FEH DESIGN

951 MAIN STREET
DUBUQUE, IOWA 52001
563 583 4900

MEETING MINUTES

ISSUE DATE	7-31-23

MEETING INFORMATION

MEETING DATE	July 19, 2023	MEETING TIME	1:30PM
MEETING NAME	Design Meeting	MEETING LOCATION	Cascade City Hall

PROJECT NAME	Cascade Public Library
FEH PROJECT NUMBER	2021310
MINUTES PREPARED BY	Michael Gehl

	ATTENDEE NAME	ORGANIZATION	PHONE	EMAIL
☒	Kevin Eipperle	FEH Design	563-583-4900	kevine@fehdesign.com
☐	Christy Monk	FEH Design	563-583-4900	christym@fehdesign.com
☒	Michael Gehl	FEH Design	563-583-4900	michaelg@fehdesign.com
☒	Melissa Kane	Library Director		cpl@netins.net
☐	Mike Beck	Community Member		Beckcon@netins.net
☒	Monica Recker	Library President		mnrecker@gmail.com
☒	Marie Thomas	Community Member		newhome813@gmail.com
☐	Megan Olophant	City Council		Oliphant.megan@gmail.com
☐	Lisa Kotter	City Administrator		admin@citycascade.com
☐	Riley Rausch	City Council		Cascadeseat4@gmail.com
☐	Steve Knepper	Mayor		
☐	John Noonan	Community Member		jenoonan@cascade-mfg-co.com
☐	Maureen McDermott	Donor		
☐	Ellie Wigginton	FEH Design	563-583-4900	elliew@fehdesign.com
☐	Dieter Muhlack	DELTA 3	563-542-9005	muhlackd@delta3eng.biz
☐	Brian Fuller	JDR Engineering	608-819-0206	fuller@jdreng.com
☐	CeAnn Brickley	Friend of Library		ceannb@netins.net
☒	John Howard	Library Board		jd5657@netins.net
☐	Mike Delaney	City Council		Cascadeseat3@gmail.com

DISTRIBUTION	Library Board
PURPOSE	FEH Design Process
DISCUSSION	

1. **MEP**
    a. Flush tank toilets are specified; so they would look like a residential toilet.

951 MAIN STREET
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i. Components need to be updated in model.

b. Roof drains go towards the southeast corner of the site.
c. A rain barrel will be provided at the northwest side at the downspout near the janitors closet location. The rain barrel is to be provided by the owner.
d. The tower roof downspouts will not be connected to the storm sewer; they will drain to splash blocks.
e. The mechanical designer needs to designate a trench size for the horizontal well alternate bid for geothermal and coordinate with Civil.
    i. Replacing the paving should be included in the alternate bid.
f. The ceiling fans in the clerestory space and the tower will each be able to operate separately. The mechanical engineer is checking if the ceiling fans have the capability to blow air up and down.
    i. The fan control location is going to be in the staff work area, out of sight of the main library space.
g. The parking lot lights will match the existing ones. The city has provided information to match their current lights.
h. FEH Design needs to coordinate with the electrical designer.
    i. The height of the exterior lights.
    ii. The mounting height of the clerestory lights.
    iii. The night lights need to be identified so the city knows which lights will be on at all times.
    iv. The monitor above the director's office windows needs to be mounted above the window. Higher than the 48" that is currently shown.
    v. The committee wants all tv monitor mounting heights to be verified. They think 48" is too low, especially at the Teen Area.
i. Floor boxes
    i. The Tech Area needs both data and power provided.
    ii. The Community room only needs power provided.
        1. Reduce the number of floor boxes in the Community room from 12 to 6.
    iii. Add speakers to the community room ceiling that wireless microphones can connect to.

2. Civil

a. Set deadline to have east site work done by August 1, 2024, so community events can use that space.
b. Set location for contractor staging near the historic silo in that gravel parking lot. It should be noted on civil as well.
c. Update the paving at the flagpole and better explain the landscaping to continue the "river". The "river" is not all concrete, it is flowers/plantings.
d. Extend the west sidewalk along the parking lot to the alley.
e. The city will provide specs for the ADA detectable domes at intersections to match existing.
f. The light poles, the conduit and bases will be provided in the drawings.
    i. There will be an additional 3 light poles provided on the west side of the site.
    ii. All 6 light poles will be bid in the library project.
    iii. The city will reinstall all the electrical boxes for the food trucks.
        1. 2" duct, black with red stripe conduit for the electrical boxes, to be installed by contractor.

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g. The city will notify the civil engineer regarding the preference of concrete or asphalt for the parking lot in the base bid.
h. New 5' sidewalks will be provided for the entire site except at the parking lot which will be 8'.

3. Architectural

a. A construction site sign will be added to the bid documents.
b. The question of how solar is bid as an alternate arose.
    i. The base bid will include roof support for the solar however, solar will be added outside of the project scope if desired. The city should get quotes for power purchase agreement to capture tax credit value.
c. The conference room and study rooms will be unlocked from a key.
d. The community room will be able to be accessed after library hours through the use of a key code or a swipe key.
e. The canopy alternate to the west will have a cedar tongue and groove ceiling to match the gazebo in the park.
    i. Flush mounted lights will also be provided in the canopy.
f. The committee stated that they are reconsidering the size of the electronic sign. They believe 3' x7' is too large. They would agree to a smaller digital sign if it is higher off of the ground. The bottom of the sign would raise an additional 8" off the ground compared to what is currently shown for a dimension of 1'-8".
g. Dedication plaque.
    i. Add the mayor and the city council members.
    ii. Then list city staff as Melissa and Lisa
    iii. Library board president, then list the board members.

4. Other

a. Wall mounted exterior lights on either side of children's window are to be added.
b. The south sidewalk is to be replaced entirely.
c. Several items have been added that will increase the project cost. Maybe in the range of $50,000.

This is the author's understanding of the items discussed. Please notify us of any discrepancies within 7 days so revised minutes can be issued.

Attachments: Plan/ Drawings

FEH DESIGN

951 MAIN STREET
DUBUQUE, IOWA 52001
563 583 4900

Cascade Public Library Goals for Succes

1 July 2021

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.

CITY OF CASCADE
CASCADE PUBLIC LIBRARY

SECOND AVENUE SW.
CASCADE, IOWA

CONSTRUCTION DOCUMENTS

SITE

VICINITY MAP
NOT TO SCALE

N

CONTACT INFORMATION

ARCHITECT
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DUBUQUE, IOWA 52001

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PLUMBING
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BUESING & ASSOCIATES
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DUBUQUE, IOWA 52001

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875 S CHESTNUT STREET
PLATTEVILLE, WISCONSIN 53818

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

PH: (608)348-5355

KEVIN J. EIPPERLE
2979
IOWA
LICENSED ARCHITECT

I HEREBY CERTIFY THAT THE PORTION OF THIS TECHNICAL SUBMISSION DESCRIBED BELOW WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND RESPONSIBLE CHARGE. I AM A DULY LICENSED ARCHITECT UNDER THE LAWS OF THE STATE OF IOWA.

SIGNATURE DATE
PRINTED OR TYPED NAME Kevin J. Eipperle, A.I.A.
LICENSE NUMBER 2979
MY LICENSE RENEWAL DATE IS JUNE 30, 2022
PAGES OR SHEETS COVERED BY THIS SEAL:

LICENSED PROFESSIONAL ENGINEER
BRYAN J.
BLAIR
20847
☆IOWA☆

I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa.

Signature Date
Printed or typed name: Bryan J. Blair, P.E.
License number 20847
My license renewal date is December 31, 2017
Pages or sheets covered by this seal:

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) 968-2055
FEHDESIGN.COM

IN ASSOCIATION WITH
BUESING & Associates, Inc. ENGINEERS & SURVEYORS
DELTA 3

SHEET TITLE
TITLE SHEET

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

DATE ISSUED 14 JULY 2023
REV. NO. DATE

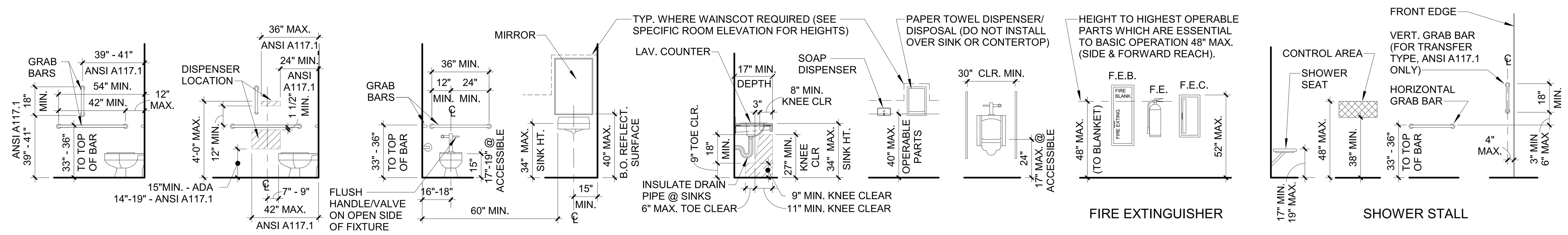
PROJECT NUMBER
2021310

SHEET
TS

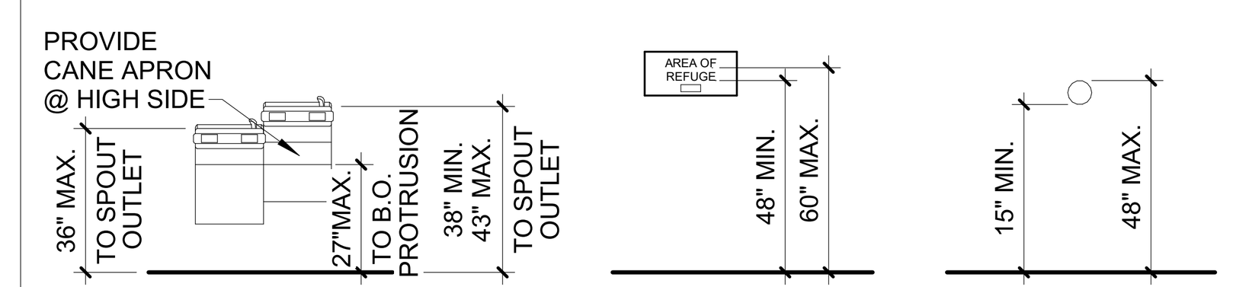
C:\Users\michaelg\Documents\2021310 Cascade Library R22 Central_michaelgD5E27.rvt

7/18/2023 4:09:31 PM

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



PLUMBING FIXTURES AND ACCESSORIES FOR ADULTS



DRINKING FOUNTAINS

SIGNAGE (TACTILE CHARACTERS)

AUTOMATIC DOOR OPERATOR ACTUATORS

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.

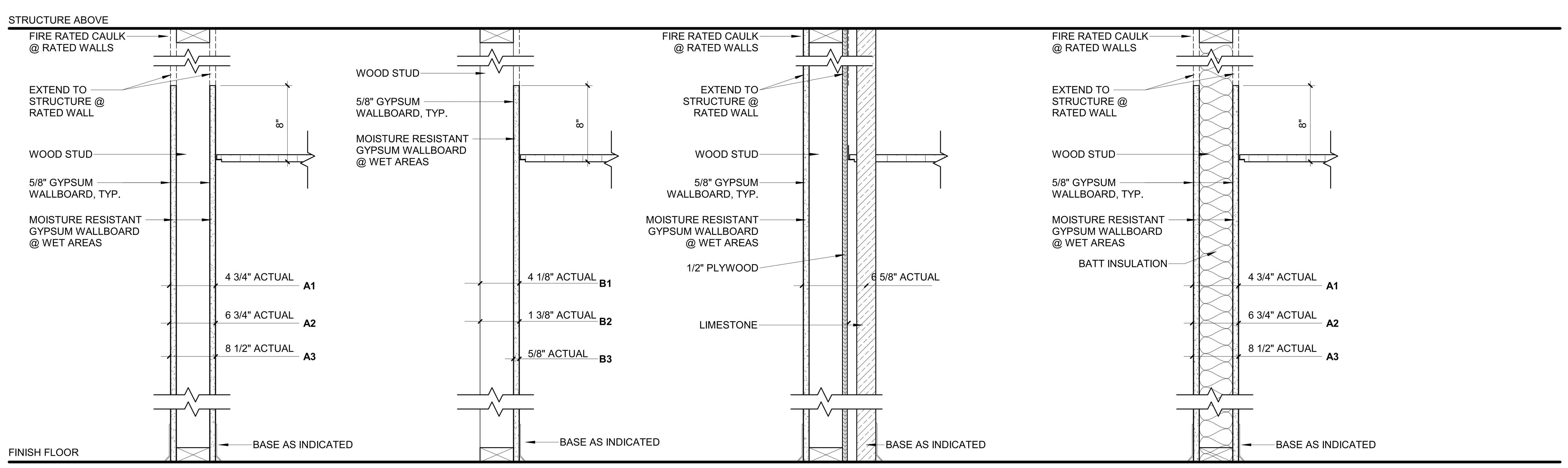
REFER TO PROJECT MANUAL FOR ACCESSORY MODEL NUMBERS.

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

NOT ALL ITEMS SHOWN MAY BE APPLICABLE.

MATERIAL LEGEND

BATT INSULATION	▨	METAL STUDS	▨
BRICK	▨	PLYWOOD	▨
CONCRETE BLOCK	▨	RIGID INSULATION	▨
GRANULAR FILL	▨	GROUT	▨
CONCRETE	▨	STEEL	▨
EARTH	▨	STONE	▨
EIFS	▨	WOOD	▨
GYPSUM WALLBOARD	▨	SPRAY FOAM INSULATION	▨



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.

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(7 5/8")
C2 - 2X8 WOOD STUD WITH LIMESTONE ON THE OTHER SIDE(9")

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) 3 1/2" BATT INSULATION
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) 3 1/2" BATT INSULATION
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) 3 1/2" BATT INSULATION

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

WALL TYPES

NOTE: REFER TO UL FIRE-RESISTANCE DESIGN FOR ADDITIONAL INFORMATION @ FIRE RATED WALLS

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

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
	PREFIN	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
	T'STAT	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

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, CENTER OF STUD.
14. ABBREVIATIONS AND MATERIAL REPRESENTATIONS ON ARCHITECTURAL DRAWINGS ARE SHOWN 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 DETAILS AS NOTED ON THE DRAWINGS.
17. REFER TO MECHANICAL AND ELECTRICAL DRAWINGS FOR ANY ADDITIONAL STEEL PIPE BOLLARDS REQUIRED.
18. PROVIDE FINISHED END OR FRONT PANELS ON ALL SURFACES OF CASEWORK THAT ARE EXPOSED TO VIEW.

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
FEHDESIGN.COM

IN ASSOCIATION WITH
BUESING & ASSOCIATES, INC. ENGINEERS & SURVEYORS
DELTA 3

SHEET TITLE
GENERAL NOTES AND LEGENDS

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

DATE ISSUED 14 JULY 2023

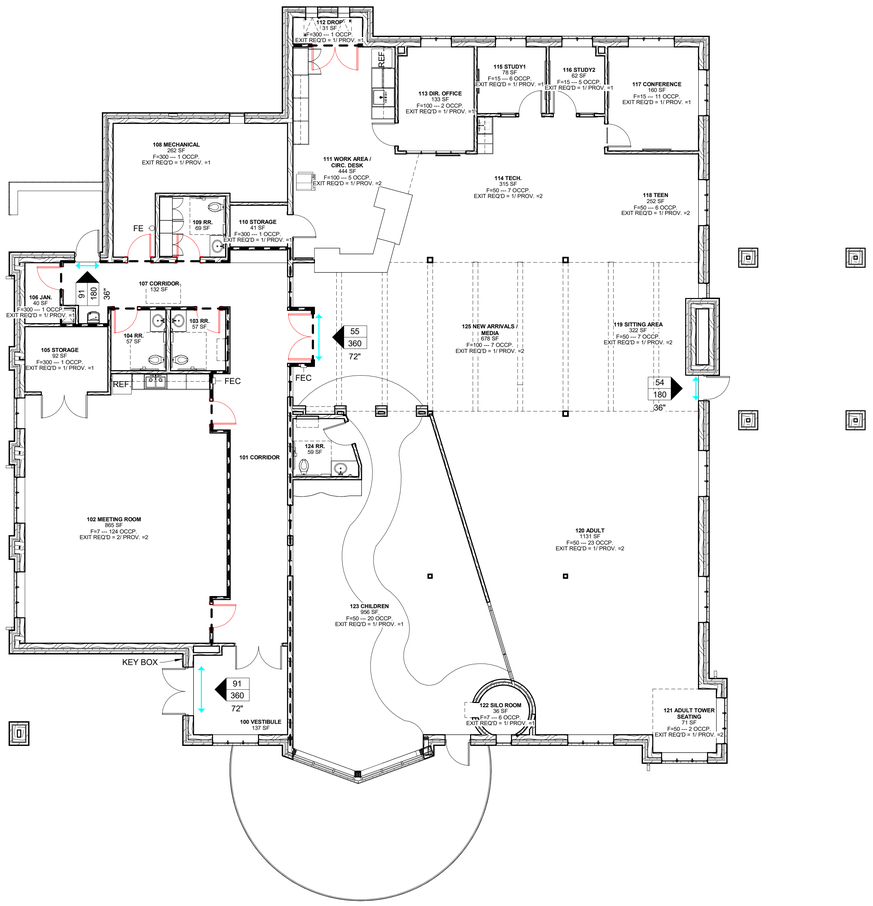
REV. NO. DATE

PROJECT NUMBER
2021310

SHEET
AG1.1

C:\Users\michaelg\Documents\2021310 Cascade Library R22 Central_michaelgD5E27.rvt

7/18/2023 3:54:17 PM



N

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

OCCUPANCY LOAD SCHEDULE				
NUMBER	NAME	AREA	OCCUPANT LOAD FACTOR	OCCUPANT LOAD
100	VESTIBULE	137 SF		
101	CORRIDOR	437 SF		
102	MEETING ROOM	865 SF	7	124
103	RR.	57 SF		
104	RR.	57 SF		
105	STORAGE	92 SF	300	1
106	JAN.	40 SF	300	1
107	CORRIDOR	132 SF		
108	MECHANICAL	262 SF	300	1
109	RR.	69 SF		
110	STORAGE	41 SF	300	1
111	WORK AREA / CIRC. DESK	444 SF	100	5
112	DROP	31 SF	300	1
113	DIR. OFFICE	133 SF	100	2
114	TECH.	315 SF	50	7
115	STUDY1	78 SF	15	6
116	STUDY2	62 SF	15	5
117	CONFERENCE	160 SF	15	11
118	TEEN	252 SF	50	6
119	SITTING AREA	322 SF	50	7
120	ADULT	1131 SF	50	23
121	ADULT TOWER SEATING	71 SF	50	2
122	SILO ROOM	36 SF	7	6
123	CHILDREN	956 SF	50	20
124	RR.	59 SF		
125	NEW ARRIVALS / MEDIA	678 SF	100	7
		6916 SF		236

CODE PLAN LEGEND

TRAVEL DISTANCE 1' - 0"

TRAVEL DISTANCE TAG
EXIST ACCESS TRAVEL DISTANCE PER IBC2012 1016.1

100 NAME
150 SF --- BUSINESS
F=25 --- 60 OCCP.
EXIT REQ'D = 2/ PROV. =2

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

0
240
48"

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

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
7,721 GROSS SQ.FT.
802 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	NOT REQUIRED-NOT 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
FLOW 85 PSI PER UTILITY

MEANS OF EGRESS (CHAPTER 10)
1004 DESIGN OCCUPANT LOADS
TOTAL OCCUPANTS 236
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
118 MEN	1		1		
118 WOMEN		2	1	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)

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
FEHDESIGN.COM

IN ASSOCIATION WITH
BUESING associates, Inc.
DELTA 3

SHEET TITLE
BUILDING CODE PLAN

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

DATE ISSUED 14 JULY 2023

REV. NO. DATE

PROJECT NUMBER
2021310

SHEET
AG1.2

REMOVE AND REPLACE PAVEMENT FOR SANITARY SEWER REMOVAL

REMOVE AND REPLACE PAVEMENT FOR SANITARY SEWER CONNECTION

REMOVE AND REPLACE PAVEMENT FOR WATER SERVICE CONNECTION

PUBLIC ALLEY

PIERCE STREET SW

2ND AVENUE SW

24"

0" 5" 10" 20"
1" = 10' (30"x42" SHEET)

DEMOLITION PLAN LEGEND

- REMOVE EXISTING PAVEMENT, STREET, OR CURB
- REMOVE EXISTING WALKS
- REMOVE EXISTING HOUSE AND FOUNDATIONS, BACKFILL WITH COMPACTED ENGINEERED FILL. DISCONNECT ALL UTILITIES ACCORDING TO UTILITY PROVIDER REQUIREMENTS
- UTILITY LINE TO BE REMOVED
- INSTALL SAFETY FENCE AT DRIP LINE. DO NOT DISTURB PLANT/TREES TO REMAIN, INCLUDING ROOTS
- STUMP, TREE OR SHRUB TO BE REMOVED
- POLE, POST OR BOLLARD TO BE REMOVED

IT SHALL BE THE RESPONSIBILITY OF ANY BIDDER TO VERIFY THE EXISTING SITE CONDITIONS PRIOR TO BIDDING. HOUSED ARE INTENDED TO BE REMOVED UNDER A SEPARATE CONTRACT BEFORE BIDS ARE DUE.

PRELIMINARY
NOT FOR CONSTRUCTION

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
BUESING ASSOCIATES INC.
ENGINEERS AND SURVEYORS
1212 LOCUST ST. DUBUQUE, IA
(563) 556-4389

SHEET TITLE
SITE DEMOLITION PLAN

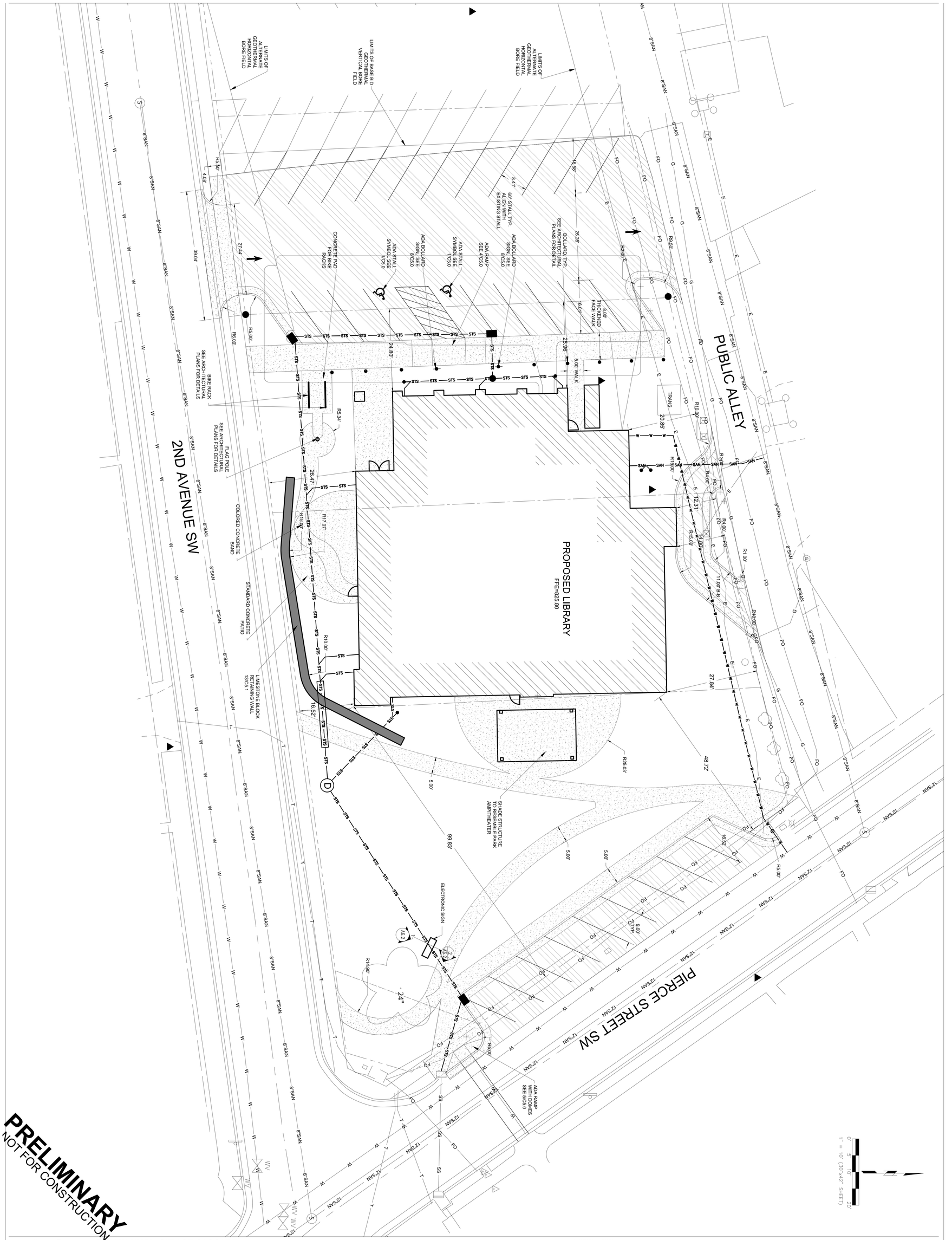
PROJECT TITLE
CITY OF CASCADE
CASCADE PUBLIC LIBRARY
SECOND AVENUE SW.
CASCADE, IOWA

DATE ISSUED 17 JULY 2023

REV. NO.	DATE

PROJECT NUMBER
2021310

SHEET
C0.5



PRELIMINARY
NOT FOR CONSTRUCTION

PROJECT TITLE CITY OF CASCADE

CASCADE PUBLIC LIBRARY

SECOND AVENUE SW.
CASCADE, IOWA

SHEET TITLE

SITE LAYOUT PLAN

SHEET C1.0

PROJECT NUMBER 2021310

REV. NO. | DATE

DATE ISSUED 17 JULY 2023

IN ASSOCIATION WITH

BUESING & ASSOCIATES INC.
ENGINEERS AND SURVEYORS
1212 LOCUST ST, DUBUQUE, IA
(563) 556-4389

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

NOTIFY CASCADE COMMUNICATIONS CO WHEN EXCAVATING AROUND THE PERIMETER OF THIS SITE. THERE ARE FIBER OPTIC LINES THAT NEED TO BE PROTECTED.

PUBLIC ALLEY

PROPOSED LIBRARY
FFE=825.80

PIERCE STREET SW

2ND AVENUE SW

LIMITS OF CONSTRUCTION

LIMITS OF CONSTRUCTION

0' 5' 10' 20'
1" = 10' (30"x42" SHEET)

SWPPP LEGEND

SF	SILT FENCE PER SDUAS 9040.119
	LIMITS OF CONSTRUCTION
FS	FILTER SOCK COMPOST TUBE PER FS/C5.0
CE	CONSTRUCTION EXIT PER CE/C5.0
SP	SLOPE PROTECTION PER SP/C5.0
WO	CONCRETE WASHOUT PER WO/C5.0
IP	INLET PROTECTION PER IP/C5.0

SEQUENCE OF GRADING EVENTS

1. INSTALL EROSION CONTROL DEVICES
2. GRADE SITE ACCORDING TO PLAN
3. ADD TEMPORARY CONTROLS AS NEEDED
4. SEED AND STABILIZE SITE
5. REMOVE TEMPORARY CONTROL ONCE SITE IS STABILIZED.

TOP SOIL: PRESERVE ALL TOPSOIL ON SITE. STOCKPILE DURING CONSTRUCTION AND RESPREAD IN GREEN AREAS TO A MINIMUM DEPTH OF 6"

ALL DISTURBED AREAS NOT BEING RE-DISTURBED FOR 21 DAYS MUST BE STABILIZED WITH TEMPORARY OR PERMANENT MEASURES WITHIN 14 DAYS.

PRESERVE EXISTING VEGETATION TO THE MAXIMUM EXTENT POSSIBLE.

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
BUESING ASSOCIATES INC.
ENGINEERS AND SURVEYORS
1212 LOCUST ST. DUBUQUE, IA
(563) 556-4389

SHEET TITLE
SITE GRADING PLAN & SWPPP

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

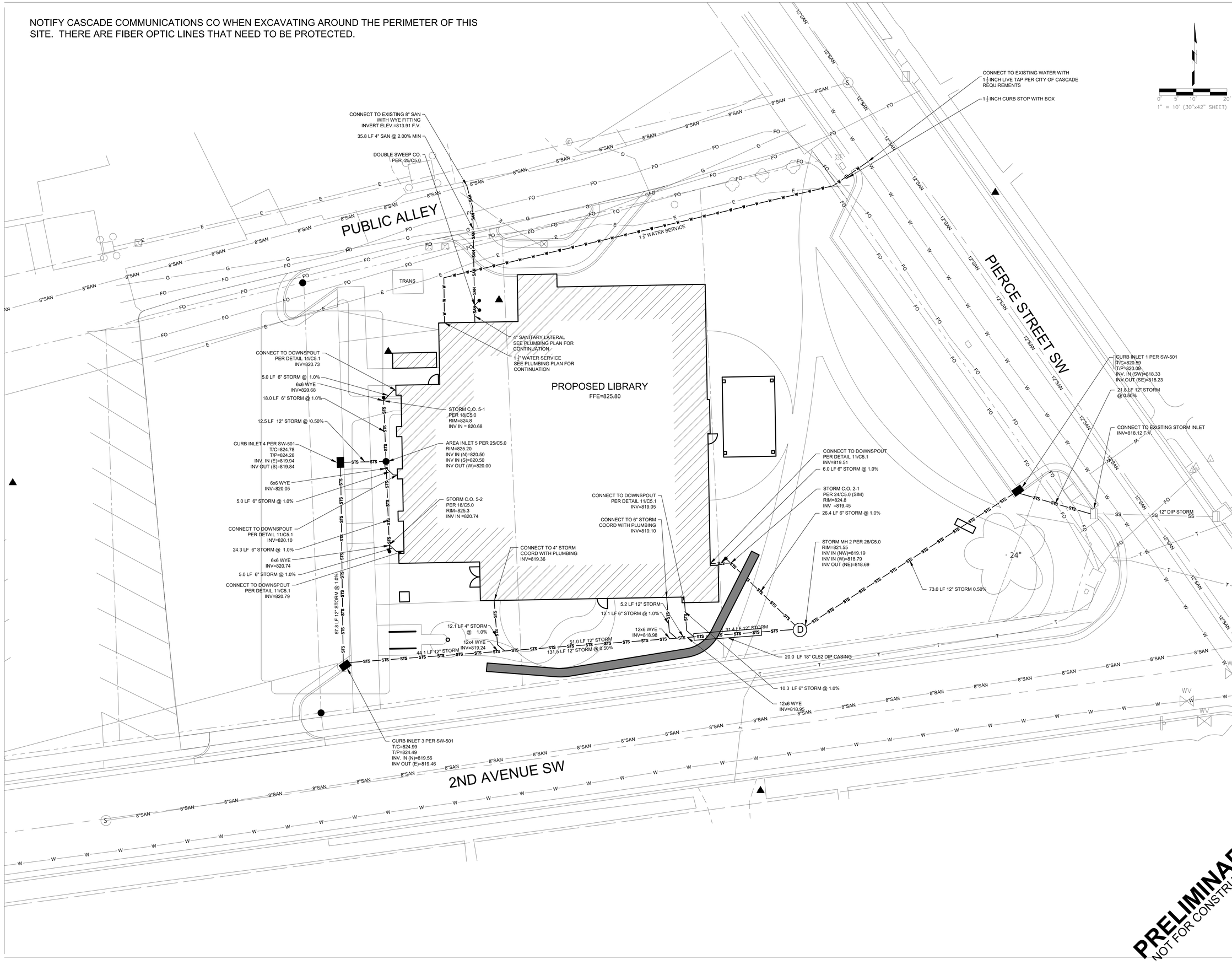
DATE ISSUED 17 JULY 2023

REV. NO.	DATE

PROJECT NUMBER
2021310

SHEET
C2.0

NOTIFY CASCADE COMMUNICATIONS CO WHEN EXCAVATING AROUND THE PERIMETER OF THIS SITE. THERE ARE FIBER OPTIC LINES THAT NEED TO BE PROTECTED.



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

IN ASSOCIATION WITH
BUESING ASSOCIATES INC.
ENGINEERS AND SURVEYORS
1212 LOCUST ST. DUBUQUE, IA (563) 556-4389

SHEET TITLE
SITE UTILITY PLAN

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

DATE ISSUED 17 JULY 2023

REV. NO. DATE

PRELIMINARY
NOT FOR CONSTRUCTION

PROJECT NUMBER
2021310

SHEET
C3.0

PRELIMINARY
NOT FOR CONSTRUCTION

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

CITY OF CASCADE

DATE ISSUED 28 JUNE 2023
REV. NO. DATE

PROJECT NUMBER
2021310

SHEET
C4.0

SHEET TITLE
SITE PAVING PLAN

BUESING
ASSOCIATES INC.
ENGINEERS AND SURVEYORS
1212 LOCUST ST. DUBUQUE, IA
(563) 556-4389
IN ASSOCIATION WITH

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

0" 5" 10" 20"
1" = 10' (30"x42" SHEET)

PAVING LEGEND
- 4" HMA PAVING OVER 12" CRUSHED STONE BASE PER SPEC.
- 6" PCC OVER 6" CRUSHED STONE BASE PER SPEC.
- WALK, CURB & GUTTER, ETC. SEE DETAILS

PIERCE STREET SW

PROPOSED LIBRARY
FFE=825.80

PUBLIC ALLEY

2ND AVENUE SW

TRANS.

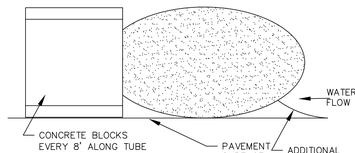
24"

SAW EXISTING EDGE 6" BACK

MATCH EXISTING ELEV

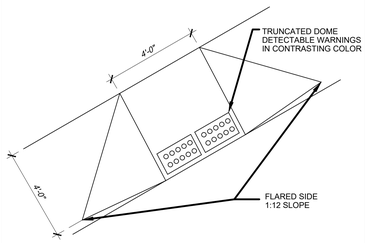
MATCH EXISTING ELEVATION

MATCH EXIST

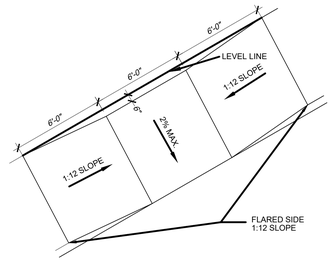


* MAY BE SUBSTITUTED FOR SILT FENCE

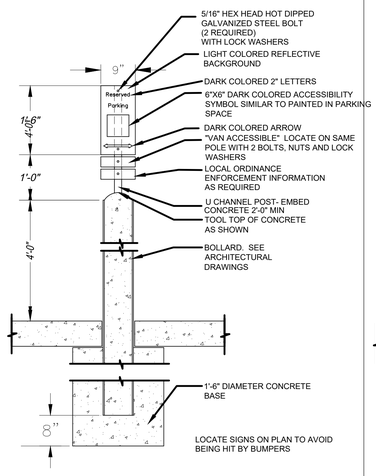
FS COMPOST FILTER TUBE
NOT TO SCALE



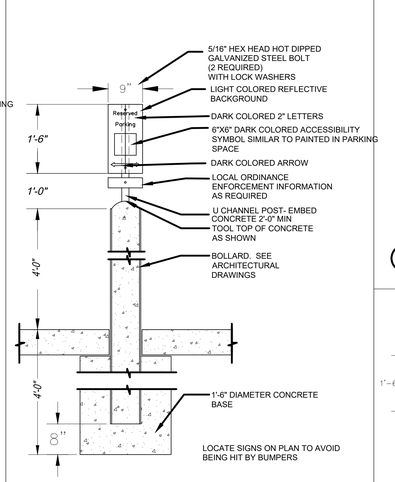
5 ACCESSIBLE CURB RAMP WITH DETECTABLE WARNINGS
NOT TO SCALE



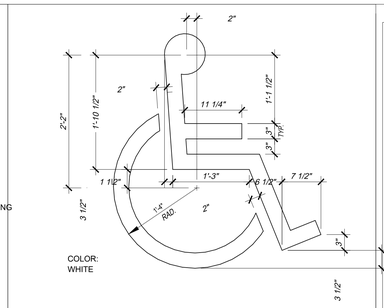
4 ACCESSIBLE CURB RAMP
NOT TO SCALE



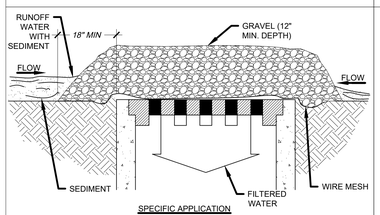
9 VAN ACCESSIBLE PARKING SIGN
NOT TO SCALE



8 ACCESSIBLE PARKING SIGN
NOT TO SCALE



1 ACCESSIBLE SYMBOL
NOT TO SCALE



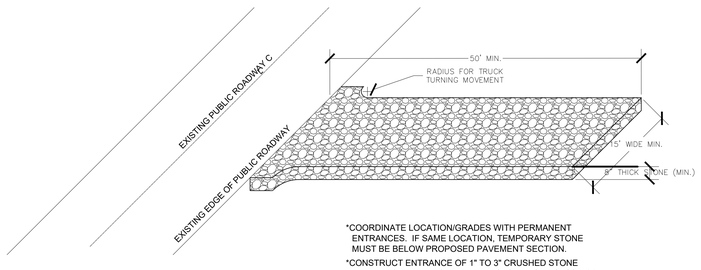
SPECIFIC APPLICATION

THIS METHOD OF INLET PROTECTION IS APPLICABLE WHERE HEAVY CONCENTRATED FLOWS ARE EXPECTED BUT NOT WHERE PONDING AROUND THE STRUCTURE MIGHT CAUSE EXCESSIVE INCONVENIENCE OR DAMAGE TO ADJACENT STRUCTURED AND UNPROTECTED AREAS.

GRAVEL SHALL BE IOWA PCC COARSE AGGREGATE (GRADATION #3).

WIRE MESH OPENINGS TO BE SMALL ENOUGH TO PREVENT GRAVEL FROM ENTERING INLET.

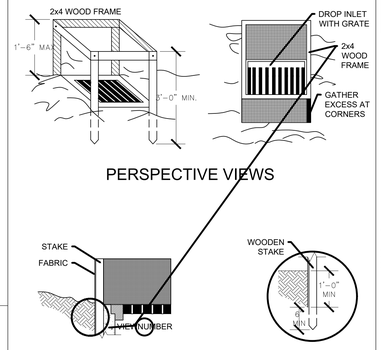
IP GRAVEL AND WIRE MESH INLET SEDIMENT FILTER
NOT TO SCALE



*COORDINATE LOCATION/GRADES WITH PERMANENT ENTRANCES. IF SAME LOCATION, TEMPORARY STONE MUST BE BELOW PROPOSED PAVEMENT SECTION.

*CONSTRUCT ENTRANCE OF 1" TO 3" CRUSHED STONE MIN 6" THICK. REPLACE/MAINTAIN STONE AS NECESSARY SHOULD VOIDS BECOME FILLED WITH SOIL.

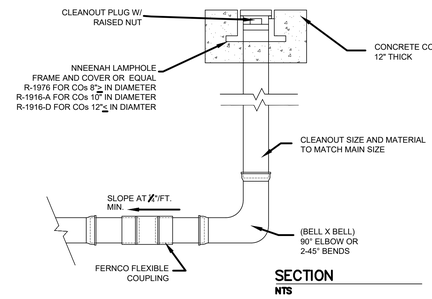
CE CONSTRUCTION EXIT
NOT TO SCALE



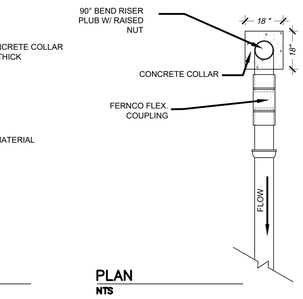
PERSPECTIVE VIEWS

ELEVATION OF STAKE AND FABRIC ORIENTATION

DETAIL A

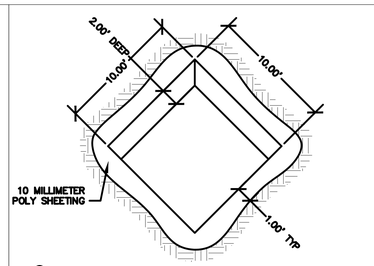


SECTION
NTS



PLAN
NTS

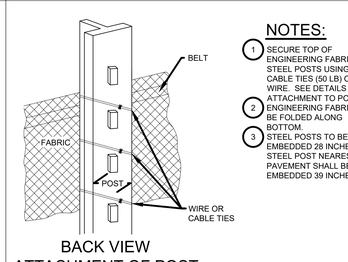
18 CLEAN OUT- END OF LINE
NOT TO SCALE



1 CLEAN OR REPLACE BASIN WHEN SEDIMENT REACHES 1' DEEP MAX

2 REMOVE BASIN AND BACKFILL AT CONCLUSION OF PCC PLACEMENT OPERATIONS

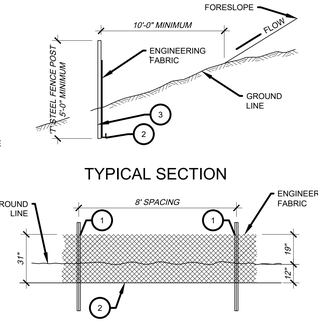
WO CONCRETE WASHOUT AREA
NOT TO SCALE



BACK VIEW
ATTACHMENT OF POST

NOTES:

1. SECURE TOP OF ENGINEERING FABRIC TO STEEL POSTS USING CABLE TIES (50 LB) OR WIRE. SEE DETAILS OF ATTACHMENT TO POST.
2. ENGINEERING FABRIC TO BE FOLDED ALONG BOTTOM.
3. STEEL POSTS TO BE EMBEDDED 28 INCHES; THE STEEL POST NEAREST THE PAVEMENT SHALL BE EMBEDDED 39 INCHES.



TYPICAL SECTION

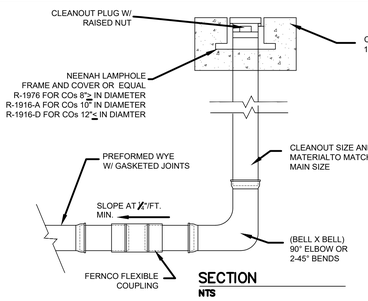
DETAILS OF SILT FENCE

SF SILT FENCE
NOT TO SCALE

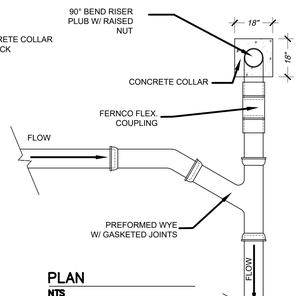
SPECIFIC APPLICATION

THIS METHOD OF INLET PROTECTION IS APPLICABLE WHERE THE INLET DRAINS A RELATIVELY FLAT AREA (SLOPE NO GREATER THAN 5%) WHERE THE INLET SHEET OR OVERLAND FLOWS (NOT EXCEEDING 1 C.F.S.) ARE TYPICAL. THE METHOD SHALL NOT APPLY TO INLETS RECEIVING CONCENTRATED FLOWS, SUCH AS IN STREET OR HIGHWAY MEDIANS.

IP SILT FENCE DROP INLET PROTECTION
NOT TO SCALE

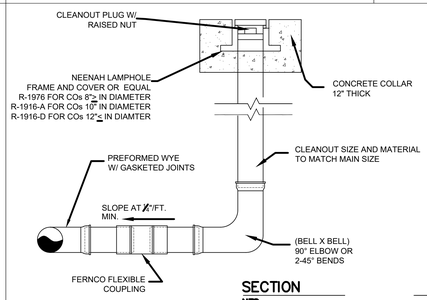


SECTION
NTS

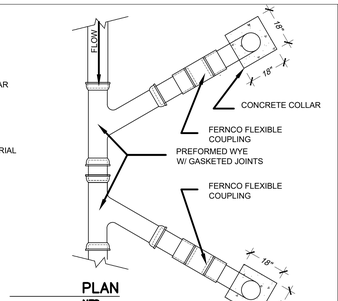


PLAN
NTS

24 CLEAN OUT- BEND
NOT TO SCALE

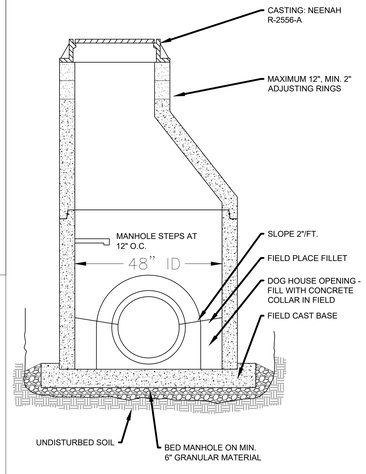


SECTION
NTS

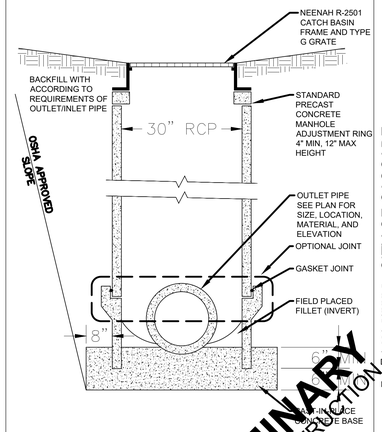


PLAN
NTS

22 DOUBLE SWEEP CLEAN OUT- INLINE
NOT TO SCALE



26 STORM SEWER MANHOLE
NOT TO SCALE



25 30" Ø AREA INLET IN GREEN SPACE
NOT TO SCALE

PRELIMINARY NOT FOR CONSTRUCTION

IN ASSOCIATION WITH
BUESING ASSOCIATES INC.
ENGINEERS AND SURVEYORS
1212 LOCUST ST. DUBUQUE, IA
(563) 556-4389

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

SHEET TITLE
SITE DETAILS

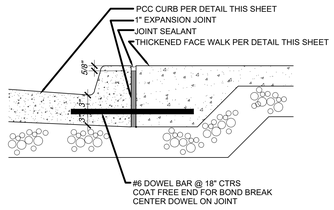
PROJECT TITLE
CITY OF CASCADE
CASCADE PUBLIC LIBRARY
SECOND AVENUE SW.
CASCADE, IOWA

DATE ISSUED 28 JUNE 2023

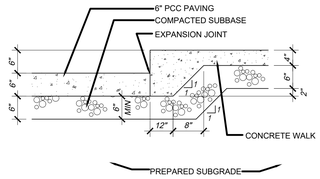
REV. NO.	DATE

PROJECT NUMBER
2021310

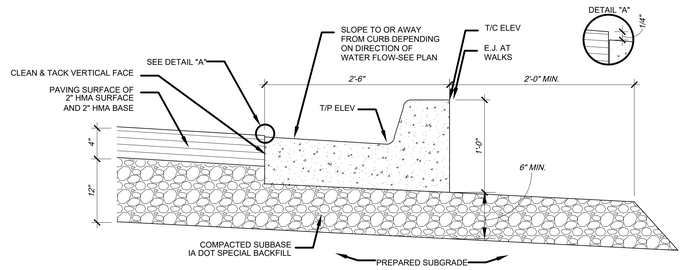
SHEET
C5.0



6 THICKENED FACE WALK AT CURB
NOT TO SCALE

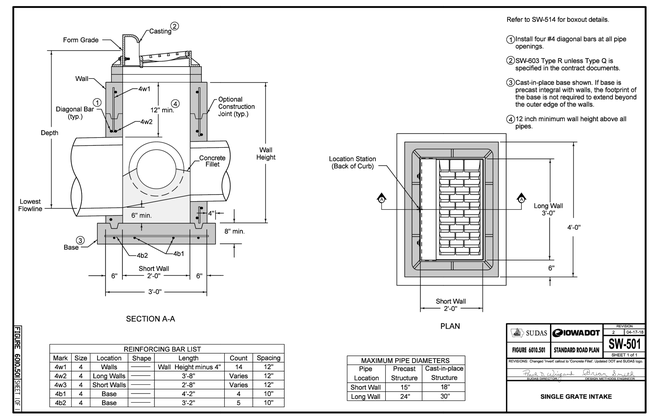


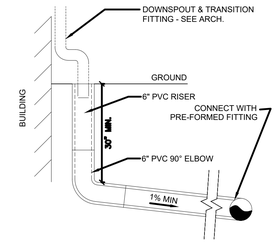
5 THICKENED FACE WALK
NOT TO SCALE



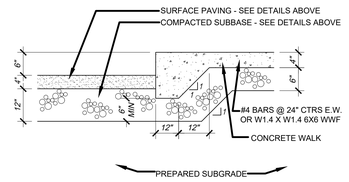
NOTE: SHOWN FOR STANDARD CURB. SIMILAR TO REJECT

4 HMA PAVING SURFACE
NOT TO SCALE

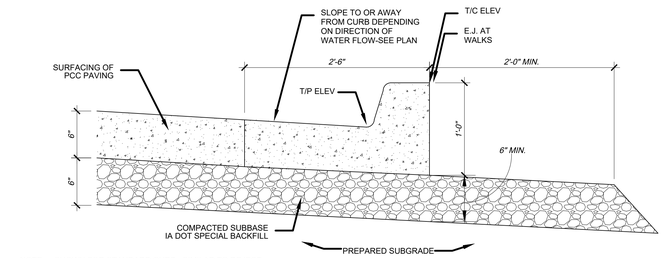




11 DOWNSPOUT CONNECTION DETAIL
NOT TO SCALE

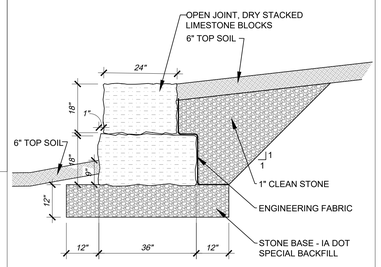


10 THICKENED FACE WALK
NOT TO SCALE



NOTE: SHOWN FOR STANDARD CURB. SIMILAR TO REJECT

9 PCC PAVING SURFACE
NOT TO SCALE



13 LIMESTONE WALL SECTION
NOT TO SCALE

FEH DESIGN
OCONOMOWOC, WI (262) 968-2055
DUBUQUE, IA (563) 583-4900
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SIOUX CITY, IA (712) 252-3889
IN ASSOCIATION WITH
BUESING ASSOCIATES INC.
ENGINEERS AND SURVEYORS
1212 LOCUST ST. DUBUQUE, IA
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SHEET TITLE
SITE DETAILS

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CASCADE, IOWA

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C5.1

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

DATE ISSUED 14 JULY 2023
REV. NO. DATE

PROJECT NUMBER 2021310

SHEET A1.1

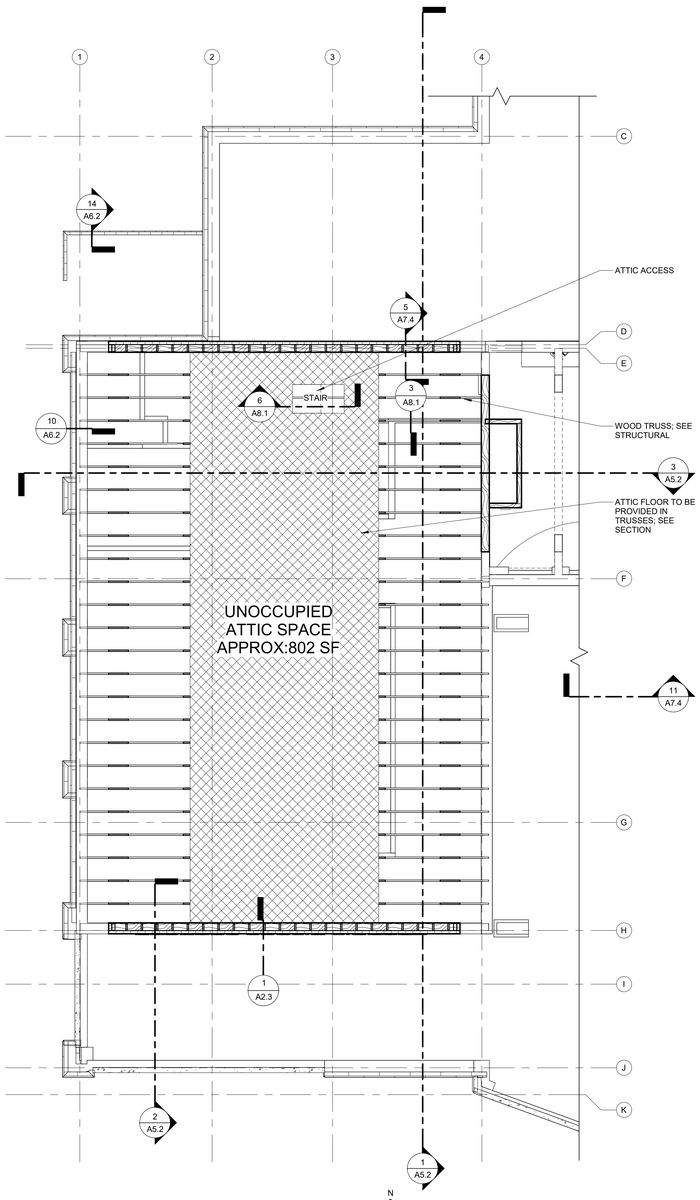
SHEET TITLE
FLOOR PLANS

IN ASSOCIATION WITH
DESIGNING solutions, inc.
DELTA3
SIOUX CITY, IA (712) 252-3889
DES MOINES, IA (515) 288-2000
DUBUQUE, IA (563) 583-4900
OCONOMOWOC, WI (262) 968-2055
FEH DESIGN

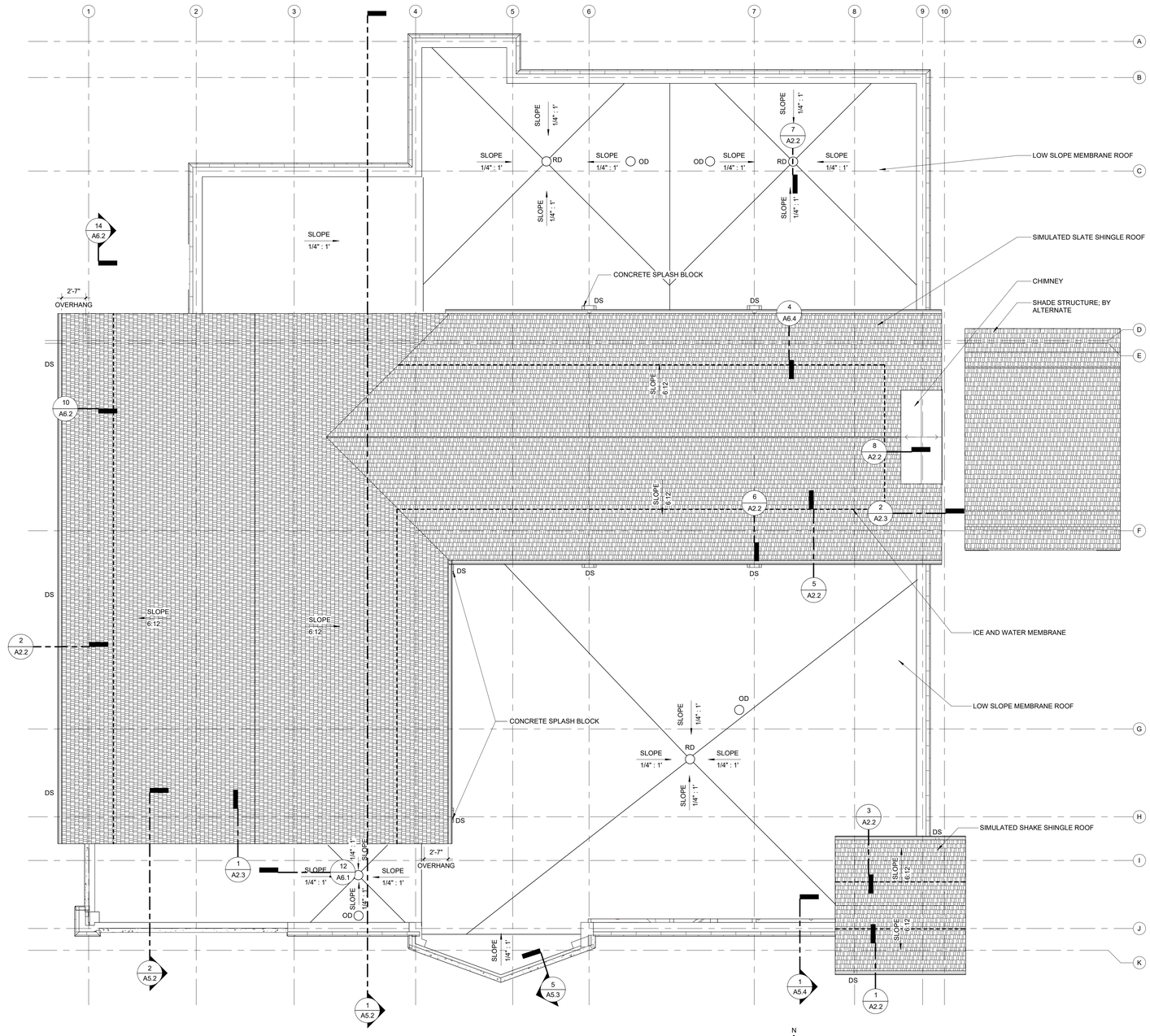
1 MAIN FLOOR PLAN
SCALE: 3/16" = 1'-0"

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

FLOOR PLAN LEGEND
FE FIRE EXTINGUISHER ON BRACKET (FE)
FEC FIRE EXTINGUISHER CABINET (FEC)



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



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

ROOF NOTE: SLOPE @ 1/4" PER FOOT AT MEMBRANE
SLOPE 6:12 AT SHINGLES
ROOF R-VALUE R-30 AVERAGE
PROVIDE ICE AND WATER SHIELD AT ROOF PERIMETER 4'-0" MIN. AND VALLEYS OF SHINGLE AREAS
ROOF TO HAVE 1/2" COVERBOARD AT MEMBRANE LOCATIONS TO ACCOMMODATE FUTURE SOLAR PANELS

ROOF PLAN LEGEND

DS - DOWN SPOUT
OD - OVERFLOW DRAIN
TI - TAPERED INSULATION

ROOF PAD
ATTIC FLOOR
TAPERED INSULATION
SHINGLES

PRELIMINARY
NOT FOR CONSTRUCTION

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DUBUQUE, IA (563) 583-4900
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FEHDESIGN.COM

IN ASSOCIATION WITH
RUESING Associates, Inc.
DELTA 3

SHEET TITLE
ROOF PLAN

PROJECT TITLE
CITY OF CASCADE
CASCADE PUBLIC LIBRARY
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CASCADE, IOWA

DATE ISSUED 14 JULY 2023

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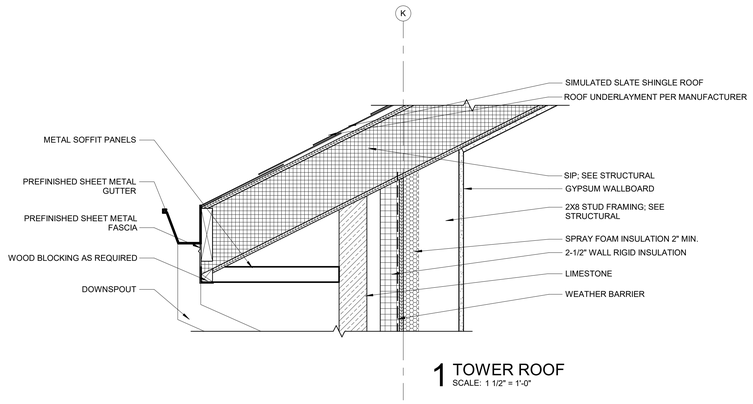
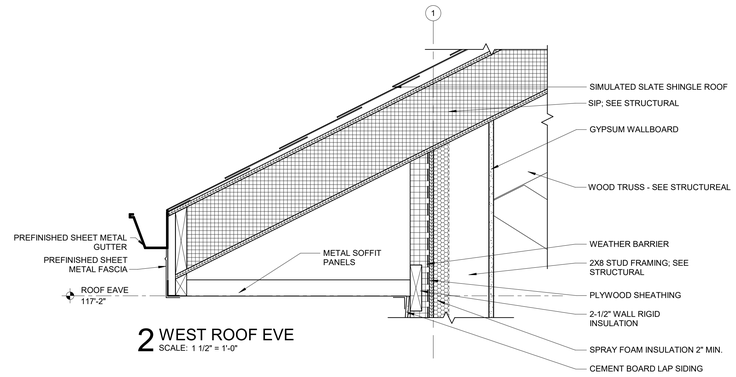
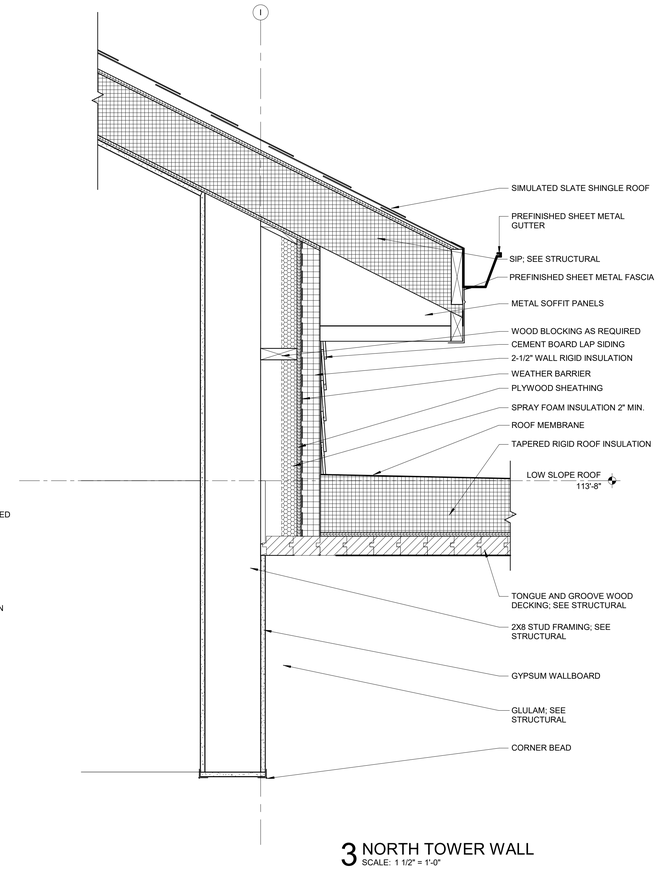
SHEET
A2.1



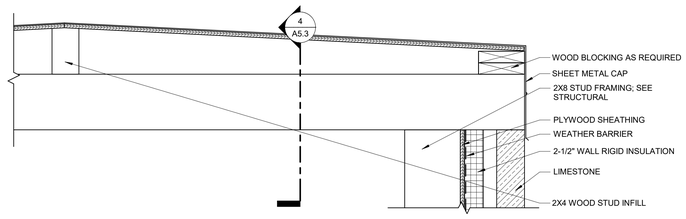
1 TOWER ROOF
SCALE: 1 1/2" = 1'-0"



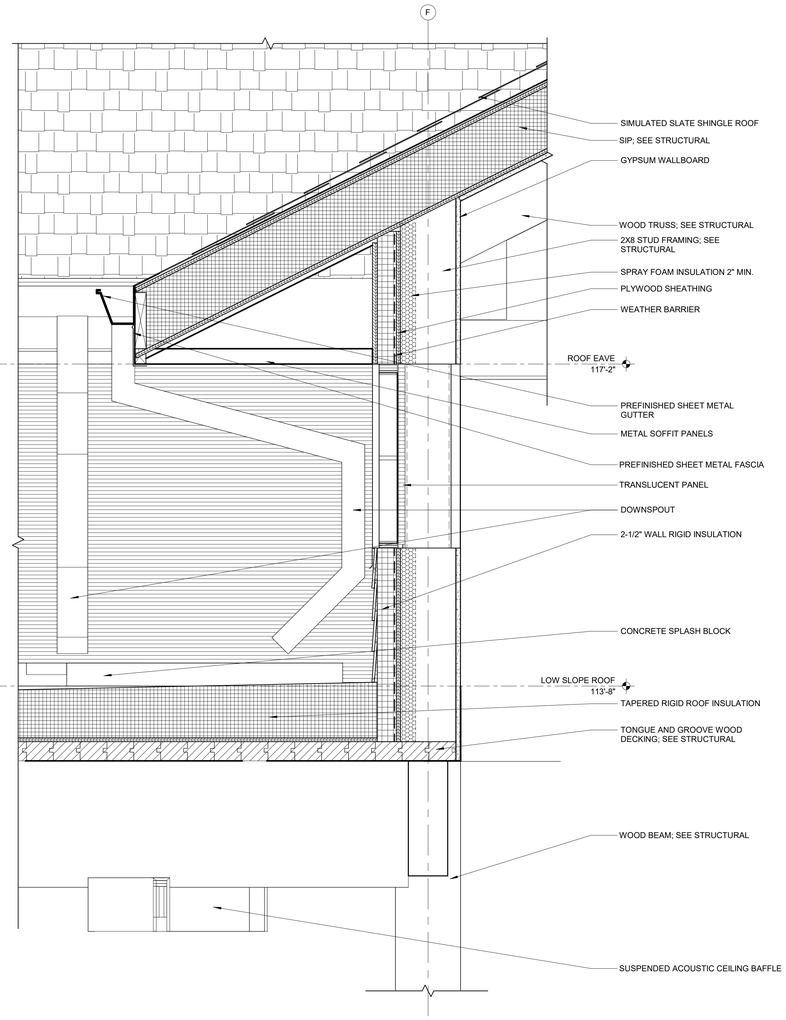
2 WEST ROOF EVE
SCALE: 1 1/2" = 1'-0"



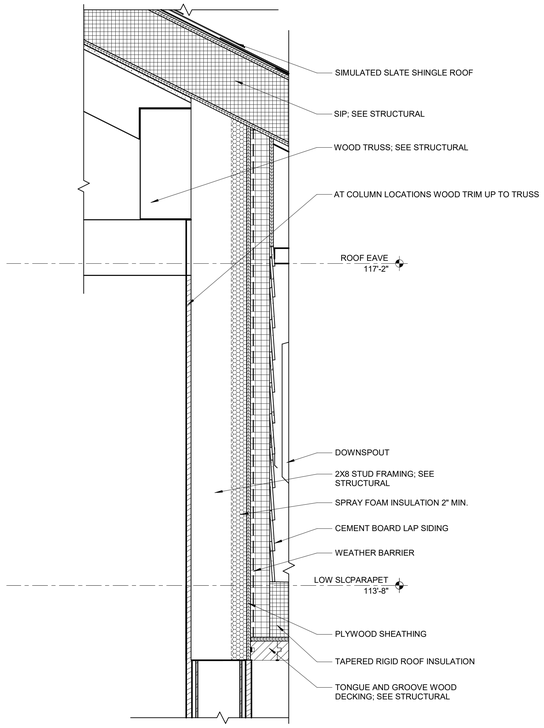
3 NORTH TOWER WALL
SCALE: 1 1/2" = 1'-0"



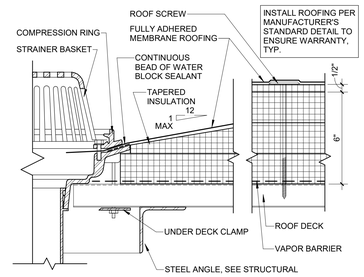
4 CHIMNEY CAP
SCALE: 1 1/2" = 1'-0"



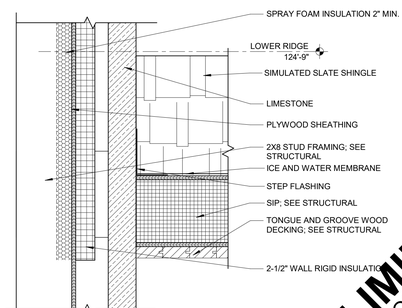
5 CLERESTORY SOUTH WALL
SCALE: 1 1/2" = 1'-0"



6 CLERESTORY COLUMN
SCALE: 1 1/2" = 1'-0"



7 ROOF DRAIN DETAIL
SCALE: 3" = 1'-0"



8 CHIMNEY AND ROOF DETAIL
SCALE: 1 1/2" = 1'-0"

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IN ASSOCIATION WITH
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DELTA 3

SHEET TITLE
ROOF DETAILS

PROJECT TITLE
CITY OF CASCADE
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CASCADE, IOWA

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PROJECT NUMBER
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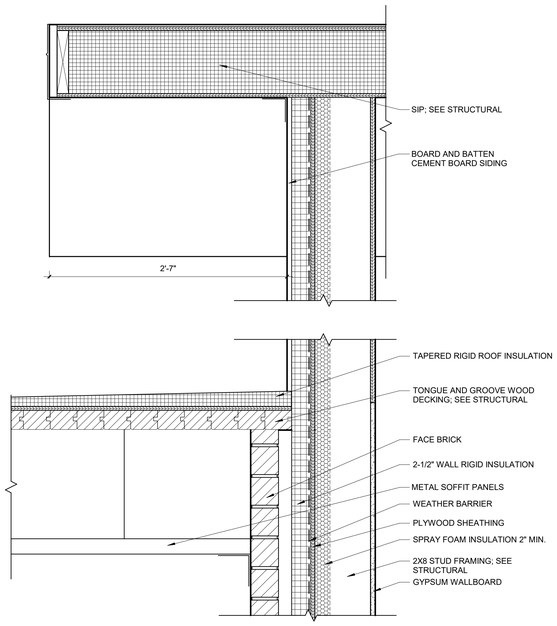
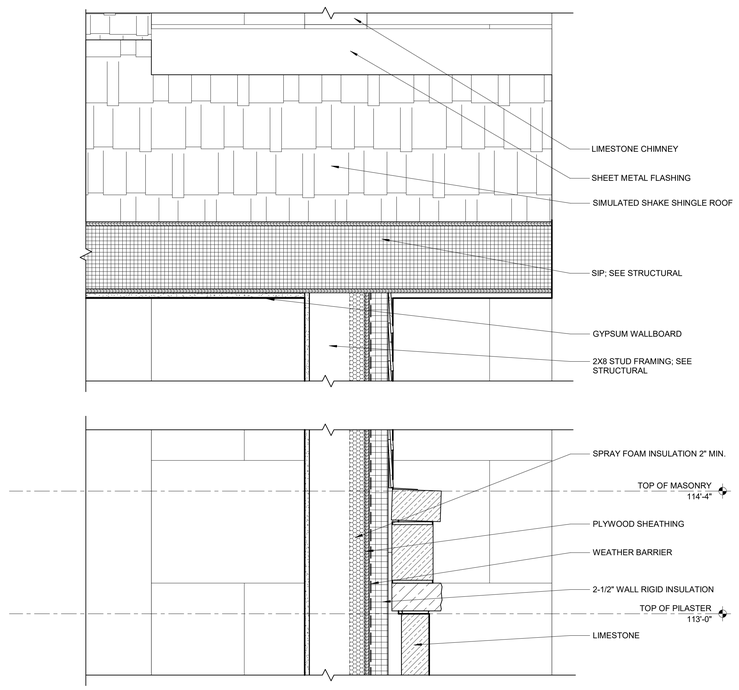
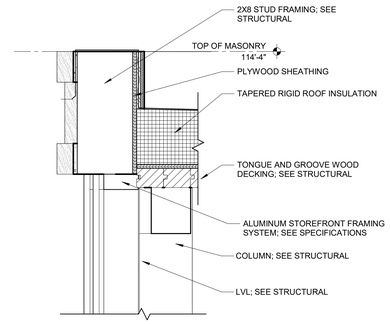
SHEET
A2.2



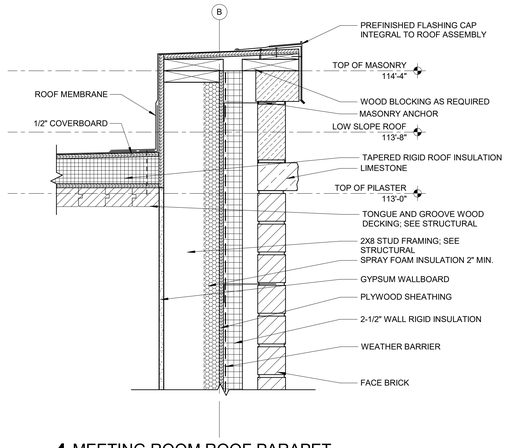
1 SOUTH ATTIC WALL
SCALE: 1 1/2" = 1'-0"



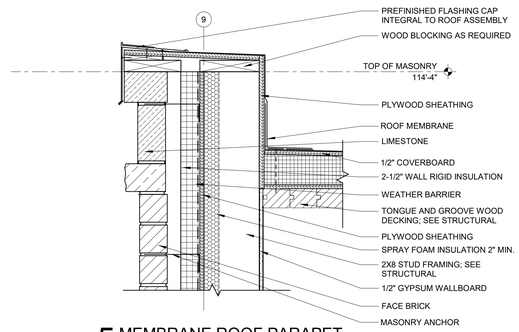
2 CLERESTORY WALL - WEST
SCALE: 1 1/2" = 1'-0"



3 CHILDREN'S STOREFRONT PARAPET
SCALE: 1 1/2" = 1'-0"



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



5 MEMBRANE ROOF PARAPET
SCALE: 1 1/2" = 1'-0"

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DES MOINES, IA
(515) 288-2000
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DELTA 3

SHEET TITLE
ROOF DETAILS

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CASCADE, IOWA

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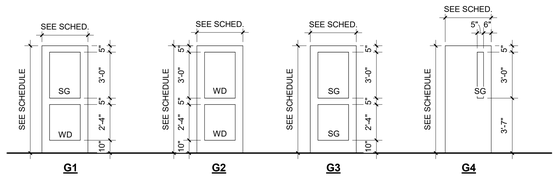
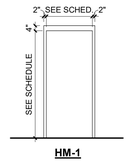
SHEET
A2.3

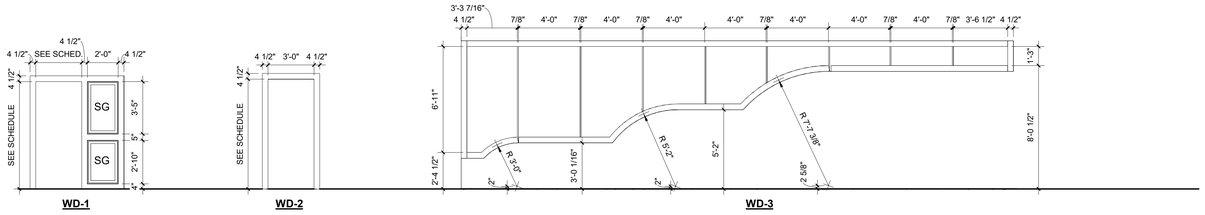


DOOR TYPE ELEVATIONS
SCALE: 1/4" = 1'-0"



HOLLOW METAL FRAME ELEVATIONS
SCALE: 1/4" = 1'-0"

DOOR SCHEDULE												
	DOOR							FRAME			
	SIZE					Head	Jamb				
NUMBER	WIDTH	HEIGHT	DOOR TYPE	DOOR MATERIAL	GLAZING			FRAME TYPE	FIRE RATING	Hardware Set	COMMENTS
100.1	6'-0"	7'-2"	G3	AL	ISG	12/A6.1	5/A6.1	AL-1			ACCESS CONTROL
100.2	6'-0"	7'-2"	G3	AL	SG	12/A6.1 SIM.	5/A6.1 SIM	AL-2			
102.1	3'-0"	7'-0"	G1	WD	SG	9/A3.1	9/A3.1		20 MIN		
102.2	3'-0"	7'-0"	G1	WD	SG	9/A3.1	9/A3.1		20 MIN		
103.1	3'-0"	7'-0"	G2	WD		9/A3.1	9/A3.1		20 MIN		
104.1	3'-0"	7'-0"	G2	WD		9/A3.1	9/A3.1		20 MIN		
105.1	6'-0"	7'-0"	G2	WD		9/A3.1	9/A3.1				
106.1	3'-0"	7'-0"	G2	WD		9/A3.1	9/A3.1		20 MIN		
107.1	3'-0"	7'-0"	G4	HM	ISG	7/A3.1	8/A3.1	HM-1			ACCESS CONTROL
108.1	3'-0"	7'-0"	G2	WD		9/A3.1	9/A3.1		20 MIN		
109.1	3'-0"	7'-0"	G2	WD		9/A3.1	9/A3.1		20 MIN		
110.1	3'-0"	7'-0"	G2	WD		9/A3.1	9/A3.1				
112.1	6'-0"	7'-0"	G2	WD		9/A3.1	9/A3.1		20 MIN		
113.1	3'-0"	7'-0"	G1	WD	SG	9/A3.1	9/A3.1				
115.1	3'-0"	7'-0"	G3	WD	SG	9/A3.1	10/A3.1				
116.1	3'-0"	7'-0"	G3	WD	SG	9/A3.1	10/A3.1 SIM.				
117.1	3'-0"	7'-0"	G3	WD	SG	9/A3.1	9/A3.1				
119.1	3'-0"	7'-2"	G3	AL	ISG	12/A6.1 SIM.	4/A6.1	AL-1			
122.1	2'-0"	3'-6"									CASED OPENING
123.1	3'-0"	7'-2"	G3	AL	ISG	12/A6.1 SIM.	4/A6.1 SIM	AL-1			
124.1	3'-0"	7'-0"	G2	WD		9/A3.1	9/A3.1				
125.1	6'-0"	7'-0"	G3	WD	SG	9/A3.1	9/A3.1		20 MIN		



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

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 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.

DOOR / WINDOW SCHEDULE LEGEND

COMMENTS

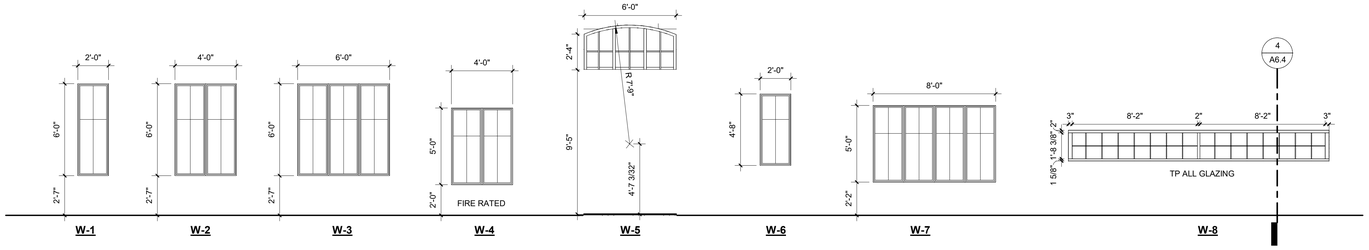
(1) XXXXXX
(2) XXXXXX

MATERIAL

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

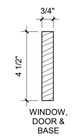
GLAZING

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

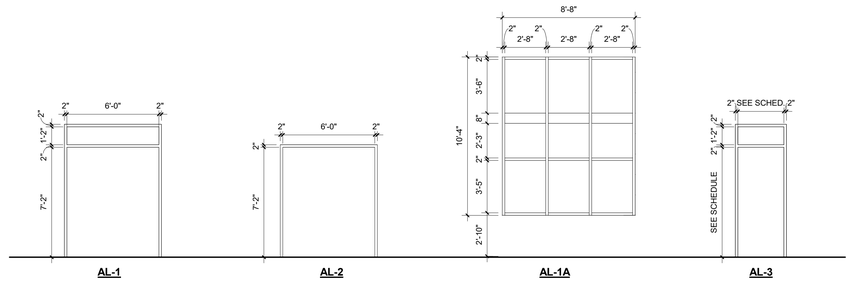


NOTE: FIELD VERIFY ALL DIMENSIONS AND ROUGH OPENINGS

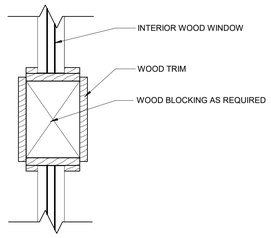
WINDOW TYPE ELEVATIONS
SCALE: 1/4" = 1'-0"



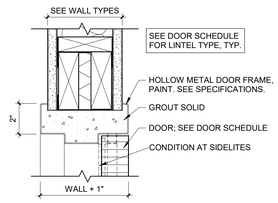
TRIM PROFILES
SCALE: 3" = 1'-0"



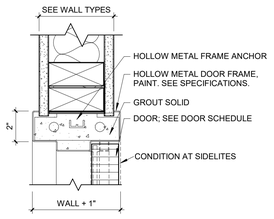
ALUMINUM FRAME ELEVATIONS
SCALE: 1/4" = 1'-0"



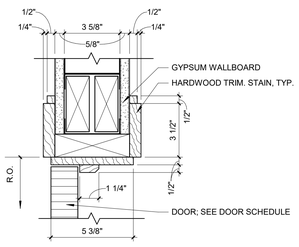
6 INTERIOR WOOD WINDOW HORIZONTAL
SCALE: 3" = 1'-0"



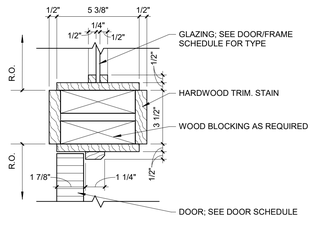
7 HM HEAD
SCALE: 3" = 1'-0"



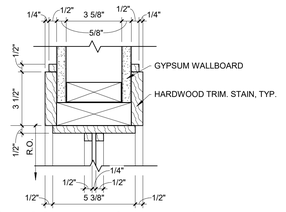
8 HM JAMB
SCALE: 3" = 1'-0"



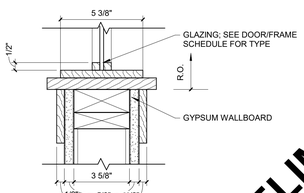
9 WOOD HEAD/JAMB
SCALE: 3" = 1'-0"



10 WOOD JAMB
SCALE: 3" = 1'-0"



11 WOOD WINDOW HEAD/JAMB
SCALE: 3" = 1'-0"



12 WOOD SILL
SCALE: 3" = 1'-0"

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SHEET TITLE
DOOR SCHEDULE

PROJECT TITLE
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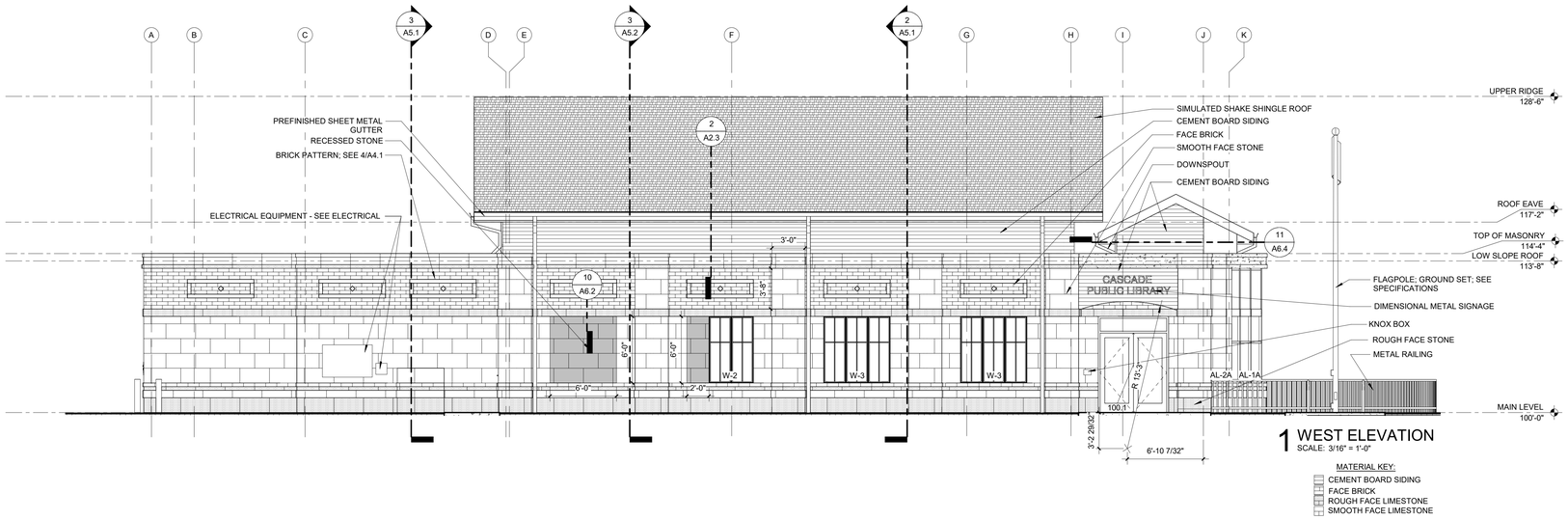
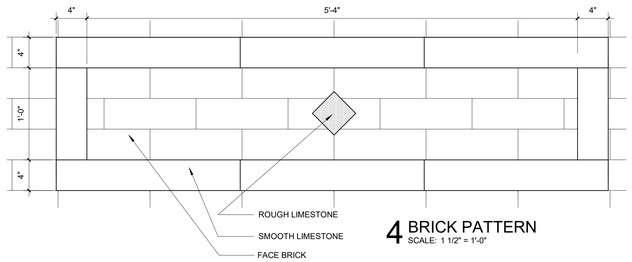
SHEET
A3.1

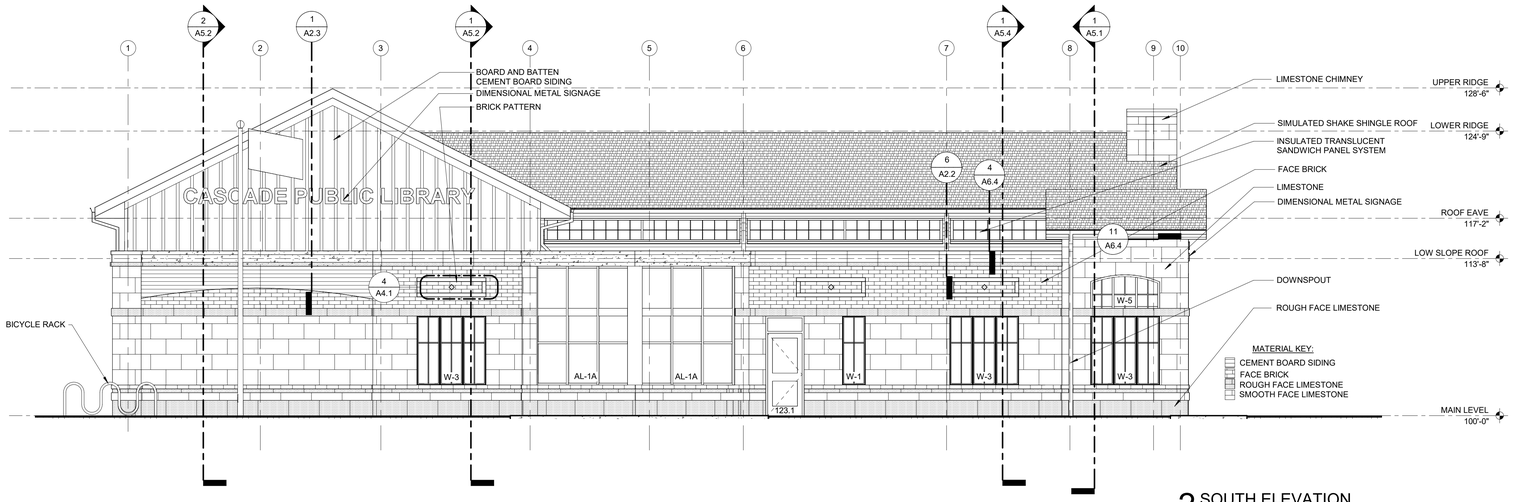


1 WEST ELEVATION
SCALE: 3/16" = 1'-0"

MATERIAL KEY:
- CEMENT BOARD SIDING
- FACE BRICK
- ROUGH FACE LIMESTONE
- SMOOTH FACE LIMESTONE

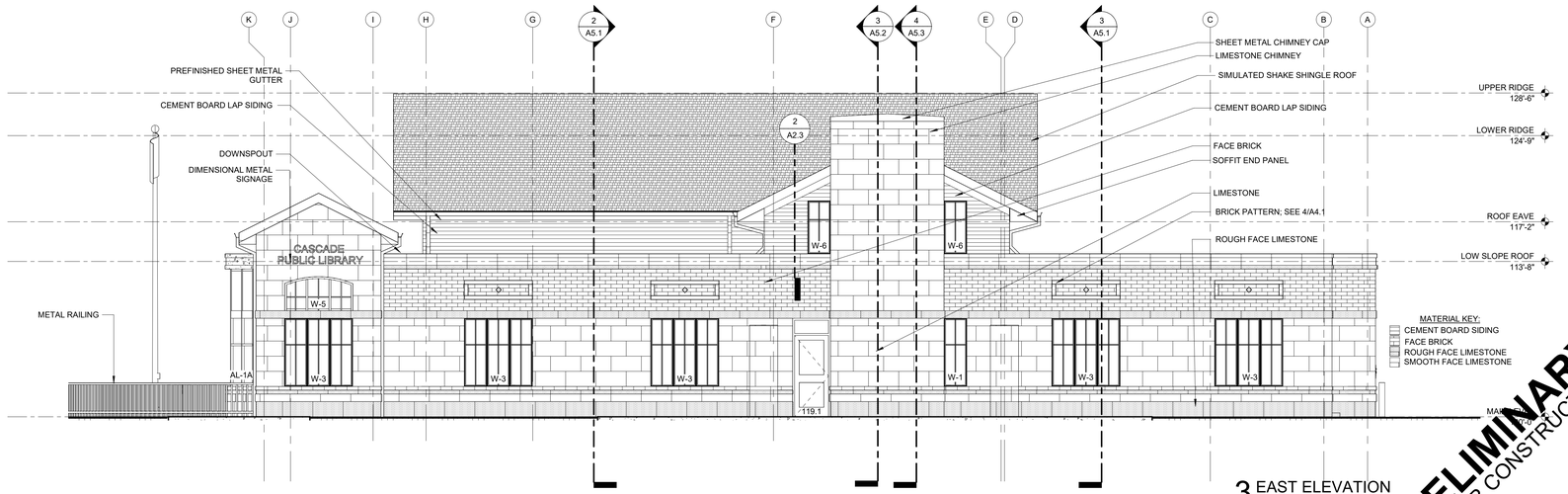


4 BRICK PATTERN
SCALE: 1 1/2" = 1'-0"



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

MATERIAL KEY:
- CEMENT BOARD SIDING
- FACE BRICK
- ROUGH FACE LIMESTONE
- SMOOTH FACE LIMESTONE



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

MATERIAL KEY:
- CEMENT BOARD SIDING
- FACE BRICK
- ROUGH FACE LIMESTONE
- SMOOTH FACE LIMESTONE

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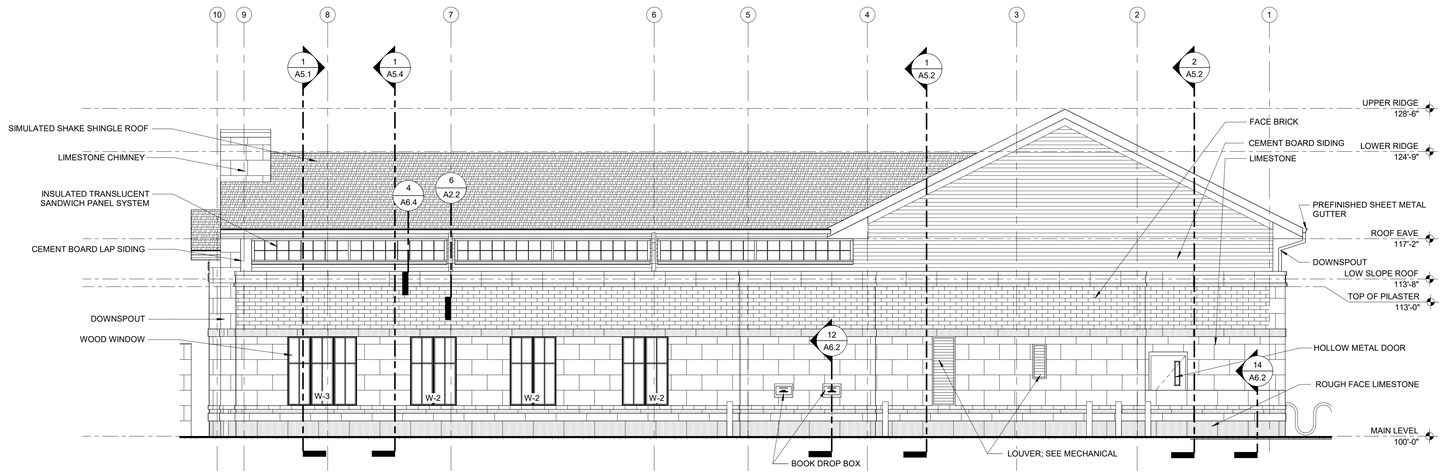
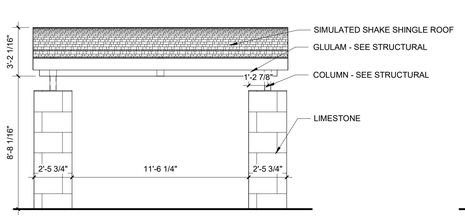
SHEET
A4.1

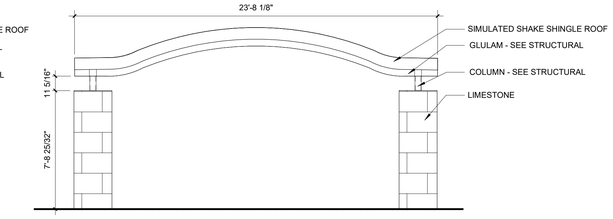


1 NORTH ELEVATION
SCALE: 3/16" = 1'-0"

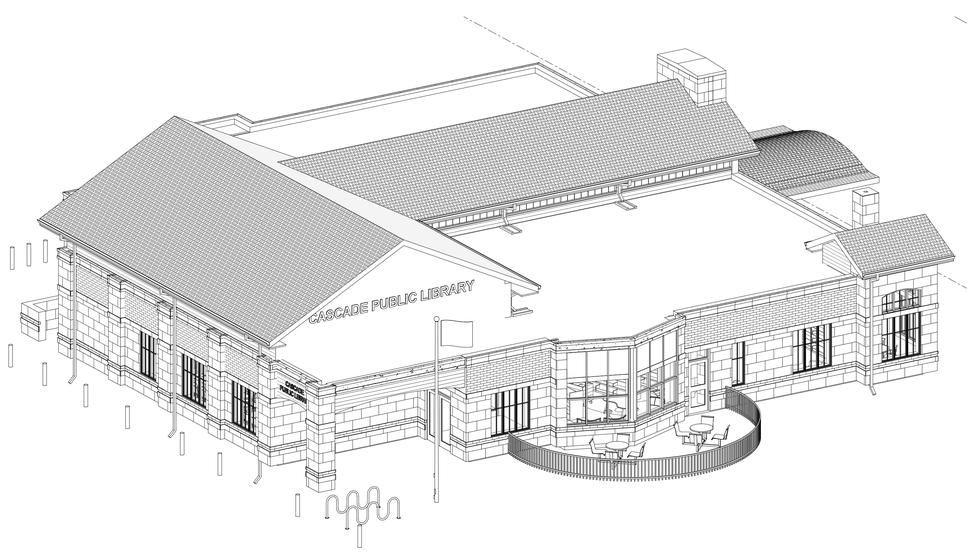
MATERIAL KEY:
- CEMENT BOARD SIDING
- FACE BRICK
- ROUGH FACE LIMESTONE
- SMOOTH FACE LIMESTONE



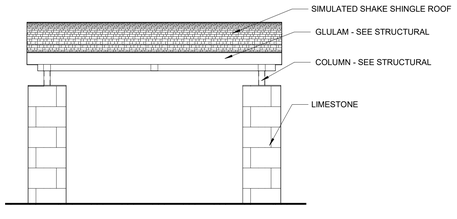
5 SHADE STRUCTURE - NORTH, ALT.
SCALE: 1/4" = 1'-0"



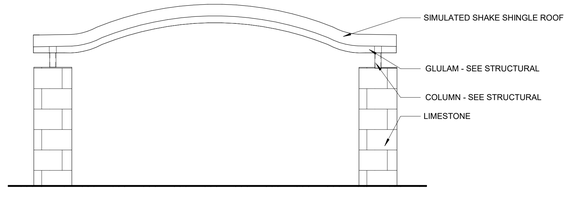
4 SHADE STRUCTURE - EAST, ALT.
SCALE: 1/4" = 1'-0"



2 3D VIEW - SOUTH WEST
SCALE:



3 SHADE STRUCTURE - SOUTH, ALT.
SCALE: 1/4" = 1'-0"



6 SHADE STRUCTURE - WEST, ALT.
SCALE: 1/4" = 1'-0"

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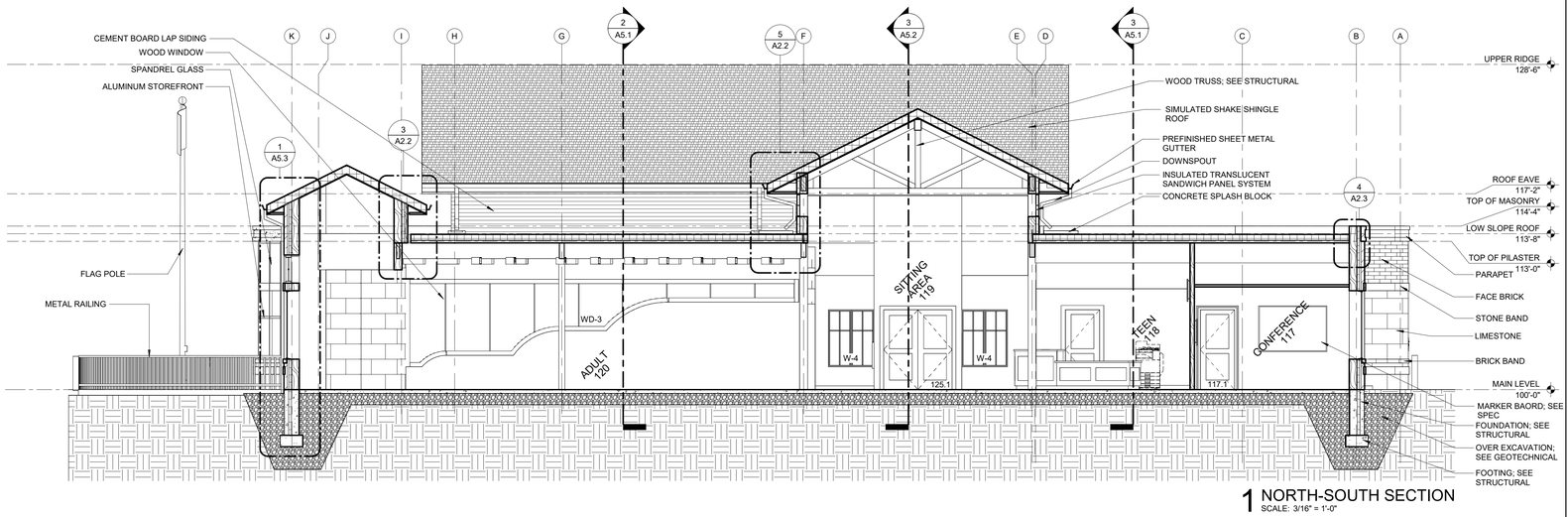
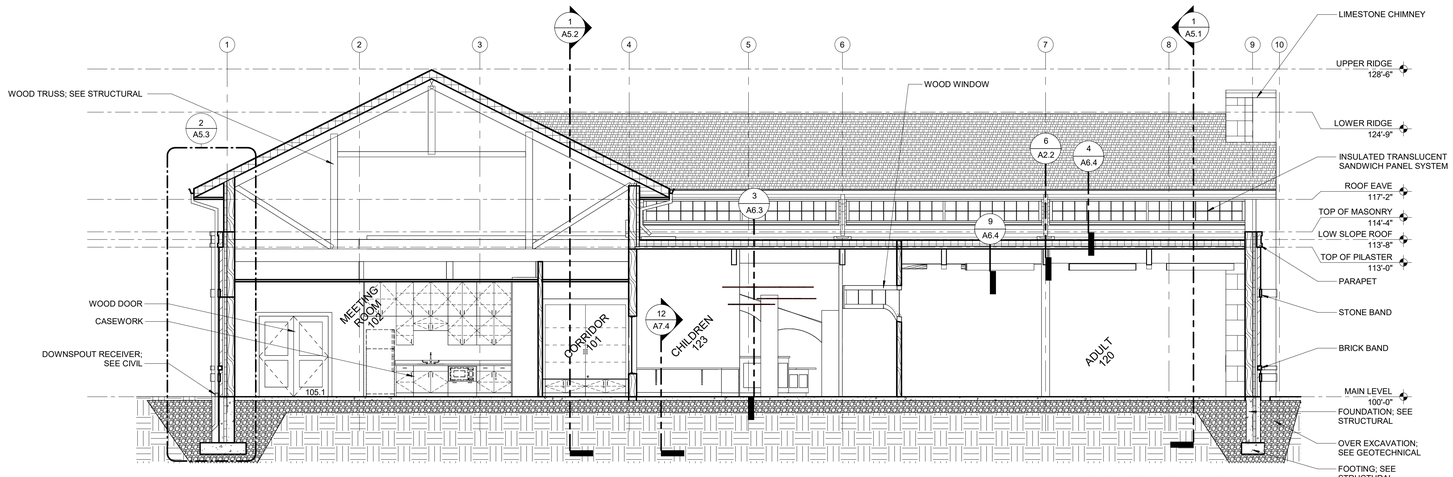
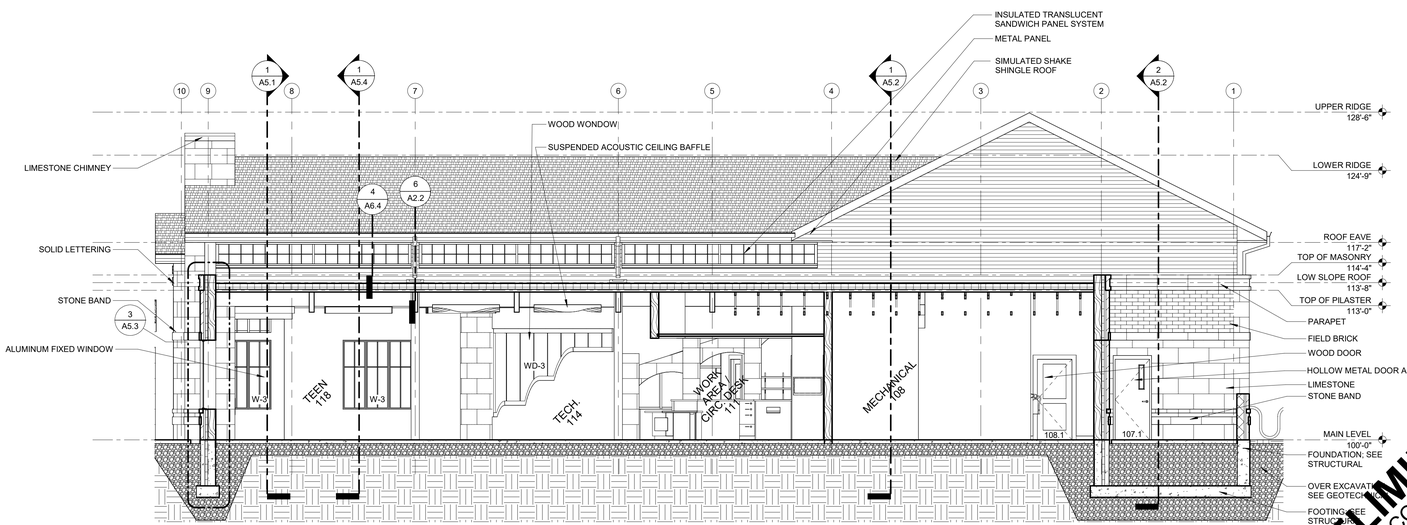
A4.2



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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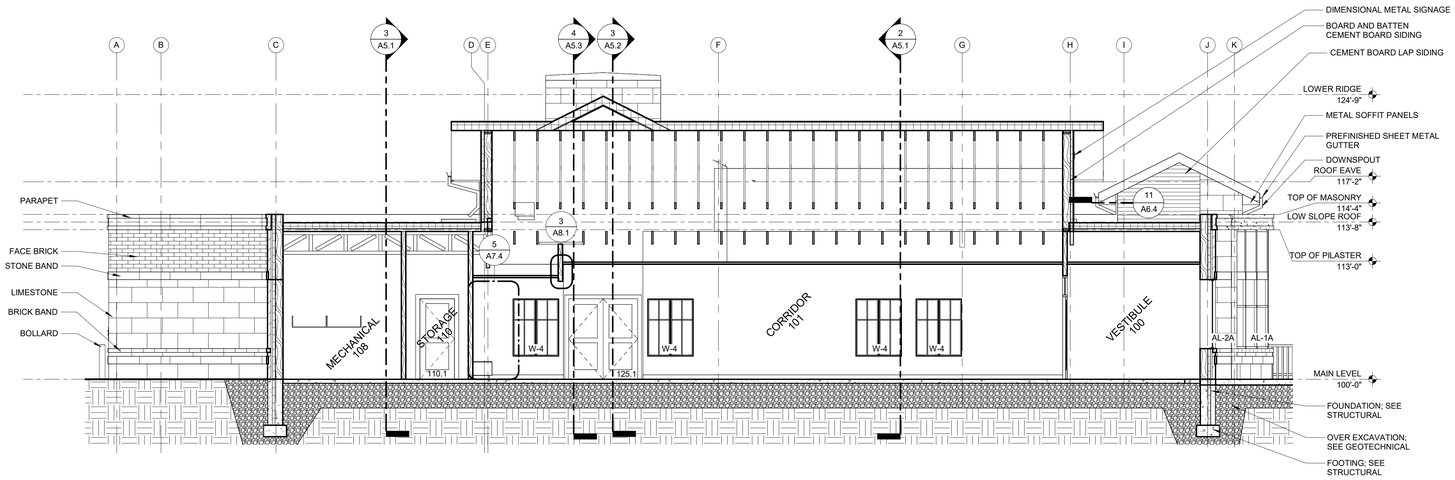
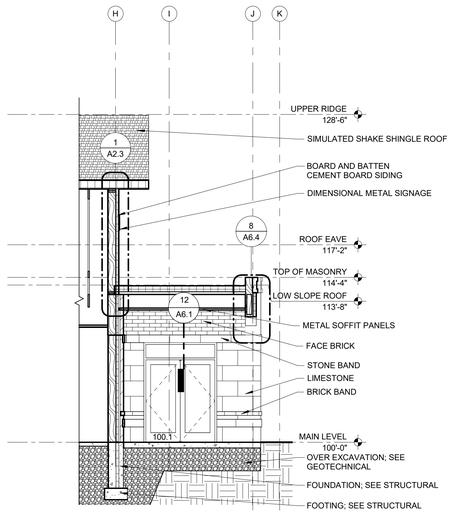
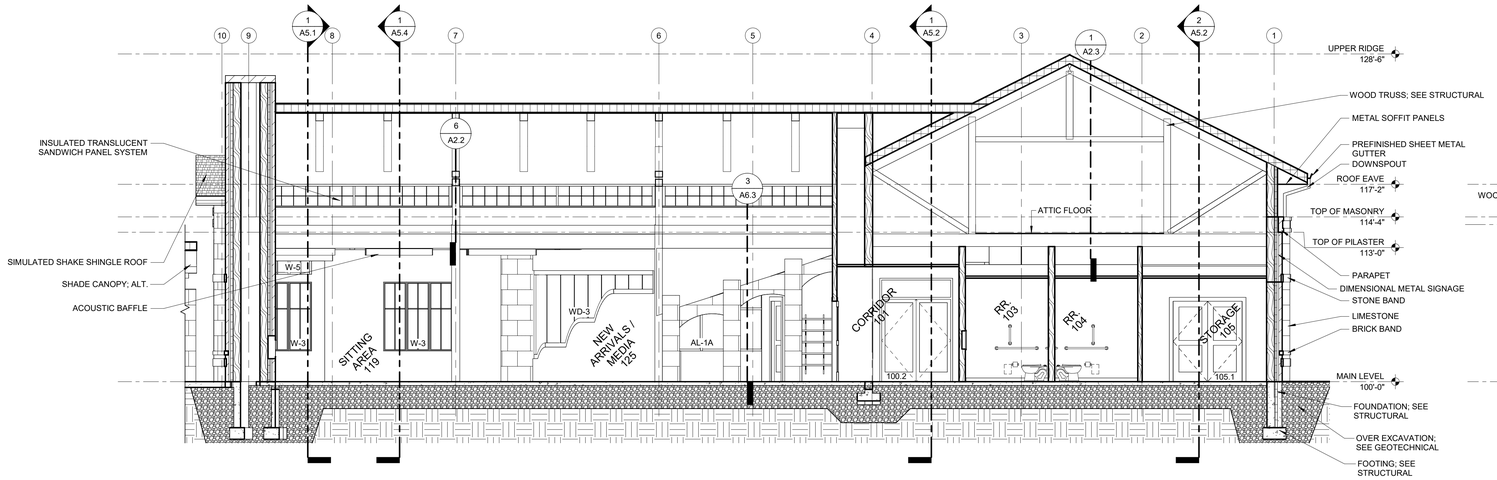


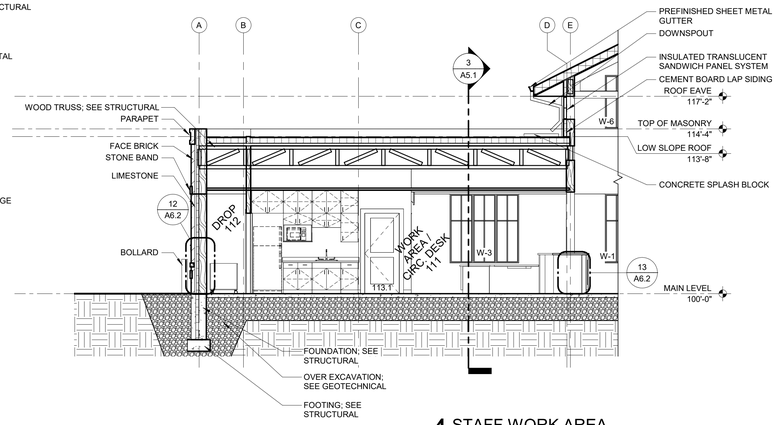
1 CORRIDOR SECTION
SCALE: 3/16" = 1'-0"



2 FRONT ENTRY
SCALE: 3/16" = 1'-0"



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



4 STAFF WORK AREA
SCALE: 3/16" = 1'-0"

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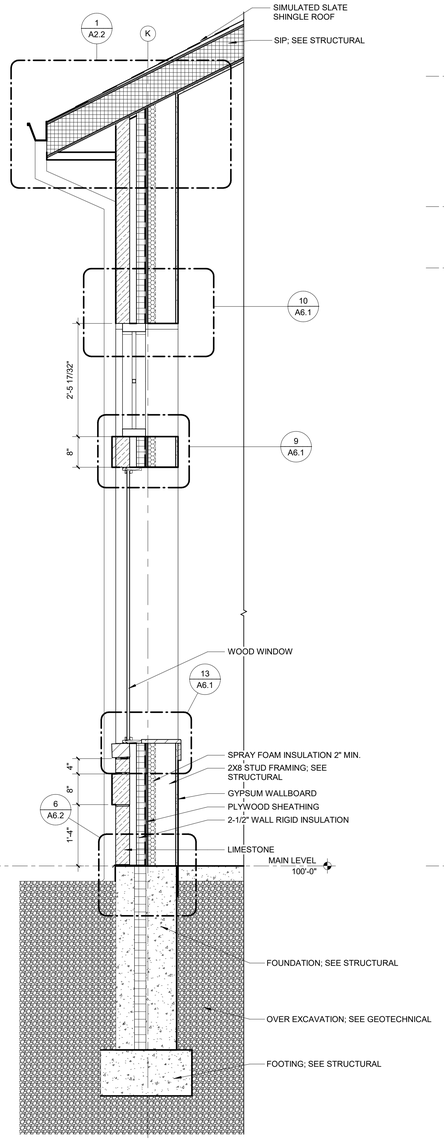
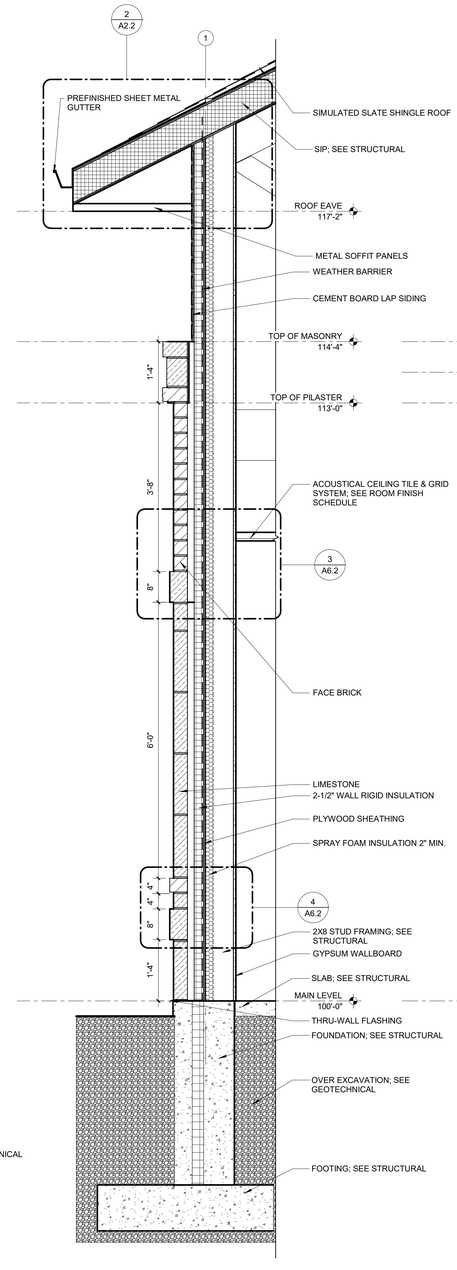
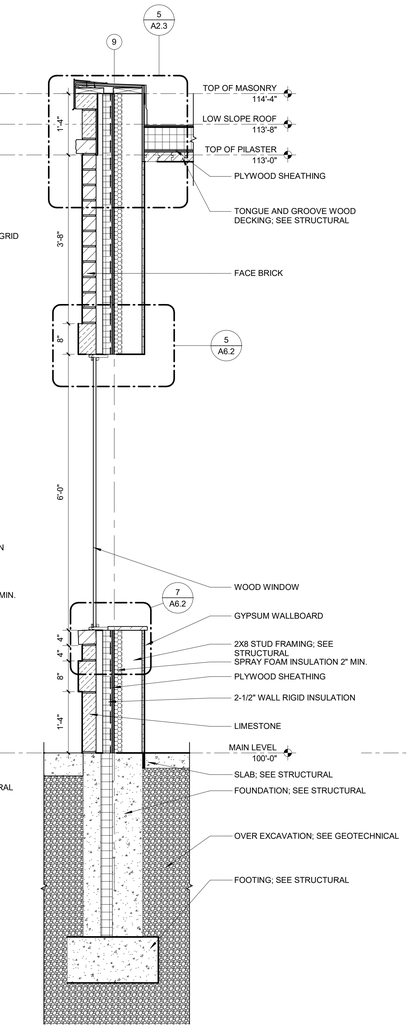
SHEET
A5.2



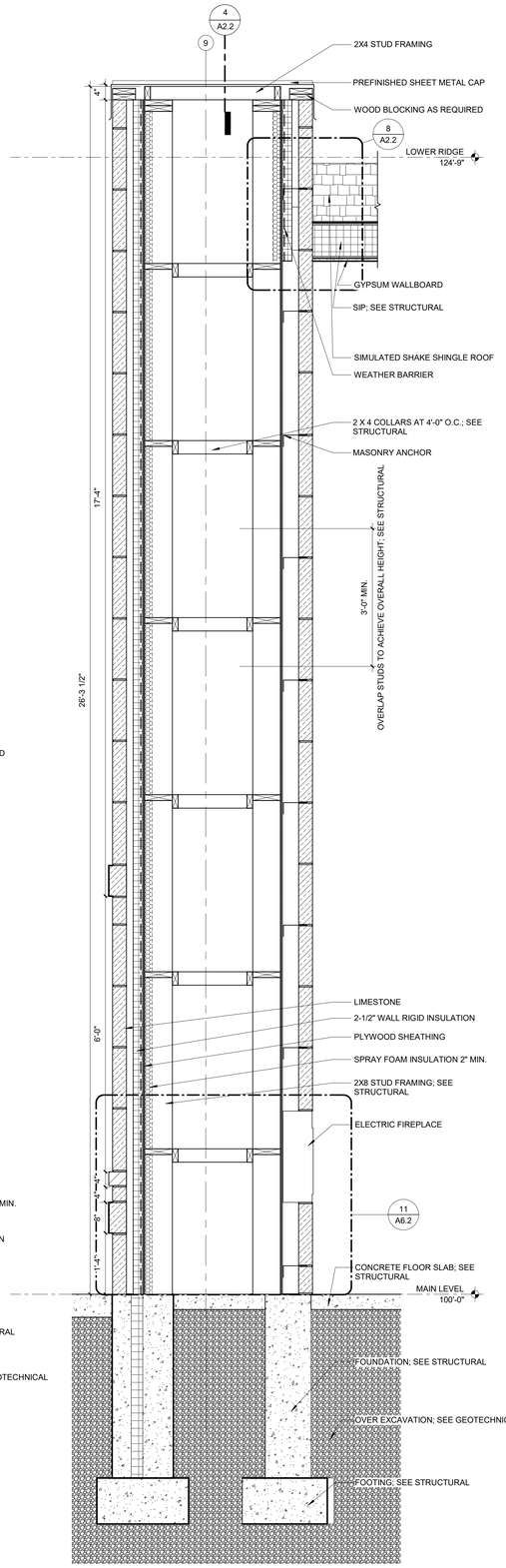
1 TOWER WALL
SCALE: 3/4" = 1'-0"



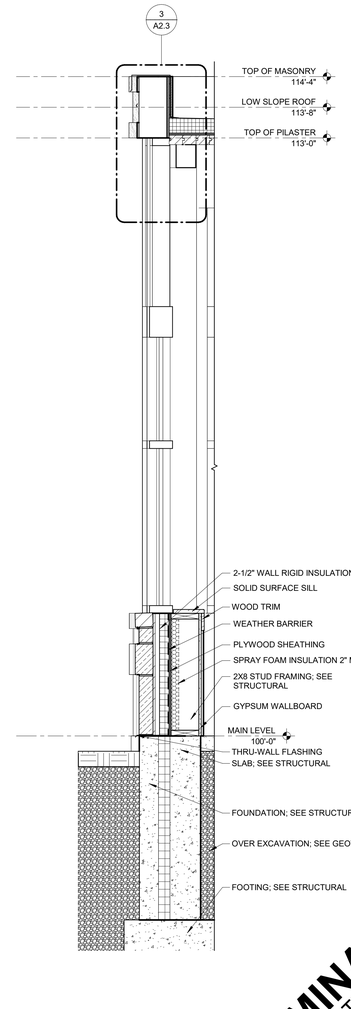
2 WEST WALL
SCALE: 3/4" = 1'-0"



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



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



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

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SHEET TITLE
WALL SECTIONS

PROJECT TITLE
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CASCADE, IOWA

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PROJECT NUMBER
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SHEET
A5.3

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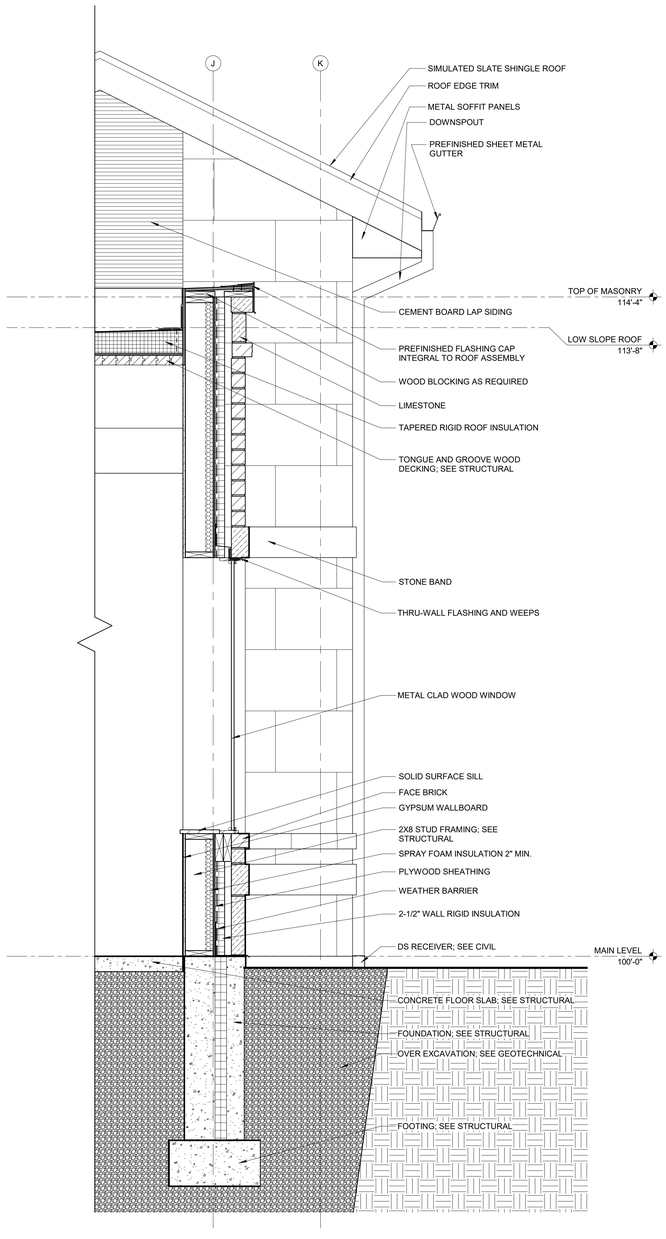

1 WINDOW 120G
SCALE: 3/4" = 1'-0"

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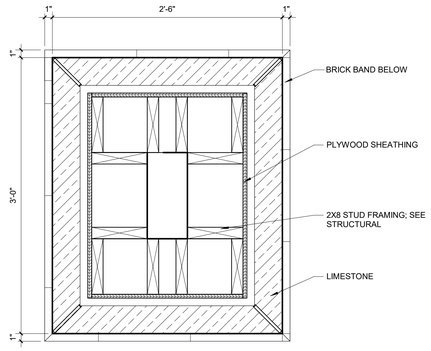
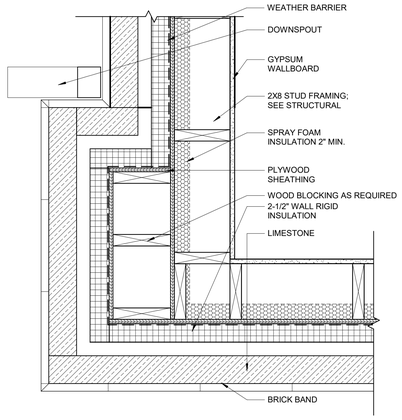
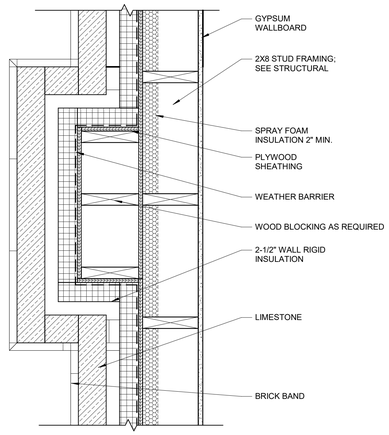
SHEET
A5.4



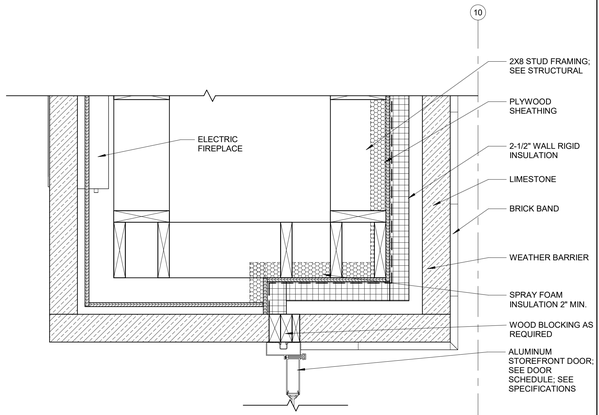
1 ENTRY COLUMN
SCALE: 1 1/2" = 1'-0"



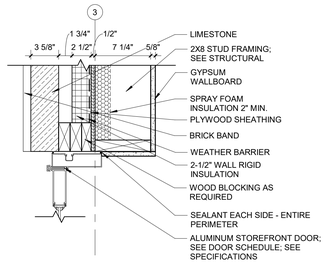
2 CORNER PIER
SCALE: 1 1/2" = 1'-0"



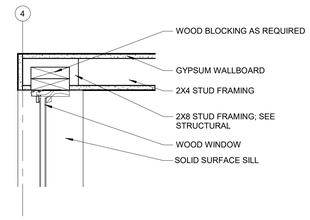
3 CENTER PIER
SCALE: 1 1/2" = 1'-0"



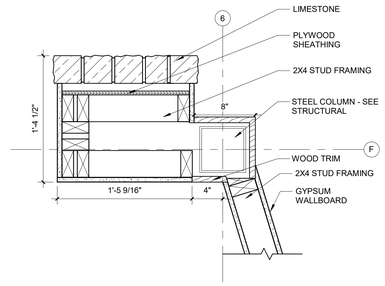
4 DOOR 119 JAMB
SCALE: 1 1/2" = 1'-0"



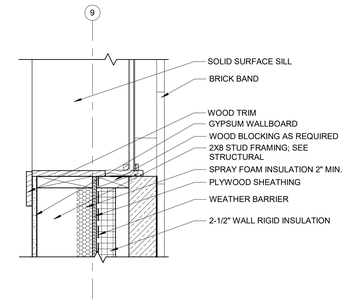
5 DOOR 100.1 JAMB
SCALE: 1 1/2" = 1'-0"



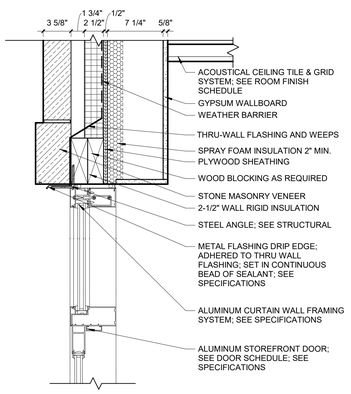
6 CORRIDOR WINDOW - FIRE RATED
SCALE: 1 1/2" = 1'-0"



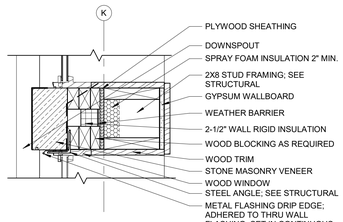
7 ANGLED WALL AND CHILDRENS ENTRY
SCALE: 1 1/2" = 1'-0"



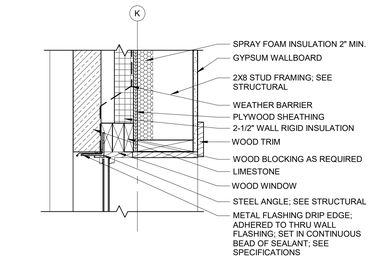
8 WINDOW 120F JAMB
SCALE: 1 1/2" = 1'-0"



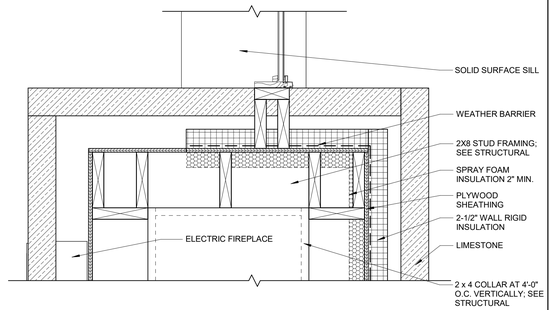
12 AL HEAD - DOOR 100.1
SCALE: 1 1/2" = 1'-0"



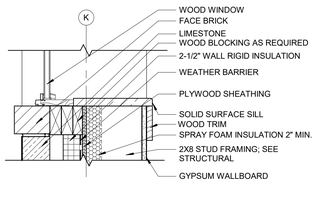
9 TOWER UPPER WINDOW SILL
SCALE: 1 1/2" = 1'-0"



10 TOWER UPPER WINDOW HEAD
SCALE: 1 1/2" = 1'-0"



11 WINDOW 119 JAMB
SCALE: 1 1/2" = 1'-0"



13 TOWER WALL LOWER WINDOW SILL
SCALE: 1 1/2" = 1'-0"

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IN ASSOCIATION WITH
RUESING Associates, Inc.
DELTA 3

SHEET TITLE
DETAILS

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

DATE ISSUED 14 JULY 2023

REV. NO.	DATE

PRELIMINARY
NOT FOR CONSTRUCTION

PROJECT NUMBER
2021310

SHEET
A6.1

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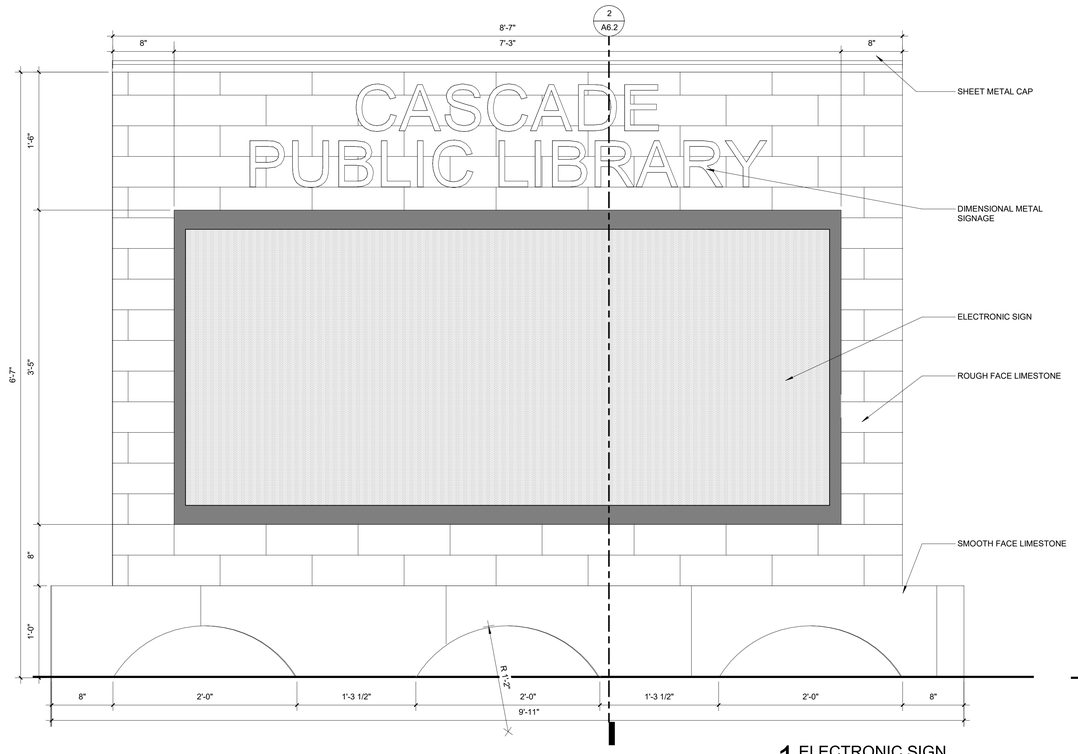
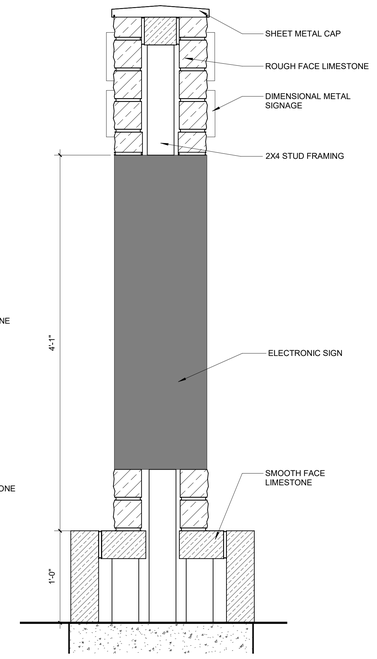
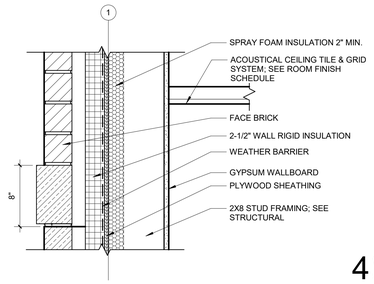


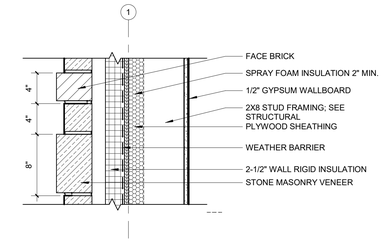
1 ELECTRONIC SIGN
SCALE: 1 1/2" = 1'-0"



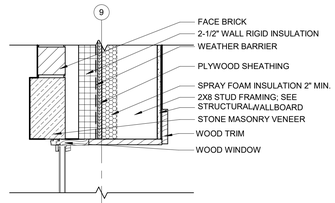
2 ELEC. SIGN SECTION
SCALE: 1 1/2" = 1'-0"



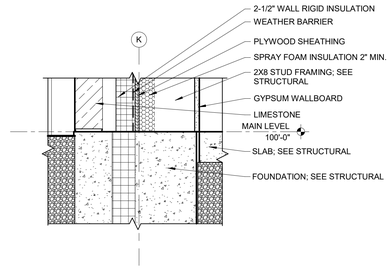
3 WEST WALL - STONE BANDING
SCALE: 1 1/2" = 1'-0"



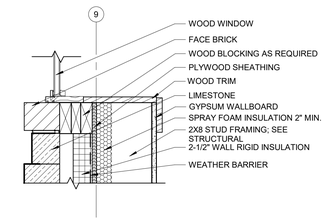
4 WEST WALL - BRICK AND STONE BANDING
SCALE: 1 1/2" = 1'-0"



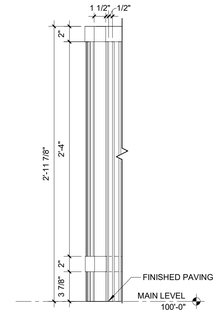
5 WINDOW 118 HEAD
SCALE: 1 1/2" = 1'-0"



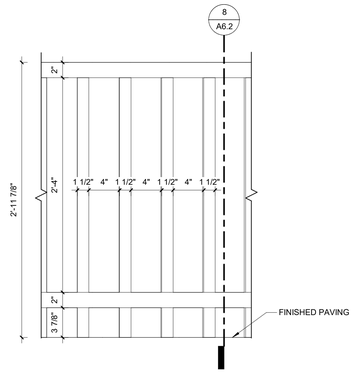
6 TOWER WALL FOUNDATION
SCALE: 1 1/2" = 1'-0"



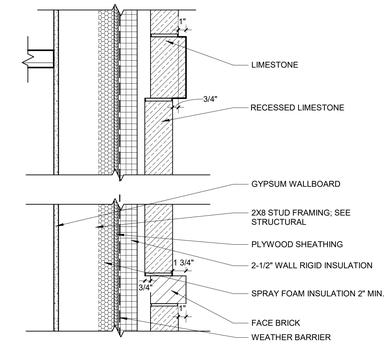
7 WINDOW 118A SILL
SCALE: 1 1/2" = 1'-0"



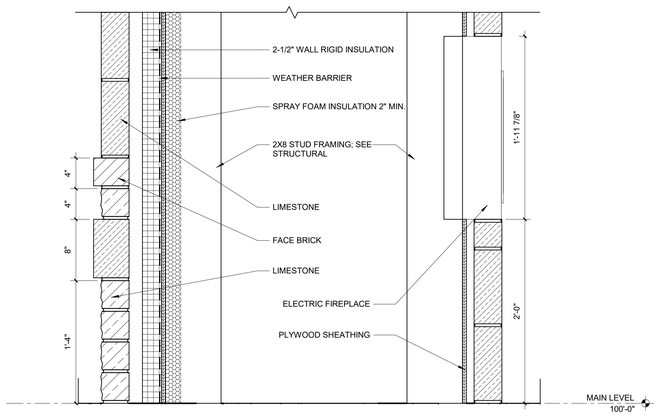
8 CHILDREN'S PATIO RAILING
SCALE: 1 1/2" = 1'-0"



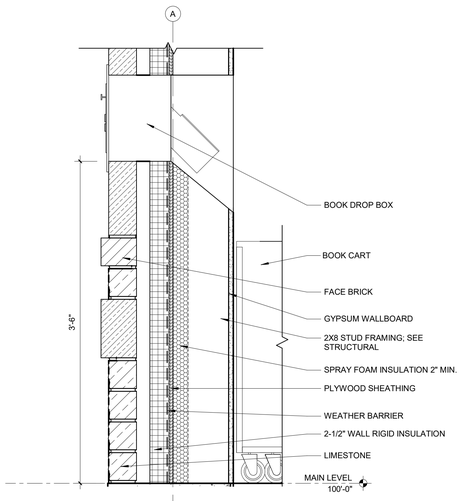
9 CHILDREN'S RAILING ELEVATION
SCALE: 1 1/2" = 1'-0"



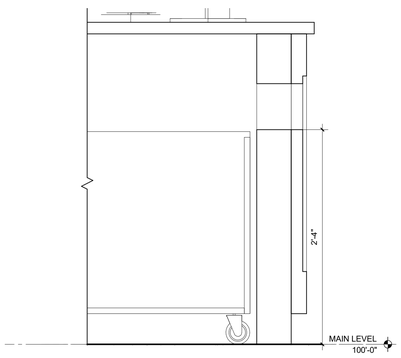
10 RECESSED LIMESTONE - WEST WALL
SCALE: 1 1/2" = 1'-0"



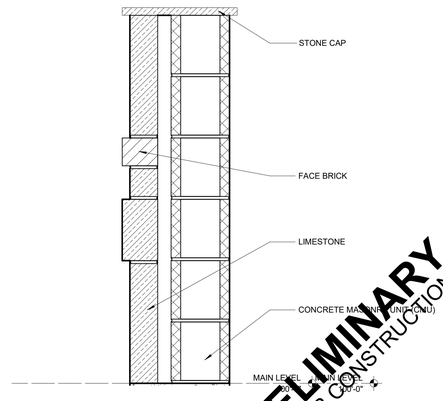
11 FIREPLACE
SCALE: 1 1/2" = 1'-0"



12 EXTERIOR BOOK DROP
SCALE: 1 1/2" = 1'-0"



13 INTERIOR BOOK DROP
SCALE: 1 1/2" = 1'-0"



14 TRASH ENCLOSURE WALL SECTION
SCALE: 1 1/2" = 1'-0"

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SIOUX CITY, IA (712) 252-3889
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DELTA 3

SHEET TITLE
DETAILS

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

DATE ISSUED 14 JULY 2023
REV. NO. DATE

PROJECT NUMBER
2021310

SHEET
A6.2

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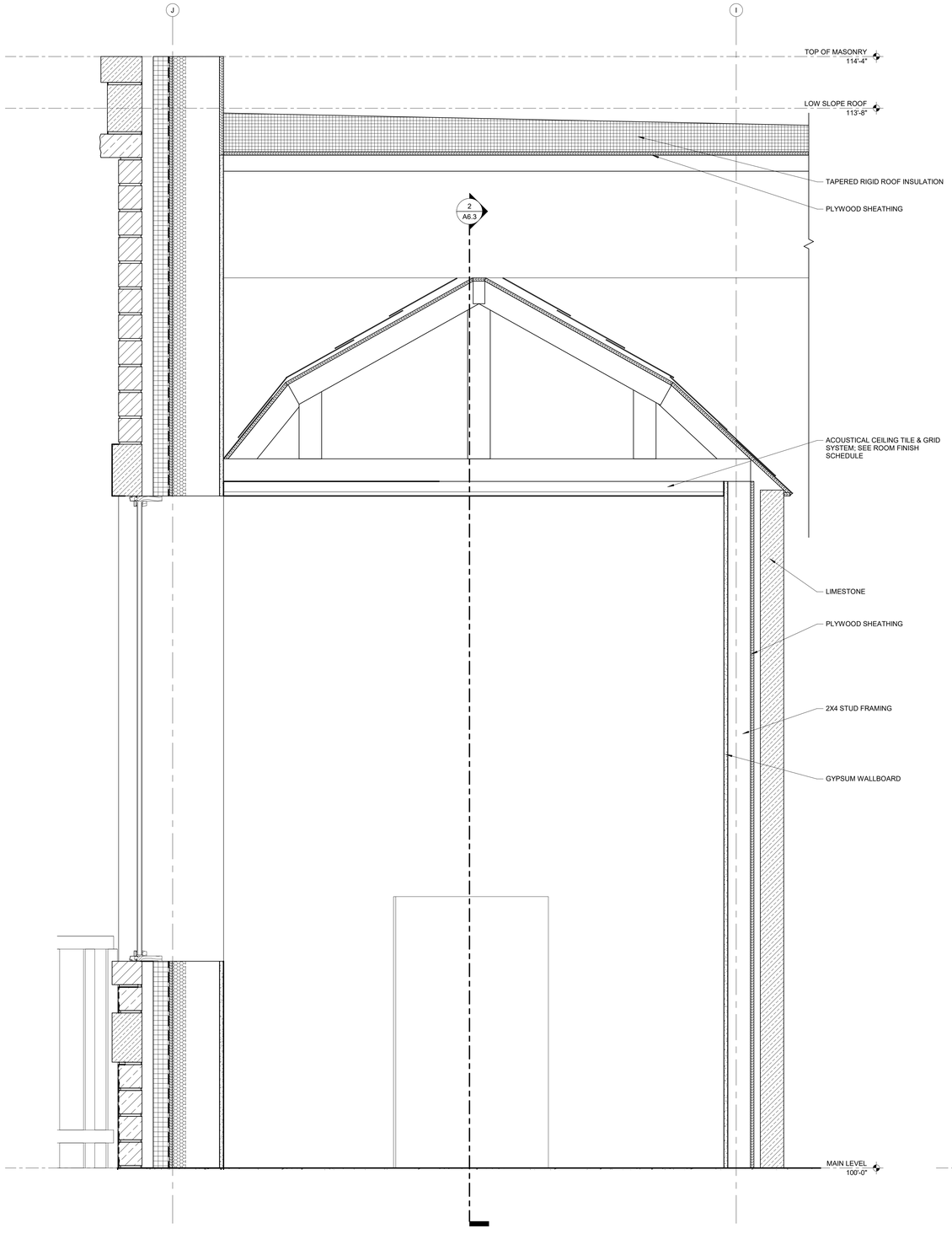
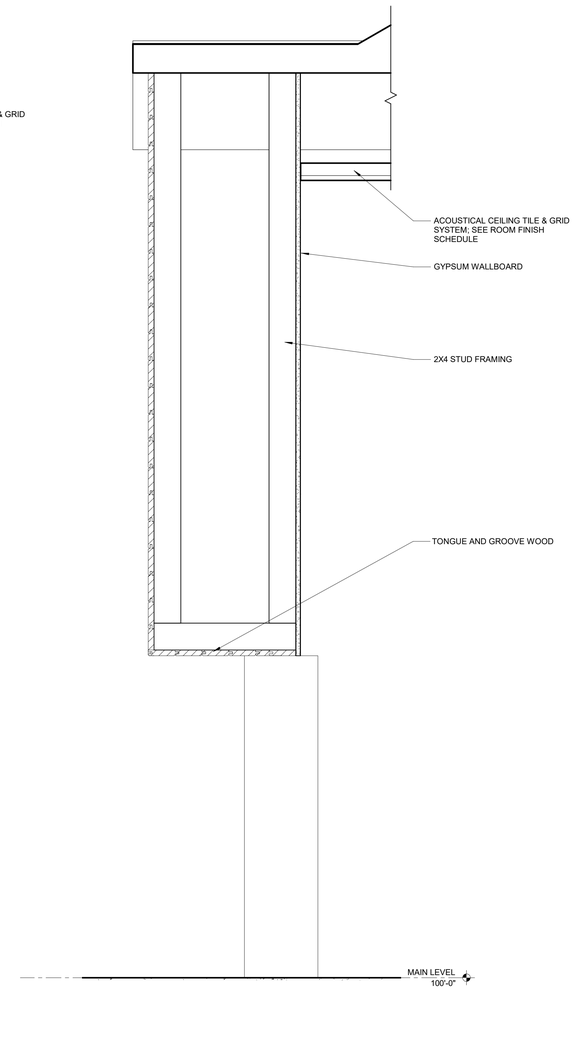
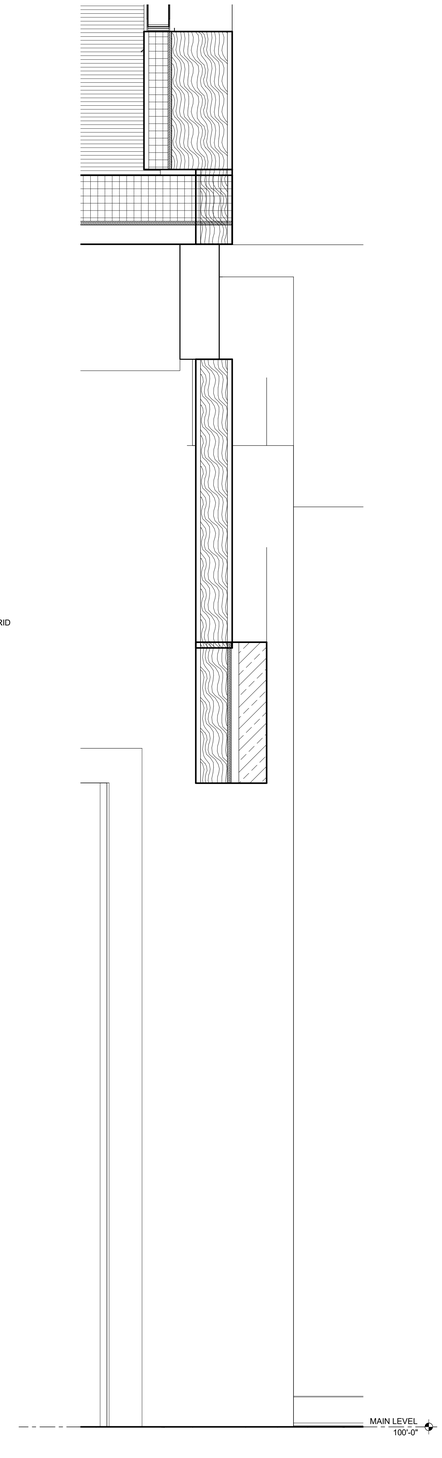


1 SILO SECTION
SCALE: 1 1/2" = 1'-0"



2 FRONT OF SILO DETAIL
SCALE: 1 1/2" = 1'-0"



3 LIMESTONE BRIDGE CHILDREN'S ENTRY
SCALE: 1 1/2" = 1'-0"

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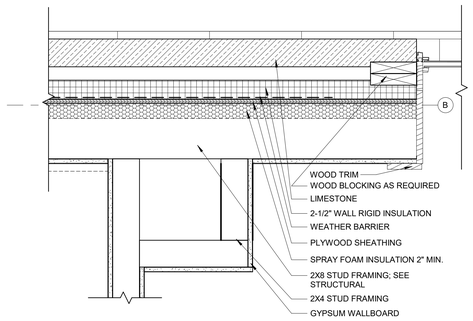
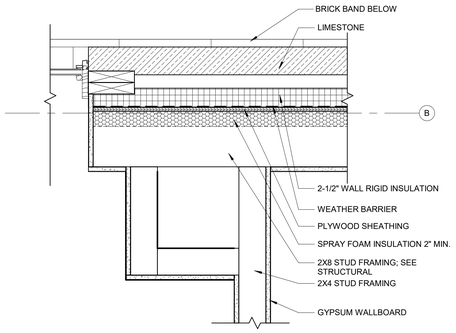
SHEET
A6.3



1 DIR. OFFICE CHASE
SCALE: 1 1/2" = 1'-0"



2 STUDY ROOM CHASE
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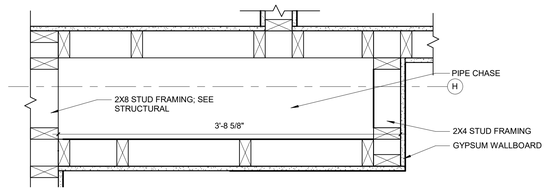
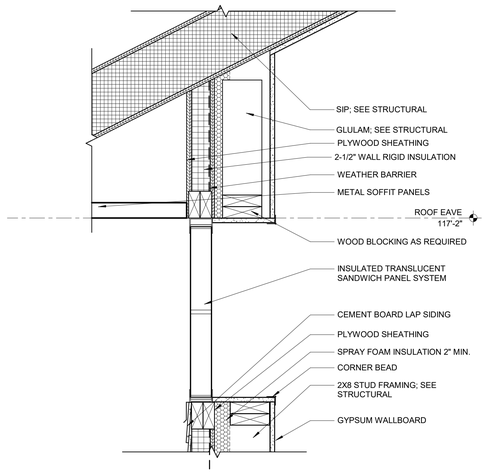
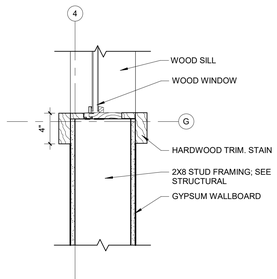


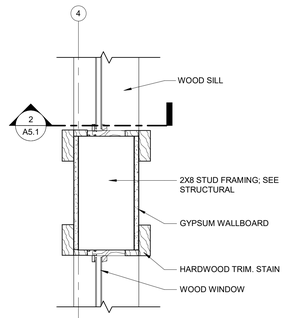
3 VEST. CHASE
SCALE: 1 1/2" = 1'-0"



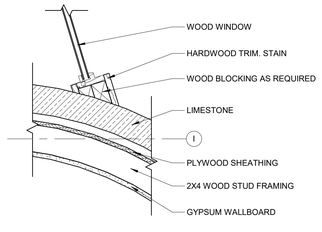
4 TRANSLUCENT PANEL
SCALE: 1 1/2" = 1'-0"



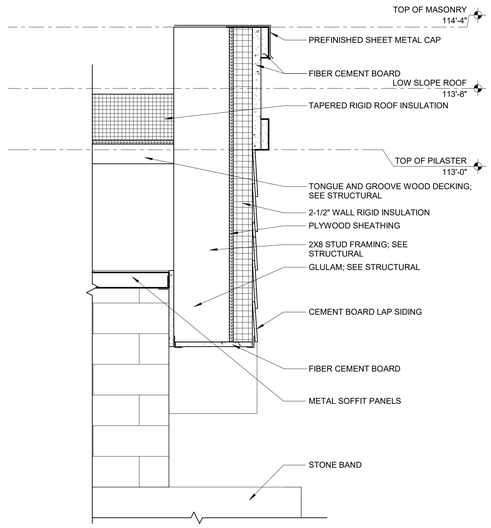
5 WINDOW 101B JAMB
SCALE: 1 1/2" = 1'-0"



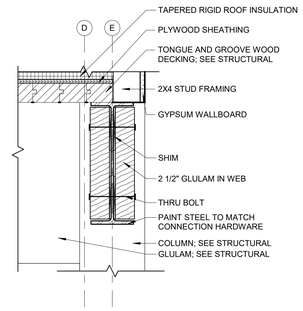
6 WINDOW 101B & 101C JAMB
SCALE: 1 1/2" = 1'-0"



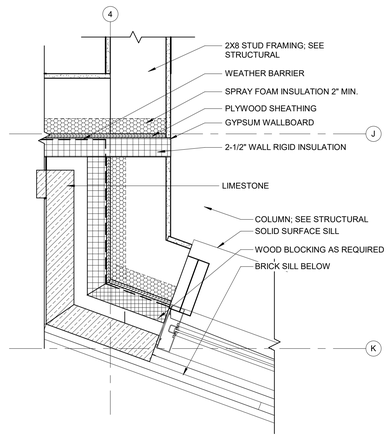
7 FALLS WINDOW JAMB
SCALE: 1 1/2" = 1'-0"



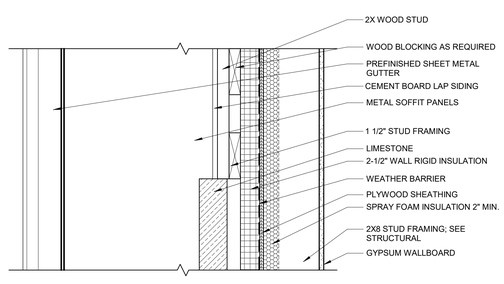
8 ENTRANCE ARCHED CANOPY
SCALE: 1 1/2" = 1'-0"



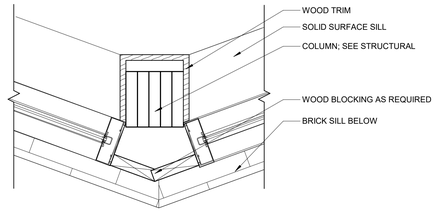
9 STEEL BEAM REPLICATING GLULAM DETAIL
SCALE: 1 1/2" = 1'-0"



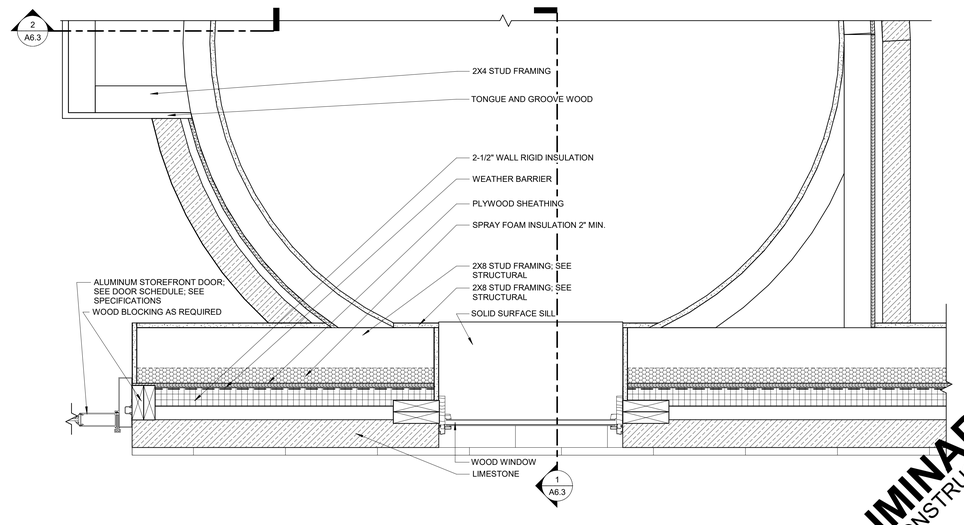
10 CHILDREN'S STOREFRONT -WEST
SCALE: 1 1/2" = 1'-0"



11 TOWER WALL - STONE TRANSITION TO SIDING
SCALE: 1 1/2" = 1'-0"



12 CHILDREN'S STOREFRONT - MIDDLE
SCALE: 1 1/2" = 1'-0"



13 SILO CONNECTION TO SOUTH WALL
SCALE: 1 1/2" = 1'-0"

PRELIMINARY
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DELTA3

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CITY OF CASCADE
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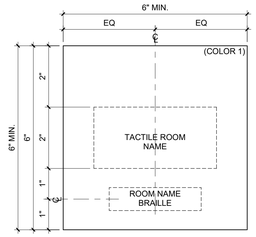
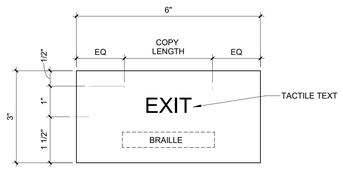
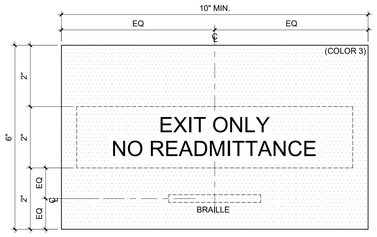


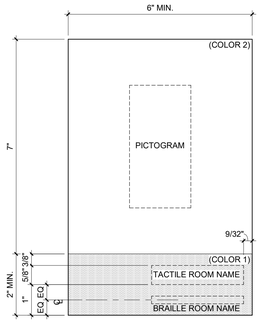
TYPE PS-1



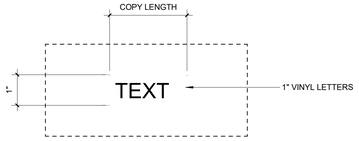
TYPE PS-2



TYPE PS-3

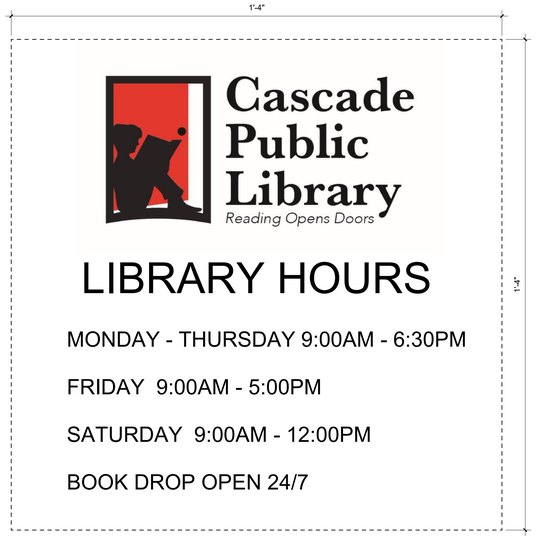


TYPE PS-4

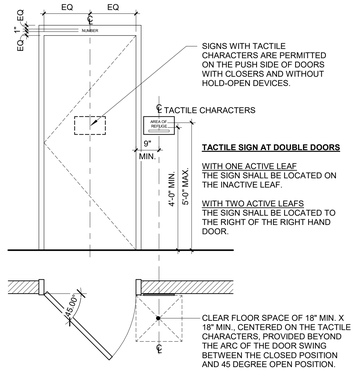


TYPE V-2

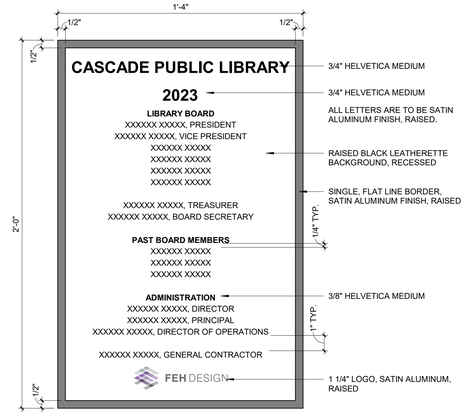
1 ** SIGNAGE TYPES
SCALE: 6" = 1'-0"



TYPE V-1



2 ** SIGNAGE MOUNTING LOCATION
SCALE: 1/2" = 1'-0"



3 ** DEDICATION PLAQUE
SCALE: 3" = 1'-0"

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
RUESING Associates, Inc.
DELTA 3

SHEET TITLE
SIGNAGE

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

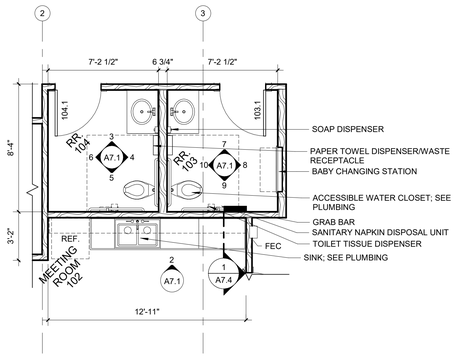
DATE ISSUED 14 JULY 2023

REV. NO. DATE

PRELIMINARY
NOT FOR CONSTRUCTION

PROJECT NUMBER
2021310

SHEET
A6.5



1 R.R. AND MEETING ROOM
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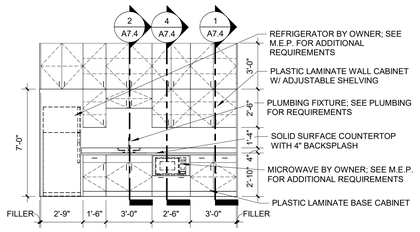

2 MEETING ROOM KITCHENETTE
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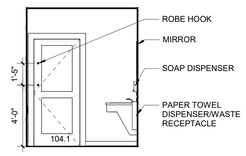

3 RR 104 NORTH
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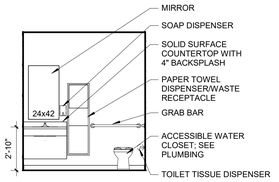

4 RR 104 EAST
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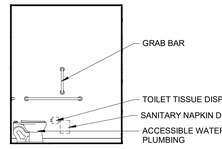
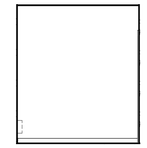


5 RR 104 SOUTH
SCALE: 1/4" = 1'-0"



6 RR 104 WEST
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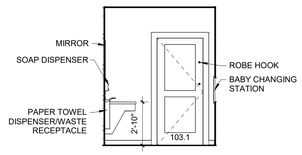

7 RR 103 NORTH
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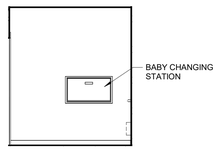

8 RR 103 EAST
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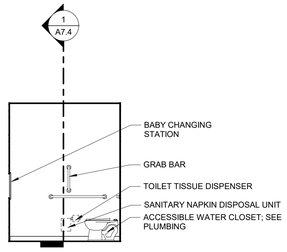

9 RR 103 SOUTH
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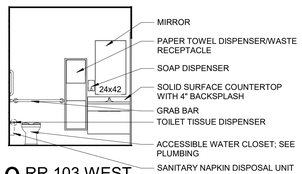

10 RR 103 WEST
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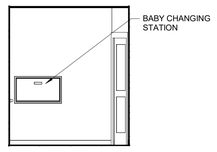
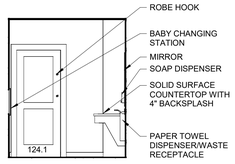
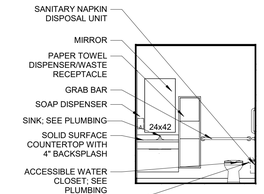


11 RR 124 NORTH
SCALE: 1/4" = 1'-0"



12 RR 124 EAST
SCALE: 1/4" = 1'-0"



13 RR 124 SOUTH
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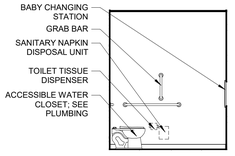
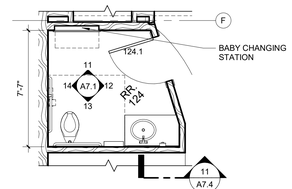
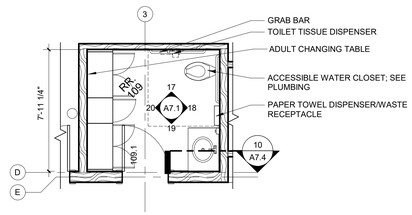


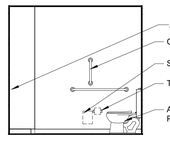
14 RR 124 WEST
SCALE: 1/4" = 1'-0"



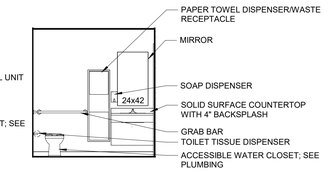
15 CHILDRENS R.R. 124
SCALE: 1/4" = 1'-0"



16 R.R. 109
SCALE: 1/4" = 1'-0"



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



18 RR 109 EAST
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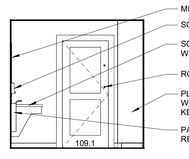
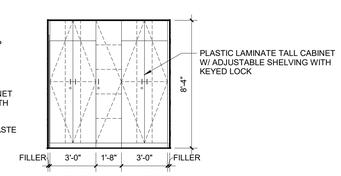
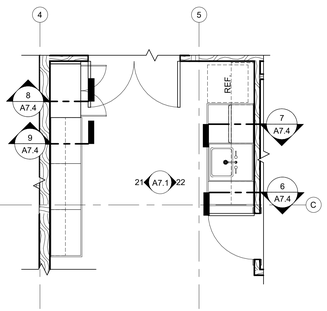


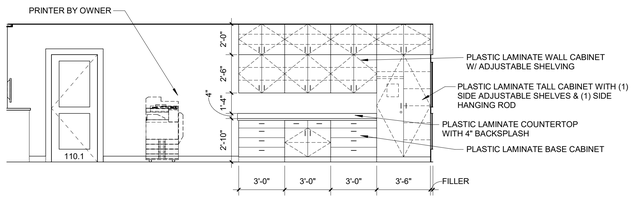
19 RR 109 SOUTH
SCALE: 1/4" = 1'-0"



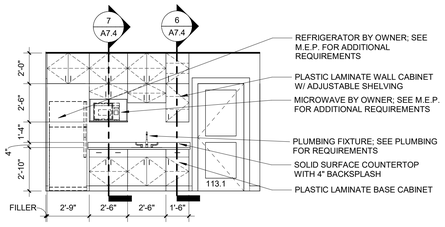
20 RR 109 WEST
SCALE: 1/4" = 1'-0"



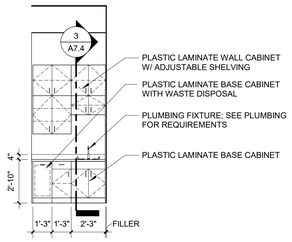
25 STAFF WORKROOM PLAN
SCALE: 1/4" = 1'-0"



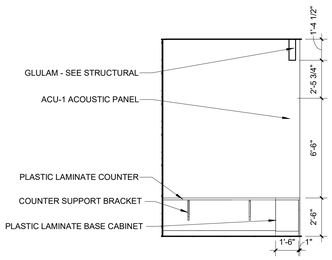
21 STAFF WORKROOM WEST
SCALE: 1/4" = 1'-0"



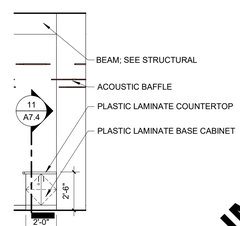
22 STAFF WORKROOM EAST
SCALE: 1/4" = 1'-0"



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



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



26 CHILDREN'S COMPUTER DESK - CANTILEVER
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
RUESING Associates, Inc.
DELTA 3

SHEET TITLE
INTERIOR ELEVATIONS

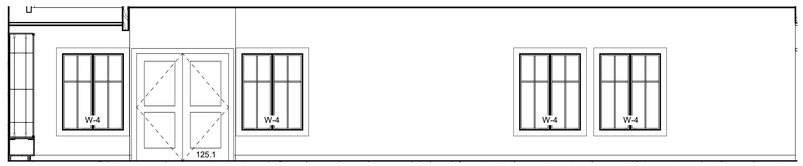
PROJECT TITLE
CITY OF CASCADE
CASCADE PUBLIC LIBRARY
SECOND AVENUE SW.
CASCADE, IOWA

DATE ISSUED 14 JULY 2023

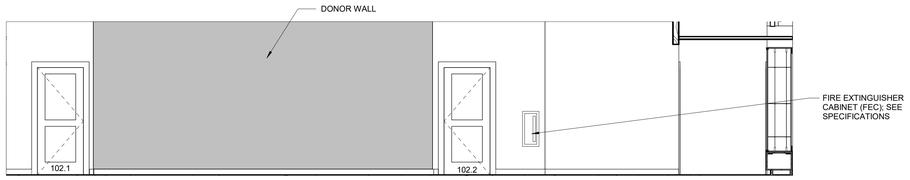
REV. NO.	DATE

PROJECT NUMBER
2021310

SHEET
A7.1

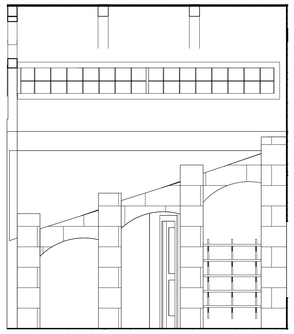


1 CORRIDOR - EAST
SCALE: 1/4" = 1'-0"

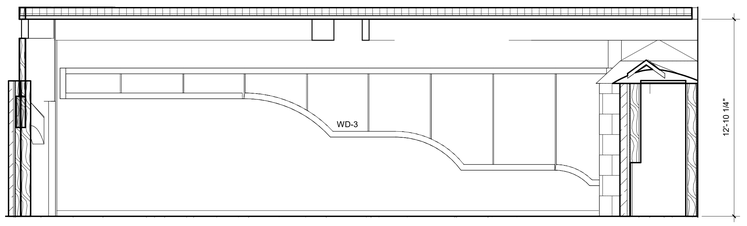


2 CORRIDOR - WEST
SCALE: 1/4" = 1'-0"

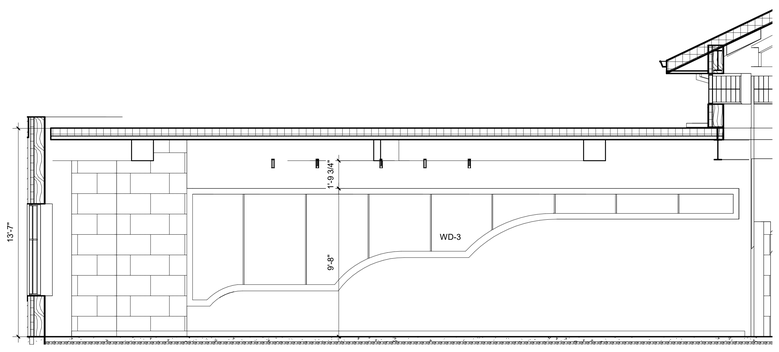
3 DIR. OFFICE AND STUDY ROOMS
SCALE: 1/4" = 1'-0"



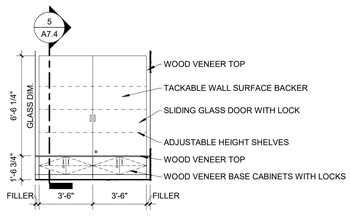
4 CHILDREN ENTRY
SCALE: 1/4" = 1'-0"



5 CHILDREN'S FALLS WINDOW
SCALE: 1/4" = 1'-0"



6 ADULT FALLS WINDOW
SCALE: 1/4" = 1'-0"



7 CORRIDOR - DISPLAY CASE
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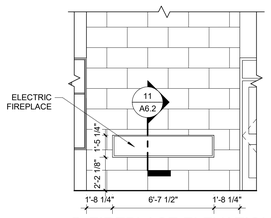

8 FIREPLACE ELEVATION
SCALE: 1/4" = 1'-0"

PRELIMINARY
NOT FOR CONSTRUCTION

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

IN ASSOCIATION WITH
RUESING Associates, Inc.
DELTA 3

SHEET TITLE
INTERIOR ELEVATIONS

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

DATE ISSUED 14 JULY 2023
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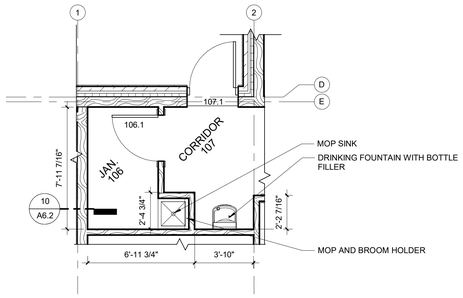
PROJECT NUMBER
2021310

SHEET
A7.2



1 JANITOR'S CLOSET
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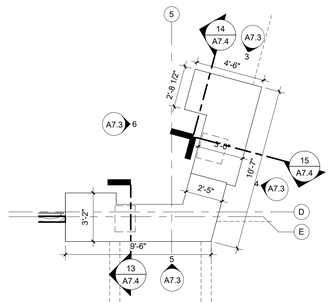
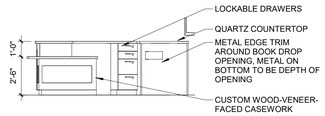
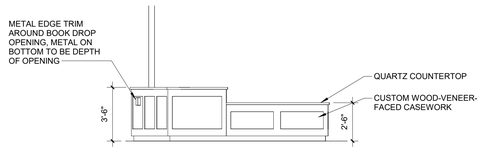


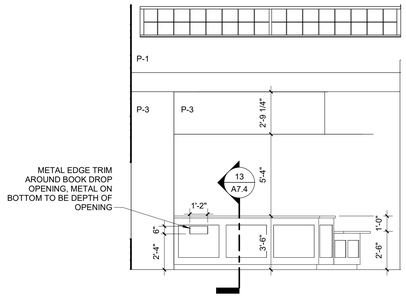
2 CIRCULATION DESK
SCALE: 1/4" = 1'-0"



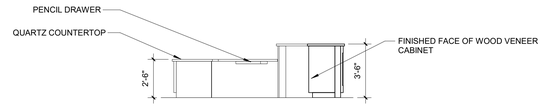
3 CIRCULATION DESK - NORTH
SCALE: 1/4" = 1'-0"



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



5 CIRCULATION DESK - SOUTH
SCALE: 1/4" = 1'-0"



6 CIRCULATION DESK - WEST
SCALE: 1/4" = 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) 968-2055
FEHDESIGN.COM

IN ASSOCIATION WITH
RUESING Associates, Inc.
DELTA 3

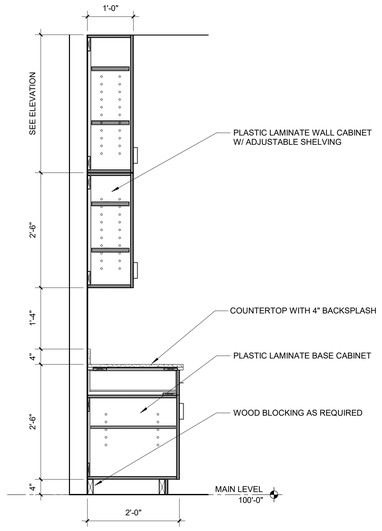
SHEET TITLE
ENLARGED PLANS & CIRCULATION DESK

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

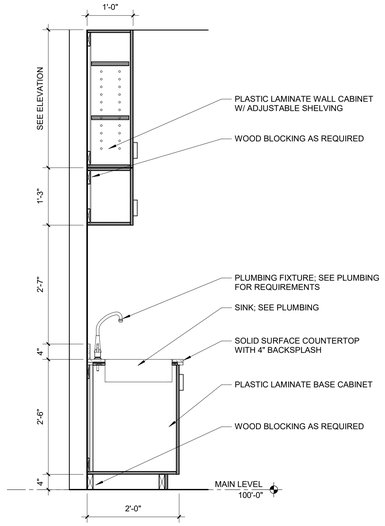
DATE ISSUED 14 JULY 2023
REV. NO. DATE

PROJECT NUMBER
2021310

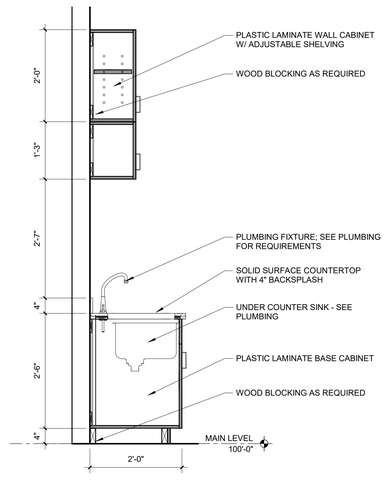
SHEET
A7.3



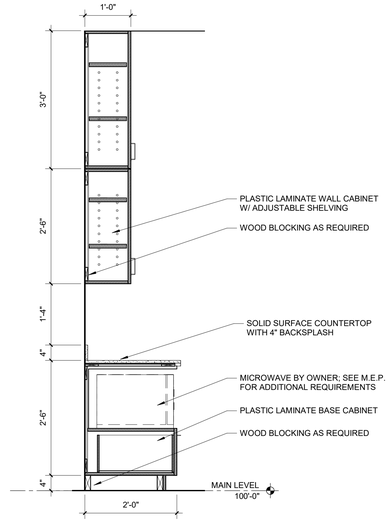
1 TYPICAL CASEWORK SECTION
SCALE: 3/4" = 1'-0"



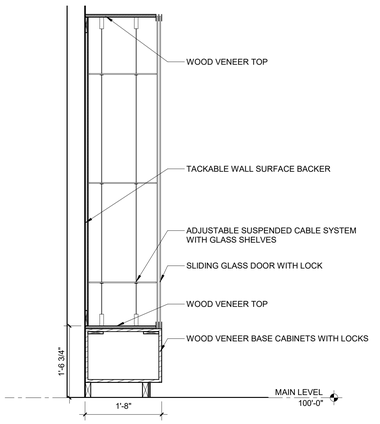
2 TYPICAL SINK SECTION
SCALE: 3/4" = 1'-0"



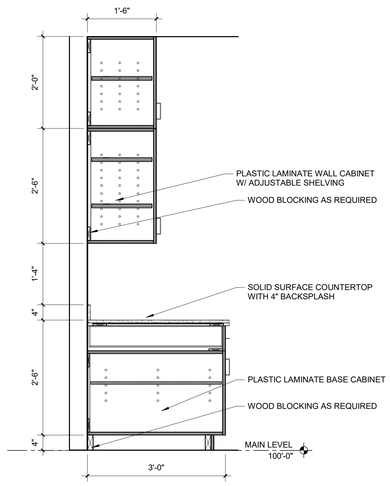
3 COFFEE BAR
SCALE: 3/4" = 1'-0"



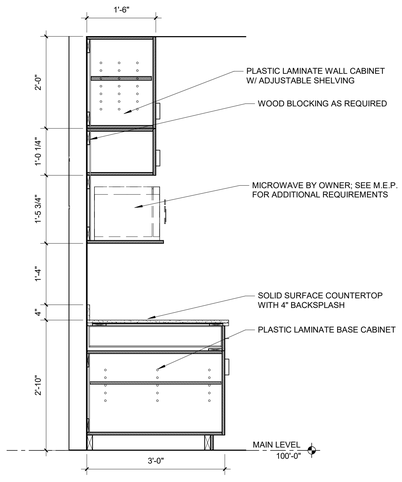
4 MEETING ROOM MICROWAVE SECTION
SCALE: 3/4" = 1'-0"



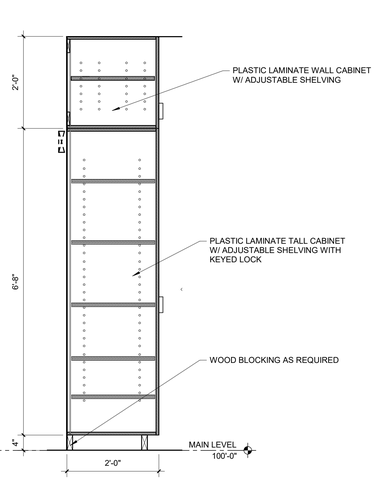
5 DISPLAY CASE SECTION
SCALE: 3/4" = 1'-0"



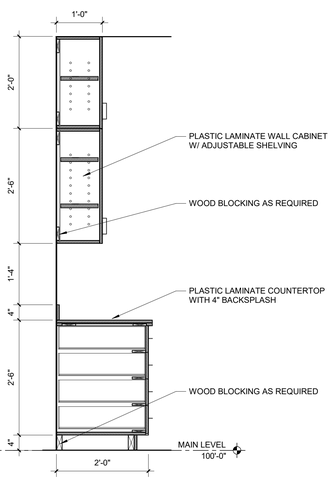
6 STAFF EAST CASEWORK SECTION
SCALE: 3/4" = 1'-0"



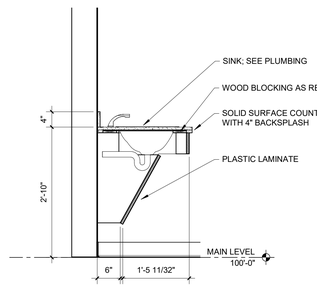
7 STAFF MICROWAVE SECTION
SCALE: 3/4" = 1'-0"



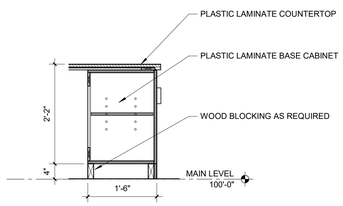
8 STAFF CASEWORK TALL SECTION
SCALE: 3/4" = 1'-0"



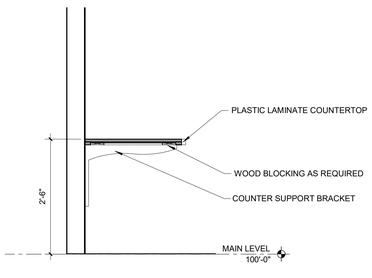
9 STAFF DRAWER SECTION
SCALE: 3/4" = 1'-0"



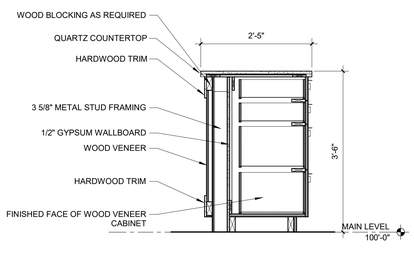
10 TYPICAL VANITY SECTION
SCALE: 3/4" = 1'-0"



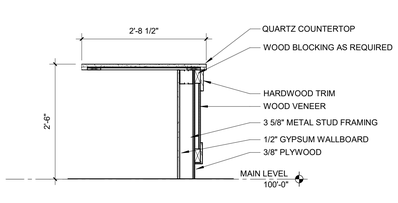
11 CHILDREN'S CASEWORK SECTION
SCALE: 3/4" = 1'-0"



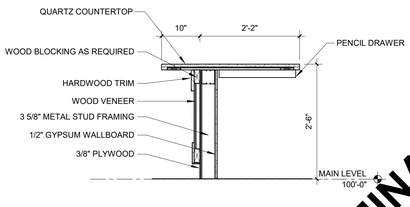
12 CHILDREN'S COMPUTER COUNTER
SCALE: 3/4" = 1'-0"



13 CIRC DESK HIGH SECTION
SCALE: 3/4" = 1'-0"



14 CIRC DESK LOW SECTION
SCALE: 3/4" = 1'-0"



15 CIRC DESK LOW SECTION 2
SCALE: 3/4" = 1'-0"

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OCONOMOWOC, WI (262) 968-2055
DUBUQUE, IA (563) 583-4900
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RUESING Associates, Inc. ARCHITECTURE
DELTA 3

SHEET TITLE
CASEWORK SECTIONS

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

DATE ISSUED 14 JULY 2023
REV. NO. DATE

PROJECT NUMBER
2021310

SHEET
A7.4

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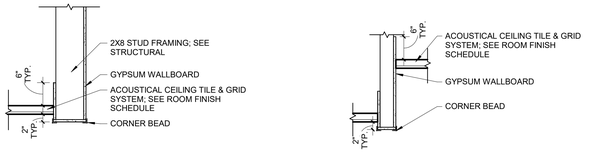
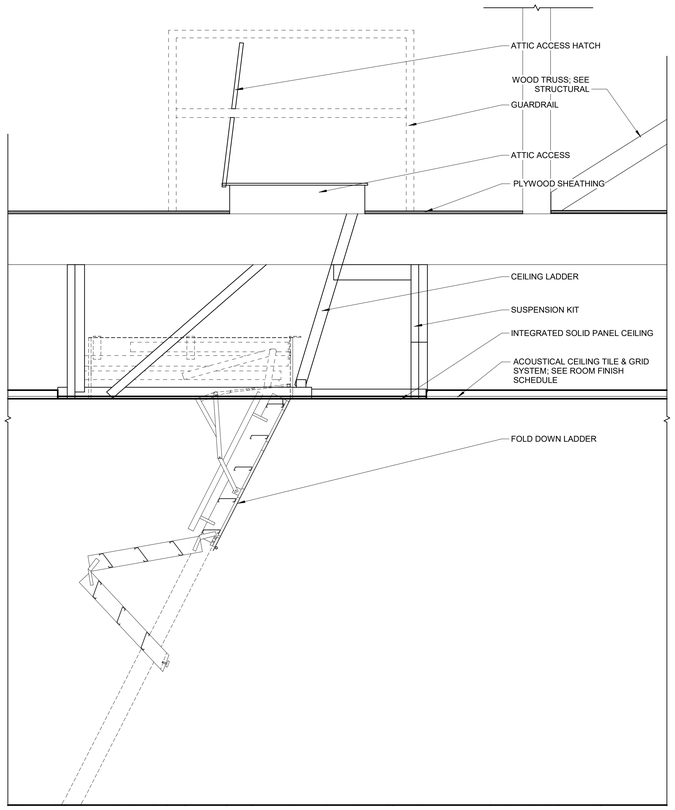
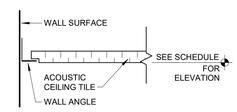


2 CIRCULATION DESK BULKHEAD
SCALE: 3/4" = 1'-0"

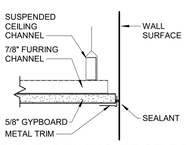
3 CORRIDOR BULKHEAD
SCALE: 3/4" = 1'-0"



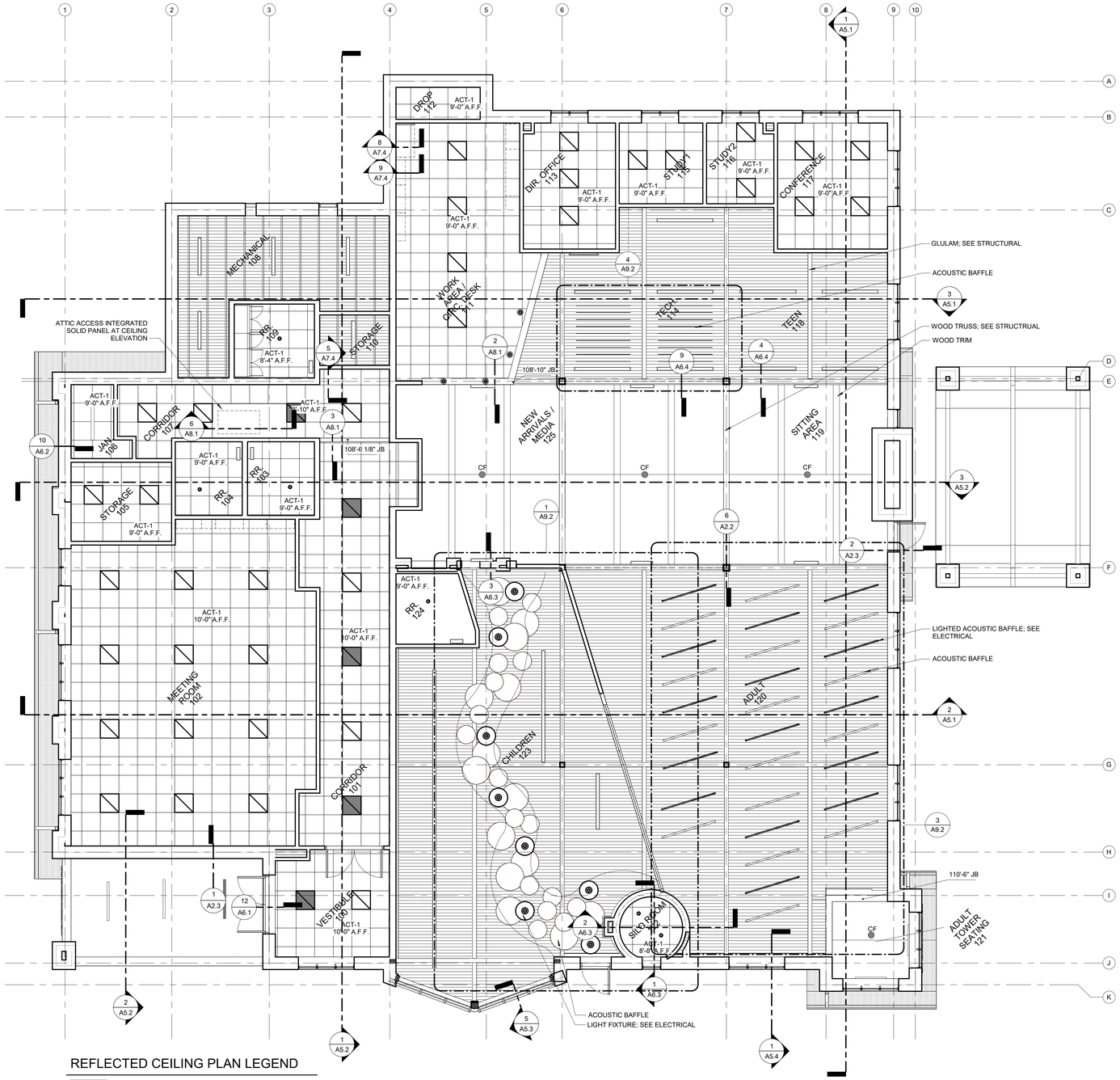
6 ATTIC ACCESS
SCALE: 3/4" = 1'-0"



4 ACT EDGE DETAIL
SCALE: 3" = 1'-0"



5 GYP CEILING EDGE DETAIL
SCALE: 3" = 1'-0"



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

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 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.

PRELIMINARY
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SHEET TITLE
REFLECTED CEILING PLANS

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

DATE ISSUED 14 JULY 2023

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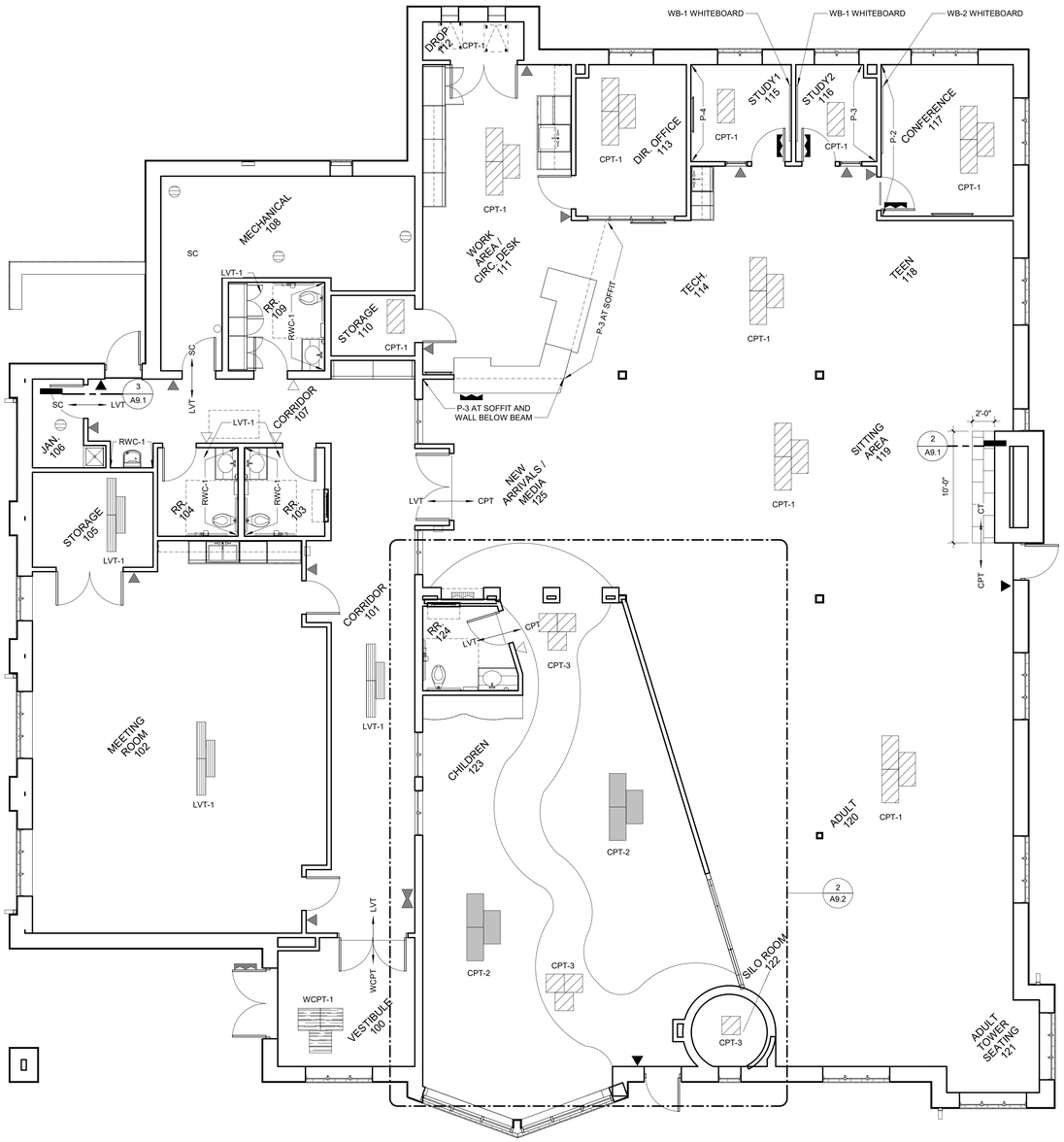


1 MAIN LEVEL FLOOR FINISH PLAN
SCALE: 3/16" = 1'-0"

ROOM FINISH SCHEDULE

NUMBER	NAME	FLOOR FINISH	BASE FINISH	WALL				CEILING FINISH	COMMENTS
				NORTH	SOUTH	EAST	WEST		
100	VESTIBULE	WCPT-1	RB-3	P-1	P-1	P-1	P-1	ACT-1	
101	CORRIDOR	LVT-1	WB-1	P-1	P-1	P-1	P-1	ACT-1	
102	MEETING ROOM	LVT-1	WB-1	P-1	P-1	P-1	P-1	ACT-1	
103	RR.	LVT-1	RB-2	P-1	P-1	P-1	RWC-1	ACT-1	
104	RR.	LVT-1	RB-2	P-1	P-1	RWC-1	P-1	ACT-1	
105	STORAGE	LVT-1	RB-2	P-1	P-1	P-1	P-1	ACT-1	
106	JAN.	SC	RB-3	P-1	P-1	P-1	P-1	ACT-1	
107	CORRIDOR	LVT-1	WB-1	P-1	P-1, RWC-1	P-1	P-1	ACT-1	RWC AT DRINKING FOUNTAIN
108	MECHANICAL	SC	RB-3	P-1	P-1	P-1	P-1	WD	
109	RR.	LVT-1	RB-2	P-1	P-1	RWC-1	P-1	ACT-1	
110	STORAGE	CPT-1	RB-1	P-1	P-1	P-1	P-1	WD	
111	WORK AREA / CIRC. DESK	CPT-1	RB-1	P-1	P-1	P-1, P-3	P-1	ACT-1/GB-P	P-3 AT SOFFIT
112	DROP	CPT-1	RB-1	P-1	P-1	P-1	P-1	ACT-1	
113	DIR. OFFICE	CPT-1	RB-1	P-1	P-1	P-1	P-1	ACT-1	
114	TECH.	CPT-1	WB-1	P-1	-	-	-	WD-S	ACOUSTIC BAFFLE
115	STUDY1	CPT-1	WB-1	P-1	P-1	P-1	P-4	ACT-1	
116	STUDY2	CPT-1	WB-1	P-1	P-1	P-3	P-1	ACT-1	
117	CONFERENCE	CPT-1	WB-1	P-1	P-1	P-1	P-2	ACT-1	
118	TEEN	CPT-1	WB-1	P-1	-	P-1	P-1	WD-S	
119	SITTING AREA	CPT-1, CT-1	WB-1	-	-	P-1	-	GB-P	CT-1 AT HEARTH
120	ADULT	CPT-1	WB-1	P-1	P-1	P-1	P-1	WD-S	ACOUSTIC BAFFLE
121	ADULT TOWER SEATING	CPT-1	WB-1	P-1	P-1	P-1	P-1	GB-P	
122	SILO ROOM	CPT-3	WB-1	P-1	P-1	P-1	P-1	ACT-1	
123	CHILDREN	CPT-2, CPT-3	WB-1	P-1	P-1	P-1	P-1	WD-S	ACOUSTIC BAFFLE
124	RR.	LVT-1	RB-2	P-1	RWC-1	P-1	P-1	ACT-1	
125	NEW ARRIVALS / MEDIA	CPT-1	WB-1	P-1, P-3	P-1	P-1	-	GB-P	P-3 BELOW BEAM

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.

ROOM FINISH SCHEDULE LEGEND

FLOORS

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

BASE

RB RESILIENT BASE
WB WOOD BASE

WALL

P PAINT
RWC RIGID WALLCOVERING

CEILING

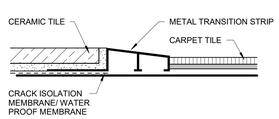
ACT-1 ACOUSTICAL CEILING TILE, TYPE 1
GB-P GYPSUM BOARD, PAINT
WD WOOD DECKING, NO STAIN
WD-S WOOD DECKING, STAIN

SIGNAGE LEGEND

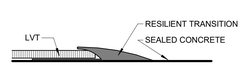
- TYPE 1 PANEL SIGN LOCATION
- TYPE 2 PANEL SIGN LOCATION
- TYPE 3 PANEL SIGN LOCATION
- TYPE 4 PANEL SIGN LOCATION
- TYPE 1 DEDICATION PLAQUE LOCATION
- TYPE 1 VINYL SIGN LOCATION
- TYPE 2 VINYL SIGN LOCATION
- TYPE 3 VINYL SIGN LOCATION

FLOOR FINISH LEGEND

- SC: SEALED CONCRETE
- CPT-1 : 18" X 36" CARPET TILE, TYPE 1
- CPT-2: 18" X 36" CARPET TILE, TYPE 2
- CPT-3: 50CM X 50CM CARPET TILE, TYPE 3
- CT: 12 X 24 CERAMIC TILE
- LVT: 25CM X 1M LUXARY VINYL TILE
- WCPT: 24 X 24 WALK OFF CARPET TILE



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



3 SC-LVT
SCALE: 12" = 1'-0"

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SHEET TITLE
FLOOR FINISH PLANS

PROJECT TITLE
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SECOND AVENUE SW.
CASCADE, IOWA

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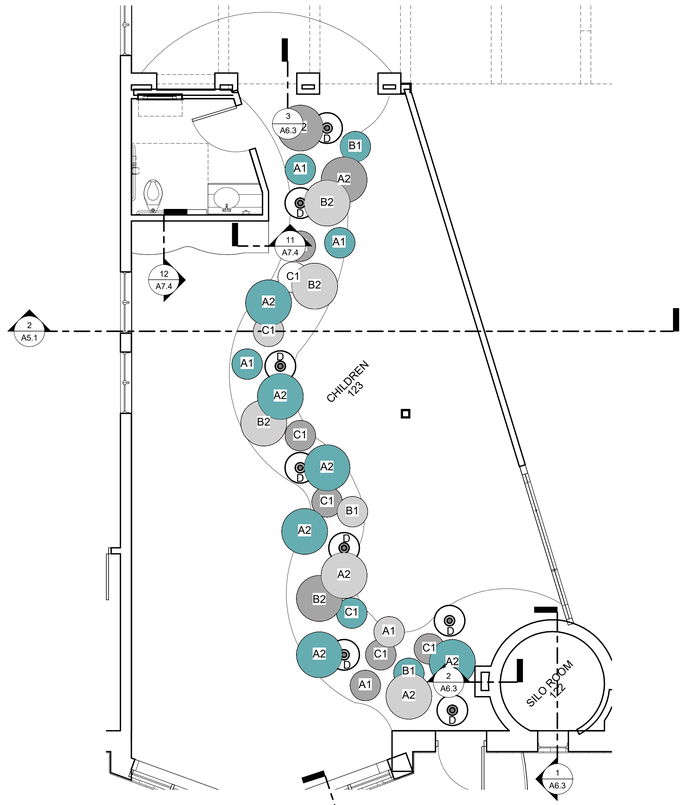
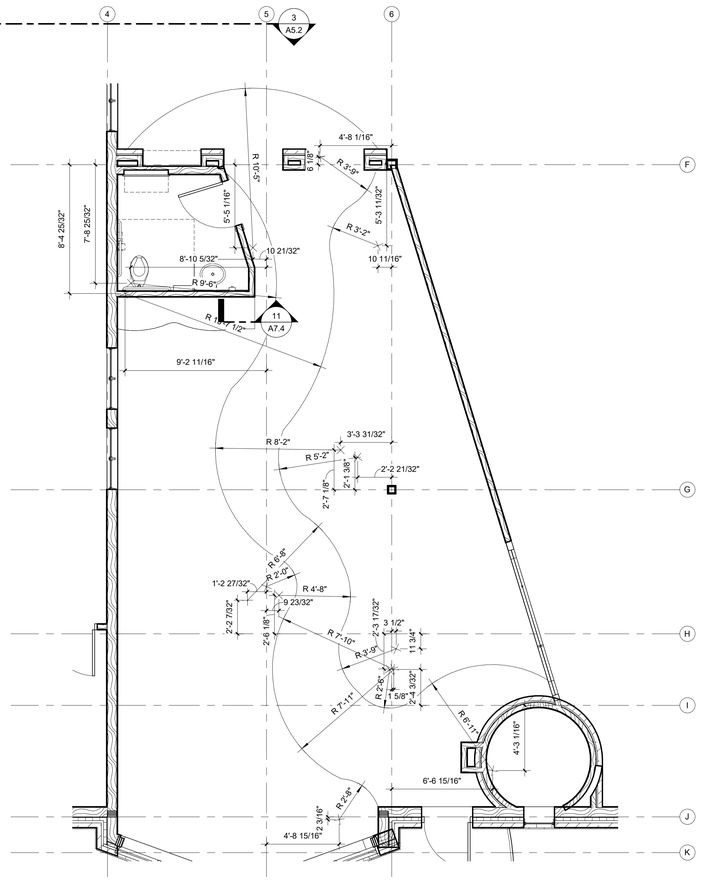
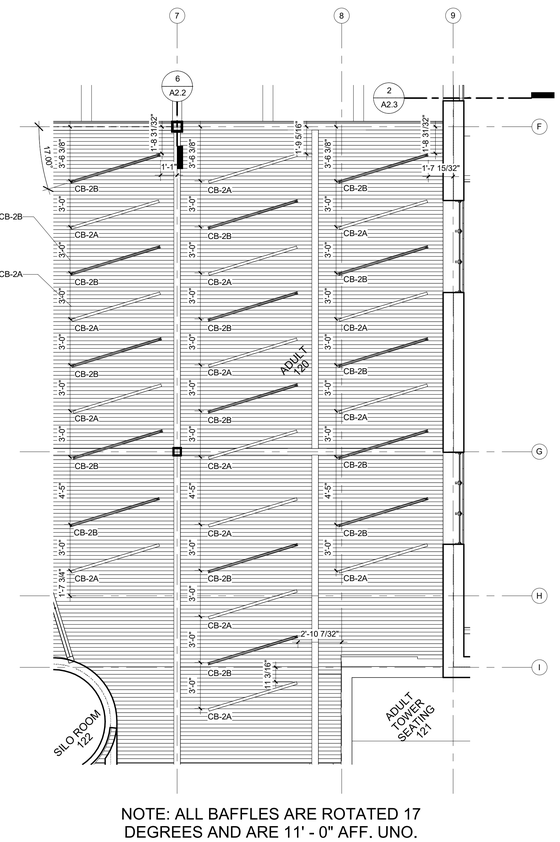


1 CHILDREN'S AREA - CEILING BAFFLES
SCALE: 1/4" = 1'-0"



SEE SHEET A9.1 FOR FLOORING TYPE

2 CHILDREN'S AREA - RIVER LAYOUT
SCALE: 1/4" = 1'-0"



NOTE: ALL BAFFLES ARE ROTATED 17 DEGREES AND ARE 11' - 0" AFF. UNO.

3 ADULT AREA - CEILING BAFFLES
SCALE: 1/4" = 1'-0"

CHILDREN'S CEILING BAFFLE LEGEND

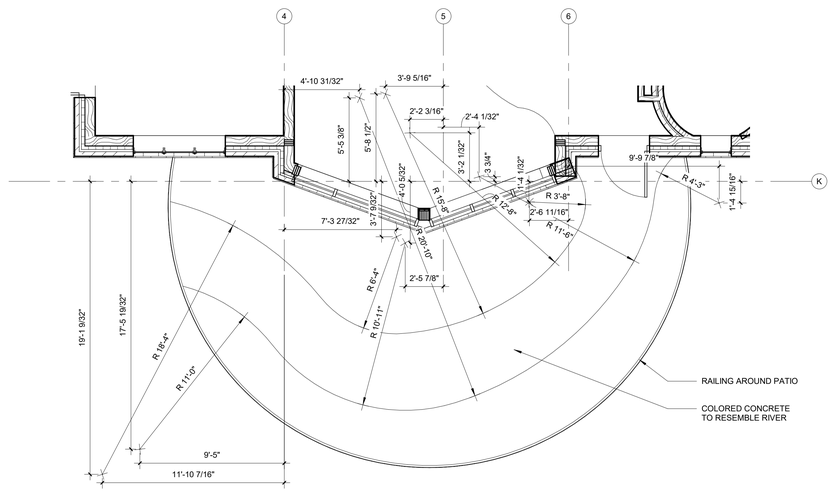
CHILDREN'S AREA CEILING BAFFLES

A	FELT CEILING BAFFLE, 9'-6" A.F.F.
B	FELT CEILING BAFFLE, 8'-6" A.F.F.
C	FELT CEILING BAFFLE, 8'-0" A.F.F.
D	LIGHT FIXTURE , 8'-0" A.F.F.
1	FELT CEILING BAFFLE, 24" DIAMETER
2	FELT CEILING BAFFLE, 36" DIAMETER

CB-1A FELT BAFFLE, COLOR: MARBLE

CB-1B FELT BAFFLE, COLOR: GRANITE

CB-1C FELT BAFFLE, COLOR: EVERGREEN

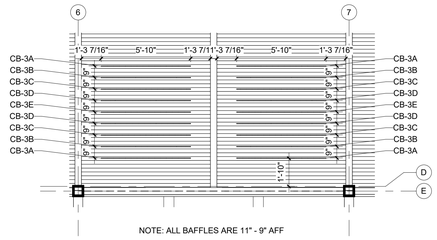


5 CHILDREN'S PATIO - RIVER LAYOUT
SCALE: 1/4" = 1'-0"

ADULT CEILING BAFFLE LEGEND

ADULT AREA CEILING BAFFLES

CB-2A	SLIM FELT CEILING BAFFLE, 72"L
CB-2B	SLIM LED FELT CEILING BAFFLE, 72"L



NOTE: ALL BAFFLES ARE 11" - 9" AFF

4 TECH. - CEILING BAFFLES
SCALE: 1/4" = 1'-0"

TECH. AREA CEILING BAFFLE LEGEND

CB-3A	LONDE FELT CEILING BAFFLE L1, 8"H X 72"L
CB-3B	LONDE FELT CEILING BAFFLE L2, 8"H X 72"L
CB-3C	LONDE FELT CEILING BAFFLE L3, 8"H X 72"L
CB-3D	LONDE FELT CEILING BAFFLE L4, 8"H X 72"L
CB-3E	LONDE FELT CEILING BAFFLE L5, 8"H X 72"L

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IN ASSOCIATION WITH
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DELTA3

SHEET TITLE
ENLARGED PLANS - CEILING BAFFLES AND RIVER

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

DATE ISSUED 14 JULY 2023

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A9.2

ADULT COLLECTIONS = 64/64 SF 5H (66"H)

DVD = 8/8 SF 6H (66"H)

AUDIOBOOKS = 2/2 SF 6H (66"H)

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

CHILDREN'S = 51/51 SF 4H (54"H)

NOTE: THIS SHEET IS PROVIDED FOR CONTRACTOR INFORMATION ONLY AND FURNISHINGS WILL BE PROVIDED BY OTHERS

N

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

PRELIMINARY
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FEH DESIGN

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SHEET TITLE
FURNITURE LAYOUT PLANS

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

DATE ISSUED 14 JULY 2023

REV. NO. DATE

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A10.1

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
   WOOD TRUSSES
   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.

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IN ASSOCIATION WITH
JDR ENGINEERING, INC.
BUESING & ASSOCIATES, INC. ENGINEERS & SURVEYORS
DELTA 3

SHEET TITLE
GENERAL NOTES

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

DATE ISSUED 07/28/2023

REV. NO.	DATE

PROJECT NUMBER
2021310

SHEET
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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 SUBWITTAL PACKAGE			

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USING Engineers, Inc.
JDR ENGINEERING, INC.
DELTA3

SHEET TITLE
SPECIAL INSPECTIONS

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

DATE ISSUED 07/28/2023

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PROJECT NUMBER
2021310

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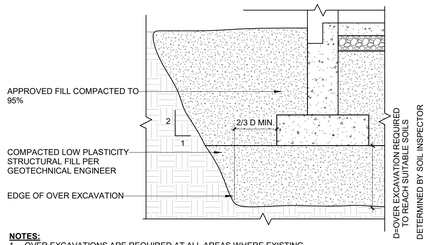
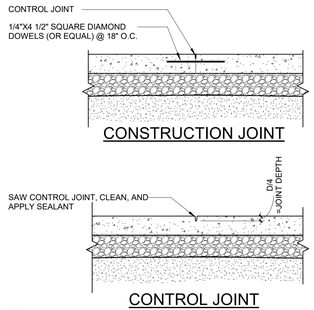


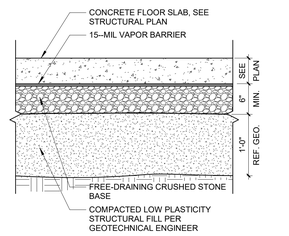
NOTES:
1. OVER EXCAVATIONS ARE REQUIRED AT ALL AREAS WHERE EXISTING FILL MATERIALS OR UNSUITABLE MATERIALS DETERMINED BY THE SOILS INSPECTOR ARE PRESENT.
2. FOOTINGS COULD ALSO BARE DIRECTLY ON THE SUITABLE NATIVE SOIL OR ON LEAN CONCRETE BACKFILL IN THE EXCAVATION INSTEAD OF ON PROPERLY COMPACTED STRUCTURAL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

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

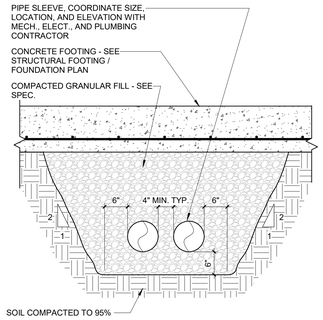


NOTES:
1. CONSTRUCTION AND/OR CONTROL JOINTS ARE INTERCHANGEABLE AT THE CONTRACTORS OPTION. SEE PLANS FOR JOINT LOCATIONS.
2. SAW CUTTING OF JOINTS SHALL BE DONE AS THE CONCRETE SETS SUFFICIENTLY TO PERMIT CUTTING WITHOUT CHIP, SPALLING OR TEARING, BUT NOT MORE THAN 24 HR. AFTER PLACING.
3. ACI RECOMMENDATION: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

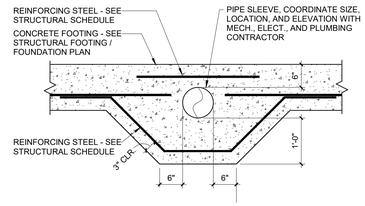
2 TYPICAL SLAB-ON-GRADE CONTROL AND CONSTRUCTION JOINTS DETAIL
SCALE: 3/4" = 1'-0"



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

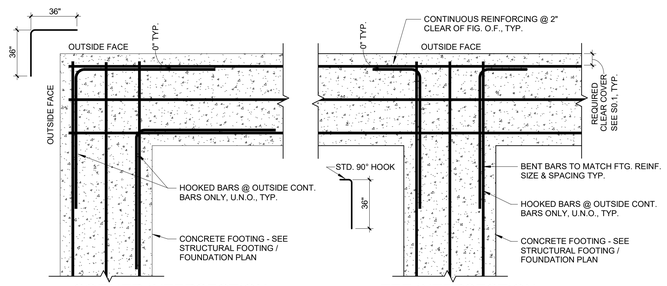


4 TYPICAL PIPE SLEEVE UNDER CONTINUOUS FOOTING
SCALE: 3/4" = 1'-0"

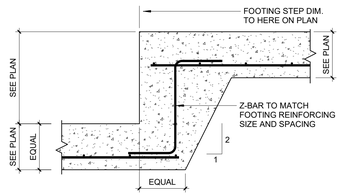


NOTES:
1. DIA. OF SLEEVE TO BE 2" LARGER THEN PIPE PASSING THROUGH.
2. MAXIMUM PIPE SLEEVE DIAMETER TO BE 12" OR LESS TO USE THIS DETAIL.
3. WHERE PIPE SLEEVE OPENING IS GREATER THAN 12" THE CONTRACTOR IS TO STEP THE FOOTING PER "TYPICAL STEP FOOTING DETAIL" SO PIPE SLEEVE PASSES THROUGH FOUNDATION WALL.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

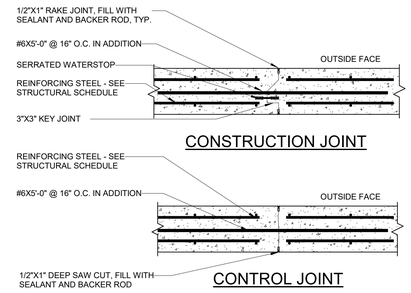
5 TYPICAL PIPE SLEEVE THROUGH CONTINUOUS FOOTING
SCALE: 3/4" = 1'-0"



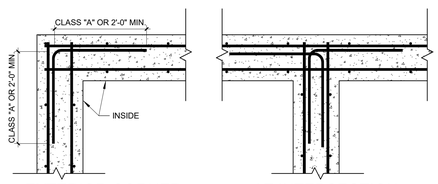
6 TYPICAL FOOTING INTERSECTION REINFORCEMENT
SCALE: 3/4" = 1'-0"



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

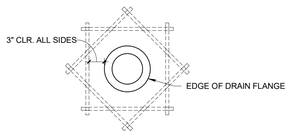


8 TYPICAL DETAIL OF VERTICAL CONSTRUCTION AND CONTROL JOINT IN CONCRETE WALLS
SCALE: 3/4" = 1'-0"

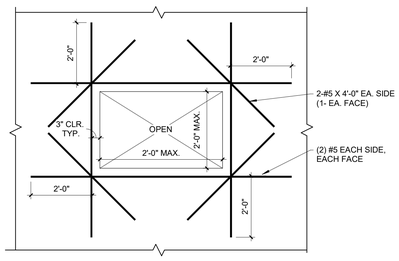


NOTE:
1. SIZE AND SPACING OF CORNER/INTERSECTING BARS SAME AS HORIZONTAL BARS.
2. IF A CONSTRUCTION OR CONTROL JOINT OCCURS AT CORNER OR INTERSECTION, RAKE A 1/2"X1" JOINT AND FILL WITH SEALANT AND BACKER ROD, TYP.

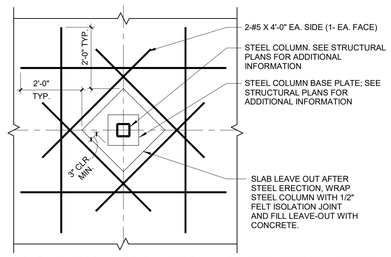
9 TYPICAL CORNER BAR DETAIL
SCALE: 3/4" = 1'-0"



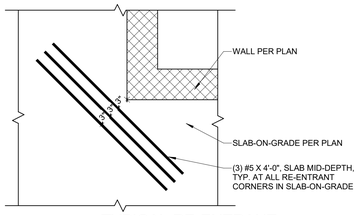
10 TYPICAL REINFORING AT FLOOR DRAIN
SCALE: 1" = 1'-0"



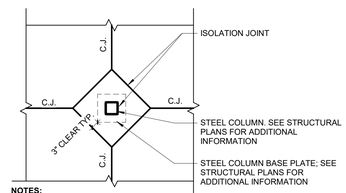
11 TYPICAL DETAIL AT OPENINGS IN SLAB OR WALLS
SCALE: 1/2" = 1'-0"



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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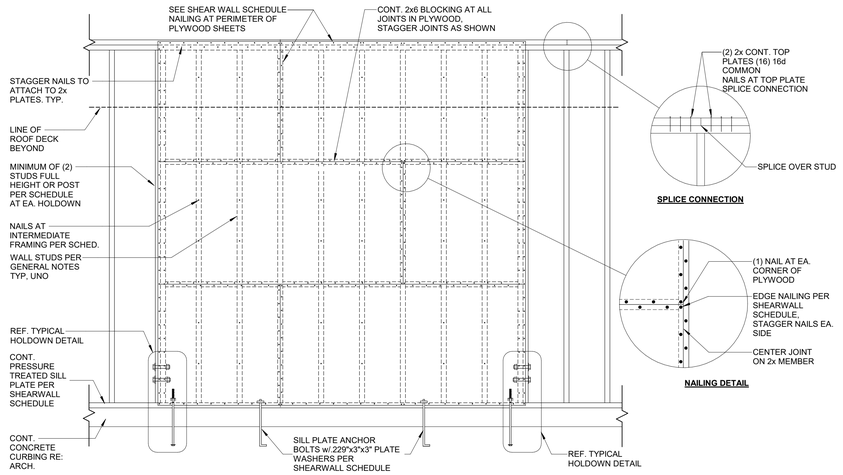
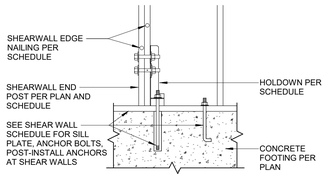
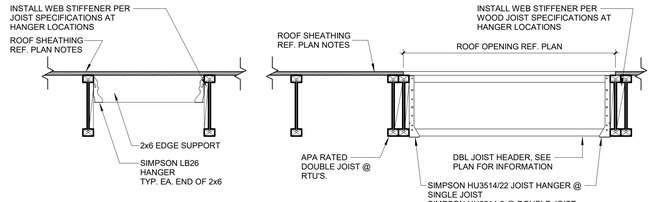




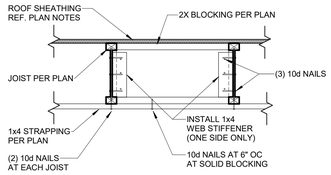
1 SHEATHING ELEVATION
SCALE: 1/2" = 1'-0"

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

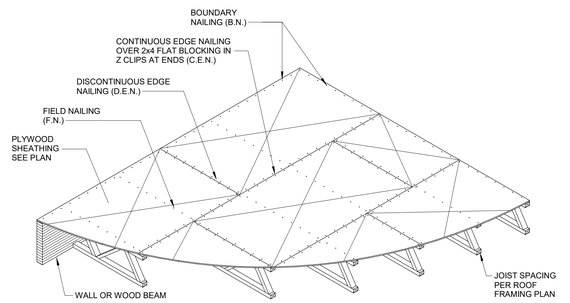


SINGLE OPENING DOUBLE OPENING

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"

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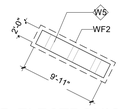
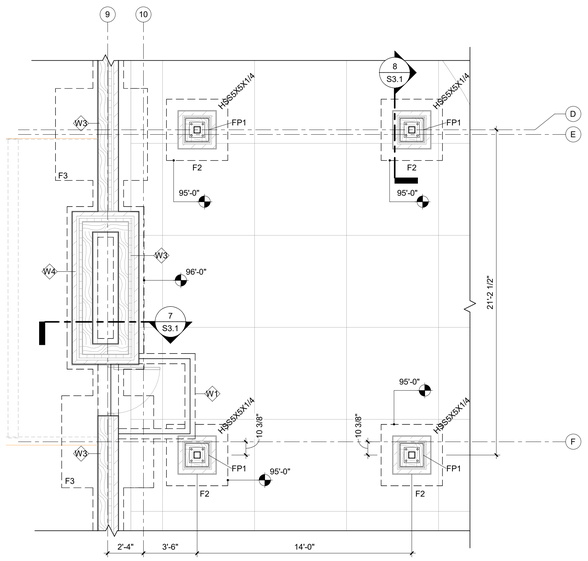


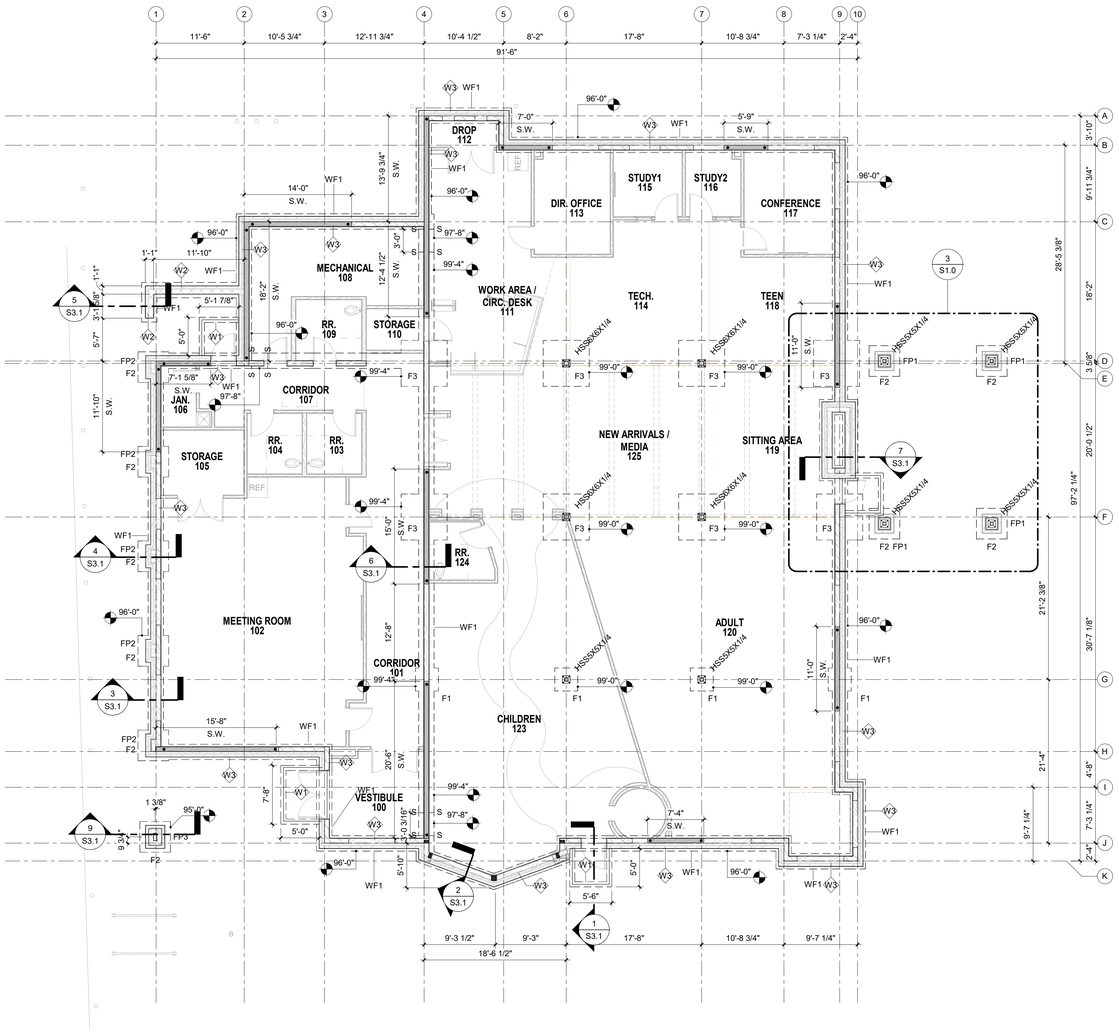
NOTE:

SEE ARCHITECTURAL AND CIVIL SITE PLANS FOR LOCATION OF ELECTRONIC SIGN

2 ELECTRONIC SIGN FOUNDATION
SCALE: 1/8" = 1'-0"

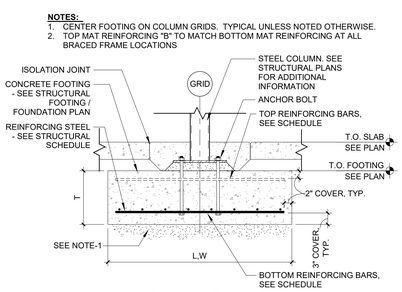


3 ALTERNATE CANOPY FOUNDATION PLAN
SCALE: 1/4" = 1'-0"



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

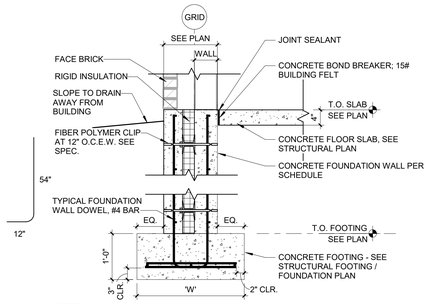
SCALE: 1/8" = 1'-0"



NOTES:
1. CENTER FOOTING ON COLUMN GRIDS. TYPICAL UNLESS NOTED OTHERWISE.
2. TOP MAT REINFORCING "B" TO MATCH BOTTOM MAT REINFORCING AT ALL BRACED FRAME LOCATIONS

TYPICAL SECTION

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



NOTES:
1. CONCRETE FOUNDATION WALL CENTERED ON GRID LINE, TYPICAL UNLESS NOTED OTHERWISE
2. FOUNDATION WALL DOWEL TO MATCH WALL VERTICAL REINFORCING
3. COORDINATE CONCRETE FOUNDATION WALL BUMP-OUTS WITH ARCH'L
4. SEAT LOAD BEARING STUDS TIGHT TO SILL PLATE

5 TYPICAL WALL FOOTING DETAIL - INSULATED FOUNDATION WALL - STUD
SCALE: 3/4" = 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	TOP BARS ONLY AT CANOPY AND CELERSTORY
F3	6'-0"	6'-0"	12"	(7) #5 EACH WAY @ BOTTOM/TOP	TOP BARS ONLY AT CANOPY AND CELERSTORY

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"	
WF2	3'-0"	12"	(3) #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	
FP3	30" x 36"	(4) #5 BARS @ CORNER/ (2) #5 EACH FACE @ SIDE	

S1.1 - WALL SCHEDULE				
MARK	WALL TYPE	THICKNESS	REINFORCING	NOTES
W1	8" CONCRETE	8"	#5 AT 16" O.C. EW	
W2	13" CONCRETE	13"	#5 AT 16" O.C. EW. EF.	
W3	16" CONCRETE SANDWICH WALL	16"	#5 AT 16" O.C. EW EACH WYTHE	REF. TYPICAL WALL DETAIL
W4	16" CONCRETE	16"	#5 AT 16" O.C. EW. EF.	
W5	24" CONCRETE	24"	#5 AT 16" O.C. EW. EF.	

FOUNDATION PLAN NOTES:

SLAB-ON-GRADE:

1. TOP OF SLAB ELEVATION AS NOTED. ARCHITECTURAL ELEVATION 100'-0" CORRESPONDS TO CIVIL ELEVATION 825.80', 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:

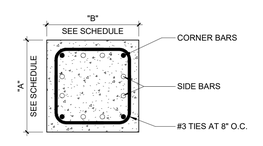
1. ALL FOOTINGS TO BE CENTERED UNDER WALLS AND/OR COLUMNS, U.N.O.
2. FOOTING REINFORCEMENT CENTERED BELOW CONC. PIER WHERE FOOTING PLAN DIMENSION(S) EXCEED SCHEDULED VALUE, TYP.
3. PROVIDE (1) BOTTOM MAT #5@12" E.W. AT ALL UN-SCHEDULED SPREAD FOOTINGS, TYP. U.N.O.
4. CENTER SCHEDULED FOOTING(S) BELOW 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 4/S-0.3 WHEN PIPE FALLS WITHIN FOOTING AND DETAIL 5/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

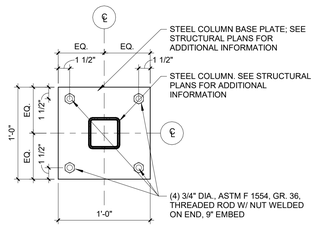
INDICATES LOAD BEARING STUD WALL

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.



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



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

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DELTA3

SHEET TITLE
FOUNDATION PLAN

PROJECT TITLE
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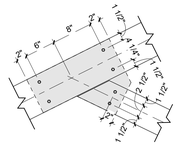
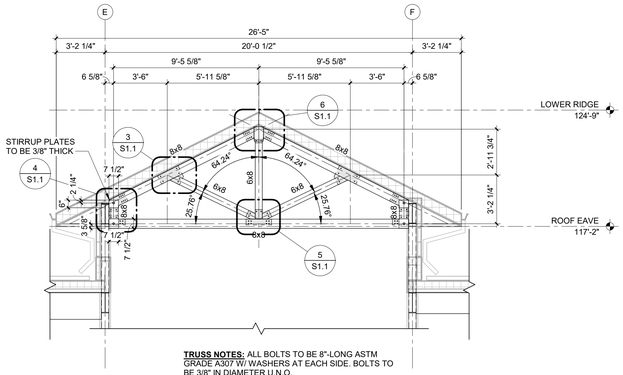


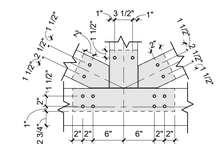
3 TRUSS T3 - Callout 3
SCALE: 1" = 1'-0"



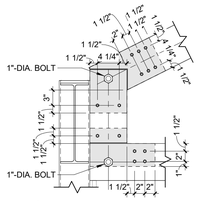
TRUSS NOTES: ALL BOLTS TO BE 8"-LONG ASTM GRADE A307 W/ WASHERS AT EACH SIDE. BOLTS TO BE 3/8" IN DIAMETER U.N.O.

ALL PLATES TO BE 1/4" THICK ASTM GRADE 36 AT EACH SIDE OF TRUSS MEMBERS.

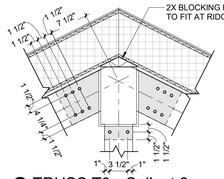
2 TRUSS T3
SCALE: 1/4" = 1'-0"



5 TRUSS T3 - Callout 1
SCALE: 1" = 1'-0"



4 TRUSS T3 - Callout 4
SCALE: 1" = 1'-0"



6 TRUSS T3 - Callout 2
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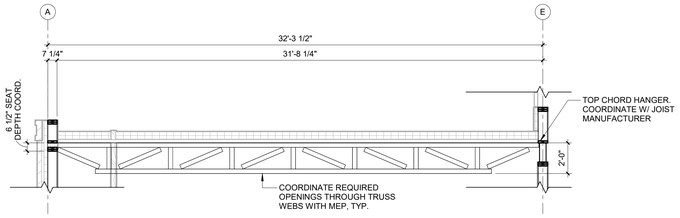
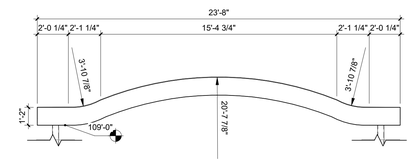
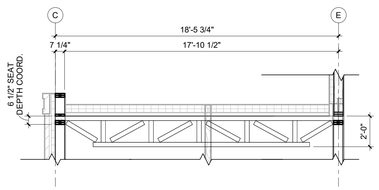


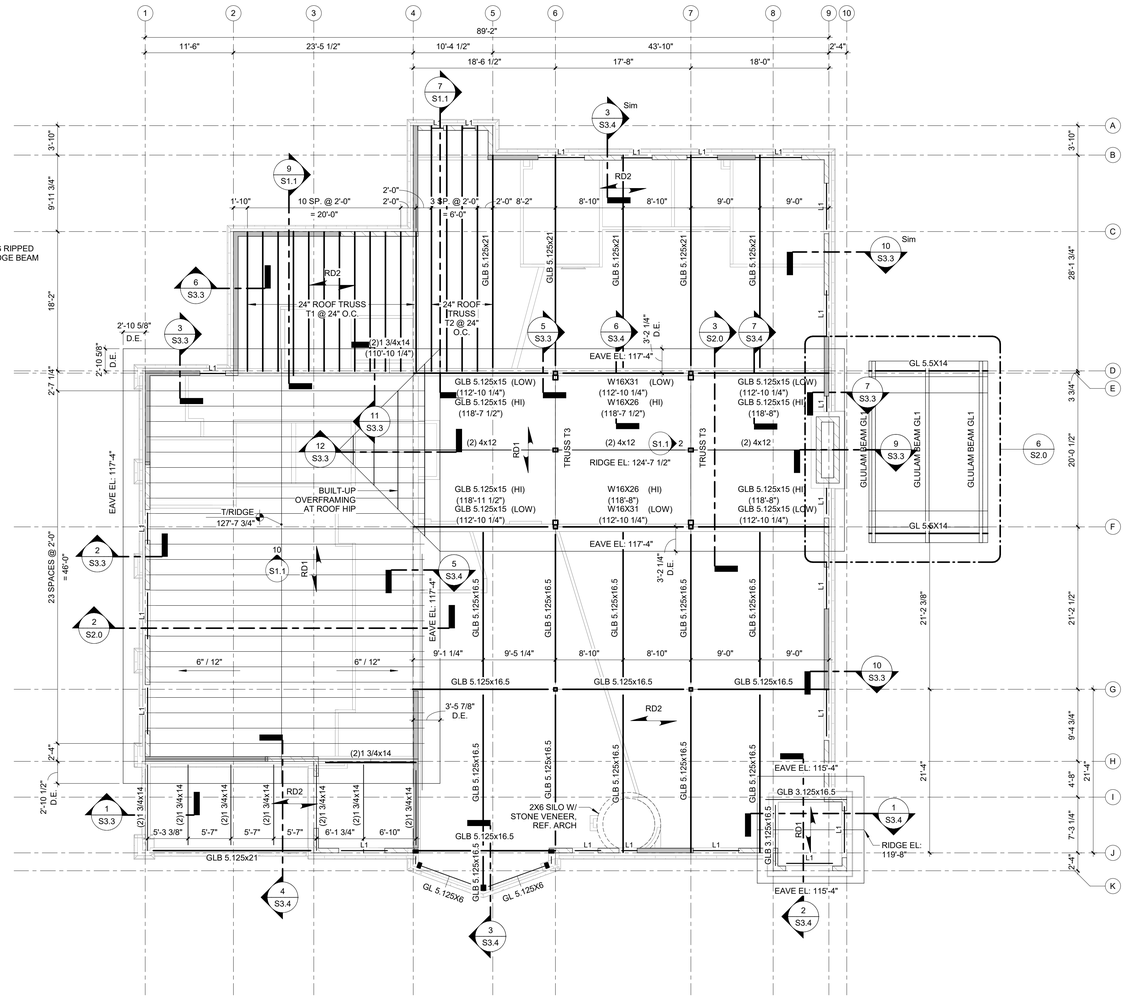
7 TRUSS T2
SCALE: 1/4" = 1'-0"



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

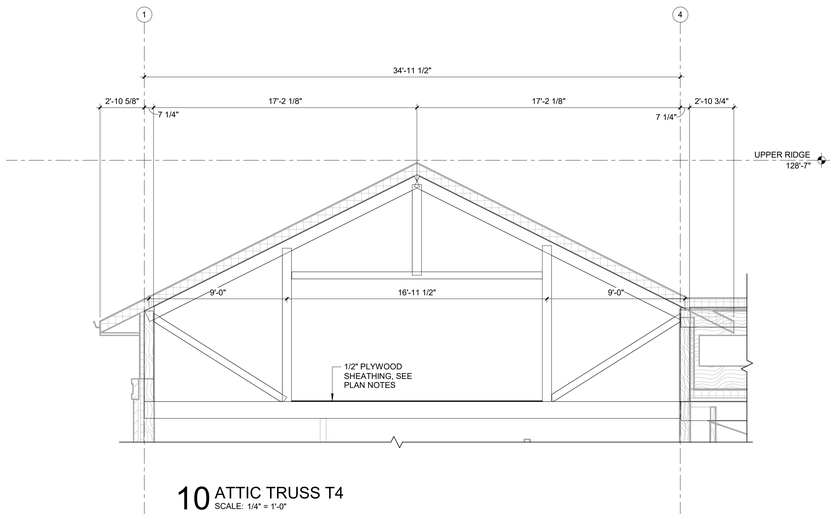


9 TRUSS T1
SCALE: 1/4" = 1'-0"



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

0 4' 8' 16'
SCALE: 1/8" = 1'-0"



10 ATTIC TRUSS T4
SCALE: 1/4" = 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 1/2" 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 2X8 AT 16" O.C. WITH DOUBLE 2X8 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. INDICATES WOOD STUD LOAD BEARING WALL.
   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. REFER TO ARCHITECTURAL DRAWINGS FOR EXPOSED CEILING AREAS AND REQUIRED FINISHES.

WOOD ROOF DECK

1. ROOF DECK RD2 TO BE 1/2" HORIZONTALLY ORIENTATED APA EXTERIOR RATED PLYWOOD SHEATING, FASTEN TO SUPPORTS WITH 8D COMMON NAILS AT 6" O.C. AT PANEL EDGES AND 12" O.C. IN PANEL FIELD. OVER 3"X6" NOMINAL TONGUE AND GROOVE BOARD IN A RANDOM LAYUP
2. REFER TO ARCHITECTURAL DRAWINGS FOR EXPOSED CEILING AREAS AND REQUIRED FINISHES.

ATTIC FLOOR SHEATHING

1. ATTIC PLYWOOD SHEATHING (24/48) TO BE 1/2" VERTICALLY ORIENTED SHEATHING, FASTENED TO SUPPORTS WITH 8d COMMON NAILS @ 6" O.C. AT PANEL EDGES AND 12" O.C. IN PANEL FIELD.

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SHEET TITLE
ROOF FRAMING PLAN

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

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PROJECT NUMBER
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SHEET
S1.1

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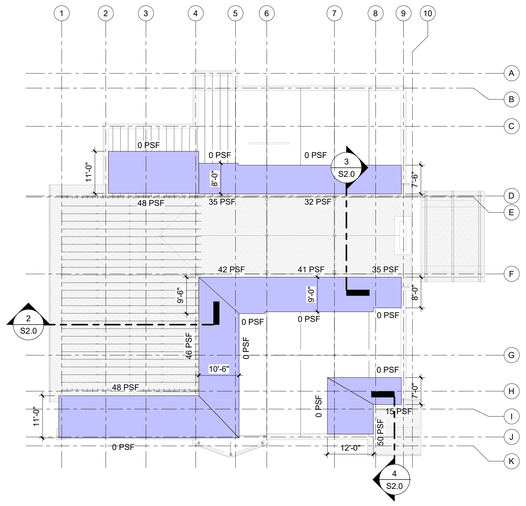
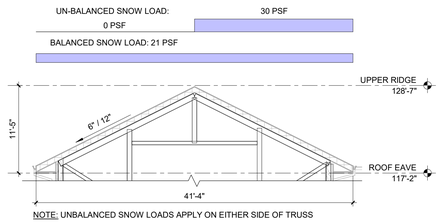


1 SNOW DRIFT PLAN
SCALE: 1/16" = 1'-0"

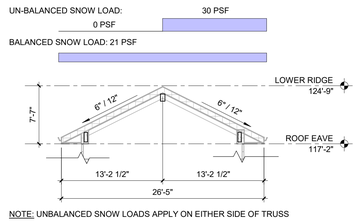
SNOW DRIFT PLAN LEGEND:

NOTE: DRIFT LOADS SHALL BE IN ADDITION TO FLAT ROOF SNOW LOADS



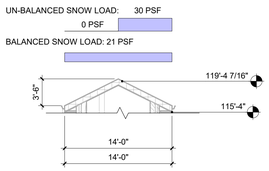
NOTE: UNBALANCED SNOW LOADS APPLY ON EITHER SIDE OF TRUSS

2 ATTIC TRUSS - UNBALANCED SNOW DRIFT
SCALE: 1/8" = 1'-0"



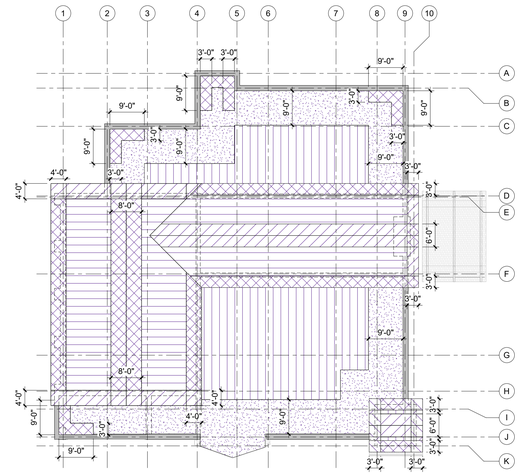
NOTE: UNBALANCED SNOW LOADS APPLY ON EITHER SIDE OF TRUSS

3 CELERESTORY TRUSS - UNBALANCED SNOW DRIFT
SCALE: 1/8" = 1'-0"



NOTE: UNBALANCED SNOW LOADS APPLY ON EITHER SIDE OF TRUSS

4 TOWER TRUSS - UNBALANCED SNOW DRIFT
SCALE: 1/8" = 1'-0"

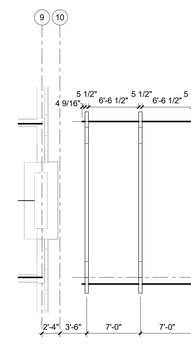


5 WIND UPLIFT PLAN
SCALE: 1/16" = 1'-0"

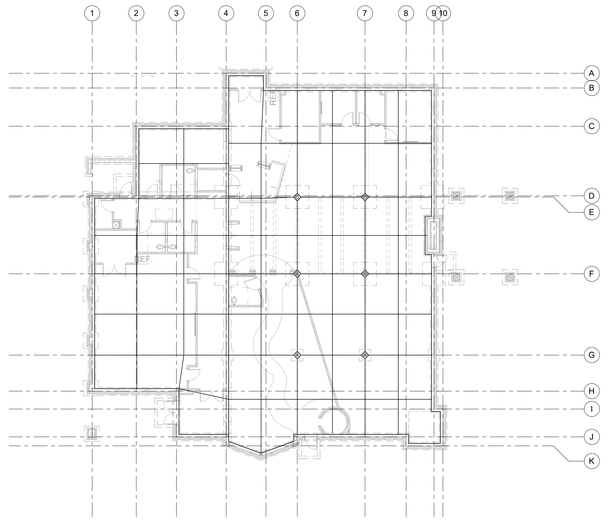
WIND UPLIFT PLAN LEGEND:

- UZ 1 — INDICATES WIND UPLIFT ZONE 1 = NET UPLIFT PRESSURE -10 PSF
- UZ 2 — INDICATES WIND UPLIFT ZONE 2 = NET UPLIFT PRESSURE -15 PSF
- UZ 3 — INDICATES WIND UPLIFT ZONE 3 = NET UPLIFT PRESSURE -20 PSF
- UZ 4 — INDICATES WIND UPLIFT ZONE 4 = NET UPLIFT PRESSURE -25 PSF
- UZ 5 — INDICATES WIND UPLIFT ZONE 5 = NET UPLIFT PRESSURE -30 PSF
- UZ 6 — INDICATES WIND UPLIFT ZONE 6 = NET UPLIFT PRESSURE -40 PSF

NOTE: WIND UPLIFTS SHOWN ON PLAN WERE CALCULATED USING ASCE 7-16 SECTION 30 PART 2, COMPONENTS AND CLADDING. UPLIFT PRESSURES ARE NET FACTORED UPLIFTS (0.9D + 1.0W)



6 CANOPY ALTERNATE FRAMING PLAN
SCALE: 1/8" = 1'-0"



7 SLAB ON GRADE CONTROL JOINT LAYOUT
SCALE: 1/16" = 1'-0"

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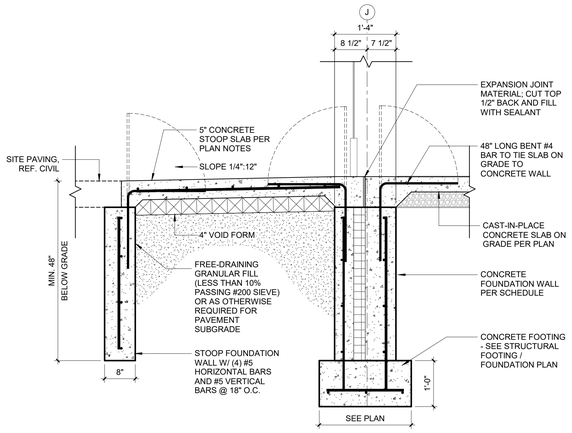
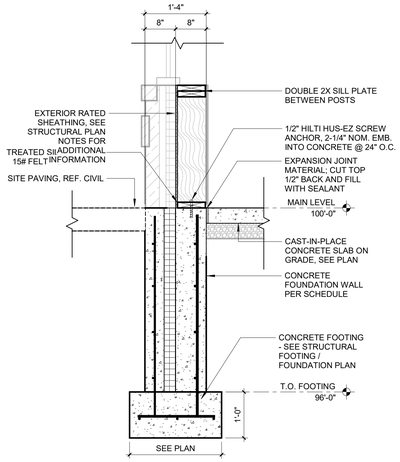
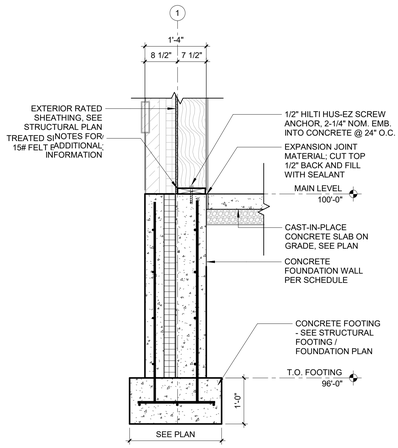
S2.0



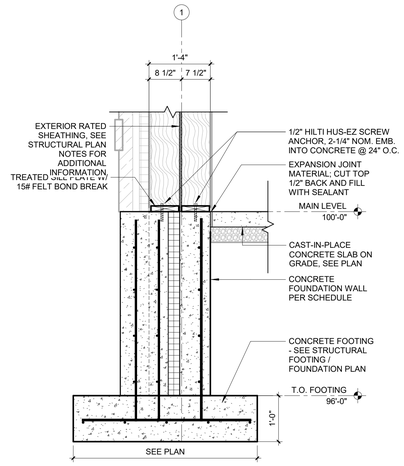
1 TYPICAL EXTERIOR STOOP
SCALE: 3/4" = 1'-0"



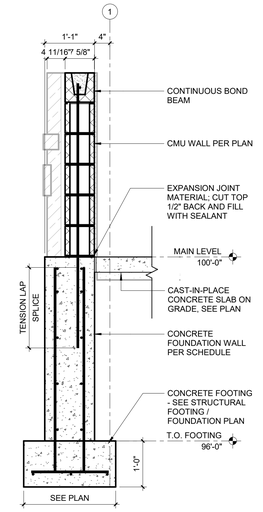
2 FOUNDATION WALL AT WINDOW SILL
SCALE: 3/4" = 1'-0"



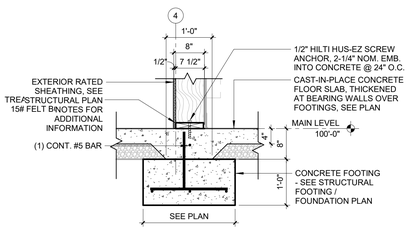
3 TYPICAL FOUNDATION WALL
SCALE: 3/4" = 1'-0"



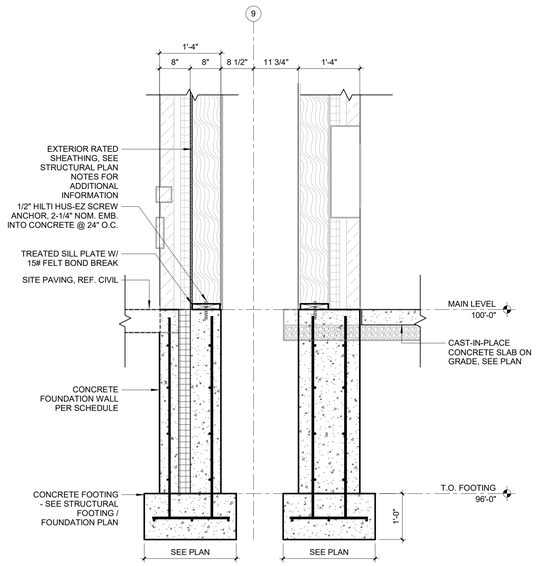
4 FOUNDATION WALL AT DOUBLE 2X8 PIER
SCALE: 3/4" = 1'-0"



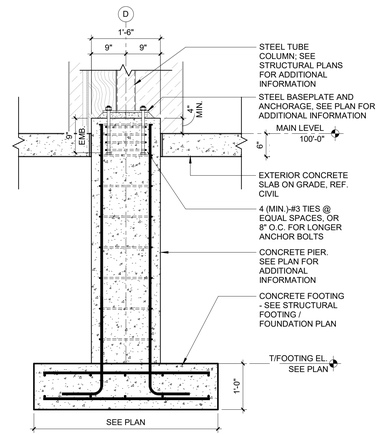
5 FOUNDATION AT TRASH ENCLOSURE
SCALE: 3/4" = 1'-0"



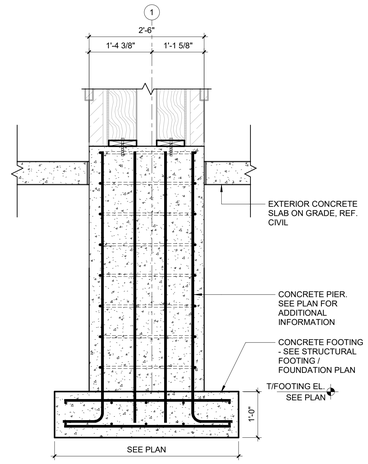
6 INTERIOR LOAD BEARING WALL FOOTING
SCALE: 3/4" = 1'-0"



7 FOUNDATIONS AT FIREPLACE
SCALE: 3/4" = 1'-0"



8 FOUNDATION PIER AT CANOPY ALT.
SCALE: 3/4" = 1'-0"



9 ENTRANCE FOUNDATION PIER
SCALE: 3/4" = 1'-0"

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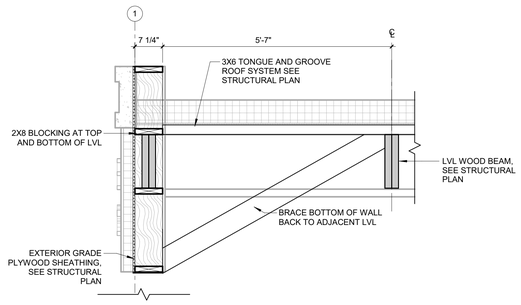
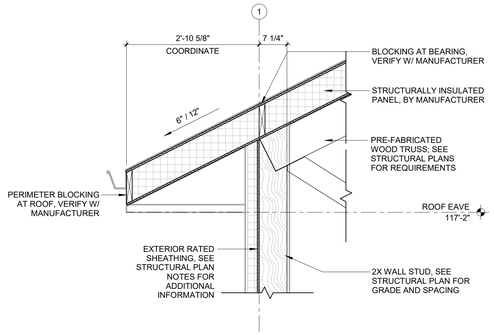
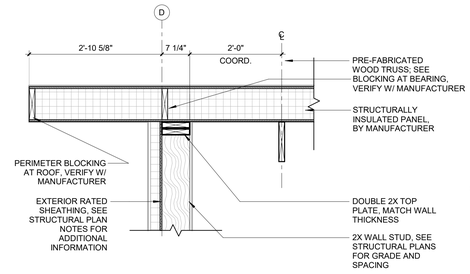


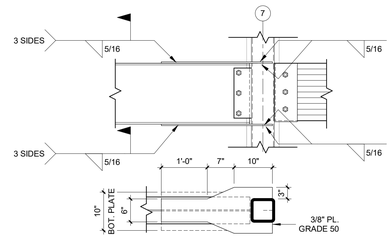
1 ENTRANCE FRAMING - WEST
SCALE: 3/4" = 1'-0"



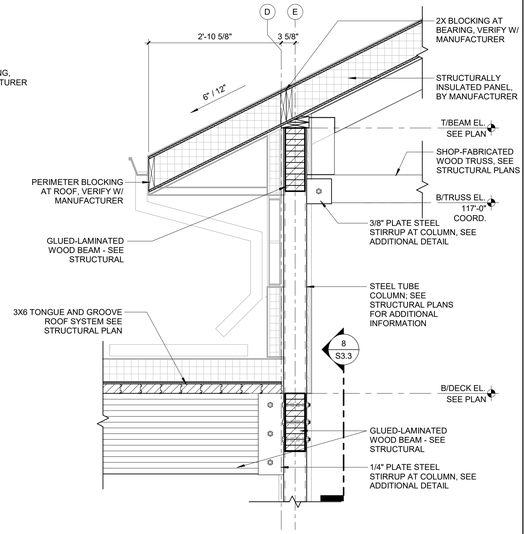
2 ROOF EAVE - ATTIC TRUSS
SCALE: 3/4" = 1'-0"



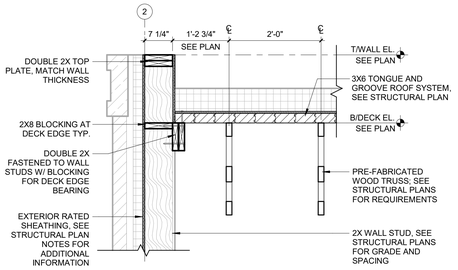
3 ROOF EAVE - ATTIC END TRUSS
SCALE: 3/4" = 1'-0"



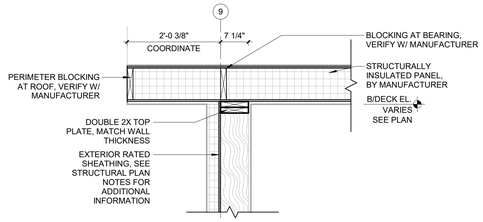
4 STEEL MOMENT CONNECTION
SCALE: 3/4" = 1'-0"



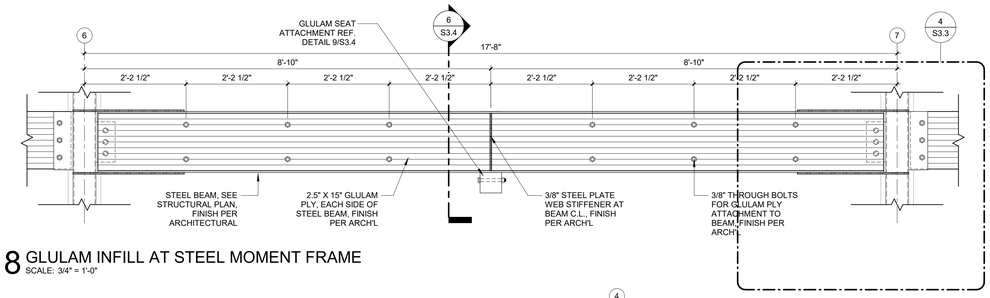
5 TRUSS AND GLULAM BEARING AT CLERESTORY
SCALE: 3/4" = 1'-0"



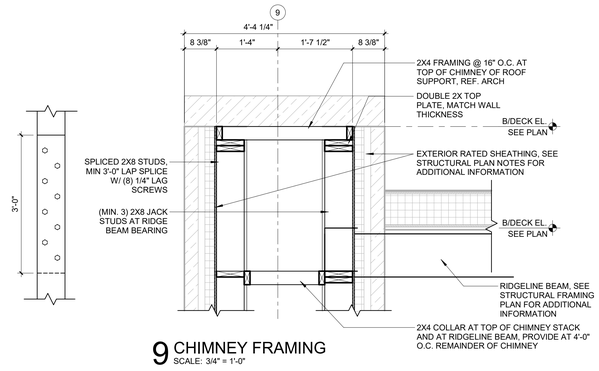
6 TYPICAL DECK EDGE PARALLEL TO ROOF TRUSS
SCALE: 3/4" = 1'-0"



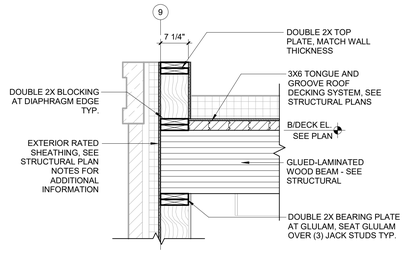
7 ROOF OVERHANG AT FRONT
SCALE: 3/4" = 1'-0"



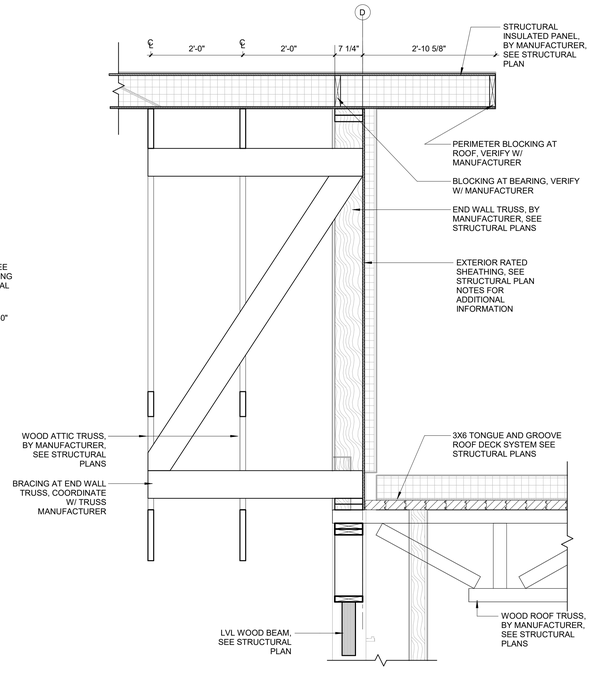
8 GLULAM INFILL AT STEEL MOMENT FRAME
SCALE: 3/4" = 1'-0"



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

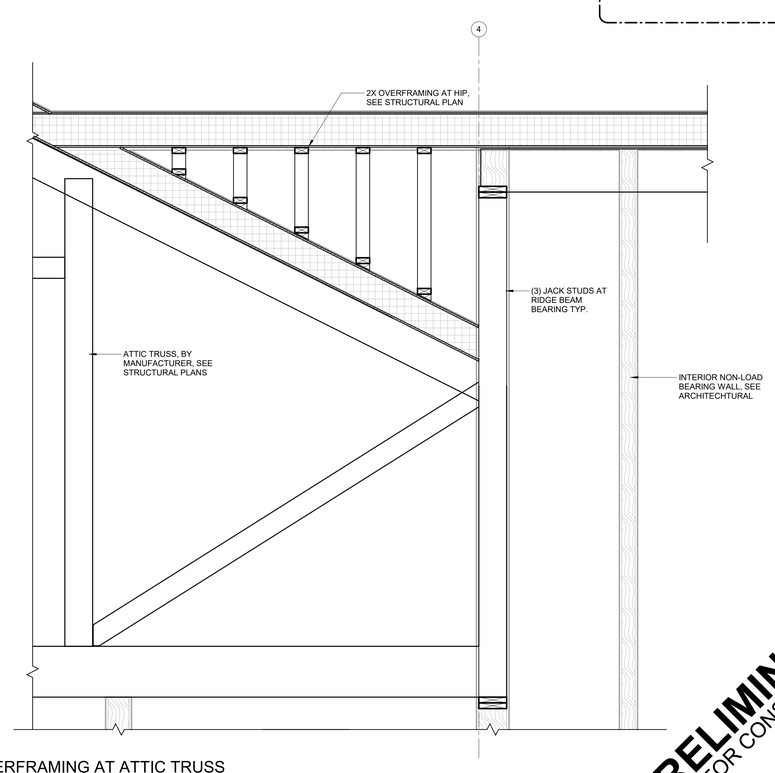


10 GLULAM BEARING AT EXTERIOR WALL
SCALE: 3/4" = 1'-0"



11 WOOD JOIST BEARING AT END WALL
SCALE: 3/4" = 1'-0"

?



12 OVERFRAMING AT ATTIC TRUSS
SCALE: 3/4" = 1'-0"

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S3.3

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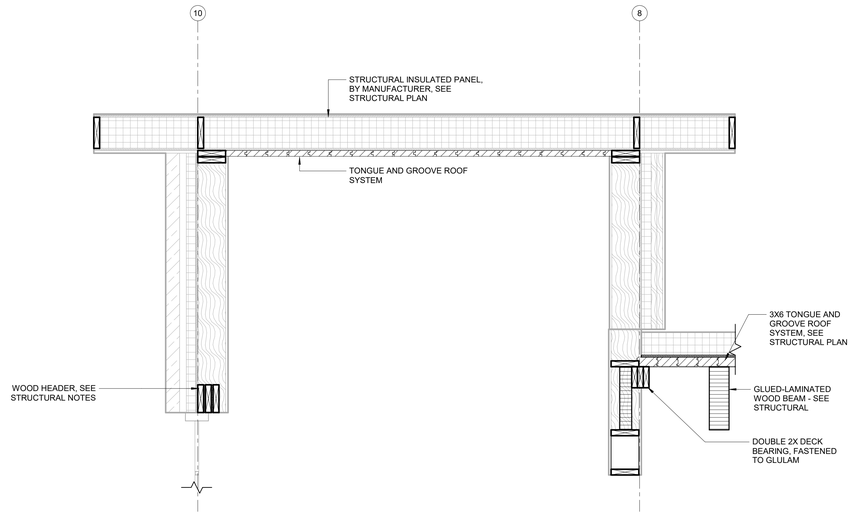
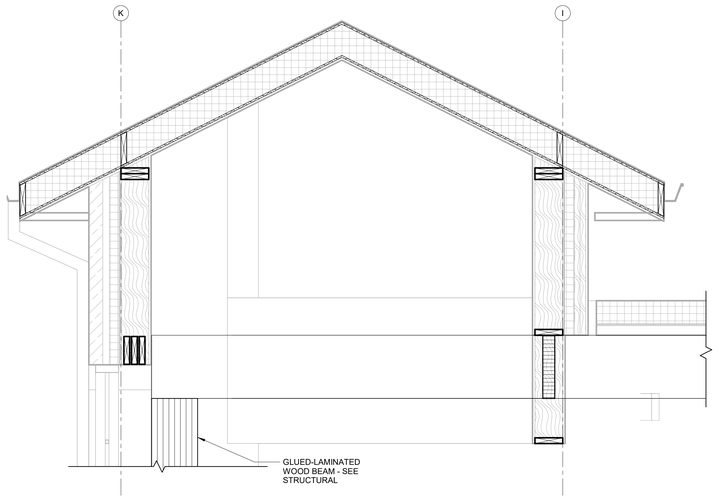
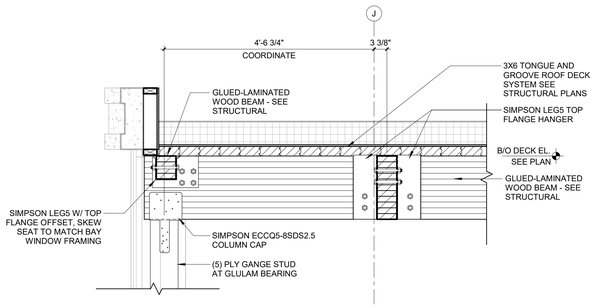


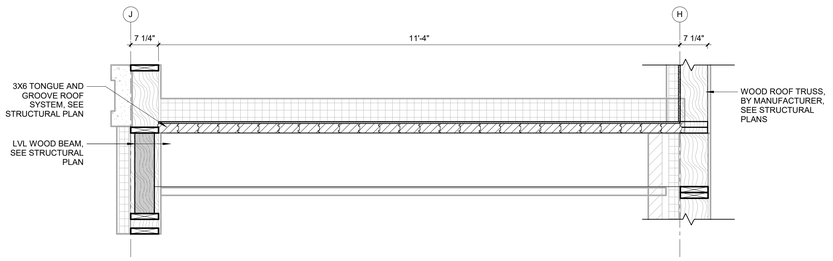
1 SECTION THROUGH TOWER
SCALE: 3/4" = 1'-0"



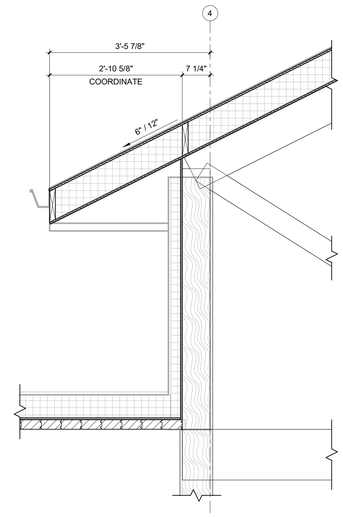
2 SECTION THROUGH TOWER WITH GLULAM BEARING
SCALE: 3/4" = 1'-0"



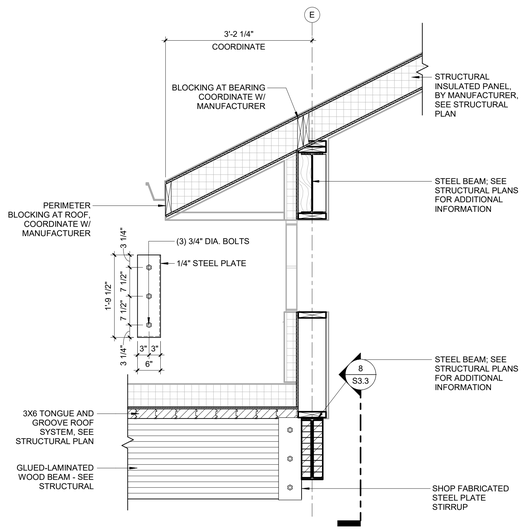
3 BAY WINDOW FRAMING
SCALE: 3/4" = 1'-0"



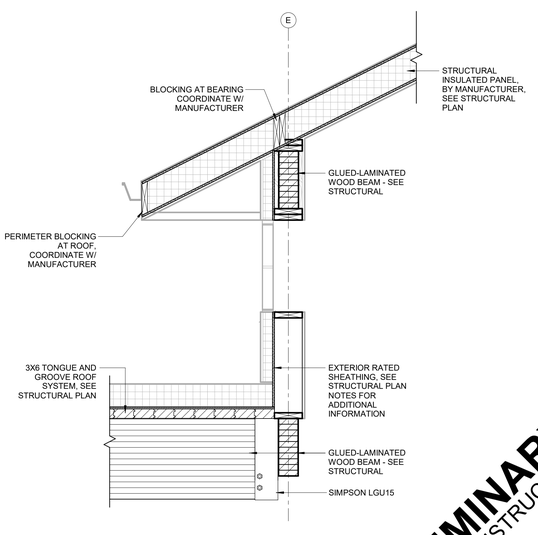
4 ENTRANCE FRAMING
SCALE: 3/4" = 1'-0"



5 EAVE AT ATTIC TRUSS OVER LOW SLOPE ROOF
SCALE: 3/4" = 1'-0"



6 CLERESTORY GLULAM BEARING AT STEEL BEAM
SCALE: 3/4" = 1'-0"



7 CLERESTORY GLULAM BEARING AT GLULAM
SCALE: 3/4" = 1'-0"

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PLUMBING LEGEND

- SANITARY DRAIN, WASTE, OR SEWER
- SANITARY VENT
- COLD WATER - DOMESTIC
- COLD WATER - HARD
- HOT WATER - DOMESTIC
- HW RECIRCULATION - DOMESTIC
- GM — NATURAL GAS SERVICE
- G — G — NATURAL GAS PIPING
- TEE - BRANCH TO SIDE
- TEE - BRANCH DOWN
- RISER UP
- RISER DOWN
- FLOOR CLEAN OUT
- WALL CLEAN OUT
- UNION
- COUPLING
- INCREASER
- FLOW
- SHUT-OFF ISOLATION VALVE
- CHECK VALVE
- PRESSURE REDUCING VALVE
- BALANCING VALVE
- THERMOSTATIC MIXING VALVE
- CIRCULATION PUMP
- IN-LINE BOOSTER PUMP
- DRAIN VALVE
- PIPE STRAINER
- HOSE BIBB
- WATERTIGHT CAP
- WATER HAMMER ARRESTOR
- FLOOR DRAIN
- OPEN HUB DRAIN

ABBREVIATIONS

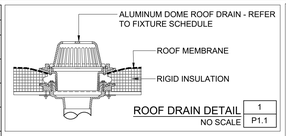
AIR	COMPRESSED AIR
AFF	ABOVE FINISH FLOOR
AFG	ABOVE FINISH GRADE
BFF	BELOW FINISH FLOOR
BFG	BELOW FINISH GRADE
BFV	BACKFLOW VALVE
BP	BOOSTER PUMP
BWV	BACK WATER VALVE
CB	CATCH BASIN
CIP	CLEAN-IN-PLACE
CMV	COMMON VENT
CO	CLEAN OUT
CSW	COLD SOFT WATER
CL	CENTER LINE
CV	CIRCUIT VENT
CW	COLD WATER
CWW	CLEAR WATER WASTE
CWV	CLEAR WATER VENT
DF	DRINKING FOUNTAIN
DHX	DOMESTIC HEAT EXCHANGER
DS	DRAIN STACK
DW	DISHWASHER
EX	EXISTING
EC	ELECTRICAL CONTRACTOR
EM	EMERGENCY EYE WASH / SHOWER
FCO	FLOOR CLEAN OUT
FWG	FOOD WASTE GRINDER
FD	FLOOR DRAIN
GAS	NATURAL GAS
GC	GENERAL CONTRACTOR
HB	HOSE BIBB
HC	HVAC CONTRACTOR
HW	HOT WATER
HWR	HOT WATER RETURN
IE	INVERT ELEVATION
L	LAVATORY
MB	MOP BASIN
MH	MANHOLE
MV	MIXING VALVE

ABBREVIATIONS

NPC	NON-POTABLE COLD WATER
NPH	NON-POTABLE HOT WATER
NPR	NON-POTABLE HW RETURN
OD	OVERFLOW DRAIN
OHD	OPEN HUB DRAIN
ORD	OVERFLOW ROOF DRAIN
PC	PLUMBING CONTRACTOR
PCW	PROCESS COLD WATER
PHW	PROCESS HOT WATER
PHWR	PROCESS HW RETURN
PHX	PLATE HEAT EXCHANGER
PRV	PRESSURE REDUCING VALVE
PW	PROCESS WASTE
RPZ	REDUCED PRESSURE ZONE BACKFLOW PROTECTION
RCP	RECIRCULATION PUMP
RV	RELIEF VENT
S	SINK
SAN	SANITARY
SD	SUBSOIL DRAIN
SH	SHOWER
ST	STORM
THW	TEMPERED HOT WATER
TD	TRENCH DRAIN
TBV	THERMOSTATIC BALANCING VALVE
TMV	THERMOSTATIC MIXING VALVE
UR	URINAL
US	UTILITY SINK
VS	VENT STACK
VTR	VENT THROUGH ROOF
VWV	VERTICAL WET VENT
W	DOMESTIC WATER
WC	WATER CLOSET
WCO	WALL CLEAN OUT
WH	WATER HEATER
WHA	WATER HAMMER ARRESTOR
WS	WATER SOFTENER
YCO	YARD CLEANOUT

PLUMBING DRAIN SYSTEM FIXTURE SCHEDULE

ID	FIXTURE	DESCRIPTION
FD-1	FLOOR DRAIN 2" P-TRAP	**FIXTURE:** SIOUX CHIEF 842-4PSRV, ON-GRADE ADJUSTABLE FLOOR DRAIN, NICKEL-BRONZE RING / STRAINER, ABS HEAD ADAPTER W/ BRASS THREAD INSERTS, PVC BASE ADAPTER, MEETS ASME A112.6.3.
FD-2	FLOOR DRAIN 3" P-TRAP	**FIXTURE:** SIOUX CHIEF 842-4PSRV, ON-GRADE ADJUSTABLE FLOOR DRAIN, NICKEL-BRONZE RING / STRAINER, ABS HEAD ADAPTER W/ BRASS THREAD INSERTS, PVC BASE ADAPTER, MEETS ASME A112.6.3.
OHD	OPEN HUB DRAIN 2" P-TRAP	**FIXTURE:** IN FLOOR PVC STANDPIPE RECEPTOR W/ RIM MIN. 1" A.F.F. FOR AIR-GAP OR AIR-BREAK PROTECTION FOR INDIRECT OR LOCAL WASTE PIPING, INCREASER OPTIONAL.
FCO	FLOOR CLEANOUT	**FIXTURE:** SIOUX CHIEF 852, ADJUSTABLE CLEAN OUT, SQUARE GRATE, STAINLESS STEEL RING / COVER, PVC HEAD ADAPTER, PVC BASE ADAPTER - SEE PLAN FOR PIPE DIAMETER DESIGNATION
WCO	WALL CLEANOUT	**FIXTURE:** SIOUX CHIEF 870 SERIES, 20 GA., SS COVER
CO	CLEANOUT	**FIXTURE:** EXPOSED CLEAN-OUT CAP
YCO	YARD CLEANOUT	**FIXTURE:** REFER TO THIS SHEET FOR DETAIL



ROOF DRAIN DETAIL 1 / P1.1
NO SCALE

GENERAL PLUMBING NOTES:

1. DRAWINGS SHOWING LOCATIONS OF EQUIPMENT, PLUMBING, PIPING, ETC. ARE DIAGRAMMATIC AND MAY NOT ALWAYS REFLECT ACTUAL INSTALLATION CONDITIONS. DRAWINGS SHOW THE GENERAL ARRANGEMENT OF ALL EQUIPMENT, PLUMBING, AND PIPING, AND MAY NOT INCLUDE ALL OFFSETS AND FITTINGS AS REQUIRED. DRAWINGS SHALL BE FOLLOWED AS CLOSELY AS ACTUAL BUILDING CONSTRUCTION AND THE WORK OF OTHERS WILL PERMIT. CONTRACTOR TO FIELD VERIFY ALL CONDITIONS.
2. PLUMBING CONTRACTOR SHALL COORDINATE W/ ALL OTHER TRADES PRIOR TO COMMENCEMENT OF WORK.
3. FURNISH AND INSTALL PLUMBING PRODUCTS IN COMPLIANCE W/ LOCAL BUILDING CODES, THE AUTHORITY HAVING JURISDICTION, AND IN ACCORDANCE W/ GENERALLY ACCEPTED INDUSTRY STANDARDS AND PRACTICES. INSTALL PLUMBING PRODUCTS PER MANUFACTURER'S RECOMMENDATIONS.
4. CONTRACTOR TO PROVIDE FIRE SEAL AT ALL FLOOR AND RATED WALL ASSEMBLIES PIPING SYSTEMS PENETRATIONS.
5. ALL SANITARY DRAIN AND VENT PIPING TO BE SCHEDULE 40 PVC SOLID CORE.
6. BUILDING SEWER PIPING AND STORM SEWER PIPING OUTSIDE OF BUILDING BY OTHERS - REFER TO CIVIL SHEET

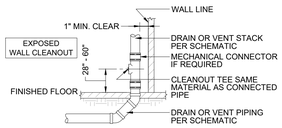
SANITARY SEWER & VENT PIPING:
ALL SANITARY SEWER PIPING SHALL BE SOLID PVC SCHEDULE 40 W/ DRAINAGE FITTINGS. SEWER PIPING 2" AND UNDER SHALL SLOPE AT 1/4" PER FOOT AND 3" AND LARGER PIPING SHALL SLOPE AT 1/8" PER FOOT DOWN TOWARDS SANITARY MAIN CONNECTION POINT.

SOLID-WALL PVC PIPE: ASTM D 2665, DRAIN, WASTE, AND VENT.
PVC SOCKET FITTINGS: ASTM D 2665, MADE TO ASTM D 3311, DRAIN, WASTE, AND VENT PATTERNS AND TO FIT SCHEDULE 40 PIPE.
ADHESIVE PRIMER: ASTM F 656.

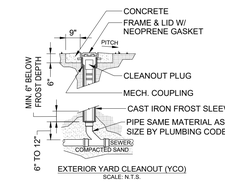
1. ADHESIVE PRIMER SHALL HAVE A VOC CONTENT OF 550 G/L OR LESS WHEN CALCULATED ACCORDING TO 40 CFR 59, SUBPART D (EPA METHOD 24).

SOLVENT CEMENT: ASTM D 2564.

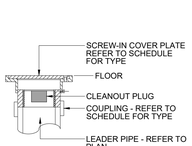
2. PVC SOLVENT CEMENT SHALL HAVE A VOC CONTENT OF 510 G/L OR LESS WHEN CALCULATED ACCORDING TO 40 CFR 59, SUBPART D (EPA METHOD 24).



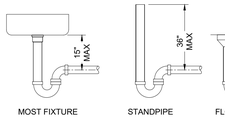
VERTICAL CLEANOUT DETAILS
SCALE: N.T.S.



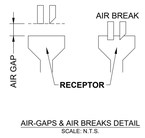
EXTERIOR YARD CLEANOUT (YCO)
SCALE: N.T.S.



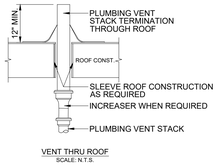
INTERIOR FLOOR CLEANOUT (FCO)
SCALE: N.T.S.



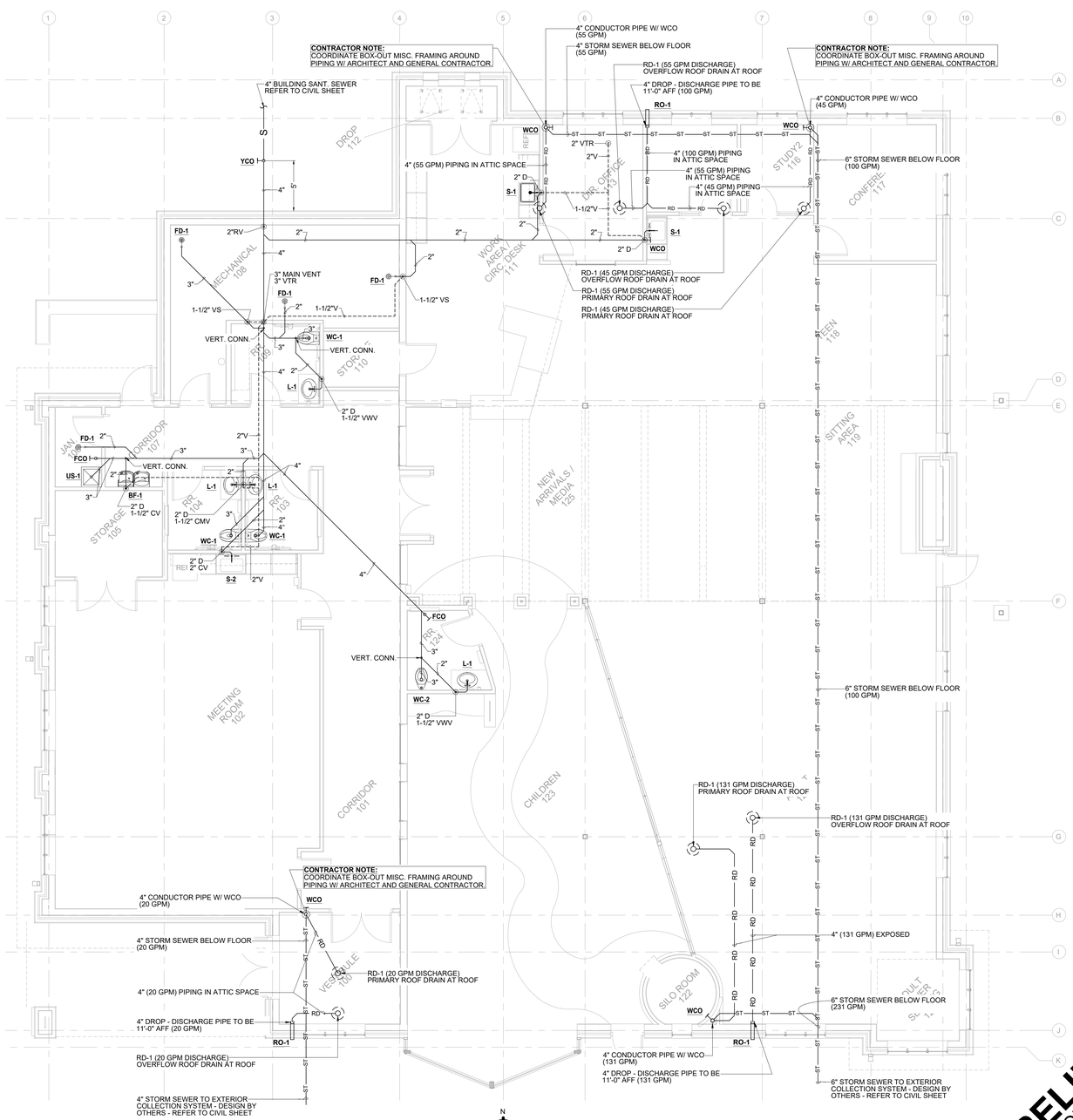
MOST FIXTURE STANDPIPE FLOOR DRAIN



AIR-GAPS & AIR BREAKS DETAIL
SCALE: N.T.S.



VENT THRU ROOF
SCALE: N.T.S.



N

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

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DRAIN, WASTE, AND VENT PLUMBING & ROOF DRAINAGE

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SHEET
P1.1

PLUMBING FIXTURE SCHEDULE

ID	FIXTURE	DESCRIPTION
L-1	LAVATORY INTEGRAL BOWL AND TOP	**FIXTURE:** INTEGRAL BOWL AND TOP ASSEMBLY TO MEET ASME A112.19.2, COORDINATE W/ ARCHITECT, OWNER, GENERAL CONTRACTOR AND PLUMBER.
		FAUCET: SLOAN SF-2250, SENSOR FAUCET, INFRARED, DECKMOUNT 4" TRIMPLATE, CONTROL MODULE HARDWIRE WITH PLUG ADAPTER, CHROME FINISH, ADA, 0.50 GPM, 1/2" H+C SUPPLIES TO BELOW DECK MIXING VALVE MEETS ASME A112.18.1
		STOPS & SUPPLIES: MCGUIRE LOOSE KEY QUARTER TURN ANGLE STOPS W/ CHROME ESCUTCHEONS, FLUIDMASTER CONNECTORS & FLEXIBLE BRAIDED SUPPLY LINE, MEETS ASME A112.18.6, NFS STANDARD 61, SECTION 9.
		DRAIN: MAINLINE ML760 GRID DRAIN, 1-1/4"Ø, 17 GA., CHROME FINISH, ADA 19 HOLES **P-TRAP:** DEARBORN 704 SERIES, 1-1/2" P-TRAP, FLANGE, QUARTER BEND, J-BEND, RUBBER WASHERS, NUTS, 17GA.
		MIXING VALVE: WATTS SERIES LFUSG-B-MS, UNDER SINK GUARDIAN THERMOSTATIC MIXING VALVE TEMP. SETTING 105°F RECOMMENDED,MEETS ASSE1070.
S-1	SINK SINGLE BOWL DROP IN	**FIXTURE:** ELKAY LUSTERTONE CLASSIC LRAD172265PD, 18GA SS, DROP-IN, 17"x22"x6-1/2", ADA, LUSTROUS SATIN FINISH, BOTTOM ONLY PADS FIXTURE MEETS ASME A112.19.3
		FAUCET: DELTA FAUCET 27C4944-LS-TI, CAST DECKMOUNT, 6" 120° SWING SPOUT, 3-1/2" BLADE HANDLE WITH SANITARY HOOD, 4" CENTERS, RED / BLUE INDICATORS, CHROME FINISH, ADA, 1.50 GPM, 1/2" H+C SUPPLIES, SEPARATE MIXING VALVE, MEETS ASME A112.18.1, NSF 61 & 372.
		STOPS & SUPPLIES: MCGUIRE LOOSE KEY QUARTER TURN ANGLE STOPS W/ CHROME ESCUTCHEONS, FLUIDMASTER CONNECTORS & FLEXIBLE BRAIDED SUPPLY LINE, MEETS ASME A112.18.6, NFS STANDARD 61, SECTION 9.
		DRAIN: ELKAY LKPD1, 1-1/2" DRAIN, 304 SS BODY / STRAINER, 1-1/2" DRAIN TAILPIECE, MEETS ASME A112.18.2 **P-TRAP:** MAINLINE MLP9703, 1-1/2" PVC TUBE P-TRAP W/ ADAPTER, 1-1/2" SLIP NUT.
		MIXING VALVE: WATTS SERIES LFUSG-B-MS, UNDER SINK GUARDIAN THERMOSTATIC MIXING VALVE TEMP. SETTING 105°F RECOMMENDED,MEETS ASSE1070.
S-2	SINK TWIN BOWL DROP IN	**FIXTURE:** ELKAY LUSTERTONE CLASSIC LRAD331965PD, 18GA SS, DROP-IN, 17"x22"x6-1/2", ADA, LUSTROUS SATIN FINISH, BOTTOM ONLY PADS FIXTURE MEETS ASME A112.19.3
		FAUCET: DELTA FAUCET 27C4944-LS-TI, CAST DECKMOUNT, 6" 120° SWING SPOUT, 3-1/2" BLADE HANDLE WITH SANITARY HOOD, 4" CENTERS, RED / BLUE INDICATORS, CHROME FINISH, ADA, 1.50 GPM, 1/2" H+C SUPPLIES, SEPARATE MIXING VALVE, MEETS ASME A112.18.1, NSF 61 & 372.
		STOPS & SUPPLIES: MCGUIRE LOOSE KEY QUARTER TURN ANGLE STOPS W/ CHROME ESCUTCHEONS, FLUIDMASTER CONNECTORS & FLEXIBLE BRAIDED SUPPLY LINE, MEETS ASME A112.18.6, NFS STANDARD 61, SECTION 9.
		DRAIN: ELKAY LKPD1, 1-1/2" DRAIN, 304 SS BODY / STRAINER, 1-1/2" DRAIN TAILPIECE, MEETS ASME A112.18.2 **P-TRAP:** MAINLINE MLP9703, 1-1/2" PVC TUBE P-TRAP W/ ADAPTER, 1-1/2" SLIP NUT.
		MIXING VALVE: WATTS SERIES LFUSG-B-MS, UNDER SINK GUARDIAN THERMOSTATIC MIXING VALVE TEMP. SETTING 105°F RECOMMENDED, MEETS ASSE1070.
BF-1	BOTTLE FILLING STATION AND BI-LEVEL ADA COOLER	**FIXTURE:** ELKAY EZSTL8WSLP, WALL MOUNT, BI-LEVEL, FILTERED, REFRIGERATED, ADA RIGHT UNIT, FILTERED,HANDS FREE ELECTRONIC FILLER (EZWSR), FLEXI GUARD SAFETY BUBBLER WATER COOLER (EZSTL8WSLC), FRONT/SIDE BUBBLER PUSHBAR, 2 STATIONS, 1-1/2" DRAIN, 3/8" O.D. COPPER TUBE CONNECT, ROUGH-IN FOR LEFT HAND HIGH SIDE MODEL, MEETS ASME A112.19.3, U.L. 399, NSF 61 AND 372 FOR LEAD, 101 LBS.
		ACCESSORIES: ELKAY MLP200, IN-WALL CARRIER FOR BI-LEVEL ON-WALL BOTTLE FILLER / COOLER, GALV. STEEL, U-BOLT AND THREADED RODS ANCHORAGE , DESIGNED FOR MIN. 2x4 WALL INSTALLATION
VB-1	VALVE BOX REFRIGERATOR WATER SUPPLY	**FIXTURE:** SIOUX CHIEF 696 SERIES OXBOX, ICE MAKER OUTLET BOX, FRAME, BRACKET, DEBRIS COVER, 1/4 TURN VALVE, 1/2" MALE SUPPLY CONNECTOR WITH ARRESTER, MEETS ASME A112.18.1, ASSE 101, NSF-372 COMPLIANT.
US-1	UTILITY SINK FLOOR MOUNTED 3" P-TRAP	**FIXTURE:** FIAT MOLDED-STONE MOP BASIN. 24"X24"X10" BASIN, 3" DRAIN, MODEL MSB2424, MOP HANGER, STRAINER, STAINLESS STEEL WALL GUARDS, VINYL BUMPERGUARD.
		FAUCET: FIAT 830-AA SERVICE SINK FAUCET, 1/2" H+C SUPPLIES, 8" CENTERS, 4 ARM HANDLES BLUE AND RED DESIGNATIONS, SERVICE FAUCET W/ 3/4" HOSE THREAD, VACUUM BREAKER, CHROME PLATED, WALL BRACE, PAIL HOOK. MEETS ANSI-A112.18.1M AND ASSE 1001
		ACCESSORIES: WATTS SERIES LFN9-CD BACKFLOW PREVENTER (HIGH HAZARD BACKSIPHONAGE BACKFLOW & LOW-HEAD BACKPRESSURE PER ASSE 1052)
WC-1	WATER CLOSET FLUSH TANK ACCESSIBLE	**FIXTURE:** KOHLER CIMARRON K-5310-RA TOILET, FLOOR MOUNTED, ADA, SKIRTED TRAPWAY, 12" ROUGH-IN OUTLET, ELONGATED FRONT, 2-1/8" TRAPWAY 1.28GPF, MIN. STATIC PRESSURE 20 psi, MIN. FLOW PRESSURE 25 psi FIXTURE MEETS ASME A112.19.2.
		ACCESSORIES: KOHLER LUSTRA K-4666-CA, OPEN FRONT LESS COVER ELONGATED TOILET SEAT, 5-1/2" MOUNTING HOLES, SELF SUSTAINING HINGES MEETS ANSI Z124.5.
		STOPS & SUPPLIES: MCGUIRE LOOSE KEY QUARTER TURN ANGLE STOPS W/ CHROME ESCUTCHEONS, FLUIDMASTER CONNECTORS & FLEXIBLE BRAIDED SUPPLY LINE, MEETS ASME A112.18.6, NFS STANDARD 61, SECTION 9.
WC-2	WATER CLOSET FLUSH TANK STANDARD	**FIXTURE:** KOHLER WELLWORTH CLASSIC TOILET, FLOOR MOUNTED, ADA, SKIRTED TRAPWAY, 12" ROUGH-IN OUTLET, ELONGATED FRONT, 2-1/8" TRAPWAY, 1.6 GPF, MIN. STATIC PRESSURE 20 PSI, MIN. FLOW PRESSURE 25 psi FIXTURE MEETS ASME A112.19.2
		ACCESSORIES: KOHLER LUSTRA K-4666-CA, OPEN FRONT LESS COVER ELONGATED TOILET SEAT, 5-1/2" MOUNTING HOLES, SELF SUSTAINING HINGES, MEETS ANSI Z124.5.
		STOPS & SUPPLIES: MCGUIRE LOOSE KEY QUARTER TURN ANGLE STOPS W/ CHROME ESCUTCHEONS, FLUIDMASTER CONNECTORS & FLEXIBLE BRAIDED SUPPLY LINE, MEETS ASME A112.18.6, NFS STANDARD 61, SECTION 9.
HB-1	HOSE BIBB	**FIXTURE:** WOODFORD MODEL B65, 3/4" INLET, 3/4" MALE HOSE THREAD NOZZLE, AUTOMATIC DRAINING, FREEZE-LESS, SINGLE CHECK HOSE CONNECTION, ANTI-SIPHON VACUUM BREAKER, KEY OPERATED, LOCKABLE BOX AND DOOR, CHROME FINISH, MEETS ASSE 1019-B AND 1011.
WS	WATER SOFTENER WITH BRINE TANK	**FIXTURE:** WATER SOFTENER WILL BE RENTAL UNIT BY OWNER. SUPPLIER SHALL SIZE UNIT TO PROVIDE, 15 GPM AT A MAXIMUM PRESSURE LOSS OF 20 PSI, COLD WATER VALVE RANGE 35-110°F, WATER SOFTENER SUPPLIER SHALL TESTING FOR HARDNESS OF WATER COORDINATE WITH PLUMBING CONTRACTOR FOR FINAL OPERATIONAL DESIGN AND CONNECTIONS
MF-1	SUPPLY PIPE MANIFOLD	**FIXTURE:** 1" COPPER L HEADER PIPE, CLOSED END, WITH (5) BRANCH CONNECTIONS FOR 3/4" HOSE BIBB PEX-A PIPING TO UNDERFLOOR, (1) 1/2" COPPER L SUPPLY PIPING UP TO SUSPENDED CEILING SPACE. ALL BRANCH CONNECTIONS TO HAVE INDIVIDUAL ISOLATION VALVES AT MANIFOLD LOCATION. MANIFOLD TO BE MOUNTED TO ADJACENT WALL.
RPZ	REDUCED PRESSURE ZONE ASSEMBLY	**FIXTURE:** WATTS LF909M1-FS-QT-S REDUCED PRESSURE ZONE ASSEMBLY W/ STRAINER, 1-1/2" INLET, VERTICAL INSTALLATION, PROVIDE AIR GAP FITTINGS - 909AG-F W/ 909EL-F, MEETS ASSE 1013
PRV	PRESSURE REDUCING VALVE	**FIXTURE:** WATTS LF25AUB-Z3, WATER PRESSURE REDUCING VALVE, 1-1/2" INLET, BYPASS VALVE INTEGRAL, PROVIDE PRESSURE GAUGE, LOW PRESSURE RANGE 10-35 PSI, PRESSURE DROP 12 PSI FOR 30 GPM FLOW RANGE, CONNECTION TYPE DETERMINED BY PLUMBING CONTRACTOR, MEETS ASSE 1003

WATER HEATER SYSTEM SCHEDULE

ID	MANUFACTURER MODEL #	ELEMENT WATTS	INLET / OUTLET PIPE Ø	RECOVERY		TANK CAP GAL USG	1ST. HOUR DELIVERY USGPH	% EFF.	USABLE STORAGE USG	ELECTRICAL POWER VOLTAGE
				GPH	RISE °F					
WH	RHEEM LIGHT DUTY WATER HEATER ELD40	(2) 4000 SIMULTANEOUS	3/4" INLET 3/4" OUTLET	32	100	40	32	97	32	208v
RCP	HOT WATER RETURN CIRCULATION PUMP	**FIXTURE:** GRUNDFOS UPS 15-35 SFC, IN-LINE 3-SPEED 3/20 HP, SS PUMP HOUSING, 2-BOLT FLANGE 3/4", 84W 115V MAX. FLOW 21.6 GPM, MAX. HEAD 12.14 FT								
		BALANCING VALVE: THERMOMEGATECH CIRCUITSOLVER UNION, THERMOSTATIC BALANCING VALVE, CSU-1/2-115 1/2" UNION CONNECTION TYPE, 115°F RETURN TEMP., PROVIDE SHUT-OFF VALVE ON OUTLET SIDE.								

TABLE C404.5.1
PIPING VOLUME AND MAX. PIPING LENGTHS

NOMINAL PIPE SIZE (INCHES)	VOLUME (LIQUID OUNCES PER FOOT LENGTH)	MAXIMUM PIPING LENGTH (FEET)	
		PUBLIC LAVATORY FAUCETS	OTHER FIXTURES AND APPLIANCES
1/4	0.33	6	50
5/16	0.5	4	50
3/8	0.75	3	50
1/2	1.5	2	43
5/8	2	1	32
3/4	3	0.5	21

TABLE C404.5.1
PIPING VOLUME AND MAX. PIPING LENGTHS

NOMINAL PIPE SIZE (INCHES)	VOLUME (LIQUID OUNCES PER FOOT LENGTH)	MAXIMUM PIPING LENGTH (FEET)	
		PUBLIC LAVATORY FAUCETS	OTHER FIXTURES AND APPLIANCES
7/8	4	0.5	16
1	5	0.5	13
1 1/4	8	0.5	8
1 1/2	11	0.5	6
2	18	0.5	4
1 GALLON = 128 OUNCES			

SUPPORT SPACING

PIPE MATERIAL	MAXIMUM HORIZONTAL SPACING (FT)	MAXIMUM VERTICAL SPACING (FT)
ACRYLONITRILE BUTA-DIENE STYRENE (ABS)	4	10
COPPER OR COPPER − ALLOY PIPE	12	10
COPPER OR COPPER − ALLOY TUBING: < 1 1/4"Ø	6	10
COPPER OR COPPER − ALLOY TUBING: > 1 1/2"Ø	10	10
CROSSLINKED POLYETH-YLENE (PEX)	2 ⅔	4
DUCTILE IRON	5[a]	15
GALVANIZED STEEL	12	15
POLYVINYL CHLORIDE, FLEXIBLE (PVC)	2	4
POLYVINYL CHLORIDE (PVC)	4	10
STAINLESS STEEL	12	15

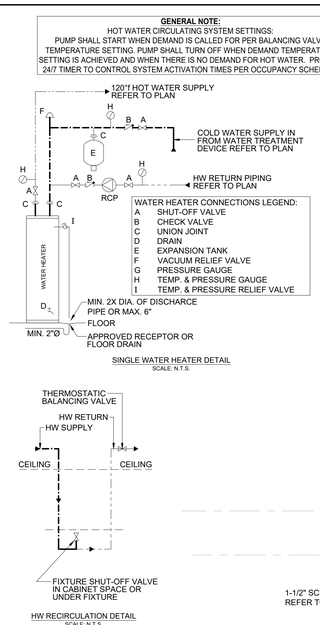
a. THE MAXIMUM HORIZONTAL SPACING FOR SUPPORTS MAY BE INCREASED TO 10 FEET WHEN 10−FOOT LENGTHS OF PIPE ARE EMPLOYED.
b. MID−STORY GUIDE IS TO BE EMPLOYED.

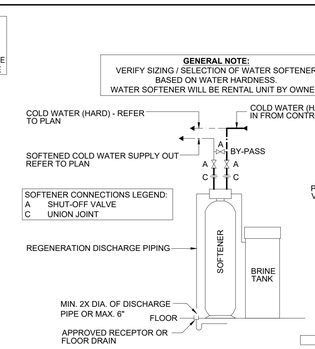
PIPE HANGERS:

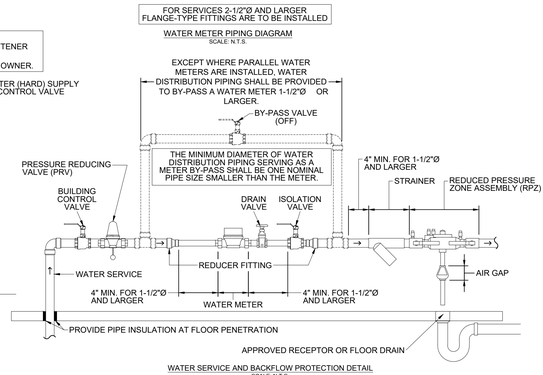
1. HANGERS, ANCHORS AND SUPPORTS FOR PIPING SHALL BE OF SUFFICIENT STRENGTH TO SUPPORT THE PIPING AND ITS CONTENTS. DRAIN PIPING SHALL BE CONSIDERED AS BEING FULL OF WATER.
2. HANGERS AND STRAPS SHALL BE OF A COMPATIBLE MATERIAL THAT WILL REDUCE THE POTENTIAL FOR GALVANIC ACTION WITH THE PIPING.
3. HANGERS AND STRAPS MAY NOT DISTORT, CUT OR ABRADE PIPING.
4. PIPING HANGERS AND ANCHORS SHALL BE SECURELY ATTACHED TO THE BUILDING'S STRUCTURE AT INTERVALS TO SUPPORT THE PIPING AND ITS CONTENTS, BUT NOT AT INTERVALS GREATER THAN THOSE SPECIFIED IN THE CURRENT PLUMBING CODE.THE CONNECTION OF DRAIN PIPING TO A FIXTURE OR APPLIANCE SHALL BE CONSIDERED A POINT OF SUPPORT.
5. HUB-LESS PIPE INSTALLED IN THE HORIZONTAL POSITION SHALL BE SUPPORTED WITHIN 24" ON EACH SIDE OF A JOINT, UNLESS THE JOINT HAS AN ALIGNMENT RETAINING SHIELD.
6. HANGERS SHALL NOT BE ATTACHED TO A BUILDING'S STRUCTURE BY MEANS OF WOOD PLUGS.

PIPE INSULATION SCHEDULE

PIPE	SIZE	THICKNESS	CONDUCTIVITY
HOT WATER SUPPLY 140°F MAX	≤ 1 1/4"	1	.21 - .28
HOT WATER SUPPLY 140°F MAX	≥ 4"	1.5	.21 - .28
COLD WATER SUPPLY ABOVE GRADE	≤ 1 1/2"	0.5	.21 - .27
COLD WATER SUPPLY ABOVE GRADE	≥ 2"	1	.21 - .27
HOT WATER RETURN	≤ 1 1/4"	1	.21 - .28







DOMESTIC WATER PIPING:
COPPER TYPE L, K, M

ASTM B 88 TYPE L COPPER TUBE
ASME B16.18 CAST COPPER, SOLDER-JOINT PRESSURE FITTINGS
ASME B16.22 WROUGHT-COPPER, SOLDER-JOINT PRESSURE FITTINGS
ASME B16.24 BRONZE FLANGES CLASS 150 WITH SOLDER-JOINT ENDS
ASME B16.15 MECHANICAL PRESS COPPER FITTINGS

MSS SP-123 CAST COPPER UNIONS, CAST-COPPER ALLOY, HEXAGONAL STOCK BODY, BALL AND SOCKET, METAL TO METAL SEATING SURFACES AND SOLDER-JOINT OR THREADED ENDS

LEAD FREE SOLDER JOINTS FITTINGS. ALL VALVES SHALL BE FULL PORT BRONZE W/ STAINLESS STEEL TRIM BALL VALVES. NIBCO, WATTS, APOLLO, OR EQUAL CERTIFIED NSF 61 AND 372.

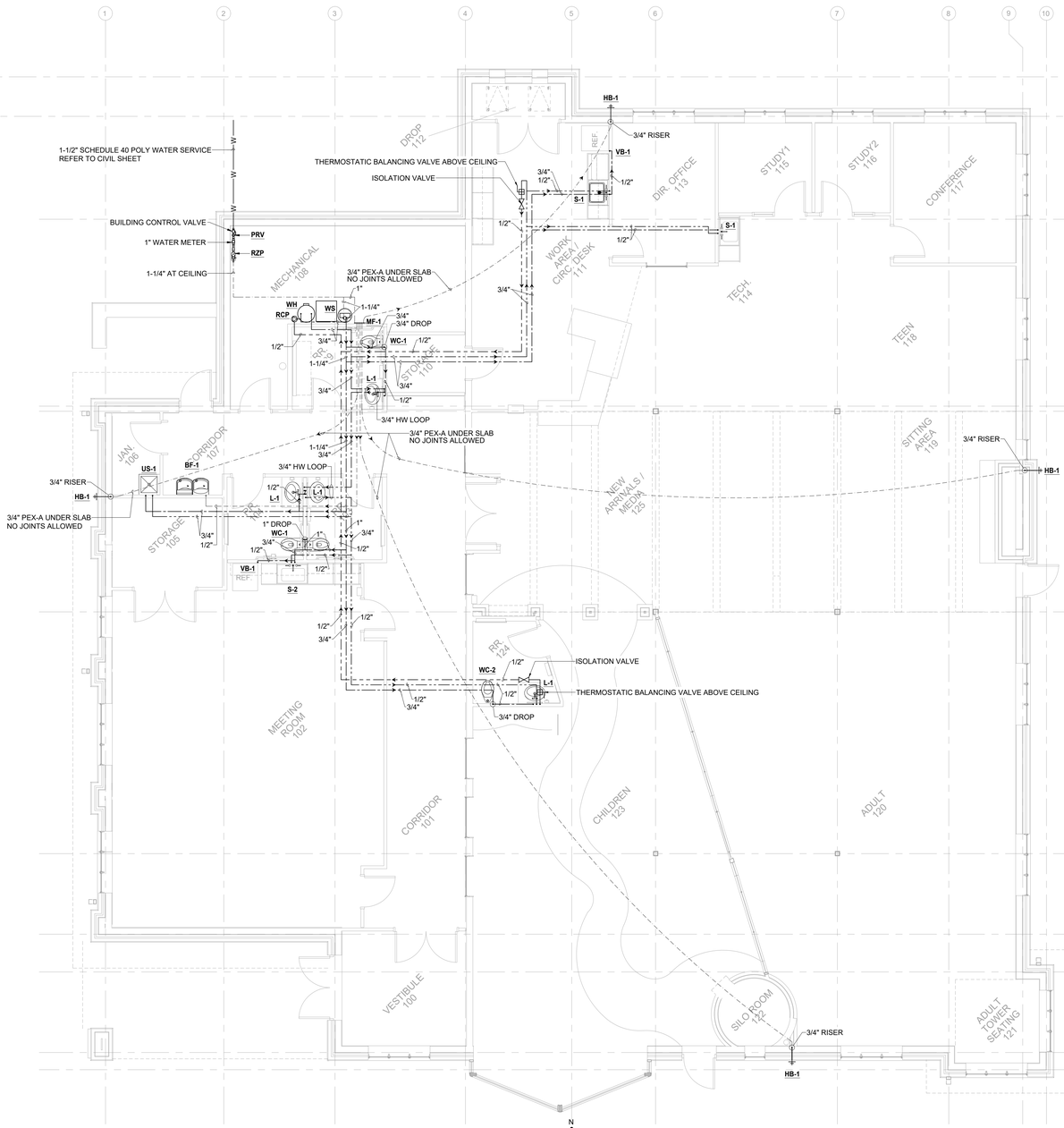
DOMESTIC WATER PIPING:
PEX-A

ASTM F876 STANDARD SPECIFICATION FOR CROSS-LINKED POLYETHYLENE (PEX) TUBING
ASTM F877 STANDARD SPECIFICATION FOR CROSS-LINKED POLYETHYLENE (PEX) PLASTIC HOT AND COLD WATER DISTRIBUTION SYSTEMS

ASTM F1960 STANDARD SPECIFICATION FOR COLD EXPANSION FITTINGS WITH PEX REINFORCING RINGS FOR USE WITH CROSS-LINKED POLYETHYLENE (PEX) TUBING.
ASTM F1807 METAL INSERT FITTINGS AND COPPER CRIMP RINGS
ASTM F1960 COLD EXPANSION FITTINGS AND REINFORCING RINGS
ASSE 1061 PUSH-FIT FITTINGS
ASTM F879 MANIFOLDS WITH MULTIPLE OUTLET PLASTIC OR CORROSION RESISTANT METAL ASSEMBLY

FITTING MATERIALS: FITTINGS SHALL BE MANUFACTURED OF ENGINEERED PLASTIC (EP). BRASS MATERIALS ARE ALLOWED ONLY FOR TRANSITION FITTINGS. FITTINGS SHALL BE PEX-A COLD EXPANSION TYPE.

MINIMUM BEND RADIUS FOR COLD BENDING OF THE PEX-A TUBING SHALL NOT BE LESS THAN 6 TIMES THE OUTSIDE DIAMETER. BENDS WITH A RADIUS LESS THAN STATED SHALL REQUIRE THE USE OF A BEND SUPPORT AS SUPPLIED BY TUBE MANUFACTURER.



1 WATER DISTRIBUTION PLUMBING PLAN
SCALE: 3/16" = 1'-0"

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SHEET TITLE
WATER DISTRIBUTION PLUMBING PLAN

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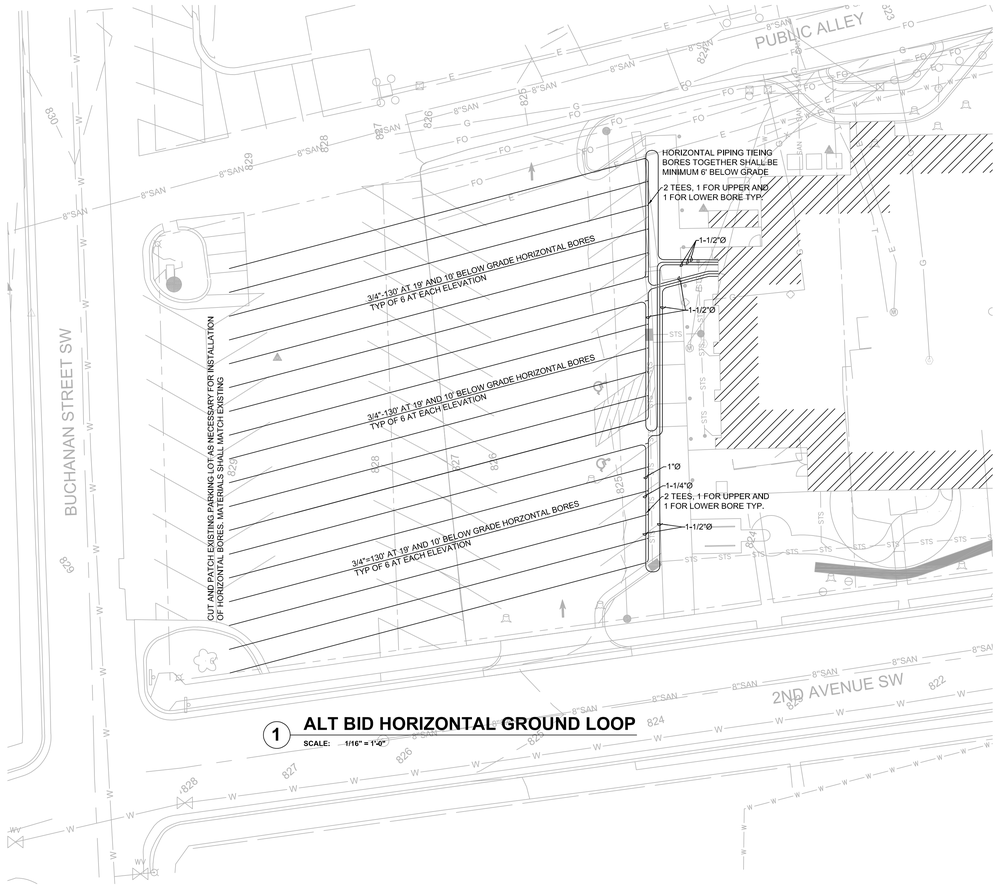
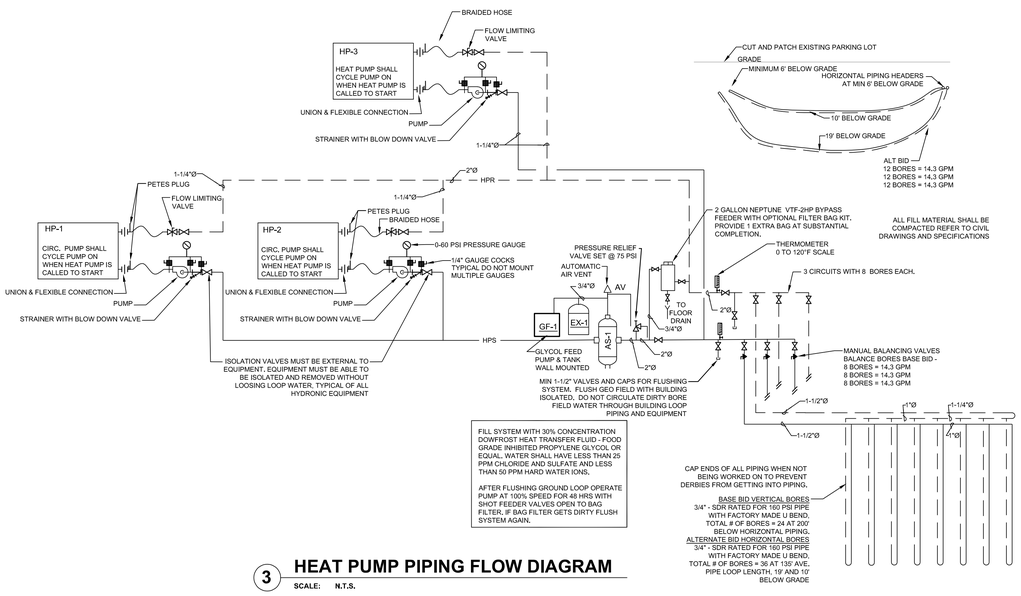
SHEET
P1.2



1 ALT BID HORIZONTAL GROUND LOOP

SCALE: 1/16" = 1'-0"



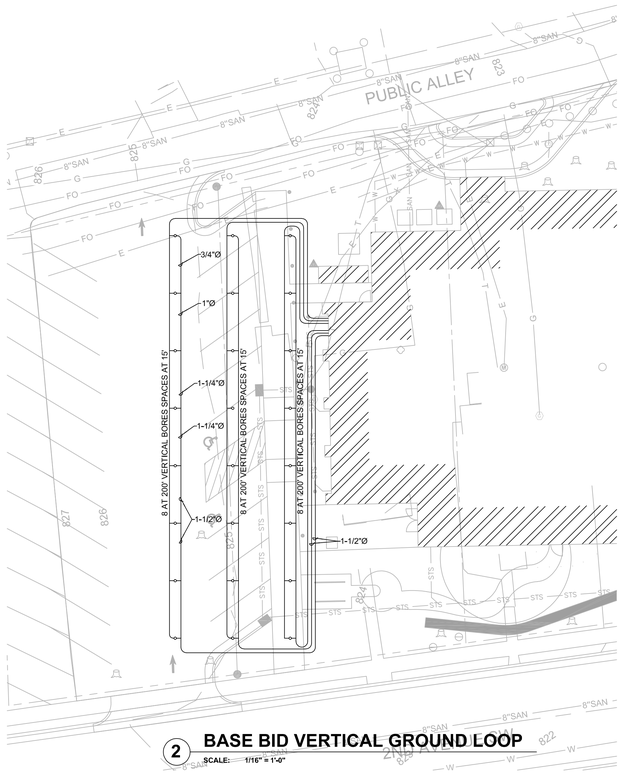
3 HEAT PUMP PIPING FLOW DIAGRAM

SCALE: N.T.S.

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
FD	FIRE DAMPER
	FLEXIBLE DUCTWORK - INSULATED
TAG NECK C.F.M. NOTES	AIR TERMINAL REFERENCE SEE AIR TERMINAL SCHEDULE. XX" IS SPREAD ANGLE VERTICAL BLADES SHALL BE SET TO THROW.
OED	OPEN END DUCT
T	THERMOSTAT SENSOR +48" OR AS NOTED
OC	ROOM OCCUPANCY SENSOR BY HVAC CONTR.
TYP	TYPICAL
MFG	MANUFACTURER
DN	DOWN
AHJ	AUTHORITY HAVING JURISDICTION
BDD	BACK DRAFT DAMPER

NOTES: MECHANICAL CONTRACTOR SHALL PROVIDE ALL CONTROLS AND POWER FOR CONTROLS UNLESS SHOWN OTHERWISE



2 BASE BID VERTICAL GROUND LOOP

SCALE: 1/16" = 1'-0"

WATER SOURCE HEAT PUMPS

BASIS OF DESIGN: CLIMIT MASTER

TAG NUMBER	UNIT LOCATION ROOM NO	AREA SERVED	HEAT PUMP MODEL NUMBER	NO. OF STAGES	COOLING CAPACITY TOTAL MBH	COOLING EAT DB/WB	COOLING LAT DB/WB	HEATING CAPACITY MBH	HEATING EAT DB/WB	HEATING LAT DB	AHRI ISO13256-1 EER PART/FULL LOAD	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	2	70.3	70.3		51.8	70.3		26.7/18.8	3.5	1900	0.5	450	15.0	12.2	208-230/1/60	45.1	70
HP-2	108	120 ADULT & 123 CHILDREN	TE-072	2	70.3	70.3		51.8	70.3		26.7/18.8	3.5	1950	0.5	450	15.0	12.2	208-230/1/60	45.1	70
HP-3	ATTIC	102 MEETING ROOM	TE-064	2	63.8	79.7/68.9	52.8/52	48.7	66.5/48	92.0	23.2/16.9	3.8	1850	0.5	300	13.0	7.4	208-230/1/60	41.8	60
TOTALS					204.4			152.3								43.00				

NOTES: 1 SELECTIONS BASED ON 410a REFRIGERANT, 30% PROPYLENE GLYCOL, COOLING EWT 80, HEATING EWT 35
2 ALL UNITS PROVIDED WITH FACTORY INSTALLED ACCESSORIES: COMPRESSOR SOUND BLANKET, ECM FAN MOTORS.
3 PROVED UNITS WITH RIGHT OR LEFT HAND RETURN CONFIGURATION AS SHOWN ON PLANS AND INDICATE ON SUBMITTALS FOR REVIEW.
4 PROVIDE PUMP ON EACH HEAT PUMP TO CYCLE ON WHEN A THERMOSTAT CALLS FOR HEATING OR COOLING.
5 ALL VERTICAL UNITS REQUIRE 2" MERV 8 FILTERS, AND PROVIDE 1 LOOSE SETS OF FILTERS FOR EACH UNIT.
6 PROVIDE HP-3 WITH 2 STAGE WALL THERMOSTATE THAT HAS 7 DAY PROGRAMING AND AN OCCUPIED OVERRIDE BUTTON. OVERRIDE SHALL BE ADJUSTABLE SET FOR 2 HRS
7 COORDINATE UNIT CONTROL WITH ZONE CONTROL SYSTEM TO SRART/STOP AND STAGE UNIT AS NEEDED WHEN ZONE SYSTEM DAMPERS MODULATE.

AIR TERMINALS

BASIS OF DESIGN: KRUEGER

TAG	MODEL	DISCRIPTION	MOUNT TYPE	FINISH
S-1	880	STEEL DOUBLE DEFLECTION SIDEWALL GRILLE	SURFACE	PRIME
S-2	RS880RD	ROUND ALUMNIM DOUBLE DEFLECTION GRILLE	END OF DUCT	PRIME
S-3	PLQ	4 WAY 24X24 PLAQUE DIFFUSER	LAY-1N	WHITE
R-1	EGC5	EGG GRATE ALUMINUM RETURN GRILLE	LAY-IN	WHITE
R-2	S80	STEEL RETURN GRILLE W/ 35° DEFLECTION	SURFACE	PRIME
E-1	EGC5	EGG GRATE ALUMINUM EXHAUST GRILLE	LAY-IN	WHITE
E-2	S80	STEEL EXHAUST GRILLE W/ 35° DEFLECTION	SURFACE	PRIME
T-1	EGC5	EGG GRATE ALUMINUM TRANSFER GRILLE	LAY-IN	WHITE
T-2	S80	STEEL TRANSFER GRILLE W/ 35° DEFLECTION	SURFACE	PRIME

NOTES: 1 REFER TO PLANS FOR SIZES.
2 R-1, E-1,AND T-1 GRILLES SHALL BE PROVIDED WITH SRAC325 SQUARE TO ROUND ADAPTOR. MIN 3.25" SIDE HEIGHT.
3 PRIME AIR TERMINALS WILL BE FIELD PAINTED BY GC
4 PAINT INSIDE OF VISIABLE DUCTWORK FLAT BLACK BEHIND AIR TERMINALS
5 ADJUST S-1 AND S-2 DIFLECTION TO PROVIDE SPREAD LISTED AT UNIT

CEILING FANS

BASIS OF DESIGN: BIG ASS FAN OR EQUAL

TAG	MODEL	SIZE IN DIA	CFM	MAX RPM	CFM/WATT	WEIGHT	MOTOR	V/PH/Hz
CF-1	i6	60	9676	170	260	34 LB	35.4 WATTS	100-277/1/60
CF-2	i6	60	9676	170	260	34 LB	35.4 WATTS	100-277/1/60
CF-3	i6	60	9676	170	260	34 LB	35.4 WATTS	100-277/1/60
CF-4	i6	60	9676	170	260	34 LB	35.4 WATTS	100-277/1/60

NOTES: 1 PROVIDE FANS WITH FIXED WALL MOUNTED CONTROLS AND OPTIONAL DOWN RODS.
2 PROVIDE FANS WITH BRUSHED ALUMINUM FINISH

EXHAUST FANS

BASIS OF DESIGN: LOREN COOK OR EQUAL

TAG	MODEL	SONES	CFM	ESP	MOTOR	V/PH/Hz
EF-1	GC-322	0.3	100	0.1	28.6 WATTS	115/1/60

NOTES: 1 PROVIDE FAN WITH TIME CLOCKS TO OPERATE IN OCCUPIED HOURS.
2 PROVIDE FAN WITH FSC SPEED CONTROL.

ENERGY RECOVERY UNIT SCHEDULE

UNUT #	MANUFACTURER	MODEL	SUPPLY CFM	EXHAUST CFM	SUMMER TEMP EFF%	SUMMER Total %	WINTER TOTAL%	POWER	FLA	MCA	MOCP
ERU-1	RENEWAIRE	EV-450JIN-SS11E	300	300	76.9	62.6	76.8	120/1/60	8.1	10.1	15
ERU-2	RENEWAIRE	HE-1XJINH-S11EE	900	850	69.7	49.5	69.5	120/1/60	3.3	18.2	25

Notes 1 PROVIDE OUTLET BACK DRAFT DAMPERS, BALANCING DAMPERS, DIGITAL TIME CLOCK AND 2" MERV 8 FILTERS
2 PROVIDE OUTSIDE AIR INTAKE WITH MOTOR OPERSTED DAMPERS LINKED TO OPEN WHEN UNIT STARTS.
3 PROVIDE CONCRETE HOUSE KEEPING PAD UNDER ERU-2 AND WALL MOUNT ERU-1.

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 ASSOCIATED HEAT PUMP CALLS FOR HEATING OR COOLING.

ZONE DAMPERS

BASIS OF DESIGN: CARRIER VVT OR EQUAL

TAG	MODEL	CFM	DUCT SIZE	STAT LOCATION	POWER
Z1-1	33CD06ZC-01	1070	20x12	CONFERENCE 117	120 V, 40 VA
Z1-2	33CD06ZC-01	320	10x10	OFFICE 113	120 V, 40 VA
Z1-3	33CD06ZC-01	310	10x10	103OFFICE	120 V, 40 VA
Z1-4	33CD08ZC-01	1000	12x10	BYPASS	120 V, 40 VA
Z2-1	33CD08ZC-01	995	18x12	ADULT 120	120 V, 40 VA
Z2-2	33CD06ZC-01	945	18x12	CHILDRENS 123	120 V, 40 VA
Z2-3	33CD06ZC-01	900	12x10	BYPASS	120 V, 40 VA

NOTES: 1 PROVIDE TRANSFORMERS, WIRING, ETC, FOR A COMPLETE SYSTEM
2 LOCATE CONTROL PANEL IN MECH ROOM
3 SET ZONE DAMPERS FOR MINIMUM 30% AIR FLOW
4 SET BYPASS PRESSURE TO INCREASE OPEN ZONE AIR FLOW BY APPROX 20%

LOUVERS

BASIS OF DESIGN: RUSKIN

TAG	MODEL	SERVICE	CFM	SIZE	FREE SF	VELOCITY	IN WG	MATERIAL
L-1	ELF6375DX	INTAKE	1200	24X84	8.03	150 FPM	0.01	ALUMINUM
L-2	ELF6375DX	EXHAUST	1100	14X84	4.38	251 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.

EXPANSION TANK

BASIS OF DESIGN: WESSELS

TAG	MODEL	TANK VOLUME	TANK ACCEPTANCE	DIMENSIONS ØxH
ET-1	CX30-125	8.0	5	14X22.5

NOTES: SELECTION BASED ON 30% PROPYLENE GLYCOL
PROVIDE WITH DIAPHRAGM AND 0 TYO 30 PSI PRESSURE GAUGE

GLYCOL FEED UNIT

BASIS OF DESIGN:AXIOM

TAG	MODEL	FLOW GPM @ PSI	TANK SIZE	V/PH/Hz	WATTS
GF-1	DMF300	.5 @ 15	19 GAL	115/1/60	50

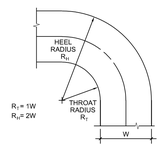
FILL UNIT WITH 30% PROPLYNE GLYCOL AND SET UNIT TO MAINTAIN 12 PSI

AIR & DIRT SEPARATOR

BASIS OF DESIGN: ITT BELL & GOSSETT

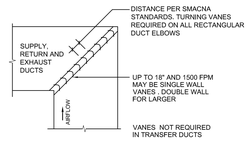
TAG	MODEL	CONNECTION SIZE	FLOW	CV
AS-1	CRSN2-1/2	2-1/2"	68 GPM	116

PROVIDE DRAIN VALVE WITH HOSE CONNECTION



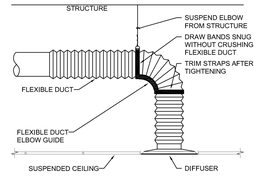
RECTANGULAR DUCT
90° FULL RADIUS ELBOW

SCALE: N.T.S.



RECTANGULAR DUCT
90° MITERED ELBOW

SCALE: N.T.S.



FLEXIBLE DUCT ELBOW GUIDE

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SHEET TITLE
HVAC SCHEDULES, DETAILS, SITE PLANS AND FLOW DIAGRAM

PROJECT TITLE
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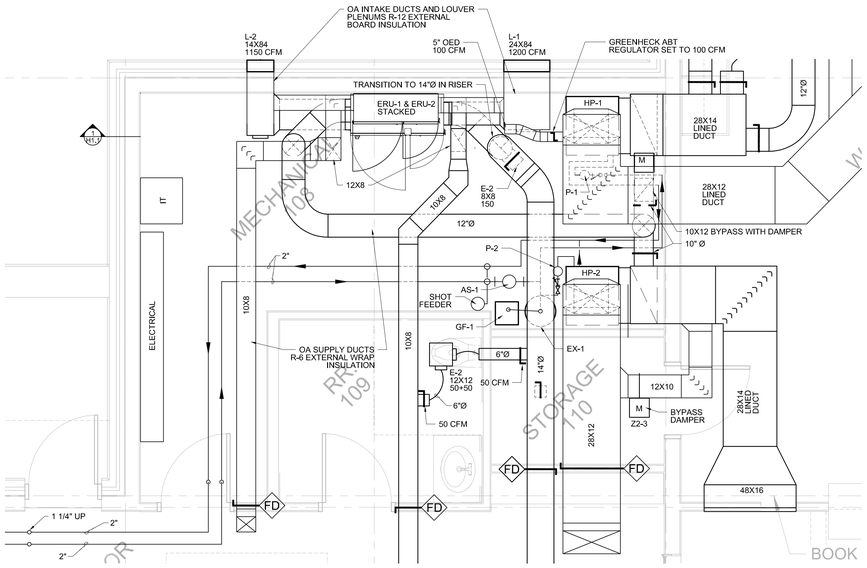
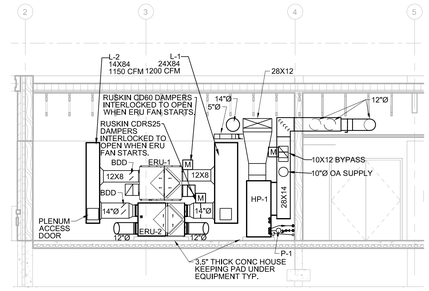
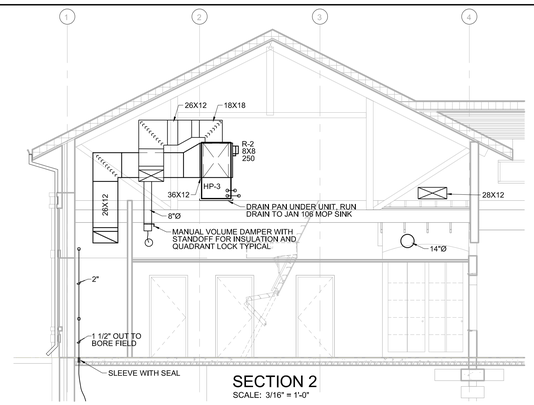


LARGE SCALE MECHANICAL ROOM HVAC PLAN
SCALE: 3/8" = 1'-0"



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



SECTION 2
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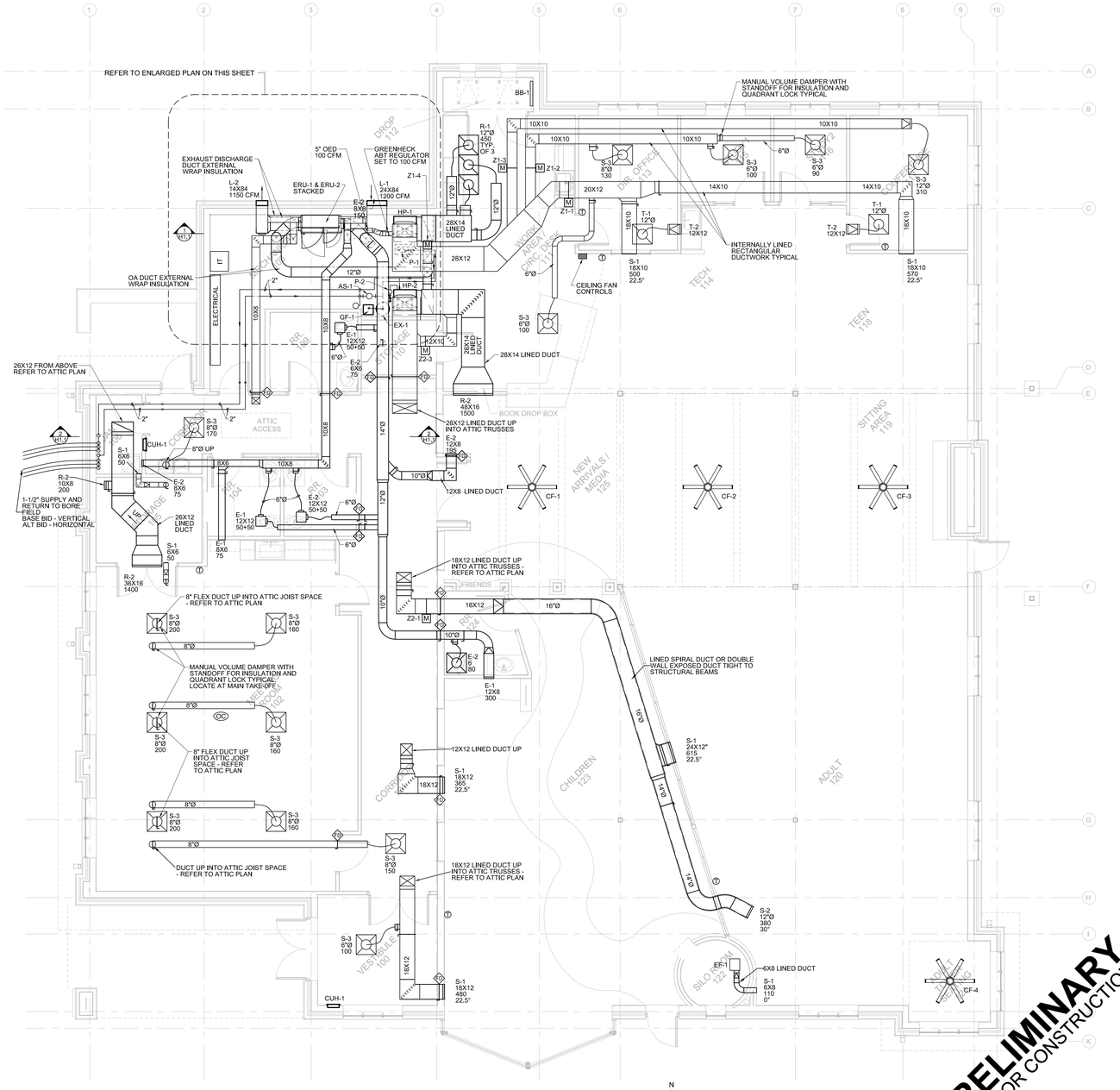

HVAC PLAN
SCALE: 3/16" = 1'-0"

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

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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
- NAC — FIRE ALARM NOTIFICATION APPLIANCE CIRCUIT
- FSS — FIRE SUPPRESSION SYSTEM
- RTS/I — 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 — TV OUTLET BOX - WALL MOUNTED
- DT — 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
- SVD — SECURITY VIDEO DISPLAY/MONITOR
- SVD — SECURITY VIDEO DISPLAY/MONITOR
- CR — CARD READER
- KP — KEYPAD
- VPH — VIDEO PHONE DEVICE
- RDR — REMOTE DOOR RELEASE BUTTON
- ED — ELECTRIC DOOR STRIKE
- DC — DOOR CONTACT
- EL — ELECTRIC LOCK
- ML — MAGNETIC LOCK
- MD — MOTION DETECTOR - WALL MOUNTED
- MD — MOTION DETECTOR - CEILING MOUNTED
- RE — REQUEST TO EXIT - WALL MOUNTED
- RE — REQUEST TO EXIT - PUSHBUTTON
- RE — REQUEST TO EXIT - CEILING MOUNTED
- ACP — ACCESS CONTROL PANEL

PAGING AND PUBLIC ADDRESS

- V — VOLUME CONTROL
- MIC — MICROPHONE - WALL MOUNTED
- M — MICROPHONE - CEILING MOUNTED
- PAS — PAGING SPEAKER - WALL MOUNTED
- S — SPEAKER - CEILING MOUNTED
- S — SPEAKER - WALL MOUNTED
- DCS — DIGITAL COMMUNICATION STATION
- PA — PAGING AMPLIFIER

RADIO AND CELLULAR PHONE

- ANTENNA - WALL MOUNTED
- ANTENNA - CEILING MOUNTED
- MRR — MOBILE/CELLULAR NETWORK REPEATER
- RR — RADIO REPEATER

NURSE CALL DEVICES

- NC — NURSE CALL DEVICE
- NS — NURSE STATION
- HC — HELP CALL SWITCH - PULL SWITCH/STRING
- NL — NURSE CALL LIGHT - WALL MOUNTED
- NL — 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
  - 3 b — 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

CONTROL TYPES

- SWITCH
- DIMMER SWITCH
- LCD — LIGHTING CONTROL DEVICE
- OS — OCCUPANCY SENSOR - WALL MOUNTED
- DLS — DAYLIGHT SENSOR - WALL MOUNTED
- PCS — PHOTO CELL SENSOR - WALL MOUNTED
- TP — DIGITAL TOUCHPAD LIGHTING CONTROL
- TIME CLOCK
- OS — OCCUPANCY SENSOR - CEILING MOUNTED
- DLS — DAYLIGHT SENSOR - CEILING MOUNTED
- PCS — PHOTO CELL SENSOR - CEILING MOUNTED
- LCP — LIGHTING CONTROL PANEL
- R — LIGHTING CONTROL RELAY

POWER

RECEPTACLE NOTATIONS

- H-2A-9 — RECEPTACLE
  - 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 - UNDER CABINET
    - 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
- F — FLOOR BOX
  - F-1 — DESIGNATION - SEE SCHEDULE
- F — POKE THRU
  - PT-1 — DESIGNATION - SEE SCHEDULE
- CEILING FAN
- P — POWER POLE
  - PP-1 — DESIGNATION - SEE SCHEDULE
- J — JUNCTION BOX - CEILING MOUNTED
- J — JUNCTION BOX - WALL MOUNTED
  - 44" — MOUNTING HEIGHT AFF TO CENTER OF DEVICE
- EST — EMERGENCY STOP PUSHBUTTON
- PUSHBUTTON SWITCH - START/STOP
- PUSHBUTTON DOOR OPENER

EQUIPMENT

POWER DISTRIBUTION

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

OTHER EQUIPMENT

- G — GENERATOR
- GSCP — GENERATOR SET CONTROL PANEL
- 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
A	AMPERE	HOA	HANDS-OFF-AUTOMATIC SWITCH		TRANSFORMER
AF	AMP FRAME	HP	HORSEPOWER	PVC	POLYVINYL CHLORIDE
AFF	ABOVE FINISHED FLOOR	HT	HEIGHT	PWR	(CONDUIT)
AFG	ABOVE FINISHED GRADE	HTG	HEATING	QTY	POWER
AFI	ARC FAULT CIRCUIT INTERRUPTER	HV	HIGH VOLTAGE	REQD	QUANTITY
AL	ALUMINUM	HVAC	HEATING, VENTILATING AND AIR CONDITIONING	RM	REQUIRED
ALT	ALTERNATE	IC	INTERRUPTING CAPACITY	SEC	ROOM
AMP	AMPERE	IG	ISOLATED GROUND	SHT	SECONDARY
APPROX	APPROXIMATELY	J-BOX	JUNCTION BOX	SIM	SHEET
ARCH	ARCHITECT, ARCHITECTURAL	KV	KILOVOLT	SPEC	SIMILAR
ATS	AUTOMATIC TRANSFER SWITCH	KVA	KILOVOLT-AMPERE	SP	SPECIFICATION
AUTO	AUTOMATIC	KVAR	KILOVOLT-AMPERE REACTIVE	SS	SPARE
AUX	AUXILIARY	KW	KILOWATT	STA	STAINLESS STEEL
AV	AUDIO VISUAL	KWH	KILOWATT HOUR	STD	STATION
AWG	AMERICAN WIRE GAUGE	LCP	LIGHTING CONTROL PANEL	SURF	STANDARD
BLDG	BUILDING	LTG	LIGHTING	SWBD	SURFACE MOUNTED
BAS	BUILDING AUTOMATION SYSTEM	LV	LOW VOLTAGE	SYM	SWITCHBOARD
C	CONDUIT	MAX	MAXIMUM	SYS	SYMMETRICAL
CAB	CABINET	MC	MECHANICAL CONTRACTOR	TEL	SYSTEM
CATV	CABLE TELEVISION	MCB	MAIN CIRCUIT BREAKER	T-STAT	TELEPHONE
CB	CIRCUIT BREAKER	MCC	MOTOR CONTROL CENTER	TV	TEMPERATURE
CCTV	CLOSED CIRCUIT TELEVISION	MDP	MAIN DISTRIBUTION PANEL	TYP	THERMOSTAT
CKT	CIRCUIT	MFR	MANUFACTURER	UC	TELEVISION
CLG	CEILING	MFS	MAIN FUSED DISCONNECT SWITCH	UE	TYPICAL
COMB	COMBINATION	MIN	MINIMUM	UG	UNDER COUNTER
CONT	CONTINUATION/CONTINUOUS	MISC	MISCELLANEOUS	V	UNDERGROUND
CP	CIRCULATING PUMP	MLO	MAIN LUGS ONLY	VA	VOLT
CRI	COLOR RENDERING INDEX	MSBD	MAIN SWITCHBOARD	VERT	VOLT-AMPERES
CT	CURRENT TRANSFORMER	MTS	MANUAL TRANSFER SWITCH	VFD	VERTICAL
CU	COPPER	MV	MEDIUM VOLTAGE	W	VARIABLE FREQUENCY DRIVE
DIA	DIAMETER	N.C.	NORMALLY CLOSED	W/	WATT
DISC	DISCONNECT	NEC	NATIONAL ELECTRICAL CODE	WG	WITH
DIST	DISTRIBUTION	NEMA	NATIONAL ELECTRICAL MANUFACTURER'S ASSOCIATION	W/O	WIRE GUARD
DT	DOUBLE THROW	NIC	NOT IN CONTRACT	WP	WITHOUT
EC	ELECTRICAL CONTRACTOR	NL	NIGHT LIGHT	WR	WEATHERPROOF
ELEC	ELECTRIC, ELECTRICAL	N.O.	NORMALLY OPEN	XFMR	WEATHER RESISTANT
ELEV	ELEVATOR	NTS	NOT TO SCALE	XFR	TRANSFORMER
EM	EMERGENCY	OH	OVERHEAD	"	TRANSFER
EMS	ENERGY MANAGEMENT SYSTEM	OWNR	OWNER	'	ANGLE
EQUIP	EQUIPMENT	PF	POWER FACTOR	@	AT
EWC	ELECTRIC WATER COOLER	PH	PHASE	'	FEET
EXIST	EXISTING	PNL	PANEL	"	INCHES
FACP	FIRE ALARM CONTROL PANEL	PP	POWER POLE	#	NUMBER
GA	GAUGE	PR	PAIR	Ø	PHASE OR DIAMETER
GC	GENERAL CONTRACTOR			C	CENTER LINE
GEN	GENERATOR				
GFI	GROUND FAULT CIRCUIT INTERRUPTER				

EQUIPMENT DESIGNATION IDENTIFICATION

DISTRIBUTION IDENTIFICATION — E H - 1 A

- SYSTEM DESIGNATION: C = CRITICAL POWER; L = LIFE 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 = LIFE 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.

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 DESGINATIONS HAVE BEEN ADDED FOR CLARITY.

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

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.

ELECTRICAL SHEET INDEX

PRELIMINARY NOT FOR CONSTRUCTION

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

IN ASSOCIATION WITH
JDR ENGINEERING, INC.
5525 NOBEL DRIVE SUITE 110
MADISON, WI 53711
PH: 608.277.1728 FAX: 608.277.1046
JDR PROJECT NO.: 23O081

SHEET TITLE: SYMBOLS & ABBREVIATIONS - ELECTRICAL

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

DATE ISSUED 14 July 2023

REV. NO. DATE

PROJECT NUMBER 2021310

SHEET E000

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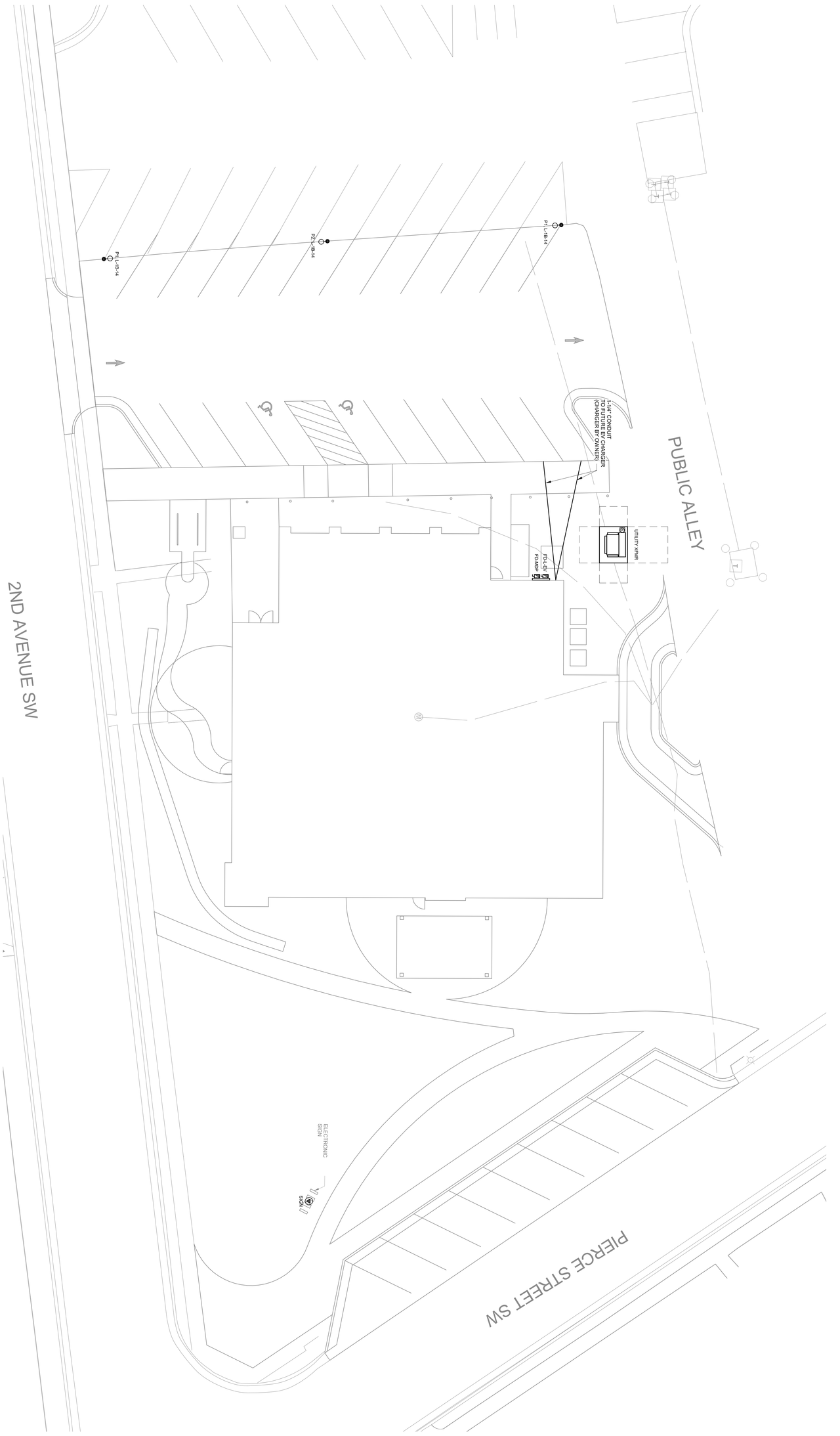

1 E001 SITE PLAN - ELECTRICAL
SCALE: 1" = 10'-0"

KEYED NOTES
(KEYED NOTES PER PROJECT)

PRELIMINARY
NOT FOR CONSTRUCTION

SHEET E001

PROJECT NUMBER 2021310

REV. NO. DATE

DATE ISSUED 14 July 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
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PH: 608.277.1728 FAX: 608.271.7046
JDR PROJECT NO: 23.0081

FEH DESIGN

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DES MOINES, IA (515) 288-2000
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OCONOMOWOC, WI (262) 968-2055

LIGHTING GENERAL NOTES:

1. REFER TO SHEET E000 FOR ALL SYMBOLS, ABBREVIATIONS, AND DETAILS.
2. REFER TO ARCHITECTURAL PLANS, SECTIONS, ELEVATIONS, AND REFLECTED CEILING PLANS FOR EXACT LOCATION AND COORDINATION OF ALL LIGHT FIXTURE AND CONTROLLER INSTALLATIONS.
3. VERIFY ALL MOUNTING HEIGHTS OF DEVICES ABOVE MILLWORK WITH ARCHITECTURAL PLANS.
4. WIRING SHALL CONFORM TO THE NATIONAL ELECTRICAL CODE (NEC) AND APPLICABLE LOCAL CODES, INCLUDING PROVISION OF EQUIPMENT GROUNDING AS REQUIRED BY THE NEC.
5. POWER CONDUCTORS SHALL BE SIZED PER THE NEC AMPACITY TABLES (ARTICLE 310), INCLUDING ADJUSTMENT FACTOR AND NEUTRAL CONDUCTOR REQUIREMENTS (FEED AND BRANCH NEUTRAL CONDUCTORS MUST BE COUNTED AS CURRENT CARRYING CONDUCTORS). RUN SEPARATE NEUTRAL CONDUCTORS FOR ALL LIGHTING CIRCUITS.
6. EXIT SIGNAGE IS INDICATED ON THE PLANS BASED ON ANTICIPATED EGRESS PATHS THROUGHOUT THE BUILDING. ELECTRICAL CONTRACTOR SHALL CONFIRM ALL EGRESS PATHS WITH ARCHITECT/OWNER/GENERAL CONTRACTOR DURING CONSTRUCTION AND SHALL ADD/MODIFY EXIT SIGNAGE AS REQUIRED TO COMPLY WITH PATHWAYS.
7. ALL LIGHT FIXTURES SHALL BE PROVIDED WITH QUICK-CONNECT DISCONNECTING MEANS AND A 6'0" (MAXIMUM) FIXTURE WHIP FOR FUTURE MAINTENANCE PURPOSES.
8. LIGHT FIXTURES AND OTHER APPARATUS SUPPORTED BY THE ACOUSTICAL CEILING GRID MUST MEET THE REQUIREMENTS OF NEC SECTION 410.16, MEANS OF SUPPORT.

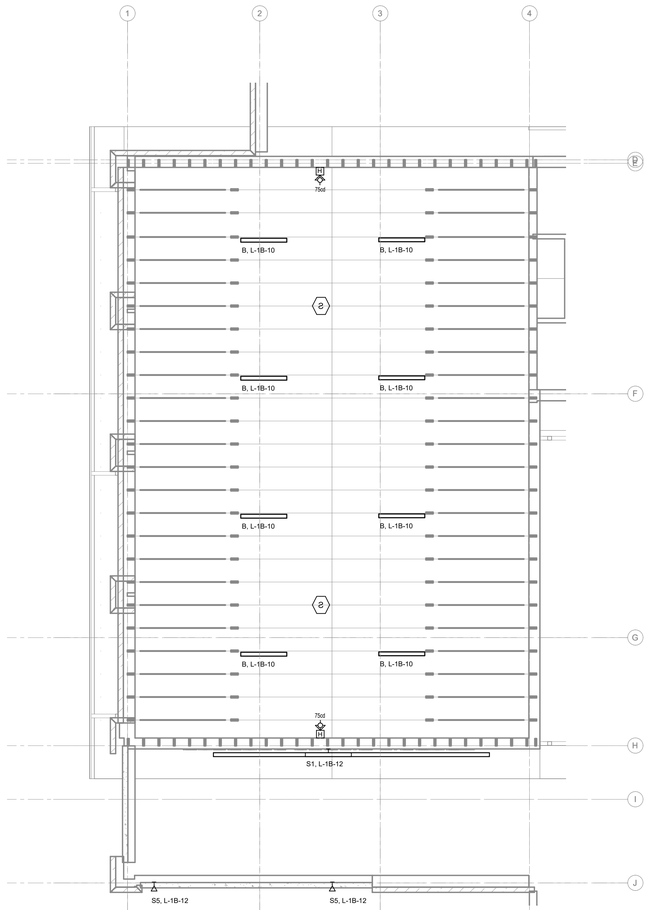
LIGHTING CONTROLS GENERAL NOTES:

1. REFER TO SHEET E000 FOR ALL SYMBOLS, ABBREVIATIONS, AND DETAILS.
2. OCCUPANCY SENSOR LOCATIONS SHOWN ARE DIAGRAMMATIC ONLY. ACTUAL LOCATION TO BE DETERMINED IN FIELD PER MANUFACTURER'S RECOMMENDATIONS AND LAYOUT. PROVIDE A MINIMUM 4'-0" OF FLEX CONDUIT/WIRING SO THAT THE SENSOR CAN BE FIELD ADJUSTED FOR PROPER COVERAGE DURING FINAL COMMISSIONING. THE TRAINED FACTORY PERSONNEL SHALL PERFORM THE FINAL COMMISSIONING.
3. SENSORS IN ELECTRICAL/MECHANICAL LOCATIONS NEED TO BE VERIFIED WITH AUTHORITY HAVING JURISDICTION. REFER TO NEC 110.26.D.
4. LOW VOLTAGE CABLE MUST BE INSTALLED AT LEAST 12 INCHES FROM ALL LINE VOLTAGE CONDUCTORS EXCEPT TO CROSS OR MAKE TERMINATIONS. CAT 5 CABLE MUST BE KEPT AWAY FROM ALL DEVICES THAT CREATE ELECTRIC MAGNETIC FIELDS SUCH AS BALLASTS OR TRANSFORMERS.
5. CONTRACTOR IS RESPONSIBLE FOR ALL CONTROL TERMINATIONS. NO SPLICES ARE PERMITTED IN CONTROL WIRING. POWER AND CONTROL CONDUCTORS MUST NOT SHARE THE SAME RACEWAY OR CONDUIT UNLESS THE CONTROL CONDUCTORS HAVE THE SAME INSULATION AS THE POWER CONDUCTORS.
6. LIGHTING CONTROL EQUIPMENT MUST BE INSTALLED, MAINTAINED, AND OPERATED IN AN "OFFICE CLEAN" DRY ENVIRONMENT, INDOOR DRY LOCATIONS ONLY, 10% - 90% RELATIVE HUMIDITY; AMBIENT TEMPERATURE 0°- 40°C (32°-104°F) RECOMMENDED.
7. VERIFY MAXIMUM CABLE LENGTHS BASED ON CONTROL SYSTEM REQUIREMENTS. MANUFACTURER IS NOT RESPONSIBLE FOR SYSTEMS EXCEEDING CABLING PARAMETERS.
8. 0-10V DIMMING BALLASTS AND DRIVERS ARE REQUIRED TO COMPLY WITH IEC 60929 ANNEX E SPECIFICATIONS.
9. FOR 0-10VDC DIMMING SYSTEMS, VIOLET AND GRAY CONDUCTORS ARE FOR 0-10VDC LOW VOLTAGE TERMINATIONS ONLY. NEVER TERMINATE LINE VOLTAGE (120/230/277VAC) TO VIOLET AND GRAY.

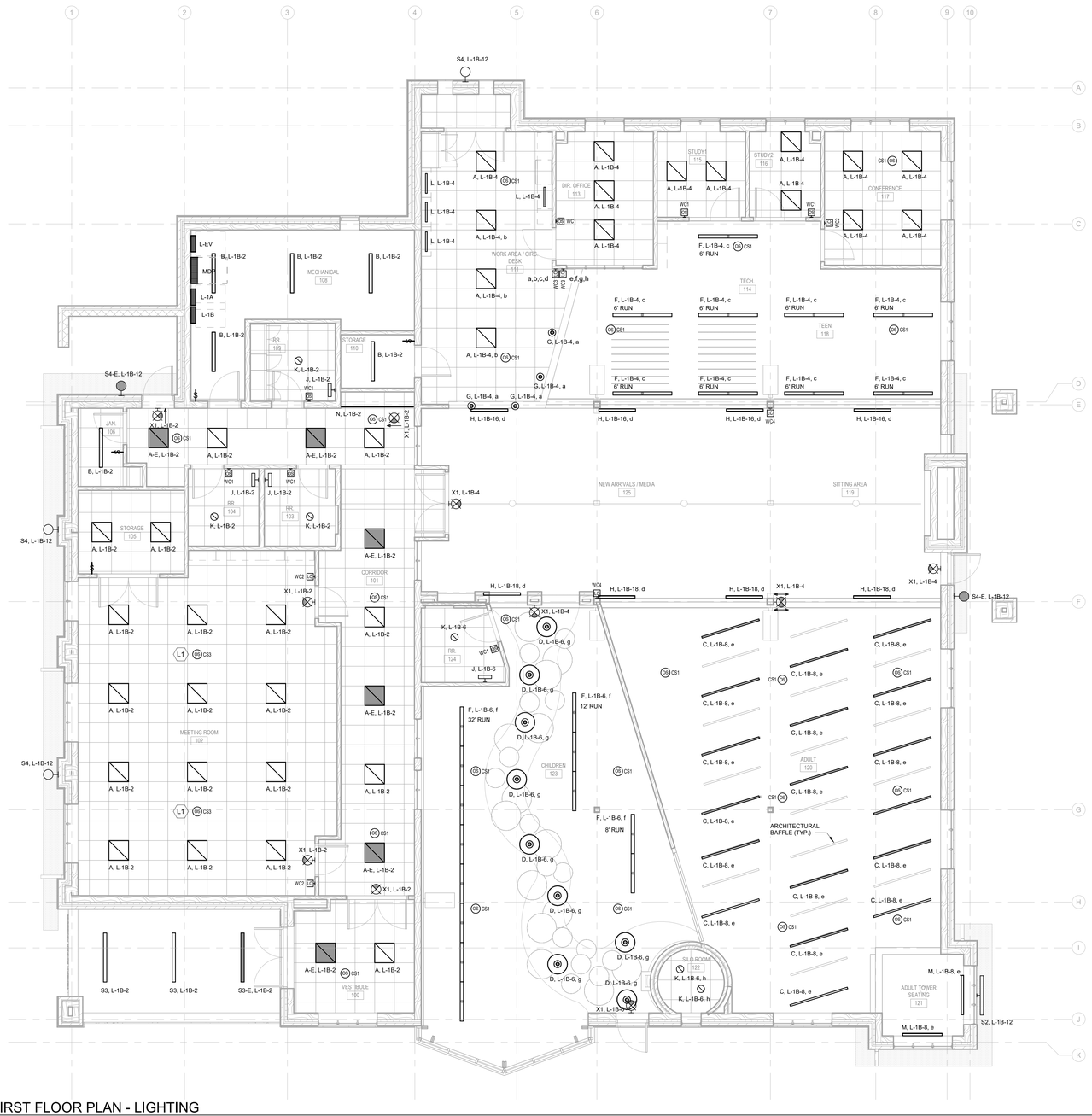
KEYED NOTES

(KEYED NOTES PER PROJECT)

L1 INTERLOCK OCCUPANCY SENSOR WITH BUILDING HVAC SYSTEM.



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



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

PRELIMINARY NOT FOR CONSTRUCTION

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

IN ASSOCIATION WITH
JDR ENGINEERING, INC.
5525 NOBEL DRIVE SUITE 110
MADISON, WI 53711
PH: 608.277.1728 FAX: 608.277.0746
JDR PROJECT NO.: 23.0081

SHEET TITLE
FIRST FLOOR & ATTIC PLANS - LIGHTING

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

DATE ISSUED 14 July 2023

REV. NO.	DATE

PROJECT NUMBER
2021310

SHEET
E201

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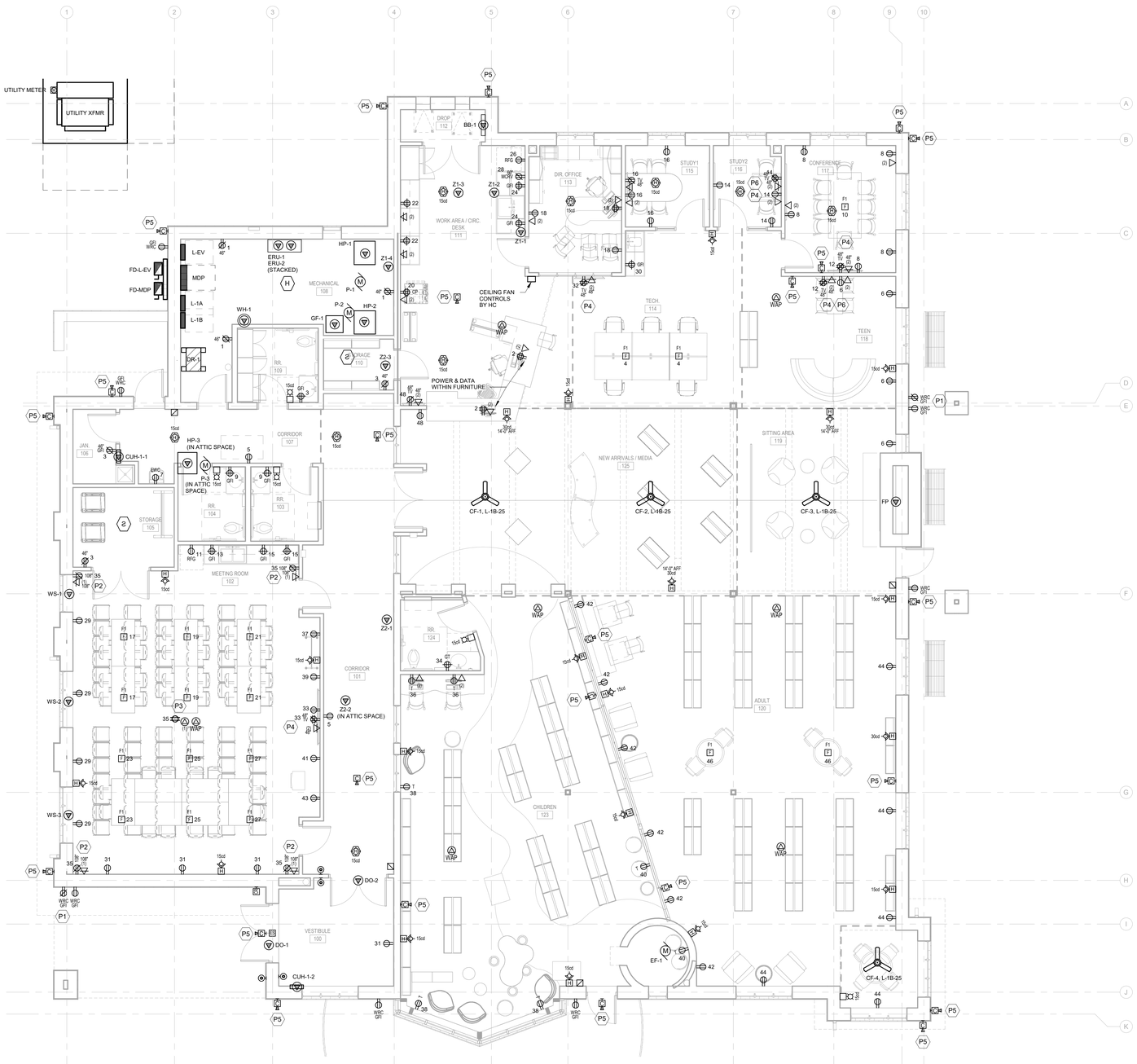

1 E202 FIRST FLOOR PLAN - POWER AND SPECIAL SYSTEMS

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

KEYED NOTES

(KEYED NOTES PER PROJECT)

- P1 RAISED WEATHER RESISTANT RECEPTACLE ON BUILDING EXTERIOR FOR SEASONAL LIGHTING. INSTALL DIRECTLY ABOVE ADJACENT STANDARD HEIGHT RECEPTACLE. CONFIRM EXACT HEIGHT WITH ARCHITECT/OWNER. RAISED RECEPTACLE NEAR SOFFIT SHALL BE SWITCHED. LOCATE SWITCH WITHIN BUILDING NEAR CIRCULATION DESK.
- P2 RAISED POWER & DATA RECEPTACLES FOR BOXCAST SYSTEM. INSTALL 6" BELOW CEILING HEIGHT TO CENTER OF DEVICE.
- P3 CEILING MOUNTED POWER & DATA RECEPTACLES FOR BOXCAST SYSTEM.
- P4 DOUBLE DUPLEX RECEPTACLE AND (2)-ETHERNET DATA RECEPTACLE FOR TV CONNECTION. CONFIRM FINAL HEIGHT, BEHIND TV, WITH ARCHITECT/OWNER.
- P5 PROVIDE ROUGH-IN ONLY FOR SECURITY CAMERA BY OWNER. COORDINATE DESIRED CAMERA HEIGHT WITH OWNER PRIOR TO ROUGH-IN.
- P6 ALIGN STANDARD HEIGHT AND RAISED RECEPTACLES VERTICALLY.

POWER GENERAL NOTES:

1. REFER TO SHEET E000 FOR ALL SYMBOLS, ABBREVIATIONS, AND DETAILS.
2. WHERE PANEL NAME NOT SHOWN, CIRCUIT IS FED FROM PANEL L-1A
3. 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) CONDUCTORS IN A CONDUIT. CONTACT THE ENGINEER FOR WIRING IN OTHER CONDITIONS.
4. VERIFY ALL MOUNTING HEIGHTS OF DEVICES ABOVE MILLWORK WITH ARCHITECTURAL PLANS.

SYSTEMS GENERAL NOTES:

1. REFER TO SHEET E000 FOR ALL SYMBOLS, ABBREVIATIONS, AND DETAILS.
2. ALL LOW VOLTAGE CABLES OR CONDUCTORS OPERATING AT LESS THAN 50 VOLTS SHALL BE IN ELECTRICAL METAL TUBING (EMT) WHERE INSTALLED WITHIN WALLS OR INACCESSIBLE SPACES.
3. LOW VOLTAGE CABLES SHALL BE RUN IN CABLE TRAY. HOOKS SHALL BE LIMITED TO SUPPORTING CABLES TO THE NEAREST CABLE TRAY.
4. COORDINATE LOCATIONS OF DEVICES WITH ARCHITECTURAL ELEVATIONS AND DETAILS. ARCHITECTURAL ELEVATIONS AND DETAILS TAKE PRECEDENCE OVER LOCATIONS SHOWN ON ELECTRICAL DRAWINGS.

ACCESS CONTROL GENERAL NOTES:

1. REFER TO SHEET E000 FOR ALL SYMBOLS, ABBREVIATIONS, AND DETAILS.
2. DIVISION 26 CONTRACTOR SHALL PROVIDE ALL CONDUIT PATHWAYS, BACKBOXES, JUNCTION BOXES, DISCONNECT SWITCHES AND BRANCH/ FEEDER CONDUCTORS AS SHOWN AND/OR SPECIFIED TO ALLOW INSTALLATION OF DOOR CONTROL AND SECURITY DEVICES.
3. DOOR HARDWARE DEVICES INCLUDING BUT NOT LIMITED TO ELECTRIC STRIKES, ELECTRONIC LOCKS, ELECTRIC POWER TRANSFER, ELECTRIC HINGES, DOOR MOTOR OPERATORS, PUSH BUTTONS, KEY SWITCHES, CONTROLLERS, EMERGENCY RELEASE BUTTONS, DOOR OPERATOR AND POWER SUPPLIES SHALL BE PROVIDED BY THE GENERAL CONTRACTOR AND THE ACCESS CONTROL CONTRACTOR. DEVICES SHALL BE INSTALLED AND WIRE BY ACCESS CONTROL CONTRACTOR.
4. COORDINATE ALL REQUIREMENTS AT EACH DOOR WITH OWNER AND CONSTRUCTION MANAGER PRIOR TO THE INSTALLATION OF ANY DEVICES.
5. LOW VOLTAGE ACCESS CONTROL SYSTEM CABLING SHALL BE PROVIDED AND INSTALLED BY THE ACCESS CONTROL CONTRACTOR. CABLE INSTALLATION SHALL UTILIZE CONDUIT TO ACCESSIBLE CEILING AND J-HOOK TYPE SUPPORT TO NEAREST CABLE TRAY SYSTEM. ACCESS CONTROL AND SECURITY SYSTEM CABLING SHALL BE SEPARATELY BUNDLED WITHIN CABLE TRAYS. LOW VOLTAGE CABLING SHALL MEET FLAME PROPAGATION REQUIREMENTS OF IEEE 1202.
6. COORDINATE LOCATIONS OF PATHWAYS, OUTLET BOXES AND ACCESS CONTROL HARDWARE WITHIN BUILDING WITH GENERAL CONTRACTOR PRIOR TO INSTALLATION OF ANY DEVICES.
7. ALL SECURITY SYSTEM DEVICES, INCLUDING BUT NOT LIMITED TO CARD READERS, DOOR POSITION SWITCHES, "REQUEST TO EXIT" DEVICES, MAGNETIC LOCKS, POWER SUPPLIES, DOOR CONTROLLERS AND LOW VOLTAGE WIRING BETWEEN THESE DEVICES AT EACH DOOR ARE PROVIDED BY THE CONTRACTOR. REFER TO SPECIFICATION DIVISION 28.

FEH DESIGN
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IN ASSOCIATION WITH
JDR ENGINEERING, INC.
5525 NOBEL DRIVE
SUITE 110
MADISON, WI 53711
PH: 608.277.1728 FAX: 608.277.1046
JDR PROJECT NO: 23.0081

SHEET TITLE
FIRST FLOOR PLAN - POWER AND SPECIAL SYSTEMS

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

DATE ISSUED 14 July 2023

REV. NO.	DATE

PRELIMINARY NOT FOR CONSTRUCTION

PROJECT NUMBER
2021310

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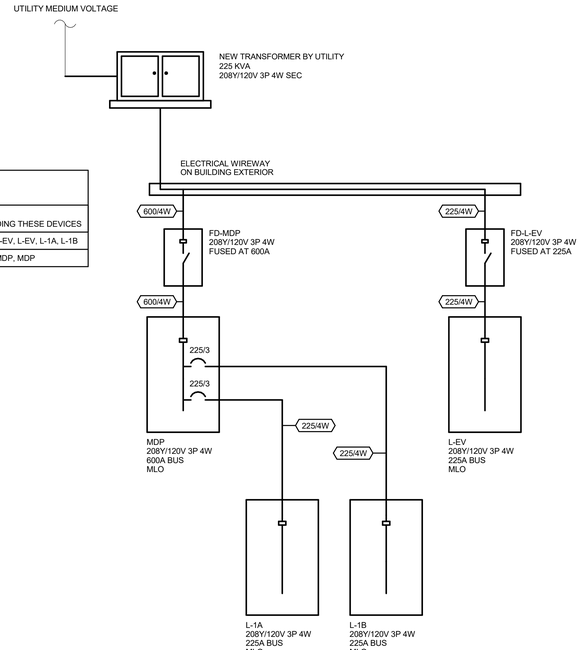
E202

FEEDER SCHEDULE

ID	AMPS	CONDUIT AND FEEDER	FEEDING THESE DEVICES
225/4W	225	(3) #4/0, #4/0N #4G - 2-1/2"C	FD-L-EV, L-EV, L-1A, L-1B
600/4W	400	(2) sets: (3)350kcmil, #350kcmil N, #4G - 2-1/2"C	FD-MDP, MDP

SIZING METHOD: COPPER, 60°C #12 THROUGH #1, 75°C 1/0 AND ABOVE



1 E600 ONE-LINE DIAGRAM
SCALE: 12" = 1'-0"

Switchboard: MDP

Location: MECHANICAL 108 **Volts:** 208Y/120V 3P 4W **A.I.C. Rating:**
Supply From: FD-MDP **Phases:** 3 **Mains Type:** MLO
Mounting: SURFACE **Wires:** 4 **Bus Rating:** 600 A
Enclosure: Type 1

CKT	Circuit Description	Poles	Trip Rating	Load (kVA)	Notes
1	PANEL L-1A	3	225 A	20.5	
2	PANEL L-1B	3	225 A	23.6	
3	HP-1 - HEAT PUMP	2	70 A	7.5	
4	HP-2 - HEAT PUMP	2	70 A	7.5	
5	HP-3 - HEAT PUMP	2	60 A	7	
6					
7					
8					
			Total Load:	66 kVA	
			Total Amps:	183 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	
Motor	5462 VA	107.23%	5858 VA		
Other	36662 VA	125.00%	45828 VA	**Total Conn. Load:**	66 kVA
Receptacle	17280 VA	78.94%	13640 VA	**Total Est. Demand:**	74 kVA
Lighting	6667 VA	125.00%	8334 VA	**Total Conn.:**	183 A
LITES	22 VA	125.00%	28 VA	**Total Est. Demand:**	204 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	B	C	Poles	Trip	Note	Circuit Description	CKT
1	RCPTS - MECHANICAL 108		20 A	1	0.54 0.36			1	20 A		CIRCULATION DESK RCPTS	2
3	RCPTS - ROOMS 105, 106, 109, 110		20 A	1		0.72 0.36		1	20 A		FLOOR BOX/PRINTER - TECH. 114	4
5	RCPTS- ROOMS 107, 101		20 A	1			0.36 0.72	1	20 A		RCPTS - ROOMS 118, 119	6
7	EWC RCPT - CORRIDOR 107		20 A	1	0.18 0.9			1	20 A		RCPTS - CONFERENCE 117	8
9	RCPTS ROOMS 103, 104		20 A	1		0.36 0.18		1	20 A		FLOOR BOX - CONF.117	10
11	RFG - MEETING ROOM 102		20 A	1			0.18 0.36	1	20 A		TV - CONF 117 & TEEN 118	12
13	COUNTERTOP RCPTS - RM. 102		20 A	1	0.18 0.72			1	20 A		RCPTS - STUDY2 116	14
15	COUNTERTOP RCPTS - RM. 102		20 A	1		0.36 0.72		1	20 A		RCPTS - STUDY1 115	16
17	FLOOR BOXES - MEETING ROOM 102		20 A	1			0.36 0.54	1	20 A		RCPTS - DIR. OFFICE 113	18
19	FLOOR BOXES - MEETING ROOM 102		20 A	1	0.36 0.18			1	20 A		COPIER RCPT - WORK AREA 111	20
21	FLOOR BOXES - MEETING ROOM 102		20 A	1		0.36 0.36		1	20 A		COUNTERTOP RCPTS - WORK AREA...	22
23	FLOOR BOXES - MEETING ROOM 102		20 A	1			0.36 0.36	1	20 A		COUNTERTOP RCPTS - WORK AREA...	24
25	FLOOR BOXES - MEETING ROOM 102		20 A	1	0.36 0.8			1	20 A		RFG - WORK AREA 111	26
27	FLOOR BOXES - MEETING ROOM 102		20 A	1		0.36 1		1	20 A		RM. 111 MICROWAVE	28
29	RCPTS - RM. 100		20 A	1			0.72 0.18	1	20 A		COUNTERTOP RCPT - TECH. 114	30
31	RCPTS - RM. 100, 102		20 A	1	0.72 0.18			1	20 A		TV - TECH 114	32
33	RCPT & TV - RM. 102		20 A	1		0.36 0.18		1	20 A		RCPT - RR. 124	34
35	BOXCAST SYSTEM RCPTS - RM.102		20 A	1			0.9 0.36	1	20 A		RCPTS - CHILDREN 123 COMPUTERS	36
37	RCPT - RM. 102 EAST WALL		20 A	1	0.18 0.54			1	20 A		RCPTS - CHILDREN 123	38
39	RCPT - RM. 102 EAST WALL		20 A	1		0.18 0.36		1	20 A		RCPTS - CHILDREN 123 & SILO	40
41	RCPT - RM. 102 EAST WALL		20 A	1			0.18 1.08	1	20 A		RCPTS - ADULT 120	42
43	RCPT - RM. 102 EAST WALL		20 A	1	0.18 0.9			1	20 A		RCPTS - ADULT 120	44
45						0.36		1	20 A		FLOOR BOXES - ADULT 120	46
47							0.36	1	20 A		RCPTS - ROOMS 125, 111, 114	48
49												50
51												52
53												54
			Total Load:		7.3 kVA	6.2 kVA	7 kVA					
			Total Amps:		62 A	52 A	60 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	
Other	3240 VA	125.00%	4050 VA		
Receptacle	17280 VA	78.94%	13640 VA	**Total Conn. Load:**	21 kVA
				Total Est. Demand:	18 kVA
				Total Conn.:	57 A
				Total Est. Demand:	49 A

Notes:

Panelboard: L-EV

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

CKT	Circuit Description	Note	Trip	Poles	A	B	C	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:

Panelboard: L-1B

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	B	C	Poles	Trip	Note	Circuit Description	CKT
1	WH-1 - WATER HEATER		45 A	2	3.48 1.1			1	20 A		LIGHTING - INTERIOR WEST	2
3						3.48 0.95		1	20 A		LIGHTING - INTERIOR NORTH	4
5	P1 - HYDRONIC PUMP FOR HP-1		20 A	2			0.79 0.97	1	20 A		LIGHTING - CHILDREN 123/122/124	6
7					0.79 0.82			1	20 A		LIGHTING - ADULT 120/121	8
9	P-2 - HYDRONIC PUMP FOR HP-2		20 A	2		0.79 0.35		1	20 A		LIGHTING - ATTIC	10
11							0.79 0.25	1	20 A		LTG. - BUILDING EXT. (PERIMETER)	12
13					0.79 0.24			1	20 A		LIGHTING - SITE POLES	14
15	P-3 - HYDRONIC PUMP FOR HP-3		20 A	2		0.79 1.3		1	20 A		LIGHTING - NEW ARRIVALS / MEDIA...	16
17	ERU-1 - ENERGY RECOVERY UNIT		20 A	1			0.97 1.3	1	20 A		LIGHTING - NEW ARRIVALS / MEDIA...	18
19	ERU-2 - ENERGY RECOVERY UNIT		20 A	1	1.75							20
21	GF-1 - GLYCOL FEED UNIT		20 A	1		0.1						22
23	ZONE DAMPERS		20 A	1			0.84					24
25	CEILING FANS		20 A	1	0							26
27	WS-1, WS-2, WS-3 - WINDOW SHADE		20 A	1		0.72						28
29	EF-1 - EXHAUST FAN		20 A	1			0					30
31	SITE SIGN		20 A	1	0.25							32
33	DO-1 - ADA DOOR OPERATOR		20 A	1		0.2						34
35	DO-2 - ADA DOOR OPERATOR		20 A	1			0.2					36
37												38
39												40
41												42
			Total Load:		9.2 kVA	8.3 kVA	6.1 kVA					
			Total Amps:		79 A	72 A	51 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	
Motor	5462 VA	107.23%	5858 VA		
Other	11457 VA	125.00%	14322 VA	**Total Conn. Load:**	24 kVA
Lighting	6667 VA	125.00%	8334 VA	**Total Est. Demand:**	28 kVA
LITES	22 VA	125.00%	28 VA	**Total Conn.:**	65 A
				Total Est. Demand:	79 A

Notes:

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PH: 608.277.1728 FAX: 608.277.7046
JDR PROJECT NO.: 23.0081

SHEET TITLE
PANEL SCHEDULES AND ONE-LINE DIAGRAM

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

DATE ISSUED 14 July 2023
REV. NO. DATE

PROJECT NUMBER
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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	4,000	37	0	0	LED	120V	3500K	80	LITHONIA	EPANL-2X2-4000LM-80CRI-35K-MIN10-ZT-MVOLT	
A-E	2' x 2' FIXTURE FIXTURE - EM BATTERY PACK	4,000	37	1100	10	LED	120V	3500K	80	LITHONIA	EPANL-2X2-4000LM-80CRI-35K-MIN10-ZT-MVOLT-E10WCP	
B	STRIP LIGHT - WALL/CEILING	5,150	44	0	0	LED	120V	3500K	80	LITHONIA	CSS-L48-ALO3-MVOLT-SWW3-80CRI	(1)(2)
C	LINEAR FIXTURE ON BOTTOM OF BAFFLE	4,800	42	0	0	LED	120V	3500K	90	MPS ACOUSTICS	SLIM LED BAFFLE 6-FT, MATCH COLOR OF UNLIT BAFFLE	
D	ROUND SUSPENDED FIXTURE	6,212	56	0	0	LED	120V	3500K	80	EUREKA	4815D-24-LED.C1-35-80-120Y-DV-AC-60_***-***	(3)
F	LINEAR DIRECT/INDIRECT SUSPENDED RUN	4,000	33	0	0	LED	120V	3500K	80	LUMENWERX	VIA2P-DI-HLO-FH-WIO2-SW-80-500-500-35-**FT-120-D1-1C-ACS-**	(4)(5)
G	PENDANT FIXTURE AT CIRC. DESK	1,500	14	0	0	LED	120V	3500K	80	GOTHAM	EVO4CC 35/15 AR LSS MWD MVOLT GZ1 JBX CCAN C120 ***	(5)
H	WALL MOUNTED INDIRECT FIXTURE - HIGH OUTPUT	36,000	324	0	0	LED	120V	3500K	80	SPI LIGHTING	EIW12183-L324W-120-277V-3500K-DF_SCN-DA	
J	WALL MOUNTED VANITY FIXTURE	1,550	27	0	0	LED	120V	3500K	80	LITHONIA	FMVCSLS 24IN MVOLT 30K35K40K 90CRI BN M6	
K	DOWNLIGHT FIXTURE	1,500	14	0	0	LED	120V	3500K	80	LITHONIA	LDNA-35/15-LO4AR-LSS-***-MVOLT-GZ10	
L	2 FT UNDERCABINET LIGHT	960	10	0	0	LED	120V	3500K	80	CALI LIGHTING	ALS800T-F-WH-35K-5W-10V-NF-DRY-UNV	
M	4' WALL MOUNT DIRECT/INDIRECT, WITH BUILT-IN DAYLIGHT AND OCCUPANCY SENSING	4,800	33	0	0	LED	120V	3500K	80	LUMENWERX	VIS2W-DI-HLO-FH-HLO-SW-80-1200-1200-35-4FT-120-D1-1C-1DL48-DMB-**-1OCS	
N	LED RIBBON LIGHT FOR CABINET EDGE LIGHTING PERFORMANCE IS LUMENS PER FOOT	310	4	0	0	LED	120	3500K	80	ACOLYTE	RB-90-AC12065-4.035	
S1	24FT SIGN LIGHT, 12" STANDOFF WALL BRACKET	9,762	96	0	0	LED	120	4000K	80	SPI LIGHTING	SEW12145-8FT-**-L32W-120-277V-4000K-LBK12-PSE-24-DF_FT	
S2	8FT SIGN LIGHT, 12" STANDOFF WALL BRACKET	3,254	32	0	0	LED	120	4000K	80	SPI LIGHTING	SEW12145-8FT-**-L32W-120-277V-4000K-LBK12-PSE-8-DF_FT	
S3	5FT SURFACE MOUNT LINEAR FIXTURE	2,000	23	0	0	LED	120	4000K	80	AXIS LIGHTING	WBSLED-400-80-40-S-5-W-120-DP-1-SC	
S3-E	5FT SURFACE MOUNT LINEAR FIXTURE - EM BATTERY PACK	2,000	23	1100	10	LED	120	4000K	80	AXIS LIGHTING	WBSLED-400-80-40-S-5-W-120-DP-1-SC-B	
S4	BUILDING EXTERIOR WALL LIGHT	3,900	39	0	0	LED	120	4000K	80	LITHONIA	DSXW1 LED 10C 1000 40K T3S MVOLT SF DDBXD	
S4-E	BUILDING EXTERIOR WALL LIGHT - EM BATTERY PACK	3,900	39	1500	10	LED	120	4000K	80	LITHONIA	DSXW1 LED 10C 1000 40K T3S MVOLT SF DDBXD E20WC	
S5	WALL MOUNTED LIGHT FOR FLAG	620	11	0	0	LED	120	4000K	80	HYDREL	ASPEN-SS-P1-80CRI-40K-120-20DEG-WSL-350R-S6-L3-C3-BL	
X1	EXIT SIGN - EM BATTERY PACK	0	0	0	0	LED	120V	-	0	LITHONIA	LQM S W 3 R 120/277 EL N M6	(6)

FOOT NOTES:

CONFIRM ALL FINISHES WITH THE ARCHITECT/DESIGNER.

FOOT NOTES:

(1) SET COLOR TEMPERATURE TO 3500K.
(2) WATTAGES AND LUMENS SHOWN IN SCHEDULE ARE HIGHEST POSSIBLE VALUE. SET LIGHT OUTPUT TO OWNER'S SATISFACTION.
(3) SUSPEND SO THAT BOTTOM OF LIGHT FIXTURE IS FLUSH WITH ADJACENT ARCHITECTURAL BAFFLES. REFER TO ARCHITECTURAL PLANS.
(4) LUMENS AND WATTS LISTED IN SCHEDULE ARE PER 4' SECTION.
(5) CONFIRM DESIRED SUSPENSION HEIGHT WITH ARCHITECT/OWNER.
(6) INSTALL FACES, MOUNTING BRACKET, AND DIRECTIONAL ARROWS AS SHOWN ON PLAN.

EXTERIOR LUMINAIRE SCHEDULE

TAG	DESCRIPTION	FIXTURE LUMENS	FIXTURE WATTS	FIXTURE DIST.	FIXTURE COLOR TEMP.	FIXTURE MANUFACTURER	FIXTURE MODEL #	POLE ASSEMBLY FIXTURES PER POLE	EFFECTIVE PROJECTED AREA PER FIXTURE	EFFECTIVE PROJECTED AREA TOTAL EPA	POLE TOTAL WATTS	POLE BASE ABOVE GRADE	POLE HEIGHT	POLE HEIGHT ABOVE GRADE	POLE MANUFACTURER	POLE MODEL #
P1	POLE MOUNTED FIXTURE	9,938	80	TYPE 3W	4000K	SIGNIFY	S56C1-80W48LED4K-G3-ACDR-LE3W-120-DMG-SFX-FN6-HS-PH8-BKTX	1	2.02	2.02	80	0' - 0"	18' - 0"	18' - 0"	SIGNIFY	RTA500-V-18-DR-BA-BKTX
P2	POLE MOUNTED FIXTURE	9,938	80	TYPE 3W	4000K	SIGNIFY	S56C1-80W48LED4K-G3-ACDR-LE5-120-DMG-SFX-FN6-PH8-BKTX	1	2.02	2.02	80	0' - 0"	18' - 0"	18' - 0"	SIGNIFY	RTA500-V-18-DR-BA-BKTX

LIGHTING CONTROLS SCHEDULE

TAG	DESCRIPTION	MANUFACTURER	MODEL	NOTES
CS1	CEILING MOUNTED OCC. SENSOR, LARGE MOTION, DUAL TECHNOLOGY	nLIGHT	nCM PDT 10 RJB	
CS3	CEILING MOUNTED OCC. SENSOR, LARGE MOTION, DUAL TECHNOLOGY WITH AUX. RELAY	nLIGHT	nCM PDT 10 RJB AR	
WC1	WALL MOUNTED OCC. SENSOR, DUAL TECH., WITH DIMMING CONTROL	nLIGHT	nWSX PDT LV DX **	COORDINATE FINISH WITH ARCHITECT
WC2	LOW VOLTAGE WALLPOD, ON/OFF + RAISE/LOWER DIMMING	nLIGHT	nPODMA DX **	COORDINATE FINISH WITH ARCHITECT
WC3	LOW VOLTAGE WALLPOD, (4) CHANNELS, ON/OFF + RAISE/LOWER DIMMING	nLIGHT	nPODMA 4P DX **	COORDINATE FINISH WITH ARCHITECT
WC4	WALL MOUNTED OCC. SENSOR, DUAL TECH, SENSOR ONLY	nLIGHT	nWSX PDT LV **	COORDINATE FINISH WITH ARCHITECT

ELECTRICAL CONNECTION SCHEDULE

TAG	DESCRIPTION	LOCATION NO	LOCATION NAME	LOAD kVA	LOAD F.L.A.	LOAD M.C.A.	LOAD VOLT	LOAD PH	CIRCUITING INFORMATION OCP (Amps)	CIRCUITING INFORMATION WIRE SIZE & CONDUIT	CIRCUITING INFORMATION PANEL	CIRCUITING INFORMATION 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 STAND-BY	FOOT NOTES
BB-1	BASEBOARD HEATER	112	DROP	0	0	0	208	1	20	(2)#12,#12N,#12G - 3/4"C							NFS	EC/EC	-	NEMA 1	•				
CUH-1-1	CABINET UNIT HEATER	112	DROP	0	0	0	208	1	20	(2)#12,#12N,#12G - 3/4"C							NFS	EC/EC	-	NEMA 1	•				
CUH-1-2	CABINET UNIT HEATER	112	DROP	0	0	0	208	1	20	(2)#12,#12N,#12G - 3/4"C							NFS	EC/EC	-	NEMA 1	•				
DO-1	ADA DOOR OPERATOR	-	ENTRY DOOR	0	2	2	120	1	20	(1)#12,#12N,#12G - 3/4"C	L-1B	33	-	-	S/S	EC/EC	NFS	EC/EC	-	NEMA 1	•				
DO-2	ADA DOOR OPERATOR	100	VESTIBULE	0	2	2	120	1	20	(1)#12,#12N,#12G - 3/4"C	L-1B	35	-	-	S/S	EC/EC	NFS	EC/EC	-	NEMA 1	•				
ERU-1	ENERGY RECOVERY UNIT	-	SITE	1	8	10	120	1	15	(1)#12,#12N,#12G - 3/4"C	L-1B	17	-	-	TC	MC/MC	NFS	EC/EC	-	NEMA 1	•				
ERU-2	ENERGY RECOVERY UNIT	-	SITE	2	15	18	120	1	25	(1)#10,#10N,#10G - 3/4"C	L-1B	19	-	-	TC	MC/MC	NFS	EC/EC	-	NEMA 1	•				
FP	ELECTRIC FIREPLACE	119	SITTING AREA	0	0	0	208	1	20	(2)#12,#12N,#12G - 3/4"C			-	-	-	-	NFS	EC/EC	-	NEMA 1	•				
GF-1	GLYCOL FEED UNIT	108	MECHANICAL	0	1	1	120	1	20	(2)#12,#12N,#12G - 3/4"C	L-1B	21	-	-	-	-	NFS	EC/EC	-	NEMA 1	•				
HP-1	WATER SOURCE HEAT PUMP	108	MECHANICAL	8	36	45	208	1	70	(2)#4,#4N,#8G - 1"C	MDP	3			-	-	NFS	EC/EC	-	NEMA 1	•				
HP-2	WATER SOURCE HEAT PUMP	108	MECHANICAL	8	36	45	208	1	70	(2)#4,#4N,#8G - 1"C	MDP	4			-	-	NFS	EC/EC	-	NEMA 1	•				
HP-3	WATER SOURCE HEAT PUMP	108	MECHANICAL	7	33	42	208	1	60	(2)#4,#4N,#10G - 1"C	MDP	5			-	-	NFS	EC/EC	-	NEMA 1	•				
SIGN	SITE SIGN	-	SITE	0	2	3	120	1	20	(1)#12,#12N,#12G - 3/4"C	L-1B	31	-	-	-	-	-	-	-	NEMA 1	•				(1)
WH-1	WATER HEATER	108	MECHANICAL	7	33	42	208	1	45	(2)#6,#6N,#10G - 3/4"C	L-1B	1,3	-	-	-	-	NFS	EC/EC	-	NEMA 1	•				
WS-1	ELEC. WINDOW SHADE	102	MEETING ROOM	0	2	3	120	1	20	(1)#12,#12N,#12G - 3/4"C	L-1B	27	-	-	-	-	NFS	EC/EC	-	NEMA 1	•				
WS-2	ELEC. WINDOW SHADE	102	MEETING ROOM	0	2	3	120	1	20	(1)#12,#12N,#12G - 3/4"C	L-1B	27	-	-	-	-	NFS	EC/EC	-	NEMA 1	•				
WS-3	ELEC. WINDOW SHADE	102	MEETING ROOM	0	2	3	120	1	20	(1)#12,#12N,#12G - 3/4"C	L-1B	27	-	-	-	-	NFS	EC/EC	-	NEMA 1	•				
Z1-1	ZONE DAMPER	111	WORK AREA / CIRC. DESK	0	1	1	120	1	20	(1)#12,#12N,#12G - 3/4"C	L-1B	23	-	-	-	-	NFS	EC/EC	-	NEMA 1	•				
Z1-2	ZONE DAMPER	111	WORK AREA / CIRC. DESK	0	1	1	120	1	20	(1)#12,#12N,#12G - 3/4"C	L-1B	23	-	-	-	-	NFS	EC/EC	-	NEMA 1	•				
Z1-3	ZONE DAMPER	111	WORK AREA / CIRC. DESK	0	1	1	120	1	20	(1)#12,#12N,#12G - 3/4"C	L-1B	23	-	-	-	-	NFS	EC/EC	-	NEMA 1	•				
Z1-4	ZONE DAMPER	108	MECHANICAL	0	1	1	120	1	20	(1)#12,#12N,#12G - 3/4"C	L-1B	23	-	-	-	-	NFS	EC/EC	-	NEMA 1	•				
Z2-1	ZONE DAMPER	101	CORRIDOR	0	1	1	120	1	20	(1)#12,#12N,#12G - 3/4"C	L-1B	23	-	-	-	-	NFS	EC/EC	-	NEMA 1	•				
Z2-2	ZONE DAMPER	101	CORRIDOR	0	1	1	120	1	20	(1)#12,#12N,#12G - 3/4"C	L-1B	23	-	-	-	-	NFS	EC/EC	-	NEMA 1	•				
Z2-3	ZONE DAMPER	110	STORAGE	0	1	1	120	1	20	(1)#12,#12N,#12G - 3/4"C	L-1B	23	-	-	-	-	NFS	EC/EC	-	NEMA 1	•				

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 TIME CLOCK
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 AUXILLIARY 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. ALUMINIUM CONDUCTORS WILL HAVE A NOTATION OF (AL) NEXT TO WIRE SIZE.

FOOT NOTES:
(1) PROVIDE DATA CONNECTION TO SIGN.

MOTOR CONNECTION SCHEDULE

TAG	DESCRIPTION	LOCATION NO	LOCATION NAME	LOAD HP	LOAD kVA	LOAD F.L.A.	LOAD M.C.A.	LOAD VOLT	LOAD PH	CIRCUITING INFORMATION OCP (Amps)	CIRCUITING INFORMATION WIRE SIZE & CONDUIT	CIRCUITING INFORMATION PANEL	CIRCUITING INFORMATION 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 STAND-BY	FOOT NOTES
P-1	HYDRONIC PUMP	108	MECHANICAL	0.75	2	8	10	208	1	20	(2)#12,#12N,#12G - 3/4"C	L-1B	5,7	CS	EC/EC	CT	EC/EC	CS	EC/EC	-	NEMA 1	•				
P-2	HYDRONIC PUMP	108	MECHANICAL	0.75	2	8	10	208	1	20	(2)#12,#12N,#12G - 3/4"C	L-1B	9,11	CS	EC/EC	CT	EC/EC	CS	EC/EC	-	NEMA 1	•				
P-3	HYDRONIC PUMP	-	ATTIC	0.75	2	8	10	208	1	20	(2)#12,#12N,#12G - 3/4"C	L-1B	13,15	CS	EC/EC	CT	EC/EC	CS	EC/EC	-	NEMA 1	•				
EF-1	EXHAUST FAN	122	Space	0	0	0	0	120	1	20	(1)#12,#12N,#12G - 3/4"C	L-1B	29	-	-	-	-	NFS	EC/EC	-	NEMA 1	•				

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CS COMBINATION STARTER
ECM ECM CONTROLLER
FVNR FULL VOLTAGE NON-REVERSING
FVR FULL VOLTAGE REVERSING
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RVS REDUCED VOLTAGE
SS SOFT STARTER
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HOA HAND-OFF-AUTO SWITCH
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FOOT NOTES:
(1)

DATA RACK SCHEDULE

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

FOOT NOTES:
(1)

GROUND BAR SCHEDULE

TAG	DESCRIPTION	LOCATION NO	LOCATION NAME	MANUFACTURER	MODEL	NOTES

FLOOR BOX SCHEDULE

TAG	DESCRIPTION	APPROXIMATE DIMENSIONS	VOLTAGE	POLES	MANF.	MODEL #
F1	FLOOR BOX, (2) DUPLEX RECEPTACLE, (2) DATA PORTS & CABLES	12 1/16" x 9 3/16" x 5 15/16"	120	1	LEGRAND	EFB45S-OG

PRELIMINARY
NOT FOR CONSTRUCTION

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

IN ASSOCIATION WITH
JDR ENGINEERING, INC.
5525 NOBEL DRIVE SUITE 110
MADISON, WI 53711
PH: 608.277.1728 FAX: 608.277.0046
JDR PROJECT NO: 23008I

SHEET TITLE
SCHEDULES - ELECTRICAL

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

DATE ISSUED 14 July 2023

REV. NO. DATE

PROJECT NUMBER
2021310

SHEET
E800

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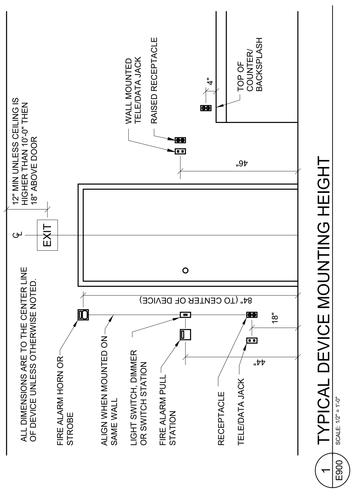
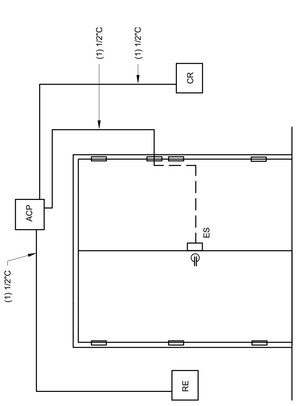


1 E900 TYPICAL DEVICE MOUNTING HEIGHT

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

PROJECT TITLE CITY OF CASCADE

CASCADE PUBLIC LIBRARY

SECOND AVENUE SW.
CASCADE, IOWA

DATE ISSUED 14 July 2023
REV. NO. DATE

PROJECT NUMBER 2021310

SHEET E900

SHEET TITLE

DETAILS - 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
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OCONOMOWOC, WI (262) 968-2055