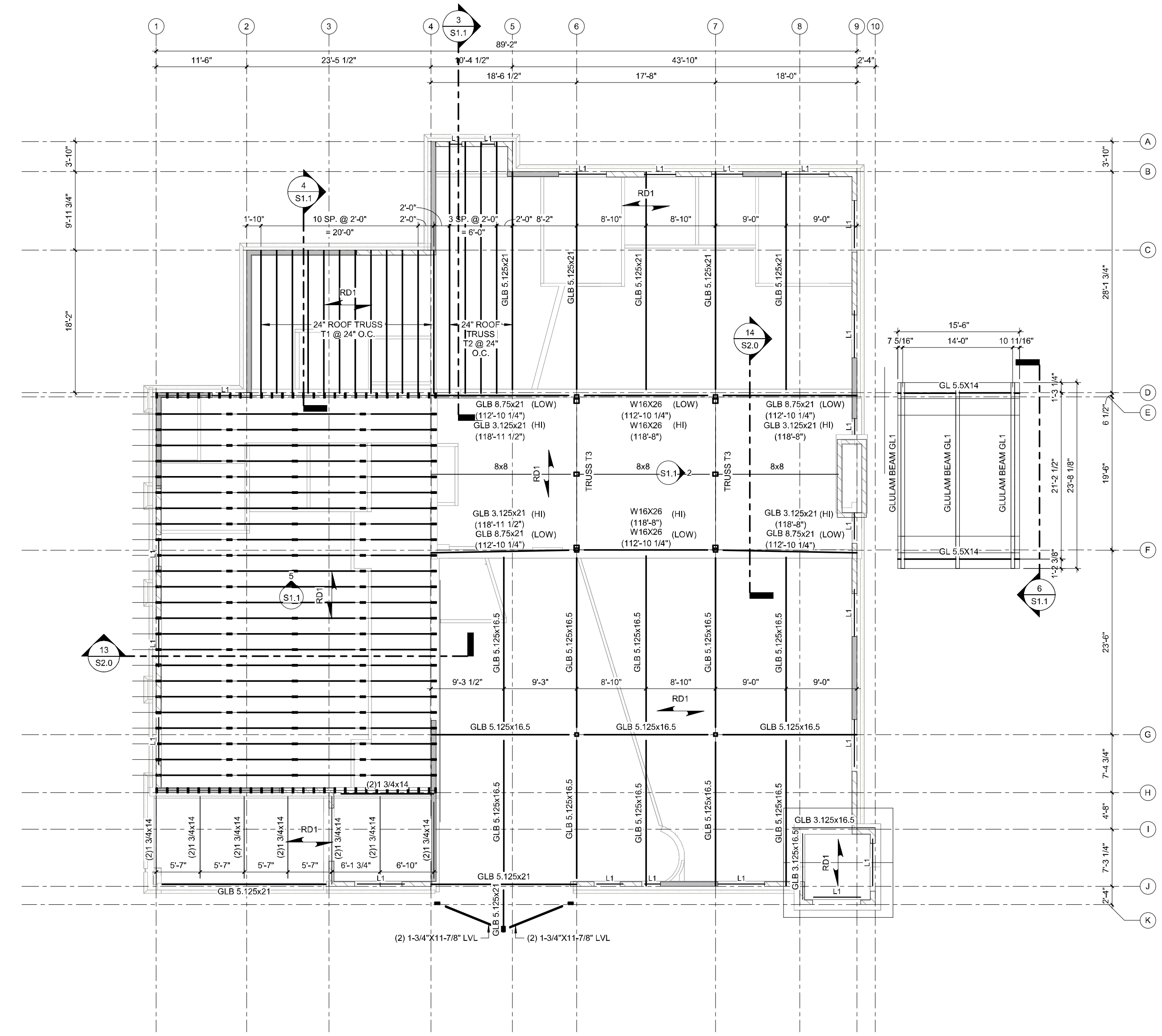
6 CURVED GLULAM GL1
SCALE: 1/4" = 1'-0"



4 TRUSS T1
SCALE: 1/4" = 1'-0"



5 ATTIC TRUSS T4
SCALE: 1/4" = 1'-0"



1 UPPER LEVEL
SCALE: 1/8" = 1'-0"

SCALE: 1/8" = 1'-0"

ROOF FRAMING PLAN NOTES:

GENERAL

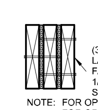
1. FOR GENERAL NOTES, SPECIAL INSPECTIONS, AND MATERIAL STRENGTHS SEE SHEETS S0.1 AND S0.2.
2. SEE SHEETS S0.3, S0.4, AND S0.5 FOR TYPICAL DETAILS.
3. COORDINATE OPENINGS IN WALLS AND SLABS WITH MECHANICAL, ELECTRICAL, AND PLUMBING CONTRACTORS.
4. CONTRACTOR TO VERIFY AND COORDINATE SIZE AND WEIGHT OF ROOF TOP MECHANICAL UNITS PRIOR TO MANUFACTURING AND INSTALLATION OF SUPPLEMENTAL FRAMING MEMBERS AT CURB SUPPORT.
5. NO FIELD CUTTING OF OPENINGS ALLOWED.
6. REFER TO THE ARCHITECTURAL DRAWINGS AND/OR COORDINATE WITH THE ARCHITECT REGARDING ADDITIONAL DIMENSIONS AND ELEVATIONS.

WOOD TRUSS

1. REFER TO SHEET S0.2 FOR TRUSS PROFILES
2. SHEATH ROOF TRUSSES WITH 5/8" EXPOSURE 1 RATED APA SHEATHING, FASTEN TO TRUSSES WITH 10D COMMON NAILS AT 6" O.C. AT PANEL EDGES AND AT 6" O.C. IN PANEL FIELD.
3. WOOD ROOF TRUSSES ARE DELEGATED DESIGN AND SHOULD BE DESIGNED TO MEET MINIMUM LOADING INDICATED ON TRUSS PROFILES SHOWN ON S0.2

STRUCTURAL GLULAM FRAMING

1. REFER TO PLAN FOR GLULAM BEAM SIZES AND CONFIGURATIONS.
2. REFER TO THIS SHEET FOR ADDITIONAL GLULAM PROFILES FOR SPECIALTY CURVED MEMBERS.
3. ALL GLULAM FRAMING TO BE 24F-V4 DF/DF E1.8 GRADE OR BETTER.
4. ALL EXTERIOR GLULAM FRAMING TO BE EXTERIOR GRADE OR SEALED.



(3) 2X DFL MEMBERS W/ (2) LAYERS OF 1/2" PLYWOOD, FASTEN TOGETHER WITH (3) 1/4" SDS SCREWS @ 12" O.C. STAGGER PATTERN TYP.
NOTE: FOR OPENINGS UP TO 6'-0" PROVIDE 2X8 MEMBERS
FOR OPENINGS 6'-0" TO 8'-0" PROVIDE 2X10 MEMBERS
FOR OPENINGS 8'-0" TO 10'-0" PROVIDE 2X12 MEMBERS

TYPICAL HEADER DETAIL

DIMENSIONAL WOOD STUD WALL FRAMING

1. WOOD STUD BEARING WALLS TO BE NO.2 OR BETTER SPF 2X6 AT 16" O.C. WITH DOUBLE 2X6 TOP PLATES LAP SPLICED TO AVOID CONTINUOUS JOINT.
2. TYPICAL WOOD HEADER OVER OPENINGS L1 AS INDICATED IN DETAIL TYPICAL HEADER DETAIL WITH (2) JACK AND (1) KING STUD TYP.
3. PROVIDE CONTINUOUS WOOD BLOCKING IN STUD WALL SYSTEM SPACED NO MORE THAN 4'-0" O.C. VERTICALLY .
4. INSTALL BLOCKING AND SUPPLEMENTARY FRAMING AS REQUIRED TO SUPPORT FIXTURES, EQUIPMENT, AND/OR CASEWORK.
5. AT WALLS INDICATED AS SHEAR WALLS PROVIDE SIMPSON HDU8 SDS2.5 HOLD-DOWNS AT EACH END OF WALL. ATTACH HOLD-DOWN TO DOUBLE STUD, MIN. (2) 2X6. ANCHOR HOLD-DOWN WITH 7/8" DIA. THREADED ROD AND HILTI HY-200 EPOXY SYSTEM, 8" EMBEDMENT INTO FOUNDATION WALL.
6. ALL EXTERIOR AND INDICATED SHEAR WALLS TO RECEIVE 1/2" HORIZONTALLY ORIENTED EXPOSURE 1 APA RATED STRUCTURAL SHEATHING. BLOCK ALL PANEL EDGES, AND FASTEN WITH 10D COMMON NAILS AT 6" O.C. AT PANEL EDGES AND AT 12" O.C. IN PANEL FIELD.
7. [hatched symbol] INDICATES WOOD STUD LOAD BEARING WALL.
   [dot symbol] INDICATES WOOD STUD LOAD BEARING DESIGNATED SHEAR WALL.

STRUCTURALLY INSULATED ROOF PANELS (SIPS)

1. ROOF DECK RD1 TO BE 8" NOMINAL SIP PANELS. MANUFACTURER TO VERIFY SPANS AND LOADING WITH THE PLANS AND LOADING INDICATED ON S0.1 AND LOAD PLANS ON S2.0.
2. AT EXPOSED CEILING AREAS, PROVIDE 2"X6" NOMINAL TONGUE AND GROOVE BOARD IN A RANDOM LAYUP ATTACHED TO THE BOTTOM OF THE STRUCTURALLY INSULATED PANELS.
3. REFER TO ARCHITECTURAL DRAWINGS FOR EXPOSED CEILING AREAS AND REQUIRED FINISHES.

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ROOF FRAMING PLAN

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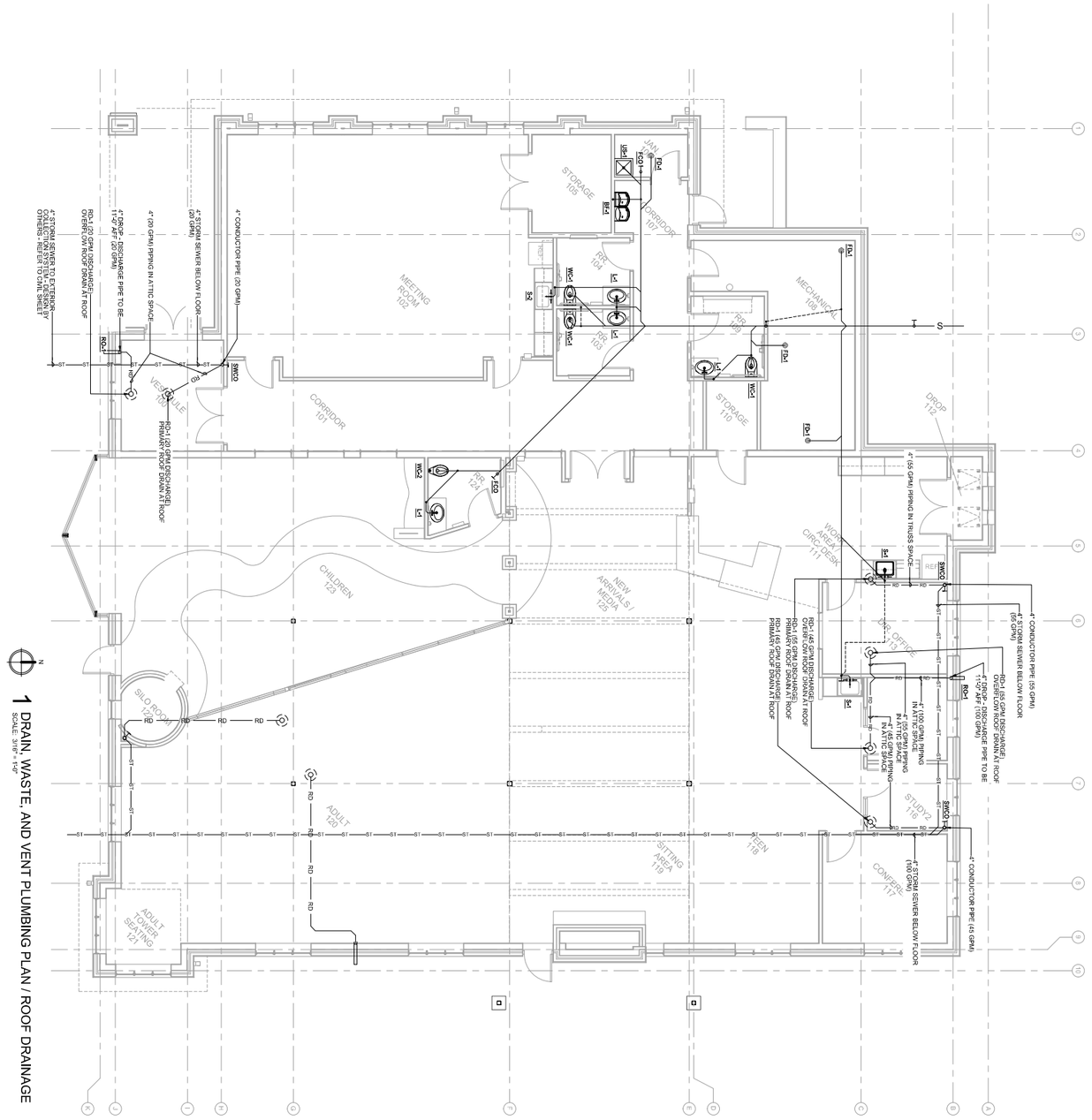

1 DRAIN, WASTE, AND VENT PLUMBING PLAN / ROOF DRAINAGE
SCALE: 3/16" = 1'-0"

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DRAIN, WASTE, AND VENT PLUMBING PLAN
ROOF DRAINAGE

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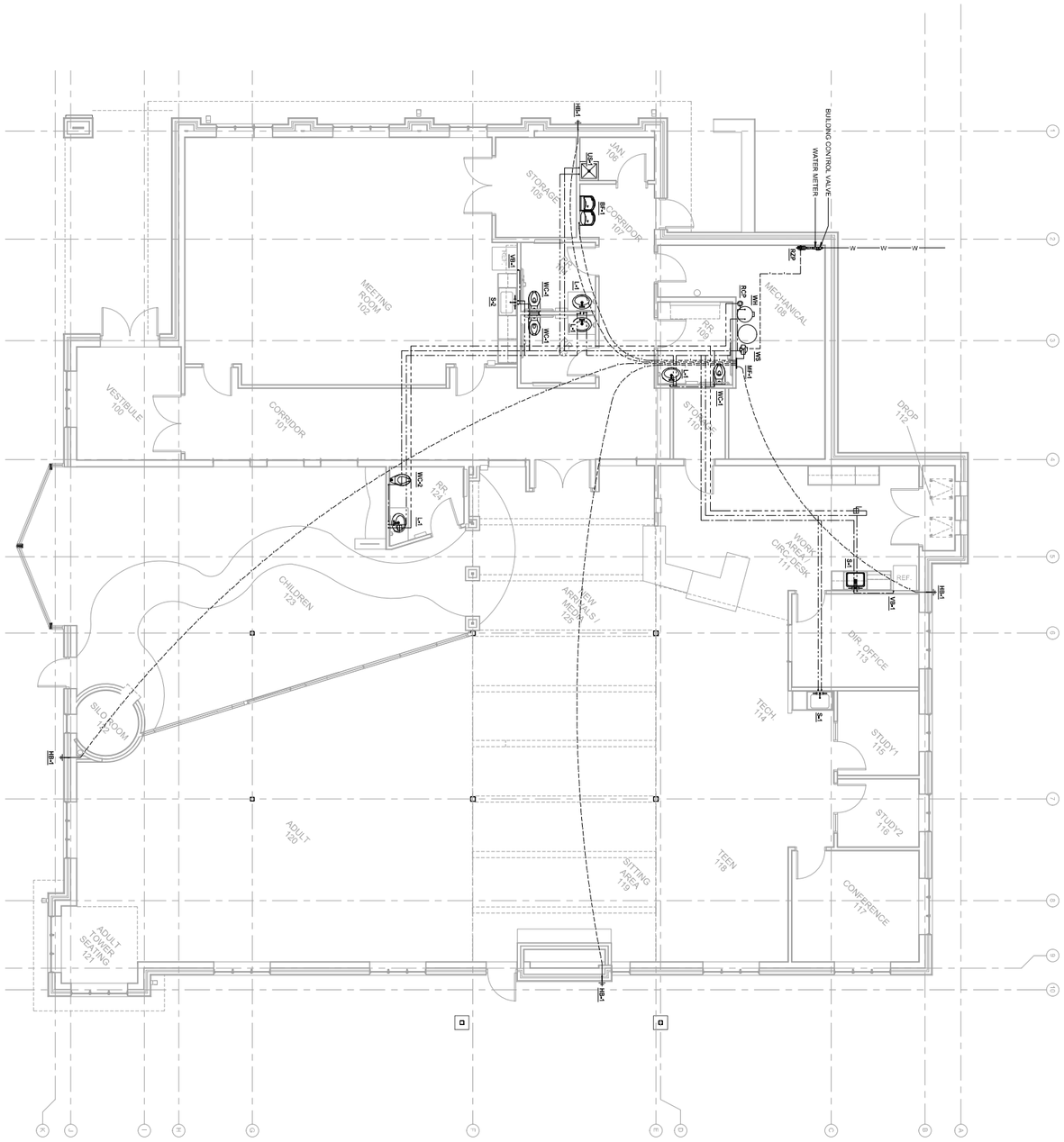

1 WATER DISTRIBUTION PLUMBING PLAN
SCALE: 1/8" = 1'-0"

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SHEET P1.2

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WATER DISTRIBUTION PLUMBING PLAN

IN ASSOCIATION WITH

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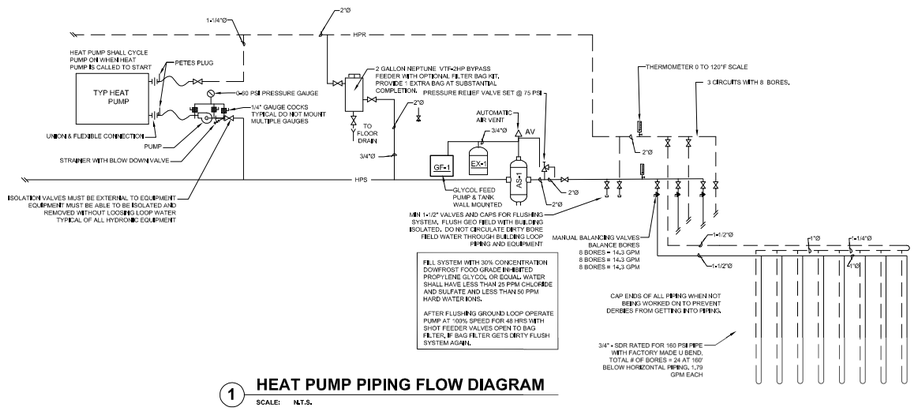
SYMBOLS & ABBREVIATIONS

	SUPPLY DUCT UP
	RETURN / OUTSIDE AIR DUCT UP
	EXHAUST DUCT UP
	SUPPLY DUCT DOWN
	RETURN / OUTSIDE AIR DUCT DOWN
	EXHAUST DUCT DOWN
18x10	DUCT SIZE IS 18" WIDE AND 10" TALL FREE AREA
	MANUAL VOLUME DAMPER
	FLEXIBLE DUCTWORK
TAG NECK/FACE SIZE C.F.M. NOTES	AIR TERMINAL REFERENCE SEE AIR TERMINAL SCHEDULE
OED	OPEN END DUCT
T	THERMOSTAT SENSOR +48" OR AS NOTED
C	ROOM CO2 SENSOR BY CONTROLS CONTR.
TYP	TYPICAL
MFG	MANUFACTURER
DN	DOWN
AHJ	AUTHORITY HAVING JURISDICTION

DESIGN NOTE:
IN ACCORDANCE WITH OWNER'S STATED GOAL TO REUSE EXISTING HVAC EQUIPMENT & SYSTEMS, DUCTWORK MODIFICATIONS AND THERMOSTAT RELOCATIONS ARE PROPOSED TO MINIMIZE REWORK OF SYSTEM. IT IS THE OWNER'S GOAL TO MINIMIZE COSTS ASSOCIATED WITH NEW EQUIPMENT, INCLUDING REUSE OF SINGLE ZONE SYSTEMS. WHERE MULTIPLE ROOMS ARE SERVED FROM SINGLE ZONE & THERMOSTAT, TEMPERATURE SWINGS MAY BE ENCOUNTERED BETWEEN ROOMS WITH DIFFERENT OCCUPANCY LOADS.



1 HEAT PUMP PIPING FLOW DIAGRAM
SCALE: N.T.S.

LOUVERS

BASIS OF DESIGN: RUSKIN

TAG	MODEL	SERVICE	CFM	SIZE	FREE SF	VELOCITY	IN WG	MATERIAL
L-1	ELF6375DX	INTAKE	1025	24X72	6.8	151 FPM	0.01	ALUMINUM
L-2	ELF6375DX	EXHAUST	950	14X72	3.71	276 FPM	0.01	ALUMINUM

NOTES: PROVIDE LOUVERS WITH BIRD SCREEN.
PROVIDE PLENUMS WITH INSULATED ACCESS DOORS FOR CLEANING.
PITCH BOTTOM OF PLENUM TO DRAIN OUTSIDE, OR PROVIDE DRAIN AND PIPING TO FD.
COLOR SELECTED BY ARCHITECT FROM STANDARD COLORS.

HYDRONIC PUMPS

BASIS OF DESIGN: WILO

TAG	SERVICE	MODEL	FLOW GPM	HEAD FT	V/PH/Hz	RATED POWER	OPERATING RPM	EFFICIENCY
P-1	HEAT PUMP 1	TOP S 1.5X50	15	48	230/1/60	0.94	3380	21.1%
P-2	HEAT PUMP 1	TOP S 1.5X50	15	48	230/1/60	0.94	3380	21.1%
P-3	HEAT PUMP 3	TOP S 1.5X50	13	45	230/1/60	0.92	3380	18.7%

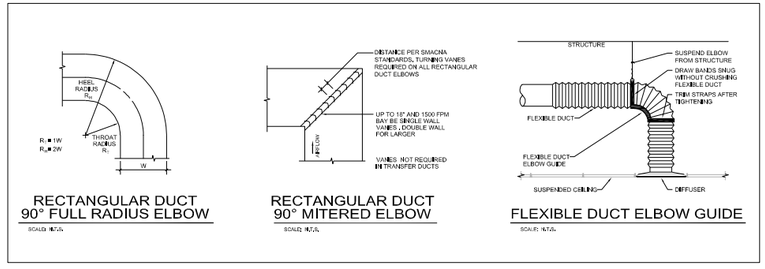
NOTES: SELECTION BASED ON 30% PROPYLENE GLYCOL AT 32 DEG F.
PUMP SHALL CYCLE ON WHEN ANY HEAT PUMP CALLS FOR HEATING OR COOLING.

WATER SOURCE HEAT PUMPS

BASIS OF DESIGN: CLIMIT MASTER

TAG NUMBER	ROOM NO	AREA SERVED	HEAT PUMP MODEL NUMBER	COOLING CAPACITY TOTAL MBH	HEATING CAPACITY MBH	AHRI ISO13256-1 EER	AHRI ISO13526-1 COP	FAN SUPPLY CFM	ESP	OA CFM	LOOP WATER GPM	FT HEAD AT 32 DEG EWT	VOLTS/PHASE/HERTZ	MCA	MOCP
HP-1	108	111 WORK, OFFICE & TEEN AREAS	TE-072	70.3	51.8	13.7	3.5	1900	0.5	360	13.0	12.2	208-230/1/60	45.1	70
HP-2	108	120 ADULT & 123 CHILDREN	TE-072	70.3	51.8	13.7	3.5	1900	0.5	365	15.0	12.2	208-230/1/60	45.1	70
HP-3		COMMUNITY ROOM	TE-064	63.8	48.7	15.1	3.8	1900	0.4	300	15.0	7.4	208-230/1/60	41.8	60
TOTALS				204.4	152.3						43.00				

NOTES: SELECTIONS BASED ON 410a REFRIGERANT, COOLING EAT 80/67, HEATING EAT 80, 30% GLYCOL, COOLING EWT 85, HEATING EWT 32
ALL UNITS PROVIDED WITH FACTORY INSTALLED ACCESSORIES: COMPRESSOR SOUND BLANKET, ECM FAN MOTORS.
PROVED UNITS WITH RIGHT OR LEFT HAND RETURN CONFIGURATION AS SHOWN ON PLANS AND INDICATE ON SUBMITTALS FOR REVIEW.
PROVIDE PUMP ON EACH HEAT PUMP TO CYCLE ON A CALL FOR HEATING OR COOLING.
ALL VERTICAL UNITS REQUIRE 2" MERV 8 FILTERS, AND PROVIDE 1 LOOSE SETS OF FILTERS FOR EACH UNIT.
PROVIDE ALL UNITS WITH WALL THERMOSTATES THAT HAVE 7 DAY PROGRAMING AND AN OCCUPIED OVERRIDE BUTTON. OVERRIDE SHALL BE ADJUSTABLE SET FOR 2 HRS



RECTANGULAR DUCT 90° FULL RADIUS ELBOW
SCALE: N.T.S.

RECTANGULAR DUCT 90° MITERED ELBOW
SCALE: N.T.S.

FLEXIBLE DUCT ELBOW GUIDE
SCALE: N.T.S.

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DUBUQUE, IOWA 52001
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SHEET TITLE
HVAC SCHEDULES, DETAILS AND FLOW DIAGRAM

PROJECT TITLE
CITY OF CASCADE
CASCADE PUBLIC LIBRARY
SECOND AVENUE SW.
CASCADE, IOWA

DATE ISSUED 4 MAY 2023
ISSUED FOR
REV. NO. DATE

PROJECT NUMBER
2021310

SHEET
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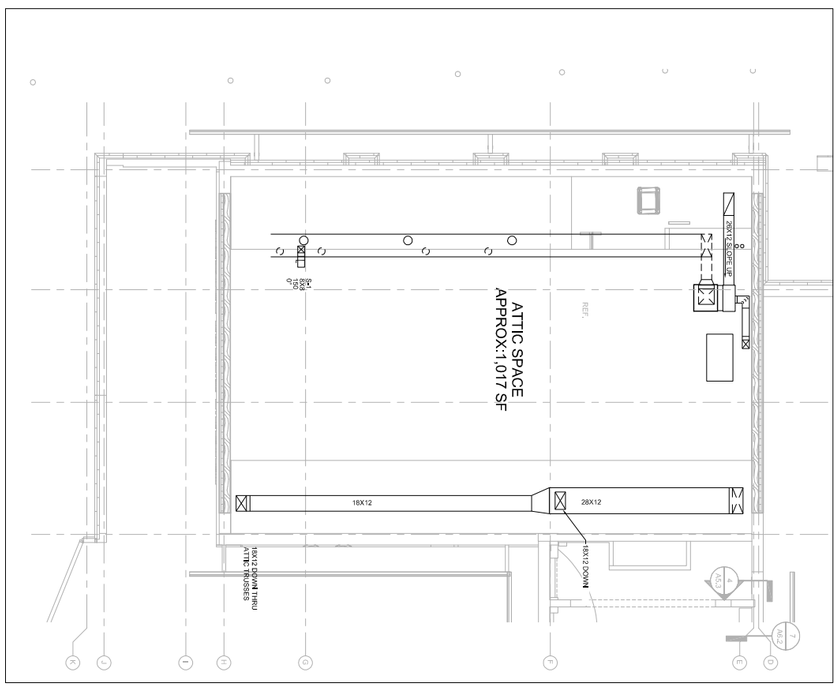
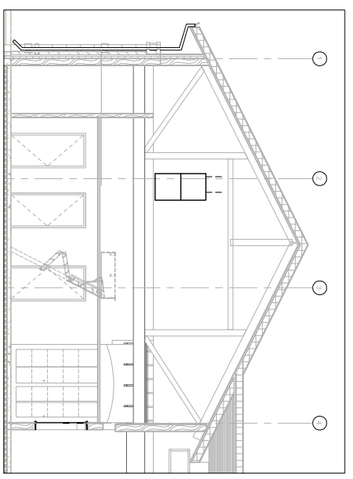
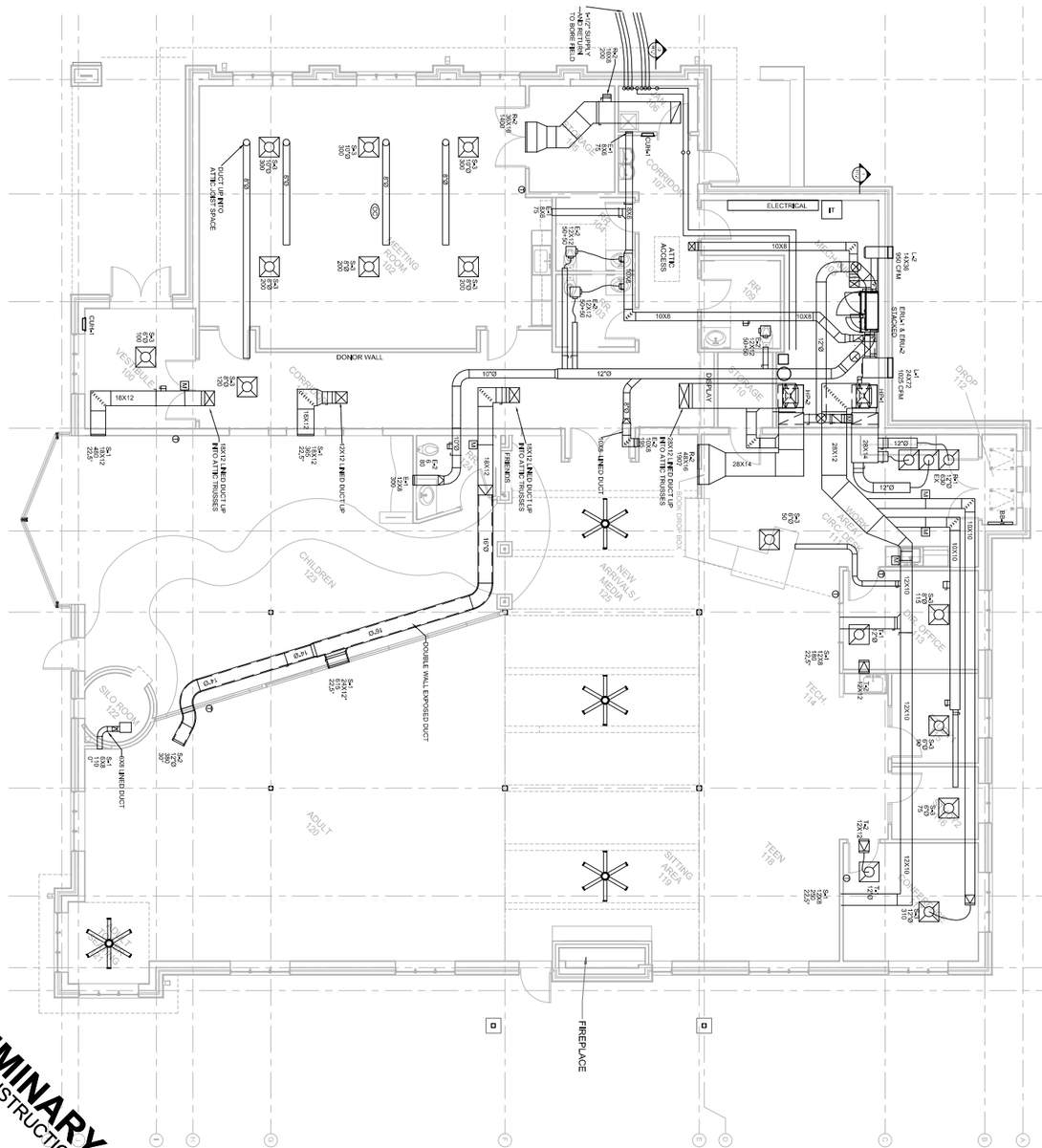
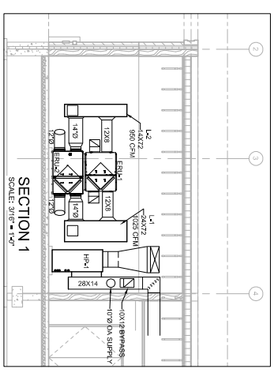




1 HVAC ATTIC PLAN
SCALE: 3/16" = 1'-0"





1 HVAC PLAN
SCALE: 3/16" = 1'-0"

PRELIMINARY
NOT FOR CONSTRUCTION

SHEET H1.1

PROJECT NUMBER 2021310

DATE ISSUED 4 MAY 2023
ISSUED FOR
REVISIONS
DATE

PROJECT TITLE CITY OF CASCADE

CASCADE PUBLIC LIBRARY

SECOND AVENUE SW.
CASCADE, IOWA

SHEET TITLE
HVAC PLANS AND SECTIONS

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ELECTRICAL SYMBOLS AND ANNOTATIONS:

(ALL SYMBOLS, DESIGNATIONS, ANNOTATIONS & ABBREVIATIONS SHOWN MAY NOT APPEAR ON DRAWINGS)

FIRE ALARM

FIRE ALARM DEVICE NOTATIONS

NOTIFICATION DEVICE

INDICATES CANDELA INTENSITY

SHADED SYMBOL INDICATES EXISTING DEVICE

NOTIFICATION DEVICES

- HORN - WALL MOUNTED
- HORN WITH STROBE - WALL MOUNTED
- MINI HORN - WALL MOUNTED
- MINI HORN WITH STROBE - WALL MOUNTED
- SPEAKER - WALL MOUNTED
- SPEAKER WITH STROBE - WALL MOUNTED
- STROBE - WALL MOUNTED
- BELL - WALL MOUNTED
- BELL WITH STROBE - WALL MOUNTED
- BUZZER - WALL MOUNTED
- BUZZER WITH STROBE - WALL MOUNTED
- CEILING MOUNTED HORN/STROBE
- CEILING MOUNTED HORN
- CEILING MOUNTED STROBE
- CEILING MOUNTED SPEAKER/STROBE
- CEILING MOUNTED SPEAKER
- SUPERVISED HORN LOUDSPEAKER

DETECTORS AND SENSORS

- GAS DETECTOR - WALL MOUNTED
- SMOKE DETECTOR
- SMOKE DETECTOR FOR ELEVATOR RECALL
- CARBON MONOXIDE DETECTOR
- HEAT DETECTOR
- FIXED TEMP HEAT DETECTOR. (#) INDICATES TEMP RATING
- DUCT SMOKE DETECTOR
- FLAME DETECTOR
- LINEAR HEAT DETECTOR
- GAS DETECTOR
- COMBINATION SMOKE & CO2 DETECTOR
- HYDROGEN DETECTOR

ACTIVATION DEVICES

- PULL STATION

MONITORED DEVICES

- MASTER KEY BOX
- KEY REPOSITORY
- PRESSURE SWITCH
- SMOKE DAMPER
- SPRINKLER FLOW SWITCH
- SPRINKLER TAMPER SWITCH
- CONTROL MODULE
- DOOR HOLDER
- DOOR CLOSER
- FAN SHUTDOWN RELAY
- MONITOR MODULE
- REMOTE STATION FOR DUCT MOUNTED SMOKE DETECTOR

PANELS AND INTERFACES

- FACP — FIRE ALARM CONTROL PANEL
- FAAP — FIRE ALARM ANNUNCIATOR PANEL
- FAC — FIRE ALARM NOTIFICATION APPLIANCE CIRCUIT
- FSS — FIRE SUPPRESSION SYSTEM
- RTST — REMOTE TEST SWITCH WITH INDICATOR
- VESDA — VESDA PANEL
- FIREFIGHTER PHONE HANDSET
- FIREFIGHTER TELEPHONE JACK

SYSTEMS

SYSTEMS NOTATIONS

- DATA (4) — INDICATES NUMBER OF DATA PORTS AND CABLES (IF NONE SHOWN, BOX, CONDUIT, PULL STRING TO BE ROUGHED-IN)
- VOICE (2) — INDICATES NUMBER OF VOICE PORTS AND CABLES (IF NONE SHOWN, BOX, CONDUIT, PULL STRING TO BE ROUGHED-IN)
- DATA AND VOICE (3,1) — INDICATES NUMBER OF VOICE PORTS AND CABLES; INDICATES NUMBER OF DATA PORTS AND CABLES
- RAISED DATA - MOUNTED AT A SPECIFIC ELEVATION AFF TO CENTER OF DEVICE. ELEVATION NOTED ON PLAN ADJACENT TO SYMBOL.

DATA AND VOICE DEVICES

ALL DEVICES WALL MOUNTED AT 18" AFF TO CENTER OF DEVICE UNLESS NOTED OTHERWISE

- WAP — WIRELESS ACCESS POINT - WALL MOUNTED
- WAP — WIRELESS ACCESS POINT - CEILING MOUNTED
- TV OUTLET BOX - WALL MOUNTED
- DICTATION COMMUNICATION OUTLET

DATA EQUIPMENT

- DATA RACK - FLOOR MOUNTED/FREE STANDING
- CLOCK - WALL MOUNTED
- CLOCK - CEILING MOUNTED

SECURITY AND ACCESS CONTROLS

- CAMERA - FIXED POSITION - WALL MOUNTED
- CAMERA - FIXED POSITION - CEILING MOUNTED
- CAMERA - PAN/TILT/ZOOM - CEILING MOUNTED
- SECURITY VIDEO DISPLAY/MONITOR
- SECURITY VIDEO DISPLAY/MONITOR
- CARD READER
- KEYPAD
- VIDEO PHONE DEVICE
- REMOTE DOOR RELEASE BUTTON
- ELECTRIC DOOR STRIKE
- DOOR CONTACT
- ELECTRIC LOCK
- MAGNETIC LOCK
- MOTION DETECTOR - WALL MOUNTED
- MOTION DETECTOR - CEILING MOUNTED
- REQUEST TO EXIT - WALL MOUNTED
- REQUEST TO EXIT - PUSHBUTTON
- REQUEST TO EXIT - CEILING MOUNTED
- ACP — ACCESS CONTROL PANEL

PAGING AND PUBLIC ADDRESS

- VOLUME CONTROL
- MICROPHONE - WALL MOUNTED
- MICROPHONE - CEILING MOUNTED
- PAGING SPEAKER - WALL MOUNTED
- SPEAKER - CEILING MOUNTED
- SPEAKER - WALL MOUNTED
- DIGITAL COMMUNICATION STATION
- PA — PAGING AMPLIFIER

RADIO AND CELLULAR PHONE

- ANTENNA - WALL MOUNTED
- ANTENNA - CEILING MOUNTED
- MOBILE/CELLULAR NETWORK REPEATER
- RADIO REPEATER

NURSE CALL DEVICES

- NURSE CALL DEVICE
- NURSE STATION
- HELP CALL SWITCH - PULL SWITCH/STRING
- NURSE CALL LIGHT - WALL MOUNTED
- NURSE CALL LIGHT - CEILING MOUNTED

CABLE TRAY

- WIRE BASKET TRAY
- LADDER TRAY

LIGHTING FIXTURES

FIXTURE NOTATIONS

- LIGHT FIXTURE
- A, L-1A-13, c — SWITCH SYSTEM DESIGNATION. BLANK INDICATES PORTION SWITCHED FROM LOCAL SWITCH OR OCCUPANCY SENSOR; CIRCUIT DESIGNATION (SEE SCHEDULE); PANEL DESIGNATION (SEE SCHEDULE); FIXTURE DESIGNATION (SEE SCHEDULE)
- SHADING INDICATES FIXTURE IS WIRED TO EMERGENCY LIGHTING CIRCUIT
- HATCHING INDICATES FIXTURE IS WIRED TO CRITICAL LIGHTING CIRCUIT
- HORIZONTAL LINE INDICATES LENS ORIENTATION
- SOLID FILLED CIRCLE INDICATES PENDANT FIXTURE
- EXIT SIGN NOTATION - PROVIDE NUMBER OF FACES AND ARROWS AS INDICATED ON PLAN AND SCHEDULE; INDICATES DIRECTIONAL ARROWS; SHADING INDICATES FACE (ONE SIDE SHADED INDICATES SINGLE FACE SIGN, TWO SIDES SHADED INDICATES DOUBLE FACE SIGN); INDICATES EGRESS LIGHT HEADS

FIXTURE TYPES

- 2x2 LIGHT FIXTURE - RECESSED
- 2x4 LIGHT FIXTURE - RECESSED
- LINEAR LIGHT FIXTURE - RECESSED
- 2x2 LIGHT FIXTURE - SURFACE
- 2x4 LIGHT FIXTURE - SURFACE
- LINEAR LIGHT FIXTURE - SURFACE
- LINEAR LIGHT FIXTURE - PENDANT
- LINEAR LIGHT FIXTURE - WALL MOUNTED
- SCONCE FIXTURE - WALL MOUNTED
- CYLINDRICAL PENDANT FIXTURE
- DOWNLIGHT FIXTURE - RECESSED
- DOWNLIGHT FIXTURE - SURFACE
- DIRECTIONAL DOWNLIGHT FIXTURE - RECESSED DIRECTIONAL ARROW SHOWN ON PLAN
- FLOODLIGHT FIXTURE
- REMOTE HEAD FIXTURE
- EMERGENCY LIGHT FIXTURE - WALL MOUNTED
- EMERGENCY LIGHT FIXTURE - CEILING MOUNTED POLE MOUNTED LIGHT FIXTURE - NUMBER OF HEADS AND ORIENTATION SHOWN ON PLAN
- BOLLARD LIGHT FIXTURE
- EXIT SIGN - CEILING MOUNTED
- EXIT SIGN - WALL MOUNTED
- EXIT SIGN - PENDANT

LIGHTING CONTROLS

CONTROLS NOTATIONS

- SWITCH — SWITCH SYSTEM DESIGNATION; SWITCH TYPE: 3 - 3-WAY, 4 - 4-WAY, P - WITH PILOT LIGHT, K - KEYED, T - TIMER, - SINGLE POLE (NO DESIGNATION)
- GENERIC LIGHTING CONTROL DEVICE
- WC1 — DESIGNATION - REFER TO SCHEDULE
- PA — PAGING AMPLIFIER

CONTROL TYPES

- SWITCH
- DIMMER SWITCH
- LIGHTING CONTROL DEVICE
- #S — OCCUPANCY SENSOR - WALL MOUNTED
- DAYLIGHT SENSOR - WALL MOUNTED
- PHOTO CELL SENSOR - WALL MOUNTED
- DIGITAL TOUCHPAD LIGHTING CONTROL
- TIME CLOCK
- OS — OCCUPANCY SENSOR - CEILING MOUNTED
- DS — DAYLIGHT SENSOR - CEILING MOUNTED
- PC — PHOTO CELL SENSOR - CEILING MOUNTED
- LCP — LIGHTING CONTROL PANEL
- LIGHTING CONTROL RELAY

POWER

RECEPTACLE NOTATIONS

- RECEPTACLE; H-2A-3 — CIRCUIT DESIGNATION; PANEL DESIGNATION (IF NONE SHOWN, REFER TO PLAN FOR PANEL BOUNDARIES); RECEPTACLE TYPE OR EQUIPMENT SERVED
- A - ARC FAULT INTERRUPTING, TAMPER RESISTANT
- AG - ARC FAULT INTERRUPTING, GFCI, TAMPER RESISTANT
- AP - TAMPER RESISTANT, ARC FAULT PROTECTION @ BREAKER
- CP - COPIER
- DISP - SINK/ DISPOSAL UNIT
- EWC - ELECTRIC WATER COOLER, GFCI @ AT CIRCUIT BREAKER
- GFB - PROTECTED BY GROUND FAULT BREAKER
- GFI - GROUND FAULT INTERRUPTOR
- GT - GFCI TAMPER RESISTANT
- GW - GFCI, WEATHER RESISTANT, IN-USE COVER
- GWT - GFCI, WEATHER RESISTANT, TAMPER RESISTANT, IN-USE COVER
- MCRV - MICROWAVE
- RFG - REFRIGERATOR, GFCI PROTECTION @ CIRCUIT BREAKER
- RTU - FACTORY MOUNTED IN ROOFTOP AC UNIT
- SS - SURGE SUPPRESSION
- T - TAMPER RESISTANT
- UC - UNDERCABINET
- USB - RECEPTACLE WITH USB CHARGING PORTS
- UT - TAMPER RESISTANT, USB CHARGING PORTS
- WR - WEATHER RESISTANT
- WRC - WEATHER RESISTANT, IN-USE COVER
- WT - WEATHER RESISTANT, TAMPER RESISTANT, IN-USE COVER
- HORIZONTAL LINE INDICATES COUNTERTOP RECEPTACLE - WALL MOUNTED AT 6" ABOVE COUNTERTOP OR COUNTER BACKSPLASH TO CENTER OF DEVICE. SEE PLANS FOR OUTLET TYPE
- 96" — DIAGONAL LINE INDICATES RAISED RECEPTACLE - WALL MOUNTED AT ELEVATION NOTED ON PLAN AFF TO CENTER OF DEVICE. SEE PLANS FOR OUTLET TYPE

POWER CONNECTION TYPES

ALL RECEPTACLES WALL MOUNTED AT 18" AFF TO CENTER OF DEVICE UNLESS NOTED OTHERWISE

- DUPLEX RECEPTACLE
- EMERGENCY CIRCUIT DUPLEX RECEPTACLE
- ISOLATED GROUND DUPLEX RECEPTACLE
- SPLIT WIRED DUPLEX RECEPTACLE
- DOUBLE DUPLEX RECEPTACLE
- EMERGENCY CIRCUIT DOUBLE DUPLEX RECEPTACLE
- ISOLATED GROUND DOUBLE DUPLEX RECEPTACLE
- SPLIT WIRED DOUBLE DUPLEX RECEPTACLE
- SIMPLEX RECEPTACLE
- DUPLEX RECEPTACLE - CEILING MOUNTED
- DOUBLE DUPLEX RECEPTACLE - CEILING MOUNTED
- SIMPLEX RECEPTACLE - CEILING MOUNTED
- CORD REEL/DROP
- PROJECTOR OUTLET - INCLUDES DATA AND POWER WIRE(S)/CABLE(S)
- SURFACE RACEWAY
- FLOOR BOX; F-1 — DESIGNATION - SEE SCHEDULE
- POKE THRU; PT-1 — DESIGNATION - SEE SCHEDULE
- CEILING FAN
- POWER POLE; PP-1 — DESIGNATION - SEE SCHEDULE
- JUNCTION BOX - CEILING MOUNTED
- JUNCTION BOX - WALL MOUNTED; 44" — MOUNTING HEIGHT AFF TO CENTER OF DEVICE
- EMERGENCY STOP PUSHBUTTON
- PUSHBUTTON SWITCH - START/STOP
- PUSHBUTTON DOOR OPENER

EQUIPMENT

POWER DISTRIBUTION

- PANEL - SURFACE MOUNTED
- PANEL - RECESSED
- SWITCHBOARD
- SWITCHGEAR
- TRANSFORMER
- METER
- UTILITY CT METER CABINET - WALL MOUNTED
- CT — UTILITY CT METER CABINET - PAD MOUNTED
- UTILITY TRANSFORMER - PAD MOUNTED
- UTILITY SERVICE POWER POLE

OTHER EQUIPMENT

- GENERATOR
- GSCP — GENERATOR SET CONTROL PANEL
- TV; ATS1 — TRANSFER SWITCH; DESIGNATION - REFER TO SCHEDULE
- UPS1 — UNINTERRUPTIBLE POWER SUPPLY; DESIGNATION - REFER TO SCHEDULE
- BUS DUCT - LENGTH NOTED ON PLAN
- WIREWAY / GUTTER - REFER TO PLAN
- VFD — VARIABLE FREQUENCY DRIVE
- EQUIPMENT/MOTOR STARTER
- NON-FUSED DISCONNECT SWITCH
- FUSED DISCONNECT SWITCH
- EQUIPMENT CONNECTION; FR-32 — DESIGNATION - REFER TO SCHEDULE
- M — MOTOR CONNECTION; RF-2 — DESIGNATION - REFER TO SCHEDULE
- GROUND BAR - STAND-OFF INSULATORS

GENERIC SYMBOLS AND ANNOTATIONS

- 1 — KEYED NOTE - DEMOLITION
- 1 — KEYED NOTE - NEW WORK
- BREAK LINE

ABBREVIATION LIST

(E)	DENOTES EXISTING EQUIPMENT TO REMAIN	GND	GROUND	PRI	PRIMARY
1P	1 POLE (2P, 3P, 4P, ETC.)	GYP BD	GYPSUM BOARD	PT	POTENTIAL TRANSFORMER
A	AMPERE	HOA	HAND-OFF-AUTOMATIC	PVC	POLYVINYL CHLORIDE
AF	AMP FRAME	HP	HORSEPOWER		(CONDUIT)
AFF	ABOVE FINISHED FLOOR	HT	HEIGHT	PWR	POWER
AFG	ABOVE FINISHED GRADE	HTG	HEATING	QTY	QUANTITY
AFI	ARC FAULT CIRCUIT INTERRUPTER	HV	HIGH VOLTAGE	REQD	REQUIRED
	ALUMINUM	HVAC	HEATING, VENTILATING AND AIR CONDITIONING	SEC	SECONDARY
AL	ALUMINUM	IC	INTERRUPTING CAPACITY	SHT	SHEET
ALT	ALTERNATE	IG	ISOLATED GROUND	SIM	SIMILAR
AMP	AMPERE	J-BOX	JUNCTION BOX	SPEC	SPECIFICATION
APPROX	APPROXIMATELY	KV	KILOVOLT	SP	SPARE
ARCH	ARCHITECT; ARCHITECTURAL	KVA	KILOVOLT-AMPERE	SS	STAINLESS STEEL
ATS	AUTOMATIC TRANSFER SWITCH	KVAR	KILOVOLT-AMPERE REACTIVE	STD	STANDARD
AUTO	AUTOMATIC	KW	KILOWATT	SURF	SURFACE MOUNTED
AUX	AUXILIARY	KWH	KILOWATT HOUR	SWBD	SWITCHBOARD
AV	AUDIO VISUAL	LCP	LIGHTING CONTROL PANEL	SYM	SYMMETRICAL
AWG	AMERICAN WIRE GAUGE	LTG	LIGHTING	SYS	SYSTEM
BLDG	BUILDING	LV	LOW VOLTAGE	TELE	TELEPHONE
BAS	BUILDING AUTOMATION SYSTEM	MAX	MAXIMUM	TEMP	TEMPERATURE
C	CONDUIT	MC	MECHANICAL CONTRACTOR	TL	TWIST LOCK
CAB	CABINET	MCB	MAIN CIRCUIT BREAKER	TSTAT	THERMOSTAT
CATV	CABLE TELEVISION	MCC	MOTOR CONTROL CENTER	TV	TELEVISION
CB	CIRCUIT BREAKER	MDP	MAIN DISTRIBUTION PANEL	TYP	TYPICAL
CCTV	CLOSED CIRCUIT TELEVISION	MFR	MANUFACTURER	UC	UNDER COUNTER
CKT	CIRCUIT	MFS	MAIN FUSED DISCONNECT SWITCH	UE	UNDERGROUND ELECTRICAL
CLG	CEILING	MIN	MINIMUM	UG	UNDERGROUND
COMB	COMBINATION	MISC	MISCELLANEOUS	V	VOLT
CONT	CONTINUATION/CONTINUOUS	MLO	MAIN LUGS ONLY	VA	VOLT-AMPERES
CP	CIRCULATING PUMP	MSBD	MAIN SWITCHBOARD	VERT	VERTICAL
CRI	COLOR RENDERING INDEX	MTS	MANUAL TRANSFER SWITCH	VFD	VARIABLE FREQUENCY DRIVE
CT	CURRENT TRANSFORMER	MV	MEDIUM VOLTAGE	W	WATT
CU	COPPER	NC	NORMALLY CLOSED	W/	WITH
DIA	DIAMETER	NEC	NATIONAL ELECTRICAL CODE	WG	WIRE GUARD
DISC	DISCONNECT	NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION	WO	WITHOUT
DN	DOWN	NIC	NOT IN CONTRACT	WP	WEATHERPROOF
DT	DOUBLE THROW	NL	NIGHT LIGHT	WR	WEATHER RESISTANT
EC	ELECTRICAL CONTRACTOR	NO	NORMALLY OPEN	XFMR	TRANSFORMER
ELEC	ELECTRIC; ELECTRICAL	NTS	NOT TO SCALE	XFR	TRANSFER
ELEV	ELEVATOR	OH	OVERHEAD		
EM	EMERGENCY	OWN	OWNER		
EMS	ENERGY MANAGEMENT SYSTEM	PF	POWER FACTOR		
EQUIP	EQUIPMENT	PH	PHASE		
EWC	ELECTRIC WATER COOLER	PNL	PANEL		
EXIST	EXISTING	PP	POWER POLE		
FACP	FIRE ALARM CONTROL PANEL	PR	PAIR		
GA	GAUGE				
GC	GENERAL CONTRACTOR				
GEN	GENERATOR				
GFI	GROUND FAULT CIRCUIT INTERRUPTER				

EQUIPMENT DESIGNATION IDENTIFICATION

DISTRIBUTION IDENTIFICATION — E H - 1 A

SYSTEM DESIGNATION
- C = CRITICAL POWER
- L = HIPS SAFETY POWER (NEC 700)
- E = EMERGENCY POWER (NEC 701)
- O = OPTIONAL POWER (NEC 702)
- M = MAIN DISTRIBUTION PANEL / SWITCHBOARD = NORMAL POWER (NO DESIGNATION)

VOLTAGE DESIGNATION
- L = 208Y/120V - 3Ø 4W
- H = 480Y/277V - 3Ø 4W

FLOOR / LEVEL
- B = BASEMENT / BELOW GRADE
- 1 = FIRST FLOOR
- 2 = SECOND FLOOR
- 3 = THIRD FLOOR
- ETC.

PANEL DESIGNATION
- A = PANELBOARD #1
- B = PANELBOARD #2
- C = PANELBOARD #3
- ETC.

TRANSFORMER IDENTIFICATION — T L - 2 C

SYSTEM DESIGNATION
- C = CRITICAL POWER
- L = HIPS SAFETY POWER (NEC 700)
- E = EMERGENCY POWER (NEC 701)
- O = OPTIONAL POWER (NEC 702)
- = NORMAL POWER (NO DESIGNATION)

FLOOR / LEVEL
- B = BASEMENT / BELOW GRADE
- 1 = FIRST FLOOR
- 2 = SECOND FLOOR
- 3 = THIRD FLOOR
- ETC.

TRANSFORMER DESIGNATION
- A = TRANSFORMER #1
- B = TRANSFORMER #2
- C = TRANSFORMER #3
- ETC.

GENERAL NOTES

1. THESE PLANS ARE SCHEMATIC AND DO NOT SHOW THE EXACT LOCATIONS OF EQUIPMENT OR FIXTURES. CONDUIT ROUTING, ETC. THE CONTRACTOR MUST REFER TO ARCHITECTURAL AND MECHANICAL PLANS, DETAILS, AND SPECS TO OBTAIN COMPLETE INFORMATION.
2. PROVIDE LABOR, MATERIALS, EQUIPMENT, AND INCIDENTALS REQUIRED FOR COMPLETE AND FUNCTIONING SYSTEMS, FULLY TESTED AND READY FOR USE.
3. ALL WORK SHALL BE IN ACCORDANCE WITH ALL APPLICABLE CITY, COUNTY, STATE, AND WITH REGULATIONS AND REQUIREMENTS OF ALL LOCAL AND NATIONAL CODES AS THEY MAY APPLY TO THE PROJECT AND PUBLIC SAFETY.
4. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT NEC CLEARANCES AROUND AND ABOVE ELECTRICAL EQUIPMENT ARE MAINTAINED. REFER TO NEC 110-26 FOR SPECIFIC INFORMATION.
5. VERIFY ANY AND ALL CONFIGURATIONS, DIMENSIONS AND ELEVATIONS BY FIELD MEASUREMENTS AND COORDINATE WITH ARCHITECTURAL DRAWINGS AND STRUCTURAL CONDITIONS.
6. ALL CONDUCTORS OPERATING AT 50 VOLTS OR GREATER SHALL BE IN ELECTRICAL METAL TUBING (EMT) AT A MINIMUM. ALL RACEWAY WITHIN THE STRUCTURE ABOVE THE FLOOR SLAB SHALL BE METAL. RACEWAY BELOW THE FLOOR SLAB AND UNDERGROUND RACEWAY OUTSIDE THE STRUCTURE SHALL BE PVC AT A MINIMUM. CONDUIT LEAVING THE SLAB SHALL TRANSITION TO RIGID METAL CONDUIT (RMC) PRIOR TO EXITING THE SLAB.
7. THE CONTRACTOR MAY INSTALL UP TO THREE (3) CURRENT CARRYING CONDUCTORS IN A CONDUIT. LOADINGS ARE BASED ON THWN INSULATION, 40°C AMBIENT WITH DERATINGS FOR TEMPERATURE AND UP TO THREE (3) CURRENT CARRYING CONDUCTORS IN A CONDUIT. CONTACT THE ENGINEER FOR WIRING IN OTHER CONDITIONS.
8. CONDUCTORS WITHIN UNINSULATED CEILING SPACES AND OUTDOORS MUST BE DERATED BASED UPON THE AMBIENT TEMPERATURE. THE CONTRACTOR IS RESPONSIBLE FOR REVISING CONDUCTOR SIZE IF ACTUAL CONDUIT ROUTING DIFFERS FROM THE CONSTRUCTION DOCUMENTS.
9. EXACT TYPE OF MECHANICAL DEVICES AND EQUIPMENT LOCATIONS SHALL BE COORDINATED WITH MECHANICAL CONTRACTOR(S).
10. ALL MATERIALS, EQUIPMENT, AND APPARATUS INSTALLED ON THE PROJECT SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S PRINTED INSTRUCTIONS AND THE MANUFACTURER. IN THE CASE OF EXCEPTIONS, THE MANUFACTURER'S AUTHORIZED REPRESENTATIVE SHALL CERTIFY IN WRITING TO THE OWNER'S REPRESENTATIVE, THAT THE INSTALLATION HAS BEEN MADE IN ACCORDANCE WITH SUCH PRINTED INSTRUCTIONS AND REQUIREMENTS.
11. MODEL NUMBERS INDICATED ON THE DRAWINGS ARE ONLY FOR REFERENCE AND CONVENIENCE. CONFIRM THE ACCURACY OF ALL MODEL NUMBERS SO AS TO MEET THE SPECIFIC PROJECT REQUIREMENTS AND MINIMUM INDICATED PERFORMANCE DATA. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO INSURE THAT EQUIPMENT FITS WITHIN THE SPACE ALLOTTED.
12. COORDINATE AND VERIFY LOCATIONS, ROUGH-IN REQUIREMENTS AND INSTALLATION REQUIREMENTS OF EQUIPMENT FURNISHED BY THE OWNER.

NOTE:
KEYED NOTES ARE USED TWO WAYS. PER PROJECT AND PER PLAN.

LEGENDS INDICATED AS "KEYED NOTES PER PROJECT" REFERENCE A COMMON, OVERALL PROJECT KEYED NOTE LIST. THERFORE, KEYED NOTES MAY NOT APPEAR IN SEQUENTIAL ORDER. DISCIPLINE SPECIFIC DESIGNATIONS HAVE BEEN ADDED FOR CLARITY.

KEYED NOTES LEGENDS INDICATED AS "KEYED NOTES PER SHEET" ARE SPECIFIC PER SHEET AND ARE NUMBERED ACCORDINGLY.

ELECTRICAL SHEET INDEX

PRELIMINARY NOT FOR CONSTRUCTION

FEH DESIGN
OCONOMOWOC, WI (262) 968-2055
DUBUQUE, IA (563) 583-4900
DES MOINES, IA (515) 288-2000
SIOUX CITY, IA (712) 252-3889

IN ASSOCIATION WITH
JDR ENGINEERING, INC.
5525 NOBEL DRIVE
SUITE 100
MADISON, WI 53711
PH: 608.277.1728 FAX: 608.271.7046
JDR PROJECT NO.: 23-0081

SHEET TITLE: SYMBOLS & ABBREVIATIONS - ELECTRICAL

PROJECT TITLE: CITY OF CASCADE
CASCADE PUBLIC LIBRARY
SECOND AVENUE SW.
CASCADE, IOWA

DATE ISSUED 8 MAY 2023

REV. NO. DATE

PROJECT NUMBER 2021310

SHEET E000

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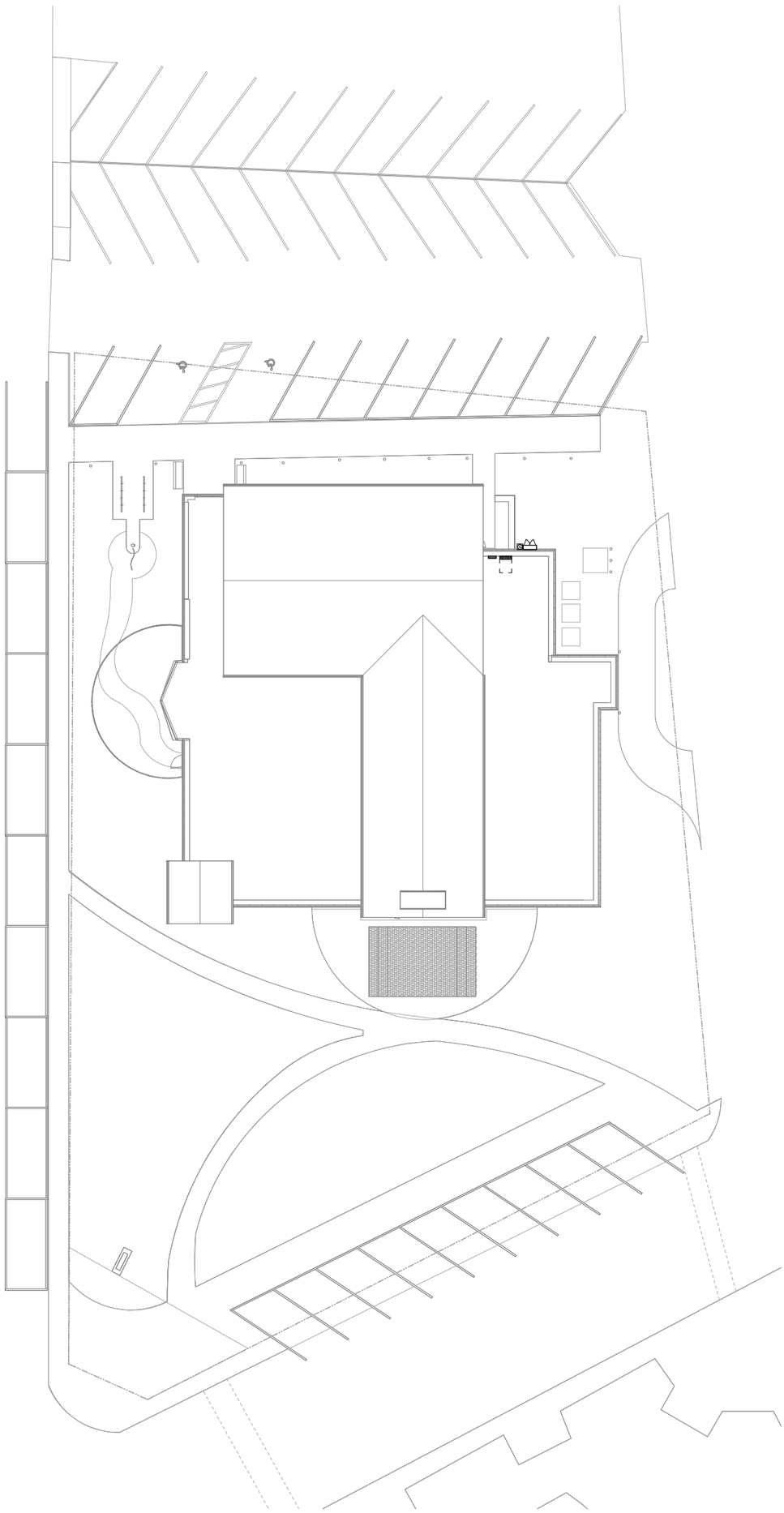
1 E001

SITE PLAN - ELECTRICAL

SCALE: 1" = 10'-0"

KEYED NOTES

KEYED NOTES ARE PROJECT SPECIFIC



PRELIMINARY
NOT FOR CONSTRUCTION

SHEET: E001

PROJECT NUMBER: 2021310

REV. NO. | DATE

DATE ISSUED: 8 MAY 2023

PROJECT TITLE: CITY OF CASCADE

CASCADE PUBLIC LIBRARY

SECOND AVENUE SW.
CASCADE, IOWA

SHEET TITLE: SITE PLAN - ELECTRICAL

IN ASSOCIATION WITH

JDR ENGINEERING, INC.
5525 NOBEL DRIVE
SUITE 110
MADISON, WI 53711
PH: 608.277.1728 FAX: 608.271.7046
JDR PROJECT NO: 23.0081

FEH DESIGN

SIOUX CITY, IA (712) 252-3889
DES MOINES, IA (515) 288-2000
DUBUQUE, IA (563) 583-4900
OCONOMOWOC, WI (262) 968-2055

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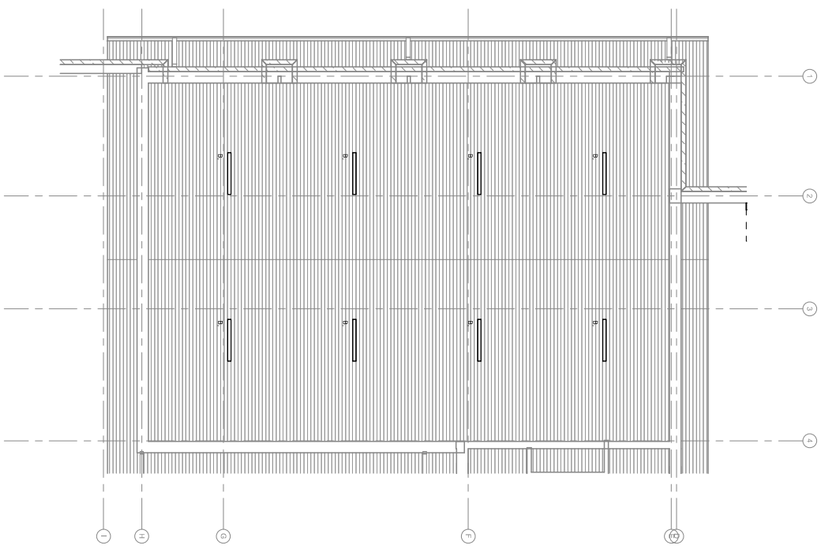
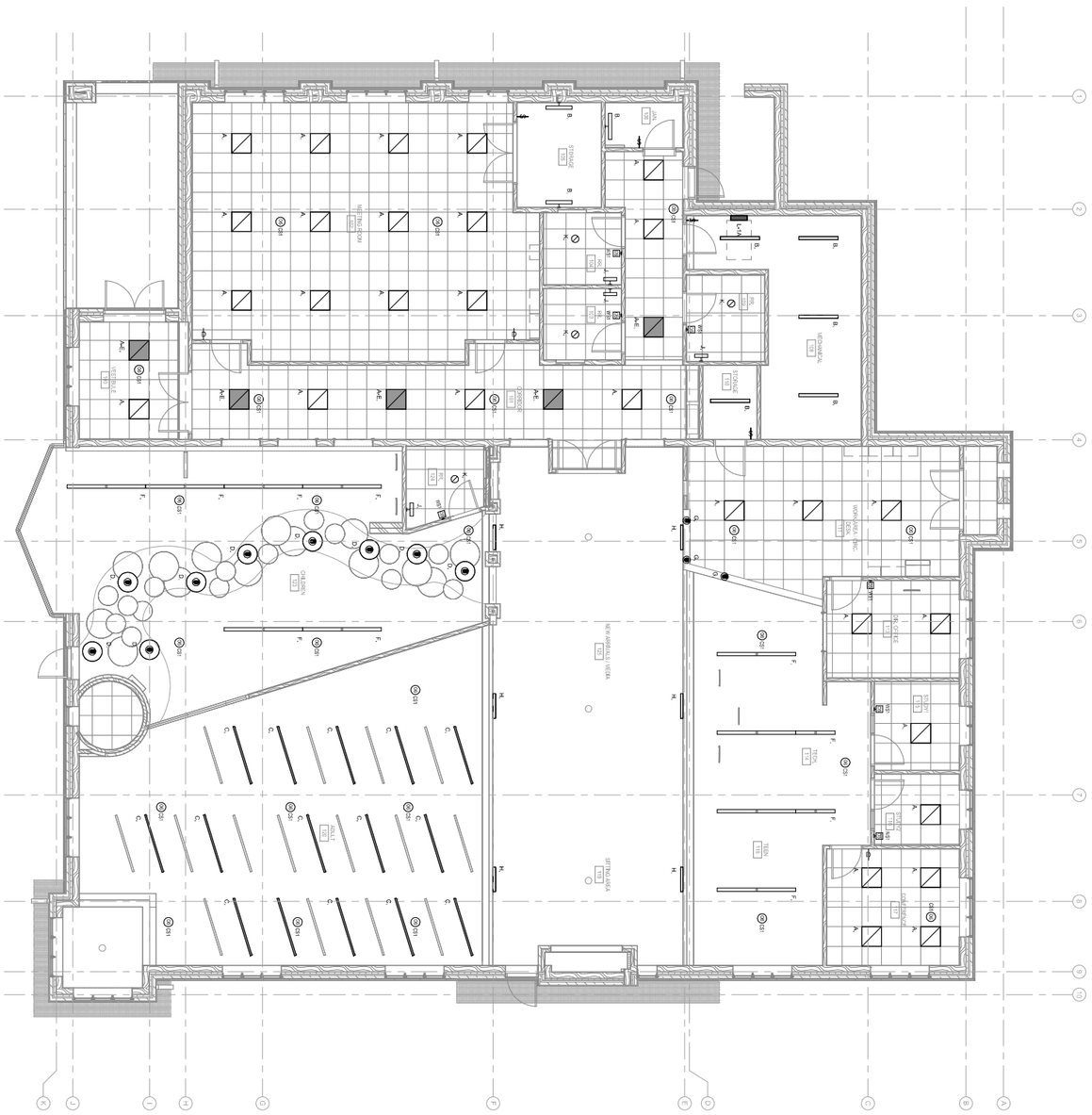
2 E201 ATTIC PLAN - LIGHTING
SCALE: 3/16" = 1'-0"



1 E201 FIRST FLOOR PLAN - LIGHTING
SCALE: 3/16" = 1'-0"



KEYED NOTES
SEE E100 FOR KEYED NOTES

PRELIMINARY
NOT FOR CONSTRUCTION

PROJECT TITLE CITY OF CASCADE

CASCADE PUBLIC LIBRARY

SECOND AVENUE SW.
CASCADE, IOWA

SHEET TITLE
FIRST FLOOR PLAN - LIGHTING

SHEET: E201

PROJECT NUMBER: 2021310

DATE ISSUED: 8 MAY 2023

REV. NO. DATE

IN ASSOCIATION WITH
JDR ENGINEERING, INC.
5525 NOBEL DRIVE
SUITE 80
MADISON, WI 53711
PH: 608.277.1728 FAX: 608.271.7046
JDR PROJECT NO: 23.0081

FEH DESIGN
SIOUX CITY, IA (712) 252-3889
DES MOINES, IA (515) 288-2000
DUBUQUE, IA (563) 583-4900
OCONOMOWOC, WI (262) 968-2055

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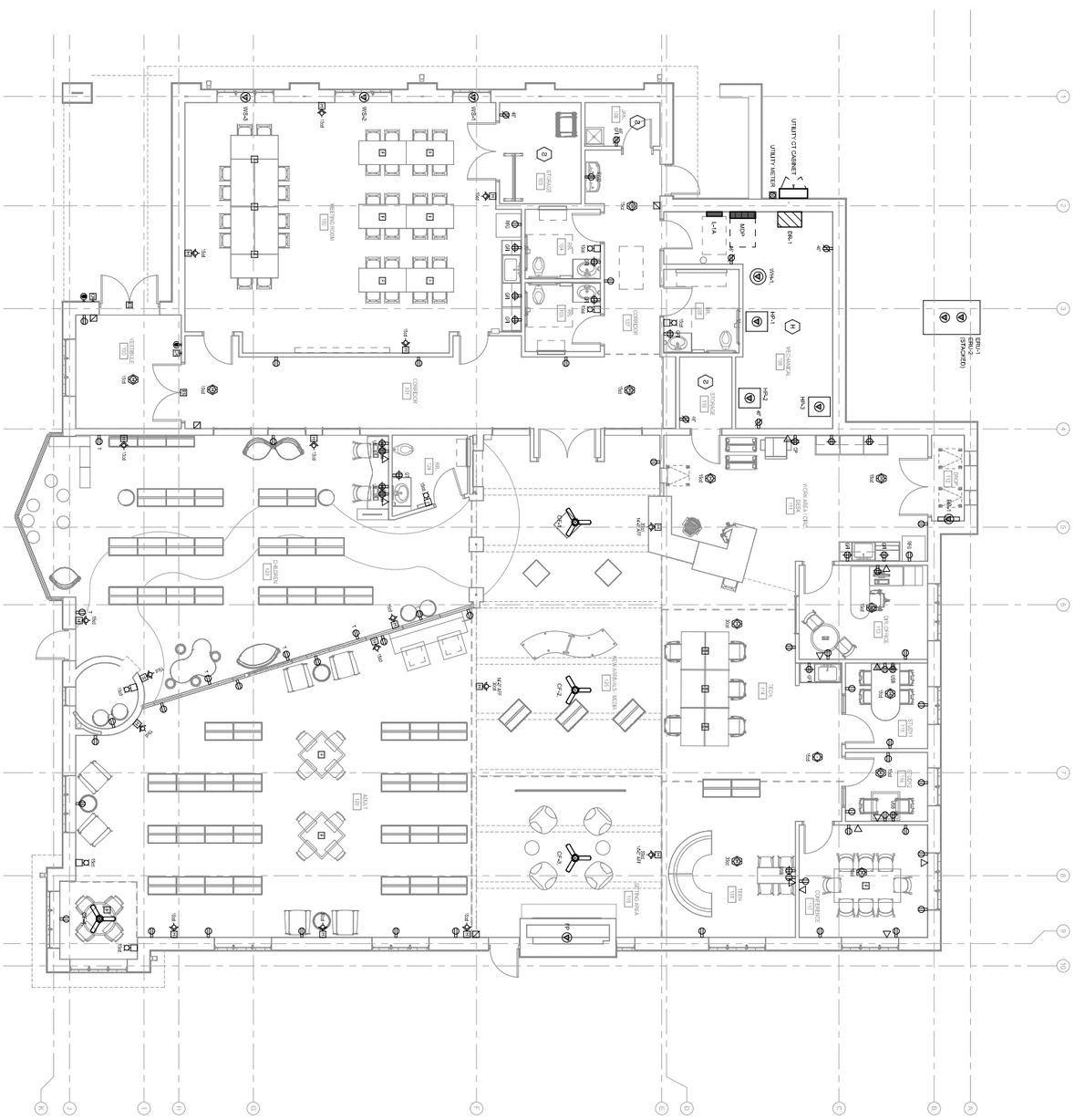
1 E202 FIRST FLOOR PLAN - POWER AND SPECIAL SYSTEMS
SCALE: 3/32" = 1'-0"



KEYED NOTES

PRELIMINARY
NOT FOR CONSTRUCTION

SHEET: E202

PROJECT NUMBER: 2021310

DATE ISSUED: 8 MAY 2023

REV. NO. DATE

PROJECT TITLE: CITY OF CASCADE
CASCADE PUBLIC LIBRARY
SECOND AVENUE SW.
CASCADE, IOWA

SHEET TITLE: FIRST FLOOR PLAN - POWER AND SPECIAL SYSTEMS

IN ASSOCIATION WITH
JDR ENGINEERING, INC.
5525 NOBEL DRIVE
SUITE 110
MADISON, WI 53711
PH: 608.277.1728 FAX: 608.271.7046
JDR PROJECT NO: 23.0081

FEH DESIGN
SIOUX CITY, IA (712) 252-3889
DES MOINES, IA (515) 288-2000
DUBUQUE, IA (563) 583-4900
OCONOMOWOC, WI (262) 968-2055

LUMINAIRE SCHEDULE

TAG	DESCRIPTION	NORMAL OPERATION LUMENS	NORMAL OPERATION WATTS	EMERGENCY OPERATION LUMENS	EMERGENCY OPERATION WATTS	LAMP TYPE	VOLTAGE	COLOR TEMP.	C.R.I. (Min)	MANUFACTURER	MODEL #	FOOT NOTES
A	2' x 2' RECESSED FIXTURE	0	0	0	0	LED			0			
A-E	2' x 2' FIXTURE FIXTURE - EM BATTERY PACK	0	0	0	0	LED			0			
B	STRIP LIGHT - WALL/CEILING	0	0	0	0	LED			0			
C	LINEAR FIXTURE ON BOTTOM OF BAFFLE	0	0	0	0	LED			0			
D	ROUND SUSPENDED FIXTURE	0	0	0	0	LED			0			
F	LINEAR DIRECT/INDIRECT PENDANT RUN	0	0	0	0	LED			0			
G	PENDANT FIXTURE AT CIRC. DESK	0	0	0	0	LED			0			
H	WALL MOUNTED DIRECT/INDIRECT FIXTURE - HIGH OUTPUT	0	0	0	0	LED			0			
J	STRIP LIGHT - WALL/CEILING	0	0	0	0	LED			0			
K	DOWNLIGHT FIXTURE	0	0	0	0	LED			0			

FOOT NOTES:
(1)

EXTERIOR LUMINAIRE SCHEDULE

TAG	DESCRIPTION	FIXTURE: LUMENS	WATTS	LAMP TYPE	DISTRIBUTION	COLOR TEMP.	MANUFACTURER	MODEL #	POLE ASSEMBLY: FIXTURES PER POLE	EFFECTIVE PROJECTED AREA: PER FIXTURE	TOTAL EPA	TOTAL WATTS	BASE ABOVE GRADE	POLE HEIGHT	HEIGHT ABOVE GRADE	MANUFACTURER	MODEL #
	LINEAR FIXTURE	0	0	LED													

LIGHTING CONTROLS SCHEDULE

TAG	DESCRIPTION	MOUNTING	DEVICE FUNCTION	MANUAL CONTROLS: TYPE	MANUAL CONTROLS: CONFIG.	SENSOR: TYPE	SENSOR: COVERAGE	CONNECTION INTERFACE	VOLTAGE	MANUFACTURER	MODEL SERIES	FOOT NOTES
	DIMMER SWITCH	WALL										
CS1	OCCUPANCY SENSOR	CEILING										
WS1	OCCUPANCY SENSOR	WALL										

FOOT NOTES:
(1)

ELECTRICAL CONNECTION SCHEDULE

TAG	DESCRIPTION	LOCATION: NO	LOCATION: NAME	LOAD: kVA	F.L.A.	M.C.A.	VOLT	PH	CIRCUITING INFORMATION: OCP (Amps)	WIRE SIZE & CONDUIT	PANEL	CIRCUIT #	STARTER: TYPE	STARTER: FURNISHED / INSTALLED	CONTROLLER: TYPE	CONTROLLER: FURNISHED / INSTALLED	DISCONNECT: TYPE	DISCONNECT: FURNISHED / INSTALLED	ACCESSORIES	NEMA TYPE/CONFIGURATION	POWER SOURCE TYPE: NORMAL	POWER SOURCE TYPE: EMERGENCY	POWER SOURCE TYPE: LIFE SAFETY	POWER SOURCE TYPE: LEGALLY REQUIRED	POWER SOURCE TYPE: OPTIONAL STANDBY	FOOT NOTES
BB-1	BASEBOARD HEATER	112	DROP	0	0	0	208	1	20												•				
ERU-1	ENERGY RECOVERY UNIT	-	SITE	1	8	10	120	1	15												•				
ERU-2	ENERGY RECOVERY UNIT	-	SITE	2	15	18	120	1	25												•				
FP	ELECTRIC FIREPLACE	119	SITTING AREA	0	0	0	208	1	20												•				
HP-1	WATER SOURCE HEAT PUMP	108	MECHANICAL	7	33	42	208	1	45												•				
HP-2	WATER SOURCE HEAT PUMP	108	MECHANICAL	7	33	42	208	1	45												•				
HP-3	WATER SOURCE HEAT PUMP	108	MECHANICAL	7	33	42	208	1	45												•				
WH-1	WATER HEATER	108	MECHANICAL	7	33	42	208	1	45												•				
WS-1	ELEC. WINDOW SHADE	102	MEETING ROOM	1	5	6	120	1	20												•				
WS-2	ELEC. WINDOW SHADE	102	MEETING ROOM	1	5	6	120	1	20												•				
WS-3	ELEC. WINDOW SHADE	102	MEETING ROOM	1	5	6	120	1	20												•				

STARTER TYPES:
2-SPD TWO SPEED
CS COMBINATION STARTER
ECM ECM CONTROLLER
FVNR FULL VOLTAGE NON-REVERSING
FVR FULL VOLTAGE REVERSING
MAN MANUAL SWITCH
RVS REDUCED VOLTAGE
SS SOFT STARTER
VFD VARIABLE FREQUENCY DRIVE

CONTROL DEVICES:
0/0 ON-OFF SELECTOR SWITCH
BAS BUILDING AUTOMATION SYSTEM
CT CONTACTOR / RELAY
ECP EQUIPMENT CONTROL PANEL
HOA HAND-OFF-AUTO SWITCH
S/S STOP-START PUSHBUTTONS
TC TEMPERATURE CONTROLS
TS THERMOSTAT / TEMPERATURE SENSOR

DISCONNECT TYPES:
CB CIRCUIT BREAKER
CF COMBINATION FUSED
CN COMBINATION NON-FUSED
FS FUSED SWITCH
IU INTEGRAL WITH UNIT
MCP MOTOR CIRCUIT PROTECTOR
NFS NON-FUSED SWITCH
RP RECEPTACLE / PLUG CONNECTION

ACCESSORIES:
AC AUXILLARY CONTACTS
GP GREEN (POWER) PILOT LIGHT
RAG RED, AMBER & GREEN PILOT LIGHTS
RG RED & GREEN PILOT LIGHTS

ABBREVIATIONS:
EC ELECTRICAL CONTRACTOR
GC GENERAL CONTRACTOR
MC MECHANICAL CONTRACTOR
MF MANUFACTURER
TC TEMPERATURE CONTROL
OT OTHER CONTRACTOR
OWN OWNER

GENERAL NOTES:
- ALL CONDUCTORS ARE COPPER, ALUMINUM CONDUCTORS WILL HAVE A NOTATION OF (AL) NEXT TO WIRE SIZE.

FOOT NOTES:
(1)

MOTOR CONNECTION SCHEDULE

TAG	DESCRIPTION	LOCATION: NO	LOCATION: NAME	LOAD: HP	kVA	F.L.A.	M.C.A.	VOLT	PH	CIRCUITING INFORMATION: OCP (Amps)	WIRE SIZE & CONDUIT	PANEL	CIRCUIT #	STARTER: TYPE	STARTER: FURNISHED / INSTALLED	CONTROLLER: TYPE	CONTROLLER: FURNISHED / INSTALLED	DISCONNECT: TYPE	DISCONNECT: FURNISHED / INSTALLED	ACCESSORIES	NEMA TYPE/CONFIGURATION	POWER SOURCE TYPE: NORMAL	POWER SOURCE TYPE: LIFE SAFETY	POWER SOURCE TYPE: LEGALLY REQUIRED	POWER SOURCE TYPE: OPTIONAL STANDBY	FOOT NOTES

STARTER TYPES:
2-SPD TWO SPEED
CS COMBINATION STARTER
ECM ECM CONTROLLER
FVNR FULL VOLTAGE NON-REVERSING
FVR FULL VOLTAGE REVERSING
MAN MANUAL SWITCH
RVS REDUCED VOLTAGE
SS SOFT STARTER
VFD VARIABLE FREQUENCY DRIVE

CONTROL DEVICES:
0/0 ON-OFF SELECTOR SWITCH
BAS BUILDING AUTOMATION SYSTEM
CT CONTACTOR / RELAY
ECP EQUIPMENT CONTROL PANEL
HOA HAND-OFF-AUTO SWITCH
S/S STOP-START PUSHBUTTONS
TC TEMPERATURE CONTROLS
TS THERMOSTAT / TEMPERATURE SENSOR

DISCONNECT TYPES:
CB CIRCUIT BREAKER
CF COMBINATION FUSED
CN COMBINATION NON-FUSED
FS FUSED SWITCH
IU INTEGRAL WITH UNIT
MCP MOTOR CIRCUIT PROTECTOR
NFS NON-FUSED SWITCH
RP RECEPTACLE / PLUG CONNECTION

ACCESSORIES:
AC AUXILLARY CONTACTS
GP GREEN (POWER) PILOT LIGHT
RAG RED, AMBER & GREEN PILOT LIGHTS
RG RED & GREEN PILOT LIGHTS

ABBREVIATIONS:
EC ELECTRICAL CONTRACTOR
GC GENERAL CONTRACTOR
MC MECHANICAL CONTRACTOR
MF MANUFACTURER
TC TEMPERATURE CONTROL
OT OTHER CONTRACTOR
OWN OWNER

GENERAL NOTES:
- ALL CONDUCTORS ARE COPPER, ALUMINUM CONDUCTORS WILL HAVE A NOTATION OF (AL) NEXT TO WIRE SIZE.

FOOT NOTES:
(1)

Switchboard: MDP

Location: MECHANICAL 108 **Volts:** 208Y/120V **A.I.C. Rating:**
Supply From: **Phases:** 3 **Mains Type:** MLO
Mounting: **Wires:** 4 **Bus Rating:** 400 A
Enclosure: Type 1

CKT	Circuit Description	Poles	Trip Rating	Load (kVA)	Notes
1	L-1A	3	225 A	0	
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
			Total Load:	0 kVA	
			Total Amps:	0 A	

FEEDER BREAKER NOTES:
(G) GROUND FAULT PROTECTION
(M) INTEGRAL METER
(S) SURGE PROTECTION
(ST) SHUNT TRIP BREAKER
(LN) BREAKER LOCK IN ON POSITION
(LF) BREAKER LOCK IN OFF POSITION

ADJUSTABLE TRIP SETTINGS:
(IT) INSTANTANEOUS SETTING
(LT) LONG TERM SETTING
(ST) SHORT TERM SETTING

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
				Total Conn. Load:	0 kVA
				Total Est. Demand:	0 kVA
				Total Conn.:	0 A
				Total Est. Demand:	0 A

Panelboard: L-1A

Location: MECHANICAL 108 **Voltage:** 208Y/120V **A.I.C. Rating:**
Supply From: MDP **Phases:** 3 **Mains Type:** MLO
Mounting: SURFACE **Wires:** 4 **Bus Rating:** 225 A
Enclosure: Type 1

CKT	Circuit Description	Note	Trip	Poles	A (kVA)	B (kVA)	C (kVA)	Poles	Trip	Note	Circuit Description	CKT
1												2
3												4
5												6
7												8
9												10
11												12
13												14
15												16
17												18
19												20
21												22
23												24
25												26
27												28
29												30
31												32
33												34
35												36
37												38
39												40
41												42
				Total Load:	0 kVA	0 kVA	0 kVA					
				Total Amps:	0 A	0 A	0 A					

FEEDER BREAKER NOTES:
(G) GROUND FAULT PROTECTION
(M) INTEGRAL METER
(S) SURGE PROTECTION
(ST) SHUNT TRIP BREAKER
(LN) BREAKER LOCK IN ON POSITION
(LF) BREAKER LOCK IN OFF POSITION

ADJUSTABLE TRIP SETTINGS:
(IT) INSTANTANEOUS SETTING
(LT) LONG TERM SETTING
(ST) SHORT TERM SETTING

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
				Total Conn. Load:	0 kVA
				Total Est. Demand:	0 kVA
				Total Conn.:	0 A
				Total Est. Demand:	0 A

Notes:

DATA RACK SCHEDULE

TAG	DESCRIPTION	LOCATION: NO	LOCATION: NAME	PATCH PANELS: QUANTITY	PATCH PANELS: PORTS PER PANEL	PATCH PANELS: TOTAL CAPACITY	PORTS USED	MANUFACTURER	MODEL	FOOT NOTES
DR-1	WALL MOUNTED DATA RACK	108	MECHANICAL	0	0	0	0			

FOOT NOTES:
(1)

GROUND BAR SCHEDULE

TAG	DESCRIPTION	LOCATION: NO	LOCATION: NAME	MANUFACTURER	MODEL	NOTES

PRELIMINARY
NOT FOR CONSTRUCTION

FEH DESIGN
DUBUQUE, IA (563) 583-4900
DES MOINES, IA (515) 288-2000
SIOUX CITY, IA (712) 252-3889
OCONOMOWOC, WI (262) 968-2055

IN ASSOCIATION WITH
JDR ENGINEERING, INC.
5525 NOBEL DRIVE
SUITE 100
MADISON, WI 53711
PH 608.277.7728 FAX 608.271.7046
JDR PROJECT NO. 23008I

SHEET TITLE
SCHEDULES - ELECTRICAL

PROJECT TITLE
CITY OF CASCADE
CASCADE PUBLIC LIBRARY
SECOND AVENUE SW.
CASCADE, IOWA

DATE ISSUED 8 MAY 2023

REV. NO.	DATE

PROJECT NUMBER
2021310

SHEET
E800

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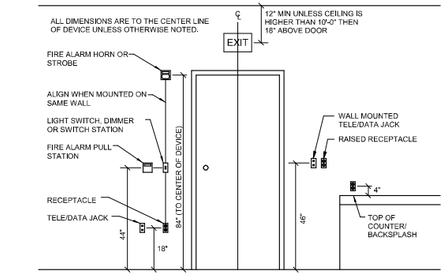
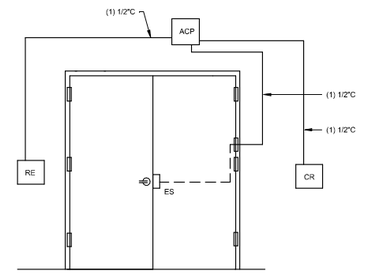


1 E900 TYPICAL DEVICE MOUNTING HEIGHT
SCALE: 1/2" = 1'-0"



- CARD READER CONTROL WITH ELECTRIC STRIKE.
- ENTRY BY CARD READER. EXIT IS MANUAL AND ALWAYS AVAILABLE.
- REQUEST TO EXIT OR PUSHBUTTON ACITVATION SHOWN ON PLANS
- NOT ALL DEVICES ON DETAIL ARE AT EACH DOOR. REFER TO PLAN.

2 E900 ACCESS CONTROLS DETAIL - DOUBLE DOOR
SCALE: NONE

PRELIMINARY
NOT FOR CONSTRUCTION

FEH DESIGN
SIOUX CITY, IA (712) 252-3889
DES MOINES, IA (515) 288-2000
DUBUQUE, IA (563) 583-4900
OCONOMOWOC, WI (262) 968-2055

IN ASSOCIATION WITH
JDR ENGINEERING, INC.
5525 NOBEL DRIVE
SUITE 100
MADISON, WI 53711
PH: 608.277.7728 FAX: 608.271.7046
JDR PROJECT NO: 23X081

SHEET TITLE
DETAILS - ELECTRICAL

PROJECT TITLE
CITY OF CASCADE
CASCADE PUBLIC LIBRARY
SECOND AVENUE SW.
CASCADE, IOWA

DATE ISSUED 8 MAY 2023

REV. NO.	DATE

PROJECT NUMBER
2021310

SHEET
E900

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CONTACT:

FEH DESIGN

951 MAIN STREET

DUBUQUE, IOWA 52001

563 583 4900

WWW.FEHDESIGN.COM