Brule Public Works Garage

Town of Brule, Wisconsin

Project Number: 025170.00

Abbreviations

		MANUF	MANUFACTURER
		MATL	MATERIAL
ADA	AMERICANS WITH DISABILITIES ACT	MAX	MAXIMUM
ADJ	ADJUSTABLE	MECH	MECHANICAL
AFF	ABOVE FINISHED FLOOR	MIN	MINIMUM
AHU	AIR HANDLING UNIT	MISC	MISCELLANEOUS
ALT	ALTERNATE	MO	MASONRY OPENING
ALUM	ALUMINUM	MTL	METAL
APPROX	APPROXIMATE		
ARCH	ARCHITECT	NA	NOT APPLICABLE
		NIC	NOT IN CONTRACT
B.O. / BO	BOTTOM OF	NOM	NOMINAL
B.SPLASH	BACKSPLASH	NTS	NOT TO SCALE
BLDG	BUILDING		
BLKG	BLOCKING	OC / O.C.	ON CENTER
BRG	BEARING	OFD	OVERFLOW DRAIN
		OH	OVERHEAD
C-TOP	COUNTERTOP		
CG	CORNER GUARD	P.T.	PRESSURE TREATED
CJ	CONTROL JOINT	PC	PRECAST
CL	CENTERLINE	PL	PLATE
CLG	CEILING	PLAM / P.LAM.	PLASTIC LAMINATE
CLR	CLEAR(ANCE)	PLY / PLYWD	PLYWOOD
CMU	CONCRETE MASONRY UNIT	PMB	PRE-MANUFACTURED METAL BUILDING SYSTEM
COL	COLUMN	PNT	PAINT
CONC	CONCRETE	PREFIN / P/F	PREFINISHED
CONT	CONTINOUS	PTD	PAPER TOWEL DISPENSER
CPT	CARPET		
CT	CERAMIC / PORCELAIN TILE	QT	QUARRY TILE
		QTY	QUANTITY
D	DEEP		
DF	DRINKING FOUNTAIN	RB	RESILIENT BASE
DIA	DIAMETER	RCP	REFLECTED CEILING PLAN
DIM	DIMENSION	RD	ROOF DRAIN
DISP	DISPENSER	REF	REFRIGERATOR
DN	DOWN	REINF	REINFORCED
DS	DOWNSPOUT	REQD	REQUIRED
DW	DISHWASHER	RF	RESILIENT FLOORING
DWG	DRAWING	RPF STRIP	REINFORCED PERIMETER FASTENING STRIP
		RTU	ROOF TOP UNIT (MECH.)
EA	EACH	RWL	RAIN WATER LEADER
EIFS	EXTERIOR INSULATION & FINISH SYSTEM		
EJ	EXPANSION JOINT	S.SPLASH	SIDESPLASH
ELEC	ELECTRICAL	SACT	SUSPENDED ACOUSTICAL CEILING TILE
EPDM	ETHYLENE PROPYLENE DIENE MONOMER ROOFING	SCHED	SCHEDULE
EQ	EQUAL (EQUALLY)	SD	SOAP DISPENSER
EQUIP / EQPT.	EQUIPMENT	SEAL	SEALANT (SEALED)
EXST / EX. / EXIST.	EXISTING	SF	SQUARE FOOT (FEET)
EXT	EXTERIOR	SIM	SIMILAR
		SIP	STRUCTURAL INSULATED (OR INSULATING) PANEL
F.T.	FIRE TREATED	SND	SANITARY NAPKIN DISPOSAL
F.V.	FIELD VERIFY	SPEC	SPECIFICATION
FD	FLOOR DRAIN	SS	STAINLESS STEEL
FDN	FOUNDATION	SSM	SOLID SURFACE MATERIAL
FE	FIRE EXTINGUISHER	STL	STEEL
FEC	FIRE EXTINGUISHER CABINET	STND	STANDARD
FFGB	FIBERGLASS FACED GYPSUM BOARD	STRUCT	STRUCTURAL CONSULTANT
FLR	FLOOR	SV	SHEET VINYL
FRP	FIBERGLASS REINFORCED PANEL		
FTG	FOOTING	T.O.	TOP OF
FUR	FURRING	TBB	TILE BACKER BOARD
		TEMP	TEMPERED
GALV	GALVANIZED	TPD	TOILET PAPER DISPENSER
GB	GRAB BAR	TRTD	TREATED
GLAZ	GLAZING	TYP	TYPICAL
GYP. BD / G.BD / GBD	GYPSUM BOARD		
		UNO	UNLESS NOTED OTHERWISE
H	HIGH		
HC	HANDICAPPED	VB	VINYL BASE
HM	HOLLOW METAL	VCT	VINYL COMPOSITION TILE
HT	HEIGHT	VIF	VERIFY IN FIELD
		VWC	VINYL WALL COVERING
ICF	INSULATED (OR INSULATING) CONCRETE FORM		
INSUL	INSULATION	W	WIDE
INT	INTERIOR	W/	WITH
		W/O	WITHOUT
JST	JOIST	WD	WOOD
		WRB	WEATHER RESISTIVE BARRIER
LAM	LAMINATE		
LVT	LUXURY VINYL TILE	#	NUMBER (OR POUND)
		&	AND
		@	AT

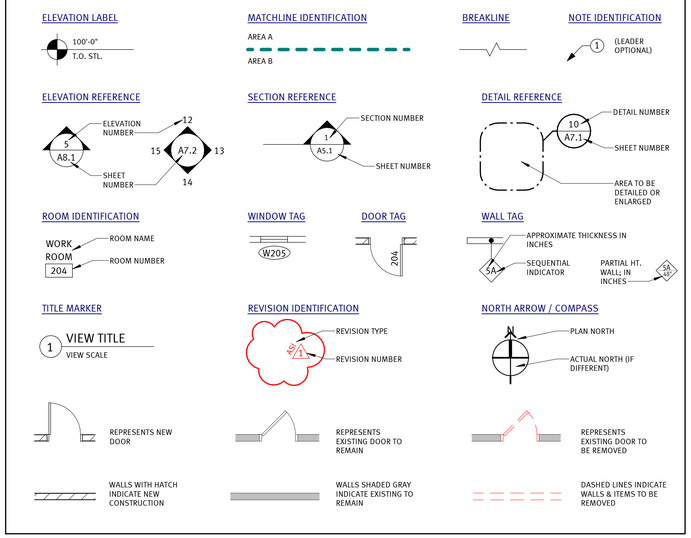
Perspective View



Architectural General Notes

1. General Notes apply to all drawing sheets.
2. Review the Construction Documents prior to start of construction. Notify Architect upon encountering any unforeseen conditions, discrepancies, errors, or inconsistencies.
3. Work shall be done in accordance with all rules and regulations of all applicable safety and building codes. The General Contractor is responsible for securing and paying for all permits required and for the scheduling of all required inspections during the course of the project.
4. The General Contractor shall take precautions and be responsible for the safety of all building occupants from construction procedures during construction to minimize disturbances to adjacent spaces and /or structures and their occupants, property, public thoroughfares, etc. Maintain all required exits during construction.
5. All materials and systems shall be installed as per manufacturer's specifications and all construction shall be of industry standard or better.
6. Do not scale drawings. Verify all dimensions in the field for accuracy prior to construction. No extra charge or compensation shall be allowed because of difference between actual dimensions and those indicated on the drawings, unless they contribute to a change in the scope of work.
7. In the event of conflict between data shown on drawings and data shown in the Specification, the Work of greater quality or quantity shall be provided, in accordance with the Architect's interpretation, and no change in the Contract Sum will be permitted. Detail drawings take precedent over drawings of larger scope. Notify Architect if at any time an error or discrepancy is discovered.
8. Immediately notify Architect of any long lead items that will affect the completion date
9. All wood in contact with concrete or concrete block to be pressure treated - typical.
10. Provide metal backing and / or treated wood blocking for all wall mounted equipment (grab bars, toilet room accessories, TV mounts, headwalls, equipment rails, etc.) Verify height and length with actual equipment.
11. Patch all disturbed fireproofing as required to maintain rating. Repair and install all fireproofing as required by code. Fireproof any new penetrations required by the work. Refer to code summary for ratings.
12. All exposed metal to receive paint unless otherwise noted
13. All adjacent dissimilar materials to receive caulking, including equipment mounted to walls

Graphic Symbols



Project Team

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Brule, WI

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Location Map

★ Star Indicates Project Location



Refer to Civil

Materials

EARTH	RIGID INSULATION
COMPACT FILL/SAND	BATT INSULATION
POROUS FILL/GRAVEL	GYPSUM BOARD
MORTAR/PLASTER	PLYWOOD
SPRAY FOAM INSUL.	OSB SHEATHING
FACE BRICK	CONT. ROUGH WOOD
CMU	WOOD BLOCKING
CONCRETE	FINISHED WOOD
STUD WALL/METAL	BITUMINOUS

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E6.1	One-Line Diagram - Electrical

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Brule Public Works Garage

Town of Brule, Wisconsin

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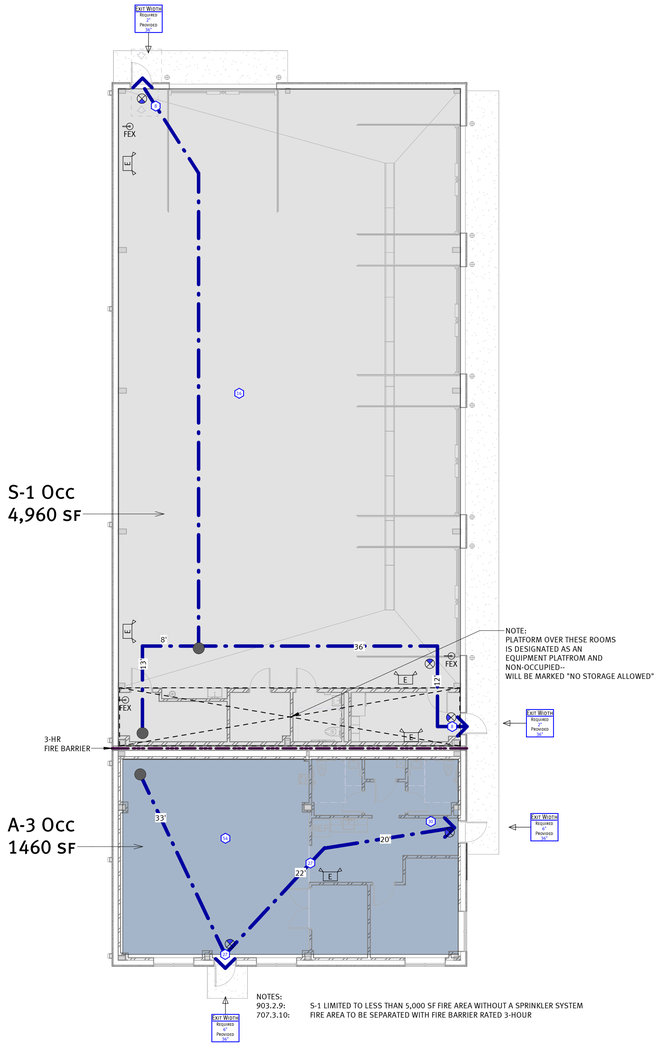
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printed name: John E. Erickson, NCARB, LEED AP
reg. #: 9676
sign date: 3/10/2026

revision / issue	*no.*	*date*

sheet title: 24x36 Title Sheet

sheet number: G0.1



1 G1.1 LEVEL 1 CODE PLAN

3/32" = 1'-0"

LIFE SAFETY & ENERGY CODE ANALYSIS

SUMMARY:

THIS PROJECT IS FOR THE TOWN OF BRULE'S PUBLIC WORKS DEPARTMENT AND TOWN ADMINISTRATION. IT WILL BE A RIGID STEEL FRAMED STRUCTURE WITH A SERVICE GARAGE CONSITING OF FOUR BAYS AND FIVE OVERHEAD GARAGE DOORS, STAFF AREA, RESTROOM AND MISCALLANEOUS STORAGE FOR EQUIPMENT AND SUPPLIES. ABUTTING THE GARAGE WILL BE AN ADMINISTRATION BUILDING WITH ONE OFFICE, SMALL KITCHENETTE, TWO RESTROOMS AND A LARGE MEETING ROOM.

PROJECT TYPE:	NEW BUILD
SPRINKLER SYSTEM:	NO
FIRE ALARM SYSTEM:	NO
NON-SEPARATED OCCUPANCY:	NO
SEPARATED OCCUPANCY:	NO

ALLOWABLE AREA CALCULATIONS

OCCUPANCY GROUP	OCCUPANCY TYPE	CONSTRUCTION TYPE	SPRINKLE CLASS (NS/S1/SM)	ALLOWABLE HT. (FT) (TABLE 504.3)	ACTUAL HEIGHT (FT)	ALLOW. STORIES ABOVE GRADE (TABLE 504.4)	ACTUAL STORIES ABOVE GRADE (S_a)	ACTUAL SF	TABULAR SF (At - TABLE 506.2)	ALLOW. AREA (NS - TABLE 506.2)	FRONTAGE INCREASE %	FRONTAGE INCREASE SF (I$_f$) (SECTION 506.3)	ALLOW. AREA (A_a)
ASSEMBLY	A-3	II-B	NS	65	18	3	1	1,970	9,500	9,500	75%	7,125	16,625
VEHICLE STORAGE	S-1	II-B	NS	65	30	2	1	4,560	17,500	17,500	75%	13,125	30,625

FIRE RESISTANCE RATINGS (TABLE 601)

STRUCTURAL FRAME	0 HR.
BEARING WALLS - EXTERIOR	0 HR.
BEARING WALLS - INTERIOR	0 HR.
NONBEARING WALLS - EXTERIOR	0 HR.
NONBEARING WALLS - INTERIOR	0 HR.
FLOOR CONSTRUCTION	0 HR.
ROOF CONSTRUCTION	0 HR.

** ALL RATED WALLS SHALL BE IDENTIFIED BY STENCILING ON EACH SIDE OF THE WALL ABOVE THE CEILING WITH 3" HIGH LETTERS IDENTIFYING THE TYPE OF WALL RATING "SMOKE PARTITION, 1 HOUR FIRE BARRIER, OR 1 HOUR SMOKE BARRIER". SPACING OF IDENTIFICATIONS SHALL BE 6'-0" APART HORIZONTALLY. REFER TO LIFE SAFETY PLAN FOR RATED WALL LOCATIONS. **

MEANS OF EGRESS (CH. 10)

OCCUPANT LOAD (SEC 1004)

OCCUPANT LOAD: SEE CODE PLAN

EXIT TRAVEL DISTANCE (SEC 1017)

OCCUPANCY:	A	S-1
MAX. TRAVEL DISTANCE (FT):	200	200

NUMBER OF EXITS (SEC 1006)

REQUIRED:	2
PROVIDED:	2

CORRIDORS (SEC 1020)

FIRE RATING (HR):	N.a.
MIN. WIDTH (INCHES):	
MAX. DEAD END DISTANCE (FT):	

PLUMBING SYSTEMS (CH. 29)

(TABLE 2902.1)

	REQUIRED MINIMUM			TOTAL PROVIDED		
FIXTURE TYPE	MEN	WOMEN	UNISEX	MEN	WOMEN	UNISEX
WATER CLOSET	1	1				3
URINAL	0					0
LAVATORY	1	1				3
SHOWER	0	0		0	0	
DRINKING FOUNTAIN			1			1
SERVICE SINK			1			1

PLUMBING SYSTEMS NOTES:

WATER CLOSETS:
OCCUPANT LOAD: BUSINESS, RATIO: 1 PER 25 1ST 50, THEN 1 PER 50

LAVATORIES:
OCCUPANT LOAD: BUSINESS, RATIO: 1 PER 40 1ST 80, THEN 1 PER 80

DRINKING FOUNTAINS:
OCCUPANT LOAD: BUSINESS, RATIO: 1 PER 100

MIXED USE AND OCCUPANCY (SEC. 508)

OCCUPANCIES		RATING (HR)	EXCEPTION
A	S-1	2	

ENERGY CODE: MINNESOTA ENERGY CODE 2024 - *PRESCRIPTIVE METHOD*

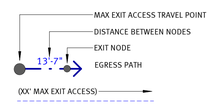
	CODE REQUIREMENTS	DESIGN CRITERIA
ZONE	7	
THERMAL ENVELOPE		
ROOFS: METAL BUILDING	R-30+R-11 LS U-0.029	R-30+R-11 LS U-0.029
WALLS: METAL BUILDING	R-13+R-17 C.I. U-0.044	R-13+R-17 C.I. U-0.044
HEATED SLAB	R-20 FOR 48" BELOW R-5 FULL SLAB	R-20 FOR 48" BELOW R-5 FULL SLAB
OPAQUE DOORS: SWINGING	U-0.37	U-0.37
FENESTRATION		
OPERABLE	U-0.36; SHGC 0.36	U-0.30 ARGON
ENTRANCE DOORS	U-0.63; SHGC 0.36	U-0.29
FIXED	U-0.29; SHGC 0.40	U-0.45
AIR BARRIER	<0.004 CFM/FT^2 ASTM E2178	<0.004 CFM/FT^2 ASTM E2178

WISCONSIN APPLICABLE BUILDING CODES:
2021 INTERNATIONAL BUILDING CODE
WISCONSIN COMMERCIAL BUILDING CODE

FIRE CODE:
2021 INTERNATIONAL FIRE CODE
MECHANICAL CODE:
2021 INTERNATIONAL MECHANICAL CODE
ENERGY CODE:
2021 INTERNATIONAL ENERGY CODE
PLUMBING CODE:
2018 WISCONSIN UNIFORM PLUMBING CODE
ELECTRICAL CODE:
NATIONAL ELECTRICAL CODE 2020

LIFE SAFETY ANALYSIS

- BUILDING EXIT
- ACCESSIBLE FEATURE
- ROOM OCCUPANCY
- EXIT SIGNAGE
- EMERGENCY LIGHTING
- FIRE EXTINGUISHER
- FIRE EXTINGUISHER WITH CABINET
- EXIT CAPACITY (REQUIRED / PROVIDED)
- MAX EXIT ACCESS TRAVEL POINT
- EXIT
- COMMON EGRESS PATH
- MAX EGRESS PATH
- SMOKE RESISTANT PARTITION
- 1 HOUR SMOKE BARRIER
- 1 HOUR FIRE PARTITION
- 1 HOUR FIRE BARRIER (EXIT ENCLOSURE OR SHAFT)
- 1 HOUR FIRE BARRIER (OTHER)
- 2 HOUR FIRE BARRIER (EXIT ENCLOSURE OR SHAFT)
- 2 HOUR FIRE BARRIER (OTHER)
- 2 HOUR FIRE WALL
- 3 HOUR FIRE (WALL OR BARRIER)
- 4 HOUR FIRE (WALL OR BARRIER)



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BRULE PUBLIC WORKS GARAGE

TOWN OF BRULE, WISCONSIN

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drawn by: JMG
checked by: JMG

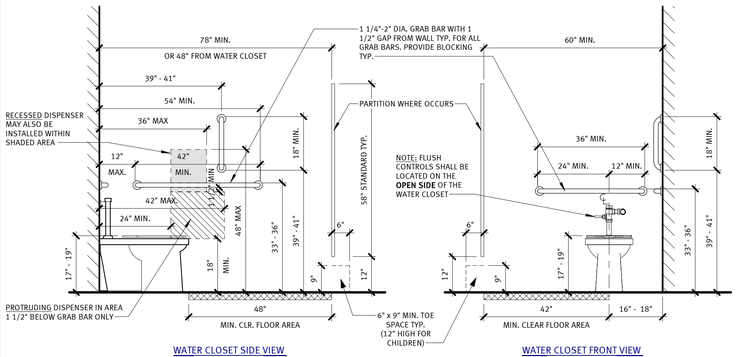
WISCONSIN JOHN E. ERICKSON 9676 DOS DULUTH, MN ARCHITECT

printed name: JOHN E. ERICKSON, NCARB, LEED AP
reg. #: 9676
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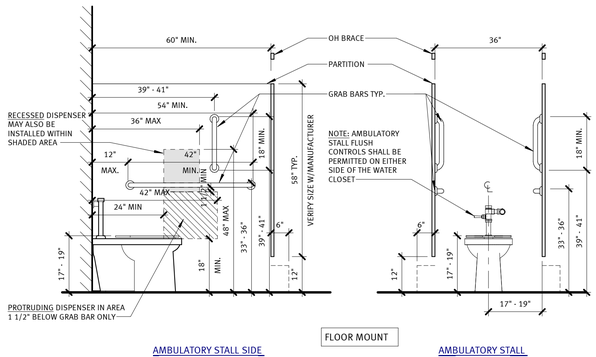
sheet title: LIFE SAFETY PLAN & ENERGY CODE SUMMARY

sheet number: G1.1



WATER CLOSET SIDE VIEW (FLOOR MOUNT)

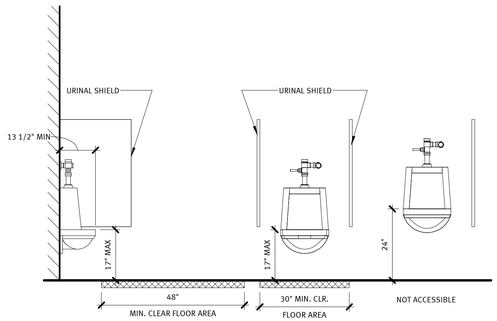
WATER CLOSET FRONT VIEW (FLOOR MOUNT)



AMBULATORY STALL SIDE VIEW TYP. BOTH SIDES

FLOOR MOUNT

AMBULATORY STALL FRONT VIEW

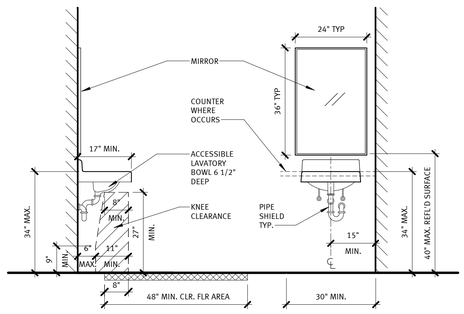


URINAL SIDE VIEW

ADA URINAL FRONT VIEW

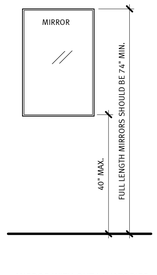
STANDARD URINAL FRONT VIEW

PROVIDE BLOCKING AS REQUIRED FOR ALL WALL MOUNTED ITEMS

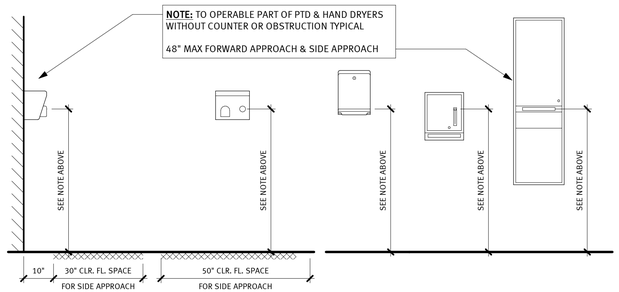


LAVATORY SIDE VIEW

LAVATORY FRONT VIEW



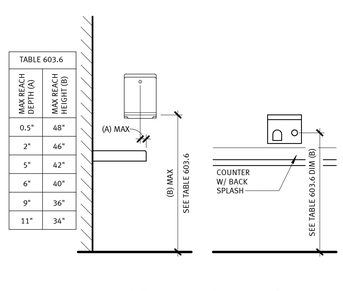
MIRROR WITH OUT LAVATORIES OR COUNTERTOPS



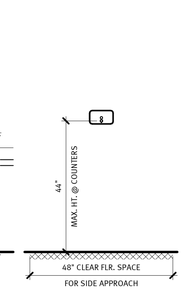
HAND DRYER SIDE VIEW

HAND DRYER FRONT VIEW

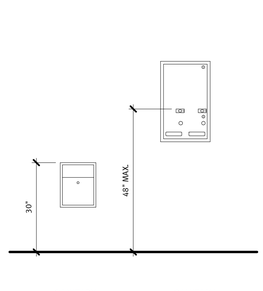
PAPER TOWEL DISPENSERS



PAPER TOWEL DISPENSER FRONT VIEW @ COUNTER OR LAVATORY IN TOILET & BATHING ROOMS (HAND DRYER SIM.)

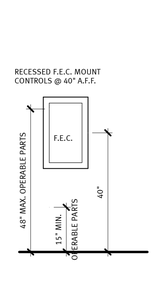


SOAP DISPENSER

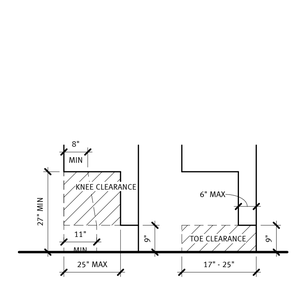


SANITARY NAPKIN DISPOSAL

SANITARY NAPKIN DISPENSER



FIRE EXTINGUISHER CABINET FRONT VIEW



KNEE CLEARANCE

TOE CLEARANCE

TYPICAL FIXTURES AND ACCESSORIES MOUNTING HEIGHTS

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BRULE PUBLIC WORKS GARAGE

TOWN OF BRULE, WISCONSIN

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checked by: XX

WISCONSIN JOHN E. ERICKSON 9676 DULUTH, MN ARCHITECT

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reg. #: 9676
sign date: 3/10/2026

revision / issue	*no.*	*date*

sheet title: MOUNTING HEIGHTS

sheet number: G1.2

PROJECT NOTES

THE PROPOSED PROJECT CONSISTS OF THE CONSTRUCTION OF A NEW PUBLIC WORKS GARAGE BUILDING APPROXIMATELY 132 FEET BY 93 FEET IN SIZE, INCLUDING ASSOCIATED SITE IMPROVEMENTS SUCH AS A GRAVEL DRIVE AISLE AND PARKING AREA, SIDEWALK INSTALLATION, SANITARY SEWER SERVICE, WATER WELL INSTALLATION, AND A STORMWATER MANAGEMENT FACILITY. THE PROJECT SITE ENCOMPASSES APPROXIMATELY 6.00 ACRES AND IS LOCATED WITHIN THE TOWN OF BRULE NEAR THE INTERSECTION OF OLD HIGHWAY 2 AND DUMP ROAD. THE PROPOSED DEVELOPMENT WILL RESULT IN APPROXIMATELY 2.08 ACRES OF LAND DISTURBANCE.

PARCEL NO.(S):
BR-006-00179-00

SITE ADDRESS:
0 DUMP ROAD
BRULE, WI. 54820

LEGAL DESCRIPTION:
E-1/2 NW-1/4, LYG N & W OF TOWN RD 13-47-10, DESC 413 RP 930, EX R/W

COUNTY:
DOUGLAS COUNTY, WISCONSIN

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GENERAL PLAN NOTES

1. CONTRACTOR TO VERIFY ALL UTILITY LOCATIONS AND DEPTHS PRIOR TO CONSTRUCTION. A MINIMUM OF TWO FULL BUSINESS DAYS PRIOR TO BEGINNING CONSTRUCTION, THE CONTRACTOR SHALL CALL 811 (UTILITY NOTIFICATION CENTER) FOR LOCATION MARK-UP OF EXISTING UTILITIES

3. IN CASE OF A CONFLICT BETWEEN THE REGULATORY STANDARDS OR SPECIFICATIONS, THE MORE STRINGENT REQUIREMENT WILL PREVAIL.

4. ANY CHANGES TO THE DESIGN AND/OR CONSTRUCTION SHALL BE APPROVED BY THE OWNER OR ENGINEER.

5. APPROVAL OF THESE PLANS DOES NOT CONSTITUTE AN APPROVAL OF ANY OTHER CONSTRUCTION NOT SPECIFICALLY SHOWN ON THE PLANS. PLANS FOR STRUCTURES SUCH AS BRIDGES, BUILDINGS, TANKS, VAULTS, ROCKERIES, AND RETAINING WALLS MAY REQUIRE A SEPARATE REVIEW AND APPROVAL BY THE BUILDING DEPARTMENT PRIOR TO CONSTRUCTION.

6. A COPY OF THESE APPROVED PLANS SHALL BE ON THE JOB SITE WHENEVER CONSTRUCTION IS IN PROGRESS.

7. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN ALL CONSTRUCTION EASEMENTS AND PERMITS NECESSARY TO PERFORM THE WORK.

8. THE CONTRACTOR IS RESPONSIBLE FOR ALL CONSTRUCTION STAKING.

9. PUBLIC AND PRIVATE DRAINAGE WAYS SHALL BE PROTECTED FROM POLLUTION. NO MATERIAL IS TO BE DISCHARGED TO OR DEPOSITED IN STORMWATER SYSTEMS THAT MAY RESULT IN VIOLATION OF STATE OR FEDERAL WATER QUALITY STANDARDS.

10. ALL CONSTRUCTION WITHIN THE PUBLIC RIGHT-OF-WAY SHALL HAVE AN APPROVED PUBLIC RIGHT-OF-WAY WORK PERMIT PRIOR TO ANY CONSTRUCTION ACTIVITY WITHIN THE RIGHT-OF- WAY.

11. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ADEQUATE SAFEGUARDS, SAFETY DEVICES, PROTECTIVE EQUIPMENT, FLAGGERS, AND ANY OTHER NEEDED ACTIONS TO PROTECT THE LIFE, HEALTH, AND SAFETY OF THE PUBLIC, COMPLY WITH OSHA REGULATIONS, AND TO PROTECT PROPERTY IN CONNECTION WITH THE PERFORMANCE OF WORK COVERED BY THE CONTRACTOR. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE LATEST ADOPTED EDITION OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD) PUBLISHED BY THE U.S. DEPARTMENT OF TRANSPORTATION. TWO-WAY TRAFFIC MUST BE MAINTAINED AT ALL TIMES ON THE ADJACENT PUBLIC STREETS.

12. ANY PUBLIC OR PRIVATE CURB, GUTTER, SIDEWALK, OR ASPHALT DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED TO DOUGLAS COUNTY STANDARDS AND PRACTICES.

13. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE INTEGRITY OF ADJACENT UTILITIES WHICH MAY INCLUDE, BUT ARE NOT LIMITED TO, WATER, SANITARY SEWER, STORMWATER, POWER, TELEPHONE, CABLE TV, GAS, IRRIGATION, AND STREET LIGHTING. THE CONTRACTOR SHALL NOTIFY RESIDENTS AND BUSINESSES 48 HOURS IN ADVANCE OF ANY WORK AFFECTING ACCESS OR SERVICE AND SHALL MINIMIZE INTERRUPTIONS TO DRIVEWAYS FOR RESIDENTS AND BUSINESSES ADJACENT TO THE PROJECT.

14. ALL LAWN AND VEGETATED AREAS DISTURBED WILL BE RESTORED TO ORIGINAL CONDITION. ANY DISTURBANCE OR DAMAGE TO OTHER PROPERTY ON ADJACENT PARCELS OR IN THE PUBLIC RIGHT OF WAY SHALL ALSO BE REPAIRED OR RESTORED TO ORIGINAL CONDITION.

15. ALL MATERIALS AND METHODS OF CONSTRUCTION AND INSTALLATION FOR WATER, SANITARY SEWER, AND STORM FACILITIES SHALL CONFORM TO THE AHJ AND LGU. CONSTRUCTION SHALL BE AS PER THE MOST CURRENT STANDARD DETAIL CONTAINED THEREIN.

16. THE TYPES, LOCATIONS, SIZES AND/OR DEPTHS OF EXISTING UNDERGROUND UTILITIES AND STRUCTURES AS SHOWN ON THE DRAWINGS ARE APPROXIMATE AND WERE OBTAINED FROM SOURCES OF VARYING RELIABILITY. THE CONTRACTOR IS CAUTIONED THAT ONLY ACTUAL EXCAVATION WILL REVEAL THE TYPES, EXTENT, SIZES, LOCATIONS, AND DEPTHS OF UTILITIES. A REASONABLE EFFORT HAS BEEN MADE TO LOCATE AND DELINEATE ALL KNOWN UNDERGROUND UTILITIES. THE CONTRACTOR SHALL VERIFY THE LOCATION OF AND PROVIDE PROTECTION FOR ALL UTILITIES AND STRUCTURES. OVERHEAD UTILITIES ARE NOT SHOWN.

17. EXISTING UTILITIES DAMAGED BY THE CONTRACTOR SHALL BE REPAIRED BY THE CONTRACTOR OR BY THE UTILITY.

18. WHERE THE CONTRACTOR MUST RELOCATE WATER AND GAS UTILITIES, SHUTDOWN SHALL ONLY BE ACCOMPLISHED BY THE CITY OR UTILITY PURVEYOR.

19. ALL OPEN TRENCHES THAT IMPACT PUBLIC ACCESS OR OTHER PROJECT WORK ACCESS OUTSIDE OF THIS PROJECTS SITE, MUST BE STEEL PLATED OR BACKFILLED AND PAVED WITH AT LEAST 2" OF COLD MIX TO ADJACENT EXISTING GRADE AT THE END OF EACH WORKDAY.

20. NOTIFY ADJACENT RESIDENCES AT LEAST ONE DAY PRIOR TO COMMENCING WORK ADJACENT TO THEIR RESIDENCES.

21. SAWCUT ALL PAVEMENT JOIN LINES. WHERE THERE IS A PREVIOUS PAVING EDGE OR CRACK WITHIN 5' OF THE SAWCUT EDGE, REMOVE THE PAVEMENT TO THE PREVIOUS PAVING EDGE.

22. THE CONTRACTOR SHALL COMPLY WITH WISCONSIN REQUIREMENTS FOR TRENCH SAFETY.

23. THE CONTRACTOR SHALL REPLACE ALL SURVEY MONUMENTS THAT ARE DESTROYED BY THE CONSTRUCTION.

24. ALL WATER SERVICE PIPING SHALL BE CONSTRUCTED WITH 7' MINIMUM COVER, ALL WATER MAIN PIPING SHALL BE CONSTRUCTED WITH 7.5' MINIMUM COVER, 1' VERTICAL SEPARATION BETWEEN UTILITIES, AND A MINIMUM OF 10' HORIZONTAL SEPARATION AND 18" ABOVE SEWER LINES, UNLESS OTHERWISE NOTED.

25. THE CONTRACTOR SHALL RESTORE PAVEMENT AND LANDSCAPING DISTURBED BY THE CONSTRUCTION TO THE PREVIOUSLY UNDISTURBED CONDITION.

26. CONTRACTOR TO DISPOSE OF TREES, SHRUBS, SOD AND OTHER DEBRIS IN A PROPER MANNER OF THE CONTRACTOR'S CHOOSING.

27. CONTRACTOR IS RESPONSIBLE FOR KEEPING ALL ROADS, SIDEWALK, AND TRAILS CLEAN AND CLEAR FROM CONSTRUCTION MATERIAL AND DEBRIS.

28. IN ADDITION TO IN-PLACE DENSITY TESTING, THE SUBGRADE AND BASE ROCK SHALL BE PROOF-ROLLED WITH A LOADED 10-YD DUMP TRUCK PROVIDED BY THE CONTRACTOR. BASE ROCK PROOF-ROLL SHALL TAKE PLACE IMMEDIATELY PRIOR TO (WITHIN 24 HOURS OF) PAVING, AND SHALL BE WITNESSED BY THE OWNERS REPRESENTATIVE. LOCATION AND PATTERN OF PROOF-ROLL TO BE AS DIRECTED BY OWNERS REPRESENTATIVE OR APPROVING AGENCY.

GENERAL CIVIL NOTES

SURVEY
BOUNDARY SURVEY: PINE RIDGE LAND SURVEYING, LLC.
TOPOGRAPHIC: LIDAR INFORMATION FROM WISDOT

HORIZONTAL DATUM: DOUGLAS COUNTY
VERTICAL DATUM: NAVD88
COORDINATE SYSTEM: DOUGLAS COUNTY TRANSVERSE MERCATOR 96

STORM DRAINAGE:
ON-SITE STORM SEWER IMPROVEMENTS SHALL CONFORM TO THE LATEST VERSION OF THE TOWN OF BRULE OR DOUGLAS COUNTY STANDARD SPECIFICATIONS. IN INSTANCES WHERE TOWN OF BRULE OR DOUGLAS COUNTY STANDARD SPECIFICATIONS DO NOT APPLY, WISDOT SPECIFICATIONS SHOULD BE FOLLOWED.

THE CONTRACTOR SHALL MAINTAIN 6" MINIMUM VERTICAL AND 3' MINIMUM HORIZONTAL CLEARANCE (OUTSIDE SURFACES) BETWEEN STORM DRAIN PIPES AND OTHER UTILITY PIPES AND CONDUITS. FOR CROSSINGS OF SANITARY SEWER LINES, THE *WISCONSIN DEPARTMENT OF NATURAL RESOURCES AND NATURAL RESOURCE CODE* APPLY.

STORM DRAIN PIPE, BENDS, AND FITTINGS SHALL BE PVC, ASTM D 3034, SDR 35, OR SMOOTH INTERIOR, HIGH DENSITY POLYETHYLENE CORRUGATED PIPE AASHTO M252 OR M294, TYPE S AS PRODUCED AND SPECIFIED BY ADS, PRODUCT NAME N12, OR APPROVED EQUAL. ALL STORM SEWER FITTINGS AND PIPE JOINTS SHALL BE GASKETED.

ALL ON-SITE STORMWATER FACILITIES SHALL BE PRIVATELY MAINTAINED BY THE CURRENT OR FUTURE PROPERTY OWNER(S).

ALL VAULT, UTILITY BOX, INLET, MANHOLE AND CLEANOUT RIMS SHALL BE ADJUSTED TO FINISH GRADE UNLESS OTHERWISE NOTED.

IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROTECT AND MAINTAIN ANY STORM SYSTEM PIPING TO EXISTING DRAINAGE APPURTENANCES TO REMAIN.

CONTRACTOR IS RESPONSIBLE FOR ALL PERMITS AND INSPECTIONS.

ARCHAEOLOGY
IF ANY CULTURAL RESOURCES AND/OR HUMAN REMAINS ARE DISCOVERED IN THE COURSE OF UNDERTAKING THE DEVELOPMENT ACTIVITY, THE DEPARTMENT OF ARCHAEOLOGY AND HISTORIC PRESERVATION SHALL BE NOTIFIED. FAILURE TO COMPLY WITH THESE STATE REQUIREMENTS MAY CONSTITUTE A CLASS C FELONY, SUBJECT TO IMPRISONMENT AND/OR FINES.

GRADING & EROSION CONTROL NOTES

FINISH GRADE CONTOURS ARE TO TOP OF FINISHED SURFACE IN IMPERVIOUS AREAS AND TOP OF REPLACED STRIPPINGS IN PERVIOUS AREAS.

CUT AND FILL QUANTITIES HAVE NOT BEEN DETERMINED. CONTRACTOR TO PERFORM QUANTITY TAKEOFF FOR ESTIMATING PURPOSES. CONTRACTOR SHALL BE RESPONSIBLE FOR HAUL-OFF EXCESS MATERIAL.

GRADING AND FILL TO BE PERFORMED IN ACCORDANCE WITH GEOTECHNICAL RECOMMENDATIONS AS LAID OUT IN THE GEOTECHNICAL REPORT PREPARED BY TWIN PORTS TESTING.

AMERICANS WITH DISABILITIES ACT (ADA) NOTES

1. CONTRACTORS SHALL EXERCISE APPROPRIATE CARE AND PRECISION IN CONSTRUCTION OF ADA ACCESSIBLE COMPONENTS ON THE PROJECT, THE ADA COMPONENTS MUST COMPLY WITH ALL LOCAL, STATE, AND FEDERAL ACCESSIBILITY RULES, CODES, AND REGULATIONS.

2. FINISHED SURFACES ALONG THE ACCESSIBLE PATH OF TRAVEL FROM PARKING STALLS, PUBLIC TRANSPORTATION, AND PEDESTRIAN ACCESS WAYS TO THE POINT(S) OF ACCESSIBLE BUILDING INGRESS AND EGRESS SHALL COMPLY WITH ADA CODE REQUIREMENTS.

3. PARKING SPACE AND AISLE SLOPE SHALL NOT EXCEED 1:48 (1/4" PER FOOT OR NOMINALLY 2.0%) IN ANY DIRECTION.

4. CURB RAMP SLOPE SHALL NOT EXCEED 1:12 (8.3%) AND RAMP LENGTH IS LIMITED TO 15 FEET.

5. LANDINGS SHALL BE PROVIDED AT EACH END OF RAMPS, SHALL HAVE POSITIVE DRAINAGE, AND SHALL NOT EXCEED 1:48 (1/4"PER FOOT OR NOMINALLY 2.0%) IN ANY DIRECTION.

6. PATH OF TRAVEL ALONG ACCESSIBLE ROUTE SHALL PROVIDE A MINIMUM OF 36 INCH UNOBSTRUCTED WIDTH OF TRAVEL. SLOPE SHALL BE NO GREATER THAN 1:20 (5.0% OR 5/8" PER FOOT) IN THE DIRECTION OF TRAVEL, AND SHALL NOT EXCEED 1:48 (1/4" PER FOOT OR NOMINALLY 2.0%) IN CROSS SLOPE. WHERE PATH OF TRAVEL BE GREATER THAN 1:20 (5.0%), AN ACCESSIBLE RAMP WITH A MAXIMUM SLOPE OF 1:12 (8.3%) FOR A MAXIMUM DISTANCE OF 30 FEET SHALL BE PROVIDED INCLUDING HANDRAILS. THE RAMP SHALL HAVE ACCESSIBLE HAND RAILS AND LANDINGS ON EACH END WITH A SLOPE IN ANY DIRECTION NOT EXCEEDING 1:48 (1/4" PER FOOT OR NOMINALLY 2.0%).

7. DOORWAYS SHALL HAVE A LANDING AREA ON THE EXTERIOR SIDE OF THE DOOR THAT IS SLOPED NO MORE THAN 1:48 (1/4" PER FOOT OR NOMINALLY 2.0%) FOR POSITIVE DRAINAGE. THIS LANDING AREA SHALL BE NO LESS THAN 60 INCHES (5 FEET) LONG, EXCEPT HERE OTHERWSE PERMITTED BY ACCESSIBILITY STANDARDS FOR ALTERNATIVE DOORWAY OPENING CONDITIONS AND APPROVED BY THE OWNER'S REPRESENTATIVE.

8. WHERE PEDESTRIAN ACCESS ROUTES ARE CONTAINED WITHIN A STREET OR HIGHWAY RIGHT-OF-WAY, THE GRADE OF THE PEDESTRIAN ACCESS ROUTE IS PERMITTED TO EQUAL THE GENERAL GRADE ESTABLISHED FOR THE ADJACENT STREET OR HIGHWAY, EXCEPT THAT WHERE PEDESTRIAN ACCESS ROUTES ARE CONTAINED WITHIN PEDESTRIAN STREET CROSSINGS A MAXIMUM GRADE OF 5 PERCENT IS REQUIRED. (EXCERPT FROM PROWAG)

STANDARD NOTES FOR EROSION CONTROL PLAN

1. APPROVAL OF THIS EROSION/SEDIMENTATION CONTROL (ESC) PLAN DOES NOT CONSTITUTE AN APPROVAL OF PERMANENT ROAD OR DRAINAGE DESIGN (E.G. SIZE AND LOCATION OF ROADS, PIPES, RESTRICTIONS, CHANNELS, RETENTION FACILITIES, UTILITIES, ETC.)

2. THE IMPLEMENTATIONS OF THESE ESC PLANS AND THE CONSTRUCTIONS, MAINTENANCE, REPLACEMENT, AND UPGRADING OF THESE ESC FACILITIES IS THE RESPONSIBILITY OF THE APPLICANT/CONTRACTOR, UNTIL ALL CONSTRUCTION IS COMPLETED AND APPROVED AND VEGETATION/LANDSCAPING IS ESTABLISHED.

3. THE BOUNDARIES OF THE CLEARING LIMITS SHOWN ON THIS PLAN SHALL BE CLEARLY FLAGGED IN THE FIELD PRIOR TO CONSTRUCTION. DURING THE CONSTRUCTION PERIOD, NO DISTURBANCE BEYOND THE FLAGGED CLEARING LIMITS SHALL BE PERMITTED. THE FLAGGING SHALL BE MAINTAINED BY THE APPLICANT/CONTRACTOR FOR THE DURATION OF CONSTRUCTION.

4. THE ESC FACILITIES SHOWN ON THIS PLAN MUST BE CONSTRUCTED IN CONJUNCTION WITH ALL CLEARING AND GRADING ACTIVITIES, AND IN SUCH A MANNER AS TO INSURE THAT SEDIMENT AND SEDIMENT LADEN WATER DO NOT ENTER THE DRAINAGE SYSTEMS, ROADWAYS, OR VIOLATE APPLICABLE WATER STANDARDS.

5. THE ESC FACILITIES SHOWN ON THIS PLAN ARE THE MINIMUM REQUIREMENTS FOR ANTICIPATED SITE CONDITIONS. DURING THE CONSTRUCTION PERIOD, THESE ESC FACILITIES SHALL BE UPGRADED AS NEEDED FOR UNEXPECTED STORM EVENTS AND TO ENSURE THAT SEDIMENT AND SEDIMENT LADEN WATER DO NOT LEAVE THE SITE.

6. THE ESC FACILITIES SHALL BE INSPECTED DAILY BY THE APPLICANT/CONTRACTOR AND MAINTAINED AS NECESSARY TO ENSURE THEIR CONTINUED FUNCTIONING.

7. THE ESC FACILITIES ON INACTIVE SITES SHALL BE INSPECTED AND MAINTAINED A MINIMUM OF ONCE A MONTH OR WITHIN THE 48 HOURS FOLLOWING A STORM EVENT.

8. AT NO TIME SHALL MORE THAN ONE FOOT OF SEDIMENT BE ALLOWED TO ACCUMULATE WITHIN A TRAPPED CATCH BASIN. ALL CATCH BASINS AND CONVEYANCE LINES SHALL BE CLEANED PRIOR TO PAVING. THE CLEANING OPERATIONS SHALL NOT FLUSH SEDIMENT LADEN WATER INTO THE DOWNSTREAM SYSTEM.

9. STABILIZED CONSTRUCTION ENTRANCES SHALL BE INSTALLED AT THE BEGINNING OF CONSTRUCTION AND MAINTAINED FOR THE DURATION OF THE PROJECT. ADDITIONAL MEASURES MAY BE REQUIRED TO ENSURE ALL PAVED AREAS ARE KEPT CLEAN FOR THE DURATION OF THE PROJECT.

10. THE PROPOSED STORMWATER FACILITY MUST REMAIN OFFLINE UNTIL THE PROJECT IS COMPLETE AND VEGETATION THROUGHOUT THE SITE HAS BEEN ESTABLISHED. IF AT ANY TIME THE FACILITY BECOMES INUNDATED WITH SEDIMENT FILLED RUNOFF, THE TOP 2" OF MATERIAL MUST BE REMOVED AND REPLACED PRIOR TO PROJECT COMPLETION.

RECOMMENDED CONSTRUCTION SEQUENCE FOR EROSION CONTROL

1. PRE-CONSTRUCTION MEETING.

2. FLAG OR FENCE CLEARING LIMITS

3. POST NOTICE OF CONSTRUCTION ACTIVITY SIGN WITH THE NAME AND PHONE NUMBER OF EROSION SEDIMENT CONTROL SUPERVISOR.

4. INSTALL CATCH BASIN PROTECTION, IF REQUIRED.

5. INSTALL PERIMETER PROTECTION (SILT FENCE, BRUSH BARRIER, ETC.).

6. INSTALL TREE PROTECTION FENCING.7. GRADE AND INSTALL CONSTRUCTION ENTRANCE(S).

8. CONSTRUCT SEDIMENT POND(S) AND TRAP(S).

9. GRADE AND STABILIZE CONSTRUCTION ROADS.

10. CONSTRUCT SURFACE WATER CONTROLS (INTERCEPT DIKES, PIPE SLOPE DRAINS, ETC) SIMULTANEOUSLY WITH CLEARING AND GRADING FOR PROJECT DEVELOPMENT.

11. MAINTAIN EROSION CONTROL MEASURES IN ACCORDANCE WITH STORMWATER MANAGEMENT MANUAL FOR WESTERN MINNESOTA AND MANUFACTURER'S RECOMMENDATIONS

12. RELOCATE SURFACE WATER CONTROLS AND EROSION CONTROL MEASURE OR INSTALL NEW MEASURES SO THAT AS SITE CONDITIONS CHANGE THE EROSION AND SEDIMENT CONTROL IS ALWAYS IN ACCORDANCE WITH THE CLARK COUNTY EROSION AND SEDIMENT CONTROL STANDARDS.

13. COVER ALL AREAS THAT WILL BE UNWORKED FOR MORE THAN SEVEN DAYS DURING THE DRY SEASON OR TWO DAYS DURING THE WET SEASON WITH STRAW, WOOD FIBER MULCH, COMPOST, PLASTIC SHEETING OR EQUIVALENT.

14. STABILIZE ALL AREAS THAT REACH FINAL GRADE WITHIN SEVEN DAYS.

15. SEED OR SOD ANY AREAS TO REMAIN UNWORKED FOR MORE THAN 30 DAYS.

16. UPON COMPLETION OF THE PROJECT, ALL DISTURBED AREAS MUST BE STABILIZED AND BEST MANAGEMENT PRACTICES REMOVED IF APPROPRIATE.

GENERAL FIRE NOTES

1. GENERAL FIRE SAFETY PRECAUTIONS SHALL BE MAINTAINED, IN ACCORDANCE WITH CHAPTER 33 OF THE INTERNATIONAL FIRE CODE; FIRE SAFETY DURING CONSTRUCTION
2. ALL WORK SUBJECT TO FIELD INSPECTION AND CORRECTION(S) AS IDENTIFIED AT THE TIME OF THE ON-SITE INSPECTION; ALL WORK SHALL BE COMPLIANT WITH THE APPLICABLE STANDARDS AND CODES; TO INCLUDE THE ADOPTED EDITION OF THE INTERNATIONAL FIRE CODE AND THE COUNTY'S MUNICIPAL CODE.
3. IFC APPENDIX D FIRE APPARATUS ACCESS ROADS. WHERE HYDRANTS ARE ON A FIRE APPARATUS ACCESS ROAD, THE MINIMUM WITH OF THE ROAD SHALL BE 26 FEET FOR A DISTANCE OF 20 FEET; 10 FEET IN EITHER DIRECTION.
4. IFC 503.3 MARKING WHERE REQUIRED BY THE FIRE CODE OFFICIAL, APPROVED SIGNS OR OTHER APPROVED NOTICES OR MARKINGS THAT INCLUDE THE WORDS NO PARKING FIRE LANE SHALL BE PROVIDED FOR FIRE APPARATUS ACCESS ROADS TO IDENTIFY SUCH ROADS OR PROHIBIT THE OBSTRUCTION THEREOF. THE MEANS BY WHICH FIRE LANES ARE DESIGNATED SHALL BE MAINTAINED IN A CLEAN AND LEGIBLE CONDITION AT ALL TIMES AND BE REPLACED OR REPAIRED WHEN NECESSARY TO PROVIDE ADEQUATE VISIBILITY.
5. IFC D103.6 FIRE APPARATUS ACCESS PARKING RESTRICTIONS--SIGNS: REQUIRED ROADWAYS MUST HAVE SIGNAGE FOR PARKING RESTRICTIONS AS FOLLOWS: SIGNS FOR NO-PARKING--FIRE LANE SHALL COMPLY WITH A MINIMUM DIMENSION OF 12 INCHES WIDE BY 18 INCHES HIGH AND HAVE RED LETTERS ON A WHITE REFLECTIVE BACKGROUND. SIGN'S SHALL BE PROVIDED ON BOTH SIDES OF ALL STREETS THAT ARE LESS THAN 26 IN WIDTH IN ACCORDANCE WITH LOCAL STANDARDS FOR ACCESS AND FUTURE ENFORCEMENT; SIGNS FOR NO-PARKING MUST BE PROVIDED ON ONE SIDE OF ALL STREETS THAT ARE BETWEEN 26 AND 32 IN WIDTH ACCORDANCE WITH LOCAL STANDARDS FOR ACCESS AND FUTURE ENFORCEMENT.
6. IFC 506 WHERE REQUIRED ACCESS IS RESTRICTED WITH A GATE, AN APPROVED PADLOCK OR KEY SWITCH (FOR ELECTRONIC/AUTOMATED GATES) SHALL BE PROVIDED TO ALLOW FIRE DEPARTMENT ACCESS.
7. IFC 503.1.1 / D102 / D103 ROADWAYS TO ACCESS STRUCTURES: THE PERIMETER OF ALL STRUCTURES MUST BE WITHIN 150 FEET OF AN APPROVED ACCESS ROAD WITH A MINIMUM CLEAR WIDTH OF 20 FEET (26 FEET WHERE A HYDRANT IS LOCATED). BUILDING SHALL BE INSTALLED WITH AUTOMATIC FIRE SPRINKLERS AS AN ALTERNATIVE TO DISTANCE FROM A FIRE ACCESS ROAD.
8. IFC 507.5.4 FIRE PROTECTION WATER SUPPLY: UNOBSTRUCTED ACCESS TO FIRE HYDRANTS SHALL BE MAINTAINED AT ALL TIMES. THE FIRE DEPARTMENT SHALL NOT BE DETERRED OR HINDERED FROM GAINING IMMEDIATE ACCESS TO FIRE PROTECTION EQUIPMENT OR FIRE HYDRANTS REQUIRED ACCESS ROADWAYS AND HYDRANTS SHALL BE SERVICEABLE AND UNOBSTRUCTED PRIOR TO COMBUSTIBLE CONSTRUCTION.

CIVIL SHEET INDEX

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Brule Public Works Garage

project #: 25323
date: 03/10/2026
drawn by: JJB
checked by: JFD

signature:
printed name:
reg, #:
sign date: 3/10/2026

revision / issue	no.	date

sheet title: **SHEET INDEX AND NOTES**

sheet number: **G001**

SITE PLAN

- EXISTING BOUNDARY LINE
- EXISTING CONTOUR- MINOR (423)
- EXISTING CONTOUR- MAJOR (420)
- CONSTRUCTION LIMITS
- PROPOSED CONTOUR- MINOR (423)
- PROPOSED CONTOUR- MAJOR (420)
- PROPOSED PROPERTY LINE
- PROPOSED PROJECT BOUNDARY
- PROPOSED RIGHT OF WAY (R/W)
- PROPOSED EASEMENT (ESMT)
- PROPOSED ROAD CENTERLINE
- PROPOSED CURB AND GUTTER

- CONSTRUCTION LIMITS
- PHASE LINE
- ACCESSIBLE ROUTE
- PROPOSED FENCE (X — X)
- PROPOSED BUILDING
- PROPOSED DRIVE LANE CENTERLINE

- CONCRETE PAVEMENT
- PROPOSED BITUMINOUS PAVEMENT
- EXISTING PAVEMENT TO REMAIN

- PARKING STALLS
- ADA PARKING WITH CURB STOP
- ADA CURB RAMP
- LANDSCAPE ISLAND
- LANDSCAPE STRIP
- TREE - DECIDUOUS
- TREE - CONIFEROUS
- TREE PROTECTION FENCE
- BARRICADE
- SIGN
- RIGHT / LEFT - TURN ARROW
- DIRECTIONAL - TURN ARROW
- STOP BAR
- WHITE BROKEN / SOLID
- YELLOW DOUBLE SOLID
- CROSS WALK
- TRASH ENCLOSURE (G A R B)
- GATE
- ELECTRICAL BOX / TRANSFORMER (ET)
- STREET LIGHT
- ELECTRICAL TRANSFORMER (ET)

DEMOLITION

- CONCRETE REMOVAL
- BITUMINOUS REMOVAL
- BUILDING REMOVAL
- CURB & GUTTER REMOVAL
- SAWCUT
- UTILITY REMOVAL
- TREE - DECIDUOUS REMOVAL
- TREE - CONIFEROUS REMOVAL

CATCHMENT AREA LEGEND

- CATCHMENT BOUNDARY
- TIME OF CONCENTRATION (LENGTH)
- WATER LEVEL

EROSION CONTROL

- SF — PROPOSED SILT FENCE
- SSF — PROPOSED SILT FENCE (HEAVY DUTY)
- INLET PROTECTION
- ROCK CONSTRUCTION ENTRANCE
- BIO ROLL
- BMP C240 (OVERFLOW SEDIMENT TRAP (TYP); SEE ECOLOGY STD DETAILS FIGURE II-4.2.16 AND FIGURE II-4.2.17, SHEET ED1) — CONCRETE WASH OUT STATION
- SEDIMENT BASIN (BMP)
- EROSION BLANKET
- SOIL BORING
- CONSTRUCTION LIMITS
- FLOW ARROW

STORM WATER

- PROPOSED CENTERLINE OF DITCH
- STM >>> — PROPOSED STORM WATER
- SD >>> — PROPOSED STORM SUBDRAIN
- CO — CLEAN OUT
- FLARED END SECTION (FES)
- FLARED END SECTION WITH RIPRAP
- I — INLET / BEEHIVE CB
- INLET / BEEHIVE CB
- STORM WATER CATCH BASIN
- D — STORM WATER CATCH BASIN MANHOLE
- SW — STORM WATER MANHOLE
- STORM FACILITY
- BERM
- STORM DETENTION (CAVFS)
- STM >>> — CULVERT - DRIVEWAY
- SD >>> — DRAINTILE AND BUILDING DOWNSPOUT

SANITARY SEWER

- > SAN > — PROPOSED SANITARY SEWER
- < < — PROPOSED SANITARY SEWER SERVICE WITH CLEAN OUT
- FM — SANITARY SEWER FORCEMAIN
- SANITARY SEWER MANHOLE
- SANITARY SEWER CLEAN OUT
- LS — SANITARY SEWER LIFT STATION

WATERMAIN

- W — W — PROPOSED WATER MAIN - TRENCH
- PROPOSED WATER MAIN - BURSTING
- PROPOSED WATER MAIN - HDD
- W - AB — EXISTING WATER MAIN - ABANDONED
- FS — FS — FIRE SERVICE WITH FDC
- PROPOSED SERVICE WITH METER
- FIRE HYDRANT
- WATER METER
- THRUST BLOCK
- BLOW OFF VALVE ASSEMBLY
- METER PIT / VAULT
- DOUBLE CHECK VALVE ASSEMBLY

DRY UTILITIES

*POWER AND GAS BY PUBLIC UTILITY PROVIDER

- STREET LIGHTING
- GAS — GAS — GAS
- OE — OVERHEAD ELECTRIC
- UE — UNDERGROUND ELECTRIC
- OT — OVERHEAD TELEPHONE
- UT — UNDERGROUND TELEPHONE
- FO — FIBER OPTIC
- CATV — CABLETELEVISION

UTILITY LEGEND

- W — W — PROPOSED WATER MAIN
- WATER DEVICES
- HYDRANT COVERAGE
- > SAN > — PROPOSED SANITARY SEWER
- SANITARY SEWER STRUCTURES
- STM >>> — PROPOSED STORM WATER
- SD >>> — PROPOSED STORM SUBDRAIN
- STORM WATER STRUCTURES

WATERMAIN SYMBOLS

- HYDRANT WITH GATE VALVE AND TEE
- THRUST BLOCK
- AIR RELEASE ASSEMBLY
- BLOW-OFF ASSEMBLY
- PLUG
- BLIND FLANGE
- 11.25 DEGREE BEND
- 22.5 DEGREE BEND
- 90 DEGREE BEND

RJ
- RJ CAP
- RJ WITH GATE VALVE
- RJ WITH REDUCER
- RJ WITH ADAPTER
- RJ WITH SLEEVE / COUPLING
- RJ WITH CAP
- RJ WITH CAP AND BLOCKING
- RJ WITH VERTICAL CROSS

MJ
- MJ CAP
- MJ WITH GATE VALVE
- MJ WITH REDUCER
- MJ WITH ADAPTER
- MJ WITH SLEEVE / COUPLING
- MJ WITH CAP
- MJ WITH CAP AND BLOCKING
- MJ x FL - GATE VALVE
- MJ X FL - REDUCER
- MJ WITH VERTICAL CROSS
- MJ CHECK VALVE

FL
- FL - VERTICAL CROSS
- FL - GATE VALVE
- FL - REDUCER

TEES
- TEE - MJ
- TEE - MJ x FL
- TEE - FL x MJ
- TEE - FL
- TEE - FL x RJ
- TEE - RJ x FL
- TEE - RJ
- TEE - MJ CUT IN
- TEE - FL CUT IN
- TEE - RJ CUT IN

CROSS
- CROSS - MJ
- CROSS - MJ x FL
- CROSS - FL x MJ
- CROSS - FL
- CROSS - FL x RJ
- CROSS - RJ x FL
- CROSS - RJ
- CROSS - MJ CUT IN
- CROSS - FL CUT IN
- CROSS - RJ CUT IN

LANDSCAPE SYMBOLS

SHRUBS

TREES
- TREE DECIDUOUS
- TREE DECIDUOUS
- TREE DECIDUOUS
- TREE DECIDUOUS
- TREE - CONIFEROUS
- TREE - CONIFEROUS
- TREE - CONIFEROUS
- TREE DECIDUOUS
- TREE DECIDUOUS
- TREE - CONIFEROUS
- TREE - GROUP
- TREE DECIDUOUS

SEED - SOD
- SEED MIX - 1
- SEED MIX - 2
- SEED MIX - 3
- SOD

GENERAL ABBREVIATIONS

C	CONCRETE
CB	CATCH BASIN
CL	CENTERLINE
CNS	COMPACTED NATIVE SOIL
CO	CLEAN OUT
CR	CURB RETURN
D	DIRT / DRAINAGE
EXST	EXISTING
FG	FINISHED GRADE
FH	FIRE HYDRANT
FL	FLOW LINE
FM	FORCE MAIN
G	NATURAL GAS (LOW PRESSURE)
GB	GRADE BREAK
HP	HIGH POINT
LF	LINEAR FOOT
LP	LOW POINT
MG	NATURAL GAS (MEDIUM PRESSURE)
MG	MATCH EXISTING GRADE
MH	MANHOLE
NS	NATIVE SOIL
NTS	NOT TO SCALE
PC	POINT OF CURVATURE
POC	POINT OF CONNECTION
POS	POINT OF SERVICE
PP	POWER POLE
PT	POINT OF TANGENCY
PV	PAVEMENT
R	RADIUS
ROW	RIGHT OF WAY
S	SLOPE / SANITARY
SAN	SEWER SEWER
SDCO	STORM DRAIN CLEANOUT
SSMH	SANITARY MANHOLE
STA	STATION
STM	STORM DRAIN
STMH	STORM MANHOLE
TBD	TO BE DETERMINED
TBL	TO BE RELOCATED BY RESPECTIVE UTILITY
TBR	TO BE REMOVED BY CONTRACTOR
TC	TOP OF CURB
TOE	TOE OF BANK
TOP	TOP OF BANK
TP	TELEPHONE POLE
U	UNDERGROUND
VIP	VERIFY IN FIELD PRIOR TO CONSTRUCTION
W	WATER MAIN

SITE - ABBREVIATIONS

FFE - FIRST FLOOR FINISH ELEVATION
LLE - LOWER LEVEL FINISH ELEVATION
WO - WALKOUT
LO - LOOKOUT

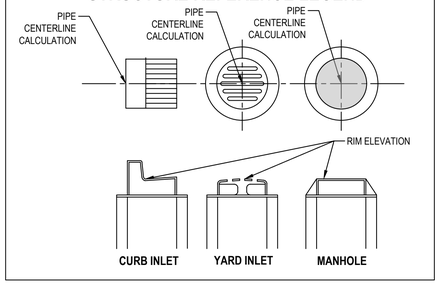
GRADING LEGEND / ABBREVIATIONS

TC: 391.49
FL: 390.99

TW: 391.49
BW: 380.99

GB: GRADE BREAK
LP: LOW POINT
HP: HIGH POINT
FC: FLUSH CURB
MG: MATCH GRADE
FL: FLOWLINE
SW: SIDEWALK
PV: PAVEMENT
TC: TOP OF CURB
FG: FINISH GRADE (DEFAULT- IF NOT LABELED)

STRUCTURE REFERENCE LEGEND



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drawn by: JJB
checked by: JFD

signature:
printed name:
reg, #:
sign date: 3/10/2026

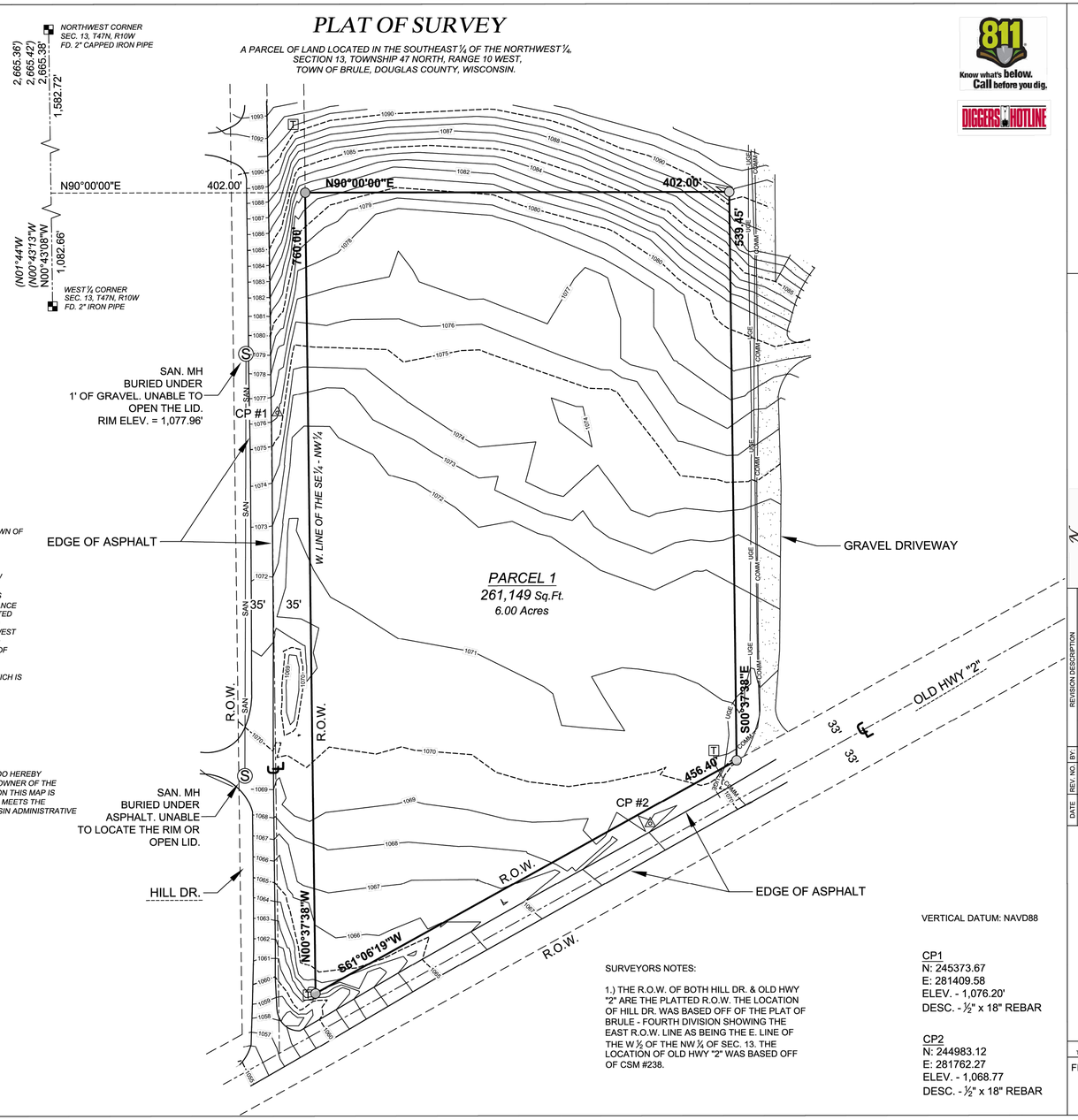
revision / issue	no.	date

sheet title: **CIVIL LEGENDS AND ABBREVIATIONS**

sheet number: **G002**

PLAT OF SURVEY

A PARCEL OF LAND LOCATED IN THE SOUTHEAST ¼ OF THE NORTHWEST ¼, SECTION 13, TOWNSHIP 47 NORTH, RANGE 10 WEST, TOWN OF BRULE, DOUGLAS COUNTY, WISCONSIN.



BEARINGS ARE GRID BASED
WISCORS - DOUGLAS COUNTY - NAD83 (2011)
WITH THE WEST LINE OF THE NORTHWEST ¼
MEASURED TO BEAR
N00°43'08"W

LEGAL DESCRIPTION:

A PARCEL OF LAND LOCATED IN THE SE ¼ - NW ¼, SECTION 13, T47N, R10W, TOWN OF BRULE, DOUGLAS COUNTY, WISCONSIN, MORE PARTICULARLY DESCRIBED AS FOLLOWS:

PARCEL 1:

COMMENCING AT THE WEST ¼ CORNER OF SAID SECTION; THENCE N00°43'08"W ALONG THE WEST LINE OF THE NW ¼ A DISTANCE OF 1,082.66 FEET; THENCE N90°00'00"E A DISTANCE OF 402.00 FEET TO THE POINT OF BEGINNING WHICH IS LOCATED ON THE WEST LINE OF THE SE ¼ - NW ¼; THENCE N90°00'00"E A DISTANCE OF 402.00 FEET; THENCE S00°37'38"E A DISTANCE OF 539.45 FEET TO THE PLATTED NORTHERLY RIGHT OF WAY OF OLD HWY "2"; THENCE S61°06'19"W ALONG SAID RIGHT OF WAY A DISTANCE OF 456.40 FEET TO THE INTERSECTION WITH THE WEST LINE OF THE SE ¼ - NW ¼ WHICH IS ALSO THE EAST RIGHT OF WAY OF HILL RD.; THENCE N00°37'38"W ALONG SAID WEST LINE AND RIGHT OF WAY A DISTANCE OF 760.00 FEET TO THE POINT OF BEGINNING.

THE ABOVE DESCRIBED PARCEL OF LAND CONTAINS 261,149 SQUARE FEET WHICH IS 6.00 ACRES.

SURVEYOR'S CERTIFICATE:

I, PATRICK A. MCKUEN, WISCONSIN PROFESSIONAL LAND SURVEYOR S-2992, DO HEREBY CERTIFY THAT THIS MAP WAS MADE AT THE DIRECTION OF TOWN OF BRULE, OWNER OF THE ABOVE DESCRIBED AND MAPPED PARCELS, AND THE INFORMATION SHOWN ON THIS MAP IS CORRECT AND ACCURATE TO THE BEST OF MY KNOWLEDGE AND BELIEF AND MEETS THE MINIMUM STANDARD REQUIREMENTS FOR SURVEYS UNDER AE-7 OF WISCONSIN ADMINISTRATIVE CODE.

DATED THIS 4 *DAY OF* DECEMBER, 2025

Patrick A. McKuen

PINE RIDGE LAND SURVEYING, LLC.
PATRICK A. MCKUEN
WI P.L.S. S-2992

WISCONSIN
PATRICK A. McKUEN S-2992 ASHLAND, WI
LAND SURVEYOR

LEGEND

- ◯ - SET 1" O.D. x 18" IRON PIPE
- △ - CONTROL POINT
- T - TELEPHONE PEDESTAL
- Ⓢ - SANITARY MANHOLE
- SAN - SANITARY LINE
- UGE - UNDERGROUND ELECTRIC
- COMM - UNDERGROUND COMMUNICATION
- ( ) - PREVIOUSLY RECORDED AS

60' 0 60' 120' 180'
SCALE FEET

VERTICAL DATUM: NAVD88

CP1
N: 245373.67
E: 281409.58
ELEV. - 1,076.20'
DESC. - ½" x 18" REBAR

CP2
N: 244983.12
E: 281762.27
ELEV. - 1,068.77
DESC. - ½" x 18" REBAR

SURVEYORS NOTES:

1.) THE R.O.W. OF BOTH HILL DR. & OLD HWY "2" ARE THE PLATTED R.O.W. THE LOCATION OF HILL DR. WAS BASED OFF OF THE PLAT OF BRULE - FOURTH DIVISION SHOWING THE EAST R.O.W. LINE AS BEING THE E. LINE OF THE W ½ OF THE NW ¼ OF SEC. 13. THE LOCATION OF OLD HWY "2" WAS BASED OFF OF CSM #238.

811 Know what's below. Call before you dig.
DIGGERS HOTLINE

PATRICK A. MCKUEN, PLS
1424 ½ LAKE SHORE DR. W.
ASHLAND, WI 54806
PH. 715-682-2969
WWW.PINERIDGESURVEYING.COM
PMCKUEN@PINERIDGESURVEYING.COM

Pine Ridge Land Surveying, LLC.
Professional Land Surveying Services
Value & Quality in a Timely Manner.

REVISION DESCRIPTION	REV. NO.	BY:	DATE

Filed With: DOUGLAS COUNTY
Field Work Completed: 12/04/25
Drawn by: P. MCKUEN
Approved by: P. MCKUEN
Date Approved: 12/04/25

TOWN OF BRULE
PLAT OF SURVEY

A PARCEL OF LAND LOCATED IN THE SE ¼ - NW ¼, SEC. 13, T47N, R10W, TOWN OF BRULE, DOUGLAS COUNTY, WISCONSIN.

PROJECT NUMBER: TOWNOFBRULE25 - 13 - 47 - 10

FIGURE/SHEET NO.
1 OF 1

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drawn by: JJB
checked by: JFD

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reg. #:
sign date: 3/10/2026

revision / issue	no.	date

sheet title: **TOPOGRAPHIC SURVEY**

sheet number: **G003**



CONTRACTOR NOTE:

ALL EXISTING UTILITIES SHOWN ON PLANS ARE TO BE VERIFIED HORIZONTALLY AND VERTICALLY PRIOR TO ANY CONSTRUCTION. ALL EXISTING FEATURES INCLUDING BURIED UTILITIES ARE SHOWN AS INDICATED ON RECORD MAPS AND SURVEYS FURNISHED BY OTHERS. WINDSOR ASSUMES NO LIABILITY FOR THE ACCURACY OF THOSE RECORDS AND SURVEYS. CONTACT THE UTILITY OWNER/AGENCY FOR THE FINAL LOCATION OF EXISTING UTILITIES IN AREAS CRITICAL TO CONSTRUCTION.

SITE PLAN LEGEND		
	CLEARING & GRUBBING (AREA ESTIMATED AND MAY DIFFER THAN AREA PREVIOUSLY CLEARED)	
	UTILITY TRENCHING	3 / C620

EXISTING CONDITIONS AND DEMOLITION PLAN

SCALE: 1:40

N

0 40' 80'

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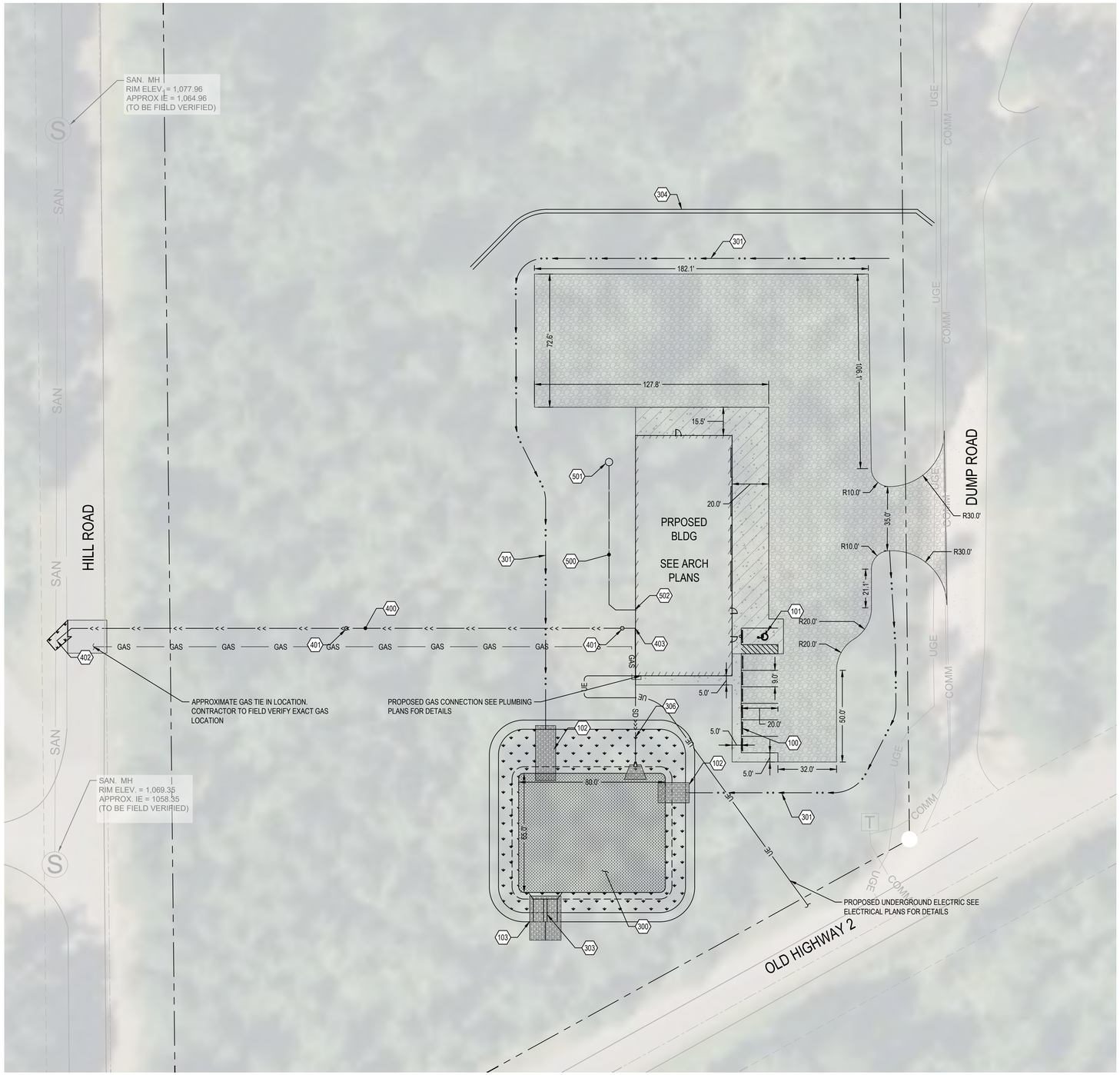
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drawn by: JJB
checked by: JFD

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printed name:
reg, #:
sign date: 3/10/2026

revision / issue	no.	date

sheet title: EXISTING CONDITIONS AND DEMOLITION

sheet number: C050



SITE AND COMPOSITE UTILITY PLAN

SCALE: 1:30

CONTRACTOR NOTE:

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SITE PLAN LEGEND	
GRAVEL SECTION - DRIVEWAY AND PARKING LOT	1 / C610
CONCRETE SIDEWALK	5 / C610
CONCRETE - HEAVY DUTY	1 / C610
STORM FACILITY	1 / C300
ASPHALT PAVEMENT	7 / C610
HYDROSEED REPAIR	4 / C600

100 SITE PLAN		
100	WHEEL STOP	6 / C610
101	ACCESSIBLE PARKING STALL	3 / C610
102	LIGHT RIP-RAP	4 / C300
103	MEDIUM RIP-RAP	3 / C300

300 STORM		
300	PROPOSED STORMWATER INFILTRATION FACILITY 1003 PER WISCONSIN DNR TECHINCAL STDS	1 / C300
301	PROPOSED STORMWATER VEGETATED SWALE MINIMUM SLOPE OF 0.5%	4 / C610
302	NOT USED	
303	OVERFLOW WEIR WITH 2' WIDE CREST AND 4:1 SIDE SLOPES SEE SHEET C300	2 / C300
304	2.5' TALL 2' WIDE BERM	
305	NOT USED	
306	BUILDING FOUNDATION DRAIN TO DAYLIGHT TO STORMWATER FACILITY	

400 SANITARY SEWER		
400	PROPOSED 6" HDPE SANITARY SERVICE LINE (MINIMUM SLOPE OF 1/8" PER FOOT)	
401	PROPOSED 6" SANITARY CLEANOUT	2 / C620
402	TIE INTO EXISTING SEWER MAIN APPROX. INVERT ELEV: 1060.65 CONTRACTOR TO FIELD VERIFY MAIN DEPTH AND NOTIFY ENGINEER IMMEDIATELY IF INVERT DIFFERS	1 / C620
403	SEWER SERVICE CONNECTION TO BUILDING INVERT ELEV: 1,067.00	

500 WATER		
500	2" PVC WATER LINE SERVICE	
501	PROPOSED WELL	
502	CONNECT WATER SERVICE LINE TO BUILDING INVERT ELEV: 1,067.00	

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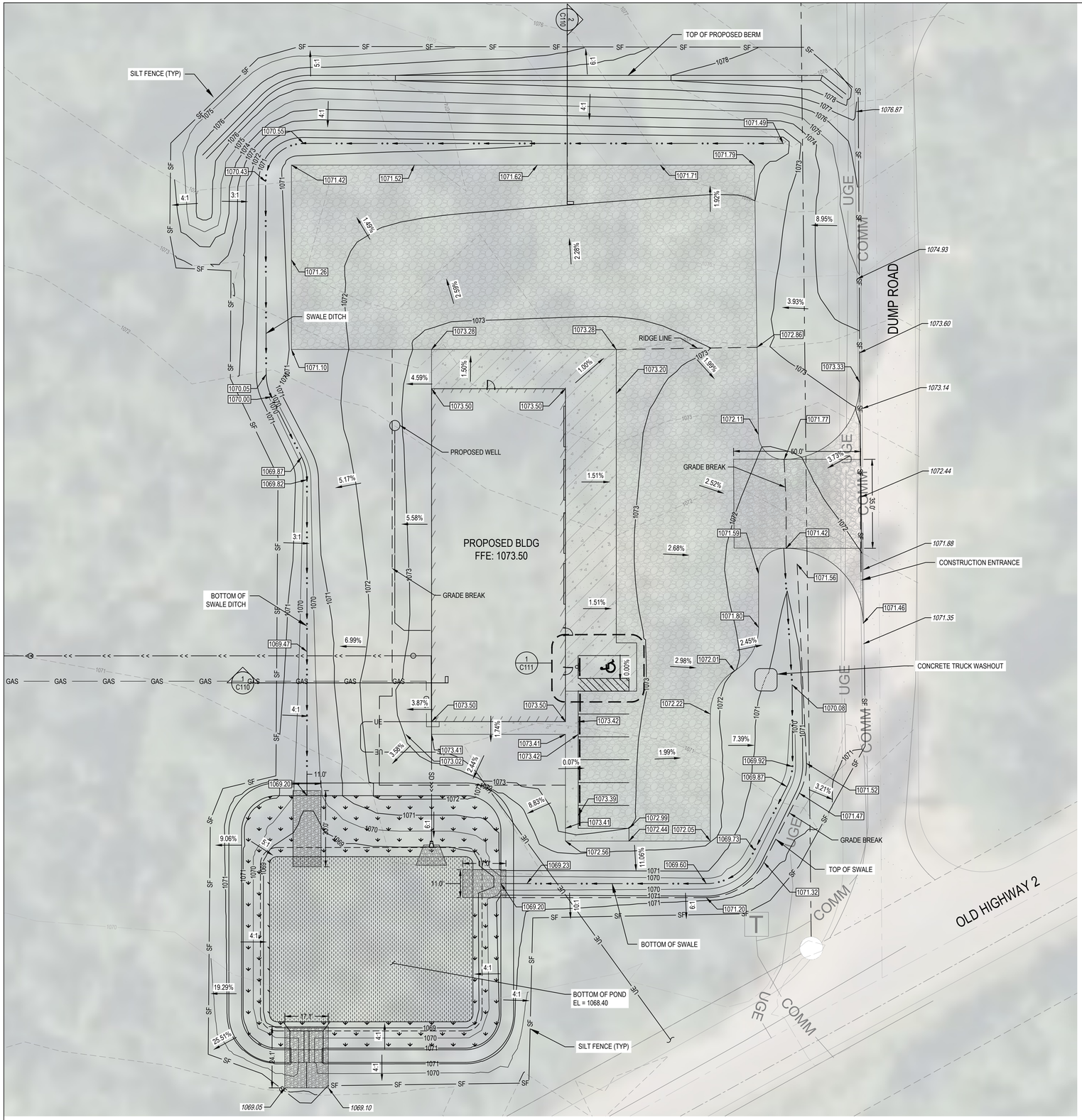
project #: 25323
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checked by: JFD

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sheet title: SITE AND COMPOSITE UTILITY PLAN

sheet number: C100



EROSION CONTROL AND GRADING PLAN

SCALE: 1:20

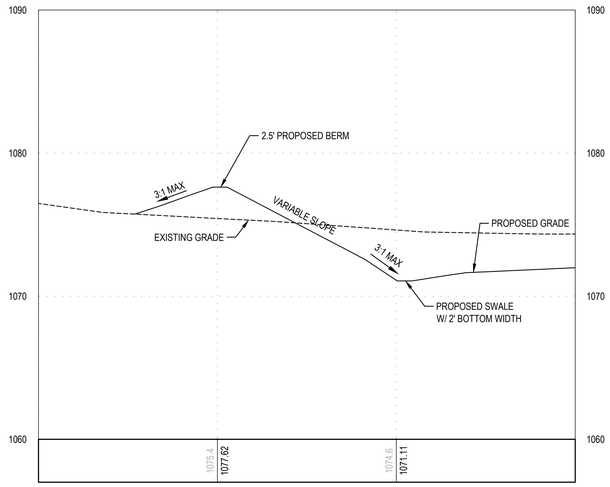
CONTRACTOR NOTE:

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EROSION CONTROL LEGEND		
SF	PROPOSED SILT FENCE	2 / C600
	CONCRETE WASHOUT	3 / C600
	ROCK CONSTRUCTION ENTRANCE	1 / C600

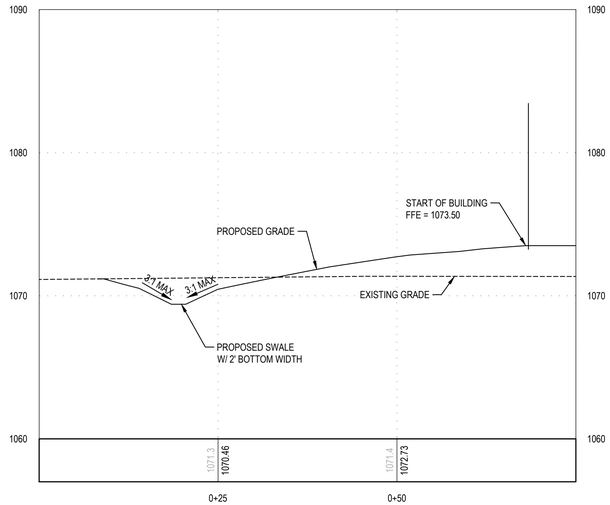
ESTIMATED CUT / FILL SUMMARY		
CUT	FILL	NET
1,048 CY	4,454 CY	3,410 CY

1. ACCOUNTS FOR 15% FILL COMPACTION
2. DOES NOT ESTIMATE STRUCTURAL FILL REQUIRED FOR BUILDING
3. DOES NOT ESTIMATE THE AGGREGATE AND PAVING REQUIRED FOR PARKING AREA
4. INCLUDES 12" OF STRIPPING OVER THE ENTIRE SITE



1 NORTH CROSS SECTION

HORIZONTAL SCALE: 1:10 VERTICAL SCALE 1:5



2 WEST CROSS SECTION

HORIZONTAL SCALE: 1:10 VERTICAL SCALE 1:5

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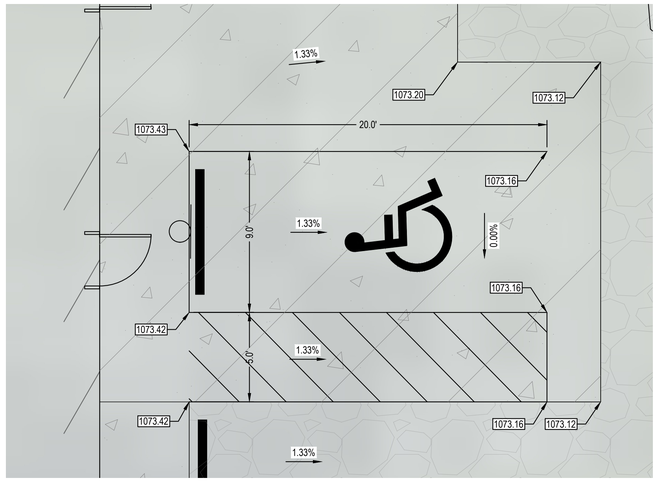
project #: 25323
date: 03/10/2026
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revision / issue	no.	date

sheet title: EROSION CONTROL AND GRADING

sheet number: C110



ADA ENLARGEMENT PLAN - 1

SCALE: 1:4

N

0 4' 8'

CONTRACTOR NOTE:

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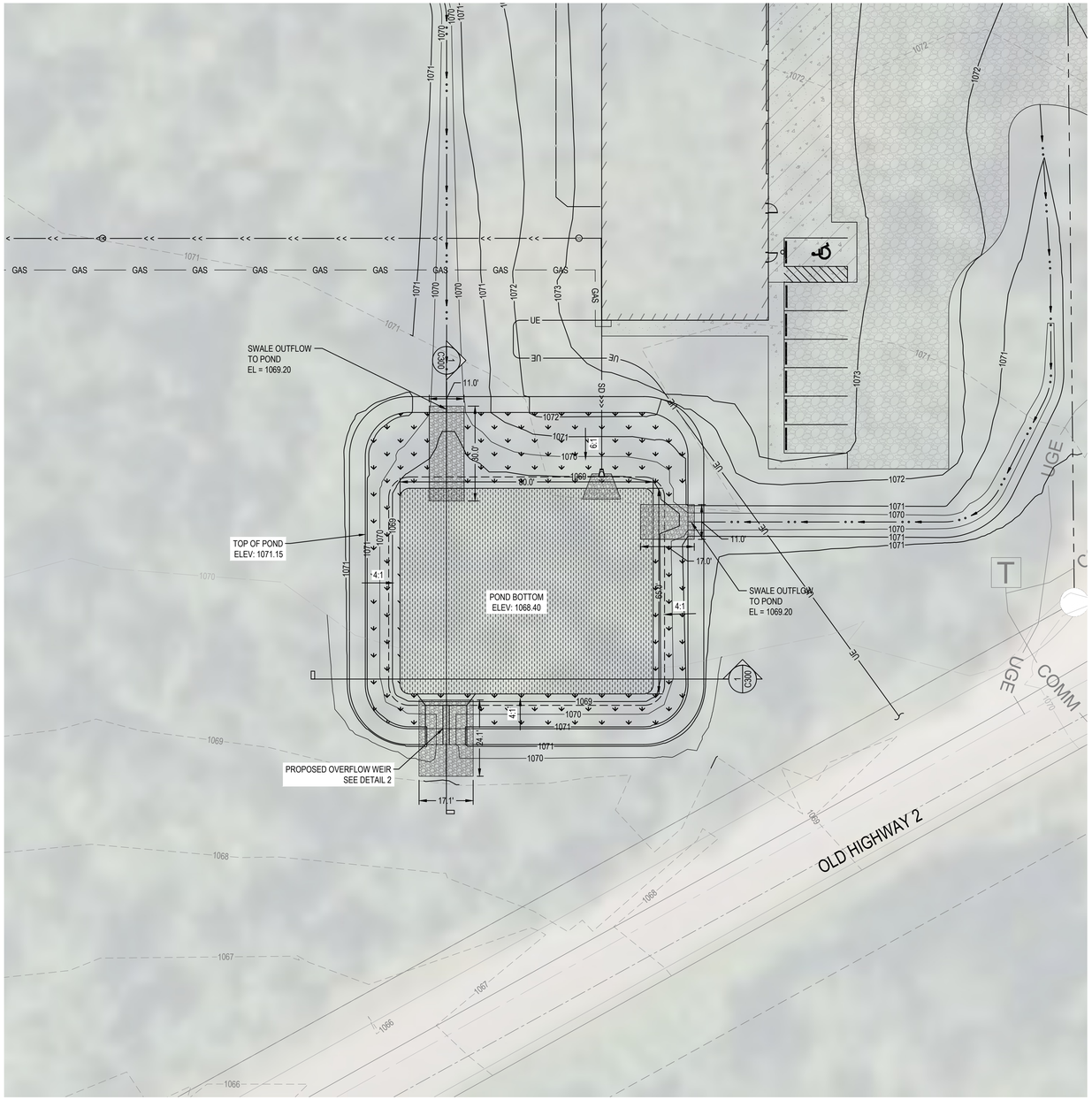
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revision / issue	no.	date

sheet title: **GRADING ENLARGMENT**

sheet number: **C111**



1 STORMWATER FACILITY

SCALE: 1"-20'

STORMWATER FACILITY VEGATATION NOTES:

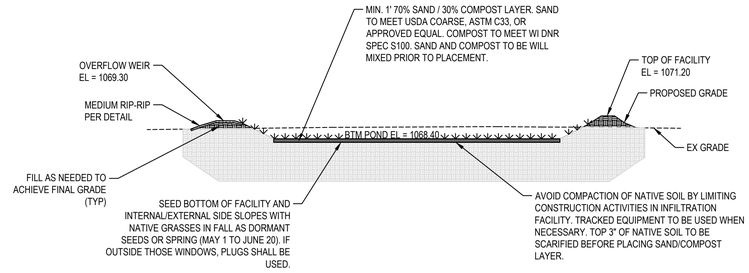
NATIVE VEGETATION SHALL BE ESTABLISHED IN CONFORMANCE WITH RECOMMENDATIONS FROM A QUALIFIED NATIVE NURSERY IN THE AREA. IF TREES ARE TO BE USED, SPECIES SHALL BE SELECTED THAT WILL NOT INTERFERE WITH THE FUNCTION OF THE BASIN, OR CAUSE MAINTENANCE PROBLEMS.

THE FOLLOWING SOURCES CAN BE USED FOR NATIVE SEED MIXTURES OR APPROVED EQUAL:

- METROPOLITAN COUNCIL, 2003. URBAN SMALL SITES BEST MANAGEMENT PRACTICE MANUAL, CHAPTER 3, VEGETATIVE METHODS 3-85 – 3-91. MINNEAPOLIS.
- UNITED STATES DEPARTMENT OF AGRICULTURE – NATURAL RESOURCES CONSERVATION SERVICE. ENGINEERING FIELD HANDBOOK, CHAPTERS 16 AND 18.
- UWEX PUBLICATION A3434 LAWN AND ESTABLISHMENT & RENOVATION.
- WISDOT, 2003. STATE OF WISCONSIN STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION. SECTION 630, SEEDING

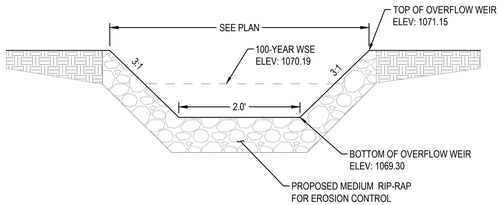
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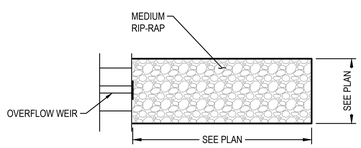
1 STORMWATER FACILITY CROSS SECTION

SCALE: NTS



2 OVERFLOW WEIR

SCALE: NTS

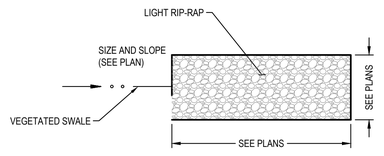


NOTES:

1. SIZE OF MATERIAL TO BE RIP-RAP PER WISCONSIN DOT STANDARD SPECIFICATIONS - SECTION 606.
2. THE CONTRACTOR MAY PLACE HEAVY RIPRAP BY MECHANICAL MEANS. LIMIT HANDWORK TO THE QUANTITY NECESSARY TO FILL LARGE VOIDS OR TO CORRECT SEGREGATED AREAS. IF PLACING RIPRAP OVER GEOTEXTILE, USE TYPE HR AND CONFORM TO 645.3.1.7.
3. UNLESS SPECIFIED OTHERWISE MAKE HEAVY RIPRAP AT LEAST 24 INCHES THICK.

3 MEDIUM RIP-RAP

SCALE: NTS



NOTES:

1. SIZE OF MATERIAL TO BE RIP-RAP PER WISCONSIN DOT STANDARD SPECIFICATIONS - SECTION 606.
2. IF LAYING STONE ABOVE THE WATERLINE, PLACE IT BY HAND. LAY IT WITH CLOSE, BROKEN JOINTS AND FIRMLY BED IT IN THE SLOPE AND AGAINST THE ADJOINING STONES. LAY THE STONES PERPENDICULAR TO THE SLOPE WITH ENDS IN CONTACT. COMPACT THE RIPRAP THOROUGHLY AS CONSTRUCTION PROGRESSES. MAKE THE FINISHED SURFACE EVEN AND TIGHT. PLACE LARGER STONE IN LOWER COURSES. CHINK SPACES BETWEEN STONES BY FIRMLY RAMMING SPALLS INTO PLACE. IF PLACING RIPRAP OVER GEOTEXTILE, USE TYPE R AND CONFORM TO 645.3.1.6.
3. UNLESS SPECIFIED OTHERWISE, MAKE RIPRAP AT LEAST 12 INCHES THICK, MEASURED PERPENDICULAR TO THE SLOPE.
4. DO NOT PLACE RIPRAP AGAINST, OR IN CONTACT WITH, CONCRETE SURFACE BEFORE THE END OF THE CONCRETE'S CURING AND PROTECTION PERIOD.

4 LIGHT RIP-RAP

SCALE: NTS

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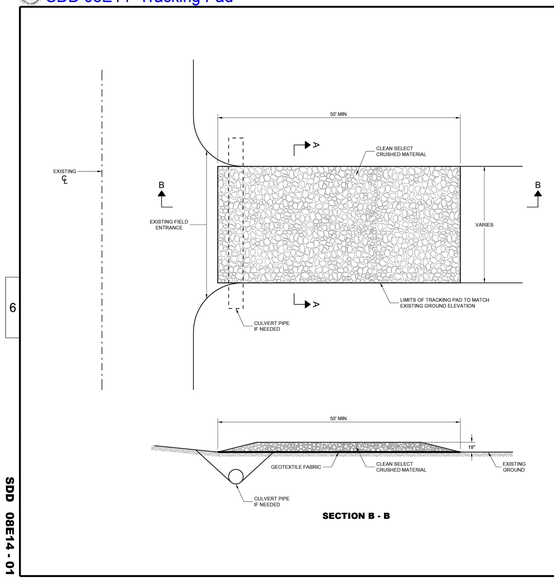
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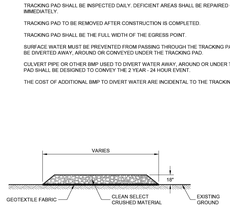
sheet title: STORMWATER FACILITY

sheet number: C300

SDD 08E14 Tracking Pad



SECTION B - B



SECTION A - A

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

TRACKING PAD SHALL BE INSPECTED DAILY. DEFICIENT AREAS SHALL BE REPAIRED OR REPLACED IMMEDIATELY.

TRACKING PAD TO BE REMOVED AFTER CONSTRUCTION IS COMPLETED.

TRACKING PAD SHALL BE THE FULL WIDTH OF THE EGRESS POINT.

SURFACE WATER MUST BE PREVENTED FROM PASSING THROUGH THE TRACKING PAD. FLOWS SHALL BE DIVERTED AWAY, AROUND OR CONVEYED UNDER THE TRACKING PAD.

CULVERT PIPE OR OTHER BMP USED TO DIVERT WATER AWAY, AROUND OR UNDER THE TRACKING PAD SHALL BE DESIGNED TO CONVEY THE 2 YEAR - 24 HOUR EVENT.

THE COST OF ADDITIONAL BMP TO DIVERT WATER ARE INCIDENTAL TO THE TRACKING PAD BID ITEM.

TRACKING PAD

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED 3/24/2011 (DATE) /S/ Jerry H. Zogg (ROADWAY STANDARDS DEVELOPMENT ENGINEER)

FHWA

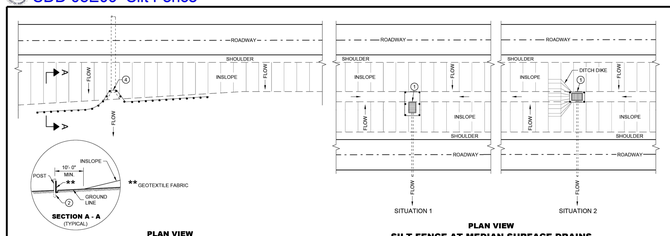
SDD 08E14 - 01

SDD 08E14 - 01

1 TRACKING PAD DETAIL

SCALE: NO SCALE

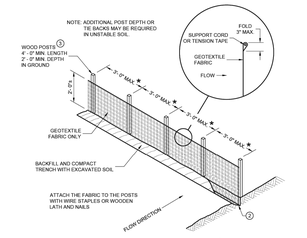
SDD 08E09 Silt Fence



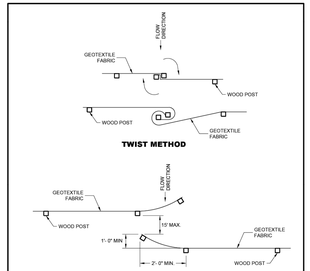
SECTION A - A (TYPICAL)

PLAN VIEW
TYPICAL APPLICATION OF SILT FENCE

PLAN VIEW
SILT FENCE AT MEDIAN SURFACE DRAINS



SILT FENCE

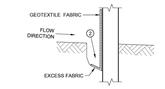


JOINING TWO LENGTHS OF SILT FENCE 5

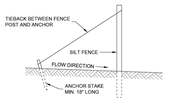
GENERAL NOTES

DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

1. HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
2. FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE AND 8" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL AND COMPACT TRENCH WITH EXCAVATED SOIL.
3. WOOD POSTS SHALL BE A MINIMUM SIZE OF 1.5" X 1.5" OF OAK OR HICKORY.
4. SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.
5. CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL. IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.



TRENCH DETAIL



SILT FENCE TIE BACK
(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED 4/29/05 (DATE) /S/ Beth Cannestra (CHIEF ROADWAY DEVELOPMENT ENGINEER)

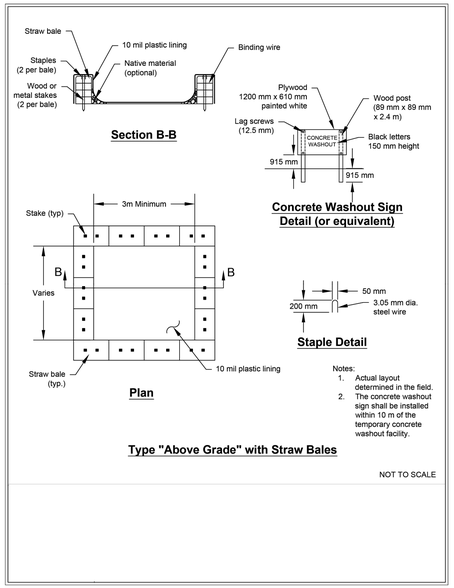
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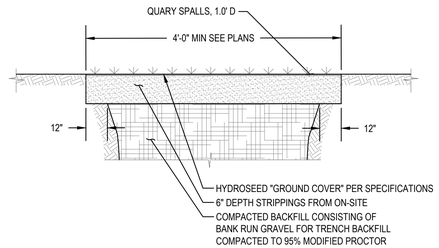
2 SILT FENCE

SCALE: NTS



3 CONCRETE WASHOUT DETAIL

SCALE: NTS



4 HYDROSEED REPAIR DETAIL

SCALE: NTS

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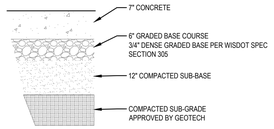
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sign date: 3/10/2026

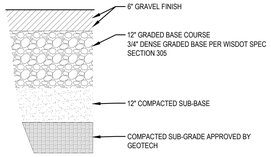
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sheet title: EROSION CONTROL DETAILS

sheet number: C600



CONCRETE SECTION - HEAVY DUTY



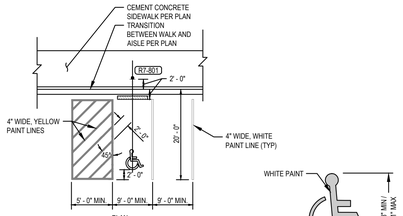
GRAVEL SECTION - DRIVEWAY AND PARKING LOT

NOTES:
1. PRIOR TO PLACING ANY ADDITIONAL FILL FOR PAVEMENT SECTION CONSTRUCTION, THE UPPER 12 INCHES OF NATIVE SUBGRADE SHOULD BE THOROUGHLY WATER CONDITIONED TO WITHIN 2% OF THE OPTIMUM WATER CONTENT AND RECOMPACTED TO A MINIMUM 95% OF THE MAXIMUM D698 DRY DENSITY.

2. GRAVEL DRIVE AREAS MAY REQUIRE ADDITIONAL AGGREGATE BASE TO BE PLACED AND ROUTINE MAINTENANCE

3. CONTRACTOR TO PROOF ROLL OR PROVIDE OTHER ACCEPTED MEANS BY GEOTECH TO DEMONSTRATE THAT COMPACTIONS ARE ACHIEVED.

1 PARKING LOT SECTION VIEWS
SCALE: NO SCALE



ONE ACCESSIBLE STALL
90° PARKING STALL ARRANGEMENT

NOTES:
1. SEE THE MILLENNIUM EDITION OF MUTCD FIGURE 3B-18 FOR ADDITIONAL PARKING INFORMATION.

ADA PARKING MARKING

NOTES:
1. AN ACCESS PARKING SPACE SYMBOL IS REQUIRED FOR EACH ACCESSIBLE PARKING STALL. A BLUE BACKGROUND AND WHITE BORDER ARE REQUIRED WHEN THE SYMBOL IS INSTALLED ON A CEMENT CON-CRETE SURFACE.

2. ALL ACCESSIBLE STALLS SHALL HAVE WHEEL STOPS. PLACE WHEEL STOPS IN OTHER STALLS WHEN SPECI-FIED IN THE CONTRACT. WHEEL STOPS SHALL BE APPROXIMATELY 6" HIGH AND A MINIMUM OF 6' LONG.

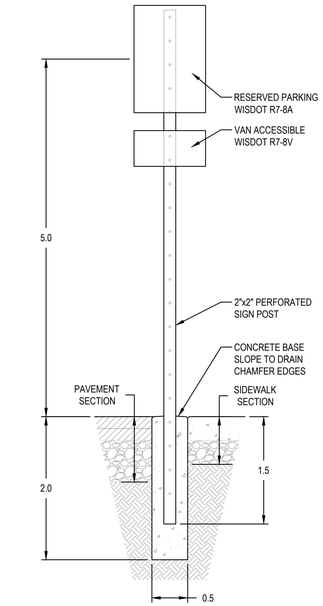
LEGEND:

R7-8D1 — RESERVED PARKING SIGN AND POST WITH R7-8D1 PLAQUE, IF INDICATED (SEE SIGN FABRICATION MANUAL)

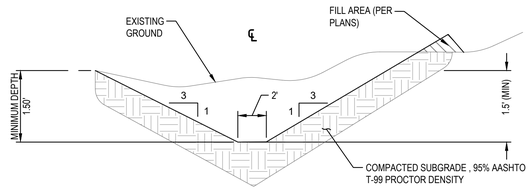
ACCESS PARKING SPACE SYMBOL

MANUFACTURED WHEEL STOP

2 ADA PARKING STALL DETAIL
SCALE: NO SCALE



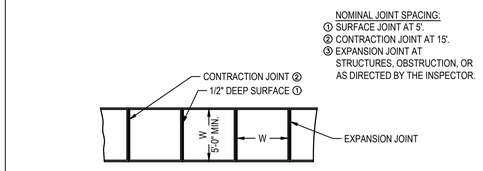
3 ADA PARKING STALL SIGN DETAIL
SCALE: NO SCALE



NOTES

1. ALL MEASUREMENTS SHOWN ARE COMPACTED DEPTHS UNLESS OTHERWISE NOTED.

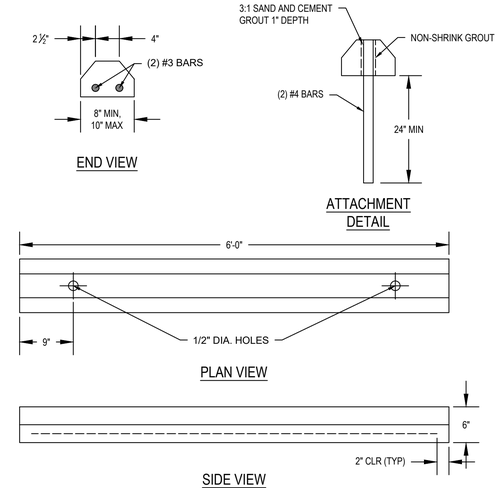
4 VEGETATED SWALE DETAIL
SCALE: NTS



NOTES:

1. CONCRETE SHALL BE 3000 PSI MIN. (CL 3000), 3 1/2" SUMP (MAX.).
2. COMPACT SUBGRADE AND CRUSH SURFACING TOP COURSE TO 95% OF MAXIMUM DRY DENSITY (3" MIN. DEPTH).
3. FINISH SHALL BE MEDIUM BROOM PERPENDICULAR TO PEDESTRIAN TRAFFIC UNLESS OTHERWISE DIRECTED.
4. 2" SMOOTH FINISH BORDER AROUND EACH SIDEWALK PANEL OR MATCH EXISTING BORDER.
5. ALL EXISTING EDGES SHALL BE SAWCUT.
6. CROSS SLOPE OF PLANTER STRIP SHALL BE 2% (TYP.) AND 4:1 (MAX.).
7. ALL SIDEWALK REMOVAL AND REPLACEMENT SHALL BE JOINT TO JOINT.
8. SIDEWALK REPLACEMENT AREAS SHALL BE ROCKED LEVEL AND COMPACTED UNTIL CONCRETE IS PLACED.
9. FIRE HYDRANT OR WATER METER BOX SHALL NOT BE WITHIN THE SIDEWALK.

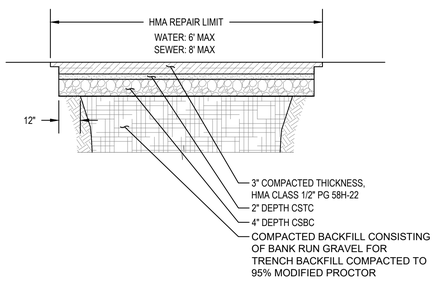
5 SIDEWALK SECTION
SCALE: NTS



NOTES

1. REFER TO PLAN FOR LOCATION OF WHEEL STOPS.
2. OFFSET REQUIRED BETWEEN CURB AND WHEEL STOP IS 1'-10".
3. WHEEL STOPS SHALL BE FLOW THROUGH TYPE.

6 WHEEL STOP DETAIL
SCALE: NTS



7 HMA REPAIR
NTS

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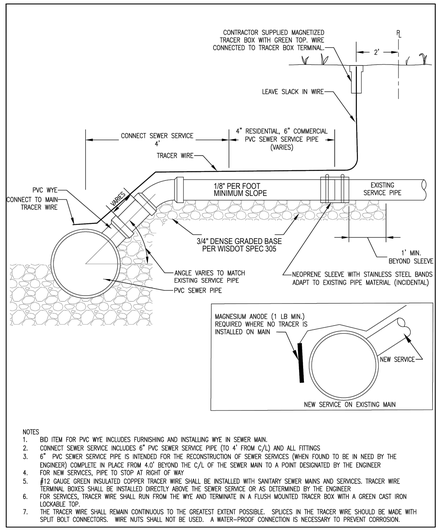
Brule Public Works Garage

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drawn by: JJB
checked by: JFD

signature:
printed name:
reg, #:
sign date: 3/10/2026

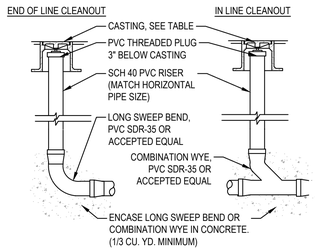
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sheet title: SITE DETAILS
sheet number: C610



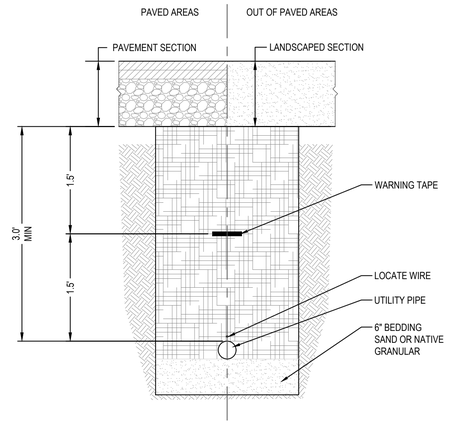
NOTES
1. BID ITEM FOR PVC WYE INCLUDES FURNISHING AND INSTALLING WYE IN SEWER MAIN.
2. CONNECT SEWER SERVICE INCLUDES 6" PVC SEWER SERVICE PIPE (TO 4' FROM C/L) AND ALL FITTINGS.
3. 6" PVC SEWER SERVICE PIPE IS INTENDED FOR THE RECONSTRUCTION OF SEWER SERVICES (WHEN FOUND TO BE IN NEED BY THE ENGINEER) COMPLETE IN PLACE FROM 4.0' BEYOND THE C/L OF THE SEWER MAIN TO A POINT DESIGNATED BY THE ENGINEER
4. FOR NEW SERVICES, PIPE TO STOP AT RIGHT OF WAY
5. #12 GAUGE GREEN INSULATED COPPER TRACER WIRE SHALL BE INSTALLED WITH SANITARY SEWER MAINS AND SERVICES. TRACER WIRE TERMINAL BOXES SHALL BE INSTALLED DIRECTLY ABOVE THE SEWER SERVICE OR AS DETERMINED BY THE ENGINEER.
6. FOR SERVICES, TRACER WIRE SHALL RUN FROM THE WYE AND TERMINATE IN A FLUSH MOUNTED TRACER BOX WITH A GREEN CAST IRON LOCKABLE TOP.
7. THE TRACER WIRE SHALL REMAIN CONTINUOUS TO THE GREATEST EXTENT POSSIBLE. SPLICES IN THE TRACER WIRE SHOULD BE MADE WITH SPLIT BOLT CONNECTORS. WIRE NUTS SHALL NOT BE USED. A WATER-PROOF CONNECTION IS NECESSARY TO PREVENT CORROSION.

1 TYPICAL SEWER SERVICE DETAIL
SCALE: NO SCALE



RISER PIPE SIZE	CASTING (NEENAH OR APPROVED EQUAL)
4"	R - 1973-1
6"	R - 1974A
8"	R - 1975A

2 SEWER CLEANOUT DETAIL
SCALE: NO SCALE



3 UTILITY TRENCHING
SCALE: NTS

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sheet title: **SEWER DETAILS**
sheet number: **C620**

GENERAL

ALL TYPICAL DETAILS AND NOTES SHOWN ON DRAWINGS SHALL APPLY UNLESS NOTED OTHERWISE. TYPICAL DETAILS MAY NOT NECESSARILY BE INDICATED ON THE PLANS BUT SHALL STILL APPLY AS SHOWN OR DESCRIBED IN THE DETAILS. WHERE TYPICAL DETAILS ARE NOTED ON THE DRAWINGS, THE SPECIFIED TYPICAL DETAIL SHALL BE USED. WHERE NO DETAIL IS NOTED, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO CHOOSE THE APPROPRIATE TYPICAL DETAIL FROM THOSE PROVIDED. THE CONTRACTOR SHALL SUBMIT ALL PROPOSED ALTERNATE TYPICAL DETAILS TO THOSE PROVIDED WITH RELATED CALCULATIONS TO THE ENGINEER FOR APPROVAL PRIOR TO SHOP DRAWING PRODUCTION AND FIELD USE.

BUILDING CODE

ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE BUILDING CODE. THE PUBLICATIONS LISTED BELOW ARE THE GOVERNING CODES AND STANDARDS AND ARE REFERENCED BY THEIR BASIC DESIGNATION. IN THE CASE OF CONFLICTING REQUIREMENTS, THE BUILDING CODE SHALL GOVERN.

APPLICABLE CODES AND STANDARDS

BUILDING CODE	INTERNATIONAL BUILDING CODE (IBC), 2021 EDITION, INCLUDING ADDITIONS PER THE 2025 WISCONSIN COMMERCIAL BUILDING CODE
ACI 318	AMERICAN CONCRETE INSTITUTE, "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE " 2019 EDITION
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION, "STEEL CONSTRUCTION MANUAL", 2016 EDITION
AISC 360	AMERICAN INSTITUTE OF STEEL CONSTRUCTION, "SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS", 2016 EDITION
AISI S100	AMERICAN IRON AND STEEL INSTITUTE, "NORTH AMERICAN SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS", 2016(2020) EDITION W/ S2 - 20
ASCE 7	AMERICAN SOCIETY OF CIVIL ENGINEERS, "MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES", 2016 EDITION
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM INTERNATIONAL)
AWS A2.4	AMERICAN WELDING SOCIETY, "SYMBOLS FOR WELDING AND NONDESTRUCTIVE TESTING", 2018 EDITION
AWS D1.1	AMERICAN WELDING SOCIETY, "STRUCTURAL WELDING CODE – STEEL," CURRENT EDITION PER IBC
AWS D1.3	AMERICAN WELDING SOCIETY, "STRUCTURAL WELDING CODE – SHEET STEEL", CURRENT EDITION PER IBC
AWC SDPWS	SPECIAL DESIGN PROVISIONS FOR WIND AND SEISMIC (SDPWS), 2021 EDITION
ICC	INTERNATIONAL CODE COUNCIL, INTERNATIONAL CODE COUNCIL - EVALUATION SERVICES (ICC-ES)

STRUCTURAL DESIGN DATA

LOAD COMBINATIONS

LOAD COMBINATIONS ARE IN ACCORDANCE WITH SECTION 1605 OF THE BUILDING CODE.

LIVE LOADS

LIVE LOADS SHALL BE IN ACCORDANCE WITH THE BUILDING CODE (SECTION 1607) OR AS NOTED ON THE PLANS.

OFFICE: LL = 50 PSF + 15 PSF PARTITIONS
EQUIPMENT PLATFORM (Non-Occupied) LL = 125 PSF
APPARATUS BAYS = 500 PSF
COLLATERAL ROOF LOAD = 5 PSF

SNOW LOADS

SNOW LOADING AND SNOW DRIFT LOADING SHALL BE IN ACCORDANCE WITH THE BUILDING CODE (SECTION 1608).

GROUND SNOW LOAD: Pg = 60 PSF
IMPORTANCE FACTOR: Is = 1.0
SNOW EXPOSURE FACTOR: Ce = 1.0
THERMAL FACTOR: Ct = 1.0
FLAT-ROOF SNOW LOAD: Pf = 42 PSF

WIND LOADS

WIND PRESSURE SHALL BE IN ACCORDANCE WITH THE BUILDING CODE (SECTION 1609).

BASIC WIND SPEED: V_ult = 106 MPH (3-SECOND GUST)
V_asd = 85 MPH (3-SECOND GUST)
RISK CATEGORY: III
EXPOSURE: C
ENCLOSURE CLASSIFICATION: ENCLOSED
INT. PRESSURE COEFFICIENT: GCpi = 0.18

SEISMIC LOADS

SEISMIC LOADING SHALL BE IN ACCORDANCE WITH THE BUILDING CODE (SECTION 1613).

BUILDING LOCATION: LATITUDE = 46.555°N
LONGITUDE = -91.568°W
RISK / OCCUPANCY CATEGORY: II
IMPORTANCE FACTOR: I_E = 1.0
SITE CLASS: D
MAPPED SPECTRAL ACCELERATION PARAMETERS: S_S = 0.041g
S_1 = 0.016g
SPECTRAL RESPONSE COEFFICIENTS: S_{DS} = 0.0437g
S_{D1} = 0.0256g
SEISMIC DESIGN CATEGORY: A

LOAD PATH FOR LATERAL FORCES

LATERAL FORCES ARE CARRIED BY THE PRE-ENGINEERED STEEL LATERAL SYSTEM, MOMENT FRAMES, ETC. MOMENTS, SHEARS, AND ROTATIONAL FORCES ARE DELIVERED TO THE FOUNDATION BY THE, MOMENT FRAMES, ETC.

CONCRETE

1. MIXING, BATCHING, TRANSPORTING, PLACING, AND CURING OF ALL CONCRETE, AND SELECTION OF CONCRETE MATERIALS, SHALL CONFORM TO ACI 301, "SPECIFICATION FOR STRUCTURAL CONCRETE FOR BUILDINGS," EXCEPT AS NOTED BELOW. PROPORTIONS OF AGGREGATE TO CEMENTITIOUS PASTE SHALL BE SUCH AS TO PRODUCE A DENSE, WORKABLE MIX THAT CAN BE PLACED WITHOUT SEGREGATION OR EXCESS FREE SURFACE WATER.
2. ALL CONCRETE USED IN HORIZONTAL SURFACES EXPOSED TO THE WEATHER SHALL CONTAIN AN ACCEPTABLE ADMIXTURE TO PRODUCE AIR-ENTRAINED CONCRETE WITH TOTAL AIR CONTENT, AS NOTED IN THE CONCRETE MIX SPECIFICATION TABLE. TOLERANCE FOR AIR CONTENT SHALL BE +/-1 PERCENT. AIR CONTENT SHALL BE MEASURED AT THE DISCHARGE OF THE TRUCK. IF CONCRETE IS PUMPED, AIR CONTENT SHALL BE MEASURED AT THE DISCHARGE END OF THE PUMP LINE. TESTS FOR AIR CONTENT SHALL MEET ASTM C172 REQUIREMENTS.
3. MIX DESIGNS LISTED BELOW SHALL BE SUBMITTED TO THE ARCHITECT AND APPROVED PRIOR TO USE. SUBMITTALS SHALL INCLUDE TEST DATA THAT CONFIRMS THE STRENGTH OF EACH MIX PER ACI 318 CHAPTER 5. SELECTION OF CONCRETE MIX PROPORTIONS SHALL BE IN ACCORDANCE WITH ACI 301. MIX PROPORTIONS SHALL MEET OR EXCEED THE REQUIREMENTS LISTED BELOW FOR THE LOCATIONS NOTED. THE MORE STRINGENT OF THE REQUIREMENTS LISTED SHALL GOVERN.
4. MAXIMUM SIZE OF AGGREGATE SHALL BE AS LISTED BELOW. MAXIMUM FLY ASH AS A PERCENTAGE OF TOTAL WEIGHT OF CEMENTITIOUS MATERIAL SHALL BE 25 PERCENT. FLY ASH SHALL BE CLASS C OR F, MEETING ASTM C618 REQUIREMENTS. WATER/CEMENT RATIO SHALL BE BASED ON TOTAL CEMENTITIOUS MATERIAL, INCLUDING FLY ASH AND OTHER POZZOLANIC MATERIALS.
5. THE CONTRACTOR SHALL DETERMINE SLUMP. EACH CONCRETE MIX SUBMITTED SHALL HAVE THE SLUMP SPECIFIED. SLUMP SHALL BE MEASURED AT THE DISCHARGE OF THE TRUCK. IF CONCRETE IS PUMPED, SLUMP SHALL BE MEASURED AT THE DISCHARGE END OF THE PUMP LINE. SLUMPS SHALL BE WITHIN +1 INCH AND -2 INCHES OF THE SPECIFIED SLUMP.
6. THE USE OF SUPER PLASTICIZERS AND WATER REDUCERS IS ALLOWED, BUT NOT REQUIRED. ALL ADMIXTURES SHALL BE CHLORIDE FREE UNLESS OTHERWISE APPROVED BY THE ENGINEER.

CONCRETE MIX DESIGN TABLE

LOCATION	f_c' (PSI)	TEST AGE (DAYS)	MAX W/C RATIO	AIR CONTENT (%)	MAX. AGGREGATE SIZE
MISCELLANEOUS CONCRETE, CURBS, SIDEWALKS	4,500	28	0.45	6.0	1"
EXTERIOR SLABS ON GRADE	4,500	28	0.45	6.0	1"
INTERIOR SLABS ON GRADE	4,000	28	0.45	-	1"
WALLS AND FOOTINGS	4,000	28	0.44	-	1"

REINFORCING STEEL

1. ALL REINFORCING SHALL BE NEW BILLET STOCK ASTM A615, GRADE 60, UNLESS NOTED OTHERWISE. BARS SHALL BE SECURELY TIED IN PLACE WITH #16 DOUBLE-ANNEALED IRON WIRE. BARS SHALL BE SUPPORTED ON ACCEPTABLE CHAIRS. REINFORCING STEEL SHALL BE DETAILED IN ACCORDANCE WITH THE ACI "MANUAL OF STANDARD PRACTICE FOR DETAILING OF REINFORCED CONCRETE STRUCTURES." CONTRACTOR SHALL COORDINATE REINFORCING STEEL PLACEMENT DETAILS AND PROVIDE TEMPLATES FOR PLACING STEEL IN CONGESTED AREAS AS NECESSARY. SHOP DRAWINGS (INCLUDING PLACING PLANS AND ELEVATIONS) SHALL BE SUBMITTED TO, AND REVIEWED BY, THE ARCHITECT/ENGINEER BEFORE STARTING FABRICATION.
2. NO REINFORCING BARS SHALL BE SPLICED BY WELDING. . REINFORCING BARS SHALL BE LAP SPLICED FOR TENSION (LSB) UNLESS NOTED OTHERWISE ON THE DRAWINGS.
3. WELDING OR TACK WELDING OF REINFORCING BARS TO OTHER BARS OR TO PLATES, ANGLES, ETC, IS PROHIBITED.
4. MINIMUM CAST-IN-PLACE CONCRETE COVER OVER REINFORCING STEEL, UNLESS NOTED OTHERWISE, SHALL BE AS FOLLOWS:
   A. CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH:
      ALL SIZES: 3 INCHES
   B. CONCRETE EXPOSED TO EARTH OR WEATHER:
      #5 BAR OR SMALLER: 1 1/2 INCHES
      #6 BAR OR LARGER: 2 INCHES
   C. OTHER CONCRETE:
      WALLS - INTERIOR FACE:
      #14 AND #18 BARS: 1 1/2 INCHES
      #11 BARS AND SMALLER: 3/4 INCH
      SLABS:
      #14 AND #18 BARS: 1 1/2 INCHES
      #11 BARS AND SMALLER: 3/4 INCH

CONSTRUCTION JOINTS

1. ALL CONSTRUCTION JOINTS IN WALLS SHALL BE KEYED IN ACCORDANCE WITH THE TYPICAL CONSTRUCTION JOINT DETAILS SHOWN ON THE STRUCTURAL DRAWINGS OR, AT THE CONTRACTOR'S OPTION, SHALL BE INTENTIONALLY ROUGHENED IN ACCORDANCE WITH THE FOLLOWING: THE SURFACE OF ROUGHENED JOINTS SHALL BE SAND BLASTED OR ROUGHENED WITH A CHIPPING HAMMER TO EXPOSE THE AGGREGATE EMBEDDED IN THE PREVIOUS POUR. THE EXPOSED AGGREGATE SHALL PROTRUDE A MINIMUM OF 1/4 INCH. ALL SURFACES OF CONSTRUCTION JOINTS SHALL BE CLEANED AND LAITANCE REMOVED. IMMEDIATELY BEFORE NEW CONCRETE IS PLACED, ALL CONSTRUCTION JOINTS SHALL BE WETTED AND STANDING WATER REMOVED.
2. VERTICAL CONSTRUCTION JOINTS AND CONTROL JOINTS IN CONCRETE AND CMU WALLS SHALL BE HELD TO A MAXIMUM SPACING OF 30'-0". JOINTS SHALL BE PLACED WITHIN 15'-0" OF WALL CORNERS WHERE POSSIBLE.
3. ALL CONSTRUCTION JOINTS IN SLABS, JOISTS, BEAMS, AND GIRDERS SHALL BE SUBMITTED TO THE STRUCTURAL ENGINEER FOR REVIEW BEFORE STARTING CONSTRUCTION.
4. ALL CONSTRUCTION, CONTROL, AND ISOLATION JOINTS FOR SLABS ON GRADE SHALL BE IN ACCORDANCE WITH THE TYPICAL SLAB ON GRADE DETAILS.
5. THE CONTRACTOR SHALL SUBMIT THE PROPOSED LOCATIONS OF CONSTRUCTION JOINTS TO THE ENGINEER FOR ACCEPTANCE BEFORE STARTING CONSTRUCTION.

SLEEVES

1. EXCEPT AS DETAILED ON STRUCTURAL DRAWINGS, NO CONCRETE FOOTINGS, BEAMS, OR GIRDERS SHALL BE SLEEVED FOR PIPING OR DUCTS, UNLESS APPROVED BY THE ENGINEER.

ANCHORAGE TO HARDENED CONCRETE

1. ANCHORAGE TO HARDENED CONCRETE SHALL INCLUDE MECHANICAL AND ADHESIVE ANCHORS OF SIZE, NUMBER, AND SPACING AS SHOWN ON THE DRAWINGS.
2. HOLES SHALL BE DRILLED AND CLEANED AND ANCHORS SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S PUBLISHED INSTRUCTIONS AND AN APPROVED ICC-ES REPORT.
3. INSPECTION AND TESTING SHALL BE PROVIDED IN ACCORDANCE WITH THE GENERAL NOTES AND THE APPROVED ICC-ES REPORT.
4. WHERE A SPECIFIC TYPE OF ANCHORAGE IS SPECIFIED ON THE DRAWINGS, SUBSTITUTION FOR A DIFFERENT TYPE OF ANCHORAGE (INCLUDING SUBSTITUTING FOR CAST-IN-PLACE ANCHORAGE) SHALL NOT BE PERMITTED WITHOUT PRIOR WRITTEN APPROVAL.

MECHANICAL ANCHORS

1. MECHANICAL ANCHORS SHALL BE USED ONLY WHERE SHOWN ON THESE DRAWINGS. PRIMARY BUILDING FRAME ANCHORS MUST BE CAST-IN-PLACE PER THESE DRAWINGS.
2. ACCEPTABLE MECHANICAL ANCHORS SHALL BE AS FOLLOWS:
   A. INSTALLED IN CONCRETE:
      - HILTI "KWIK BOLT TZ" (ICC-ES ESR-19)
      - SIMPSON STRONG-TIE "STRONG-BOLT-2" (ICC-ES ESR-3037)
      - APPROVED ALTERNATE WITH A CURRENT ICC-ES REPORT
   B. INSTALLED IN GROUT FILLED MASONRY:
      - HILTI "KH-EZ" (ICC-ES ESR-3056)
      - SIMPSON STRONG-TIE "TITEN HD" (ICC-ES ESR-1056)
      - APPROVED ALTERNATE WITH A CURRENT ICC-ES REPORT
3. UNLESS NOTED OTHERWISE ON THE DRAWINGS, MINIMUM EFFECTIVE ANCHOR EMBEDMENT DEPTH SHALL BE 6.5 ANCHOR DIAMETERS, MINIMUM DISTANCE TO THE NEAREST CONCRETE EDGE SHALL BE 12 ANCHOR DIAMETERS, AND MINIMUM ANCHOR SPACING SHALL BE 8 ANCHOR DIAMETERS.
4. STAINLESS STEEL ANCHORS SHALL BE USED AT ALL EXTERIOR LOCATIONS AND WHERE SPECIFICALLY INDICATED ON THE DRAWINGS.
5. NO STEEL REINFORCEMENT SHALL BE CUT TO INSTALL ANCHORS.

ADHESIVE ANCHORS

1. ADHESIVE ANCHORS SHALL BE USED ONLY WHERE SHOWN ON THESE DRAWINGS. PRIMARY BUILDING FRAME ANCHORS MUST BE CAST-IN-PLACE PER THESE DRAWINGS
2. ACCEPTABLE ADHESIVE (EPOXY) ANCHORS SHALL BE AS FOLLOWS:
   A. INSTALLED IN CONCRETE:
      - HILTI "HIT-HY 200" (ICC-ES ESR-4868)
      - SIMPSON STRONG-TIE "SET-3G" (ICC-ES ESR-4057)
      - APPROVED ALTERNATE WITH A CURRENT ICC-ES REPORT
   B. INSTALLED IN BRICK MASONRY:
      - HILTI "HIT-HY 270" (ICC-ES ESR-4143)
      - APPROVED ALTERNATE WITH A CURRENT ICC-ES REPORT
3. UNLESS NOTED OTHERWISE, ANCHORS SHALL BE ASTM A36 THREADED ROD OR ASTM A615, GRADE 60 REINFORCING STEEL DOWELS.
4. UNLESS NOTED OTHERWISE ON THE DRAWINGS, MINIMUM EFFECTIVE ANCHOR EMBEDMENT DEPTH SHALL BE 6.5 ANCHOR DIAMETERS, AND MINIMUM ANCHOR SPACING SHALL BE 6 ANCHOR DIAMETERS.
5. HOLES SHALL BE DRILLED WITH ROTARY IMPACT HAMMER OR EQUIVALENT METHOD TO PRODUCE A HOLE WITH A ROUGH INSIDE SURFACE. CORE DRILLING HOLES IS NOT PERMITTED.
6. NO REINFORCING SHALL BE CUT TO INSTALL ADHESIVE ANCHORS.
7. TWO-PART ADHESIVES SHALL BE MIXED, APPLIED, AND CURED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S PUBLISHED INSTALLATION INSTRUCTIONS IN THE ICC-ES REPORT. ALL PLACEMENT AND CURING SHALL BE CONDUCTED WITH CONCRETE AND AIR TEMPERATURES ABOVE 50 DEGREES FAHRENHEIT. ADHESIVE SHALL BE APPLIED ONLY TO CLEAN, DRY CONCRETE. POSITIVE PROTECTION SHALL BE PROVIDED SO THAT ANCHORS ARE NOT DISTURBED DURING THE CURING PERIOD.

NONSHRINK GROUT FOR BASE PLATES, SLEEVES, AND EMBEDDED STEEL

1. GROUT SHALL BE AN APPROVED NONSHRINK CEMENTITIOUS GROUT CONTAINING NATURAL AGGREGATES DELIVERED TO THE JOB SITE IN FACTORY PREPACKAGED CONTAINERS REQUIRING ONLY THE ADDITION OF WATER.
2. THE MINIMUM 28-DAY COMPRESSIVE STRENGTH SHALL BE AT LEAST 1,000 PSI HIGHER THAN THE SUPPORTING CONCRETE STRENGTH, UNLESS NOTED OTHERWISE.
3. GROUT SHALL BE MIXED, APPLIED, AND CURED STRICTLY IN ACCORDANCE WITH THE MANUFACTURER'S PRINTED INSTRUCTIONS. FOR GROUTING UNDER BASE PLATES, GROUT SHALL BE PROPORTIONED AS A FLOWABLE MIX. WHEN A FLOWABLE MIX DOES NOT PROVIDE THE REQUIRED STRENGTH OR WHEN A MINIMUM STRENGTH OF 10,000 PSI IS REQUIRED, AN EPOXY GROUT SHALL BE USED.

STRUCTURAL STEEL

ALL STEEL SHALL CONFORM TO THE FOLLOWING:

W-SHAPES	ASTM A992, Fy=50 KSI
HP-SHAPES	ASTM A572, Fy=50 KSI
ANGLES, CHANNELS & PLATES UNLESS NOTED OTHERWISE	ASTM A36, Fy=36 KSI
SQUARE OR RECTANGULAR STRUCTURAL TUBE (HSS)	ASTM A500, GRADE B, Fy=46 KSI
ROUND STRUCTURAL TUBE (HSS)	ASTM A500, GRADE B, Fy=42 KSI
STEEL PIPE DIAMETER LESS THAN OR EQUAL TO 12 INCHES	ASTM A53, TYPE E OR S, GRADE B, Fy=35 KSI
ALL OTHER STEEL UNLESS NOTED OTHERWISE	ASTM A572, Fy=50 KSI ASTM A588, Fy=50 KSI ASTM A441, Fy=50 KSI

1. GENERAL NOTES FOR STEEL CONNECTIONS SHALL APPLY TO ALL STEEL CONNECTIONS UNLESS NOTED OTHERWISE.
2. ALL WORK SHALL BE IN ACCORDANCE WITH THE AISC SPECIFICATION. SHOP DRAWINGS SHALL BE SUBMITTED AND REVIEWED BY THE ARCHITECT/ENGINEER BEFORE COMMENCING FABRICATION.
3. ALL STEEL ANCHORS AND TIES AND OTHER MEMBERS EMBEDDED IN CONCRETE OR MASONRY SHALL BE LEFT UNPAINTED. DIMENSIONAL TOLERANCE FOR BUILT-UP MEMBERS SHALL BE PER AWS D1.1.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ERECTION AIDS THAT INCLUDE, BUT ARE NOT LIMITED TO, ERECTION ANGLES, LIFT HOLES, AND OTHER AIDS.

ANCHOR RODS

1. ANCHOR RODS SHALL BE ASTM F1554 GRADE 36 WITH CLASS 1A THREADS, UNLESS NOTED OTHERWISE.
2. ANCHOR RODS MAY BE HEADED BOLT OR UNHEADED ROD MATERIAL. PROVIDE HEAVY HEX NUT ON THE EMBEDDED END OF THE UNHEADED ROD AND WELD IN PLACE TO PREVENT IT FROM TURNING.
3. FURNISH HARDENED PLATE WASHERS, LOCK WASHERS, AND MATCHING HEAVY HEX NUTS FOR SECURING THE BASE PLATE TO THE ANCHOR RODS.
4. HOOKED ANCHOR RODS SHALL NOT BE USED EXCEPT WHERE NOTED.
5. A RIGID STEEL TEMPLATE SHALL BE USED TO LOCATE ANCHOR RODS WHILE PLACING CONCRETE.
6. ANCHOR RODS SHALL HAVE SUFFICIENT LENGTH TO PROVIDE THE MINIMUM EMBEDMENT SHOWN ON THE DRAWINGS, MEASURED FROM THE FACE OF THE CONCRETE TO THE NEAR FACE OF THE DOUBLE NUT, WITH ADEQUATE EXTENSION AS REQUIRED TO RECEIVE THE BASE PLATE WITH FULL THREAD PROJECTION FOR NUT INSTALLATION.
7. ANCHOR ROD INSTALLATION SHALL BE COORDINATED WITH REINFORCING AND FORMWORK.
8. LEVELING NUTS SHALL NOT BE USED EXCEPT AFTER EVALUATION BY THE CONTRACTOR'S ERECTION ENGINEER.
9. AFTER BASE INSTALLATION, ANCHOR ROD NUTS SHALL BE INSTALLED TO A SNUG-TIGHT CONDITION.
10. NO HEATING OR BENDING OF THE ANCHOR RODS IS PERMITTED.
11. HOLES IN THE BASE MATERIAL SHALL NOT BE ENLARGED BY BURNING.

STEEL ROOF DECK

1. THE STEEL ROOF DECK SHALL BE OF DEPTH SHOWN ON THE STRUCTURAL DRAWINGS, HAVE A MINIMUM YIELD STRENGTH OF 50 KSI, AND COMPLY WITH THE "STEEL DECK INSTITUTE" (SDI) STANDARDS.
2. STEEL DECK TYPES SHALL BE VULCRAFT TYPE B, VERCO TYPE HSB-36, ACS TYPE B, OR APPROVED EQUAL, UNLESS NOTED OTHERWISE. MINIMUM GAUGE IS 20.
3. THE SIDE LAPS OF ADJACENT UNITS SHALL BE FASTENED BETWEEN SUPPORTS BY #10 TEK SCREWS AT A MAXIMUM SPACING OF 2'-0" ON CENTER UNLESS NOTED OTHERWISE.
4. DECK UNITS SHALL BE CONNECTED WITH #10 TEK SCREWS TO ALL THE STEEL AND CFS STEEL SUPPORTS AT A MAXIMUM SPACING OF 1'-0" ON CENTER UNLESS NOTED OTHERWISE.
5. SHOP DRAWINGS SHALL BE SUBMITTED SHOWING DECK GAUGE, LAYOUT, CONNECTIONS, AND CLOSURES.
6. WHERE SPECIFIED AS GALVANIZED, ROOF DECK AND ALL OF ITS ACCESSORIES SHALL CONFORM TO ASTM A653 STRUCTURAL QUALITY GRADE SS33. GALVANIZING SHALL CONFORM TO ASTM A924 WITH A MINIMUM COATING CLASS OF G30 AS DEFINED BY ASTIM A653.
7. ALL WELDING SHALL BE IN ACCORDANCE WITH AWS D1.3.
8. UNITS SHALL SPAN OVER FOUR SUPPORTS, CONTINUOUS OVER THREE OR MORE SPANS, EXCEPT WHERE THE FRAMING DOES NOT PERMIT.
9. WHERE STEEL MEMBERS ARE PARALLEL TO THE DECK FLUTES AND AT THE SAME ELEVATION OF THE BOTTOM OF THE DECK, ADJUST DECK LAYOUT AND WELD DECK TO STEEL WITH SAME WELDING AS REQUIRED FOR SIDE BOUNDARIES.

GAUGE STEEL FRAMING

1. THE CONTRACTOR SHALL PROVIDE FULL-TIME QUALITY CONTROL OVER ALL FABRICATION AND ERECTION ACTIVITY THROUGH THE USE OF AN INDEPENDENT TESTING AGENCY AND/OR A QUALIFIED REPRESENTATIVE OF THE STEEL MANUFACTURER.
2. THE CONTRACTOR SHALL OBTAIN MILL CERTIFICATION FROM THE GAUGE STEEL MANUFACTURER OR SHALL SUBMIT TENSILE TESTS AND GALVANIZATION TESTS TO THE ENGINEER OF RECORD TO VERIFY THE ADEQUACY OF THE GAUGE MATERIALS.
3. GAUGE MATERIAL SHALL BE FORGED FROM GALVANIZED ASTM A653 STEEL. 54 MIL (16 GA.), 68 MIL (14 GA.) AND 97 MIL (12 GA.) MATERIAL SHALL BE GRADE 50 WITH A MINIMUM YIELD STRESS OF 50 KSI. 43 MIL (18 GA.) AND LIGHTER MATERIAL SHALL BE GRADE 33 WITH A MINIMUM YIELD STRESS OF 33 KSI. ALL MEMBERS TO BE GALVANIZED PER ASTM A653 WITH A MINIMUM G60 COATING
4. FRAMING MEMBERS SHALL HAVE THE MINIMUM EFFECTIVE PHYSICAL AND STRUCTURAL PROPERTIES AS PUBLISHED BY THE STEEL STUD MANUFACTURER'S ASSOCIATION (ICC ES ER-4943P) OR EQUIVALENT ICBO APPROVED FRAMING MEMBERS AT THE CONTRACTOR'S OPTION.
5. MEMBER DESIGNATION:

600	S	162	-	54
DEPTH (INCHES)	MEMBER TYPE	FLANGE WIDTH (INCHES)		MATERIAL THICKNESS (MILS)

6. WALL STUDS AND FRAMING AT WALL OPENINGS SHALL BE PER THE DRAWINGS. STUDS SHALL BE SHEATHED ON BOTH SIDES EXCEPT WHERE NOTED. COLD ROLLED CHANNEL OR OTHER BRIDGING/BRACING SHALL BE PROVIDED WHERE SHEATHING ONLY OCCURS ON ONE SIDE. SEE TYPICAL DETAILS FOR ADDITIONAL INFORMATION.
7. WALL STUD BRIDGING SHALL BE INSTALLED IN A MANNER TO PREVENT STUD ROTATION. BRIDGING ROWS SHALL BE SPACED PER THE MANUFACTURER'S PUBLISHED RECOMMENDATIONS. THE MAXIMUM SPACING FOR BRIDGING SHALL BE 5'-0" ON CENTER FOR WALLS RESISTING HORIZONTAL WIND LOADS ONLY AND 3'-4" ON CENTER FOR AXIAL LOADED WALLS
8. SPLICES IN AXIALLY LOADED STUDS SHALL NOT BE PERMITTED.
9. GAUGE STEEL ACCESSORIES SHALL OF THE TYPE, SIZE AND SPACING SHOWN ON THE DRAWINGS, 54 MIL (16 GA.) MINIMUM UNLESS DETAILED OTHERWISE.
10. ERECT FRAMING PLUMB, LEVEL AND SQUARE IN ACCORDANCE WITH THE APPROVED SHOP DRAWINGS.
11. TEMPORARY BRACING OF WALL FRAMING SHALL BE PROVIDED BY THE CONTRACTOR AS REQUIRED AND REMOVED ONLY AFTER THE FRAMING HAS BEEN SECURED WITH PERMANENT SUPPORT.

GAUGE STEEL FASTENERS

1. FASTENING OF GAUGE STEEL COMPONENTS SHALL BE BY WELDING OR SCREWING OR BY OTHER MEANS OF FASTENING AS INDICATED IN THE DRAWINGS.
2. ALL FASTENERS SHALL BE OF THE TYPE AND SIZE SHOWN IN THE DRAWINGS TO ACCOMMODATE THE CONNECTIONS. FASTENERS INSTALLED IN CONCRETE SHALL BE INSTALLED ONLY AFTER THE SPECIFICED 28-DAY COMPRESSIVE STRENGTH OF THE CONCRETE HAS BEEN OBTAINED.
3. SCREWS:
   A. ALL SCREWS (REFFERRED TO AS TEK) SHALL BE SELF-TAPPING SELF-DRILLING FASTENERS THAT ARE ZINC COATED AS MANUFACTURED BY ITW BUILDEX TEK/TRAXX, ELCO DRIL-FLEX, HILTI KWIK-FLEX, OR APPROVED EQUAL.
   B. THE MINIMUM SCREW SIZE/TYPE/POINT SHALL BE #8-18 (#2 POINT) OR #10-16 (#2 POINT) TEK FOR USE IN 33 MIL (20 GA.) THROUGH 54 MIL (16 GA.) MATERIAL, AND #10-16 (#3 POINT) OR #12-14 (#2 OR #3 POINT) TEK FOR MATERIAL HEAVIER THAN 54 MIL (16GA.) UNLESS NOTED OTHERWISE.
   C. SCREWS FOR SHEATHING CONNECTIONS SHALL BE OF THE PROPER SIZE AND TYPE FOR A POSITIVE SHEATHING-TO-METAL CONNECTION.
   D. ALL SCREW CONNECTIONS SHALL BE MADE FROM THE LIGHTER MATERIAL INTO THE HEAVIER MATERIAL UNLESS NOTED OTHERWISE.
   E. SCREWS SHALL HAVE A MINIMUM PROJECTION OF 3 THREADS THROUGH THE LAST MATERIAL JOINED AND SHALL HAVE MINIMUM EDGE DISTANCES AND CENTER-TO-CENTER SPACINGS OF ½ INCH.
   F. ALL SCREWS SHALL CONFORM TO SAE J78 AND SHALL BE COATED WITH A CORROSIVE-RESISTANT COATING. THE SCREW MANUFACTURER SHALL PROVIDE VERIFICATION OF THE FASTENERS RESISTANCE TO HYDROGEN EMBRITTELMENT.
4. WELDS:
   A. WELDS SHALL BE OF THE TYPE, SIZE AND SPACING SHOWN ON THE DRAWINGS AND OF SUFFICIENT SIZE TO INSURE THE STRENGTH OF THE CONNECTION.
   B. ALL WELDING OF GAUGE STEEL MATERIAL SHALL BE IN ACCORDANCE WITH AWS D1.3.
   C. WIRE TYING OF COMPONENTS SHALL NOT BE PERMITTED.
   D. ALL WELDS SHALL BE TOUCHED UP WITH A ZINC-RICH PAINT.
5. POWDER DRIVEN FASTENERS (P.D.F.):
   A. POWDER DRIVEN FASTENERS INSTALLED IN CONCRETE OR STEEL SHALL BE AS MANUFACTURED BY HILTI, INC. (ICC ES ESR-2269) OR APPROVED EQUAL AND INSTALLED IN CONFORMANCE WITH THE MANUFACTURER'S PUBLISHED RECOMMENDATIONS AND THE GUIDELINES OF THE EVALUATION REPORT.

FLOOR SHEATHING

1. PROVIDE 3/4-INCH TONGUE AND GROOVE CDX PLYWOOD, INDEX 40/20, UNBLOCKED, LAID UP WITH FACE GRAIN PERPENDICULAR TO FRAMING BELOW. STAGGER PANEL END JOINTS. PROVIDE 1/8-INCH GAP BETWEEN ALL ABUTTING PANEL EDGES:

FOUNDATIONS

1. COLUMN DOWELS SHALL BE INSTALLED WITH A TEMPLATE TO HOLD BARS IN THE PROPER POSITION AND SHALL BE PLACED WITH A TOLERANCE OF +/- 1/4 INCH.
2. SPREAD FOOTINGS:
   A. DESIGN SOIL BEARING PRESSURE = 3,000 PSF.
   B. ALL FOOTINGS SHALL BEAR ON UNDISTURBED NATIVE SOIL OR COMPACTED ENGINEERED FILL PER THE RECOMMENDATIONS LISTED IN SECTION 6 OF THE GEOTECHNICAL REPORT.
   C. REFER TO THE PROJECT GEOTECHNICAL EVALUATION REPORT FOR SOIL CONDITIONS AND RECOMMENDATIONS
      - PREPARED BY: TWIN PORTS TESTING.
      - PROJECT NO.: 25G2116
      - DATED: DECEMBER 5, 2025
   D. SITE AND BUILDING SUBGRADE SHALL BE PREPARED IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE PROJECT GEOTECHNICAL REPORT.

STRUCTURAL FILL

1. ALL STRUCTURAL FILL MATERIAL SHALL BE IMPORTED INCLUDING MATERIAL PLACED TO SUPPORT SLABS ON GRADE, BEHIND PERMANENT WALLS, AND AROUND ALL DRAINS. THE FILL MATERIAL SHALL CONSIST OF WELL GRADED, GRANULAR MATERIAL PER RECOMMENDATIONS OF THE GEOTECHNICAL ENGINEERING REPORT SECTION 6.2 (SITE PREPARATION)
2. SOILS FOR STRUCTURAL FILL SHALL BE SUBMITTED TO AND APPROVED BY THE GEOTECHNICAL ENGINEER.
3. STRUCTURAL FILL SHALL BE PLACED ON SOUND NATIVE MATERIAL.
4. PROOF-ROLL CUT AREAS WHICH PROVIDE SUPPORT FOR PERMANENT STRUCTURES.
5. AREAS WHICH ARE EXCESSIVELY YIELDING, AS DETERMINED BY THE CONTINUOUS OBSERVATION OF THE GEOTECHNICAL ENGINEER, SHALL BE OVEREXCAVATED AND REPLACED WITH STRUCTURAL FILL.

PRE-ENGINEERED METAL BUILDING FOUNDATION

1. FOUNDATION DESIGN FOR THE PRE-ENGINEERED METAL BUILDING IS BASED ON BUILDING REACTIONS PROVIDED BY BUTLER MANUFACTURING DATED 12-27-2025. SEE FOUNDATION PLAN SHEET FOR A SUMMARY OF THE BUILDING LOAD REACTIONS. ALL METAL BUILDING COLUMNS ASSUMED TO BE PIN CONNECTED AT THE FOUNDATION.
2. PRE-ENGINEERED METAL BUILDING DRAWINGS AND CALCULATIONS SHALL BE CERTIFIED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF WISCONSIN.
3. CONSTRUCTION OF THE PRE-ENGINEERED METAL BUILDING FOUNDATION IS NOT PERMITTED UNTIL FINAL CERTIFIED DRAWINGS AND CALCULATIONS HAVE BEEN REVIEWED AND APPROVED.

MISCELLANEOUS METALS

1. THE CONTRACTOR SHALL DESIGN AND SUPPLY ALL ADDITIONAL MISCELLANEOUS METALS THAT ARE INDICATED IN THE ARCHITECTURAL DRAWINGS OR THOSE METALS WHICH ARE FOUND TO BE NECESSARY TO SUPPORT THE ARCHITECTURAL FINISHES OR OTHER BUILDING SYSTEMS.
2. ALL FRAMING AND CONNECTIONS DESIGNED BY THE CONTRACTOR SHALL NOT RESULT IN ECCENTRIC LOADS BEING APPLIED TO THE PRIMARY STRUCTURE NOR LATERAL LOADS BEING APPLIED TO THE BOTTOM FLANGE OF STEEL BEAMS. THE CONTRACTOR'S DESIGN SHALL VERIFY THAT THE CONNECTIONS DO NOT RESULT IN ADVERSE LOCAL CONNECTION STRESSES OCCURRING WITHIN THE PRIMARY STRUCTURE. SUBMIT CALCULATIONS STAMPED BY A STRUCTURAL ENGINEER LICENSED TO PERFORM THE WORK IN THE JURISDICTION WHERE THE PROJECT IS LOCATED AND SHOP DRAWINGS INDICATING IMPOSED LOADS ON THE PRIMARY STRUCTURE.

MECHANICAL/ELECTRICAL/PLUMBING SYSTEM SUPPORTS

1. THE CONTRACTOR SHALL DESIGN AND SUPPLY ALL ADDITIONAL MISCELLANEOUS METALS AND SYSTEM SUPPORT COMPONENTS THAT ARE NECESSARY TO SUPPORT ALL MECHANICAL, ELECTRICAL (TELECON, AUDIO VISUAL, ETC.), AND PLUMBING/FIRE-PROTECTION SYSTEMS. SUCH METALS AND SUPPORT COMPONENTS AND THEIR CONNECTIONS SHALL BE PROVIDED AS NECESSARY TO DIRECTLY AND CONCENTRICALLY IMPOSE LOADS ON THE PRIMARY STRUCTURE.
2. STEEL ROOF DECK SHALL NOT DIRECTLY SUPPORT THESE SYSTEMS.
3. THE CONNECTIONS TO THE PRIMARY STRUCTURE ARE SUBJECT TO THE REQUIREMENTS OF THE MISCELLANEOUS METALS SECTION ABOVE.

SECONDARY SUPPORT FRAMING

1. SECONDARY SUPPORT FRAMING FOR CONNECTING NON-STRUCTURAL COMPONENTS TO THE PRIMARY STRUCTURE SHALL BE DESIGNED, SUPPLIED AND INSTALLED BY OTHERS.
2. SHOP DRAWINGS FOR SECONDARY SUPPORT FRAMING SHALL BE SUBMITTED FOR REVIEW ALONG WITH THE SUPPORTING CERTIFIED STRUCTURAL CALCULATIONS. SUBMITTAL SHALL IDENTIFY THE LOADS IMPOSED UPON THE PRIMARY STRUCTURE AT THE CONNECTION POINTS OF THE SECONDARY SUPPORT FRAMING.
3. UNISTRUT, OR EQUIVALENT, AND ITS CONNECTIONS SHALL BE CONSIDERED SECONDARY SUPPORT FRAMING, UNLESS SPECIFICALLY NOTED OTHERWISE.

INTERIOR STEEL STUD FRAMING

1. INTERIOR PARTITIONS SHALL CONSIST OF METAL STUD TYPE FRAMING THAT HAS CURRENT ICC-ES EVALUATION REPORTS.
2. CONNECTION OF STUDS, TRACK, AND OTHER ITEMS BY MEANS OF EITHER DRILLED-IN ANCHORAGE OR POWDER DRIVEN FASTENERS SHALL OCCUR WITH FASTENERS AS INDICATED IN THE METAL STUD ICC-ES REPORTS. CONNECTIONS SHALL ALLOW FOR THE BUILDING MOVEMENTS CITED ABOVE.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE STRUCTURAL DESIGN OF SOFFITS, SUSPENDED WALLS, CEILINGS, OR CONDITIONS WHERE THE STUD FRAMING IS USED TO SUPPORT CASEWORK OR SIZEABLE DOOR/WINDOW HARDWARE; THE METAL STUD FRAMING; AND ANY MISCELLANEOUS STEEL FRAMING THAT IS DETERMINED TO BE NECESSARY BASED ON THE CONTRACTOR'S DESIGN. SUBMIT DESIGN CALCULATIONS AND SHOP DRAWINGS INDICATING IMPOSED LOADS ON THE PRIMARY STRUCTURE FOR THESE CONDITIONS. SUBMITTED DOCUMENTS SHALL BEAR THE STAMP AND SIGNATURE OF AN ENGINEER LICENSED TO PERFORM THE WORK IN THE JURISDICTION WHERE THE PROJECT IS LOCATED.

BUILDING TOLERANCES

1. STANDARD TOLERANCES SHALL BE BASED ON THE REQUIREMENTS OF THE AISC CODE OF STANDARD PRACTICE AND ACI 117, "STANDARD SPECIFICATIONS FOR TOLERANCES FOR CONCRETE CONSTRUCTION AND MATERIALS."

DEFERRED STRUCTURAL SUBMITTALS

1. SOME STRUCTURAL SYSTEMS ARE DEFINED AS VENDOR-DESIGNED COMPONENTS PER THE STRUCTURAL DOCUMENTS. THESE ELEMENTS OF THE DESIGN ARE DEFERRED SUBMITTAL COMPONENTS AND HAVE NOT BEEN PERMITTED UNDER THE BASE BUILDING APPLICATION. THE CONTRACTOR WILL BE REQUIRED TO SUBMIT THE STAMPED COMPONENT SYSTEM DOCUMENTS TO THE BUILDING OFFICIAL FOR APPROVAL.
2. DOCUMENTS FOR DEFERRED SUBMITTAL ITEMS SHALL BE SUBMITTED TO THE ARCHITECT, WHO SHALL REVIEW THEM FOR GENERAL CONFORMANCE TO THE DESIGN OF THE BUILDING. THE CONTRACTOR SHALL SUBMIT THESE REVIEWED DEFERRED SUBMITTAL DOCUMENTS TO THE BUILDING OFFICIAL. THE DEFERRED SUBMITTAL ITEMS SHALL NOT BE INSTALLED UNTIL THE DESIGN AND SUBMITTAL DOCUMENTS HAVE BEEN APPROVED BY THE BUILDING OFFICIAL.
3. THE FOLLOWING LIST INCLUDES THE ITEMS THAT ARE DEFINED AS DEFERRED STRUCTURAL SUBMITTAL COMPONENTS. REFER TO THE ARCHITECTURAL, MECHANICAL, ELECTRICAL, AND CIVIL DRAWINGS FOR ADDITIONAL DEFERRED SUBMITTAL COMPONENTS.
4. DEFERRED STRUCTURAL SUBMITTAL COMPONENTS:
   A. PRE-ENGINEERED METAL BUILDING
   B. SECONDARY SUPPORT FRAMING AND CONNECTIONS

MISCELLANEOUS

1. REFER TO ARCHITECTURAL, MECHANICAL, ELECTRICAL, CIVIL, OR OTHER SPECIALTY ENGINEERING DRAWINGS FOR DIMENSIONS NOT SHOWN, INCLUDING BUT NOT LIMITED TO: SIZE AND LOCATION OF CURBS, EQUIPMENT HOUSEKEEPING PADS, WALL AND FLOOR OPENINGS, BLOCKOUTS, FLOOR DEPRESSIONS, SUMPS, DRAINS, ANCHOR BOLTS, EMBEDDED ITEMS, ARCHITECTURAL TREATMENT, ETC. THE CONTRACTOR SHALL VERIFY DIMENSIONS AND RESOLVE DISCREPANCIES OR CONFLICTS PRIOR TO CONSTRUCTION.
2. WHERE SECTIONS ARE INDICATED ON THE PLAN BY A NUMBER AND A DRAWING NUMBER THUS, 1/S5.01, THE INDICATED SECTION (1) IS SHOWN ON STRUCTURAL DRAWING S5.01.

SPECIAL INSPECTION

1. THE FOLLOWING ITEMS REQUIRE SPECIAL INSPECTION AND TESTING PER IBC SECTION 1704.
2. THIS WORK SHALL BE PERFORMED BY A SPECIAL INSPECTOR CERTIFIED BY THE GOVERNING BUILDING OFFICIAL TO PERFORM THE TYPES OF INSPECTIONS AND TESTS SPECIFIED.
3. THE FREQUENCY OF INSPECTIONS AND TESTING SHALL BE AS OUTLINED IN THE IBC TABLE ITEMS LISTED BELOW.
4. DEFICIENCIES SHALL BE REPORTED DAILY TO THE CONTRACTOR.
5. SUMMARY REPORTS SHALL BE DISTRIBUTED WEEKLY TO THE OWNER, ARCHITECT, CONTRACTOR, BUILDING OFFICIAL, AND STRUCTURAL ENGINEER. THE CONCRETE SUPPLIER SHALL BE INCLUDED IN THE DISTRIBUTION OF ALL SUMMARY REPORTS FOR CONCRETE TESTING.
6. SEE THE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS FOR SPECIAL INSPECTION AND TESTING.

SPECIAL INSPECTION TABLE

ITEM	DESCRIPTION (SEE IBC SECTS. 1704 & 1705)	IBC REQUIREMENT
CONCRETE	CONCRETE THAT IS PART OF THE STRUCTURE	TABLE 1705.3 ITEMS 5, 6, 7, 8, AND 14
BOLTS INSTALLED IN CONCRETE	ANCHOR BOLTS, HEADED STUDS (EXCEPT AT BEAM-TO-DECK INSTALLATION)	TABLE 1705.3 ITEM 3
REINFORCING STEEL	A. PLACEMENT OF REINFORCING STEEL	TABLE 1705.3 ITEM 1
PRE-ENGINEERED METAL BUILDING ERECTION	SEE STRUCTURAL STEEL AND WELDING SECTION ABOVE SEE METAL BUILDING MANUFACTURER'S DRAWINGS FOR ANY ADDITIONAL INSPECTION REQUIREMENTS	
STEEL OTHER THAN STRUCTURAL STEEL	A. COLD-FORMED STEEL DECK THAT IS PART OF THE STRUCTURE B. WELDING OF COLD-FORMED STEEL DECK	IBC SECTION 1705.2.2 IBC SECTION 1705.2.2
SOILS, SPECIAL GRADING, EXCAVATION AND FILLING	A. FOUNDATION EXCAVATIONS AND BEARING STRATA B. TESTING, PREPERATION, PLACEMENT, AND COMPACTION	TABLE 1705.6 ITEMS 1 AND 2 TABLE 1705.6 ITEMS 3, 4, AND 5
POST INSTALLED ANCHORS OR DOWELS	ALL POST-INSTALLED ANCHORS/ DOWELS SHALL BE SPECIALLY INSPECTED AS REQUIRED BY TABLE 1705.3 ITEM 4 AND AS REQUIRED BY THE APPROVED ICC-ES REPORT	
EPOXY OR CEMENT GROUTED DOWELS OR ANCHORS	-OBSERVE DRILLED HOLES AFTER CLEANING AND INSTALLATION OF ANCHOR -ANCHORS SUBJECT TO SUSTAINED TENSION SHALL BE CONTINUOUSLY INSPECTED AND INSTALLED BY A CERTFIED INSTALLER IN ACCORDANCE WITH THE MANUFACTUREER'S PRINTED INSTALLATION INSTRUCTIONS AND ACI 318, 26.7	

SHOP DRAWINGS

1. SHOP DRAWINGS FOR THE FOLLOWING ITEMS SHALL BE SUBMITTED FOR REVIEW PRIOR TO FABRICATION:
   A. REINFORCING STEEL
   B. SECONDARY SUPPORT FRAMING AND CONNECTIONS
2. DIMENSIONS AND QUANTITIES ARE NOT REVIEWED BY THE ENGINEER OF RECORD; THEREFORE, THEY SHALL BE VERIFIED BY THE CONTRACTOR. THE CONTRACTOR SHALL REVIEW AND STAMP DRAWINGS PRIOR TO REVIEW BY THE ENGINEER OF RECORD. CONTRACTOR SHALL REVIEW DRAWINGS FOR CONFORMANCE WITH THE MEANS, METHODS, TECHNIQUES, SEQUENCES, AND OPERATIONS OF CONSTRUCTION, AND ALL SAFETY PRECAUTIONS AND PROGRAMS INCIDENTAL THERETO. SUBMITTALS SHALL INCLUDE ONE ELECTRONIC COPY TO BE MARKED AND RETURNED.
3. SHOP DRAWING SUBMITTALS PROCESSED BY THE ENGINEER ARE NOT CHANGE ORDERS. THE PURPOSE OF SHOP DRAWING SUBMITTALS BY THE CONTRACTOR IS TO DEMONSTRATE TO THE ENGINEER THAT THE CONTRACTOR UNDERSTANDS THE DESIGN CONCEPT, BY INDICATING WHICH MATERIAL IS INTENDED TO BE FURNISHED AND INSTALLED, AND BY DETAILING THE INTENDED FABRICATION AND INSTALLATION METHODS. IF DEVIATIONS, DISCREPANCIES, OR CONFLICTS BETWEEN SHOP DRAWINGS SUBMITTALS AND THE CONTRACT DOCUMENTS ARE DISCOVERED EITHER PRIOR TO OR AFTER SHOP DRAWING SUBMITTALS ARE PROCESSED BY THE ENGINEER, THE DESIGN DRAWINGS AND SPECIFICATIONS SHALL CONTROL AND SHALL BE FOLLOWED.
4. SHOP DRAWINGS FOR DEFERRED SUBMITTALS THAT ARE DEFINED AS DESIGN-BUILD COMPONENTS IN THE CONSTRUCTION DOCUMENTS SHALL INCLUDE THE DESIGNING PROFESSIONAL ENGINEER'S STAMP FOR THE JURISDICTION WHERE THE PROJECT IS LOCATED AND SHALL BE APPROVED BY THE COMPONENT DESIGNER PRIOR TO CURSORY REVIEW BY THE ENGINEER OF RECORD FOR LOADS IMPOSED ON THE BASIC STRUCTURE. THE COMPONENT DESIGNER IS RESPONSIBLE FOR CODE CONFORMANCE AND ALL NECESSARY CONNECTIONS NOT SPECIFICALLY CALLED OUT ON ARCHITECTURAL OR STRUCTURAL DRAWINGS. SHOP DRAWINGS SHALL INDICATE MAGNITUDE AND DIRECTION OF ALL LOADS IMPOSED ON BASIC STRUCTURE. DESIGN CALCULATIONS SHALL BE INCLUDED IN THE SUBMITTAL.

WINTER CONSTRUCTION

1. ALL SOIL BELOW FOOTINGS SHALL BE PROTECTED FROM FREEZING BY ALL NECESSARY MEANS (e.g. TEMPORARY HEAT AND BLANKETS, TEMPERATURE PROBES, ETC.).
2. ALL CONCRETE SHALL BE PREVENTED FROM FREEZING AFTER POURING, AS DIRECTTED BY THE CONCRETE SPECIAL INSPECTOR, BY ALL NECESSARY MEANS (e.g. TEMPORARY HEAT, BLANKETS, ETC.).
3. ALL BACKFILL MUST BE PLACED ON UNFROZEN GROUND, IN UNFROZEN STATE AND COMPACTED PER THE GEOTECHNICAL REPORT.

SHEET INDEX

SHT. NO.	DESCRIPTION
S0.1	GENERAL NOTES/ SHEET INDEX
S1.0	TYPICAL DETAILS -CONCRETE
S1.1	TYPICAL DETAILS -LIGHT GAUGE STEEL
S2.0	FOUNDATION PLAN / MEZZANINE FRAMING PLAN
S3.0	SECTIONS AND DETAILS

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BRULE PUBLIC WORKS GARAGE

BRULE, WI 54820

project #: 25-717
date: 03/10/2026
drawn by: JST
checked by: JEA

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revision / issue	no.	date

sheet title: GENERAL NOTES ABBREVIATIONS / SHEET INDEX

sheet number: S0.1

NOTES:

1. NOTATIONS:
   - db : NOMINAL BAR DIAMETER (INCHES)
   - L_D : TENSION DEVELOPMENT LENGTH (INCHES) FOR REINFORCEMENT SATISFYING THE FOLLOWING REQUIREMENTS:
     SLABS AND WALLS: CLEAR SPACING > 2 db, AND CONC. CLEAR COVER > db
     BEAMS AND COLUMNS: CLEAR SPACING > db, AND CONC. CLEAR COVER > db
   - L_T : DEVELOPMENT LENGTH OF TOP BARS IN TENSION = 1.3 x L_D (INCHES)
   - L_B : DEVELOPMENT LENGTH OF BARS OR DOWELS IN COMPRESSION = 19 x db (INCHES)
   - L_C : TIED COLUMN LAP SPLICE IN COMPRESSION = 30 x db (INCHES)
   - L_{CS} : SPIRAL COLUMN LAP SPLICE IN COMPRESSION = 22.5 x db (INCHES)
   - L_{BB} : TENSION LAP SPLICE LENGTH FOR OTHER THAN TOP BARS = 1.3 x L_D (INCHES)
   - L_{BBT} : TENSION LAP SPLICE LENGTH OF TOP BARS = 1.7 x L_D (INCHES)
2. MULTIPLY VALUES IN THE TABLE BY 1.5 IF CLEAR SPACING OR CONCRETE COVER DO NOT MEET THE REQUIREMENTS FOR LD IN NOTE 1.
3. MULTIPLY VALUES IN THE TABLE BY 1.2 FOR EPOXY COATED BARS WITH CLEAR SPACING AND COVER MEETING THE REQUIREMENTS FOR LD IN NOTE 1, OTHERWISE MULTIPLY VALUE BY 1.5.
4. TOP BARS: HORIZONTAL BEAM REINFORCING WITH MORE THAN 12 INCHES OF CONCRETE CAST BELOW.
5. THE DEVELOPMENT AND SPLICE LENGTHS ARE BASED ON REINFORCEMENT STRENGTH Fy = 60 KSI
6. #14 AND #18 BARS SHALL NOT BE LAP SPLICED. SEE GENERAL NOTES.
7. MULTIPLY VALUES IN THE TABLE BY 1.33 FOR USE WITH LIGHTWEIGHT AGGREGATE CONCRETE.

CONCRETE f'c = 4,000 PSI				
BAR SIZE	L_D	L_T	L_{SB}	L_{SBT}
#3	15	20	20	26
#4	19	25	25	33
#5	24	32	32	42
#6	29	38	38	50
#7	42	55	55	72
#8	48	63	63	82
#9	54	71	71	93
#10	61	80	80	104
#11	67	88	88	115
#14	81	106	-	-
#18	108	141	-	-

CONCRETE ALL STRENGTHS			
BAR SIZE	L_B	L_C	L_{CS}
#3	8	12	12
#4	10	15	12
#5	12	19	14
#6	15	23	17
#7	17	26	20
#8	19	30	23
#9	22	34	26
#10	24	38	29
#11	27	42	32
#14	33	-	-
#18	43	-	-

MASONRY				
BAR SIZE	TENSION		COMPRESSION	
	L_D	L_{SB}	L_B	L_C
#3	24	24	24	24
#4	24	24	24	24
#5	30	25	24	24
#6	36	30	27	24
#7	42	35	32	26
#8	48	40	36	30
#9	54	45	41	34
#10	60	50	45	38
#11	66	55	50	41

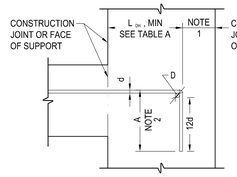
1 S1.0 TYPICAL REINFORCING BAR DEVELOPMENT AND SPLICE LENGTH TABLES
NOT TO SCALE

TABLE A

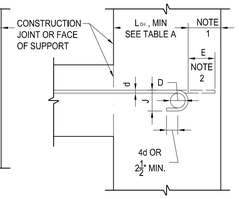
MINIMUM TENSION EMBEDMENT LENGTHS, (L_{DH}) FOR STANDARD END HOOKS ON GRADE 60 BARS

BAR SIZE	NORMAL WEIGHT CONCRETE, f'c (psi)					
	3,000	4,000	5,000	6,000	7,000	8,000
#3	6"	6"	6"	6"	6"	6"
#4	8"	7"	7"	7"	7"	7"
#5	10"	9"	8"	7"	7"	7"
#6	12"	10"	9"	8"	8"	8"
#7	14"	12"	11"	10"	9"	9"
#8	16"	14"	12"	11"	10"	10"
#9	18"	15"	14"	13"	12"	11"
#10	20"	17"	15"	14"	14"	14"
#11	22"	19"	17"	16"	15"	15"
#14	37"	32"	29"	27"	25"	25"
#18	50"	43"	39"	35"	33"	31"

END HOOK ALL GRADES (D) FINISHED BEND DIAMETER				
BAR SIZE	D	180° HOOKS		90° HOOKS
		E	J	A
#3	2-1/4"	5"	3"	6"
#4	3"	6"	4"	8"
#5	3-3/4"	7"	5"	10"
#6	4-1/2"	8"	6"	12"
#7	5-1/4"	10"	7"	14"
#8	6"	11"	8"	16"
#9	9-1/2"	15"	11-3/4"	19"
#10	10-3/4"	17"	13-1/4"	22"
#11	12"	19"	14-3/4"	24"
#14	18-1/4"	27"	21-3/4"	31"
#18	24"	36"	28-1/2"	41"



90° HOOK



180° HOOK

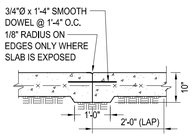
NOTES:

1. BAR DIMENSION REQUIRED TO MANUFACTURE HOOK.
2. FOR EPOXY COATED HOOKS, INCREASE THE ABOVE EMBEDMENT LENGTHS BY 20%.
3. ABOVE VALUES VALID FOR ALL CASES IF:
   SIDE COVER >= 2-1/2"
   END COVER >= 2"

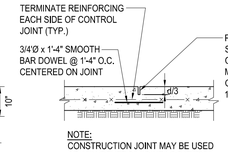
2 S1.0 TYPICAL REINFORCING BAR STANDARD HOOK AND EMBEDMENT TABLES
NOT TO SCALE

NOTES:

1. SEE PLAN FOR SLAB ON GRADE THICKNESS
2. LOCATE CONSTRUCTION JOINTS UNDER PARTITIONS OR ON COLUMN LINES. PROVIDE CONTROL JOINTS ON ALL COLUMN LINES AND AT 30x SLAB THICKNESS MAXIMUM SPACING EACH WAY IN BETWEEN. PROVIDE CONTROL JOINTS AT ALL RE-ENTRANT CORNERS.
3. SAWED JOINTS SHALL BE MADE AS SOON AS THE JOINT CAN BE CUT WITHOUT EDGES RAVELING AND WITHIN 24 HOURS OF SLAB PLACEMENT. SAWED JOINTS SHALL BE FILLED WITH SEALANT AS COORDINATED WITH THE ARCHITECT.
4. LOCATE REINFORCING AT ONE-THIRD OF DEPTH FROM TOP OF SLAB.
5. FOLLOW RECOMMENDATIONS GIVEN IN GEOTECHNICAL REPORT IN STRICT ACCORDANCE IN REGARDS TO THE USE OF VAPOR BARRIER, CRUSHED STONE AND SOIL COMPACTION.
6. TYPICAL SLAB REINFORCING TO BE 6x6-W1.4xW1.4 WELDED WIRE FABRIC, UNLESS NOTED OTHERWISE. REINFORCEMENT SHOWN IN PLAN AND/OR TYPICAL DETAILS SHALL BE FOLLOWED AS SPECIFIED.

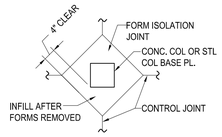


CONSTRUCTION JOINT



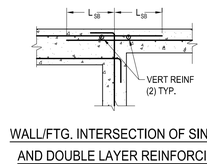
NOTE:
CONSTRUCTION JOINT MAY BE USED AT ANY CONTROL JOINT LOCATION.

SAWED CONTROL JOINT

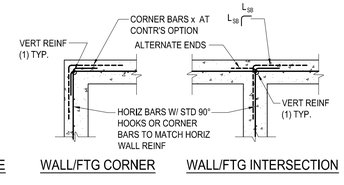


ISOLATION JOINT AT COLUMN

3 S1.0 TYPICAL REINFORCED SLAB ON GRADE
NOT TO SCALE

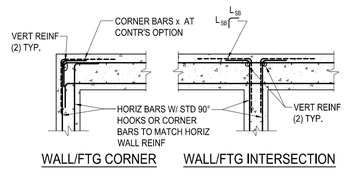


WALL/FTG. INTERSECTION OF SINGLE AND DOUBLE LAYER REINFORCING



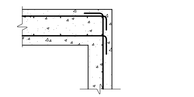
WALL/FTG CORNER

WALL/FTG INTERSECTION

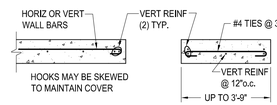


WALL/FTG CORNER

WALL/FTG INTERSECTION



WALL/FTG CORNER OF SINGLE AND DOUBLE LAYER REINFORCING

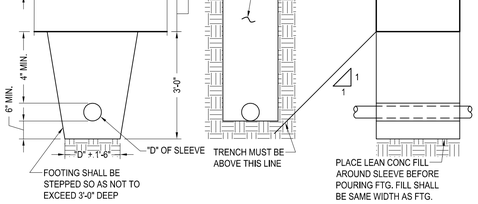


WALL END

SINGLE LAYER REINFORCING

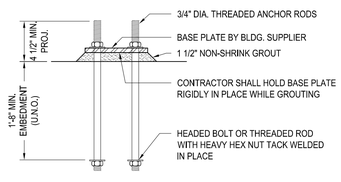
WALL PIER

4 S1.0 TYPICAL CONCRETE WALL / FOOTING REINFORCING
NOT TO SCALE



NOTE:
1. FOR PIPES 3'-0" OR LESS BELOW FOOTING PROVIDE SLEEVE AND CONCRETE AS SHOWN.
2. FOR PIPES MORE THAN 3'-0" BELOW FOOTING USE STEPPED FOOTING DETAIL TO GET WITHIN 3'-0" MAX.

5 S1.0 TYPICAL PIPE ENCASEMENT UNDER FOOTING
NOT TO SCALE



6 S1.0 TYPICAL ANCHOR ROD DETAILS
NO SCALE

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BRULE PUBLIC WORKS GARAGE

BRULE, WI 54820

project #: 25-717
date: 03/10/2026
drawn by: JST
checked by: JEA

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reg. #: E-31673
sign date: 03/10/2026

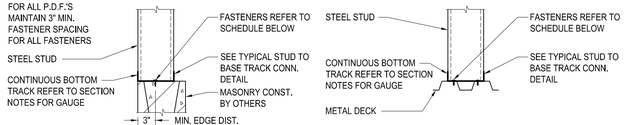
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revision / issue	no.	date

sheet title: TYPICAL DETAILS - CONCRETE / MASONRY

sheet number: S1.0

1. 1" MIN. EMBED. REQ'D FOR ALL P.D.F.'S
2. MAINTAIN 3" MIN. FASTENER SPACING FOR ALL FASTENERS



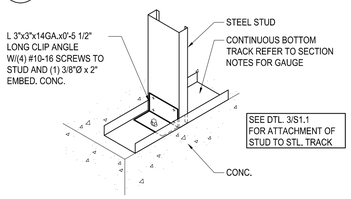
BASE DETAIL @ MASONRY/CONC.

LOCATION	NUMBER OF FASTENERS REQ'D.
TYPICAL FRAMING	(2) 0.145" DIA. P.D.F.'S @ EACH STUD
JAMB STUDS	(4) 0.145" DIA. P.D.F.'S @ EACH JAMB (U,N,O.)

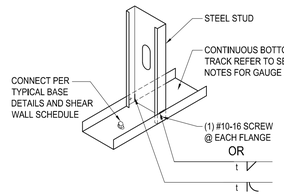
BASE DETAIL @ METAL DECK AND FLOOR SHEATHING

LOCATION	NUMBER OF FASTENERS REQ'D.
TYPICAL FRAMING	(2) #10-16 SCREWS @ 8" O.C.
JAMB STUDS	(4) #10-16 SCREWS @ EACH JAMB

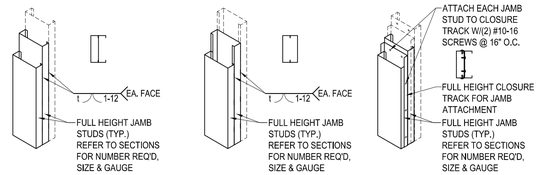
1 S1.1 TYPICAL STUD BASE DETAILS
1" = 1'-0"



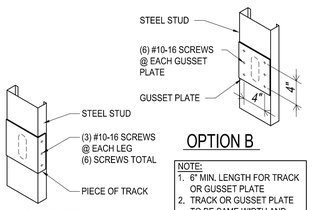
2 S1.1 JAMB STUD BASE CONNECTION DETAIL
1" = 1'-0" (REQUIRED WHERE NOTED ON PLAN)



3 S1.1 TYPICAL STUD TO BASE TRACK CONNECTION
1"=1'-0"

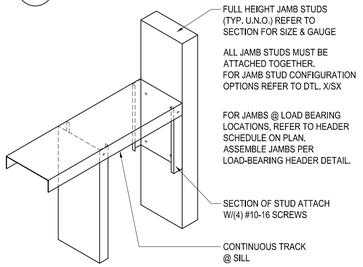


4 S1.1 TYPICAL JAMB STUD ATTACHMENT DETAILS
3/4" = 1'-0" CONTRACTORS OPTION

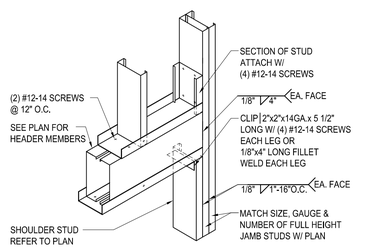


NOTE:
1. 6" MIN. LENGTH FOR TRACK OR GUSSET PLATE
2. TRACK OR GUSSET PLATE TO BE SAME WIDTH AND GAUGE AS STUD

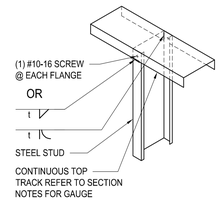
5 S1.1 TYPICAL PUNCHOUT REINFORCING
1"=1'-0"



6 S1.1 SILL - JAMB DETAIL
1" = 1'-0"



7 S1.1 HEADER - JAMB DETAIL
3/4" = 1'-0" (LOAD BEARING)



8 S1.1 TYPICAL STUD TO TOP TRACK CONNECTION
1"=1'-0"

MILS	GAUGE
33 MILS	20 GAUGE
43 MILS	18 GAUGE
54 MILS	16 GAUGE
68 MILS	14 GAUGE
97 MILS	12 GAUGE

MILS TO GAUGE CONVERSION CHART

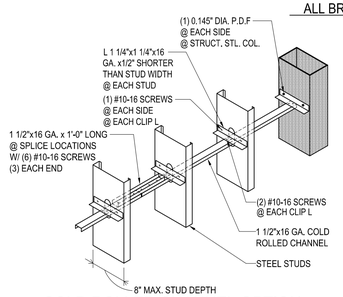
STEEL STUD THICKNESS IN MILS	WELD THICKNESS (t)
33 MILS	NO WELDING
43 MILS	1/8"
54 MILS	1/8"
68 MILS	1/8"
97 MILS	5/32"

WELD THICKNESS

FASTENER NOTES:

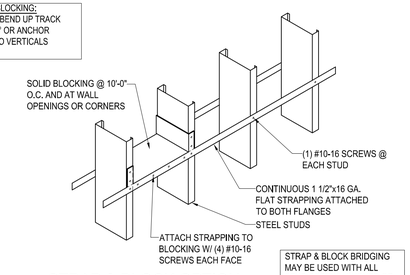
1. ALL P.D.F.'S ATTACHED TO STRUCTURAL STEEL ARE TO BE HILTI X-EDNI, RAMSET 1500/1600, POWERS DRIVE PIN, OR EQUAL. TYPICAL THRU-OUT.
2. ALL P.D.F.'S ATTACHED TO CONCRETE ARE TO BE HILTI X-DNI, RAMSET 1500/1600, POWER DRIVE PIN, OR EQUAL. TYPICAL THRU-OUT.
3. ALL SCREWS ARE TO BE ITW BUILDEX TEKS OR EQUAL, TYPICAL THRU-OUT.

ALL BRIDGING VERTICAL SPACING @ 48" O.C. AT DETAIL BELOW



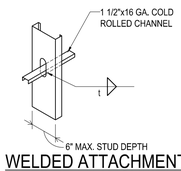
COLD ROLLED CHANNEL OPTION

FOR SOLID BLOCKING: NOTCH AND BEND UP TRACK FLANGES 90° OR ANCHOR BLOCKING TO VERTICALS W/ CLIP L'S

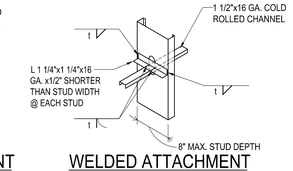


STRAP & BLOCK OPTION

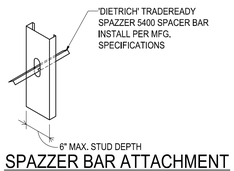
STRAP & BLOCK BRIDGING MAY BE USED WITH ALL STUD DEPTHS, CURVED OR STRAIGHT WALLS.



WELDED ATTACHMENT



WELDED ATTACHMENT



SPAZZER BAR ATTACHMENT

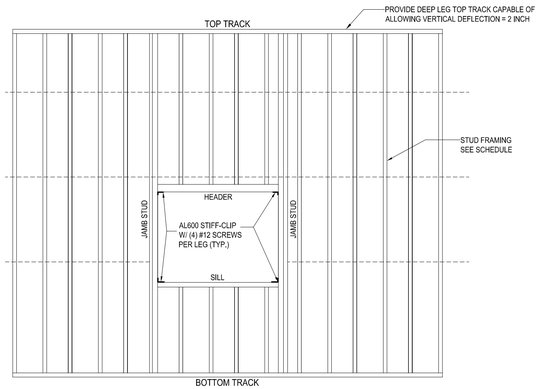


BRIDGECLIP ATTACHMENT

9 S1.1 TYPICAL BRIDGING ATTACHMENT DETAILS
3/4" = 1'-0" CONTRACTORS OPTION

STEEL STUD FRAMING NOTES:

1. ALL STEEL STUDS, JOISTS, AND ACCESSORIES SHALL BE ASTM A653/A653M, GRADE 33 OR 50 (FY = 33,000 PSI AND 50,000 PSI, RESPECTIVELY) SEE STUD SCHEDULE(S) BELOW.
2. TOP AND BOTTOM TRACK SECTIONS TO MATCH STUD THICKNESS.
3. ALL STEEL STUD AND JOIST FASTENERS SHALL BE WELDED CONNECTIONS, OR SHALL BE "TEKS" SCREWS, MANUFACTURED BY "ITW BUILDEX" OR APPROVED EQUAL.
4. STUDS SHALL HAVE FULL BEARING AGAINST INSIDE TRACK WEB, PRIOR TO STUD AND TRACK ATTACHMENT.
5. SPLICES IN AXIALLY LOADED STUDS SHALL NOT BE PERMITTED.
6. FRAMING COMPONENTS MAY BE PRE-ASSEMBLED INTO PANELS PRIOR TO ERECTING. PREFABRICATED PANELS SHALL BE SQUARE, WITH COMPONENTS ATTACHED IN A MANNER AS TO PREVENT ROCKING.
7. ALL FRAMING COMPONENTS SHALL BE CUT SQUARELY FOR ATTACHMENT TO PERPENDICULAR MEMBERS. MEMBERS SHALL BE HELD POSITIVELY IN PLACE UNTIL PROPERLY FASTENED.
8. ERECT FRAMING AND PANELS PLUMB, LEVEL AND SQUARE IN ACCORDANCE WITH THE APPROVED SHOP DRAWINGS.
9. HANDLING AND LIFTING OF PREFABRICATED PANELS SHALL BE DONE IN A MANNER AS TO NOT CAUSE DISTORTION IN ANY MEMBER.
10. TRACK SHALL BE SECURELY ANCHORED TO THE SUPPORTING STRUCTURE AS SHOWN ON THE FABRICATION AND ERECTION DRAWINGS.
11. AT TRACK BUTT JOINTS, ABUTTING PIECES OF TRACK SHALL BE SECURELY ANCHORED TO A COMMON STRUCTURAL ELEMENT, OR THEY SHALL BE BUTT-WELDED OR SPLICED TOGETHER.
12. STUDS SHALL BE PLUMBED, ALIGNED AND SECURELY ATTACHED TO THE FLANGE OR WEBS OF BOTH UPPER AND LOWER TRACKS.
13. WALL STUD BRIDGING SHALL BE ATTACHED IN A MANNER TO PREVENT STUD ROTATION. BRIDGING ROWS SHALL BE SPACED ACCORDING TO THE MANUFACTURER'S RECOMMENDATION. THE MINIMUM BRIDGING SHALL BE 4'-0" O.C. FOR WIND LOADED WALLS AND 3'-4" O.C. FOR AXIAL LOADED WALLS.



TYPICAL NON-LOAD BEARING WALL ELEVATION

WALL OPENING SCHEDULE @ 3 5/8" NON-LOAD BEARING WALLS (U.N.O.)

OPENING WIDTH	DEFLECTION	JAMB STUDS EACH SIDE	HEADER AND SILL
UP TO 6'-0"	L/360	(2) WALL STUDS	(2) 362S137-33 BOX HEADER W/ T&B TRACKS, SINGLE SILL TRACK
>6'-0" TO 8'-0"	L/360	(3) WALL STUDS	(2) 362S137-54 BOX HEADER W/ T&B TRACKS, SINGLE SILL TRACK
>8'-0" TO 10'-0"	L/360	(3) WALL STUDS	(2) 600S162-33 BOX HEADER W/ T&B TRACKS, SEE 2/S1.0 FOR SILL
>10'-0" TO 12'-0"	L/360	(3) WALL STUDS	(2) 600S162-54 BOX HEADER W/ T&B TRACKS, SEE 2/S1.0 FOR SILL

WALL OPENING SCHEDULE @ 6" NON-LOAD BEARING INTERIOR AND EXTERIOR WALLS (U.N.O.)

OPENING WIDTH	DEFLECTION	JAMB STUDS EACH SIDE	HEADER AND SILL
UP TO 6'-0"	L/360	(2) WALL STUDS	(2) 600S162-33 BOX HEADER W/ T&B TRACKS, SINGLE SILL TRACK
>6'-0" TO 8'-0"	L/360	(3) WALL STUDS	(2) 600S167-43 BOX HEADER W/ T&B TRACKS, SINGLE SILL TRACK
>8'-0" TO 10'-0"	L/360	(3) WALL STUDS	(2) 600S162-54 BOX HEADER W/ T&B TRACKS, SEE 2/S1.0 FOR SILL
>10'-0" TO 12'-0"	L/360	(3) WALL STUDS	(2) 600S162-68 BOX HEADER W/ T&B TRACKS, SEE 2/S1.0 FOR SILL

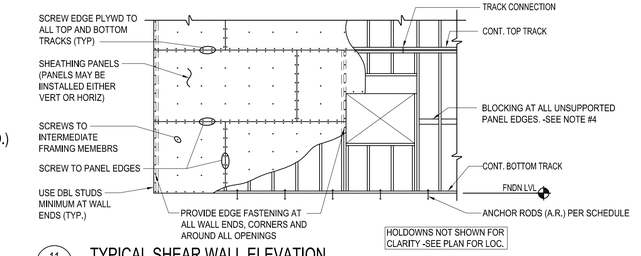
10 S1.1 TYPICAL INTERIOR NON-LOAD BEARING STEEL STUD WALL FRAMING NOTES AND SCHEDULES
N.T.S.

SHEAR WALL SCHEDULE

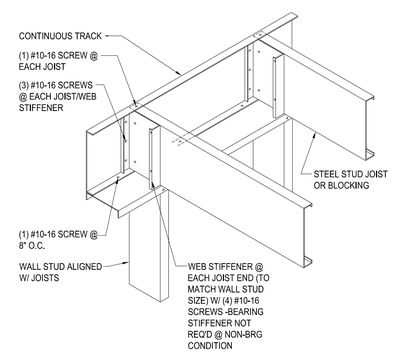
SHEAR WALL TYPE	MIN. STUD MIL. (GAUGE)	APA RATED SHEATHING	FASTENER SPACING AT PANEL EDGE	TRACK CONNECTION TOP & BOTTOM	BOTTOM TRACK TO CONCRETE BELOW	ALLOWABLE CAPACITY (LBS/FT)
SW1	43 (18)	5/8" GYPSUM ONE SIDE	6" O.C.	(1) ROW NO. 8 SCREWS @ 6" O.C.	PER 1/S1.1	115

NOTES:
1. REFER TO GENERAL NOTES AND TYPICAL DETAILS FOR STUD FRAMING REQUIREMENTS
2. SCREWS SHALL BE NO. 8x1.25" SELF-DRILL/SELF-TAPPING BUGLE HEAD SCREWS.
3. INSTALL SCREWS TO INTERMEDIATE MEMBERS AT 12" ON CENTER, UNLESS NOTED OTHERWISE.
4. PROVIDE BLOCKING (43 MIL. MIN) BETWEEN STUDS WHEN TOP OR BOTTOM PANEL EDGE DOES NOT BREAK ON A CONTINUOUS TRACK.
5. REFER TO PLAN FOR SHEAR WALL END CONDITIONS.
6. COORDINATE MINIMUM STUD GAUGE REQUIREMENTS WITH LIGHT GAUGE STEEL FRAMING SCHEDULE. THE HEAVIER GAUGE GOVERNS.

SHEAR WALL LEGEND
SHEAR WALL EXTENT. -VERIFY W/ ARCH.
SHEAR WALL TYPE
SW1
SIDE OF WALL TO RECEIVE STRUCTURAL SHEATHING INDICATED BY SIDE OF SHEAR WALL TYPE LABEL



11 S1.1 TYPICAL SHEAR WALL ELEVATION
NO SCALE



12 S1.1 TYPICAL FLOOR TO STUD WALL DETAIL
3/4"=1'-0"

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BRULE PUBLIC WORKS GARAGE

BRULE, WI 54820

project #: 25-717
date: 03/10/2026
drawn by: JST
checked by: JEA

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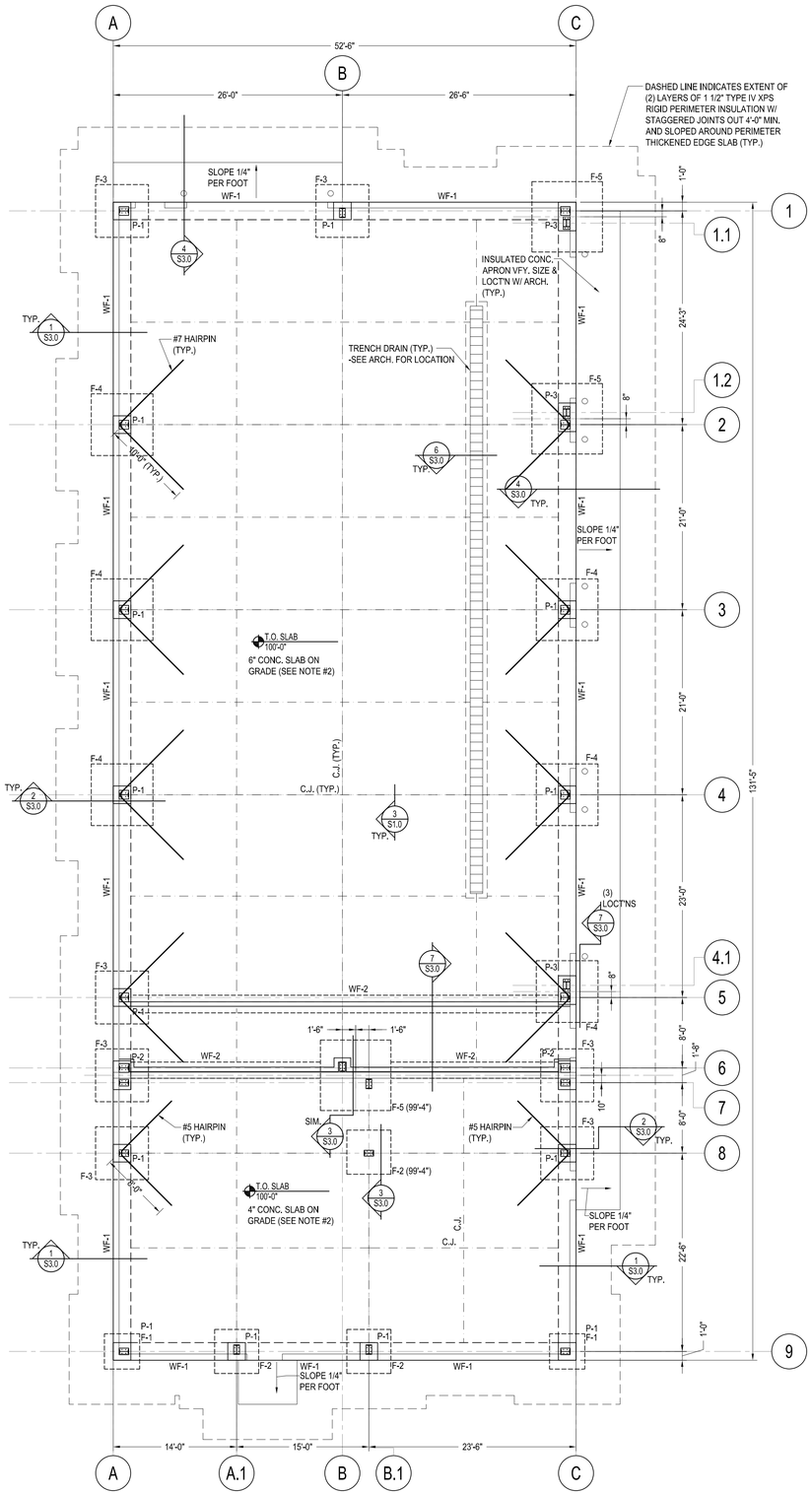
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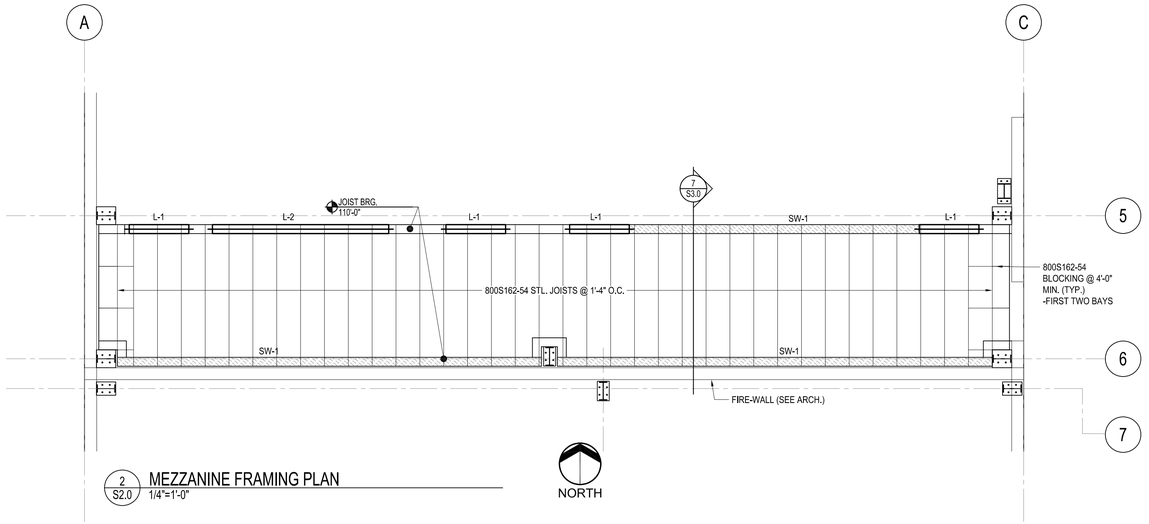
sheet title: TYPICAL DETAILS - LIGHT GAUGE STEEL

sheet number: S1.1



1 S2.0 FOUNDATION PLAN
1/8"=1'-0"

NORTH



2 S2.0 MEZZANINE FRAMING PLAN
1/4"=1'-0"

NORTH

LINTEL SCHEDULE

MARK	DESCRIPTION	TRACK	JAMB STUDS
L-1	(2) 600S162-54 BACK TO BACK W/ 1 5/8" (MIN.) BRG. EACH END	600T150-43 TOP & BOTTOM	(2) 600S162-43 BACK TO BACK & (1) 600S162-43 SHOULDER STUD
L-2	(2) 1000S162-68 BACK TO BACK W/ 1 5/8" (MIN.) BRG. EACH END	600T150-43 TOP & BOTTOM	(2) 600S162-43 BACK TO BACK & (1) 600S162-43 SHOULDER STUD

MEZZANINE FRAMING PLAN NOTES:

1. REFERENCE MEZZANINE FLOOR ELEVATION IS AS NOTED ON PLANS.
2. MEZZANINE DECKING IS 1.5B20 STEEL FLOOR DECK WITH 3/4" T&G PLYWOOD FLOOR SHEATHING SPANNING BETWEEN FLOOR JOISTS.
3. "L-" INDICATES LINTEL BEAM. SEE LINTEL SCHEDULE FOR MEMBER SIZES. VERIFY SIZE AND LOCATION WITH ARCHITECTURAL.
4. "SW-" INDICATES SHEAR WALL. SEE SHEAR WALL SCHEDULE FOR DETAILS. ALL WALLS TO BE SW-1 UNLESS NOTED OTHERWISE.
5. SEE STRUCTURAL NOTES AND TYPICAL DETAILS FOR ADDITIONAL INFORMATION.

FOOTING SCHEDULE

MARK	DESCRIPTION	REMARKS
WF-1	2'-0" WIDE x 2'-0" DEEP x CONT. THICKENED EDGE R/W (3) #5 x CONT. TOP & BOT.	
WF-2	2'-0" WIDE x 2'-0" DEEP x CONT. THICKENED SLAB R/W (2) #5 x CONT. TOP & BOT.	
F-1	4'-0" SQUARE x 1'-0" DEEP COLUMN FTG, R/W (6) #4 EACH WAY BOTTOM	
F-2	5'-0" SQUARE x 1'-0" DEEP THICKENED SLAB R/W (6) #5 EACH WAY TOP & BOTTOM	
F-3	6'-0" SQUARE x 1'-2" DEEP COLUMN FTG, R/W (7) #5 EACH WAY TOP & BOTTOM	
F-4	7'-0" SQUARE x 1'-5" DEEP COLUMN FTG, R/W (7) #6 EACH WAY TOP & BOTTOM	
F-5	8'-0" SQUARE x 1'-7" DEEP THICKENED SLAB R/W (9) #6 EACH WAY TOP & BOTTOM	

NOTES:
1. UNLESS NOTED OTHERWISE ON PLAN OR DETAILS, ALL WALL FOOTINGS SHALL BE CENTERED ON FOUNDATION WALLS AND STEEL COLUMNS
2. REFER TO FOOTING SCHEDULE FOR ALL FOOTING SIZES. DO NOT SCALE FROM DRAWINGS.

FOUNDATION PLAN NOTES:

1. REFERENCE FLOOR ELEVATION IS 100'-0". TOP OF SLAB ON GRADE IS AT THE REFERENCE FLOOR ELEVATION UNLESS NOTED OTHERWISE. WHERE SLAB ON GRADE SLOPES, SEE ARCHITECTURAL DRAWINGS.
2. SEE PLAN FOR SLAB ON GRADE THICKNESS. 4" CONC. SLAB SHALL BE REINFORCED WITH W.W.F. 6x6-W2.9xW2.9 @ SLAB MID-DEPTH OR #4 @ 2'-0" ON CENTER EACH WAY @ SLAB MID-DEPTH. 6" CONC. SLAB SHALL BE REINFORCED WITH #4 @ 1'-5" O.C. EACH WAY AT SLAB MID-DEPTH. SEE TYPICAL REINFORCED SLAB ON GRADE DETAILS. SLAB ON GRADE SHALL BE PLACED ATOP COMPACTED STRUCTURAL FILL IN ACCORDANCE WITH THE GEOTECHNICAL ENGINEER'S RECOMMENDATIONS.
3. SEE 3/S1.0 FOR TYPICAL CONTROL/CONSTRUCTION JOINT DETAIL & JOINT SPACING REQUIREMENTS.
4. (XXX'-X") INDICATES TOP OF FOOTING ELEVATION. ALL FOOTING SHALL BE AT ELEVATION 98'-0", UNLESS NOTED OTHERWISE ON PLAN. ALL FOOTINGS SHALL BEAR ON UNDISTURBED SUBGRADE OR STRUCTURAL FILL IN ACCORDANCE WITH THE GEOTECHNICAL ENGINEER'S RECOMMENDATIONS.
5. "WF-1" AND "F-1" INDICATES WALL AND COLUMN FOOTING MARK. SEE FOOTING SCHEDULE FOR SIZE AND REINFORCING.
6. "P-1" INDICATES CONCRETE PIER MARK. SEE 5/S3.0 FOR CONCRETE PIER TYPES, SECTIONS AND DETAILS.
7. SEE DETAIL 5/S1.0 FOR TYPICAL PIPE PERPENDICULAR TO FOOTING SPECIFICATIONS. VERIFY ALL PIPE UTILITY LOCATIONS AND REQUIREMENTS WITH MECHANICAL CONTRACTOR.
8. SEE ARCHITECTURAL AND CIVIL DRAWINGS FOR SIDEWALKS, PAVING, AND DETAILS AT BUILDING EXTERIOR.

CONSTRUCTION OF THE PRE-ENGINEERED METAL BUILDING FOUNDATION IS NOT PERMITTED UNTIL FINAL CERTIFIED DRAWINGS AND CALCULATIONS FOR THE PRE-ENGINEERED METAL BUILDING HAVE BEEN REVIEWED AND APPROVED.

BUILDING REACTION TABLE NOTES
1. PRELIMINARY METAL BUILDING REACTIONS SUPPLIED BY BUTLER MANUFACTURING DATED 12/26/2025.
2. NEGATIVE VERTICAL WIND REACTIONS REPRESENTS UPLIFT.
3. HORIZONTAL REACTIONS INCLUDING WIND-X ARE IN THE EAST - WEST PLAN DIRECTION. POSITIVE REACTIONS REPRESENT OUTWARD THRUST - (ACTING PARALLEL WITH METAL BUILDING FRAME.)
4. HORIZONTAL WIND-Z REACTIONS IN THE NORTH - SOUTH PLAN DIRECTION.
5. ** INDICATES AN ADDITIONAL 719 K*IN MOMENT COLUMN REACTION

BUILDING COLUMN DESIGN REACTIONS

VERTICAL (KIPS)						
COLUMN	DEAD	COLL.	ROOF LIVE	SNOW	WIND-X	WIND-Z
9C	+0.76	+0.66	+2.62	+7.09	-2.94	
9B.1	+1.16	+1.29	+4.9	+13.75		-5.67
9A.1	+0.61	+0.64	+2.67	+6.89		-3.67
9A	+0.51	+0.49	+1.93	+5.27	-2.44	
8C	+1.0	+1.02	+2.26	+14.51	-2.73	+-9.4
8B.1	+3.15	+3.73	+7.73	+53.08	-9.14	
8A	+1.29	+1.42	+2.75	+20.20	-3.64	+-7.30
7C	+0.41	+0.21	+0.83	+5.16	-1.05	+-9.63
7B.1	+0.93	+0.7	+2.79	+17.38	-3.45	-3.45
7A	+0.42	+0.28	+1.17	+7.03	-1.33	+-7.43
1.1C/1.2C/4.1C	+0.59					
6C	+0.63	+0.35	+1.57	+3.08	-2.24	
6B	+0.96	+0.87	+3.47	+7.45	-5.31	+-7.45
6A	+0.74	+0.48	+1.92	+5.29	-3.05	
5C	+2.26	+1.98	+4.72	16.48	-8.87	
5A	+2.32	+2.33	+6.1	22.27	-11.56	
2C/3C/4C	+2.9	+2.93	+7.11	+24.39	-11.48	
2A/3A/4A	+3.04	+3.46	+9.07	+33.1	-15.87	
1C	+0.94	+0.79	+3.08	+6.69	-3.94	
1B	+1.46	+1.86	+6.41	+15.18	-9.5	-8.39
1A	+1.18	+1.07	+3.89	+11.53	-7.32	

HORIZONTAL (KIPS)						
COLUMN	DEAD	COLL.	ROOF LIVE	SNOW	WIND-X	WIND-Z
9C	+0.1	+0.12	+0.52	+1.27	+-1.72	
9B.1						+-2.29
9A.1						+-1.62
9A	+0.1	+0.12	+0.44	+1.27	+-2.16	
8C	+0.13	+0.18	+0.38	+2.54	+0.58	-4.78
8B.1						
8A	+0.13	+0.18	+0.38	+2.54	+2.56	-5.12
7C	+0.05	+0.05	+0.19	+1.16	+-0.71	-4.47
7B.1						-1.43
7A	+0.05	+0.05	+0.19	+1.16	+-0.56	-4.48
1.1C/1.2C/4.1C						+-2.53**
6C	+0.03	+0.04	+0.15	+0.31	+-1.15	
6B						+-3.27
6A	+0.03	+0.04	+0.15	+0.31	+-1.22	
5C	+0.4	+0.54	+1.26	+4.37	+-4.82	
5A	+0.4	+0.54	+1.26	+4.37	+-4.26	
2C/3C/4C	+0.72	+1.06	+2.61	+8.63	+-6.36	
2A/3A/4A	+0.72	+1.06	+2.61	+8.63	+-6.85	+-6.51 (WIND BRACE)
1C	+0.06	+0.09	+0.33	+0.78	+-2.88	
1B						+-5.32
1A	+0.06	+0.09	+0.33	+0.78	+-4.71	

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BRULE PUBLIC WORKS GARAGE

BRULE, WI 54820

project #: 25-717
date: 03/10/2026
drawn by: JST
checked by: JEA

WISCONSIN JON E. AAMODT E-31673 DULUTH MINN. PROFESSIONAL ENGINEER

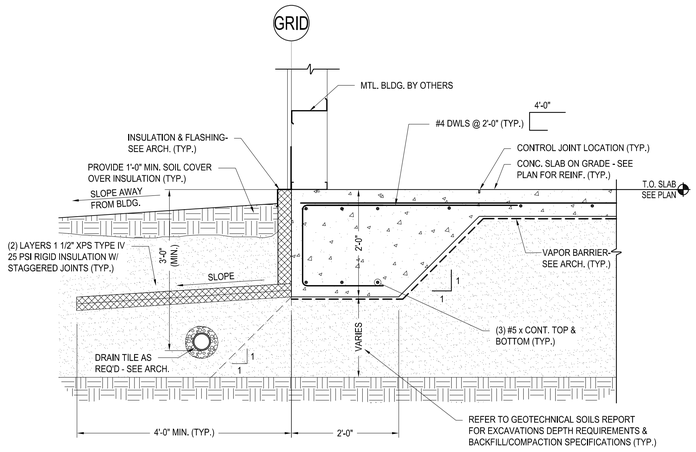
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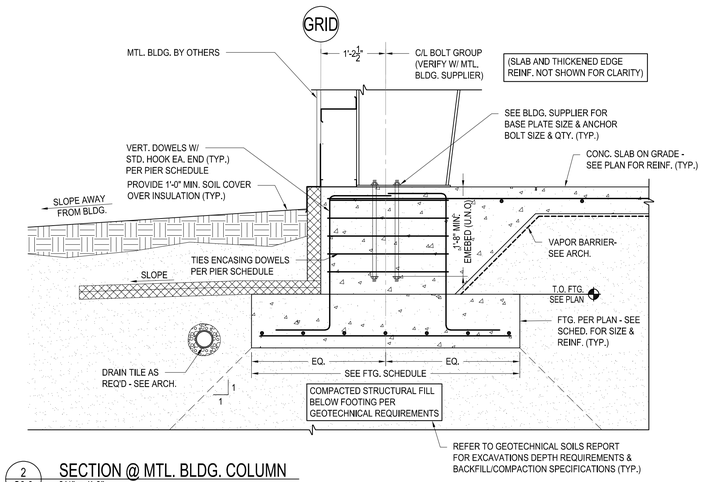
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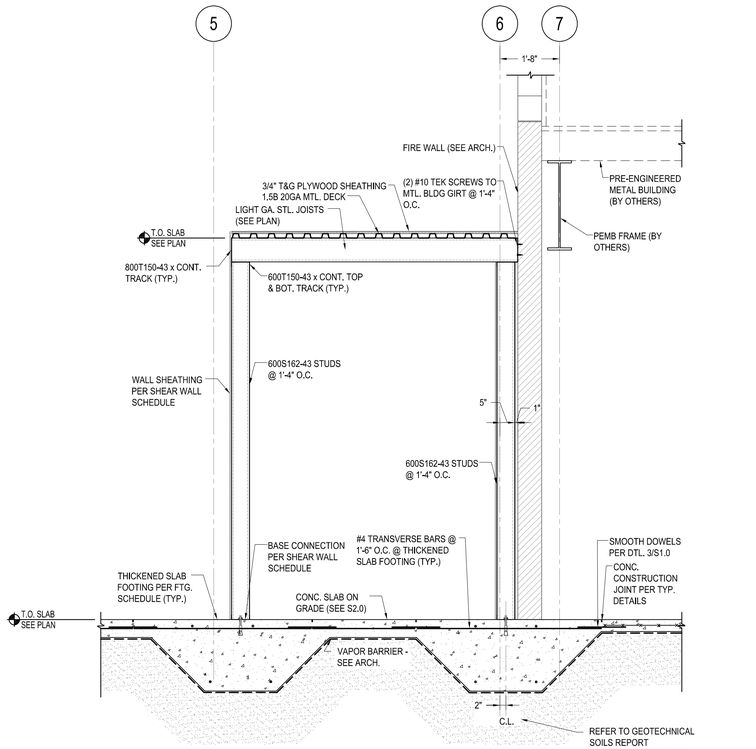
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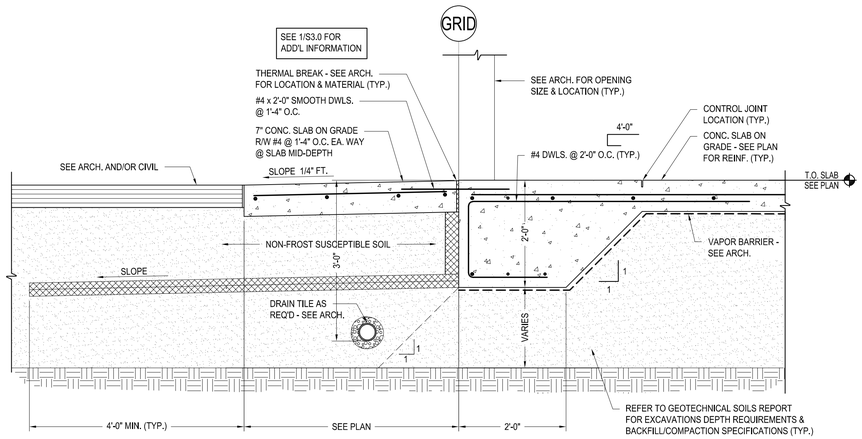
1 S3.0 **TYPICAL SECTION @ THICKENED EDGE**
3/4" = 1'-0"



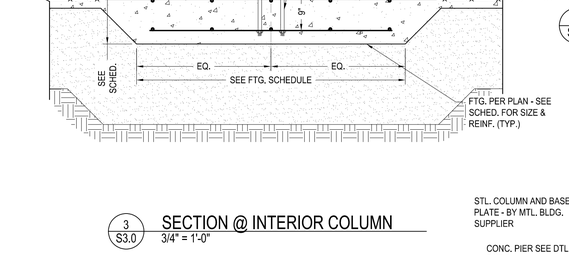
2 S3.0 **SECTION @ MTL. BLDG. COLUMN**
3/4" = 1'-0"



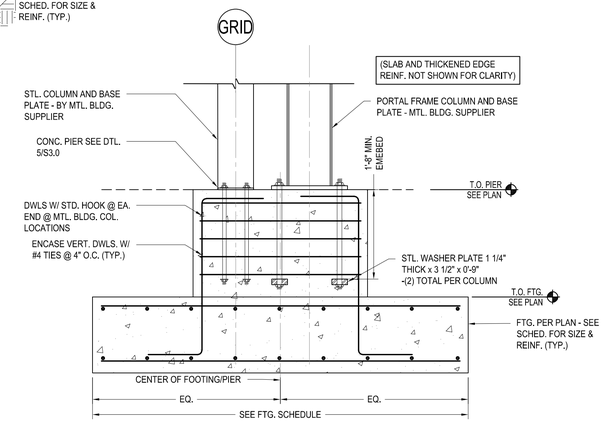
7 S3.0 **SECTION @ FIRE BARRIER**
1/2" = 1'-0"



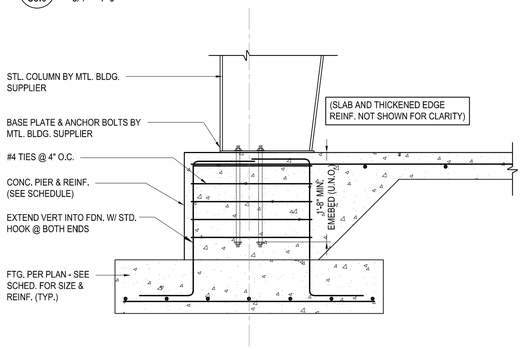
4 S3.0 **SECTION @ THICKEN EDGE AT STOOP / APRON**
3/4" = 1'-0"

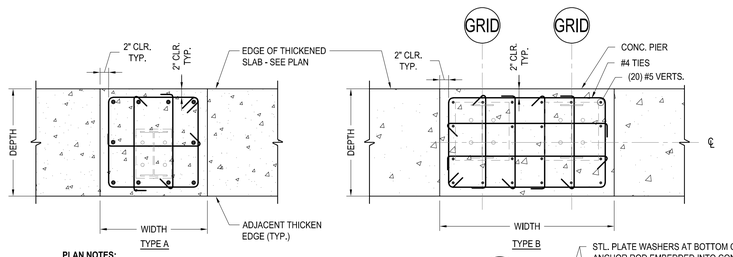


3 S3.0 **SECTION @ INTERIOR COLUMN**
3/4" = 1'-0"



7 S3.0 **SECTION @ PORTAL FRAME**
3/4" = 1'-0"



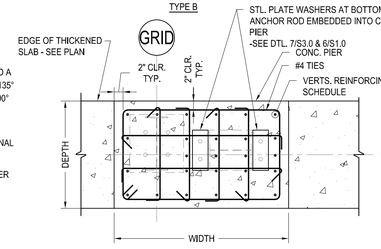


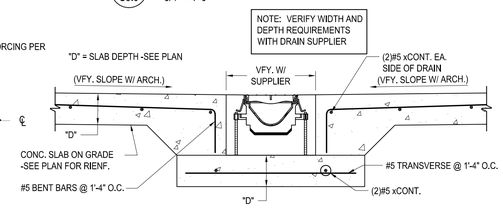
PLAN NOTES:

1. SEE CONCRETE PIER SCHEDULE FOR TYPE OF REINFORCING CONFIGURATION.
2. A TYPICAL CROSSTIE SHALL HAVE A 135° HOOK AT ONE END AND A 90° HOOK AT THE OTHER END. AT CONTRACTORS OPTION, THE 135° DEGREE HOOK MAYBE REPLACED WITH A 180° HOOK, AND THE 90° HOOK MAYBE REPLACED WITH A 135° HOOK.
3. CROSSTIES WITH 90° HOOKS SHALL HAVE THE CONSECUTIVE CROSSTIES ALTERNATED END FOR END ALONG THE LONGITUDINAL REINFORCEMENT.
4. CONTICE HORIZONTAL WALL REINFORCING THROUGH CONC. PIER SEE PLAN FOR WALL SIZE & LOCATIONS, IF WALL OCCURS.
5. SEE PLAN FOR PIER ORIENTATION.

CONCRETE PIER SCHEDULE					
PIER MARK	SIZE		PIER TYPE	REINFORCING	REMARKS
	WIDTH	DEPTH			
P-1	2'-0"	2'-0"	A	(10) #5 VERTS.	SEE 2/S3.0
P-2	3'-3"	2'-0"	B	(20) #5 VERTS.	SEE 4/S3.0
P-3	3'-3"	2'-0"	C	(26) #6 VERTS.	SEE 7/S3.0

5 S3.0 **SECTION @ PIER**
3/4" = 1'-0"





6 S3.0 **TYPICAL SECTION @ TRENCH DRAIN**
3/4"=1'-0"

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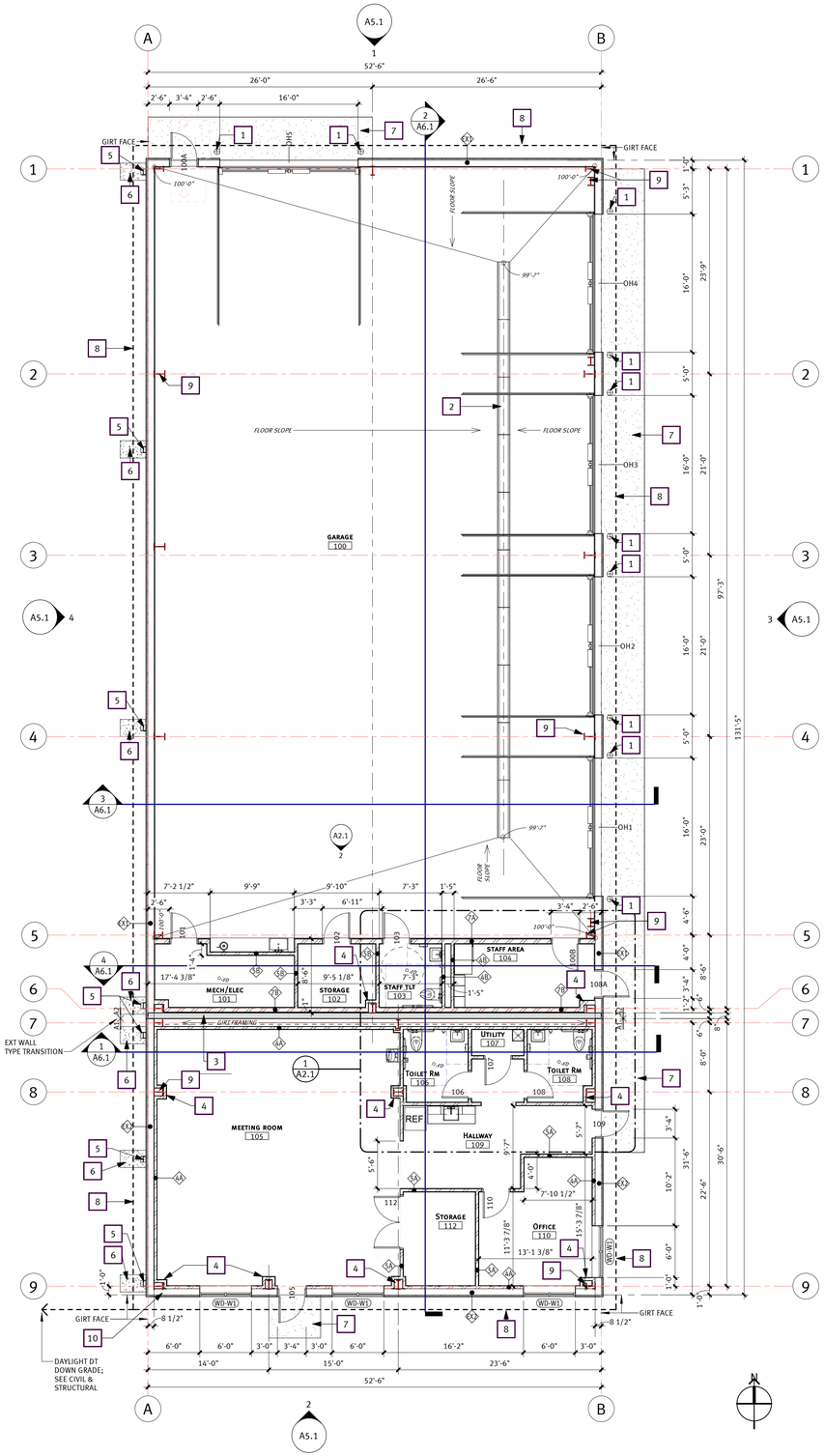
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sign date: 03/10/2026

Northland
Consulting Engineers L.L.P.
Structural, Civil and Forensic Engineering
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(V)218-727-5995, (F)218-727-7779

revision / issue	*no.*	*date*

sheet title: FOUNDATION SECTIONS / FRAMING SECTIONS

sheet number: S3.0

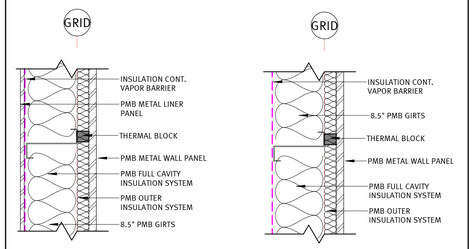


1 A2.0 FLOOR PLAN
1/8" = 1'-0"

FLOOR PLAN NOTES

1	8" O.D. STEEL PIPE BOLLARD FILLED WITH CONCRETE
2	12" TRENCH DRAIN -- SEE MECHANICAL
3	FIRE RATED METAL PANEL WALL BY PMB CONTRACTOR
4	FUR AROUND STEEL FRAME - LEAVE 1" CLEARANCE
5	P/F METAL PMB DOWNSPOUT
6	24" x 36" x 4" CONCRETE SPASH PAD SLOPED 1/2"-12" AWAY FROM BUILDING
7	CONCRETE STOOP @ 1/4"-12" DOWN SLOPE -- SEE STRUCTURAL
8	4" DRAIN TILE - DRAIN TO DAYLIGHT SEE CIVIL
9	PMB STRUCTURAL FRAME -- SEE PMB DOCUMENTS
10	COORDINATE BLOCKING FOR GAS METER AND ELECTRICAL CT CABINET WITH PEMB MANUFACTURER

EXTERIOR WALL ASSEMBLIES

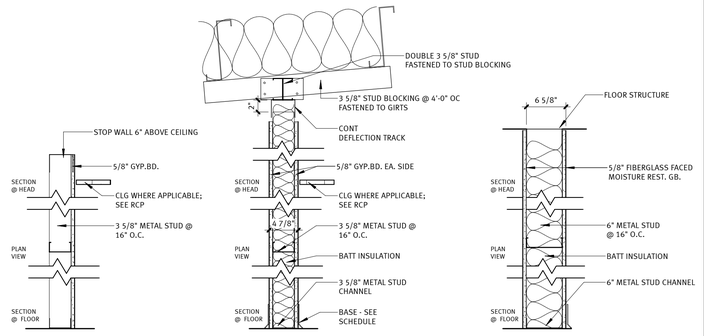


EX1 PRE-MANUFACTURED BUILDING (PMB) WALL SYSTEM W/ INTERIOR LINER PANEL

EX2 PRE-MANUFACTURED BUILDING (PMB) WALL SYSTEM

NOTE: INSULATION SYSTEM TO MEET REQUIREMENTS NOTED ON G1.1 LIFE SAFETY & ENERGY CODE ANAYLSIS

WALL TYPES



4A METAL STUD WALL GYPSUM BOARD ONE SIDE

4B 5/8" FIBERGLASS FACED MOISTURE REST. GB. IN LIEU OF STANDARD GB.

5A METAL STUD WALL TO ROOF PMB STRUCTURE

5B 5/8" FIBERGLASS FACED MOISTURE REST. GB. IN LIEU OF STANDARD GB.

7A METAL STUD WALL TO FLOOR STRUCTURE

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BRULE PUBLIC WORKS GARAGE

TOWN OF BRULE, WISCONSIN

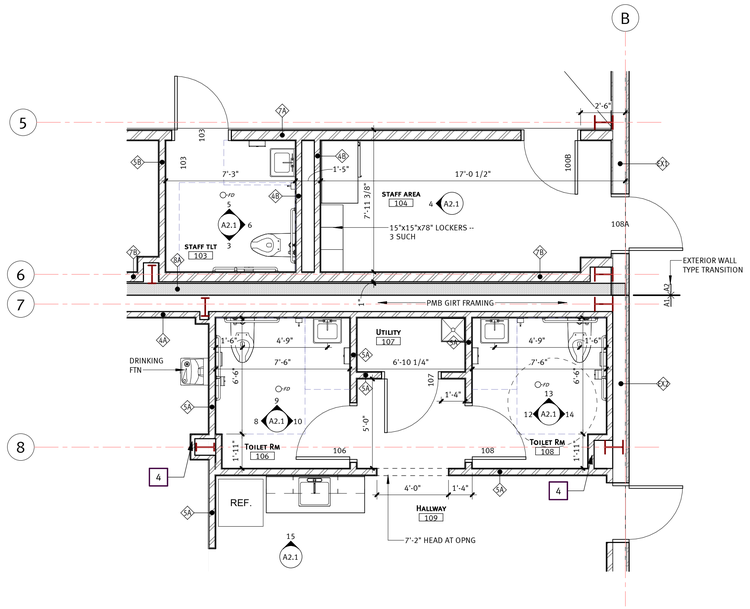
project #: 025170.00
date: 3/10/2026 9:08:16 AM
drawn by: JMG
checked by: JMG

WISCONSIN JOHN E. ERICKSON 9676 DULUTH, MN ARCHITECT

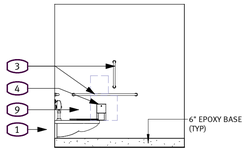
printed name: JOHN E. ERICKSON, NCARB, LEED AP
reg. #: 9676
sign date: 3/10/2026

revision / issue	*no.*	*date*

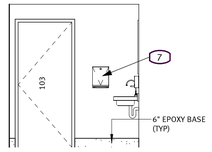
sheet title: FLOOR PLAN
sheet number: A2.0



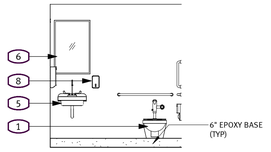
1 A2.1 LEVEL 1 ENLARGED FLOOR PLAN
1/4" = 1'-0"



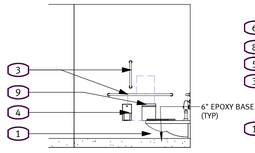
3 A2.1 TOILET 103 - SOUTH
1/4" = 1'-0"



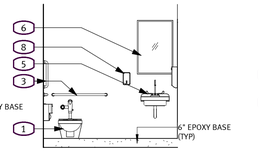
5 A2.1 TOILET 103 - NORTH
1/4" = 1'-0"



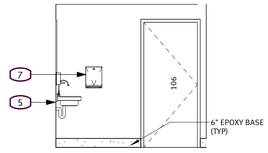
6 A2.1 TOILET 103 - EAST
1/4" = 1'-0"



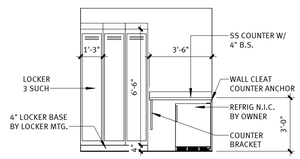
8 A2.1 TOILET 106 - WEST
1/4" = 1'-0"



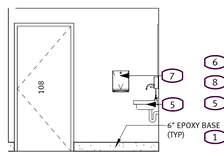
9 A2.1 TOILET 106 - NORTH
1/4" = 1'-0"



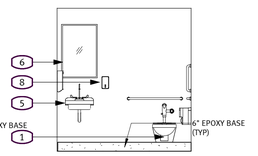
10 A2.1 TOILET 106 - EAST
1/4" = 1'-0"



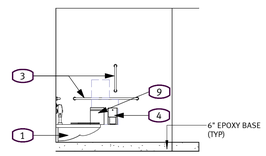
4 A2.1 STAFF AREA 104 - WEST
1/4" = 1'-0"



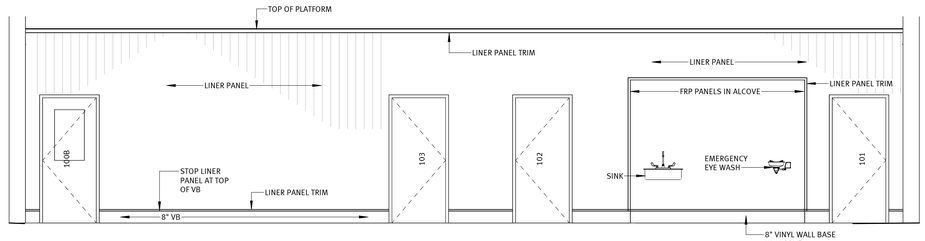
12 A2.1 TOILET 108 - WEST
1/4" = 1'-0"



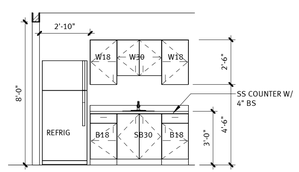
13 A2.1 TOILET 108 - NORTH
1/4" = 1'-0"



14 A2.1 TOILET 108 - EAST
1/4" = 1'-0"



2 A2.1 GARAGE - SOUTH
1/4" = 1'-0"



15 A2.1 LOBBY KITCHEN
1/4" = 1'-0"

FIXTURES & ACCESSORIES	
1	TOILET - ADA
3	GRAB BARS
4	TOILET PAPER DISPENSER
5	SINK - ADA WITH PROTECTIVE SKIRT
6	24" X 36" MIRROR
7	PAPER TOWEL DISPENSER
8	SOAP DISPENSER
9	NAPKIN DISPOSAL

SEE SHEET G1.2 FOR MOUNTING LOCATIONS

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BRULE PUBLIC WORKS GARAGE

TOWN OF BRULE, WISCONSIN

project #: 025170.00
date: 3/10/2026 9:08:17 AM
drawn by: JMG
checked by: JMG

WISCONSIN
JOHN E. ERICKSON
9676
DULUTH, MN
ARCHITECT

printed name: JOHN E. ERICKSON, NCARB, LEED AP
reg. #: 9676
sign date: 3/10/2026

revision / issue	*no.*	*date*

sheet title: ENLARGED PLANS & INTERIOR ELEVATIONS

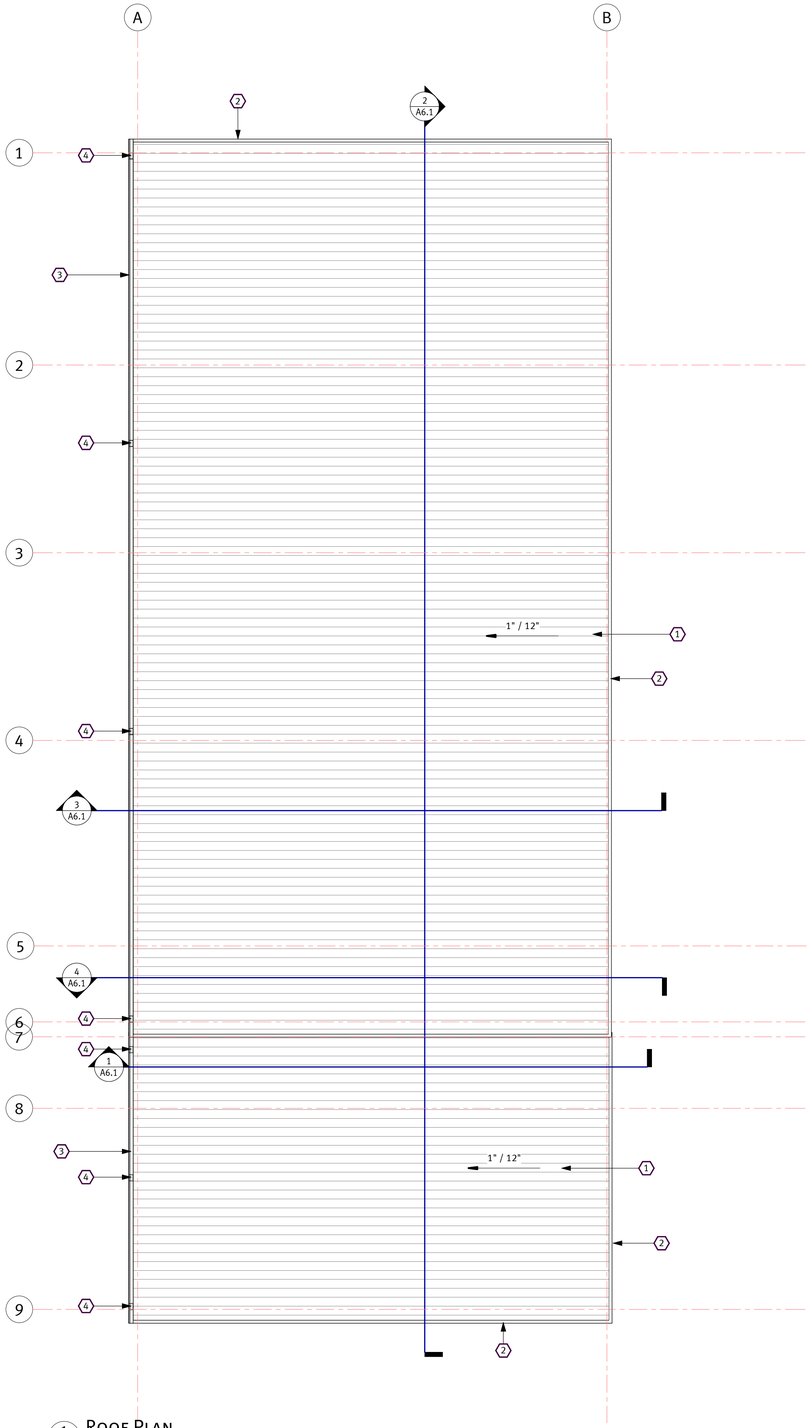
sheet number: A2.1

Roof Plan General Notes

1	Flashing of all roof penetrations, equipment curbs and roofing materials installation to follow manufacturers recommendations.
2	All Mechanical and Electrical rooftop equipment, piping, conduit, etc. to be painted. All M&E items on roof plan are for reference only. Refer to consultant drawings for size, location and extent of equipment.

Roof Plan Notes

1	PMB Standing Seam Roof System; Insulation system to meet energy code requirements as noted in G1.1 life safety analysis
2	PMB Metal Roof Edge
3	PMB Metal Gutter System Sized by Mfg.
4	PMB Metal Downspout System Sized by Mfg.

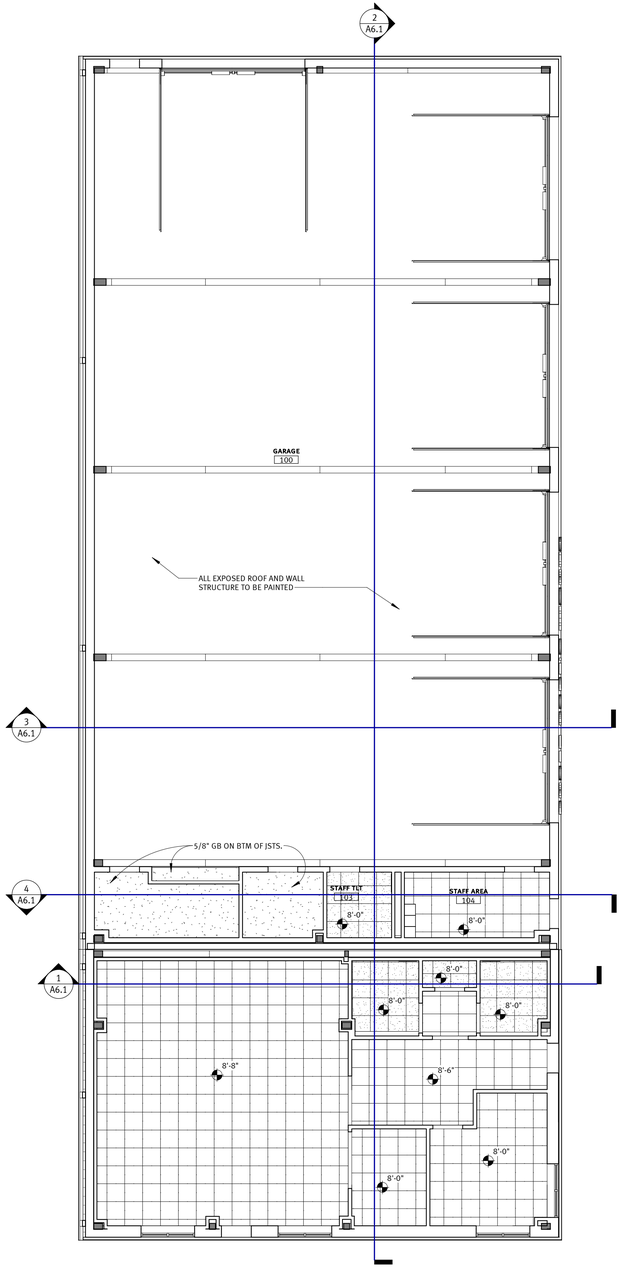


1 A2.2 Roof Plan
1/8" = 1'-0"

RCP General Notes

1.	Coordinate final locations of ceiling mounted equipment w/ owner and architect.
2.	See M&E drawings for lighting, grills, and diffuser locations.
3.	Suspended acoustical ceiling tile grid is to be centered in rectangular room or centered between the longest walls of irregularly shaped rooms unless otherwise noted.
4.	Verify gypsum board control joint locations with architect prior to installation.
5.	Ceiling heights indicated are from finished floor of current level shown.

RCP Notes



2 A2.2 Level 1 RCP
1/8" = 1'-0"

Reflected Ceiling Plan Legend

- GYPSUM BOARD
- SACT-1 2'-0" X 2'-0" SUSPENDED ACOUSTICAL CEILING TILE AND GRID
- SACT-2 WASHABLE 2'-0" X 2'-0" SUSPENDED ACOUSTICAL CEILING TILE AND GRID
- LIGHT FIXTURES - SEE ELECT
- MECHANICAL FIXTURES - SEE MECH

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Brule Public Works Garage

Town of Brule, Wisconsin

project #: 025170.00
date: 3/10/2026 9:08:18 AM
drawn by: JMG
checked by: Checker

WISCONSIN JOHN E ERICKSON 9676 DULUTH, MN ARCHITECT

printed name: John E. Erickson, NCARB, LEED AP
reg. #: 9676
sign date: 3/10/2026

revision / issue	no.	date

sheet title: Roof Plan / RCP Plan
sheet number: A2.2

DOOR AND FRAME SCHEDULE

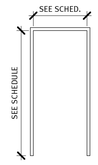
DOOR				FRAME						
					DETAIL					
NO.	WIDTH	HEIGHT	TYPE	TYPE	HEAD	JAMB	SILL	FIRE LABEL	HDW. NO.	NOTES
100A	3'-0"	7'-0"	HM-D2	HM-F1	1/A4.1	1/A4.1	--		01	
100B	3'-0"	7'-0"	HM-D2	HM-F1	1/A4.1	1/A4.1	--		01	
101	3'-0"	7'-0"	HM-D3	HM-F1	6/A4.1	6/A4.1		--	03	
102	3'-0"	7'-0"	HM-D3	HM-F1	6/A4.1	6/A4.1		--	03	
103	3'-0"	7'-0"	HM-D3	HM-F1	6/A4.1	6/A4.1		--	06	
105	3'-0"	7'-0"	HM-D1	HM-F1	2/A4.1	2/A4.1	--		02	
106	3'-0"	7'-0"	WD-D1	HM-F1	6/A4.1	6/A4.1	--		06	
107	3'-0"	7'-0"	WD-D1	HM-F1	6/A4.1	6/A4.1	--		03	
108	3'-0"	7'-0"	WD-D1	HM-F1	6/A4.1	6/A4.1	--		01	
108A	3'-0"	7'-0"	HM-D1	HM-F1	1/A4.1	1/A4.1	--		01	
109	3'-0"	7'-0"	HM-D1	HM-F1	2/A4.1	2/A4.1	--		02	
110	3'-0"	7'-0"	WD-D1	HM-F1	6/A4.1	6/A4.1	--		05	
112	6'-0"	7'-0"	WD-D1	HM-F1	6/A4.1	6/A4.1		--	04	
OH1	16'-0"	16'-0"	OH-D1		3/A4.1	3/A4.1	5/A4.1			HIGH LIFT BREAKAWAY TRACK
OH2	16'-0"	16'-0"	OH-D1		3/A4.1	3/A4.1	5/A4.1			HIGH LIFT BREAKAWAY TRACK
OH3	16'-0"	16'-0"	OH-D1		3/A4.1	3/A4.1	5/A4.1			HIGH LIFT BREAKAWAY TRACK
OH4	16'-0"	16'-0"	OH-D1		3/A4.1	3/A4.1	5/A4.1			HIGH LIFT BREAKAWAY TRACK
OH5	16'-0"	16'-0"	OH-D1		3/A4.1	3/A4.1	5/A4.1		-	15" RADIUS TRACK

ROOM FINISH SCHEDULE

		FLOOR		WALL FINISH				
NO.	NAME	FINISH	BASE	NORTH	EAST	SOUTH	WEST	NOTES
100	GARAGE	SEALED CONCRETE	**8" VB	LINER PANEL	LINER PANEL	LINER PANEL	LINER PANEL	INSTALL SOUTH WALL LINER PANEL OVER 5/8" GB; **8" VB ONLY ON SOUTH WALL
101	MECH/ELEC	SEALED CONCRETE	4" VB	PNT	PNT	PNT	LINER PANEL	
102	STORAGE	SEALED CONCRETE	--	FRP	FRP	FRP	FRP	
103	STAFF TLT	EPOXY	6" EPOXY	EPOXY PNT	EPOXY PNT	EPOXY PNT	EPOXY PNT	
104	STAFF AREA	SEALED CONCRETE	4" VB	PNT	LINER PANEL	PNT	PNT	NO WALL BASE AT LINER PANEL
105	MEETING ROOM	VCT	4" VB	PNT	PNT	PNT	PNT	
106	TOILET RM	EPOXY	6" EPOXY	EPOXY PNT	EPOXY PNT	EPOXY PNT	EPOXY PNT	
107	UTILITY	VCT	4" VB	PNT	PNT	PNT	PNT	
108	TOILET RM	EPOXY	6" EPOXY	EPOXY PNT	EPOXY PNT	EPOXY PNT	EPOXY PNT	
109	HALLWAY	VCT	4" VB	PNT	PNT	PNT	PNT	
110	OFFICE	VCT	4" VB	PNT	PNT	PNT	PNT	
111	SECURE STR	VCT	4" VB	PNT	PNT	PNT	PNT	
112	STORAGE	VCT	4" VB	PNT	PNT	PNT	PNT	

FRAME TYPES

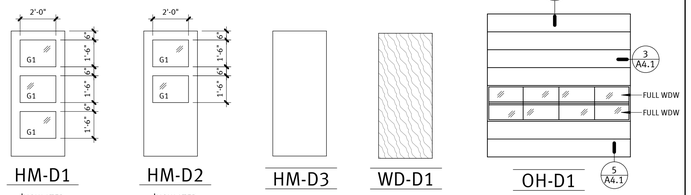
DIMENSIONS ARE ACTUAL SIZE--FRAME OPENING SIZE PER MFG'S RECOMENDATION



HM-F1
HOLLOW METAL
2" X 5 3/4"
2" HEAD

**ALL EXTERIOR HM FRAMES TO BE FILLED W/ FOAM INSULATION

DOOR TYPES



HM-D1
INSULATED HOLLOW METAL

HM-D2
INSULATED HOLLOW METAL

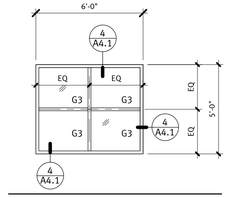
HM-D3
HOLLOW METAL

WD-D1
SOLID CORE WOOD FLUSH

OH-D1
OVERHEAD SECTIONAL DOOR

WINDOW TYPES

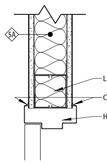
DIMENSIONS ARE ACTUAL SIZE--FRAME OPENING SIZE PER MFG'S RECOMENDATION

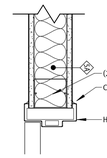


AL-W1
ALUMINUM - THERMALLY BROKEN

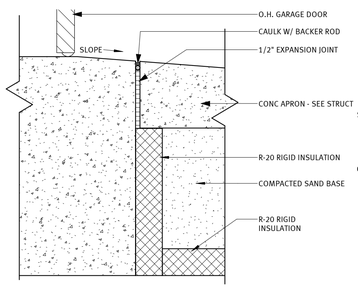
GLAZING TYPES

G1: 1" INSULATED, TEMPERED GLAZING
G2: 1/4" TEMPERED, CLEAR GLAZING
G3: 1" INSULATED GLAZING
G4: 1/4" CLEAR GLAZING
G5: FIRE-RATED SAFETY GLAZING
G6: 1" INSULATED, TEMPERED, SPANDREL GLAZING
G7: 1" INSULATED, SPANDREL GLAZING
G8: 1/2" TEMPERED, LAMINATED GLAZING
G9: BALLISTIC GLAZING
G10: 1" INSULATED, TEMPERED SILKSCREEN GLAZING

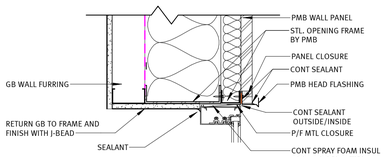




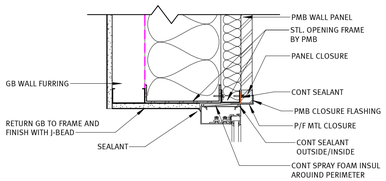
6 A4.1 DOOR - HM INTERIOR DETAIL
1 1/2" = 1'-0"



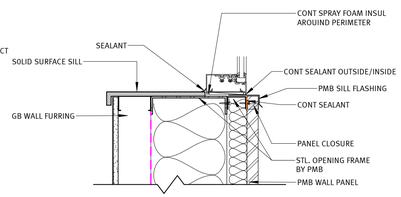
5 A4.1 DOOR - OVERHEAD DOOR @ GRADE
1 1/2" = 1'-0"



HEAD

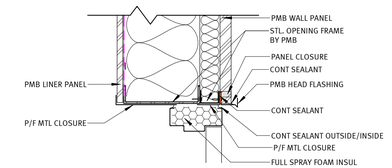


JAMB

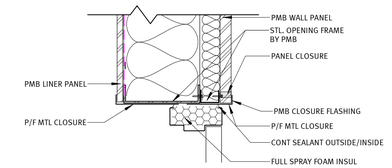


SILL

4 A4.1 WINDOW - ALUM DETAIL
1 1/2" = 1'-0"

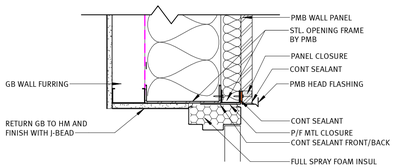


HEAD



JAMB
PMB WALL

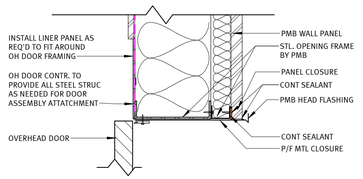
1 A4.1 DOOR - HM EXTERIOR DETAIL
1 1/2" = 1'-0"



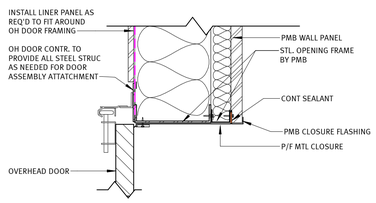
HEAD

JAMB
PMB WALL W/ GB WALL

2 A4.1 DOOR - HM EXTERIOR DETAIL
1 1/2" = 1'-0"



HEAD



JAMB

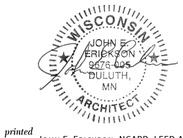
3 A4.1 DOOR - OH DOOR DETAILS
1 1/2" = 1'-0"

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BRULE PUBLIC WORKS GARAGE

TOWN OF BRULE, WISCONSIN

project #: 025170.00
date: 3/10/2026 9:08:19 AM
drawn by: JMG
checked by: JMG



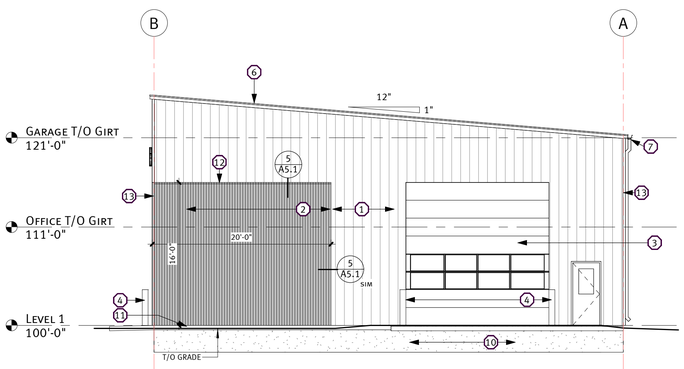
printed name: JOHN E. ERICKSON, NCARB, LEED AP
reg. #: 9676
sign date: 3/10/2026

revision / issue	no.	date

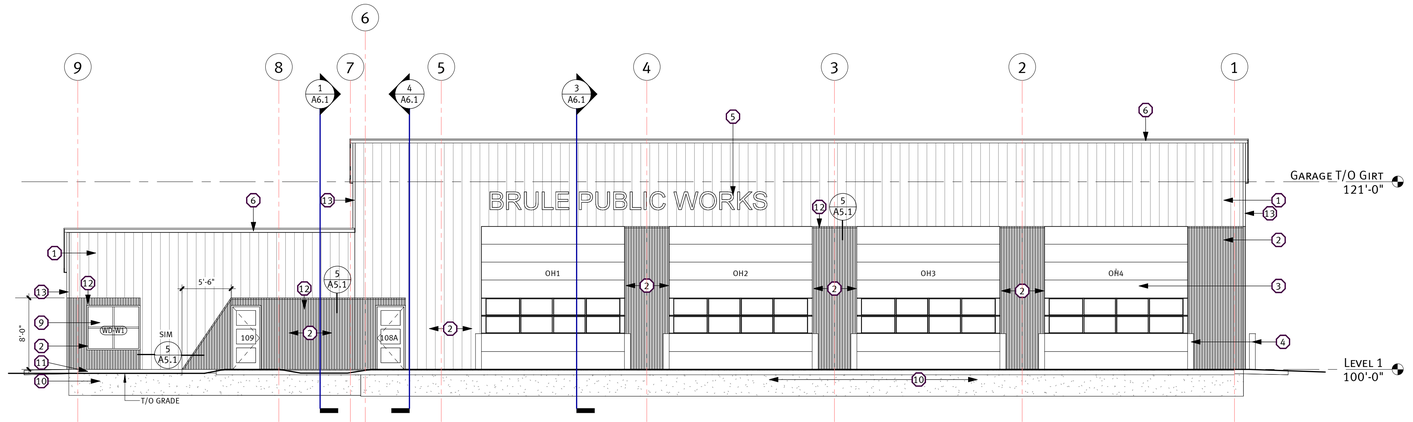
sheet title: SCHEDULES AND TYPES
sheet number: A4.1

Exterior Elevation Notes

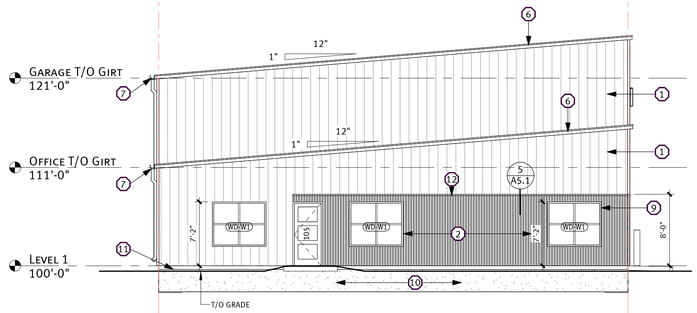
1	Insulated Metal Panel Type-1	Color #A
2	Insulated Metal Panel Type-2	Color #B
3	Overhead Door	
4	8" Pipe Bollard	Embedd in 16" DIA Conc Pier to 48" below grade; Fill Pipe Solid with Concrete
5	Metal Signage; 24" High	--
6	PMB Metal Roof Edge	--
7	PMB Metal Roof Gutter - Sized by PMB mfg.	--
8	PMB Standing Seam Roof System	--
9	Aluminum Window	--
10	Concrete Foundation - See Structural	--
11	Prefinished Metal Insulation Closure	
12	P/F Metal Wall Panel Flashing	
13	PMB Metal Corner Trim - Match Siding Color	--
14	PMB Metal Downspout- sized by PMB mfg.	--



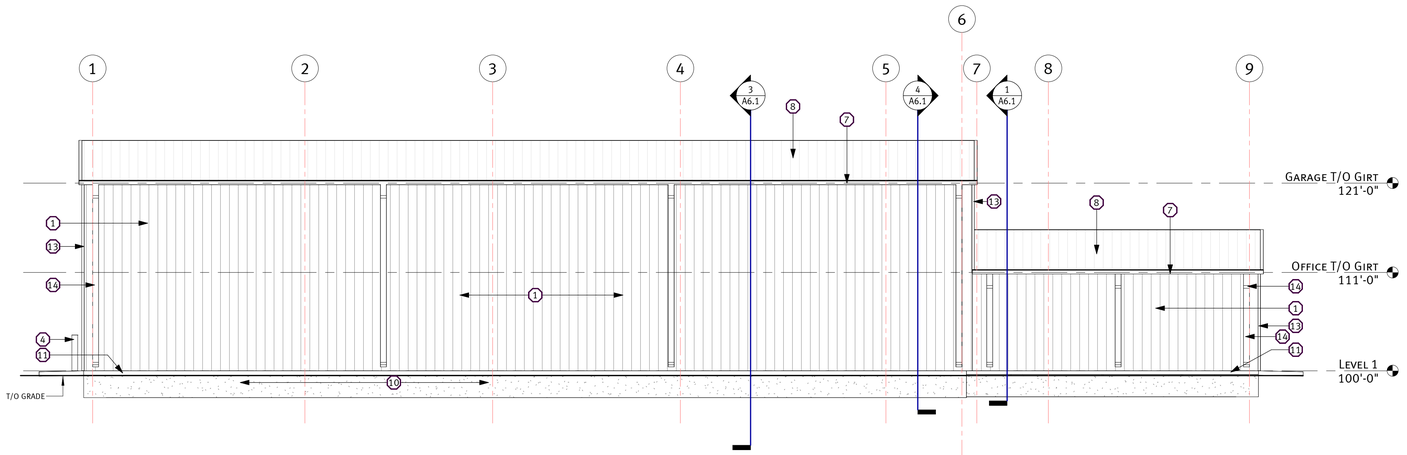
1 A5.1 North Elevation
1/8" = 1'-0"



3 A5.1 East Elevation
1/8" = 1'-0"



2 A5.1 South Elevation
1/8" = 1'-0"



4 A5.1 West Elevation
1/8" = 1'-0"

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Brule Public Works Garage

Town of Brule, Wisconsin

project #: 025170.00
date: 3/10/2026 9:08:20 AM
drawn by: JMG
checked by: JMG

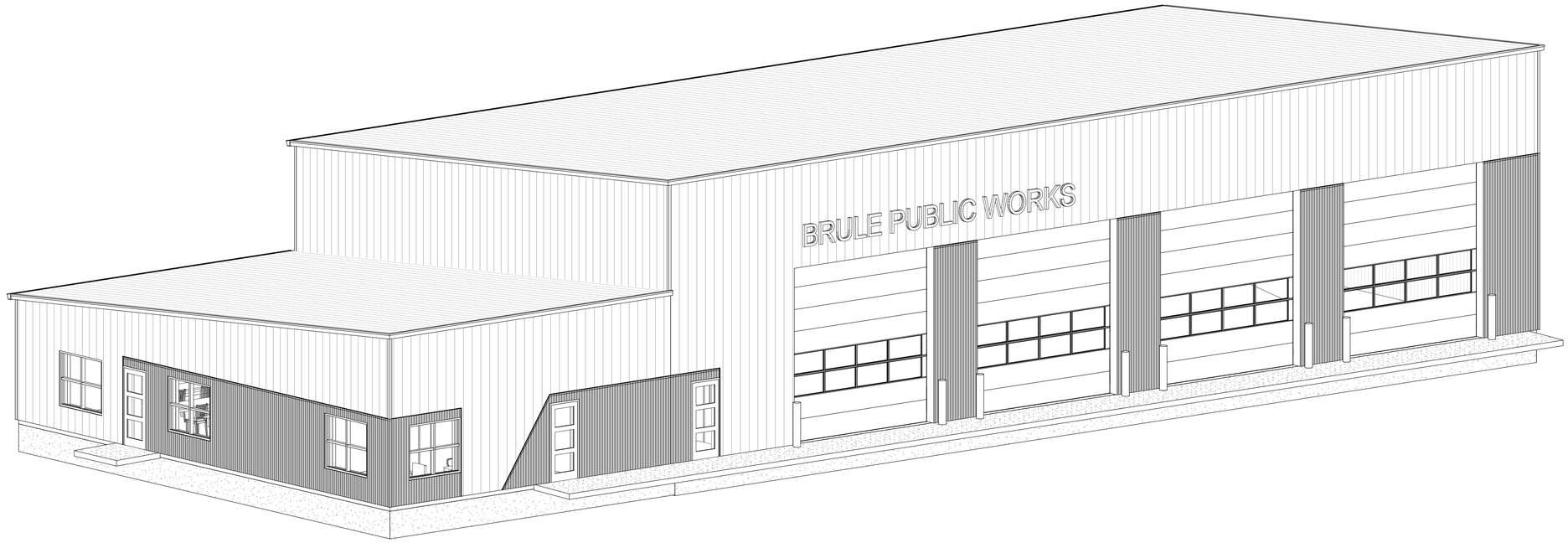
WISCONSIN
JOHN E. ERICKSON
9676
DULUTH, MN
ARCHITECT

printed name: John E. Erickson, NCARB, LEED AP
reg. #: 9676
sign date: 3/10/2026

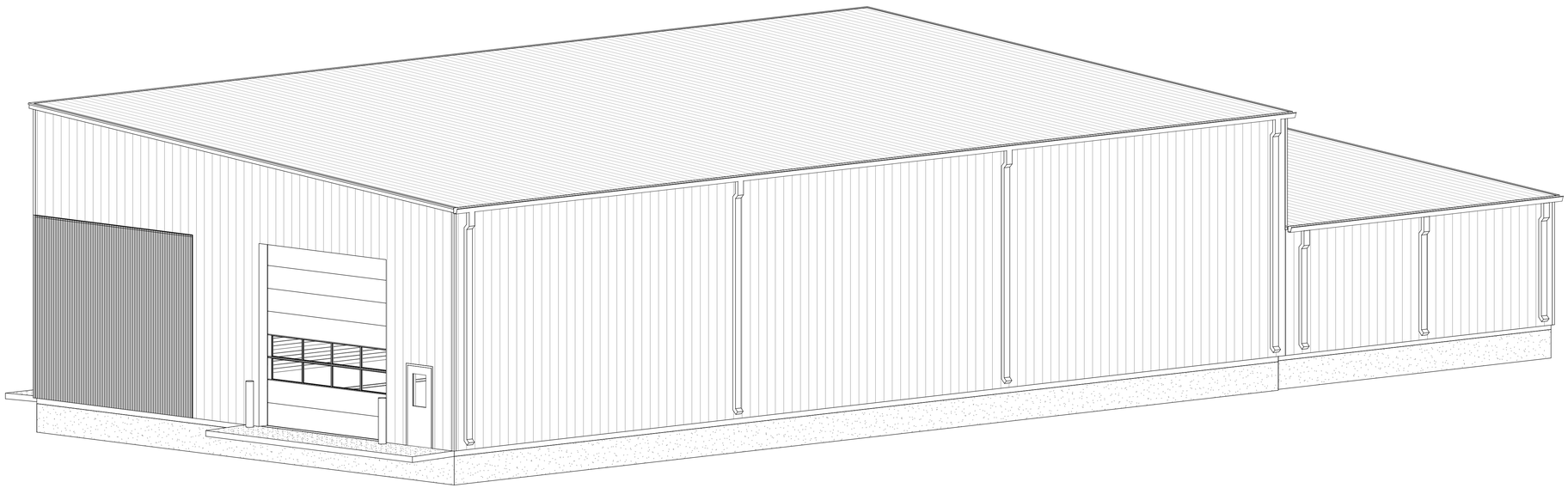
revision / issue	*no.*	*date*

sheet title: Exterior Elevations

sheet number: A5.1



2 A5.2 3D SE View



1 A5.2 3D NW View

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Brule Public Works Garage

Town of Brule, Wisconsin

project #: 025170.00
date: 3/10/2026 9:08:21 AM
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checked by: JMG

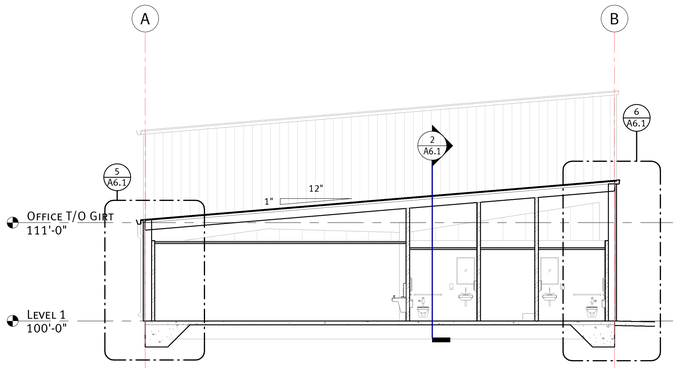
WISCONSIN JOHN E. ERICKSON 9676 DULUTH, MN ARCHITECT

printed name: John E. Erickson, NCARB, LEED AP
reg. #: 9676
sign date: 3/10/2026

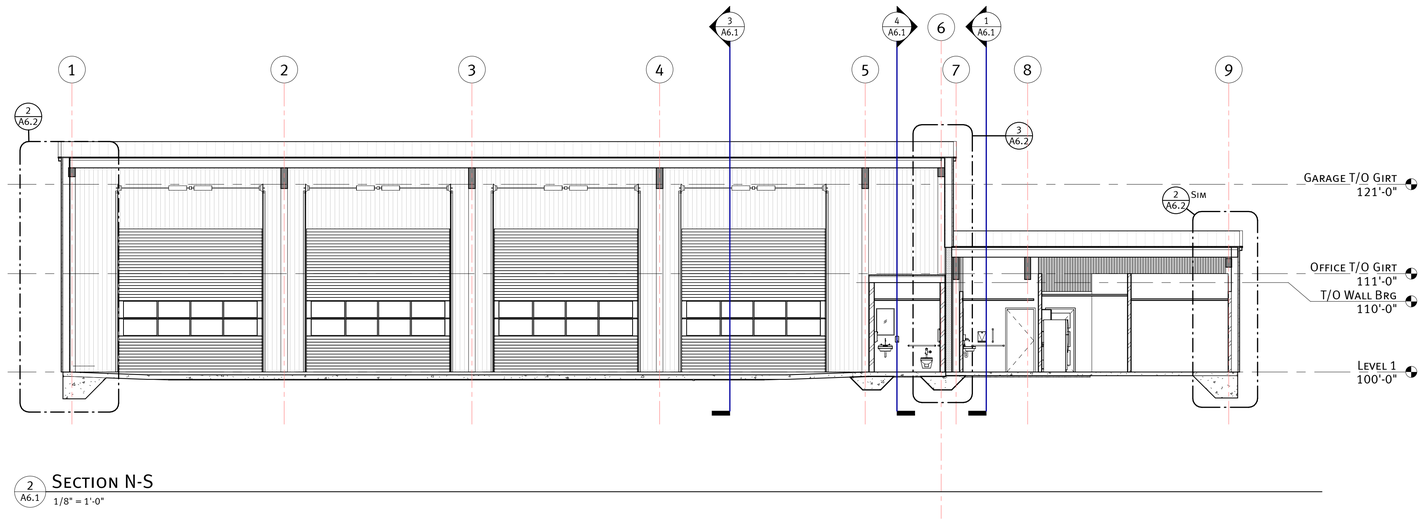
revision / issue	*no.*	*date*

sheet title: Exterior Elevations 3D

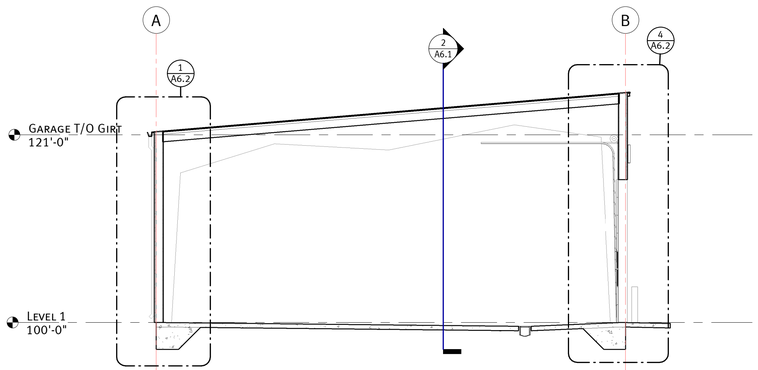
sheet number: A5.2



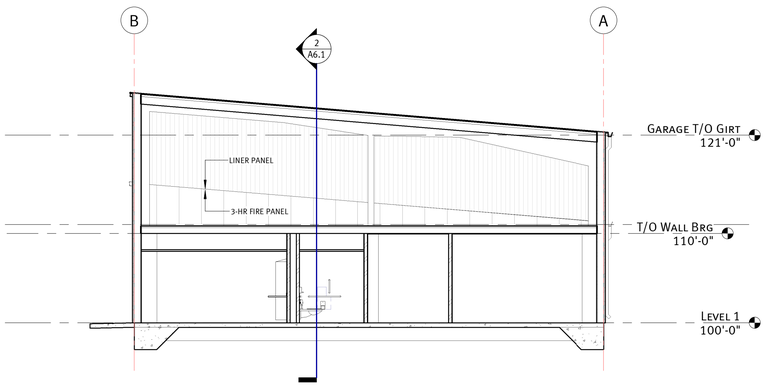
1 A6.1 SECTION @ OFFICE
1/8" = 1'-0"



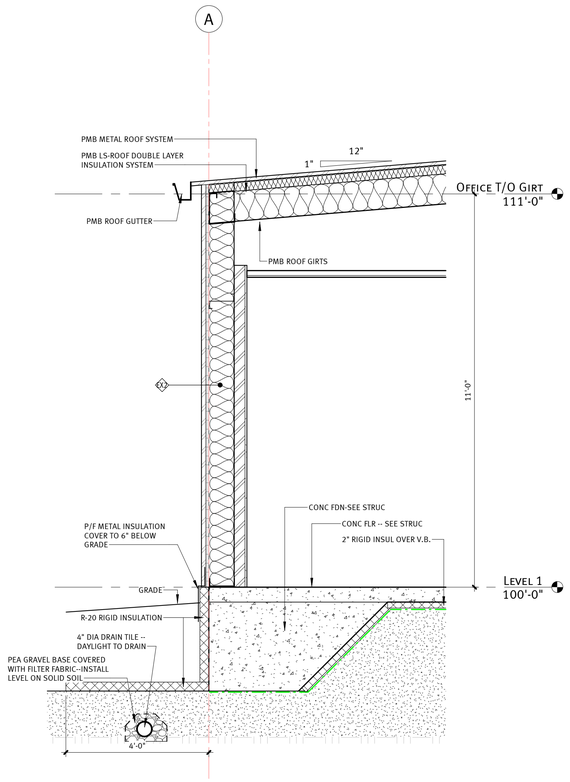
2 A6.1 SECTION N-S
1/8" = 1'-0"



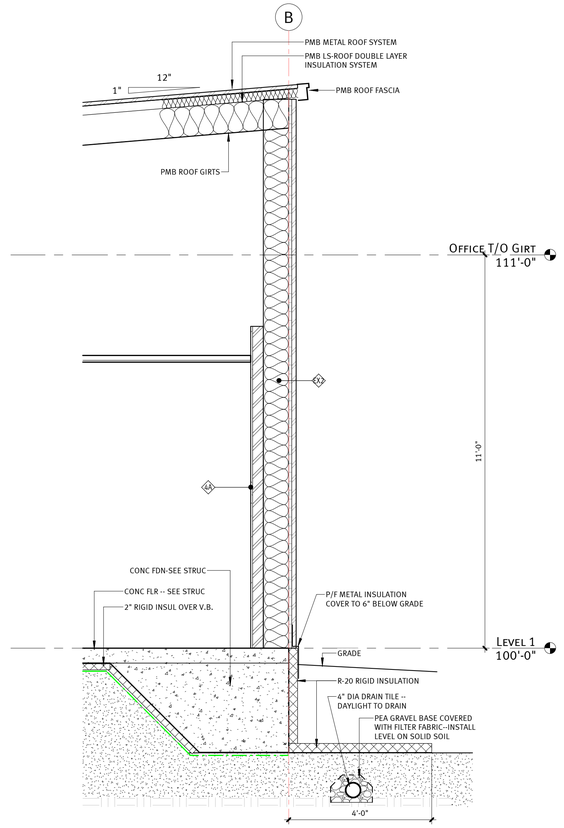
3 A6.1 SECTION @ GARAGE
1/8" = 1'-0"



4 A6.1 SECTION @ GARAGE PLATFORM
1/8" = 1'-0"



5 A6.1 SECTION - OFFICE LOW
1/2" = 1'-0"



6 A6.1 SECITON - OFFICE HIGH
1/2" = 1'-0"

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BRULE PUBLIC WORKS GARAGE

TOWN OF BRULE, WISCONSIN

project #: 025170.00
date: 3/10/2026 9:08:23 AM
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checked by: JMG

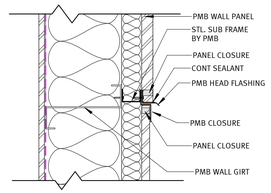
WISCONSIN JOHN E. ERICKSON 9676 DULUTH, MN ARCHITECT

printed name: JOHN E. ERICKSON, NCARB, LEED AP
reg. #: 9676
sign date: 3/10/2026

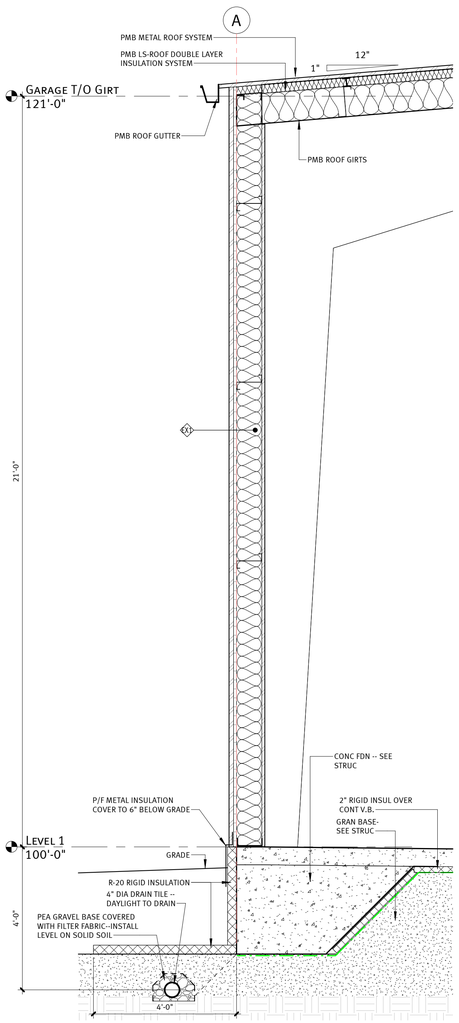
revision / issue	*no.*	*date*

sheet title: BUILDING SECTIONS & WALL SECTIONS

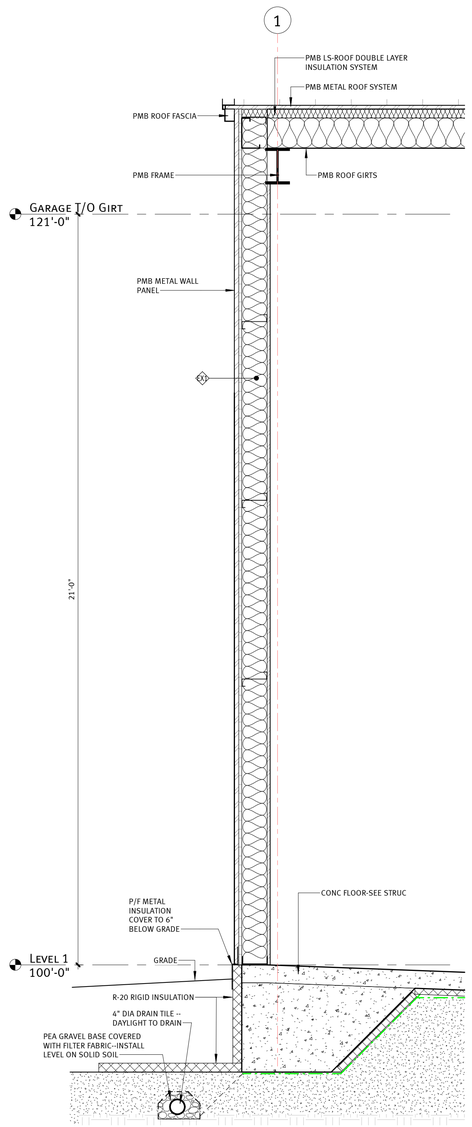
sheet number: A6.1



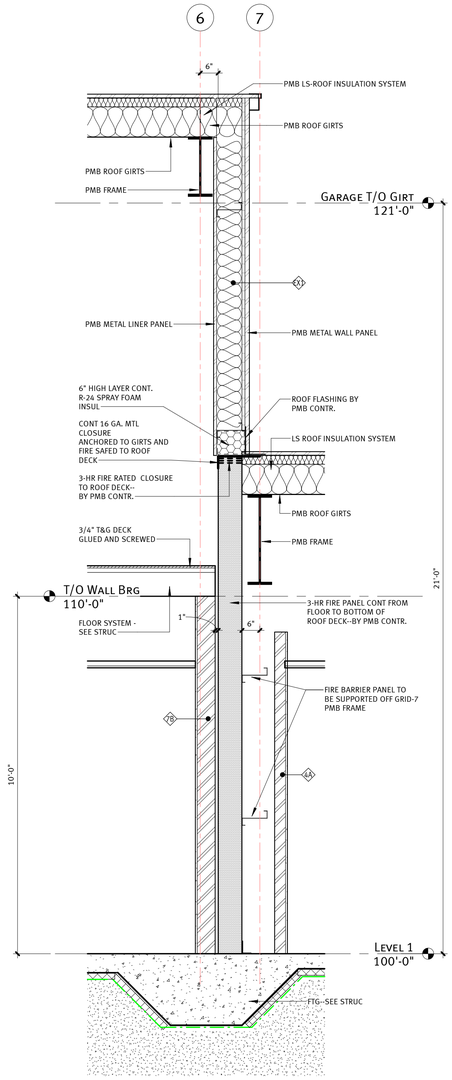
5 A6.2 WALL - SIDING FLASHING DETAIL
1 1/2" = 1'-0"



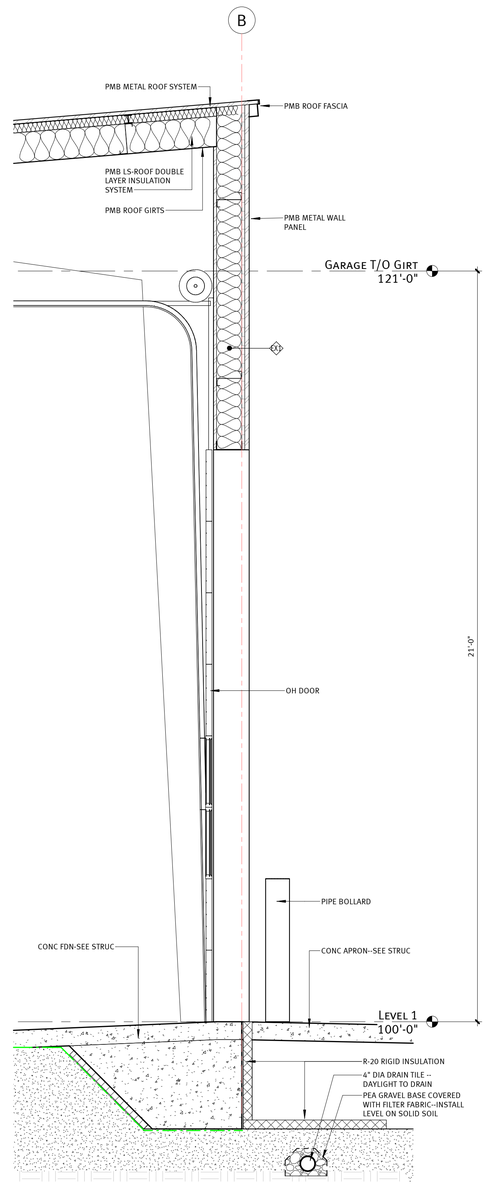
1 A6.2 SECTION - GARAGE LOW
1/2" = 1'-0"



2 A6.2 SECITON - GABLE WALL
1/2" = 1'-0"



3 A6.2 SECTION - FIRE BARRIER
1/2" = 1'-0"



4 A6.2 SECITON - GARAGE HIGH
1/2" = 1'-0"

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BRULE PUBLIC WORKS GARAGE

TOWN OF BRULE, WISCONSIN

project #: 025170.00
date: 3/10/2026 9:08:24 AM
drawn by: JMG
checked by: JMG

WISCONSIN JOHN E. ERICKSON 9676 DULUTH, MN ARCHITECT

printed name: JOHN E. ERICKSON, NCARB, LEED AP
reg. #: 9676
sign date: 3/10/2026

revision / issue	*no.*	*date*

sheet title: WALL SECTIONS
sheet number: A6.2

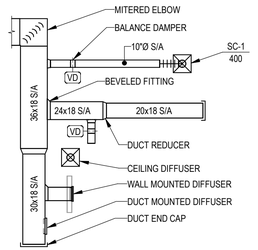
GENERAL SYMBOLS

- KEYNOTE
- REVISION TAG
- REVISION CLOUD
- DETAIL/PLAN CALLOUT
- NORTH ARROW
- MATCHLINE
- POINT OF CONNECTION
- POINT OF DEMOLITION
- CONTINUATION SYMBOL
- AREA TO BE DEMOLISHED
- AREA NOT IN CONTRACT

HVAC SYMBOLS & TAGS

- THERMOSTAT
- HUMIDISTAT
- TEMPERATURE & HUMIDITY SENSOR
- HUMIDITY SENSOR
- MANUAL SWITCH
- SENSOR
- CARBON MONOXIDE (CO) SENSOR
- CARBON DIOXIDE (CO_2) SENSOR
- NITROGEN DIOXIDE (NO_2) SENSOR
- DOOR UNDERCUT
- EQUIPMENT TAG
- DIFFUSER TAG

DUCTWORK LEGEND



DUCT SYSTEMS

DOWN	UP	
24x18 S/A		23 - SUPPLY AIR
24x18 S-O/A		23 - CONDITIONED OUTSIDE AIR
24x18 O/A		23 - OUTSIDE AIR
24x18 R/A		23 - RETURN AIR
24x18 E/A		23 - EXHAUST AIR
24x18 FLUE		23 - FLUE GAS VENT
24"Ø C/A		23 - COMBUSTION AIR

PIPING SYSTEMS

- REF — REFRIGERANT
- CD — CONDENSATE DRAIN
- G — NATURAL GAS

CONTROL SEQUENCE OF OPERATION

HEAT PUMP UNIT/ENERGY RECOVERY UNIT SYSTEMS
SYSTEMS COMPRISED OF HEAT PUMPS AND ENERGY RECOVERY VENTILATORS SHALL OPERATE AS FOLLOWS:

1. VENTILATION: ENERGY RECOVERY VENTILATORS SHALL PROVIDE VENTILATION DURING OCCUPIED HOURS PER TIME-CLOCK OR OCCUPANCY SENSOR. A DUCT HEATER SHALL PREHEAT OUTSIDE AIR AS NEEDED TO ACHIEVE THE SPECIFIED MINIMUM AIR TEMPERATURE DELIVERED INTO THE CONDITIONED SPACE.

2. CONDITIONING. CONDITIONING OF AIR TO BE ACCOMPLISHED VIA A ZONE THERMOSTAT. THERMOSTAT SHALL INCLUDE CODE REQUIRED DEAD BAND BETWEEN SETPOINTS. UPON A CALL FOR HEATING OR COOLING, THE HEAT PUMP WILL BE ENERGIZED AND OPERATE TO MAINTAIN SPACE TEMPERATURE SETPOINT.

GARAGE EXHAUST SYSTEMS

1. FANS TO BE INTERLOCKED WITH CO AND NO2 SENSORS.
2. FANS SHALL RUN AT MINIMUM TURNDOWN CFM AT ALL TIMES.
   A. CO SENSOR - FANS RAMP TO MAX CAPACITY ONCE A VALUE OF 35 PPM IS DETECTED AND OPERATE UNTIL CO LEVELS DROP BELOW 25 PPM BEFORE RETURNING TO MINIMUM TURNDOWN CFM.
   B. NO2 SENSOR - FANS RAMP TO MAX CAPACITY ONCE A VALUE OF 5 PPM IS DETECTED AND OPERATE UNTIL NO2 LEVELS DROP BELOW 1 PPM BEFORE RETURNING TO MINIMUM TURNDOWN CFM.

PIPE ACCESSORIES

- BALL VALVE
- BUTTERFLY VALVE
- CHECK VALVE
- BALANCING VALVE
- MOTORIZED 2-WAY VALVE
- MOTORIZED 3-WAY VALVE
- GATE VALVE
- GLOBE VALVE
- LOCKED SHIELD VALVE
- PLUG VALVE
- PRESSURE REDUCING VALVE
- QUICK OPENING VALVE
- FLUID STRAINER
- HOSE BIBB

DUCT ACCESSORIES

- BDD — BACKDRAFT DAMPER
- FD — FIRE DAMPER
- FSD — FIRE SMOKE DAMPER
- SD — SMOKE DAMPER
- M — MOTORIZED DAMPER
- VD — VOLUME DAMPER

ABBREVIATIONS

Ø	ROUND	MBH	ONE THOUSAND BTU PER HOUR
AC	AIR CONDITIONING	MCF	ONE THOUSAND CUBIC FEET
ADD	ADDENDUM	MD	MOTORIZED DAMPER
AFF	ABOVE FINISHED FLOOR	MECH	MECHANICAL
AFUE	ANNUAL FUEL UTILIZATION EFFICIENCY	MFR	MANUFACTURER
ALT	ALTERNATE	MIN	MINIMUM
AP	ACCESS PANEL	MISC	MISCELLANEOUS
ARCH	ARCHITECT/ARCHITECTURAL	MUA	MAKE-UP/AIR
BFF	BELOW FINISHED FLOOR	NC	NOISE CRITERIA
BTU	BRITISH THERMAL UNITS	NC	NORMALLY CLOSED
BTUH	BRITISH THERMAL UNITS PER HOUR	NIC	NOT IN CONTRACT
CAP	CAPACITY	NO	NUMBER
CFM	CUBIC FEET PER MINUTE	NO	NORMALLY OPEN
CO	CLEAN OUT	NTS	NOT TO SCALE
D	DEGREE	O	OXYGEN
DB	DRY BULB	O/A	OUTSIDE AIR
DIA	DIAMETER	PD	PRESSURE DROP
DN	DOWN	PRESS	PRESSURE
EAT	ENTERING AIR TEMPERATURE	PRV	PRESSURE REDUCING VALVE
ELEC	ELECTRICAL	PSI	POUNDS PER SQUARE INCH
EQUIP	EQUIPMENT	PSIG	POUNDS PER SQUARE INCH GAUGE
EWC	ELECTRIC WATER COOLER	PWR	POWER
EWT	ENTERING WATER TEMPERATURE	(R)	RELOCATE
E/A	EXHAUST AIR	R/A	RETURN AIR
(E)	EXISTING	RCP	RADIANT CEILING PANEL
°F	DEGREES FAHRENHEIT	REC	RECESSED
FD	FIRE DAMPER	RED	REDUCER
FL	FLOOR	RH	RELATIVE HUMIDITY
FO	FUEL OIL	RLA	RELIEF AIR
FOV	FUEL OIL VENT	RM	ROOM
FOR	FUEL OIL RETURN	RPM	REVOLUTIONS PER MINUTE
FOS	FUEL OIL SUPPLY	SF	SQUARE FOOT
FPM	FEET PER MINUTE	S/A	SUPPLY AIR
FS	FLOOR SINK	SF	SQUARE FOOT
FT	FOOT/FEET	SD	SMOKE DAMPER
GAL	GALLON	SM	SURFACE MOUNT
GC	GENERAL CONTRACTOR	SP	STANDPIPE
GPM	GALLONS PER MINUTE	SP	STATIC PRESSURE
HP	HORSE POWER	STM	STEAM
ID	INDIRECT	T	THERMOSTAT
IN	INCH	TD	TEMPERATURE DROP
INV	INVERT	TEMP	TEMPERATURE
LB	POUND	TYP	TYPICAL
LB/HR	POUNDS PER HOUR	UG	UNDERGROUND
LAT	LEAVING AIR TEMPERATURE	VAC	VACUUM
LP	LOW PRESSURE	V	VENT
LPG	LIQUEFIED PETROLEUM GAS	VAV	VARIABLE AIR VOLUME
LVR	LOUVER	VENT	VENTILATION
LWT	LEAVING WATER TEMPERATURE	WB	WET BULB
M/A	MIXED AIR	(X)	DEMOLISH
MAX	MAXIMUM		

LIFE SAFETY NOTES

REFER TO LIFE SAFETY PLANS FOR LOCATIONS AND RATINGS OF WALL TYPES.

SMOKE PARTITION
SMOKE DAMPERS REQUIRED AT TRANSFER AIR OPENINGS ONLY.

FIRE BARRIERS (1-HR)
1.5-HR FIRE DAMPER REQUIRED AT TRANSFER AIR OPENINGS ONLY. DUCTS SHALL NOT PENETRATE EXIT PASSAGEWAY OR STAIRWAY ENCLOSURE.

SMOKE BARRIER (1-HR)
SMOKE DAMPERS REQUIRED AT ALL DUCT PENETRATIONS. TRANSFER AIR OPENINGS REQUIRE A 1.5-HR COMBINATION FIRE/SMOKE DAMPER.

FIRE BARRIER (2-HR)
1.5-HR FIRE DAMPER AT ALL DUCT PENETRATIONS.

FIRE/SMOKE BARRIER (2-HR)
1.5-HR COMBINATION FIRE/SMOKE DAMPERS ARE REQUIRED AT ALL DUCT PENETRATIONS.

SHAFT ENCLOSURES:
1.5-HOUR COMBINATION FIRE/SMOKE DAMPER IS REQUIRED AT EACH PENETRATION OF A SHAFT ENCLOSURE. IF THE SHAFT DOES NOT EXTEND ALL THE WAY TO THE BOTTOM OF THE BUILDING, PLACE A HORIZONTAL FIRE/SMOKE DAMPER AT THE FLOOR LEVEL WHERE THE DUCT EMERGES FROM THE BOTTOM OF THE SHAFT.

MECHANICAL BASIS OF DESIGN

BUILDING DESCRIPTION
NEW CONSTRUCTION OF A PUBLIC WORKS GARAGE FOR TOWN OF BRULE, CONSISTING OF APPROXIMATELY 6,000 SF. THE PROJECT IS LOCATED IN BRULE, WI.

NOTABLE MECHANICAL DESIGN APPROACHES
INCLUDING BUT NOT LIMITED TO THE FOLLOWING:

OFFICE SPACES:
- VENTILATION: HEAT RECOVERY VENTILATORS IN AMENITY SPACE.
- HEATING AND COOLING: DUCTED FAN COIL UNIT SPLIT SYSTEM.

GARAGE ROOM:
- VENTILATION: SIDE WALL EXHAUST FAN AND INTAKE LOUVER.
- HEATING ONLY VIA GAS UNIT HEATER.

ELEVATOR ROOM:
- COOLING VIA MINI-SPLIT AC.

CODES AND STANDARDS
BUILDING MECHANICAL SYSTEMS ARE DESIGN IN ACCORDANCE WITH THE FOLLOWING CODES AND STANDARDS:
- 2021 WISCONSIN BUILDING CODE
- 2021 WISCONSIN MECHANICAL CODE
- 2021 WISCONSIN ENERGY CODE (2019 ASHRAE 90.1)
- 2023 WISCONSIN PLUMBING CODE
- 2021 WISCONSIN FIRE CODE

HVAC DESIGN CRITERIA
SUPERIOR BONG

ASHRAE FUNDAMENTALS 2021

ELEVATION: 674'
LAT: 46.689 N
LONG: 92.094 W

OUTDOOR DESIGN CONDITIONS

WINTER: -14.7°F DB (99.6%)
SUMMER: 90.8°F DB (0.4%)
74.9°F WB (0.4%)

INDOOR DESIGN CONDITIONS
OFFICE SPACES
COOLING: 75°F +/- 2°F
HEATING: 70°F +/- 2°F
HEATING-ONLY SPACES
GARAGE: 50°F +/- 2°F

VENTILATION CRITERIA
COMPLY WITH 2021 WISCONSIN STATE MECHANICAL CODE CHAPTER 4 VIA 403.3.1.1

EXHAUST CRITERIA (MINIMUM RATES)
PUBLIC RESTROOMS: PER WATER CLOSET / URINAL AS PER IMC
PARKING GARAGE: 0.06 CFM/FT² MIN. / 0.75 CFM/FT² MAX.

BUILDING ENVELOPE

ROOF:	R-30 CI (U-0.032)
STEEL FRAMED WALLS:	R-13 + R-12.5 c.i. (U-0.049)
6" WOOD FRAMED WALLS:	R-13 + R-7.5 c.i. (U-0.051)
MASS WALLS:	R-13.3 CI (U-0.080)
UNHEATED SLAB:	F-0.510
SWINGING DOOR:	U-0.370
NONSWINGING DOOR:	U-0.310
FIXED WINDOW:	U-0.34
OPERABLE WINDOW:	U-0.42

DUCTWORK DESIGN CRITERIA
DUCT STATIC PRESSURE FRICTION LOSS SHALL NOT EXCEED THE FOLLOWING:
- LOW PRESSURE SUPPLY: 0.08" W.C. PER 100 FEET
- MEDIUM PRESSURE SUPPLY: 0.1" W.C. PER 100 FEET
- LOW PRESSURE RETURN AND EXHAUST: 0.06" W.C. PER 100 FEET
- MECHANICAL ROOMS AND SHAFTS: 0.2" W.C. PER 100 FEET

SUPPLY, RETURN AND EXHAUST DUCT AIRFLOW VELOCITIES SHALL NOT EXCEED THE FOLLOWING:
- MAINS ABOVE CEILING: 1,750 FPM
- MAINS ABOVE OPEN OCCUPIED SPACES: 1450 FPM
- BRANCHES ABOVE OPEN OCCUPIED SPACES: 1150 FPM
- RUN-OUTS TO DIFFUSERS: 725 FPM
- IN SHAFTS: 2,500 FPM
- IN MECHANICAL ROOMS: 3,000 FPM

HVAC SHEET INDEX

M0.1	COVER SHEET - MECHANICAL
M0.2	SCHEDULES - MECHANICAL
M2.1	FLOOR PLAN - MECHANICAL
M2.2	MEZZANINE PLAN - MECHANICAL
M5.1	DETAILS - MECHANICAL

GENERAL NOTES

1. THESE DRAWINGS ARE DIAGRAMMATIC IN NATURE AND INDICATE THE GENERAL ARRANGEMENT OF SYSTEMS AND EQUIPMENT. FINAL LOCATIONS OF EQUIPMENT SHALL BE FIELD DETERMINED. ALL DISCREPANCIES IN THE DRAWINGS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT IN WRITING PRIOR TO SUBMISSION.
2. COORDINATE INSTALLATION OF PIPING, DUCTWORK, CONDUIT, LIGHTS, CABLE TRAY, STRUCTURE, AND EQUIPMENT TO PREVENT CONFLICTS.
3. THE CONTRACTOR SHALL BE FAMILIAR WITH ALL THE CONDITIONS ILLUSTRATED BY THESE DOCUMENTS AS WELL AS THOSE WHICH CAN BE REASONABLY ANTICIPATED INCLUDING, BUT NOT LIMITED TO ARCHITECTURAL, ELECTRICAL, VENTILATION, PLUMBING, AND OTHER SYSTEMS INVOLVED ON THIS PROJECT.
4. FINAL PRODUCT SHALL BE A COMPLETE AND FUNCTIONING SYSTEM, AND SHALL CONFORM TO ALL REQUIREMENTS OF APPLICABLE FEDERAL, STATE AND LOCAL CODES, INCLUDING BUT NOT LIMITED TO THE INTERNATIONAL BUILDING CODE AND INTERNATIONAL MECHANICAL CODE.
5. EQUIPMENT FOR OTHER DISCIPLINES MAY BE SHOWN FOR REFERENCE ONLY. REFER TO OTHER DISCIPLINES' DRAWINGS FOR MORE DETAIL REGARDING EQUIPMENT SPECIFICATIONS AND INFORMATION.
6. PLANS SHALL GOVERN IN MATTERS OF QUANTITY, SPECIFICATIONS SHALL GOVERN IN MATTERS OF QUALITY. IN CASE OF DISCREPANCY BETWEEN DRAWINGS AND SPECIFICATIONS, THE SPECIFICATIONS SHALL GOVERN. PLANS ARE TO BE TIED TO SPECIFICATIONS FOR A COMPLETE DESIGN PACKAGE. NOTIFY ENGINEER OF ANY DISCREPANCY BETWEEN DRAWINGS AND SPECIFICATIONS.
7. ANYTHING MENTIONED IN THE SPECIFICATIONS AND NOT SHOWN ON THE DRAWINGS, OR SHOWN ON THE DRAWINGS AND NOT MENTIONED IN THE SPECIFICATIONS, SHALL BE OF LIKE EFFECT AS IF SHOWN OR MENTIONED IN BOTH.
8. LOCATE EQUIPMENT REQUIRING ACCESS 2'-0" MAXIMUM ABOVE CEILING.
9. ALL ROOF MOUNTED EQUIPMENT SHALL BE A MINIMUM 10'-0" FROM EDGE OF ROOF.
10. LOCATE DUCTWORK, PIPING AND MECHANICAL EQUIPMENT AWAY FROM THE SPACE ABOVE ELECTRICAL PANELS, TRANSFORMERS AND OTHER ELECTRICAL EQUIPMENT.
11. PROVIDE FIRE PROOFING FOR ALL PENETRATIONS OF FIRE RATED ASSEMBLIES. FIRE PROOFING MUST BE EQUIVALENT OR HIGHER TO THAT OF THE PENETRATED ASSEMBLY. REFER TO ARCHITECTURAL PLANS.
12. PROVIDE SLEEVES AND/OR OPENINGS TO RUN PIPES AND DUCTS THROUGH FOUNDATIONS, FLOORS, WALLS, AND ROOF. CONSULT STRUCTURALLY ENGINEER OF RECORD FOR ALL STRUCTURAL PENETRATIONS. PROVIDE WATER-PROOFING AS NEEDED FOR ALL EXTERIOR PENETRATIONS.
13. ADJUST PIPING AND DUCTWORK SIZES TO PROPERLY CONNECT TO MECHANICAL EQUIPMENT.
14. REFER TO PLUMBING SERIES DRAWINGS FOR GAS PIPING.
15. PIPE AND DUCTWORK SIZES SHOWN SHALL BE CONTINUED IN THE DIRECTION OF FLOW UNTIL ANOTHER SIZE IS SHOWN.
16. FOR DETAILS, EQUIPMENT CONNECTIONS, DUCT AND PIPE SIZES NOT SHOWN ON THE SEGMENTS, REFER TO DETAILS, SCHEDULES, AND SPECIFICATIONS.
17. INSTALL ALL EQUIPMENT IN ACCORDANCE WITH THE RESPECTIVE MANUFACTURER'S WRITTEN INSTALLATION INSTRUCTIONS, AT A LEVEL OF QUALITY AND WORKMANSHIP CONSISTENT WITH THE SPECIFICATIONS.
18. LOCATIONS OF PIPING, DUCTWORK AND EQUIPMENT AS INDICATED ON THE DRAWINGS, ARE APPROXIMATE AND SUBJECT TO MINOR ADJUSTMENTS IN THE FIELD. WORK SHALL BE COORDINATED WITH ALL OTHER TRADES TO AVOID INTERFERENCE IN THE FIELD.
19. INSTALL EXPOSED PIPING AND DUCTWORK AS HIGH AS PRACTICAL IN ROOMS WITHOUT CEILINGS.
20. THE MECHANICAL CONTRACTOR SHALL PROVIDE AND INSTALL ALL NECESSARY CONDUIT, WIRING, CONTROLS, AND APPURTENANCES FOR A COMPLETE AND OPERABLE HVAC SYSTEM.
21. INSULATE DUCTWORK AND PIPING SYSTEMS TO MEET LOCAL ENERGY CODE REQUIREMENTS.
    A. SUPPLY AND RETURN DUCTS FOR HEATING AND COOLING:
       - EXTERIOR: R-12
       - UNCONDITIONED SPACE AND BURIED DUCTS: R-6
       - INDIRECTLY CONDITIONED SPACE: R-1.9
    B. SUPPLY AND RETURN DUCTS FOR HEATING ONLY:
       - EXTERIOR: R-12
       - UNCONDITIONED SPACE AND BURIED DUCTS: R-6
       - INDIRECTLY CONDITIONED SPACE: R-1.9
    C. SUPPLY AND RETURN DUCTS FOR COOLING ONLY:
       - EXTERIOR: R-8
       - UNCONDITIONED SPACE AND BURIED DUCTS: R-6
       - INDIRECTLY CONDITIONED SPACE: R-1.9
22. SEISMIC ANCHORAGE AND RESTRAINTS MUST BE COORDINATED WITH STRUCTURAL ENGINEER AND AUTHORITY HAVING JURISDICTION.
23. LOCATE THERMOSTATS AND TEMPERATURE SENSORS A MINIMUM OF 8" AWAY FROM LIGHT SWITCHES. MOUNTING HEIGHT SHALL BE PER ARCHITECT AND IN CONFORMANCE WITH ADA GUIDELINES.
24. DIVISION 23 CONTRACTOR SHALL PROVIDE AND INSTALL ALL CONTROL WIRING.
25. CONDENSATE DRAINS SHALL BE SUPPLIED FOR ALL COOLING AND GAS EQUIPMENT. CONTRACTOR SHALL ENSURE PROPER INSTALLATION AND DRAINAGE AS REQUIRED BY FEDERAL, STATE, AND LOCAL CODES. CONDENSATE PIPING SHALL BE SCHEDULE 40 PVC.
26. PROVIDE A 4" HOUSEKEEPING PAD FOR EACH PIECE OF FLOOR-MOUNTED MECHANICAL EQUIPMENT. COORDINATE SIZES WITH MECHANICAL EQUIPMENT SELECTED.
27. ALL SUPPLY, RETURN, AND EXHAUST DUCTWORK SHALL BE RATED FOR PRESSURE CLASS OF 2" W.G. UNLESS NOTED OTHERWISE.
28. CONTRACTOR SHALL BE REQUIRED TO REPLACE FILTERS ON HVAC EQUIPMENT AFTER ALL DUST PRODUCING CONSTRUCTION HAS BEEN COMPLETED AND PRIOR TO THE FINAL PUNCH.
29. PROVIDE ACCESS PANELS FOR SERVICING, ADJUSTING AND REPLACING INCLUDING BUT NOT LIMITED TO ALL EQUIPMENT, DAMPERS AND VALVING.
30. THERMOSTATS TO BE PROGRAMMABLE, HAVE 5°F DEADBAND, AUTOMATIC TIME-CLOCK, 2-HOUR OCCUPANT OVERRIDE, 10-HOUR BACKUP, SETBACKS TO 55°F (HEATING) AND 85°F (COOLING).
31. CONTRACTOR TO PROVIDE OPERATION & MAINTENANCE MANUALS AND AS-BUILT DRAWINGS FOR NEW SYSTEMS AND EQUIPMENT WITHIN 90 DAYS OF COMPLETION.
32. PROVIDE CODE REQUIRED DOOR SWITCH TO CONTROL HVAC SYSTEM OPERATION AND DE-ENERGIZE HVAC SYSTEM FUNCTIONS IF DOOR IS FOUND TO BE OPEN LONGER THAN CODE ALLOWED TIMEFRAME. REFER TO 2019 WISCONSIN ENERGY CODE 6.5.10 FOR SPECIFIC REQUIREMENTS.
33. CONDENSATE DRAIN LINES SHALL BE CONFIGURED OR PROVIDED WITH CLEANOUT TO PERMIT THE CLEARING OF BLOCKAGES AND FOR MAINTENANCE WITHOUT REQUIRING THE DRAIN LINE TO BE CUT.

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

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Brule Public Works Garage

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sheet title: COVER SHEET
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ENERGY RECOVERY VENTILATORS

TAG	AREA SERVED	SUPPLY FAN			EXHAUST FAN			ENERGY RECOVERY CORE				FILTER	WEIGHT	ELECTRICAL		BASIS OF DESIGN		NOTES
		AIRFLOW	ESP	POWER	AIRFLOW	ESP	POWER	TYPE	EFFICIENCY	EAT DB (SUMMER/WINTER)	LAT DB (SUMMER/WINTER)			VOLTAGE	PHASE	MANUFACTURER	MODEL	
ERV-01	NORTH	50 CFM	5" W.C.	135 W	50 CFM	5" W.C.	135 W	STATIC PLATE	79.20%	90.8/-14.7°F	78.3/52.3°F	MERV-10	100 LBS	120 V	1 Ø	RENEWAIRE	SL75	
ERV-02	SOUTH	415 CFM	0.75" W.C.	222 W	415 CFM	0.75" W.C.	212 W	STATIC PLATE	75.60%	90.8/-14.7°F	79.3/46.8°F	MERV-10	160 LBS	120 V	1 Ø	RENEWAIRE	HE07-JINV-S11AA---GNT---L	

NOTES:

VEHICLE EXHAUST SOURCE CAPTURE SYSTEM SCHEDULE

TAG	SERVES	TYPE	EXHAUST HOSE/DRUM			AIRFLOW	TSP	ELECTRICAL		WEIGHT	BASIS OF DESIGN		NOTES
			DIAMETER	LENGTH	DRUM STORAGE			VOLT	PH		MANUFACTURER	MODEL	
VEF-1	GARAGE	PRESSURE BLOWER - TOP DISCHARGE	6"	25 FT	MOTORIZED	580 CFM	4" W.C.	120 V	1 Ø	70 LBS	FUME-A-VENT	PB10-1-1-T	1

NOTES:
1. PROVIDE WITH HOSE REEL (HRM-02-0630-WT), MOTORIZED HOSE REEL SWITCH (HRCM-4B), TAPERED CONE (TPA 04-06), FAN CONTROL BOX (CBS-1-230-1-L) AND LIFTING POLE (LP-10-ADJ).

GAS UNIT HEATER

TAG	LOCATION	STYLE	FINISH	INPUT CAPACITY	OUTPUT CAPACTIY	AIRFLOW	HEAT RISE	THERMAL EFFICIENCY %	GAS CONNECTION	WEIGHT	ELECTRICAL		BASIS OF DESIGN		NOTES
											MOTOR	VOLT	MANUFACTURER	MODEL	
GUH-1	GARAGE	GAS UNIT HEATER	WHITE	200 MBH	166 MBH	2562	60	83	1/2"	193 LBS	1/6 HP	115	REZNOR	UDX200	ALL
GUH-2	GARAGE	GAS UNIT HEATER	WHITE	200 MBH	166 MBH	2562	60	83	1/2"	193 LBS	1/6 HP	115	REZNOR	UDX200	ALL

NOTES:
1. PROVIDE 208V-115V STEPDOWN TRANSFORMER (CG1), AND TWO STATE THERMOSTAT.

ELECTRIC DUCT HEATER SCHEDULE

TAG	BASIS OF DESIGN		SERVES	HEATING ELEMENT			ACTUAL POWER	AIRFLOW REQ'S		ELECTRICAL		NOTES
	MANUFACTURER	MODEL		TYPE	SIZE	REQUIRED POWER		MIN.	DESIGN	VOLTAGE	PHASE	
EDH-1	THERMOLEC	TER-6-1120	ERV-01	THERMOAIR	6"	0.39 KW	1.0 KW	30 CFM	50 CFM	120	1	1
EDH-2	THERMOLEC	TER-10-4208	ERV-02	THERMOAIR	10"	3.24 KW	4.0 KW	120 CFM	415 CFM	240	1	1

NOTES:
1. PROVIDE WITH BUILT-IN AIR FLOW SENSOR, TEMPERATURE SENSOR, AUTOMATIC RESET, TEMPERATURE CONTROLLER, AND SINGLE POINT POWER CONNECTION.

BOILER SCHEDULE

TAG	NET AHRI	AFUE, %	CONNECTIONS				PUMP			HEATING CAPACITY					ELECTRICAL		BASIS OF DESIGN		WEIGHT	NOTES
			WATER	GAS	INTAKE	VENT	LWT	EWT	FLOW	FUEL SOURCE	MIN INPUT	MAX INPUT	REQUIRED OUTPUT	TURN DOWN RATIO	VOLTS	PH.	MANUFACTURER	MODEL		
B-1	230 MBH	95.0	1-1/4"	1/2"	3"	3"	120°F	100°F	25 GPM	GAS	29 MBH	285 MBH	247 MBH	10:1	120	1	LOCHINVAR	WHB285N	200 LBS	ALL

NOTES:
1. PROVIDE WITH FLOW SWITCH, SIDEWALL VENT TERMINATION, NEUTRALIZER FOR CONDENSATE DRAIN AND ROUTE TO AN APPROVED LOCATION PER LOCAL CODE.
2. UNIT TO BE CAPABLE OF HANDLING 50% PROPYLENE GLYCOL.
3. USE MANUFACTURER APPROVED POLYPROPYLENE EXHAUST FLUE SYSTEM.
4. PROVIDE WITH OUTDOOR AIR SENSOR.

PUMP SCHEDULE

TAG	DESCRIPTION	TYPE	PUMP		ELECTRICAL			BASIS OF DESIGN		WEIGHT	NOTES
			DESIGN FLOW	HEAD	POWER	VOLT	PHASE	MANUFACTURER	MODEL		
BP-1	IN-LINE (WET-ROTOR)	INLINE	25 GPM	5 FT	1/12 HP	115 V	1 Ø	BELL & GOSSETT	ECOCIRC XL 20-35	25 LBS	1
P-1	IN-LINE (WET-ROTOR)	INLINE	4.95 GPM	22 FT	1/12 HP	115 V	1 Ø	BELL & GOSSETT	ECOCIRC XL 20-35	25 LBS	1
P-2	IN-LINE (WET-ROTOR)	INLINE	5.89 GPM	15 FT	1/12 HP	115 V	1 Ø	BELL & GOSSETT	ECOCIRC XL 20-35	25 LBS	1
P-3	IN-LINE (WET-ROTOR)	INLINE	5.93 GPM	16 FT	1/12 HP	115 V	1 Ø	BELL & GOSSETT	ECOCIRC XL 20-35	25 LBS	1
P-4	IN-LINE (WET-ROTOR)	INLINE	7.96 GPM	16 FT	1/12 HP	115 V	1 Ø	BELL & GOSSETT	ECOCIRC XL 20-35	25 LBS	1

NOTES:
1. PROVIDE WITH ECM MOTOR, BACNET CARD.

CEILING EXHAUST FANS

TAG	AREA SERVED	TYPE	PERFORMANCE		FIXTURE INCLUDES LED LIGHT	GRILLE SIZE	EFFICIENCY CFM/WATT	ELECTRICAL			WEIGHT	BASIS OF DESIGN		NOTES
			AIRFLOW	ESP				DRIVE	VOLT	PH		MANUFACTURER	MODEL	
CEF-01	STAFF TOILET	SINGLE SPEED EXHAUST FAN	50 CFM	0.5" W.C.	NO	13"	11.4	DIRECT	120	1	20 LBS	PANASONIC	FV-0511VK3	1
CEF-02	TOILET	SINGLE SPEED EXHAUST FAN	50 CFM	0.5" W.C.	NO	13"	11.4	DIRECT	120	1	20 LBS	PANASONIC	FV-0511VK3	1
CEF-02	TOILET	SINGLE SPEED EXHAUST FAN	50 CFM	0.5" W.C.	NO	13"	11.4	DIRECT	120	1	20 LBS	PANASONIC	FV-0511VK3	1

NOTES:
1. PROVIDE FAN WITH MOTION SENSOR. COORDINATE LOCATION WITH ELECTRICAL CONTRACTOR.

DIFFUSERS, REGISTERS AND GRILLES

TAG	TYPE	FACE	MIN CFM	MAX CFM	NECK SIZE	T-BAR	HARDLID	NC	THROW	FRAME	DEFLECTION	BASIS OF DESIGN	NOTES
SC-1	CEILING SUPPLY	SQUARE FOUR-WAY	0	120	6	24x24	12x12	-	2-3-7	SURFACE MOUNT	4-WAY	TITUS TMS-AA	ALL
			121	200	8	24x24	12x12	12	3-5-9		4-WAY		ALL
SC-2	CEILING SUPPLY	SQUARE FOUR-WAY	200	350	12	24x24	24x24	18	3-5-15	SURFACE MOUNT	PERFORATED	TITUS PCS-AA	ALL
RC-1	PASSIVE CEILING RETURN GRILLE	PERFORATED, EGG CRATE	0	100	6x6	24x24	12x12	-	-	SURFACE MOUNT	-	TITUS PAR-AA	ALL
			100	300	12x12	24x24	12x12	-	-		-		ALL
			300	750	14	24x24	12x12	29	-		-		ALL
RW-1	SIDEWALL RETURN/EXHAUST GRILLE	0 DEGREE DEFLECTION	0	900	18x12	18x12	18x12	25	-	SURFACE MOUNT	-	TITUS 350RS	ALL

NOTES:
1. APPEARANCE SHALL BE APPROVED BY ARCHITECT PRIOR TO PURCHASING DIFFUSER OR GRILLE.
2. DIFFUSER, GRILLE, OR REGISTER TO BE SIZED AS LISTED ON SCHEDULE UNLESS OTHERWISE DIRECTED ON FLOOR PLAN.
3. NOISE CRITERIA (NC) BASED ON ROOM ABSORPTION OF 10 DB, MEASURED PER ANSI/ASHRAE STANDARD 70.
4. THROW VALUES GIVEN FOR TERMINAL VELOCITIES 150, 100, AND 50 FPM FOR ISOTHERMAL CONDITIONS.

CONDENSING UNITS

TAG	CAPACITY		REFRIG. TYPE	PIPING	EFFICIENCY (SEER2/HSPF2)		WEIGHT	ELECTRICAL		INTERLOCK	BASIS OF DESIGN		NOTES
	COOLING	HEATING		MAX LENGTH	REQUIRED	ACTUAL		VOLTAGE	PHASE		MANUFACTURER	MODEL	
CU-01	24 MBH	25 MBH	R454B	165 FT	14.3/7.5	21.2/10	120 LBS	230 V	1 Ø	FC-01	MITSUBISHI	SUZ-AA24NL	ALL
CU-02	9 MBH	12 MBH	R454B	65 FT	14.3/7.5	21/11.8	85 LBS	230 V	1 Ø	FC-02	MITSUBISHI	SUZ-AA09NL	ALL

NOTES:
1. PROVIDE LINESET, DISCONNECT, EQUIPMENT, AND WIND BAFFLE.
2. PROVIDE LOW AMBIENT KIT FOR OPERATION DOWN TO -10°F.

FAN COILS

TAG	AREA SERVED	TYPE	SUPPLY FAN		CAPACITY (MBH)		WEIGHT	ELECTRICAL		BASIS OF DESIGN		NOTES
			AIRFLOW	FAN ESP	COOLING	HEATING		VOLTAGE	PHASE	MANUFACTURER	MODEL	
FCU-01	MEETING ROOM	DUCTED	742 CFM	0.6" W.C.	24 MBH	27 MBH	67 LBS	230 V	1 Ø	MITSUBISHI	PEAD-AA24NL	ALL
FCU-02	OFFICE	CASSETTE	300 CFM	-	9 MBH	11 MBH	30 LBS	230 V	1 Ø	MITSUBISHI	SLZ-AF09NL	ALL

NOTES:
1. POWER AND CONTROL WIRING FROM CONDENSING UNIT.
2. PROVIDE ASPEN MINI CONDENSATE PUMP (OR EQUAL). 230V, 1Ø, 0.11A.

PARKING GARAGE VENTILATION CALCULATION

SPACE NAME	TOTAL AREA (FT2)	MAX. CAPACITY REQUIRED		MINIMUM TURNDOWN		REQUIRED LOUVER FREE AREA	
		OSA PER UNIT AREA (CFM/FT2)	OSA CAPACITY (CFM)	OSA PER UNIT AREA (CFM/FT2)	REQUIRED VENTILATION CAPACITY (CFM)	INTAKE LOUVER SIZE @ 50% FREE AREA (FT2)	EXHAUST LOUVER SIZE @ 50% FREE AREA (FT2)
GARAGE	4000	0.75	3000	0.05	200	8	7
		TOTALS:	3000		200		

WMC 2021 403.3 VENTILATION AND EXHAUST CALCULATION

SPACE NAME	OCCUPANCY TYPE	AREA (FT2)	OCCUPANT DENSITY #/1000 SQ FT	NUMBER OF PEOPLE	OSA AIRFLOW PER PERSON (CFM)	OSA AIRFLOW PER UNIT AREA (CFM/FT2)	EFFECTIVENESS	REQUIRED OSA AIRFLOW (CFM)	TOTAL SUPPLIED OSA AIRFLOW (CFM)	UNIT EXHAUST (CFM/UNIT)	UNITS	EXHAUST AIRFLOW PER UNIT AREA (CFM/FT2)	MINIMUM EXHAUST AIRFLOW (CFM)
ERV-01													
MEETING ROOM	CONFERENCE/MEETING	875	50	44	5	0.06	0.8	341	345	-	-	-	-
TLT	TOILETS-PUBLIC (CONTINUOUS OPERATION)	70	0	0	0	0	0.8	0	0	50	1	-	50
TLT	TOILETS-PUBLIC (CONTINUOUS OPERATION)	70	0	0	0	0	0.8	0	0	50	1	-	50
LOBBY	MAIN ENTRY LOBBIES	165	10	2	5	0.06	0.8	25	25	-	-	-	-
STORAGE	STORAGE	80	0	0	0	0.12	0.8	12	15	-	-	-	-
OFFICE	OFFICE SPACE	195	5	2	5	0.06	0.8	27	30	-	-	-	-
								405	415				100
ERV-02													
STAFF AREA	OFFICE SPACE	140	5	2	5	0.06	0.8	23	30	-	-	-	-
STAFF TLT	TOILETS-PUBLIC (CONTINUOUS OPERATION)	70	0	0	0	0	0.8	0	0	50	1	-	50
STORAGE	STORAGE	70	0	0	0	0.12	0.8	11	20	-	-	-	-
TOTAL (ALL FLOORS)		1735						34	50				50

FANS

TAG	AREA SERVED	TYPE	AIRFLOW	ESP	ELECTRICAL				WEIGHT	BASIS OF DESIGN		NOTES
					DRIVE	POWER	VOLT	PH		MANUFACTURER	MODEL	
EF-01	GARAGE	SIDEWALL	3000 CFM	0.75" W.C.	DIRECT	1 HP	115 V	1 Ø	110 LBS	GREENHECK	SQ-15-M2-VG	1
EF-02	GARAGE	SIDEWALL	200 CFM	0.75" W.C.	DIRECT	1/10 HP	115 V	1 Ø	25 LBS	GREENHECK	CSP-A390-VG	1

NOTES:
1. PROVIDE ECM MOTOR WITH SPEED CONTROLLER.

LOUVERS

TAG	LOCATION	AIRFLOW	TYPE	VELOCITY	REQUIRED FREE AREA	WIDTH / HEIGHT	BASIS OF DESIGN		NOTES
							MANUFACTURER	MODEL	
LV-01	STAFF AREA 104	50 CFM	INTAKE	335 FPM	0.1 SQFT	10x10	GREENHECK	ESD-202	-
LV-02	STAFF AREA 104	3000 CFM	INTAKE	390 FPM	7.7 SQFT	48x40	GREENHECK	ESD-635	1
LV-03	MEETING ROOM 105	415 CFM	EXHAUST	635 FPM	0.7 SQFT	20x14	GREENHECK	EDJ-401	-
LV-04	MEETING ROOM 105	415 CFM	INTAKE	380 FPM	1.1 SQFT	24x18	GREENHECK	ESD-635	-
LV-05	MECHANICAL ROOM	50 CFM	EXHAUST	645 FPM	0.1 SQFT	8x8	GREENHECK	ESD-202	-

NOTES:
1. PROVIDE WITH MOTORIZED DAMPER WITH 120 VOLT ACTUATOR.

RADIANT FLOOR MANIFOLD & ZONE SCHEDULE

TAG	RESPECTIVE ROOMS	MANIFOLD SIZE	MAX. MANIFOLD PRESSURE DROP	CURCUITS	APPROX. LOOP LENGTHS	TUBING SIZE	SPACING	TOTAL FLOW (GPM)	FLOW PER LOOP (GPM)	TUBING PRESSURE DROP	RADIANT HEAT LOAD	MAX EWT	LWT	BASIS OF DESIGN			NOTES
														MANUFACTURER	MANIFOLD MODEL	TUBING MODEL	
MF-1	OFFICE AREA ZONE 1	1"	5 FT	4	378 FT	5/8"	12"	4.95 GPM	1.2 GPM	18.0 FT	50100 BTU	120 °F	100 °F	WATTS	D38030X4SS	BARRIER PEX 5/8"	1
MF-2	GARAGE ZONE 2	1"	5 FT	5	333 FT	5/8"	12"	5.89 GPM	1.2 GPM	12.0 FT	58900 BTU	120 °F	100 °F	WATTS	D38030X5SS	BARRIER PEX 5/8"	1
MF-3	GARAGE ZONE 3	1"	5 FT	5	346 FT	5/8"	12"	5.93 GPM	1.2 GPM	13.0 FT	59300 BTU	120 °F	100 °F	WATTS	D38030X5SS	BARRIER PEX 5/8"	1
MF-4	GARAGE ZONE 4	1-1/4"	5 FT	5	337 FT	5/8"	12"	7.96 GPM	1.6 GPM	12.5 FT	79600 BTU	120 °F	100 °F	WATTS	D38030X5SS	BARRIER PEX 5/8"	1

NOTES:
1. PROVIDE A SURFACE MOUNT ENCLOSURE.

ELECTRIC UNIT HEATER

TAG	AREA SERVED	STYLE	FINISH	ELECTRICAL			BASIS OF DESIGN		NOTES
				WATT	VOLT	AMP	MANUFACTURER	MODEL	
EUH-01	STAFF AREA	WALL	WHITE	1 KW	120 V	8.3	CADET	COM-PAK	1,2,3
EUH-02	TLT 108	WALL	WHITE	0.5 KW	120 V	2.1	CADET	COM-PAK	1,2,3
EUH-03	STORAGE 113	WALL	WHITE	1 KW	120 V	8.3	CADET	APEX-72	ALL
EUH-04	MECHANICAL ROOM	WALL	WHITE	1 KW	120 V	8.3	CADET	COM-PAK	1,2,3

NOTES:
1. ELECTRIC UNIT HEATERS SHALL HAVE AN INTEGRAL MECHANICAL THERMOSTAT.
2. ELECTRIC UNIT HEATER SHALL BE CONTROLLED WITH 60/30/20/10 MINUTE WALL TIMER.
3. PROVIDE HEATER ASSEMBLY WITH A WALL CAN AND GRILLE KIT.
4. WALL HEATER TO BE HIGH IN WALL.

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Brule Public Works Garage

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03/09/2026

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sheet number: M0.2

KEYNOTES:

1 ROUTE 3/4" CONDENSATE AT A MINIMUM SLOPE OF 1/8" PER FOOT TO MOP SINK LOCATED IN JANITOR ROOM. SEE PUBLING DRAWINGS FOR FINAL LOCATION.

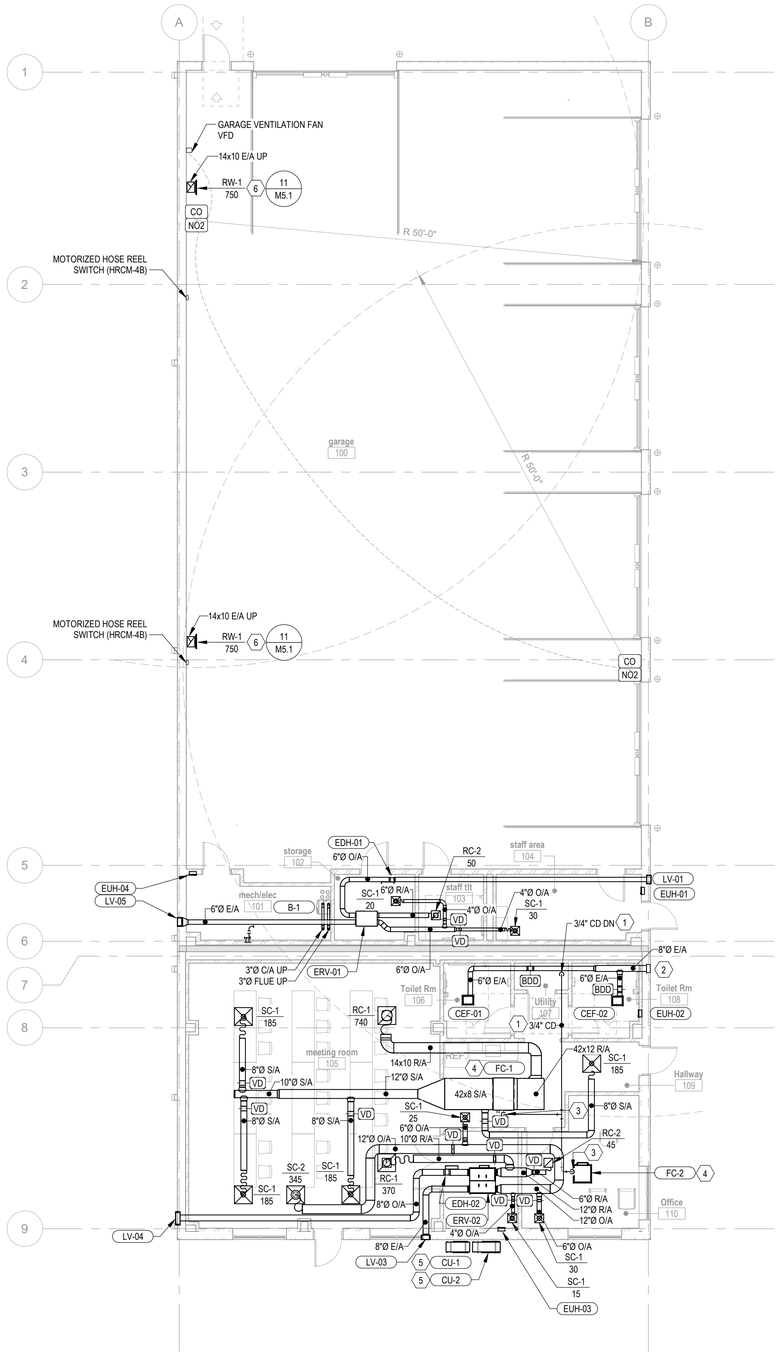
2 PROVIDE 8" WALL VENT WITH INSECT SCREEN AND BACKDRAFT DAMPER. EXHAUST LOCATION SHALL BE MINIMUM 10 FEET FROM MECHANICAL AIR INTAKES, 3 FEET FROM PROPERTY LINES AND 3 FEET FROM OPERABLE OPENINGS, PER IMC 501.3.1 (#3)

3 INSTALL CONDENSATE PUMP. SEE FAN COIL SCHEDULE FOR MORE DETAIL.

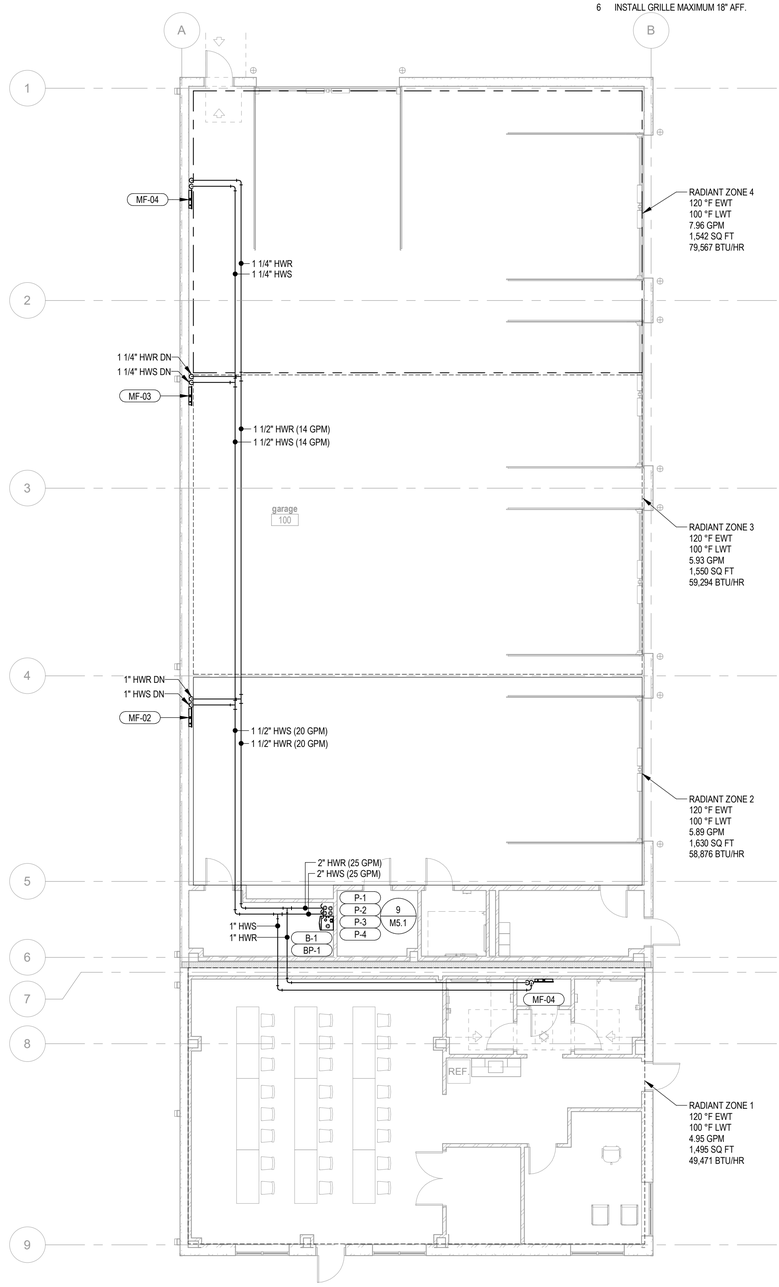
4 ROUTE AND CONNECT REFRIGERANT LINESET FROM FAN COIL TO ASSOCIATED CONDENSING UNIT.

5 ROUTE REFRIGERANT LINESET FROM CONDENSING UNIT TO ASSOCIATED FAN COIL.

6 INSTALL GRILLE MAXIMUM 18" AFF.



1 FLOOR PLAN - MECHANICAL
SCALE: 1/8" = 1'-0"



2 FLOOR PLAN - HYDRONIC / IN-FLOOR HEAT
SCALE: 1/8" = 1'-0"

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Brule Public Works Garage

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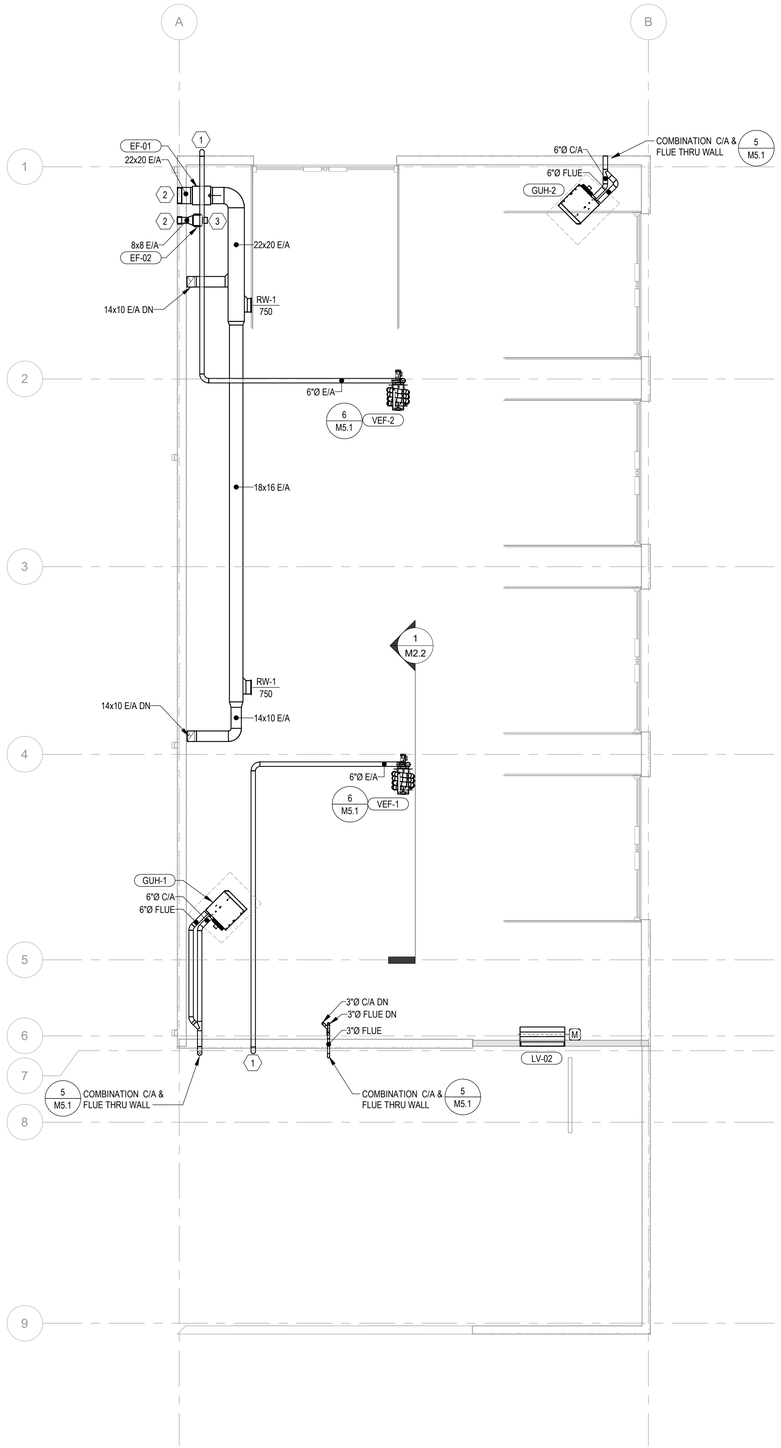
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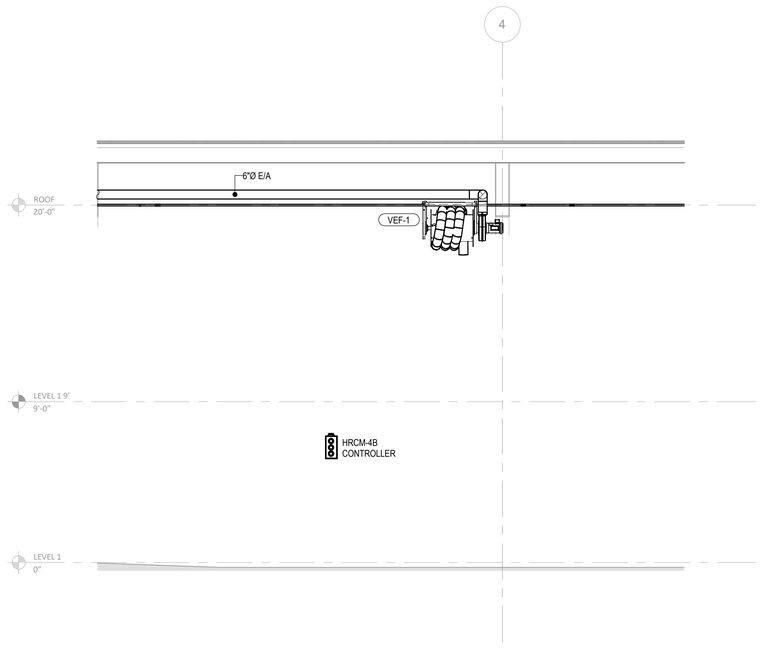
sheet title: FLOOR PLAN
sheet number: M2.1

KEYNOTES:

1 PROVIDE DUCT TURN DOWN WITH BIRD-SCREEN AT EXHAUST TERMINATION.
2 PROVIDE WEATHER HOOD WITH MOTORIZED BACKDRAFT DAMPER.
3 PROVIDE MESH OVER DUCT OPENING.



2 OVERHEAD PLAN - MECHANICAL
SCALE: 1/8" = 1'-0"



1 SOURCE CAPTURE SYSTEM (VEF-1)
SCALE: 1/4" = 1'-0"

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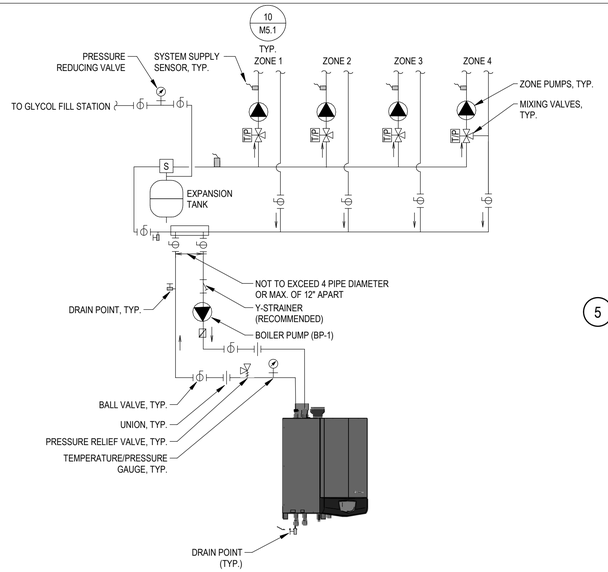
Brule Public Works Garage

project #: 25323
date: 03/10/2026
drawn by: MEP
checked by: KWP

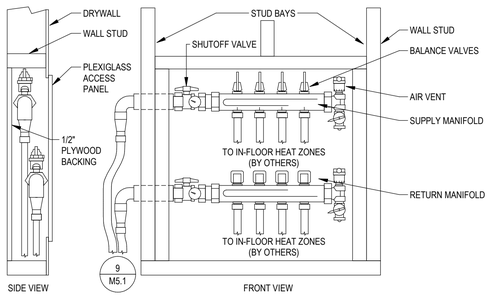
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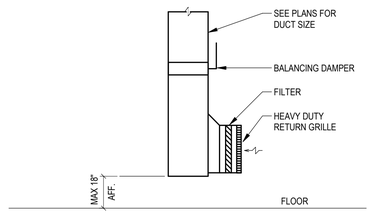
sheet title: MEZZANINE PLAN
sheet number: M2.2



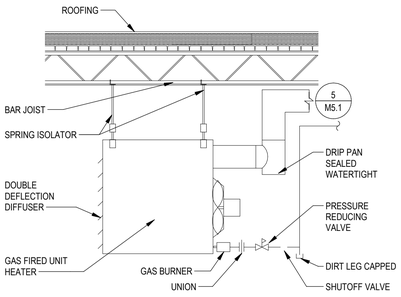
9 BOILER PIPING
NOT TO SCALE



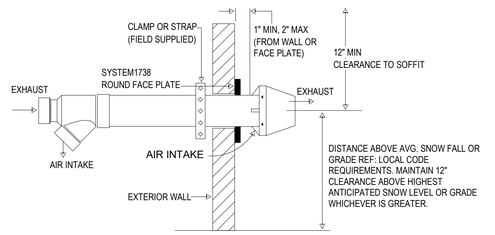
10 IN-FLOOR HEATING - MANIFOLD
NOT TO SCALE



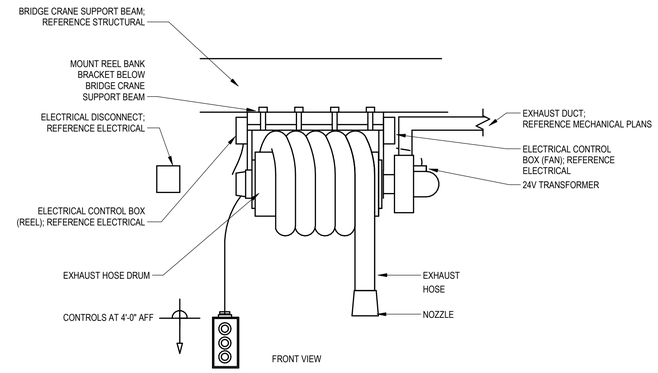
11 RETURN GRILLE AND AIR FILTER DETAIL
NOT TO SCALE



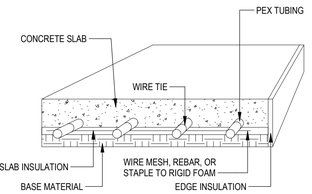
12 GAS FIRED UNIT HEATER
NOT TO SCALE



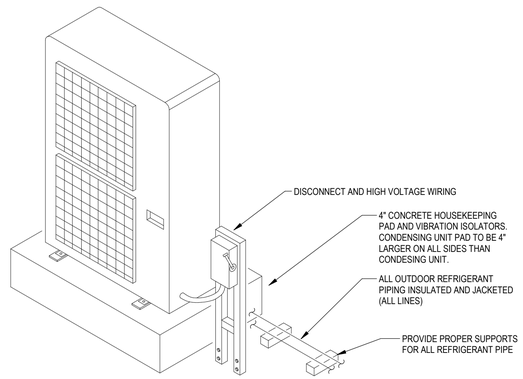
5 CONCENTRIC VENT DETAIL
SCALE: NOT TO SCALE



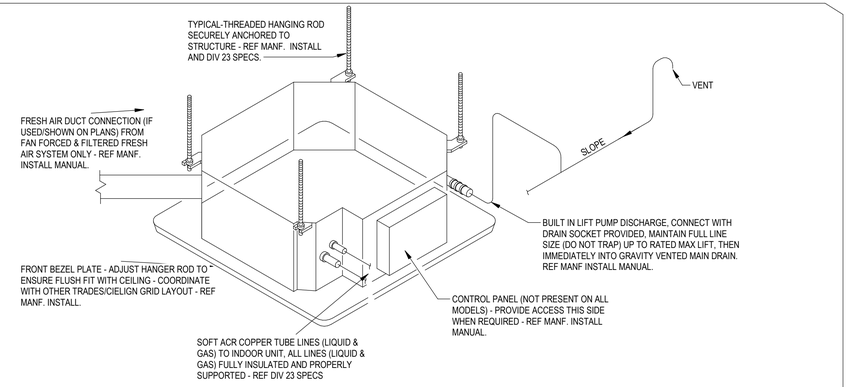
6 VEHICLE EXHAUST REEL MOTOR OPERATED SUSPENDED DETAIL
NOT TO SCALE



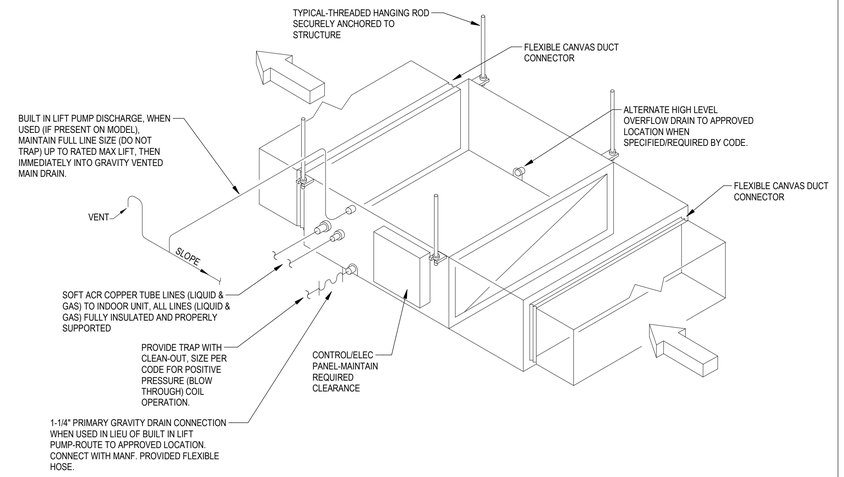
7 IN-FLOOR HEATING - SLAB ON GRADE
NOT TO SCALE



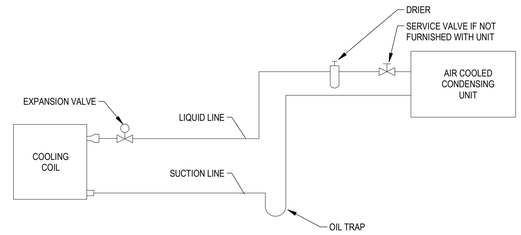
8 ACCU CONCRETE PAD
NOT TO SCALE



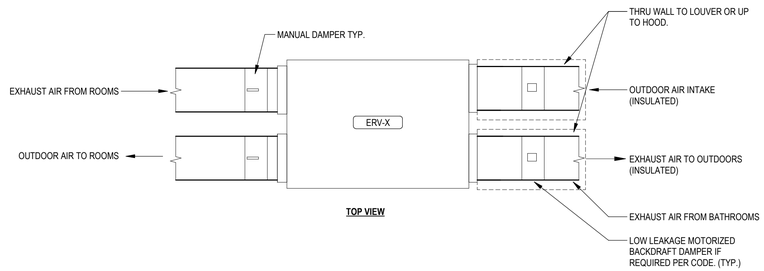
1 MITSUBISHI VRF CASSETTE INDOOR UNIT (PLFY)
NOT TO SCALE



2 FAN COIL - HORIZONTAL DUCTED
NOT TO SCALE



3 SPLIT SYSTEM FAN COIL UNIT PIPING SCHEMATIC
NOT TO SCALE



4 EXHAUST RECOVERY VENTILATOR
NOT TO SCALE

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Brule Public Works Garage

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03/09/2026

revision / issue	no.	date

sheet title: DETAILS
sheet number: M5.1

ABBREVIATIONS

Ø	ROUND
AC	AIR CONDITIONING UNIT
ACC	AIR COOLING CONDENSER
ACCU	AIR COOLING CONDENSING UNIT
AD	AREA DRAIN
ADD	ADDENDUM
AFF	ABOVE FINISHED FLOOR
AHU	AIR HANDLING UNIT
ALT	ALTERNATE
AP	ACCESS PANEL
ARCH	ARCHITECT/ARCHITECTURAL
AS	AIR SEPARATOR
B	BOILER
BFF	BELOW FINISHED FLOOR
BTU	BRITISH THERMAL UNITS
BTUH	BRITISH THERMAL UNITS PER HOUR
CAP	CAPACITY
CB	CATCH BASIN
CFM	CUBIC FEET PER MINUTE
CH	CHILLER
CO	CLEAN OUT
CT	COOLING TOWER
CUH	CABINET UNIT HEATER
CW	COLD WATER
CWP	CONDENSER WATER PUMP
CHWP	CHILLED WATER PUMP
D	DEGREE
DB	DRY BULB
DBP	DOMESTIC WATER BOOSTER PUMP
DCP	DOMESTIC WATER CIRCULATING PUMP
DIA	DIAMETER
DN	DOWN
DW	DISTILLED WATER
(E)	EXISTING
ELEC	ELECTRICAL
EQUIP	EQUIPMENT
ET	EXPANSION TANK
EWC	ELECTRIC WATER COOLER
EWH	ELECTRIC WATER HEATER
°F	DEGREES FAHRENHEIT
FCO	FLOOR CLEAN OUT
FCU	FAN COIL UNIT
FD	FLOOR DRAIN
FDV	FIRE DEPARTMENT VALVE
FL	FLOOR
FO	FUEL OIL
FOV	FUEL OIL VENT
FOR	FUEL OIL RETURN
FOS	FUEL OIL SUPPLY
FP	FIRE PUMP
FPM	FEET PER MINUTE
FS	FLOOR SINK
FT	FOOT/FEET
FU	FIXTURE UNITS
FV	FLUSH VALVE
GAL	GALLON
GC	GENERAL CONTRACTOR
GI	GREASE INTERCEPTOR
GPM	GALLONS PER MINUTE
GW	GREASE WASTE
HB	HOSE BIB
HP	HORSE POWER
HRU	HEAT RECOVERY UNIT
HW	HOT WATER
HWP	HEATING WATER PUMP
HX	HEAT EXCHANGER
HYD	HYDRANT
ID	INDIRECT
IN	INCH
INV	INVERT
LB	POUND
LP	LOW PRESSURE
LPG	LIQUEFIED PETROLEUM GAS
LVR	LOUVER
MAX	MAXIMUM
MBH	ONE THOUSAND BTU PER HOUR
MCF	ONE THOUSAND CUBIC FEET
MECH	MECHANICAL
MFR	MANUFACTURER
MIN	MINIMUM
MISC	MISCELLANEOUS
MUA	MAKE-UP/AIR
NIC	NOT IN CONTRACT
NO	NUMBER
NTS	NOT TO SCALE
O	OXYGEN
ORD	OVERFLOW ROOF DRAIN
PD	PRESSURE DROP
PIV	POST INDICATOR VALVE
PRESS	PRESSURE
PRV	PRESSURE REDUCING VALVE
PSI	POUNDS PER SQUARE INCH
PSIG	POUNDS PER SQUARE INCH GAUGE
PWR	POWER
(R)	RELOCATE
RD	ROOF DRAIN
REC	RECESSED
RED	REDUCER
RH	RELATIVE HUMIDITY
RL/A	RELIEF AIR
RM	ROOM
RPM	REVOLUTIONS PER MINUTE
RTU	ROOF TOP UNIT
RW	RAIN WATER
SF	SQUARE FOOT
SAN	SANITARY
SEP	SEWAGE EJECTOR PUMP
SF	SQUARE FOOT
SP	STANDPIPE
SP	STATIC PRESSURE
SP	SUMP PUMP
STM	STEAM
T	THERMOSTAT
TD	TEMPERATURE DROP
TDR	TRENCH DRAIN
TEMP	TEMPERATURE
TYP	TYPICAL
UG	UNDERGROUND
VAC	VACUUM
V	VENT
VENT	VENTILATION
VTR	VENT THROUGH ROOF
W	WASTE
WCO	WALL CLEAN OUT
WH	WALL HYDRANT
WH	WATER HEATER
(X)	DEMOLITION

DOMESTIC WELL AND WATER NOTES

1. DOMESTIC WELL PRODUCTION ASSUMED AT 8 GPM. WELLS AROUND THE AREA VARY IN PRODUCTION.
2. NO WATER STORAGE IN THE WELL CASING IS ASSUMED BASED ON THE VARIATION IN WELL DEPTHS IN THE AREA. WELLS IN THE AREA VARY IN DEPTH.
3. DOMESTIC WELL WATER EXPANSION TANK SIZED BASED ON ESTIMATED FLOW AND REQUIRED VOLUME FOR BUILDING. MAY REQUIRE MODIFICATION UPON FINAL WELL CONDITIONS.
4. DOMESTIC WELL WATER QUALITY ASSUMED TO BE WITHIN THE LIMITS OF EQUIPMENT MANUFACTURER AND THE STATE AND FEDERAL REQUIREMENTS . WATER TREATMENT MAY BE REQUIRED BASED UPON FINAL WELL CONDITIONS.

* NOTE *
DOMESTIC WELL WATER DESIGN AND EQUIPMENT SELECTED ARE BASED ON THE ASSUMPTIONS ABOVE. WELL DESIGN AND FINAL EQUIPMENT SELECTIONS MAY CHANGE BASED ON FINAL WELL CONDITIONS.

PLUMBING GENERAL NOTES

1. THE CONTRACTOR SHALL PROVIDE COMPLETE PLUMBING SYSTEMS AS DETAILED IN THESE DRAWINGS. WORK CONSISTS OF FURNISHING ALL MATERIALS, EQUIPMENT, AND SERVICES REQUIRED FOR COMPLETE SYSTEMS. INCLUDE ANY INCIDENTAL APPARATUS, APPLIANCES, MATERIAL LABOR AND SERVICES NECESSARY TO MAKE NEW WORK COMPLETE IN ALL RESPECTS AND FULLY READY FOR OPERATION.
2. UPON COMPLETION OF THE WORK UNDER THIS CONTRACT, THE CONTRACTOR SHALL SUBMIT TO OWNER A COMPLETE O&M MANUAL, LISTING ALL EQUIPMENT AND FIXTURES INSTALLED.
3. FINAL PRODUCT SHALL CONFORM TO ALL REQUIREMENTS OF APPLICABLE FEDERAL, STATE, AND LOCAL CODES, INCLUDING BUT NOT LIMITED TO THE UNIFORM PLUMBING CODE AND/OR INTERNATIONAL PLUMBING CODE WITH PRIOR AHJ APPROVAL.
4. ALL MATERIALS INSTALLED MUST HAVE PROPER LISTING REQUIRED BY APPLICABLE CODES INCLUDING BUT NOT LIMITED TO UPC/IAPMO, NSF UNLESS RECEIVING PRIOR APPROVAL IN WRITING FROM AUTHORITY HAVING JURISDICTION (AHJ).
5. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FOLLOW MANUFACTURER RECOMMENDED INSTALLATION INSTRUCTIONS AND START-UP PROCEDURES ON ANY EQUIPMENT SPECIFIED SUCH AS BOILERS, PUMPS AND FIXTURES. ANY DAMAGE TO EQUIPMENT OR PREMISES, PERSONAL INJURY OR EQUIPMENT FAILURE DUE TO NOT FOLLOWING MANUFACTURER INSTRUCTIONS IS THE INSTALLER'S RESPONSIBILITY.
6. UPON COMPLETION OF THE WORK UNDER THIS CONTRACT, THE CONTRACTOR SHALL REMOVE ALL TOOLS, APPLIANCES, SURPLUS MATERIALS, AND SCRAP. ALL IDENTIFIED EXISTING EQUIPMENT TO BE REMOVED SHALL BE TURNED OVER TO THE OWNER.
7. THESE DRAWINGS ARE DIAGRAMMATIC AND INDICATE THE GENERAL ARRANGEMENT OF SYSTEMS AND EQUIPMENT. FINAL LOCATIONS OF EQUIPMENT SHALL BE FIELD DETERMINED. ALL DISCREPANCIES IN THE DRAWINGS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT IN WRITING BEFORE SUBMISSION.
8. EQUIPMENT FOR OTHER DISCIPLINES MAY BE SHOWN FOR REFERENCE ONLY. REFER TO OTHER DISCIPLINES' DRAWINGS FOR MORE DETAIL REGARDING EQUIPMENT SPECIFICATIONS AND INFORMATION.
9. PLANS SHALL GOVERN IN MATTERS OF QUANTITY; SPECIFICATIONS SHALL GOVERN IN MATTERS OF QUALITY. IN CASE OF DISCREPANCY BETWEEN DRAWINGS AND SPECIFICATIONS, THE SPECIFICATIONS SHALL GOVERN. PLANS ARE TO BE TIED TO SPECIFICATIONS FOR A COMPLETE DESIGN PACKAGE.
10. ANYTHING MENTIONED IN THE SPECIFICATIONS AND NOT SHOWN ON THE DRAWINGS, OR SHOWN ON THE DRAWINGS AND NOT MENTIONED IN THE SPECIFICATIONS, SHALL BE OF LIKE EFFECT AS IF SHOWN OR MENTIONED IN BOTH.
11. THE CONTRACTOR SHALL BE FAMILIAR WITH ALL CONDITIONS; BOTH EXISTING AND THOSE ILLUSTRATED BY THESE DOCUMENTS, AS WELL AS THOSE THAT CAN BE REASONABLY ANTICIPATED INCLUDING, BUT NOT LIMITED TO ARCHITECTURAL, ELECTRICAL, VENTILATION, PLUMBING, AND OTHER SYSTEMS INVOLVED IN THIS PROJECT.
12. THE CONTRACTOR SHALL COORDINATE WORK WITH OTHER TRADES TO ENSURE ANY CONFLICT IN LAYOUT, NEEDED SPACE, SHARED EQUIPMENT REQUIREMENTS ETC. IS ADDRESSED BEFORE INSTALLATION, SO ADJUSTMENTS CAN BE MADE, IF NECESSARY.
13. LOCATION AND INVERTS OF SITE UTILITIES SHALL BE FIELD VERIFIED BEFORE INSTALLATION. ROUTE DOMESTIC WATER, SANITARY SEWER, AND STORM SEWER SERVICES TO SITE UTILITIES 5'-0" FROM BUILDING UNLESS NOTED OTHERWISE. REFER TO CIVIL PLANS FOR CONTINUATION. FIRE PROTECTION DESIGN IS BY OTHERS.
14. REFER TO ARCHITECTURAL PLANS FOR THE EXACT LOCATION OF PLUMBING FIXTURES AND FLOOR DRAINS.
15. LOCATE PIPING AND EQUIPMENT AWAY FROM THE SPACE ABOVE ELECTRICAL PANELS, TRANSFORMERS AND OTHER ELECTRICAL EQUIPMENT.
16. INSTALL EXPOSED PIPING AS HIGH AS PRACTICAL IN ROOMS WITHOUT CEILINGS.
17. WHERE VALVES OCCUR ABOVE DRYWALL OR PLASTER OR ARE CONCEALED BEHIND WALLS, THE CONTRACTOR SHALL FURNISH AND INSTALL ACCESS PANELS. COORDINATE LOCATION, SIZE, COLOR AND STYLE WITH ENGINEER/ARCHITECT.
18. PROVIDE FIREPROOFING FOR ALL PENETRATIONS OF FIRE-RATED ASSEMBLIES. FIREPROOFING MUST BE EQUIVALENT OR HIGHER TO THAT OF THE PENETRATED ASSEMBLY. REFER TO ARCHITECTURAL PLANS FOR LOCATION OF FIRE-RATED ASSEMBLIES.
19. COORDINATE UNDERGROUND PIPE ROUTING WITH CIVIL AND STRUCTURAL PLANS.
20. CONSULT STRUCTURAL ENGINEER OF RECORD FOR ALL STRUCTURAL PENETRATIONS.
21. COORDINATE LOCATION OF PLUMBING VENTS WITH MECHANICAL INTAKES AND ARCHITECTURAL PLANS. NO VENT THROUGH ROOF SHALL TERMINATE CLOSER THAN 10 FT TO ANY OUTSIDE AIR INTAKE OR VENTILATION LOUVERS, DOORS, WINDOWS, AND OTHER BUILDING OPENINGS. GROUP PLUMBING VENTS TOGETHER WHERE PRACTICAL.
22. WHERE FLOOR DRAINS OCCUR WITHIN THE LIMITS OF CONSTRUCTION, PREVENT CONSTRUCTION DEBRIS FROM ENTERING THE DRAIN BODY BY SEALING THE DRAIN OPENING BEFORE START OF WORK. UNSEAL DRAINS AT COMPLETION OF CONSTRUCTION.
23. FLOOR DRAINS SHALL BE PROVIDED WITH TRAP PRIMERS WHERE REQUIRED BY CODE.
24. PIPE SIZES SHOWN SHALL BE CONTINUED IN THE DIRECTION OF FLOW UNTIL ANOTHER SIZE IS SHOWN.
25. SANITARY WASTE PIPING SHALL BE SLOPED UNIFORMLY NOT LESS THAN 1/4 INCH PER FOOT. WHERE NOTED AND DEEMED NECESSARY AND APPROVED BY AHJ AND ENGINEER OF RECORD, WASTE PIPING 4" AND LARGER, MAY BE SLOPED NOT LESS THAN 1/8 INCH PER FOOT.
26. ALL SANITARY AND WATER PIPING UNDERGROUND SHALL BE A MINIMUM OF 12" BELOW GRADE OR FINISHED FLOOR UNLESS NOTED OTHERWISE.
27. WASTE AND VENT PIPING BELOW THE FLOOR AND THROUGH THE FLOOR SHALL BE 2" MINIMUM.
28. CLEANOUTS SHALL BE PROVIDED AS SHOWN AND WHERE REQUIRED BY CODE. INSTALL CLEANOUT IN ACCESSIBLE LOCATION AT THE BASE OF ALL WASTE PLUMBING RISERS BEFORE THE ENTRANCE TO BELOW GRADE. PROVIDE ALL SINKS AND LAVATORIES WITH SLIP JOINT TRAP FITTINGS FOR CLEANOUT.
29. PROVIDE LOW POINT DRAINS IN MAIN CW AND HW LINES WHEN SHUT OFF, MAY BE DRAINED TO ELIMINATE THE RISK OF FLOODING IN THE EVENT OF FUTURE UPGRADE OR REPAIR.
30. PROVIDE SHUTOFF VALVES ON ALL EXTERIOR HOSE BIBBS.
31. BALL VALVES SHALL BE INSTALLED SO THAT WHEN OPEN, THE HANDLE POINTS IN DIRECTION OF FLOW.
32. ALL HOT WATER PIPING SHALL BE INSULATED PER THE GOVERNING ENERGY CODE.
33. INSULATION AND/OR HEAT TRACE SHALL BE PROVIDED WHERE REQUIRED FOR FREEZE PROTECTION.
34. PROVIDE DIELECTRIC UNIONS AT ALL CONNECTIONS BETWEEN ELECTROLYSIS-PRODUCING DISSIMILAR PIPING METALS.
35. PROVIDE HAMMER ARRESTORS AT ALL FAST-CLOSING VALVES.
36. PROVIDE DISINFECTION OF POTABLE WATER PIPING SYSTEMS PER CODE REQUIREMENTS.

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

PIPING SYSTEMS

- 2" — PIPE SIZE TAG (DIAMETER)
- ABOVE GROUND PIPING
- BELOW GROUND PIPING
- (E) — EXISTING PIPE TAG
- PIPING BEING DEMOLISHED
- CD — CONDENSATE DRAINAGE
- G — NATURAL GAS
- MG — NATURAL GAS (MEDIUM PRESSURE)
- GV — NATURAL GAS VENT
- CA — COMPRESSED AIR
- CW — DOMESTIC COLD WATER
- HW — HOT WATER
- HW-R — HOT WATER RECIRCULATION
- OW — OIL WASTE
- OV — OIL WASTE VENT
- V — SANITARY VENT
- W — SANITARY SEWER (WASTE)

MISC. FITTINGS & SYMBOLS

- PIPE CONTINUATION
- RISER
- ELBOW UP TO LEVEL ABOVE
- ELBOW UP
- ELBOW DOWN TO LEVEL BELOW
- DROP TO LOWER ELEVATION
- TEE DOWN
- DIRECTION OF FLOW
- 1/4"/FT — 1/4" PIPE SLOPE TAG
- 1/8"/FT — 1/8" PIPE SLOPE TAG
- PIPE SLEEVE
- HEAT TRACE
- PIPE REDUCER
- 90 DEGREE ELBOW
- 45 DEGREE ELBOW
- CAP
- JOINT OR COUPLING POINT
- UNION

PLUMBING FIXTURES

- HOSE BIBB
- WALL HYDRANT
- FLOOR DRAIN
- AREA DRAIN
- PARKING DECK DRAIN
- HUB DRAIN (FUNNEL TYPE)
- FLOOR CLEANOUT
- CLEANOUT TO GRADE
- VENT THROUGH ROOF
- ROOF DRAIN
- OVERFLOW DRAIN
- COMBINATION DRAIN
- TRENCH DRAIN
- WALL CLEANOUT
- DOWNSPOUT NOZZLE
- OUTLET BOX
- CONDENSATE BOX

PLUMBING VALVES

- SWING CHECK
- CHECK VALVE
- ALTERNATE CHECK VALVE
- BALANCING VALVE
- CIRCUIT SETTER
- GATE VALVE
- QUICK OPENING VALVE
- BALL VALVE
- FLUID STRAINER
- EG — EMERGENCY GAS SHUTOFF
- PLUG VALVE
- GAS SHUTOFF COCK
- PRESSURE REGULATOR
- T/P — THERMOSTATIC VALVE
- TP — TRAP PRIMER
- ETP — ELECTRIC TRAP PRIMER
- M — ELEC. CONTROL VALVE
- T/P — MIXING VALVE
- S — SOLENOID VALVE
- TEMP/PRESSURE RELIEF
- WM — WATER METER
- G — GAS METER
- IR — IRRIGATION METER
- DOUBLE CHECK VALVE
- REDUCED PRESSURE ZONE

SYMBOLS

- 1 — KEYNOTE
- X — REVISION TAG
- REVISION CLOUD
- N — NORTH ARROW
- MATCHLINE
- POINT OF CONNECTION
- POINT OF DEMOLITION
- ITEM TO BE DEMOLISHED
- AREA NOT IN CONTRACT

PLUMBING TAGS

EQUIPMENT
- XX-XXX — UNIT NUMBER
- FLOOR UNIT IS LOCATED ON EQUIPMENT TYPE

FIXTURE
- 2" X-XX — FIXTURE TYPE/NUMBER
- XX DFU — FIXTURE UNITS

RISER
- WTR 0 / DWV 0 — SYSTEM TYPE / RISER NUMBER

DETAIL CALLOUT
- X / XXX — VIEW NUMBER OR DETAIL NUMBER / SHEET NUMBER

EQUIPMENT BY OTHERS
- XXX — TAG NUMBER

PLUMBING SHEET INDEX	
P0.1	COVER SHEET
P0.2	SCHEDULES
P0.3	SCHEDULES
P2.1	UNDERFLOOR PLAN
P2.2	FLOOR PLAN
P3.1	ENLARGED FLOOR PLAN
P5.1	DETAILS
P5.2	DETAILS
P6.1	DIAGRAMS

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Brule Public Works Garage

project #: 25323
date: 03/10/2026
drawn by: AWM
checked by: CDH



revision / issue	no.	date

sheet title: COVER SHEET
sheet number: P0.1

COPPER PIPE SIZING

	PIPE SIZE (IN)	MAX FLOW (GPM)	MAXIMUM FIXTURE UNITS (FLUSH VALVES)	MAXIMUM FIXTURE UNITS (NON FLUSH VALVES)
ALL WATER SIZES PER SPS 382.	COLD WATER			
	1/2	2	0	2
	3/4	6	0	7
2" MAIN IS REQUIRED WITH A	1	12	4	16.5
VELOCITY UNDER 8 FT/SEC	1-1/4	21.5	7	33
	1-1/2	34	18.5	66
	2	70	108	225
VELOCITY:	HOT WATER			
COLD WATER: UNDER 8 FT/SEC	1/2	1.25	-	0
HOT WATER: UNDER 5 FT/SEC	3/4	3	-	3
RECIRC HOT WATER: UNDER 2 FT/SEC	1	6	-	7
	1-1/4	11	-	15
4 PSI PRESSURE DROP PER 100 FT LENGTH	1-1/2	19	-	28
	2	38	-	78
	RECIRC HOT WATER			
	1/2	1.2	-	-
	3/4	2.9	-	-
	1	4.9	-	-
	1-1/4	6.8	-	-
	1-1/2	12	-	-
	2	20	-	-

NOTES:
A. SIZING BASED ON SPS 382 APPENDIX A RECOMMENDED RULES FOR SIZING THE WATER SUPPLY SYSTEM. TABLE 382.40-5.

BALANCING VALVE SCHEDULE

ID	MANUFACTURER	MODEL	FLOW RATE		MAX PRESSURE DROP (PSI)	VALVE PROPERTIES			NOTES
			MIN (GPM)	MAX (GPM)		INLET DIA. (IN)	OUTLET DIA. (IN)	MATERIALS	
BV-1	CALEFFI	THERMOSETTER 1164	0.35	2.1	3	1/2	1/2	303 STAINLESS	1, 2

GENERAL NOTES:
A. NSF 61 LISTED DEVICE.
NOTES:
1. INSTALL PER PLANS.
2. PROVIDE WITH ISOLATION VALVES AND INLET STRAINER

DRAINS AND CLEANOUTS SCHEDULE

ID	DESCRIPTION	MANUFACTURER & MODEL	TRAP PRIMER CONNECTION (Y/N)	NOTES
FD-1	FLOOR DRAIN	JAY R SMITH 2005 SERIES	Y	FINISHED AREAS, ROUND NICKEL BRONZE VANDAL RESISTANT GRATE, CAST IRON BODY, FLASHING COLLAR, ADJUSTABLE STRAINER, NO-HUB OUTLET
FS-1	FLOOR SINK	JAY R SMITH 3101 SERIES	Y	FINISHED AREAS, ACID RESISTANT COATED, VANDAL PROOF, 1/2 GRATE, CAST IRON BODY, SEDIMENT BUCKET, FLASHING COLLAR, ALUMINUM STRAINER, NO-HUB OUTLET
TD-1	TRENCH DRAIN	JAY R SMITH 9872 SERIES	N	ON GRADE OR LOADING DOCK, POLYMER CONCRETE CHANNEL, INTEGRAL GALVANIZED RAIL, DUCTILE IRON GATE
FCO-1	FLOOR CLEANOUT	JAY R SMITH 4020 SERIES	-	CAST IRON BODY, TAPERED BRONZE PLUG, FLASHING FLANGE, VANDAL RESISTANT
WCO-1	WALL CLEANOUT	JAY R SMITH 4530 SERIES	-	CAST IRON BODY, TAPERED BRONZE PLUG, HUBLESS CONNECTIONS, SS COVER WITH SCREW

GENERAL NOTES:
A. PROVIDE TRAP PRIMER TO ALL FLOOR DRAINS.
B. PROVIDE TRAP PRIMER TO ALL FLOOR SINKS NOT RECEIVING DISCHARGE FROM A LISTED PLUMBING FIXTURE.

PLUMBING FIXTURE SCHEDULE

ID	ADA (Y/N)	TYPE	DESCRIPTION	BASIS OF DESIGN MANUFACTURER & MODEL NUMBER			ROUGH-IN SIZE (IN)					GPM	GPF	ELEC. CONN. (Y/N)
				COMPONENT	MANUFACTURER	MODEL	W	V	CW	HW	TW			
WC-1	Y	WATER CLOSET	WALL MOUNTED, MANUAL FLUSH VALVE, ADA, OPEN FRONT TOILET SEAT	BOWL	KOHLER	K-84325-L	3	2	1-1/2	-	-	-	1.28	N
				FLUSH VALVE	KOHLER	K-76321								
L-2	Y	LAVATORY	WALL HUNG, 20-3/4"x18-1/4", MANUAL CENTERSET FAUCET, ADA	BOWL	KOHLER	K-2032-N	2	1-1/2	1/2	1/2	-	0.5	-	N
				FAUCET	KOHLER	K-27388-4N								
S-1	Y	SINK	SINGLE COMPARTMENT UNDERMOUNT, 20"x18-5/16"x8-7/16" DEPTH, 16-GAUGE SS, PULL-DOWN FAUCET HEAD, ADA	BOWL	KOHLER	K-33153	2	1-1/2	3/4	3/4	-	1.5	-	-
				FAUCET	KOHLER	K-597								
MS-1	N	MOP SINK	CORNER MOUNTED, 24"x24"x10" HEIGHT, WALL GUARDS, HEAVY DUTY CHROME PLATED BRASS DUAL HANDLE FAUCET	BASIN	MUSTEE	63M	3	2	3/4	3/4	-	2.2	-	-
				FAUCET	MOEN	8230 M-DURA								
US-1	N	UTILITY SINK	FLOOR SUPPORTED, 23"x20-1/2"x46-1/2" HEIGHT, INTEGRAL GOOSENECK SPOUT	BASIN	MUSTEE	17 UTILATUB	2	1-1/2	1/2	1/2	-	2.0	-	-
				FAUCET	MUSTEE	93.6								
DF-1	Y	DRINKING FOUNTAIN	WALL HUNG, SINGLE, ADA, BOTTLE FILLER	-	ELKAY	LZS8WSSP	2	1-1/2	1/2	-	-	-	-	-
SB-1	-	SUPPLY BOX (REFRIGERATOR)	1/4 TURN BOTTOM VALV SUPPLY, WATER HAMMER ARRESTOR, COPPER SWEAT	ICE MAKER OUTLET...	OATEY	39140	-	-	1/2	-	-	-	-	-
EWS-1	-	EMERGENCY EYEWASH	WALL MOUNTED, LEFT SIDE MOUNTING, HAND OPERATED, SINGLE ACTION OPERATION	-	GUARDIAN	G1750	-	-	-	-	1/2	-	-	-
WH-1	-	WALL HYDRANT	INTEGRAL VACUUM BREAKER	-	WOODFORD	MODEL 26	-	-	3/4	-	-	-	-	-
WH-2	-	WALL HYDRANT	FREEZE PROOF, INTEGRAL VACUUM BREAKER	-	WOODFORD	MODEL 14	-	-	3/4	-	-	-	-	-
WH-3	-	WALL HYDRANT	HOT AND COLD CONNECTION, INTERIOR SURFACE MOUNT, VACUUM BREAKER	-	CHICAGO FAUCET	835-CF	-	-	3/4	-	-	-	-	-

GENERAL NOTES:
A. FINAL FIXTURE SELECTION TO BE COORDINATED WITH INTERIORS AND OWNER.

GAS WATER HEATER SCHEDULE

ID	LOCATION	AREA SERVED	WATER HEATER TYPE	MANUFACTURER	MODEL	EFFICIENCY (%)	DESIGN TEMP RISE (°F)	WATER CONNECTION SIZE (IN)	GAS CONNECTION SIZE (IN)	FUEL		ELECTRICAL	DRY WEIGHT (LBS)	NOTES
										INLET PRESSURE (W.C.)	FLOW (CFH)	VOLT/PHASE		
GWH-101	MECHANICAL ROOM	DOMESTIC HOT WATER	GAS WATER HEATER	A.O. SMITH	ATHR-199MX	95	90	3/4"	1/2	3.5-10.5	199	120/0	110	ALL

GENERAL NOTES:
A. PROVIDE TEMPERATURE AND PRESSURE RELIEF AND ROUTE TO NEARBY FLOOR SINK. PROVIDE VACUUM RELIEF FOR WATER HEATERS LOCATED ABOVE FIXTURES SERVED.
B. PROVIDE NEUTRALIZER FOR WATER HEATER CONDENSATE DRAINS AND ROUTE TO NEARBY FLOOR SINK.
C. WATER HEATERS TO BE PERMITTED AND INSPECTED FOR COMPLIANCE UNDER LOCAL BOILER CODE.
D. ALL COMPONENTS TO CONFORM TO NSF-61 LEAD CONTENT STANDARDS.
E. DISCONNECT FURNISHED AND INSTALLED BY DIVISION 26.

AIR COMPRESSOR SCHEDULE

ID (EQUIPMENT ID)	LOCATION	TYPE	MANUFACTURER	MODEL	TANK SIZE (GAL)	MAX FLOW (CFM @100 PSIG)	MAX PRESSURE (PSIG)	MAX NOISE LEVEL (dB)	COMPRESSOR TYPE	MOTOR TYPE	CONNECTIONS (IN)	ELECTRICAL			DRY WEIGHT (LBS)
											OULET	HP	VOLTAGE	PHASE	
AC-101	MECHANICAL ROOM	VERTICAL	FLEXILLA	FXS07V080V1	80	33	175	60	PISTON	TEFC	3/4	7.5	240	1	800

GENERAL NOTES:
A. INSTALL AIR COMPRESSOR SYSTEM PER MANUFACTURER'S PUBLISHED INSTALLATION REQUIREMENTS.
B. PROVIDE AIR DRYER PER MANUFACTURER'S PUBLISHED INSTALLATION REQUIREMENTS.
B. 4" CONCRETE PAD FOR AIR COMPRESSOR TO BE FURNISHED AND INSTALLED BY G.C.
C. ANCHOR COMPRESSOR AND RECEIVER TO PAD PER MANUFACTURER BRACING REQUIREMENTS WHERE APPLICABLE.
D. PROVIDE VIBRATION ISOLATION AT COMPRESSOR BASE AND FLEXIBLE CONNECTOR AT DISCHARGE PIPING.
E. AIR RECEIVER SHALL BE ASME RATED WITH PRESSURE RATING NOT LESS THAN SYSTEM MAXIMUM PRESSURE AND SHALL INCLUDE PRESSURE RELIEF VALVE, PRESSURE GAUGE, AUTOMATIC CONDENSATE DRAIN, AND ISOLATION VALVE.
F. ROUTE CONDENSATE FROM COMPRESSOR, DRYER, AND RECEIVER TO OIL-WATER SEPARATOR PRIOR TO DISCHARGE IN ACCORDANCE WITH LOCAL CODE REQUIREMENTS.
G. PROVIDE DISCHARGE CHECK VALVE AND ISOLATION VALVE BETWEEN COMPRESSOR PACKAGE AND AIR DISTRIBUTION PIPING.
H. VERIFY REQUIRED CLEARANCES FOR SERVICE, VENTILATION, AND HEAT REJECTION PER MANUFACTURER REQUIREMENTS.
I. PROVIDE FACTORY-SUPPLIED COMPRESSOR CONTROLS INCLUDING START/STOP SWITCH, OVERLOAD PROTECTION, AND PRESSURE GUAGE, IF NOT INTEGRAL TO EQUIPMENT.
J. COORDINATE ELECTRICAL DISCONNECT, FEEDER SIZE, OVERCURRENT PROTECTION, AND GROUNDING WITH DIVISION 26.

CIRCULATION PUMP SCHEDULE

ID	DESCRIPTION	LOCATION	TYPE	FLUID TYPE	MANUFACTURER	MODEL	FLUID TEMP. (F)	PERFORMANCE DATA			ELECTRICAL		POWER TYPE	NOTES
								FLOW (GPM)	HEAD (FT)	RPM	HP	VOLT/ PHASE		
RCP-101	HOT WATER RECIRCULATION PUMP	MECHANICAL ROOM	IN-LINE	DOMESTIC WATER	B & G	ECO-CIRC 20-18	120	5	35	1750	1/6	120/1	-	1, 2, 3

GENERAL NOTES:
A. POWER AND WIRING DISCONNECTS FURNISHED AND INSTALLED BY DIVISION 26.
B. POWER TYPE: S = LEGALLY REQUIRED STANDBY POWER
C. PUMP SHALL BE LEAD FREE AND APPROVED FOR USE IN POTABLE WATER SYSTEMS.
D. IN-LINE CIRCULATOR SHALL BE PROVIDED WITH CONNECTING FLANGE KIT BASED ON PUMP INLET SIZE AND CONNECTING PIPE SIZE.
NOTES:
1. ECM MOTOR.
2. PROVIDE 304 STAINLESS STEEL BODY.
3. PROVIDE AQUASTAT SET TO OPERATE WHEN RETURN WATER TEMPERATURE IS BELOW 105°F.

GAS METER SCHEDULE

ID	LOCATION	SERVICE	OUTLET CONNECTION SIZE (IN)	OPERATING PRESSURE (PSIG)	LOAD (CFH)	MANUFACTURER	MODEL	NOTES
GM-101	EXTERIOR	BUILDING	2"	2	798	-	-	1

NOTES:
1. GAS METER AND UTILITY CONNECTION TO BE PROVIDED AND INSTALLED BY THE GAS UTILITY COMPANY.

GAS CALCULATIONS

FIXTURE	QTY	BTU/HR INPUT	TOTAL BTU/HR
WATER HEATER	1	199,000	199,000
HVAC - GAS UNIT HEATER	2	200,000	400,000
HVAC - BOILER	1	285,000	285,000
GENERATOR	1	975,000	975,000
		TOTAL DEMAND (BTUH)	1,859,000
		TOTAL DEMAND (CFH)	1,859
		TOTAL DEVELOPED LENGTH (FT)	300
GAS: NATURAL GAS	PIPE CAPACITIES		
SCHEDULE 40 STEEL PIPE	4"	32,200	CFH
	3"	15,800	CFH
LESS THAN 2.0 PSI PRESSURE	2 1/2"	8,920	CFH
1.0 PSI PRESSURE DROP	2"	5,600	CFH
	1 1/2"	2,910	CFH
	1 1/4"	1,940	CFH
REQUIRED PIPE SIZE:	1"	945	CFH
1-1/4"	3/4"	528	CFH
	1/2"	253	CFH

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PIPE SCHEDULE

SYSTEM	LOCATION	SPECIFICATION					
		SIZE	MATERIAL	TYPE	STANDARD	FITTINGS	JOINTS
DOMESTIC HOT AND RECIRCULATED HOT WATER	BELOW GRADE	2" AND SMALLER	COPPER	TYPE K	ASTM B88	WROUGHT COPPER	SOLDERED
	ABOVE GRADE	2-1/2" THRU 4"	COPPER	TYPE L	ASTM B88	WROUGHT COPPER	BRAZED ANSI B16.50
		2" AND SMALLER	COPPER	TYPE L	ASTM B88	WROUGHT COPPER	SOLDERED ANSI B16.22
SANITARY SEWER	BELOW GRADE	ALL	PVC	SCHEDULE 40 SOLID CORE DWV	ASTM D1785-15E1, ASTM D2665-85a, ASTM D3311-82	PVC DWV	PVC SOLVENT CEMENT JOINTS IN ACCORDANCE W/UPC SECTION 705.6.2, ASTM F656 PRIMER ASTM D2564 SOLVENT CEMENT
	ABOVE GRADE	ALL	PVC	SCHEDULE 40 SOLID CORE DWV	ASTM D1785-15E1, ASTM D2665-85a, ASTM D3311-82	PVC DWV	PVC SOLVENT CEMENT JOINTS IN ACCORDANCE W/UPC SECTION 705.6.2, ASTM F656 PRIMER ASTM D2564 SOLVENT CEMENT
	ABOVE GRADE (OVER SENSITIVE AREA)	ALL	CAST IRON	NO HUB	ASTM A888 ASTM A74	STAINLESS STEEL CLAMP NEOPRENE GASKET ASTM C564	HEAVY DUTY COUPLINGS, ASTM C1277, FM 1680
SANITARY VENT	ALL	ALL	PVC	SCHEDULE 40 SOLID CORE DWV	ASTM D1785-15E1, ASTM D2665-85a, ASTM D3311-82	PVC DWV	PVC SOLVENT CEMENT JOINTS IN ACCORDANCE W/UPC SECTION 705.6.2, ASTM F656 PRIMER ASTM D2564 SOLVENT CEMENT
NATURAL GAS	BELOW GRADE	ALL	BLACK STEEL	SCHEDULE 40	ASTM A53	150 LB ASTM A234	WELDED
	ABOVE GRADE		BLACK STEEL	SCHEDULE 40	ASTM A53	150 LB ASTM A234	THREADED
TRAP PRIMING LINES	BELOW GRADE	3/4" AND SMALLER	COPPER TUBE	TYPE L ANNEALED	ASTM B88	WROUGHT COPPER	SOLDERED ANSI B16.22

DISINFECTION OF POTABLE WATER SYSTEM

NEW OR REPAIRED POTABLE WATER SYSTEMS SHALL BE DISINFECTED PRIOR TO USE WHERE REQUIRED BY THE AUTHORITY HAVING JURISDICTION. THE METHOD TO BE FOLLOWED SHALL BE THAT PRESCRIBED BY THE HEALTH AUTHORITY OR, IN CASE NO METHOD IS PRESCRIBED BY IT, THE FOLLOWING:

THE PIPE SYSTEM SHALL BE FLUSHED WITH CLEAN, POTABLE WATER UNTIL POTABLE WATER APPEARS AT THE POINT OF THE OUTLET.

THE SYSTEM OF PARTS THEREOF SHALL BE FILLED WITH A WATER-CHLORINE SOLUTION CONTIANING NOT LESS THAN 50 PARTS PER MILLION OF CHLORINE, AND THE SYSTEM OR PART THEREOF SHALL BE VALVED-OFF AND ALLOWED TO STAND FOR 24 HOURS; OR, THE SYSTEM OR PART THEREOF SHALL BE FILLED WITH A WATER-CHLORINE SOLUTION CONTIANING NOT LESS THAN 200 PARTS PER MILLION OF CHLORINE AND ALLOWED TO STAND FOR 3 HOURS.

FOLLOWING THE ALLOWED STANDING TIME, THE SYSTEM SHALL BE FLUSHED WITH CLEAN, POTABLE WATER UNTIL THE CHLORINE RESIDUAL IN THE WATER COMING FROM THE SYSTEM DOES NOT EXCEED THE CHLORINE RESIDUAL IN THE FLUSHING WATER.

THE PROCEDURE SHALL BE REPEATED WHEN A STANDARD BACTERIOLOGICAL TEST FOR DRINKING WATER, PERFORMED BY A LABORATORY CERTIFIED FOR DRINKING WATER IN WASHINGTON STATE, SHOWS UNSATISFACTORY RESULTS INDICATING THAT CONTAMINATION PERSISTS IN THE SYSTEM.

MINIMUM PIPE INSULATION (HOT AND COLD WATER SYSTEMS)

SYSTEM	FLUID OPERATING TEMPERATURE RANGE (°F)	INSULATION CONDUCTIVITY		NOMINAL PIPE OR TUBE DIAMETER (IN)			
		CONDUCTIVITY (BTU-IN/(HR-SF-°F))	MEAN RATING TEMPERATURE (°F)	< 1	1 TO < 1-1/2	1-1/2	> 2
NOMINAL INSULATION THICKNESS (IN)							
DOMESTIC HOT WATER SUPPLY/RETURN, ABOVE & BELOW GRADE SOLAR HOT WATER SUPPLY/RETURN	141 - 200	0.25 - 0.29	125	1.5	1.5	2.0	2.0
DOMESTIC HOT WATER SUPPLY/RETURN, ABOVE & BELOW GRADE SOLAR HOT WATER SUPPLY/RETURN	105 - 140	0.21 - 0.28	100	1.0	1.0	1.5	2.0
NON-POTABLE COLD WATER, ABOVE & BELOW GRADE RECLAIMED WATER, ABOVE & BELOW GRADE DOMESTIC COLD WATER, ABOVE & BELOW GRADE IRRIGATION PIPING, INSIDE BUILDING TRAPS AND TRAP PRIMER LINES (UNHEATED SPACES)	40 - 60	0.21 - 0.27	75	0.5	0.5	1.0	1.0

GENERAL NOTES:
A. MINIMUM PIPE INSULATION PER CURRENT ASHRAE 90.1, LOCAL ENERGY AND PLUMBING CODES.
B. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
C. FOR PIPING SMALLER THAN 1-1/2 INCH AND LOCATE IN PARTITIONS WITHIN CONDITIONED SPACES, REDUCTION FOR THESE THICKNESSES BY 1 INCH (25 MM) SHALL BE PERMITTED (BEFORE THICKNESS ADJUSTMENT REQUIRED IN NOTE 1) BUT NOT TO A THICKNESS LESS THAN 1 INCH.
D. FOR DIRECT-BURIED HEATING AND HOT WATER SYSTEM PIPING, REDUCTION OF THESE THICKNESSES BY 1-1/2 INCHES SHALL BE PERMITTED (BEFORE THICKNESS ADJUSTMENT REQUIRED IN NOTE D) BUT NOT TO THICKNESSES LESS THAN 1 INCH.

DOMESTIC WELL EXPANSION TANK SCHEDULE BY WELL CONTRACTOR

ID	DESCRIPTION	LOCATION	SERVICE	TYPE	MANUFACTURER	MODEL	LOW FILL PRESSURE PUMP ON (PSIG)	HIGH FILL PRESSURE PUMP OFF (PSIG)	MAX PRESSURE (PSIG)	RELIEF VALVE (PSIG)	TANK VOLUME (GAL)	DRAW DOWN (GAL)	INLET PIPE SIZE (IN)	OUTLET PIPE SIZE (IN)	SHIPPING WEIGHT (LBS)	WEIGHT (LBS)	NOTES
WET-101	DOMESTIC WELL WATER EXPANSION TANK	MECHANICAL ROOM	DOMESTIC WATER	WELL WATER - POTABLE	B&G	WTA-452	40	60	125	100	211	56	2	-	475	2400	1,2

NOTES:
1. TANK SHALL HAVE A HEAVY DUTY REMOVABLE BLADDER. VERIFY ACCEPTABLE CHARGE PRESSURE FOR INSTALLATION LOCATION. PROVIDE SIGHT GLASS, PRESSURE GAUGE, TOP & BOTTOM CONNECTIONS, WALL MOUNTING BANDS, & CHARGING VALVE.
2. PROVIDE WITH PRESSURE SWITCH, PRESSURE GAUGE, DRAIN VALVE AND RELIEF VALVE.

TANK SCHEDULE

ID	DESCRIPTION	LOCATION	SERVICE	TYPE	MANUFACTURER	MODEL	FILL PRESSURE (PSIG)	MAX PRESSURE (PSIG)	RELIEF VALVE (PSIG)	TANK VOLUME (GAL)	ACCEPT. VOLUME (GAL)	INLET PIPE SIZE (IN)	OUTLET PIPE SIZE (IN)	SHIPPING WEIGHT (LBS)	WEIGHT (LBS)	NOTES
DET-101	DOMESTIC WATER EXPANSION TANK	MECHANICAL ROOM	DOMESTIC WATER	THERMAL EXPANSION - POTABLE	PROFLO	PFXT5I	40	150	150	2.1	2.1	3/4	3/4	5	30	1,2

NOTES:
1. TANK SHALL HAVE A HEAVY DUTY REMOVABLE BLADDER. VERIFY ACCEPTABLE CHARGE PRESSURE FOR INSTALLATION LOCATION. PROVIDE SIGHT GLASS, PRESSURE GAUGE, TOP & BOTTOM CONNECTIONS, WALL MOUNTING BANDS, & CHARGING VALVE.

EMERGENCY FIXTURE MIXING VALVE SCHEDULE

ID	LOCATION	SERVICE	MANUFACTURER	MODEL	DESIGN		INLET SIZE (IN)	OUTLET SIZE (IN)	COLD WATER INLET TEMP (F)	HOT WATER INLET TEMP (F)	OUTLET SETPOINT (F)	NOTES
					FLOW (GPM)	PRESSURE DROP (PSI)						
EFMV-101	101 MECH/ELEC	EWS-1	GUARDIAN	G6020	13	30	1/2	1/2	40	120	80	1

1. SERVES ONE EMERGENCY EYEWASH.

FLAMMABLE LIQUID INTERCEPTOR SCHEDULE

ID	DESCRIPTION	LOCATION	SERVICE	MANUFACTURER	MODEL	CAPACITY		INLET/OUTLET (IN)	DIMENSIONS (IN)			OPERATING WEIGHT (LBS)	NOTES
						(GAL)	(GPM)		HEIGHT	LENGTH	WIDTH		
FLI-101	POLYPRO - UNDERGROUND	BURIED	GARAGE 100	STRIEM	FLI-500	500	100	6/4	71	60	62	860	1, 2

NOTES:
1. PROVIDE WITH RISERS AND HS-20 TRAFFIC RATED LID.
2. PROVIDE MFG SPECIFIC RISER TO PLACE ACCESS LID AT GRADE.
3. CONTRACTOR TO SUPPLY AND INSTALL ALL PIPING AND SAMPLING TEES, CLEANOUTS, VENTS, AND FILL WITH CLEAN WATER PRIOR TO FIRST USE.
4. INLET TO FLI SHALL BE 6 INCHES TO PROMOTE INCREASED SAND FLOW. OUTLET SHALL BE 4 INCHES TO MATCH DOWNSTREAM PIPING SIZE.

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project #: 25323
date: 03/10/2026
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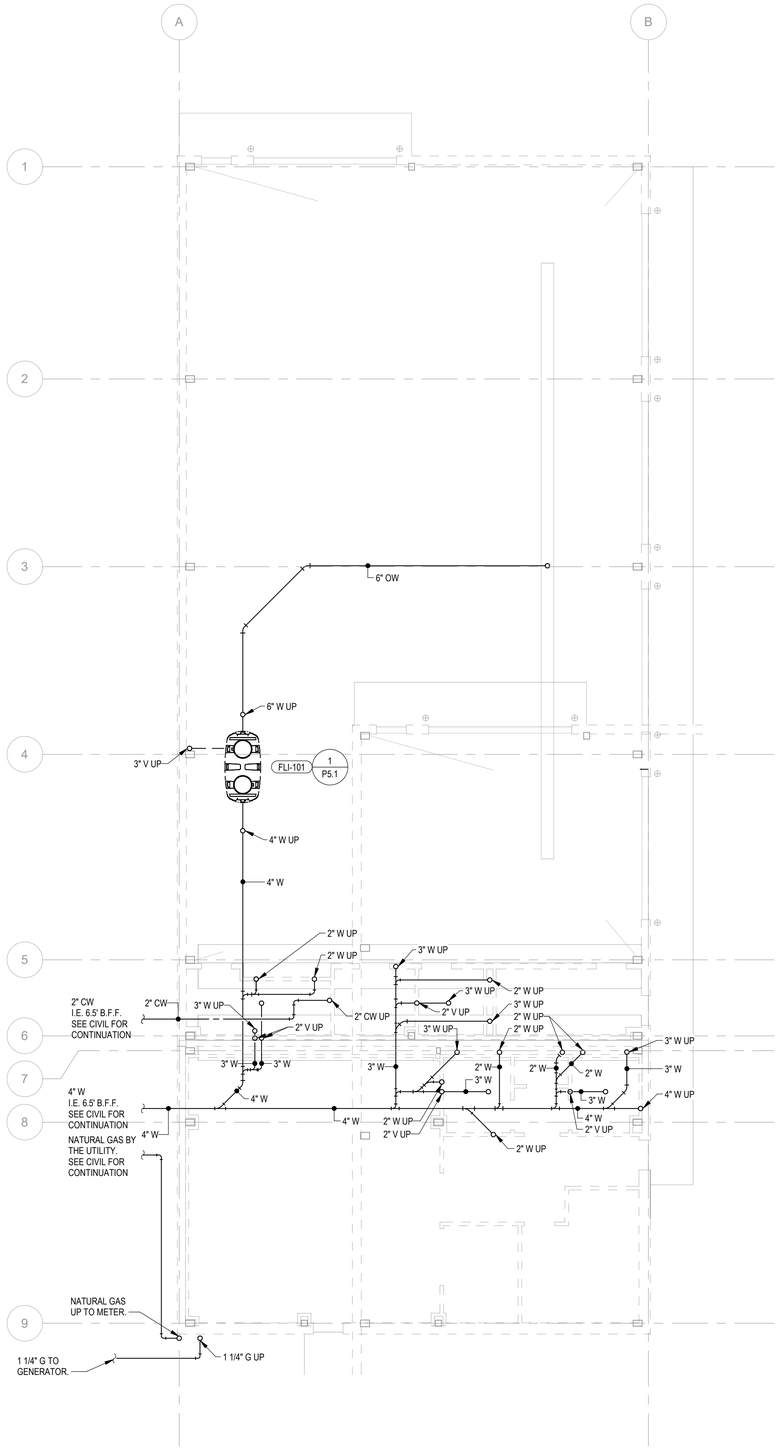


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sheet title: SCHEDULES
sheet number: P0.3

GENERAL SHEET NOTES:

A. UTILITY CONNECTIONS 5'-0" FROM BUILDING EDGE.



1 UNDERFLOOR FLOOR PLAN - PLUMBING
SCALE: 1/8" = 1'-0"

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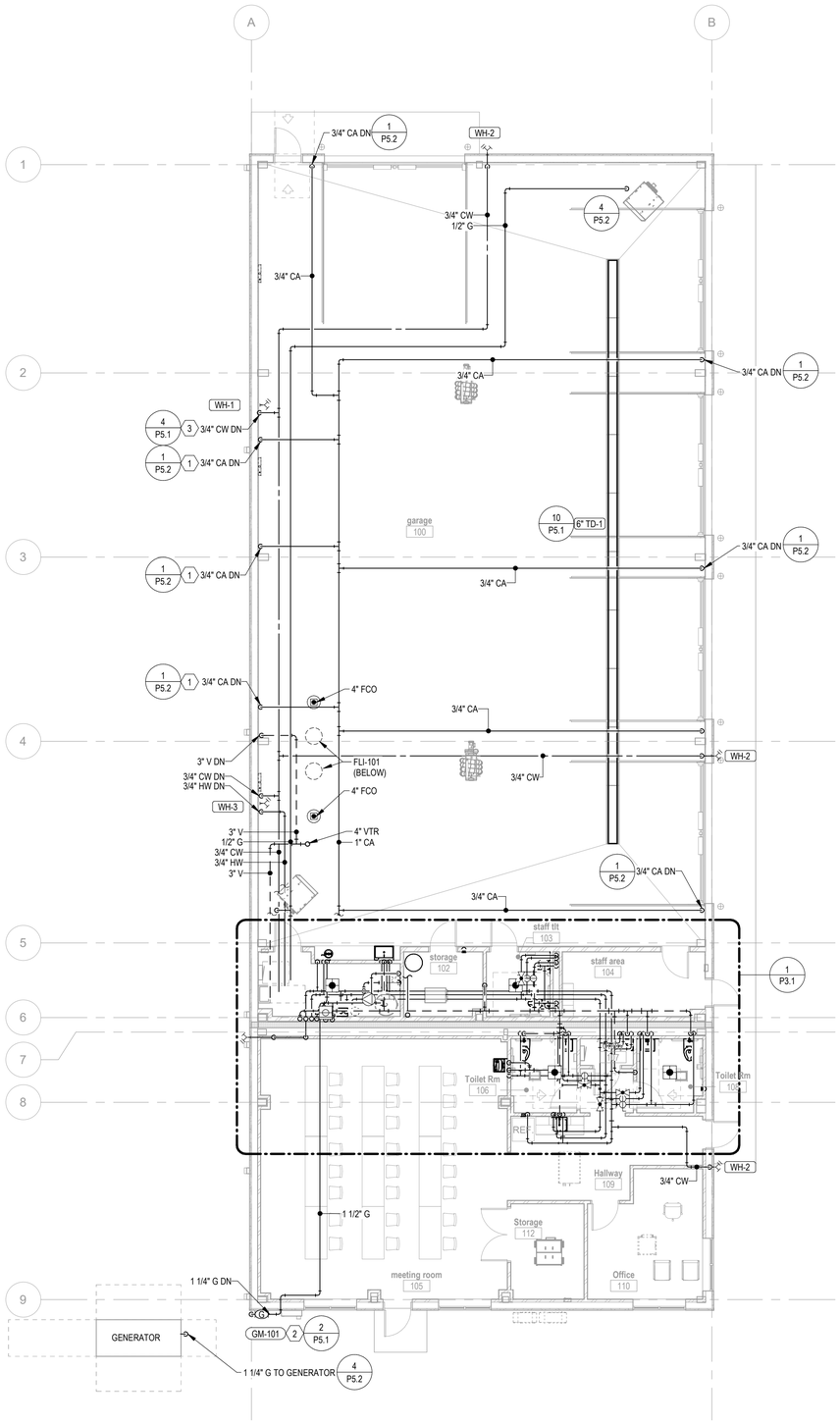
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sheet number: P2.1



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

GENERAL SHEET NOTES:

A. THESE DRAWINGS ARE DIAGRAMMATIC AND INDICATE THE GENERAL ARRANGEMENT OF SYSTEMS AND EQUIPMENT. FINAL LOCATIONS OF EQUIPMENT AND PIPING SHALL BE FIELD DETERMINED.

B. FOR SIZING NOT SHOWN ON FLOOR PLANS, REFER TO DETAILS AND DIAGRAMS FOR MORE DETAIL.

C. PROVIDE CLEANOUTS WHERE REQUIRED BY WISCONSIN PLUMBING CODE AND DETAIL 6/P5.1.

KEYNOTES:

1 COORDINATE FINAL LOCATIONS OF COMPRESSED AIR DROPS WITH OWNER PROVIDED WORK BENCH.

2 NATURAL GAS METER BY UTILITY COMPANY. MAINTAIN 3' CLEARANCE BETWEEN GAS REGULATOR AND ELECTRICAL METER AND A 10' CLEARANCE FROM OPERABLE OPENINGS.

3 COORDINATE FINAL LOCATIONS OF WH-1 WITH OWNER PROVIDED WORK BENCH.

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sheet number: P2.2

GENERAL SHEET NOTES:

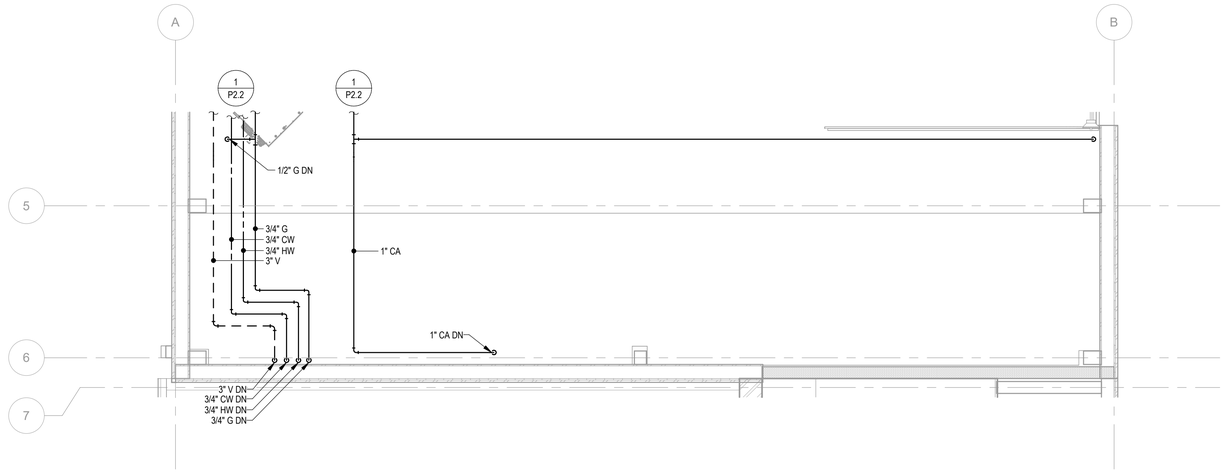
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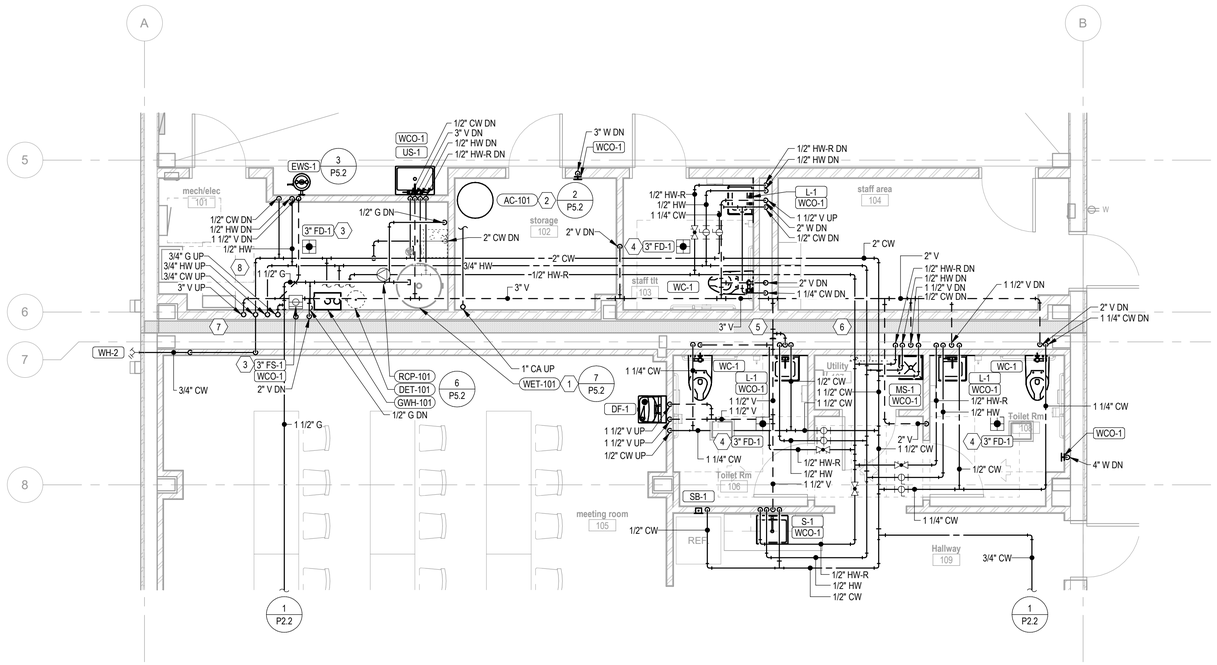
C. PROVIDE CLEANOUTS WHERE REQUIRED BY WISCONSIN PLUMBING CODE AND DETAIL 6/P5.1.

KEYNOTES:

1 DOMESTIC WELL WATER EXPANSION TANK AND PIPING TO WELL BY THE WELL CONTRACTOR.
2 COORDINATE WITH OWNER ON FINAL LOCATION OF AC-101 IN STORAGE ROOM 102.
3 PROVIDE A TRAP PRIMER LINE FROM US-1. REFER TO DETAIL 5 ON P5.2.
4 PROVIDE A TRAP PRIMER LINE FROM L-1. REFER TO DETAIL 5 ON P5.2.
5 PVC VENT PIPING SHALL BE SEALED WITH A FIRE STOP PRODUCT TO MAINTAIN THE FIRE RESISTANCE RATING OF THE WALL. TYPICAL. COORDINATE FIRESTOP PRODUCT WITH PEMB MANUFACTURERS FIRE RATED PANEL.
6 INSULATED PIPING SHALL BE SEALED WITH A FIRE STOP PRODUCT TO MAINTAIN THE FIRE RESISTANCE RATING OF THE WALL. TYPICAL. COORDINATE FIRESTOP PRODUCT WITH PEMB MANUFACTURERS FIRE RATED PANEL.
7 GAS PIPING SHALL BE SEALED WITH A FIRE STOP PRODUCT TO MAINTAIN THE FIRE RESISTANCE RATING OF THE WALL. COORDINATE FIRESTOP PRODUCT WITH PEMB MANUFACTURERS FIRE RATED PANEL.
8 LOCATE PIPING AND EQUIPMENT AWAY FROM THE SPACE ABOVE ELECTRICAL PANELS, TRANSFORMERS AND OTHER ELECTRICAL EQUIPMENT LOCATED IN THE MECHANICAL ROOM.



2 FLOOR PLAN - MEZZANINE - PLUMBING
SCALE: 1/4" = 1'-0"



1 OVERHEAD PLAN - PLUMBING
SCALE: 1/4" = 1'-0"

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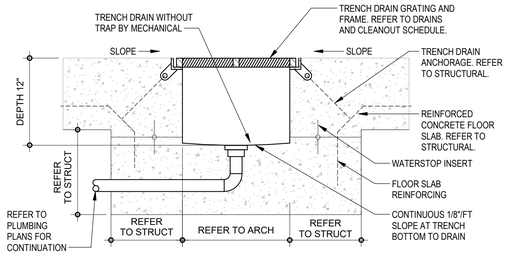
project #: 25323
date: 03/10/2026
drawn by: AWM
checked by: CDH



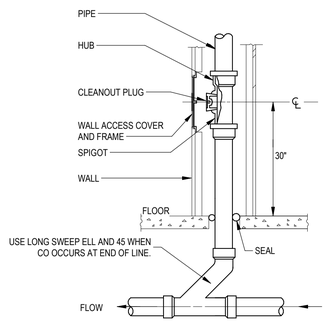
revision / issue	no.	date

sheet title: ENLARGED FLOOR PLAN

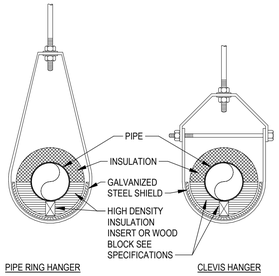
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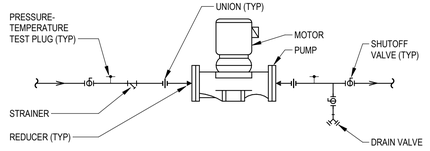
10 TRENCH DRAIN DETAIL
NOT TO SCALE



9 WALL CLEAN OUT DETAIL
NOT TO SCALE



8 INSULATED PIPE AT HANGER DETAIL
NOT TO SCALE

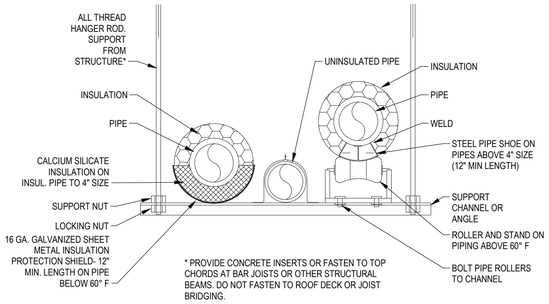


GENERAL NOTES:

A. SEE SPECIFICATION SECTION 22 05 29 FOR SUPPORT REQUIREMENTS.

B. SEE SPECIFICATION SECTION 22 05 48 FOR VIBRATION ISOLATION AND SEISMIC RESTRAINT REQUIREMENTS.

7 INLINE CIRCULATING PUMP DETAIL
NOT TO SCALE



6 TRAPEZE PIPE HANGER DETAIL
NOT TO SCALE

[W] 707.4 LOCATION.
EACH HORIZONTAL DRAINAGE PIPE SHALL BE PROVIDED WITH A CLEANOUT AT ITS UPPER TERMINAL, AND EACH RUN OF PIPING, THAT IS MORE THAN 100 FEET (30,480 MM) IN TOTAL DEVELOPED LENGTH, SHALL BE PROVIDED WITH A CLEANOUT FOR EACH 100 FEET (30,480 MM), OR FRACTION THEREOF, IN LENGTH OF SUCH PIPING. AN ADDITIONAL CLEANOUT SHALL BE PROVIDED IN A DRAINAGE LINE FOR EACH AGGREGATE HORIZONTAL CHANGE IN DIRECTION EXCEEDING 135° (2.36 RAD).

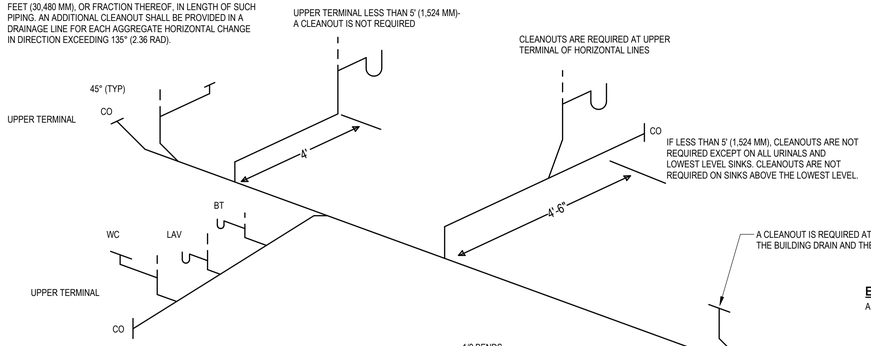


TABLE 707.1 CLEANOUTS

SIZE OF PIPE (INCHES)	SIZE OF CLEANOUT (INCHES)	THREADS (PER INCHES)
1-1/2	1-1/2	11-1/2
2	1-1/2	11-1/2
2-1/2	2-1/2	8
3	2-1/2	8
4 & LARGER	3-1/2	8

EXCEPTIONS:

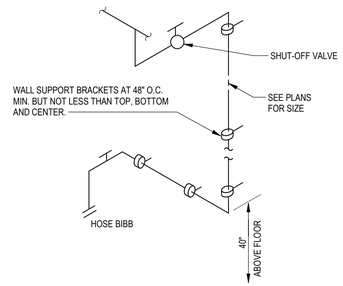
A. CLEANOUTS SHALL BE PERMITTED TO BE OMITTED ON A HORIZONTAL DRAIN LINE LESS THAN 5' (1,524 MM) IN LENGTH UNLESS SUCH LINE IS SERVING SINKS OR URINALS.

B. CLEANOUTS SHALL BE PERMITTED TO BE OMITTED ON A HORIZONTAL DRAINAGE PIPE INSTALLED ON A SLOPE OF 72° (1.26 RAD) OR LESS FROM THE VERTICAL ANGLE (ONE-FIFTH BEND).

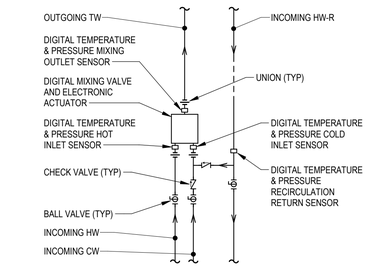
C. EXCEPT FOR THE BUILDING DRAIN, ITS HORIZONTAL BRANCHES, AND URINALS, A CLEANOUT SHALL NOT BE REQUIRED ON A PIPE OR PIPING THAT IS ABOVE THE FLOOR LEVEL OF THE LOWEST FLOOR OF THE BUILDING.

D. AN APPROVED TYPE OF TWO-WAY CLEANOUT FITTING, INSTALLED INSIDE THE BUILDING WALL NEAR THE CONNECTION BETWEEN THE BUILDING DRAIN AND THE BUILDING SEWER OR INSTALLED OUTSIDE OF A BUILDING AT THE LOWER END OF A BUILDING DRAIN AND EXTENDED TO GRADE, SHALL BE PERMITTED TO BE SUBSTITUTED FOR AN UPPER TERMINAL CLEANOUT.

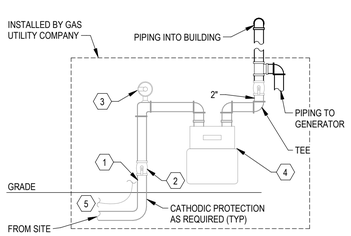
5 SANITARY CLEANOUTS
NOT TO SCALE



4 INTERIOR HOSE BIBB PIPING RISER
NOT TO SCALE



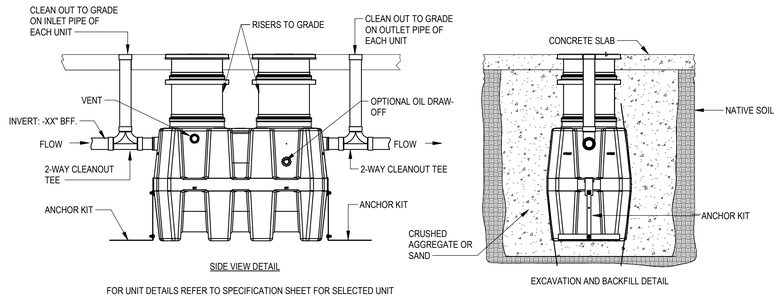
3 DIGITAL MASTER MIXING VALVE DETAIL
NOT TO SCALE



KEYNOTES:

1. GAS MAIN.
2. MAIN SHUT OFF VALVE.
3. GAS REGULATOR, GAS UTILITY COMPANY, SET TO 2 PSI OUTLET.
4. GAS METER BY GAS UTILITY COMPANY.
5. TRACER WIRE BY GAS UTILITY COMPANY.

2 GAS METER DETAIL
NOT TO SCALE



FOR UNIT DETAILS REFER TO SPECIFICATION SHEET FOR SELECTED UNIT

NOTES:

SCHIER FLAMABLE LIQUID INTERCEPTORS ARE RATED AND MANUFACTURED WITH AN INTERNAL FLOW CONTROL SYSTEM ALREADY IN PLACE. THEY DO NOT REQUIRE AN EXTERNAL FLOW CONTROL SYSTEM OR AIR INTAKE VENT. SCHIER FLAMABLE LIQUID INTERCEPTORS ARE NOT TO BE INSTALLED IN ANY OTHER MANNER EXCEPT AS SHOWN. CONSULT LOCAL CODES FOR SEPARATE TRAPPING REQUIREMENTS, CLEANOUT LOCATIONS AND ADDITIONAL INSTALLATION INSTRUCTIONS.

1 FLAMABLE LIQUID INTERCEPTORS DETAIL
NOT TO SCALE

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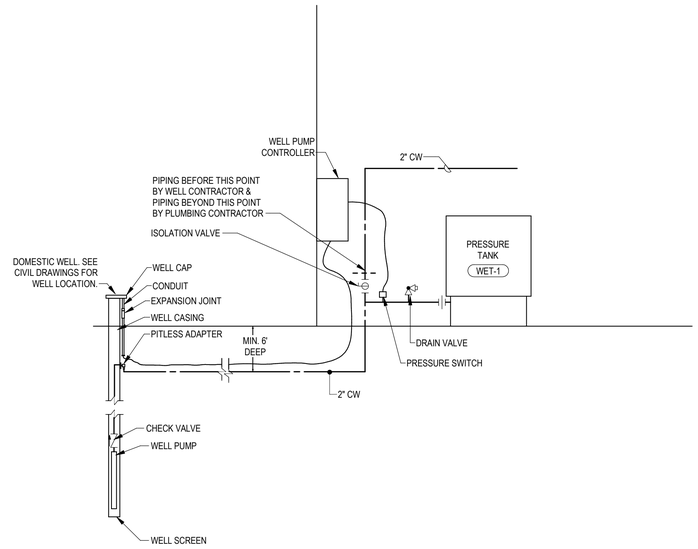
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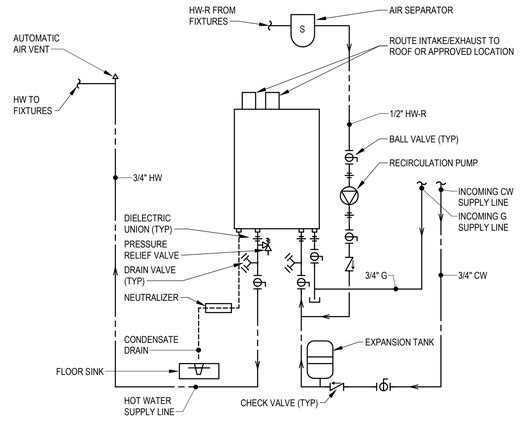
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03/09/2026

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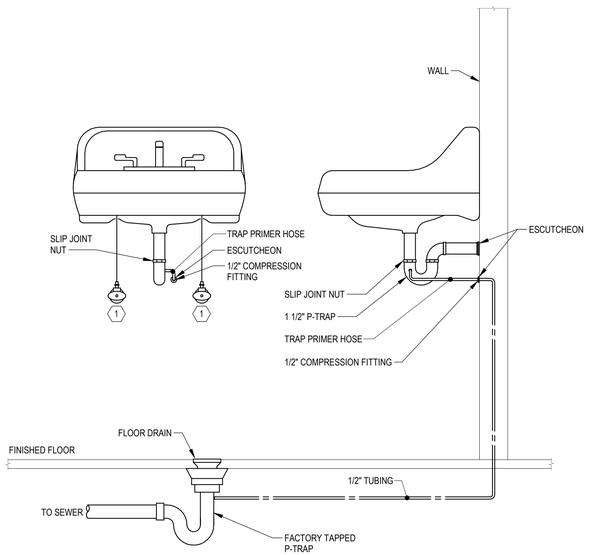
sheet title: DETAILS
sheet number: P5.1



7 DOMESTIC WELL WATER SYSTEM DETAIL
NOT TO SCALE



6 TANKLESS WATER HEATER - GAS
NOT TO SCALE



GENERAL NOTES:

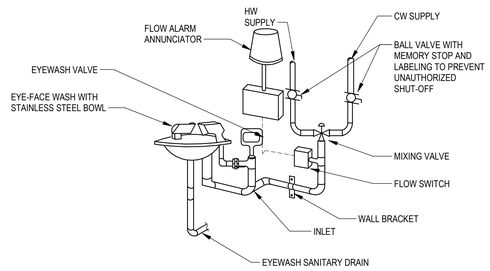
A. PRIME FLOOR DRAINS, FLOOR SINKS, AND SIMILAR TRAPS.

B. REFER TO SPECIFICATIONS FOR ALLOWABLE TRAP PRIMER LINE PIPE MATERIALS.

KEYNOTES:

1. HOT AND COLD WATER SUPPLY STOP.
2. REFER TO MANUFACTURER LITERATURE FOR INSTALLATION INSTRUCTIONS.

5 SINK TAILPIECE TRAP PRIMER DETAIL
NOT TO SCALE

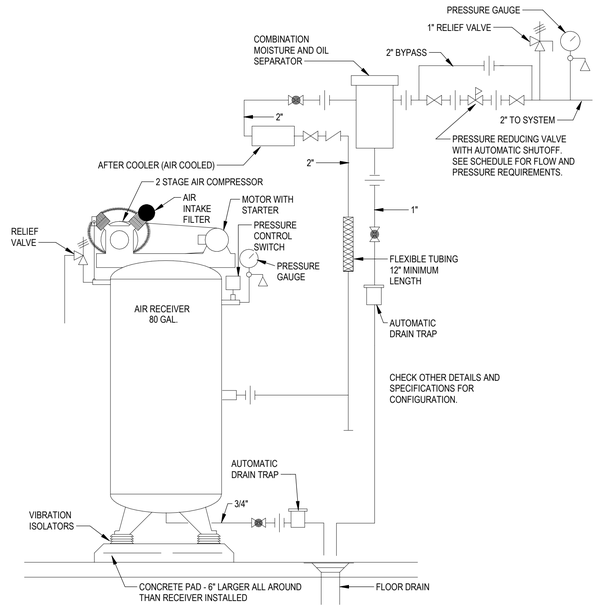


GENERAL NOTES:

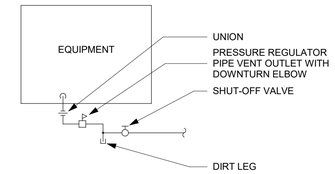
A. PROVIDE A LOOSE-KEY LOCKSHIELD TYPE SHUT-OFF VALVE IN DOMESTIC WATER SUPPLY TROP TO EYEWASH STATION. LABEL VALVE TO PREVENT UNAUTHORIZED SHUT-OFF.

B. PROVIDE WITH MANUFACTURER'S WALL MOUNTING BRACKET.

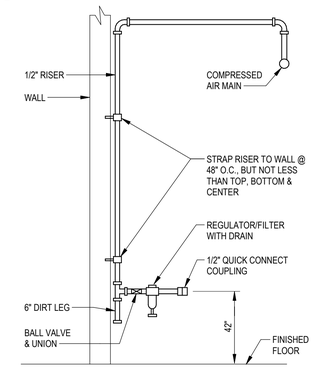
3 EMERGENCY EYEWASH PIPING DETAIL
NOT TO SCALE



2 VERTICAL AIR COMPRESSOR DETAIL
NOT TO SCALE



4 GAS PIPING CONNECTION FOR EQUIPMENT DETAIL
NOT TO SCALE



1 COMPRESSED AIR WALL OUTLET
NOT TO SCALE

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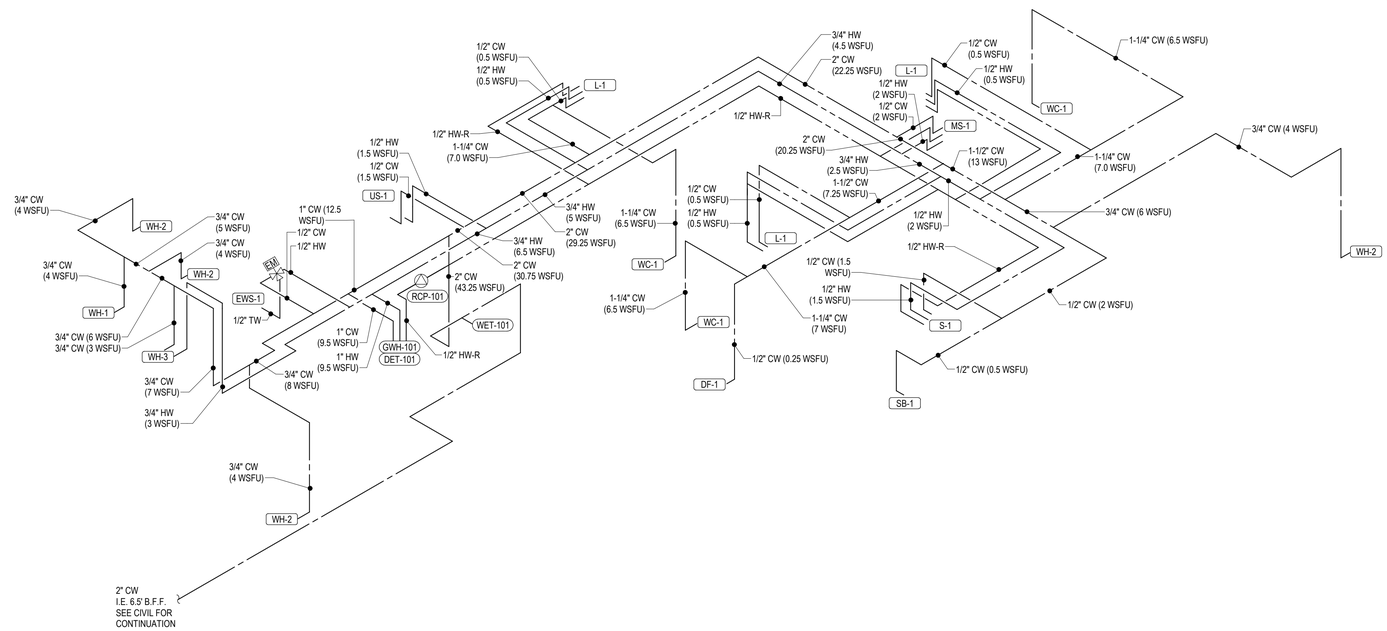
Brule Public Works Garage

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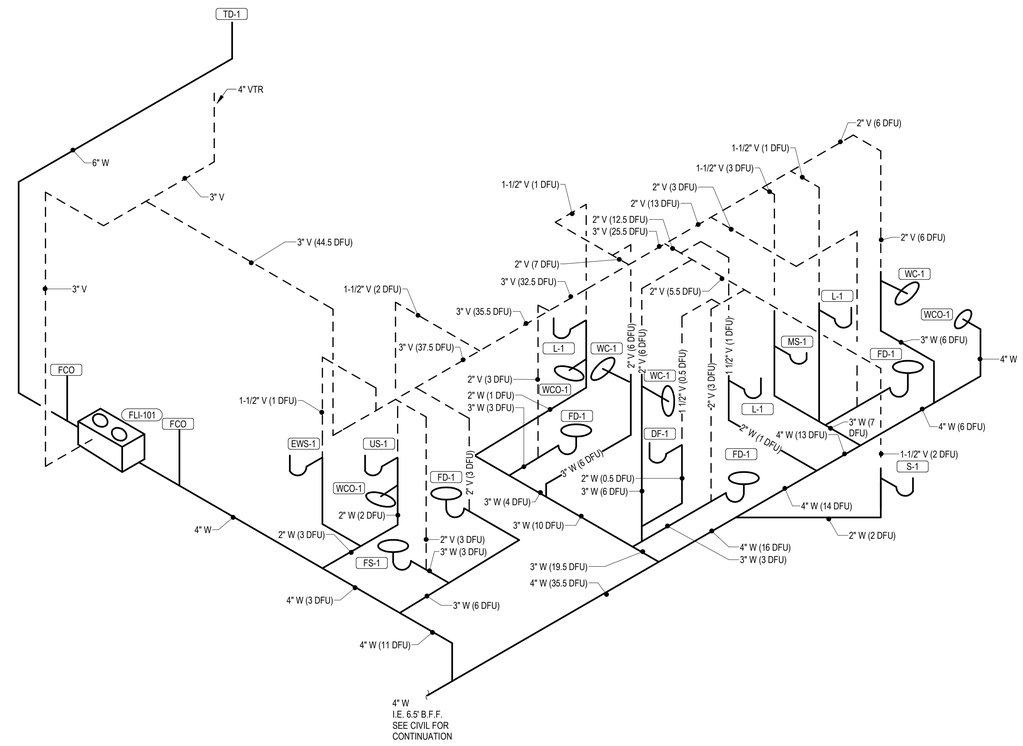


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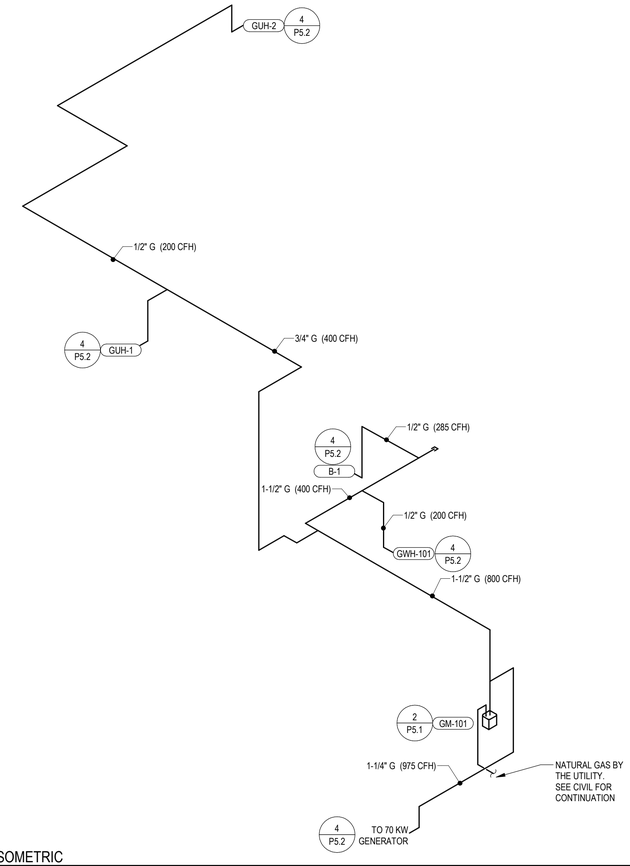
sheet title: DETAILS
sheet number: P5.2



3 DOMESTIC WATER ISOMETRIC
NOT TO SCALE



2 WASTE AND VENT ISOMETRIC
NOT TO SCALE



1 NATURAL GAS ISOMETRIC
NOT TO SCALE

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drawn by: AWM
checked by: CDH

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CALVIN HEPPNER
E-43
MINNEAPOLIS, MN
PROFESSIONAL ENGINEER
03/09/2026

revision / issue	no.	date

sheet title: DIAGRAMS
sheet number: P6.1

TECHNOLOGY DEVICE ROUGH-IN SCHEDULE

DEVICE	BACK BOX	MUD RING	CONDUIT	NOTES
TELECOM OUTLET	4"SQ, 2-1/8"D	1-GANG	1"	1
TV OUTLET	4"SQ, 2-1/8"D	1-GANG	1"	1
A/V OUTLET	4-11/16"SQ	2-GANG	1-1/4"	1,2
SECURITY DEVICE	4"SQ, 2-1/8"D	1-GANG	3/4"	1,2

*ALL ROUGH-INS ARE TYPICAL UNO ON PLANS

NOTES:
1. USE PLASTIC BUSHING AT CONDUIT TERMINATION IN ACCESSIBLE SPACE.
2. REFER TO ROUGH-IN DETAILS FOR MORE INFORMATION.

TECHNOLOGY SYMBOLS LEGEND

- (XX) — TELECOMMUNICATIONS OUTLET, PROVIDE BACKBOX AND CONDUIT/PULL STRING TO ACCESSIBLE SPACE. (XX) = QUANTITY OF CABLES
- W — WIRELESS ACCESS POINT, PROVIDE BACKBOX AND CONDUIT/PULL STRING TO ACCESSIBLE SPACE.
- T — CABLE TV OUTLET, PROVIDE BACKBOX AND CONDUIT/PULL STRING TO ACCESSIBLE SPACE.
- AV — AUDIO/VISUAL OUTLET, PROVIDE BACKBOX AND CONDUIT/PULL STRING TO ACCESSIBLE SPACE.

SECURITY DEVICES SYMBOLS LEGEND

- CR — CARD READER, PROVIDE BACK BOX AND CONDUIT ROUGH-IN
- DC — DOOR CONTACT, PROVIDE CONDUIT ROUGH-IN
- ES — ELECTRIC STRIKE, PROVIDE CONDUIT ROUGH-IN
- MD — MOTION DETECTOR, PROVIDE BACK BOX AND CONDUIT TO ACCESSIBLE SPACE
- TE — TELEPHONE ENTRY SYSTEM, PROVIDE BACK BOX AND CONDUIT ROUGH-IN
- PUSH BUTTON / DOOR OPERATOR

FIRE ALARM DEVICES SYMBOLS LEGEND

- SD — SMOKE DETECTOR
- SD — 120V COMBINATION CARBON MONOXIDE/SMOKE DETECTOR
- M — 120V MAGNETIC DOOR HOLD

EQUIPMENT NAMING LEGEND

TYPICAL PANELBOARD CONVENTION

EXAMPLE: 4NM-1A-2

LINE-LINE VOLTAGE*
- 4 = 480V
- 2 = 208V

POWER BRANCH
- N = NORMAL
- S = STANDBY, LEGALLY REQ. SB
- E = LIFE SAFETY

BUILDING SYSTEM
- R = RECEPTACLE LOADS
- L = LIGHTING SYSTEMS
- M = MECHANICAL SYSTEMS
- W = WATER SYSTEMS
- T = TELECOM SYSTEMS

LEVEL: P1, 1, 2...

SECTOR INDICATOR
- A = SECTOR A
- B = SECTOR B

IN SERIES**

MAIN DIST. EQUIPMENT MAY OMIT BUILDING SYSTEM, LEVEL, SECTOR, ETC. FOR NAMING SIMPLIFICATION.

EXAMPLE: 4MDP-R

LINE-LINE VOLTAGE*

EQUIPMENT
- MDP = MAIN DIST. PANEL
- SDP = SUB DIST. PANEL
- X = XFMR
- SE = SERVICE ENTRANCE
- ...

SERVICE***
- R = RESIDENTIAL SERVICE
- H = HOUSE SERVICE
- EV = EV SERVICE

POWER BRANCH**

NOTES:
* USED WHEN MULTIPLE L-L VOLTAGES ARE PRESENT.
** OMITTED AS NEEDED FOR SIMPLIFICATION.
*** USED ONLY ON MULTI-SERVICE PROJECTS

POWER DEVICE SYMBOLS LEGEND

COMMON DEVICES
- SIMPLEX RECEPTACLE
- DUPLEX RECEPTACLE
- QUADPLEX RECEPTACLE
- SPECIAL PURPOSE RECEPTACLE, VERIFY NEMA CONFIGURATION
- * INDICATES ABOVE COUNTER OR NON-STANDARD HEIGHT FOR ALL WALL DEVICES. REFER TO ARCHITECTURAL / INTERIOR ELEVATIONS FOR EXACT LOCATION, UNO.
- REMOTE GFCI DEVICE
- EQUIPMENT CONNECTION, SEE SCHEDULES
- MOTOR CONNECTION
- $ — POWER DEVICE SWITCH, SEE PLANS FOR ADDITIONAL INFORMATION.
- DISCONNECT SWITCH
- DISCONNECT: F = FUSED, B = BREAKER
- JUNCTION BOX
- JUNCTION BOX WITH POWER OR DATA WHIP, SEE PLANS
- LINE VOLTAGE THERMOSTAT

IN-CEILING DEVICES
- DUPLEX RECEPTACLE ON CEILING
- DOUBLE DUPLEX RECEPTACLE ON CEILING
- SPECIAL PURPOSE RECEPTACLE ON CEILING, VERIFY NEMA CONFIGURATION

IN-FLOOR DEVICES
- DUPLEX FLOOR RECEPTACLE — FB = FLOORBOX, PT = POKE-THROUGH, FF = FURNITURE FEED
- DUPLEX FLOOR RECEPTACLE
- COMBINATION FLOORBOX, REFER TO SCHEDULE FOR POWER, DATA, AND AV SCOPE
- FB1 — NUMBER INDICATES SCHEDULED ENCLOSURE TYPE. REFER TO SCHEDULE FOR ADDITIONAL INFO.

DEVICE TYPE / WIRING KEY

17 — CIRCUIT NUMBER
C — DEVICE TYPE INDICATOR
C — ABOVE COUNTER / NON-STANDARD HEIGHT
E — SHADING INDICATES SWITCHING OR CONTROL, SEE PLANS
E — CIRCUITING INDICATOR. MAY BE REPLACED WITH CIRCUIT NUMBER CALLOUT IN FINAL CONSTRUCTION DOCUMENTS.

LETTER INDICATOR KEY

CIRCUITING:	DEVICE TYPE:
E = EMERGENCY	B = INTEGRAL USB
U = UPS	G = GFCI
S = STANDBY	W = WEATHER PROOF GFCI
C = CRITICAL	T = ISOLATED GND
D = DED. CKT	

GENERAL SYMBOLS

- 1 — KEYNOTE
- A — REVISION TAG
- REVISION CLOUD
- X / XXX — DETAIL/PLAN CALLOUT
- N — NORTH ARROW
- MATCHLINE
- CONTINUATION SYMBOL

ELECTRICAL TAGS

- XX-XX — MECHANICAL EQUIPMENT TAG. EQUIP. SPECIFIED BY DIV 21, 22, OR 23.
- XX-XX — BUILDING EQUIPMENT TAG. EQUIP. NOT SPECIFIED BY DIV 21, 22, OR 23.

ONE-LINE SYMBOLS LEGEND

- CIRCUIT BREAKER
- BUS DUCT PLUG-IN CIRCUIT BREAKER
- FUSED SWITCH
- CURRENT TRANSFORMERS
- GROUND CONNECTION
- CONDUIT CONTINUATION
- CONDUIT CAP
- XXXX — FEEDER CALLOUT
- SPD — SURGE PROTECTIVE DEVICE
- AUTOMATIC TRANSFER SWITCH
- T — TRANSFORMER
- M — ELECTRICITY METER
- GENERATOR

LIGHTING SYMBOLS LEGEND

NOTE: SHADED LUMINAIRE INDICATES EMERGENCY POWER

- RECESSED DOWNLIGHT - ROUND/SQUARE
- SURFACE DOWNLIGHT - ROUND/SQUARE
- PENDANT OR FLUSH MOUNT LUMINAIRE
- LINEAR RECESSED LUMINAIRE
- LINEAR SURFACE LUMINAIRE
- LINEAR PENDANT LUMINAIRE
- LINEAR WALL LUMINAIRE
- LINEAR STRIP LUMINAIRE
- CONTINUOUS TAPE OR UNDERCABINET LUMINAIRE
- RECESSED HEAT LAMP
- RECESSED 2x2 LUMINAIRE
- RECESSED 2x4 LUMINAIRE
- SURFACE OR PENDANT 2x2 LUMINAIRE
- SURFACE OR PENDANT 2x4 LUMINAIRE
- WALL MOUNTED LUMINAIRE
- RECESSED STEP LIGHT
- GROUND MOUNT FLOOD
- POLE MOUNTED AREA LUMINAIRE
- BOLLARD OR POST TOP LUMINAIRE
- EMERGENCY BUGEYE
- EXIT SIGN, SHADING INDICATES FACES, ARROWS PER PLAN

TYPICAL LUMINAIRE LABELING

R1 — LUMINAIRE TYPE
A12 — PANEL & CIRCUIT
a — SWITCH INDICATOR

LIGHTING CONTROLS SYMBOLS LEGEND

NOTE: ANY COMBINATION OF LETTERS MAY APPLY TO A SWITCH FOR MULTIPLE FUNCTIONS

- $ — STANDARD SWITCH
- $^a — STANDARD SWITCH W/ SWITCHING SUBSCRIPT
- $^3 — 3-WAY SWITCH
- $^4 — 4-WAY SWITCH
- $^L — LOW VOLTAGE SWITCH
- $^{L#} — LOW VOLTAGE SWITCH PER SCHEDULE
- $^O — OCCUPANCY SENSOR SWITCH
- $^K — KEYED SWITCH
- $^D — DIMMER SWITCH
- $^T — TIMER SWITCH
- OS — OCCUPANCY SENSOR CEILING MOUNT
- PC — PHOTOCELL CEILING MOUNT
- OS — OCCUPANCY SENSOR WALL MOUNT
- PC — PHOTOCELL WALL MOUNT

ABBREVIATIONS

A	AMPERES
AFCI	ARC FAULT CIRCUIT INTERRUPTER
AFF	ABOVE FINISHED FLOOR
AIC	AMPERE INTERRUPTING CAPACITY
AL	ALUMINUM
ATS	AUTOMATIC TRANSFER SWITCH
AWG	AMERICAN WIRE GAUGE
A/V	AUDIO VISUAL
BKR	BREAKER
C	CONDUIT
CKT	CIRCUIT
CO	CONDUIT ONLY
CU	COPPER
CLG	CEILING
CT	CURRENT TRANSFORMER
DAS	DISTRIBUTED ANTENNA SYSTEM
DIA.	DIAMETER
(E)	EXISTING
EGC	EQUIPMENT GROUNDING CONDUCTOR
ERRCS	EMERGENCY RESPONDER RADIO COVERAGE
F	FUSE
FACP	FIRE ALARM CONTROL PANEL
FC	FOOT CANDLE
FLA	FULL LOAD AMPERES
FSD	FIRE SMOKE DAMPER
FTL	FEED-THRU LUGS
GEC	GROUNDING ELECTRODE CONDUCTOR
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GFPE	GROUND FAULT PROTECTION OF EQUIPMENT
GND	GROUND
HP	HORSEPOWER
IDF	INTERMEDIATE DISTRIBUTION FRAME
IG	ISOLATED GROUND
KCMIL	THOUSAND CIRCULAR MIL
KVA	KILOVOLT-AMP
KW	KILOWATT
LTG	LIGHTING
MCA	MINIMUM CIRCUIT AMPERES
MCB	MAIN CIRCUIT BREAKER
MCC	MOTOR CONTROL CENTER
MDF	MAIN DISTRIBUTION FRAME
MDP	MAIN DISTRIBUTION PANEL
MDU	MEDIA DISTRIBUTION UNIT
MIN	MINIMUM
MLO	MAIN LUG ONLY
MOCP	MAXIMUM OVERCURRENT PROTECTION
MTS	MANUAL TRANSFER SWITCH
(N)	NEW
NAC	NOTIFICATION APPLIANCE CIRCUIT
OC	ON CENTER
P	POLE
PH	PHASE
PNL	PANEL
PWR	POWER
(R)	RELOCATE
ROW	RIGHT-OF-WAY
S	SWITCH
SDP	SUB-DISTRIBUTION PANEL
SIM	SIMILAR
SPD	SURGE PROTECTIVE DEVICE
TR	TAMPER RESISTANT
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
UPS	UNINTERRUPTIBLE POWER SUPPLY
V	VOLTS
VA	VOLT-AMPERES
VFD	VARIABLE FREQUENCY DRIVE
W	WIRE
WP	WEATHERPROOF
(X)	DEMOLISH
XFMR	TRANSFORMER

TYPICAL DEVICE MOUNTING HEIGHTS

RECEPTACLES	+18" AFF
RECEPTACLES, ABOVE COUNTER MAX, CASEWORK	+6" ABOVE COUNTER, +46" AFF COORDINATE WITH
PHONE/DATA/CATV OUTLET	+18" AFF
SWITCHES	+46" AFF
THERMOSTATS	+46" AFF
CARD READERS	+46" AFF
PANELBOARDS	+72" TO TOP OR PER NEC 404.8
CONTROL PANELS	+72" TO TOP

NOTES:
1. MEASUREMENTS ARE TYPICAL UNO ON PLANS
2. MEASUREMENTS ARE TO CENTER OF BOX UNO
3. COMPLY WITH ALL ADA ACCESSIBILITY GUIDELINES

EQUIPMENT SYMBOLS LEGEND

- UTILITY METER
- EQUIPMENT CABINET AS NOTED
- ELECTRIC WALL HEATER
- BRANCH PANEL RECESSED
- BRANCH PANEL SURFACE
- T — TRANSFORMER
- EQUIPMENT ENCLOSURE, SEE PLAN NOTES AND NAMING CONVENTIONS FOR DESCRIPTION

GENERAL PROJECT NOTES

1. COMPLETED INSTALLATION SHALL COMPLY WITH NEC AND ALL LOCAL LAWS, ORDINANCES, AND REGULATIONS.
2. PLANS ARE DIAGRAMMATIC IN NATURE TO COMMUNICATE SCOPE OF WORK AND GENERAL INTENT. CONTRACTOR SHALL PROVIDE ALL FITTINGS, BOXES, AND APPURTENANCES NECESSARY FOR A COMPLETE AND OPERABLE ELECTRICAL SYSTEM.
3. DEVICE LOCATIONS ON PLANS MAY NOT BE EXACT. REFER TO ARCHITECTURAL PLANS FOR MORE DETAILED INFORMATION REGARDING DIMENSIONS AND LAYOUTS. COORDINATE ALL DEVICE AND EQUIPMENT LOCATIONS WITH ARCHITECTURAL AND OTHER TRADES.
4. EQUIPMENT FOR OTHER DISCIPLINES MAY BE SHOWN FOR REFERENCE ONLY. REFER TO OTHER DISCIPLINES' DRAWINGS FOR MORE DETAIL REGARDING EQUIPMENT SPECIFICATIONS AND INFORMATION.
5. PLANS SHALL GOVERN IN MATTERS OF QUANTITY, SPECIFICATIONS SHALL GOVERN IN MATTERS OF QUALITY. IN CASE OF DISCREPANCY BETWEEN DRAWINGS AND SPECIFICATIONS, THE SPECIFICATIONS SHALL GOVERN. PLANS ARE TO BE TIED TO SPECIFICATIONS FOR A COMPLETE DESIGN PACKAGE.
6. ANYTHING MENTIONED IN THE SPECIFICATIONS AND NOT SHOWN ON THE DRAWINGS, OR SHOWN ON THE DRAWINGS AND NOT MENTIONED IN THE SPECIFICATIONS, SHALL BE OF LIKE EFFECT AS IF SHOWN OR MENTIONED IN BOTH.
7. WIRE SIZE AND QUANTITIES ARE NOT GENERALLY INDICATED ON PLANS. FOR A TYPICAL 20A/1P CIRCUIT BREAKER, PROVIDE (3) #12 CU CONDUCTORS (PHASE, NEUTRAL, GROUND). FOR A TYPICAL 20A/2P CIRCUIT BREAKER, PROVIDE (3) #12 CU CONDUCTORS (PHASE, PHASE, GROUND). FOR A TYPICAL 20A/3P CIRCUIT BREAKER, PROVIDE (4) #12 CU CONDUCTORS (THREE PHASES PLUS GROUND).
8. TO COMPENSATE FOR VOLTAGE DROP, ON 20A, 120V CIRCUITS: OVER 100 FEET, PROVIDE #10 AWG, OVER 150 FEET, PROVIDE #8 AWG. ON 20A, 277V CIRCUITS: OVER 250 FEET, PROVIDE #10 AWG.
9. CIRCUIT NUMBERS ARE GENERALLY INDICATED AS XX:##. WHERE (XX) INDICATES PANEL NAME AND (##.) INDICATES THE CIRCUIT NUMBER. IN SOME CASES THE PANEL MAY BE COMMON TO A LARGE AREA, AND THE CIRCUIT NUMBER ONLY MAY BE CALLED OUT ON THE PLANS.
10. MAINTAIN AT LEAST 12" SEPARATION BETWEEN POWER AND COMMUNICATIONS WIRING ROUTED PARALLEL. SMALLER SEPARATION MAY BE ALLOWED WHEN CROSSING.
11. PROVIDE FIRE STOPPING FOR ALL PENETRATIONS OF FIRE RATED ASSEMBLIES. FIRE PROOFING MUST BE EQUIVALENT OR HIGHER TO THAT OF THE PENETRATED ASSEMBLY. REFER TO ARCHITECTURAL PLANS.
12. REFER TO ARCHITECTURAL PLANS FOR FIRE RATED ASSEMBLIES. MAINTAIN 24" SEPARATION BETWEEN DEVICES IN FIRE-RATED WALLS. PROVIDE FIRE-RATED BOXES OR "PUTTY PADS" AS REQUIRED TO MAINTAIN FIRE RATING.
13. REFER TO ARCHITECTURAL PLANS FOR ACOUSTIC ASSEMBLIES. PROVIDE ACOUSTIC BOXES OR "PUTTY PADS" AS REQUIRED TO MAINTAIN ACOUSTIC RATING.
14. ELECTRICAL EQUIPMENT IS DESIGNED BASED ON A SPECIFIC MANUFACTURER. VERIFY FINAL CLEARANCES AND SPACE REQUIREMENTS WITH EQUIPMENT SUBMITTALS. THE CONTRACTOR IS RESPONSIBLE FOR ANY REDESIGN OR RELOCATION OF EQUIPMENT IF APPROVED EQUIPMENT DOES NOT MATCH BASIS OF DESIGN.
15. PROVIDE 4" HIGH CONCRETE "HOUSEKEEPING PADS" FOR FREE STANDING AND FLOOR MOUNTED ELECTRICAL EQUIPMENT.
16. ALL CONDUIT ROUTING SHALL FOLLOW BUILDING LINES WHERE POSSIBLE. COORDINATE ROUTING WITH ARCHITECTURAL ELEMENTS. ALL ROUTING OF EXPOSED CONDUITS SHALL BE APPROVED BY THE ARCHITECT.
17. LIGHTING CONTROL: PLANS ARE DIAGRAMMATIC TO SHOW GENERAL INTENT. ALL LIGHTING CONTROL DEVICES MAY NOT BE SHOWN ON THE PLANS. REFER TO LIGHTING CONTROL NARRATIVE FOR DETAILED INFORMATION REGARDING FUNCTIONALITY.
18. COORDINATE UNDERGROUND CONDUIT ROUTING WITH CIVIL AND STRUCTURAL PLANS.
19. CONSULT STRUCTURAL ENGINEER OF RECORD FOR ALL STRUCTURAL PENETRATIONS.

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

ELECTRICAL SHEET LIST

E0.1	COVER SHEET - ELECTRICAL
E0.2	SCHEDULES - ELECTRICAL
E1.0	SITE PLAN - ELECTRICAL
E2.1	FLOOR PLAN - ELECTRICAL
E3.1	LIGHTING RCP - ELECTRICAL
E5.1	DETAILS - ELECTRICAL
E6.1	ONE-LINE DIAGRAM - ELECTRICAL

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Brule Public Works Garage

project #: 25323
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drawn by: JRB
checked by: LM

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PROFESSIONAL ENGINEER
03/09/2026

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sheet title: COVER SHEET
sheet number: E0.1

MECHANICAL AND PLUMBING EQUIPMENT CONNECTION SCHEDULE

GENERAL MECHANICAL SCHEDULE NOTES
A. LOADS FOR EQUIPMENT LISTED ABOVE ARE BASIS OF DESIGN LOADS ONLY. CONTRACTOR IS RESPONSIBLE FOR COORDINATING EXACT REQUIREMENTS WITH APPROVED SUBMITTALS FOR DIVISION 22 AND 23.
B. PROVIDE DISCONNECTING MEANS IF REQUIRED PER NEC FOR ALL MECHANICAL EQUIPMENT (MAY NOT BE SHOWN ON PLANS). PROVIDE MOTOR STARTERS INCORPORATING MOTOR OVERLOAD AND SHORT CIRCUIT PROTECTION PER NEC ARTICLE 430 AS REQUIRED. COORDINATE WITH MECHANICAL PLANS AND EQUIPMENT.
C. FEEDER REFERS TO FEEDER SCHEDULE ON SHEET E6.1.

MECHANICAL SCHEDULE NOTES
1. INDOOR UNIT (FCU) IS POWERED BY THE OUTDOOR UNIT (CU).
2. MULTIPLE OCCURANCES OF DEVICE.
3. PROVIDE 120V RECEPTACLE WITHIN 6 FT OF FAN COIL FOR CONDENSATE PUMP.

TAG	EQ DESCRIPTION	VOLTAGE	PHASE	LOAD (VA)	FLA	MCA	FEEDER	MOCP	PANEL	CIRCUIT	NOTES
AC-101	AIR COMPRESSOR	240 V	1	5760 VA	24.0 A	30.0 A	402	40 A	2MDP	51,53	
B-1	BOILER	120 V	1	1440 VA	12.0 A	15.0 A	202	20 A	2MDP	29	
BP-1	BOOSTER PUMP	120 V	1	156 VA	1.3 A	1.6 A	202	15 A	2MDP	63	
CEF-01	CEILING EXHAUST FAN	120 V	1	120 VA	1.0 A	1.3 A	202	15 A	2N-A	13	
CEF-02	CEILING EXHAUST FAN	120 V	1	120 VA	1.0 A	1.3 A	202	15 A	2N-A	13	
CU-1	CONDENSING UNIT	240 V	1	3264 VA	13.6 A	17.0 A	302	30 A	2N-A	6,8	
CU-2	CONDENSING UNIT	240 V	1	1728 VA	7.2 A	9.0 A	202	15 A	2N-A	10,12	
EDH-1	ELECTRIC DUCT HEATER	120 V	1	500 VA	4.2 A	5.2 A	202	15 A	2MDP	49	
EDH-2	ELECTRIC DUCT HEATER	240 V	1	4001 VA	16.7 A	20.8 A	302	30 A	2N-A	29,31	
EF-01	EXHAUST FAN	120 V	1	1176 VA	9.8 A	12.3 A	202	20 A	2MDP	10	
EF-02	EXHAUST FAN	120 V	1	336 VA	2.8 A	3.5 A	202	15 A	2MDP	12	
ERV-01	ENERGY RECOVERY VENTILATOR	120 V	1	204 VA	1.7 A	2.1 A	202	15 A	2MDP	27	
ERV-02	ENERGY RECOVERY VENTILATOR	240 V	1	552 VA	2.3 A	2.9 A	202	15 A	2N-A	2,4	
EUH-1	ELECTRIC UNIT HEATER	240 V	1	1001 VA	4.2 A	5.2 A	202	15 A	2MDP	34,36	
EUH-2	ELECTRIC UNIT HEATER	240 V	1	499 VA	2.1 A	2.6 A	202	15 A	2N-A	25,27	
EUH-3	ELECTRIC UNIT HEATER	240 V	1	1001 VA	4.2 A	5.2 A	202	15 A	2N-A	14,16	
EUH-4	ELECTRIC UNIT HEATER	240 V	1	1001 VA	4.2 A	5.2 A	202	15 A	2MDP	38,40	
FC-1	FAN COIL	240 V	1	0 VA	0.0 A	0.0 A	202	15 A			1,3
FC-2	FAN COIL	240 V	1	0 VA	0.0 A	0.0 A	202	15 A			1,3
GUH-1	GAS UNIT HEATER	120 V	1	552 VA	4.6 A	5.8 A	202	15 A	2MDP	23	
GUH-2	GAS UNIT HEATER	120 V	1	552 VA	4.6 A	5.8 A	202	15 A	2MDP	21	
GWH-101	GAS WATER HEATER	120 V	1	600 VA	5.0 A	6.3 A	202	15 A	2MDP	30	
LV-2	MOTORIZED DAMPER	120 V	1	240 VA	2.0 A	2.5 A	202	15 A	2MDP	61	
P-1	WATER PUMP	120 V	1	156 VA	1.3 A	1.6 A	202	15 A	2MDP	35	
P-2	WATER PUMP	120 V	1	156 VA	1.3 A	1.6 A	202	15 A	2MDP	37	
P-3	WATER PUMP	120 V	1	156 VA	1.3 A	1.6 A	202	15 A	2MDP	39	
P-4	WATER PUMP	120 V	1	156 VA	1.3 A	1.6 A	202	15 A	2MDP	41	
RCP-101	RECIRC PUMP	120 V	1	120 VA	1.0 A	1.3 A	202	15 A	2MDP	26	
VEF-1	VEHICLE EXHAUST FAN	120 V	1	1536 VA	12.8 A	16.0 A	202	20 A	2MDP	VARIES	2
WP-1	WELL PUMP	240 V	1	4800 VA	20.0 A	25.0 A	302	30 A	2MDP	18,20	

BUILDING EQUIPMENT CONNECTION SCHEDULE

GENERAL BUILDING EQUIPMENT SCHEDULE NOTES
A. LOADS FOR EQUIPMENT LISTED ABOVE ARE BASIS OF DESIGN LOADS ONLY. CONTRACTOR IS RESPONSIBLE FOR COORDINATING EXACT REQUIREMENTS WITH APPROVED SUBMITTALS FROM FOOD SERVICE CONTRACTOR.
B. FEEDER REFERS TO FEEDER SCHEDULE ON SHEET E6.1.

BUILDING EQUIPMENT SCHEDULE NOTES
1. PROVIDE NEMA 14-50R RECEPTACLE.
2. MULTIPLE OCCURANCES OF DEVICE.

TAG	EQ DESCRIPTION	LOCATION	LOAD TYPE	VOLTAGE	PHASE	FLA	MCA	FEEDER	MOCP	PANEL	CIRCUIT	NOTES
BE-1	OVERHEAD GARAGE DOORS	GARAGE	M	120 V	1	10.0 A	12.5 A	202	20 A	2MDP	22	2
BE-2	GARAGE WELDER OUTLET	GARAGE	G	240 V	1	39.9 A	49.9 A	502	50 A	2MDP	5,7	1,2
BE-3	GEN BLOCK HEATER, BATT CHARGER	GENERATOR	G	240 V	1	8.3 A	10.4 A	302	30 A	2MDP	57,59	

VARIES

FLOORBOX SCHEDULE

GENERAL FLOORBOX SCHEDULE NOTES
A. COVER TYPE, COLOR/FINISH PER ARCHITECT / INTERIOR DESIGNER.
B. PROVIDE SUBMITTAL WITH SELECTED OPTIONS FOR ARCHITECT AND ENGINEER REVIEW PRIOR TO AQUISITION.
C. RECEPTACLE TO BE NEMA 5-20R.

BOX TYPE	BOX DESCRIPTION	DEVICE SPECS	MANUFACTURER	ALTERNATES	BOX NOTES
FB1	CONFERENCE ROOM FLOORBOX WITH DATA, AND POWER.	(1) DUPLEX DEVICE, (2) DATA PORT	WIREMOLD	FSR	
FB2	CONFERENCE ROOM FLOORBOX WITH DATA, AV, AND POWER.	(1) DUPLEX DEVICE, (2) DATA PORTS, (1) HDMI	WIREMOLD	FSR	

LUMINAIRE SCHEDULE

GENERAL LUMINAIRE SCHEDULE NOTES:
A. REFER TO SPECIFICATIONS SECTIONS 26 5100 AND 26 5600 FOR ADDITIONAL REQUIREMENTS.
B. FINISH FOR ALL LUMINAIRES LISTED ABOVE SHALL BE PER ARCHITECT AND INTERIOR DESIGNER.
C. LUMEN OUTPUT LISTED ABOVE IS DELIVERED LUMENS.
D. MOUNTING HEIGHTS:
   a. CONFIRM MOUNTING HEIGHTS FOR WALL MOUNTED AND SUSPENDED LUMINAIRES WITH ARCHITECT AND INTERIOR DESIGNER.
   b. WALL MOUNTED LUMINAIRES: UNLESS NOTED OTHERWISE, SPECIFIED MOUNTING HEIGHTS ARE TO CENTER OF LUMINAIRE FROM FINISHED FLOOR.
   c. SUSPENDED LUMINAIRES: UNLESS NOTED OTHERWISE, SPECIFIED MOUNTING HEIGHTS ARE TO BOTTOM OF LUMINAIRE FROM FINISHED FLOOR.

LUMINAIRE NOTES:
1. PROVIDE WITH CONTROLS TO REDUCE LIGHT LEVELS WHEN NO MOTION IS DETECTED.
2. INCLUDE 20W EMERGENCY BATTERY PACK.

TAG	LUMINAIRE DESCRIPTION	MOUNTING	MOUNTING HEIGHT	LAMP	COLOR TEMP	LUMEN OUTPUT	POWER SUPPLY	MANUFACTURER & MODEL	VOLTAGE	INPUT WATTS	NOTES
L1	4' STRIP LIGHT, ROUND DIFFUSE LENS	SURFACE OR CHAIN-HUNG	CEILING	LED	3500K	4,000	INTEGRAL ELECTRONIC DRIVER	LITHONIA CLX SERIES OR EQUIVALENT	120 V	30 W	
L1E	4' STRIP LIGHT, ROUND DIFFUSE LENS W/BATTERY PACK	SURFACE OR CHAIN-HUNG	CEILING	LED	3500K	4,000	INTEGRAL ELECTRONIC DRIVER	LITHONIA CLX SERIES W/E10W EMERGENCY BATTERY PACK, OR EQUIVALENT	120 V	30 W	
R1	2' x 2' TROFFER	RECESSED	N/A	LED	3500K	2,100	INTEGRAL ELECTRONIC DRIVER, 0-10V DIMMING	LITHONIA CPX SERIES OR EQUIVALENT	120 V	16 W	
R1E	2' x 2' TROFFER W/BATTERY PACK	RECESSED	N/A	LED	3500K	2,100	INTEGRAL ELECTRONIC DRIVER, 0-10V DIMMING	LITHONIA CPX SERIES W/E10W EMERGENCY BATTERY PACK, OR EQUIVALENT	120 V	16 W	
R2	1' x 4' TROFFER	RECESSED	N/A	LED	3500K	2,000	INTEGRAL ELECTRONIC DRIVER, 0-10V DIMMING	LITHONIA CPX SERIES OR EQUIVALENT	120 V	17 W	
S1	COMPACT HIGH BAY	SURFACE	+18'-0" AFF	LED	3500K	4,000	INTEGRAL ELECTRONIC DRIVER, 0-10V DIMMING	LITHONIA CPHB SERIES OR EQUIVALENT	120 V	138 W	
S1E	COMPACT HIGH BAY W/BATTERY PACK	SURFACE	+18'-0" AFF	LED	3500K	4,000	INTEGRAL ELECTRONIC DRIVER, 0-10V DIMMING	LITHONIA CPHB SERIES W/20W EMERGENCY BATTERY PACK, OR EQUIVALENT	120 V	138 W	
SW1	WALL PACK AREA LIGHT, FORWARD THROW DISTRIBUTION	WALL	+18'-0" AFF	LED	4000K	8,700	INTEGRAL ELECTRONIC DRIVER	LITHONIA WDGE3 SERIES OR EQUIVALENT	120 V	60 W	1
SW2	WALL PACK AREA LIGHT, FORWARD THROW DISTRIBUTION	WALL	+8'-6" AFF	LED	4000K	4,300	INTEGRAL ELECTRONIC DRIVER	LITHONIA WDGE2 SERIES OR EQUIVALENT	120 V	47 W	1,2
X1	THERMOPLASTIC EXIT SIGN	WALL, PENDANT, CEILING		LED	RED	--	INTEGRAL ELECTRONIC DRIVER	LITHONIA LE OR EQUIVALENT	120 V	5 W	

LIGHTING CONTROLS NARRATIVE

GENERAL NARRATIVE
1. THE PURPOSE OF THIS NARRATIVE IS TO DESCRIBE THE INTENDED FUNCTIONALITY OF THE LIGHTING CONTROL SYSTEM. COMPLETED INSTALLATION SHALL COMPLY WITH STATE AND LOCAL ENERGY CODES AND OWNER SPECIFICATIONS.
2. COMMISSIONING AGENT SHALL ENSURE FULLY FUNCTIONAL SYSTEM TO COMPLY WITH THE WISCONSIN STATE ENERGY CODE.
3. GENERAL NOTES
   A. LIGHTING CONTROL DESIGN IS INTENDED TO FUNCTION WITH A VARIETY OF MANUFACTURERS IN CONFORMANCE WITH THIS NARRATIVE.
   B. THE LIGHTING CONTROL SYSTEM IS A DEFERRED SUBMITTAL. CONTRACTOR IS REQUIRED TO SUBMIT LIGHTING CONTROL SHOP DRAWINGS DEMONSTRATING FULL FUNCTIONALITY TO COMPLY WITH THIS NARRATIVE. SHOP DRAWINGS SHALL INDICATE DEVICE LOCATIONS AND QUANTITIES AND WIRING DIAGRAMS FOR INSTALLATION.
   C. ALL LIGHTING SWITCHING AND CONTROL DEVICES ARE TO BE CONCEALED IN ACCESSIBLE SPACE OR BACK-OF-HOUSE ROOMS.
   D. FINISHES AND COLORS OF ALL VISIBLE LIGHTING CONTROL DEVICES ARE TO BE SPECIFIED BY THE ARCHITECT.
   E. UNLESS LUMINAIRE-LEVEL LIGHTING CONTROLS (LLLC) ARE USED, PROVIDE A SEPARATE RELAY FOR EACH CONTROL ZONE INDICATED ON THE PLANS.
   F. PROVIDE DIMMING FUNCTIONALITY FOR DIMMABLE ZONES FULLY COMPATIBLE WITH THE TYPE OF DIMMING LOAD TO BE CONTROLLED.
4. AUTOMATIC SWITCHING DEVICES - RELAYS/POWER PACKS
   A. PROVIDE AUTOMATIC SWITCHING DEVICES TO CONFORM WITH THE INTENT OF THIS NARRATIVE. RELAYS AND POWER PACKS MAY NOT BE SHOWN ON PLANS.
   B. SWITCHING DEVICES MAY BE REMOTE OR CONTAINED IN A RELAY PANEL OR ENCLOSURE.
5. EMERGENCY LIGHTING
   A. FOR EMERGENCY LIGHTING FIXTURES WITH A SELF-CONTAINED BACKUP BATTERY POWER SOURCE, CONNECT THE FIXTURE TO THE SAME BRANCH CIRCUIT AS THAT SERVING THE NORMAL LIGHTING IN THE AREA AND PROVIDE AN UNSWITCHED PHASE WIRE IN ADDITION TO THE SWITCHED WIRE. THE BRANCH CIRCUIT SHALL BE CLEARLY IDENTIFIED AT THE DISTRIBUTION PANEL.
   B. FOR EXIT SIGNS, PROVIDE AN UNSWITCHED PHASE WIRE OF THE SAME BRANCH CIRCUIT AS THAT SERVING THE EMERGENCY LIGHTING IN THE AREA.
6. MANUAL SWITCHES
   A. PROVIDE SWITCHES AS NOTED ON PLANS. SWITCH FUNCTION IS GENERALLY INDICATED BY A SUBSCRIPT WHICH MATCHES ITS ASSOCIATED LUMINAIRES IN A GIVEN AREA.
   B. REFER TO AREA DESCRIPTIONS IN THIS NARRATIVE FOR DETAILS REGARDING EACH SWITCHES TYPE AND FUNCTIONALITY.
7. OCCUPANCY SENSORS
   A. ALL OCCUPANCY SENSORS SHALL BE DUAL TECHNOLOGY, REFER TO SPECIFICATIONS.
   B. IN CORRIDORS, STAIRWAYS, RESTROOMS, ENTRANCE AREAS AND LOBBIES, AND OTHER AREAS NOTED ON PLANS, OCCUPANCY SENSORS SHALL PROVIDE AUTOMATIC FULL-ON FUNCTIONALITY.
   C. PROVIDE EXTENDED RANGE OCCUPANCY SENSORS WHERE NECESSARY. COORDINATE WITH CEILING HEIGHTS.
   D. ALL OTHER OCCUPANCY SENSORS SHALL FUNCTION IN VACANCY MODE AND SHALL BE MANUAL-ON AND VACANCY OFF.
   E. OCCUPANCY SENSORS SHALL SWITCH OFF LIGHTING WITHIN 30 MINUTES OF VACANCY. TIME-OUT PERIODS FOR SPECIFIC AREAS ARE TO BE SET AS FOLLOWS:
      a. OFFICES: 20 MIN
      b. RESTROOMS: 20 MIN
      c. CORRIDORS: 10 MIN
      d. STORAGE: 5 MIN
   F. OCCUPANCY SENSORS SHALL HAVE AN ASSOCIATED MANUAL OVERRIDE SWITCH AS NOTED ON PLANS.
8. DAYLIGHT SENSORS/PHOTOCELLS
   A. SENSOR LOCATIONS ARE SHOWN ON THE PLANS. EXACT LOCATION TO BE FIELD COORDINATED BUT MUST REMAIN INSIDE THE ASSOCIATED DAYLIGHT ZONE.
   B. DAYLIGHT ZONE OUTLINES ARE SHOWN ON THE PLANS. LUMINAIRES INSIDE DAYLIGHT ZONES ARE TO BE CONTROLLED BY SWITCHING OR DIMMING ACCORDING TO THIS NARRATIVE.
   C. DAYLIGHT SENSORS SHALL BE CONFIGURED TO CONTINUOUSLY DIM THE ASSOCIATED FIXTURES IN RESPONSE TO AVAILABLE DAYLIGHT WHILE MAINTAINING UNIFORM ILLUMINATION, AND COMPLETELY SHUT OFF THE CONTROLLED FIXTURES WHEN AVAILABLE DAYLIGHT IS AT A MAXIMUM. SENSOR SHALL INCLUDE A TIME-DELAY FEATURE THAT PREVENTS CYCLING OF LIGHT LEVEL CHANGES OF LESS THAN THREE MINUTES.
   D. DAYLIGHT SENSORS SHALL HAVE MULTI-ZONING CAPABILITY TO CONTROL PRIMARY AND SECONDARY DAYLIGHT ZONES SEPARATELY PER WSEC.
9. TIME SCHEDULE CONTROLS
   A. LUMINAIRES CONTROLLED BY A TIME SCHEDULE ARE DESCRIBED IN THIS NARRATIVE.
   B. THE TIME SCHEDULE CONTROL SHALL HAVE THE FOLLOWING CAPABILITIES:
      a. MINIMUM 7 DAY CLOCK WITH OPTION OF BEING SET FOR 7 DIFFERENT DAYS PER WEEK
      b. HOLIDAY SHUTOFF FEATURE, TURN OF ALL LOADS FOR 24 HOURS THEN RESUME NORMAL OPERATION
      c. PROGRAM BACKUP CAPABILITY TO WITHSTAND AT LEAST 10 HOURS OF POWER LOSS
      d. MANUAL OVERRIDE CONTROL WHICH PERMITS LIGHTING TO REMAIN ON NOT LONGER THAN 2 HOURS

LIGHTING CONTROLS MATRIX

GENERAL LIGHTING CONTROL MATRIX NOTES
A. BOD SPACE BY SPACE PROVISIONS FOR THE LIGHTING CONTROL SYSTEM ARE DEFINED IN THE MATRIX BELOW.
B. PROVIDE CONTROL DEVICE SETTINGS PER SPACE TYPE AS REQUIRED PER THE WISCONSIN STATE ENERGY CODE.

LIGHTING CONTROL MATRIX NOTES
1. PROVIDE 2 HOUR OVERIDE FOR VACANCY LIGHTING IN GARAGE.

	MANUAL CONTROLS		AUTOMATIC ON/OFF CONTROLS						OTHER CONTROLS	
					OCC. SENSOR SETTINGS					
SPACE TYPE	LOCAL SWITCH	DIMMER OR SCENE	TIME CLOCK	OCC. SENSOR	FULL ON	PARTIAL ON	MANUAL ON	FULL OFF	PARTIAL OFF	DAYLIGHT CONTROLS	PLUG LOAD CONTROL
MEETING ROOM	X	X		X			X	X			
STAFF AREA	X	X		X			X	X			
OFFICE	X	X		X				X			
SINGLE-OCC. RESTROOMS	X			X	X			X			
STORAGE/MAINT	X			X				X			
OTHER SPACES < 300 SF	X			X	X			X			
LOBBY		BOH	SWEEP	X	X				X		
GARAGE	X		X	X	X			X	X	SEE NOTE 1	
EXTERIOR PARKING AREAS			X	INTEGRAL	X				X		

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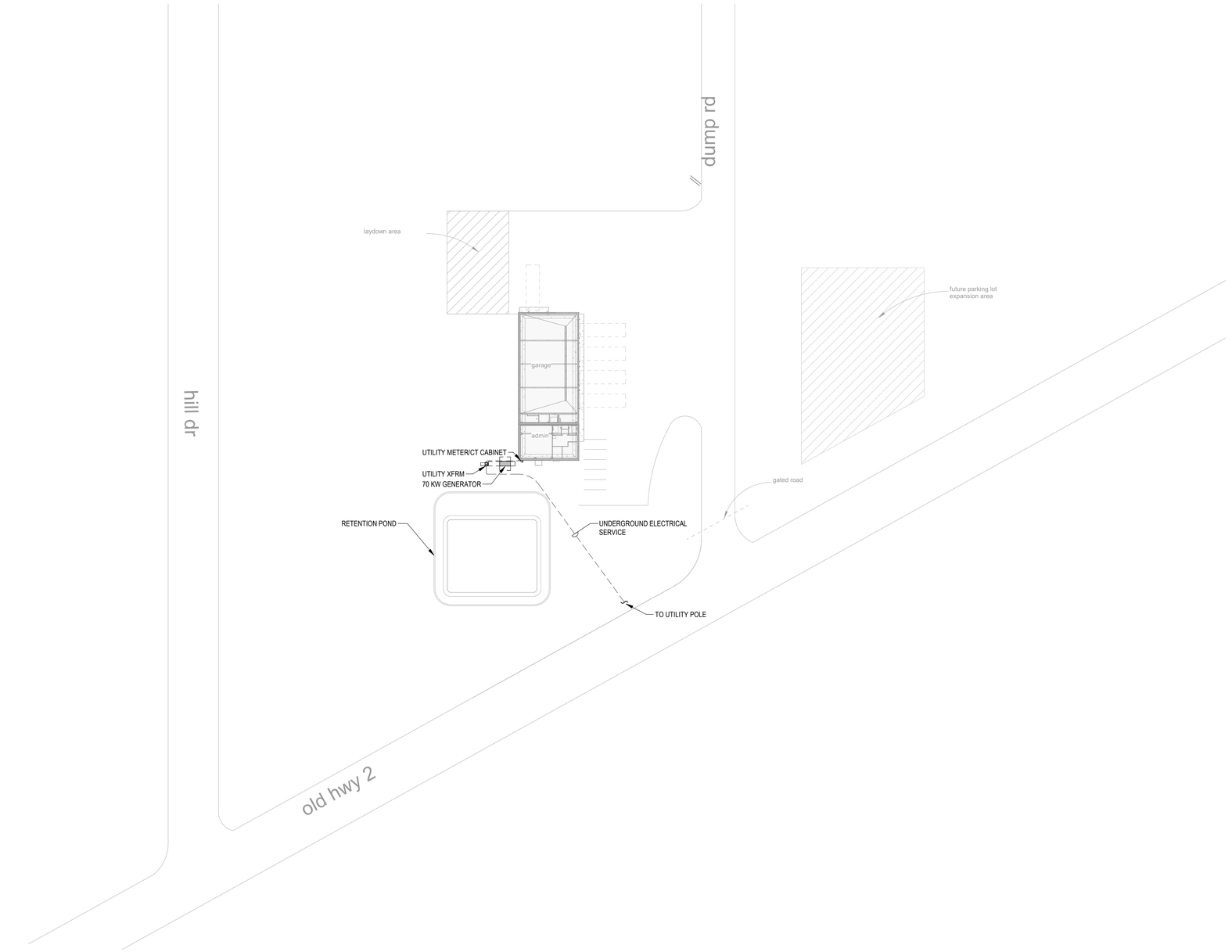
Brule Public Works Garage

project #: 25323
date: 03/10/2026
drawn by: JRB
checked by: LM

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MI
PROFESSIONAL ENGINEER
03/09/2026

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sheet title: SCHEDULES
sheet number: E0.2



1 SITE PLAN - ELECTRICAL
SCALE: 1" = 50'-0"

GENERAL SITE PLAN NOTES:

A. PRIMARY WORK SHOWN FOR REFERENCE ONLY. REFER TO ELECTRICAL UTILITY DESIGN FOR MORE DETAIL AND DIVISION OF RESPONSIBILITY.

B. COORDINATE COMMUNICATIONS INFRASTRUCTURE WITH COMMUNICATIONS PROVIDERS.

C. ROUTE LOW VOLTAGE CONDUITS ALONG WITH POWER CONDUITS WHERE POSSIBLE. ENSURE MAXIMUM POSSIBLE SEPARATION BETWEEN POWER AND LOW VOLTAGE CONDUITS (12" MINIMUM). PROVIDE HANDHOLES, PEDESTALS, CONDUITS, AND INSTALLATION ACCESSORIES OF ALL LOCAL ISP SERVICES DESIRED BY OWNER. ASSUME (4) 1" CONDUITS ROUTED TO BUILDING.

D. ALL 20A CIRCUITS ON SITE TO BE #10 CU MINIMUM UNLESS NOTED OTHERWISE.

E. ALL UNDERGROUND CONDUITS TO BE 1" MINIMUM UNLESS NOTED OTHERWISE.

ELECTRIC UTILITY COORDINATION NOTES:

A. PER SCOPE MATRIX, CONTRACTOR TO PROVIDE EXCAVATION FOR TRENCHING. REFER TO CIVIL PLANS FOR LOCATIONS.

B. ELECTRIC UTILITY POINT OF CONTACT:
TESSA NELSON
DAHLBERG LIGHT & POWER COMPANY
Tessa@dahlberglightandpower.com

	SCOPE ITEM	EC / GC	UTILITY
UTILITY PRIMARY	SERVICE EQUIPMENT AND PRIMARY TRENCHING / EXCAVATION	X	
	PRIMARY CONDUITS	X	
	PRIMARY CONDUCTORS		X
	PRIMARY VAULT(S) INSTALL		X
XFMR	SERVICE XFMR INSTALL		X
SECONDARY	SECONDARY TRENCHING / EXCAVATION	X	
	SECONDARY CONDUITS	X	
	SECONDARY CONDUCTOR	X	

COMMUNICATION UTILITY COORDINATION NOTES:

NORVADO
715-798-3303

SCOPE ITEM	EC / GC	UTILITY
PRIMARY RACEWAY		DIRECT BURIAL BY UTILITY
SECONDARY RACEWAY	FROM EXTERIOR INTO I.T. CLOSET	
CONDUCTORS		X

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drawn by: JRB
checked by: LM

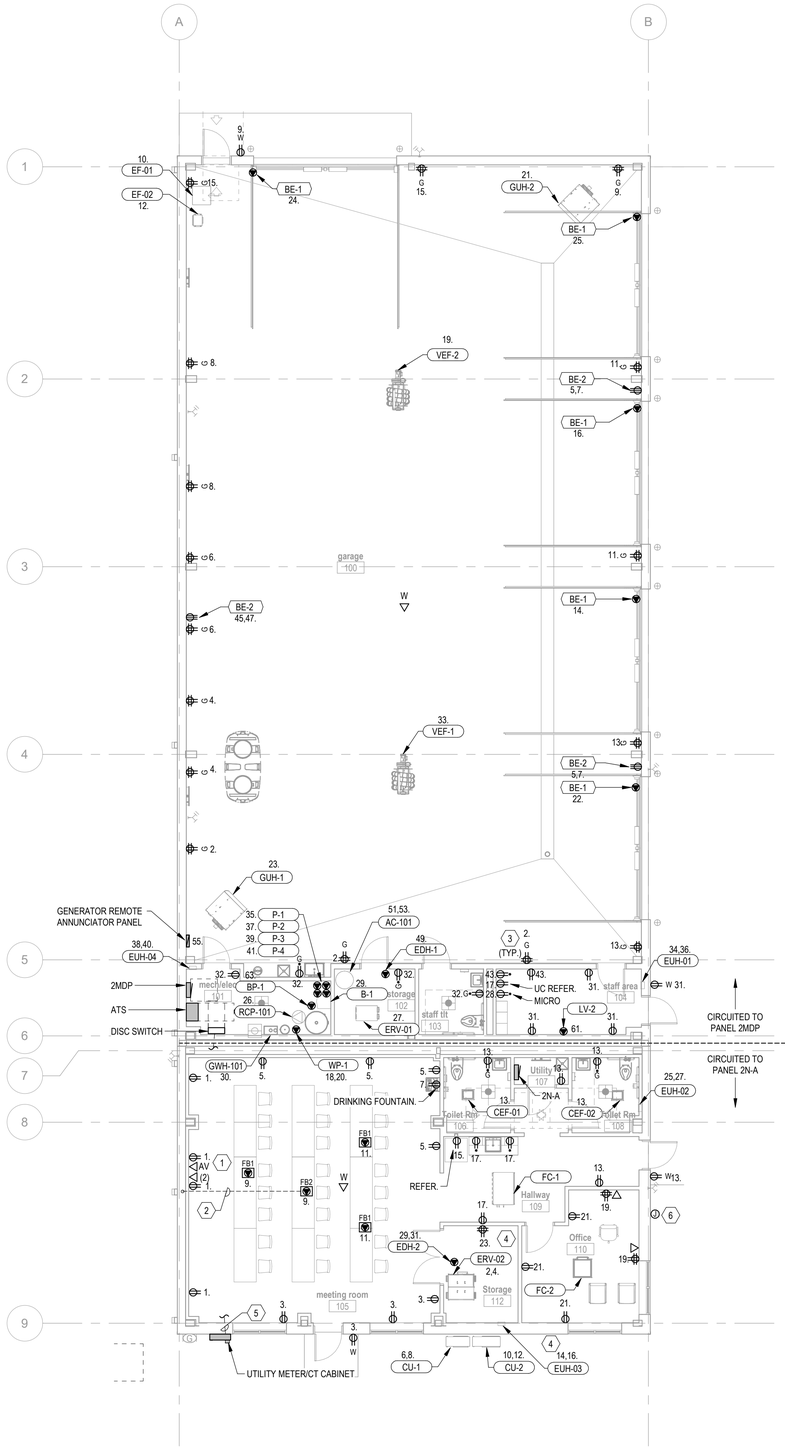
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sheet title: SITE PLAN

sheet number: E1.0



1 FLOOR PLAN - POWER
SCALE: 1/8" = 1'-0"

GENERAL POWER NOTES:

A. DRAWINGS ARE DIAGRAMMATIC TO CONVEY DESIGN INTENT AND SHALL NOT BE USED FOR EXACT DIMENSIONS, UNLESS DIMENSIONS ARE PROVIDED.

B. MECHANICAL AND PLUMBING EQUIPMENT IS PROVIDED BY OTHER DIVISIONS, AND IS SHOWN IN PLANS FOR DIVISION 26 REFERENCE. REFER TO MECHANICAL AND PLUMBING EQUIPMENT CONNECTION SCHEDULE FOR CONNECTION CHARACTERISTICS, INSTALLATION NOTES, AND DETAILS.

C. ROUTE ALL NEW WIRING CONDUITS CONCEALED INSIDE WALLS OR ABOVE CEILINGS. ALL CONDUIT ROUTING SHALL FOLLOW BUILDING LINES WHERE POSSIBLE AND BE FULLY CONCEALED, EXCLUDING THE PARKING GARAGE AND BACK-OF-HOUSE SPACES. COORDINATE ALL EXPOSED CONDUIT ROUTING WITH ARCHITECT PRIOR TO INSTALL.

D. PROVIDE 1" CONDUIT ROUTED TO ACCESSIBLE CEILING SPACE FOR ALL DATA OUTLETS SHOWN IN PLANS. MAINTAIN AT LEAST 12" SEPARATION BETWEEN POWER AND COMMUNICATIONS WIRING ROUTED PARALLEL. SMALLER SEPARATION MAY BE ALLOWED WHEN CROSSING.

E. GARAGE SPACE IS A HAZARDOUS CLASSIFIED AREA FROM FLOOR TO A MINIMUM OF 18" A.F.F.

CIRCUITING NOTES:

A. POWER - GARAGE CIRCUITS TO BE FED FROM PANEL 2MDP AND OFFICE CIRCUITS FROM PANEL 2N-A, UNLESS NOTED OTHERWISE.

B. MECHANICAL, PLUMBING, AND BUILDING EQUIPMENT - UNLESS INDICATED IN PLAN, REFER TO EQUIPMENT SCHEDULES FOR CIRCUITING AND CONNECTION DETAILS.

KEYNOTES:

1 PROVIDE POWER AND DATA TO WALL MOUNTED TELEVISION. MOUNT AT +60" AFF, COORDINATE EXACT LOCATION PRIOR TO ROUGH-IN.

2 PROVIDE (1) 3/4"C FOR POWER, (1) 1"C FOR DATA AND (1) 1-1/4"C FOR AUDIO/VISUAL PROVISIONS.

3 ALL RECEPTACLES IN GARAGE TO BE MOUNTED AT +48" AFF,UNO.

4 PROVIDE 1" CONDUIT FROM THIS LOCATION UNDERSLAB AND STUB UP AT IT CLOSET LOCATION FOR FIBER SERVICE. EXTEND 4" ABOVE GRADE OUTSIDE.

5 ROUTE SERVICE UNDERSLAB TO DISCONNECT SWITCH IN MECH/ELEC ROOM.

6 PROVIDE 240V, 30A BRANCH CIRCUIT TO JUNCTION BOX WITH BLANK COVER FOR FUTURE DISPLAY BOARD. MOUNT JUNCTION BOX AT 11'-0" AFF. COORDINATE EXACT LOCATION WITH ARCHITECT/OWNER PRIOR TO ROUGH-IN.

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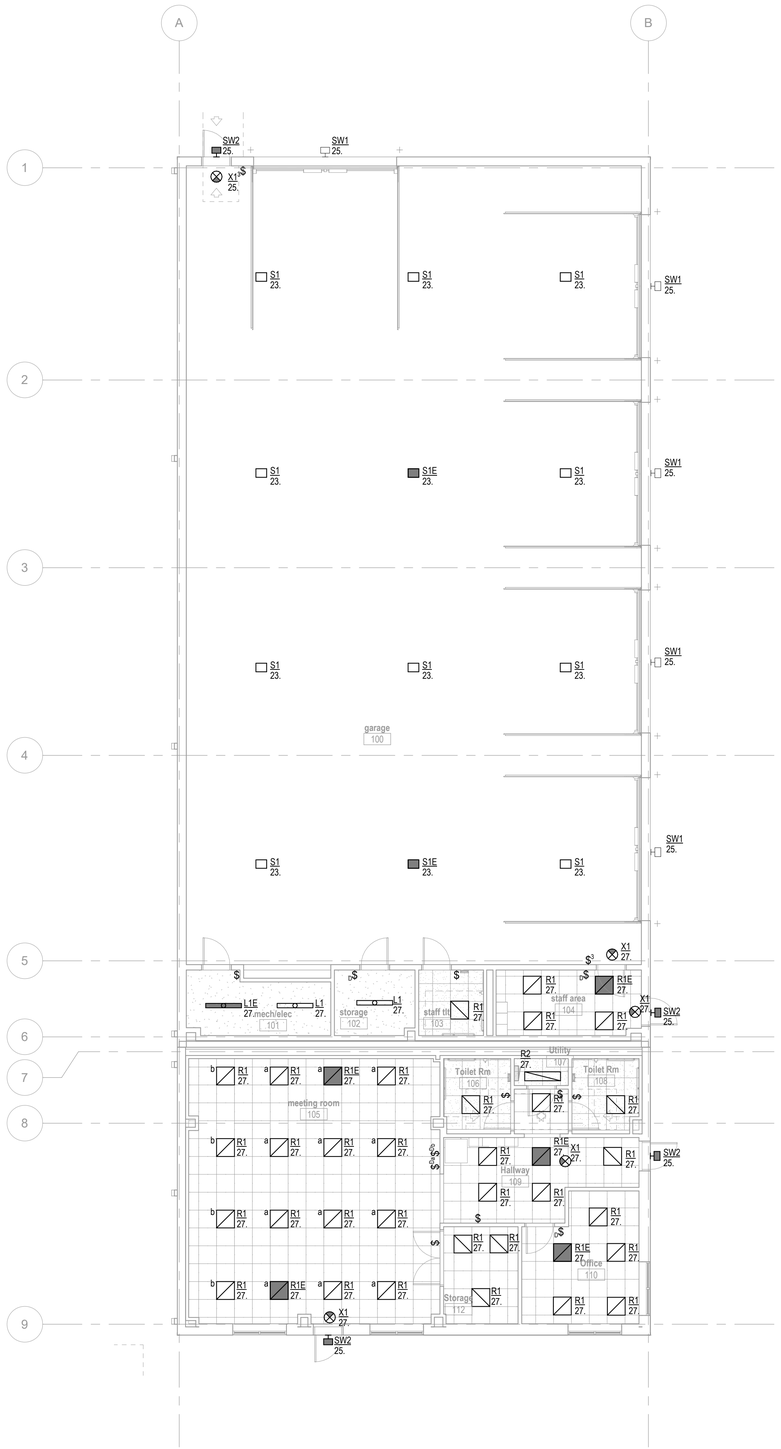
Brule Public Works Garage

project #: 25323
date: 03/10/2026
drawn by: JRB
checked by: LM

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sheet title: FLOOR PLAN
sheet number: E2.1



1 LEVEL 1 PLAN - LIGHTING
SCALE: 1/8" = 1'-0"

GENERAL LIGHTING NOTES:

A. DRAWINGS ARE DIAGRAMMATIC TO CONVEY DESIGN INTENT AND SHALL NOT BE USED FOR EXACT DIMENSIONS, UNLESS DIMENSIONS ARE PROVIDED.

B. REFER TO INTERIORS AND ARCHITECTURAL DESIGN PLANS FOR EXACT DIMENSIONS AND INSTALLATION DETAILS OF ALL LUMINAIRES AND DEVICES IN FRONT-OF-HOUSE SPACES.

C. REFER TO LIGHTING CONTROL SEQUENCE OF OPERATIONS MATRIX AND LIGHTING CONTROLS NARRATIVE FOR SPACE-BY-SPACE CONTROL REQUIREMENTS.

CIRCUITING NOTES:

SHADED REGIONS WITHIN LUMINAIRES INDICATE EMERGENCY POWER.

A. NORMAL POWER - PROVIDE BRANCH CIRCUITS SHOWN IN PLAN FROM PANEL 2N-A, UNLESS NOTED OTHERWISE.

B. EXIT SIGNAGE - PROVIDE UNSWITCHED POWER FROM NEAREST NORMAL POWER GENERAL RECEPTACLE BRANCH CIRCUIT.

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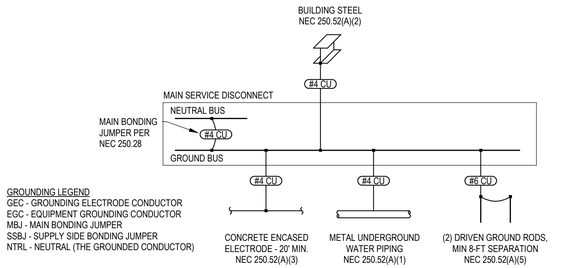
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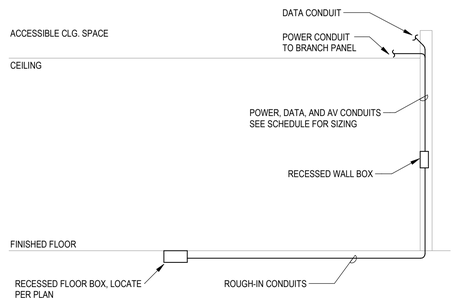
revision / issue	no.	date

sheet title: LIGHTING RCP

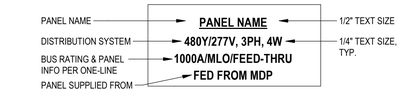
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1 BUILDING GROUNDING DIAGRAM (SMALL)
NOT TO SCALE



3 CONFERENCE ROOM ROUGH IN DETAIL - TV
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4 EQUIPMENT IDENTIFICATION NAMEPLATE DETAIL
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sheet title: DETAILS
sheet number: E5.1

EQUIPMENT NAME: **2MDP** **VOLTAGE:** 240/120V, 1PH, 3W **AIC RATING:** SEE ONE-LINE **NEMA RATING:** NEMA-1 **LOCATION:** mech/elec 101
BUS RATING: 400 A **INTEGRAL SPD:** NO/EXTERNAL **MOUNTING:** SURFACE **SUPPLY FROM:**
MAINS: 400 A MCB **FEED-THRU LUGS:** NO

CKT	TRIP	POLE	DESCRIPTION	TYPE	A		B		TYPE	DESCRIPTION	POLE	TRIP	CKT
1	200 A	2	PANEL 2N-A	R; G;...	10142	1080			R	R: GARAGE WEST/SOUTH	1	15 A	2
3							9522	720	R	R: GARAGE WEST	1	15 A	4
5	50 A	2	EQ: EAST WELDING RECPS - (BE-2)	G	8938	720			R	R: GARAGE WEST	1	15 A	6
7							8938	720	R	R: GARAGE WEST	1	15 A	8
9	15 A	1	R: GARAGE NORTH	R	540	1176			H	EQ: EF-01	1	20 A	10
11	20 A	1	R: GARAGE EAST	R			720	336	H	EQ: EF-02	1	15 A	12
13	20 A	1	R: GARAGE EAST	R	720	1200			M	M: OH DOOR 2 - (BE-1)	1	20 A	14
15	15 A	1	R: GARAGE WEST	R			720	1200	M	M: OH DOOR 3 - (BE-1)	1	20 A	16
17	20 A	1	R: UC REFRIGERATOR - STAFF AREA	R	1440	2400			H	EQ: WP-1	2	20 A	18
19	20 A	1	EQ: VEF-1 (NORTH)	H			1536	2400					20
21	15 A	1	EQ: GUH-2	H	552	1200			M	M: OH DOOR 1 - (BE-1)	1	20 A	22
23	15 A	1	EQ: GUH-1	H			552	1200	M	M: OH DOOR 5 - (BE-1)	1	20 A	24
25	20 A	1	M: OH DOOR 4 - (BE-1)	M	1200	120			H	EQ: RCP-101	1	20 A	26
27	15 A	1	EQ: ERV-01	H			204	1440	R	R: MICROWAVE - STAFF AREA	1	20 A	28
29	20 A	1	EQ: B-1	H	1440	600			H	EQ: GWH-02	1	15 A	30
31	15 A	1	R: STAFF AREA	R			720	720	R	R: STORAGE, MECH/ELEC, GARAGE WEST	1	15 A	32
33	20 A	1	EQ: VEF-1 (SOUTH)	H	1536	500			E	EQ: EUH-01	2	20 A	34
35	15 A	1	EQ: P-1	H			156	500					36
37	15 A	1	EQ: P-2	H	156	500			H	EQ: EUH-02	2	20 A	38
39	15 A	1	EQ: P-3	H			156	500					40
41	15 A	1	EQ: P-4	H	156								42
43	15 A	1	R: STAFF AREA	R			360						44
45	50 A	2	EQ: WEST WELDING RECP - (BE-2)	G	0								46
47							0						48
49	20 A	1	EQ: EDH-1	E	500								50
51	20 A	2	EQ: AC-101	H			2880						52
53					2880								54
55	20 A	1	GENERATOR REMOTE ANNUNCIATOR PANEL	G			1000						56
57	30 A	2	GEN. BLOCK HEATER, BATT CHARGER	G	1000								58
59							1000						60
61	20 A	1	EQ: LV-2	E	240								62
63	20 A	1	EQ: BP-1	H			156						64
65													66
67													68
69						--			--	SPD	2	--	70
71								--					72
					40937 VA		38356 VA						
					341 A		320 A						

BREAKER KEY	LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND	PANEL TOTALS
(A) = AFCI	EV = EV CHARGING LOAD	0 VA	0.00%	0 VA	
(A/G) = AFCI/GFCI	FEV = FUTURE EV CHARGING LOAD	0 VA	0.00%	0 VA	
(G) = GFCI	C = CONTINUOUS GENERAL LOAD	0 VA	0.00%	0 VA	
(L) = LOCKABLE	D = DWELLING UNIT	0 VA	0.00%	0 VA	
(N) = SWITCHED NEUTRAL	E = ELECTRIC HEAT	7242 VA	100.00%	7242 VA	
(S) = SHUNT TRIP	G = GENERAL NON-CONTINUOUS LOAD	22074 VA	100.00%	22074 VA	
(GFP) = GROUND FAULT PROTECTED	H = HVAC EQUIPMENT	26177 VA	100.00%	26177 VA	
	HM = HOTEL/MOTEL	0 VA	0.00%	0 VA	
	K = KITCHEN EQUIPMENT	0 VA	0.00%	0 VA	
	L = LIGHTING	0 VA	0.00%	0 VA	TOTAL CONNECTED LOAD: 79293 VA
	LM = LARGEST MOTOR	0 VA	0.00%	0 VA	TOTAL DEMAND LOAD: 75393 VA
	M = MOTOR	6000 VA	100.00%	6000 VA	TOTAL DEMAND AMPS: 314 A
	R = RECEPTACLE	17800 VA	78.09%	13900 VA	

EQUIPMENT NAME: **2N-A** **VOLTAGE:** 240/120V, 1PH, 3W **AIC RATING:** SEE ONE-LINE **NEMA RATING:** NEMA-1 **LOCATION:** Utility 107
BUS RATING: 200 A **INTEGRAL SPD:** NO **MOUNTING:** SURFACE **SUPPLY FROM:** 2MDP
MAINS: MLO **FEED-THRU LUGS:** NO

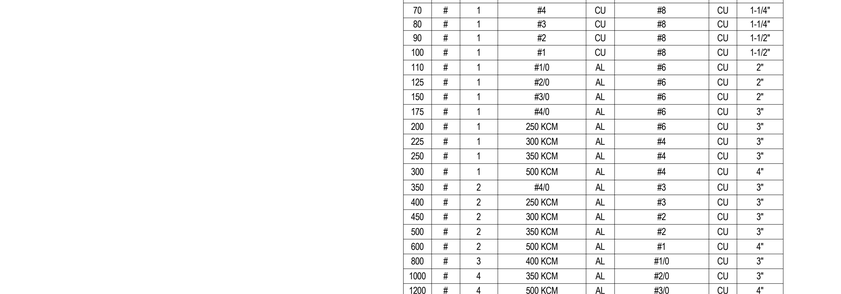
CKT	TRIP	POLE	DESCRIPTION	TYPE	A		B		TYPE	DESCRIPTION	POLE	TRIP	CKT
1	15 A	1	R: MEETING ROOM	R	720	276			H	EQ: ERV-02	2	20 A	2
3	15 A	1	R: MEETING ROOM	R			720	276					4
5	15 A	1	R: MEETING ROOM	R	720	1632			H	EQ: CU-1	2	20 A	6
7	20 A	1	R: DRINKIN FOUNTAIN (G)	R			160	1632					8
9	15 A	1	R: MEETING ROOM FLOOR BOX	R	360	864			H	EQ: CU-2	2	20 A	10
11	15 A	1	R: MEETING ROOM FLOOR BOX	R			360	864					12
13	20 A	1	R: TOILET, 126 TOILET, 153 VEST.	R; H	1140	500			E	EQ: EUH-01	2	20 A	14
15	20 A	1	R REFRIGERATOR - LOBBY	R			1440	500					16
17	15 A	1	R: LOBBY	R	540								18
19	15 A	1	R: SECURE STORAGE, 123 OFFICE	R			720						20
21	15 A	1	R: OFFICE/STORAGE	R	540								22
23	20 A	1	R: IT RACK	R			0						24
25	20 A	2	EQ: EUH-02	E	250								26
27							250						28
29	30 A	2	EQ: EDH-2	E	2000								30
31							2000						32
33	30 A	2	G: BUILDING DISPLAY BOARD	G	600								34
35							600						36
37													38
39													40
41													42
					10142 VA		9522 VA						
					85 A		79 A						

BREAKER KEY	LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND	PANEL TOTALS
(A) = AFCI	EV = EV CHARGING LOAD	0 VA	0.00%	0 VA	
(A/G) = AFCI/GFCI	FEV = FUTURE EV CHARGING LOAD	0 VA	0.00%	0 VA	
(G) = GFCI	C = CONTINUOUS GENERAL LOAD	0 VA	0.00%	0 VA	
(L) = LOCKABLE	D = DWELLING UNIT	0 VA	0.00%	0 VA	
(N) = SWITCHED NEUTRAL	E = ELECTRIC HEAT	5501 VA	100.00%	5501 VA	
(S) = SHUNT TRIP	G = GENERAL NON-CONTINUOUS LOAD	1200 VA	100.00%	1200 VA	
(GFP) = GROUND FAULT PROTECTED	H = HVAC EQUIPMENT	5784 VA	100.00%	5784 VA	
	HM = HOTEL/MOTEL	0 VA	0.00%	0 VA	
	K = KITCHEN EQUIPMENT	0 VA	0.00%	0 VA	
	L = LIGHTING	0 VA	0.00%	0 VA	TOTAL CONNECTED LOAD: 19664 VA
	LM = LARGEST MOTOR	0 VA	0.00%	0 VA	TOTAL DEMAND LOAD: 19664 VA
	M = MOTOR	0 VA	0.00%	0 VA	TOTAL DEMAND AMPS: 82 A
	R = RECEPTACLE	7180 VA	100.00%	7180 VA	

FEEDER SCHEDULE (CU & AL)

FEEDER TAG		# OF SETS	PHASE AND NEUTRAL CONDUCTORS		GROUND		RACEWAY
AMPS	WIRE SYS		CONDUCTORS	MAT.	CONDUCTOR	MAT.	
20	#	1	#12	CU	#12	CU	3/4"
30	#	1	#10	CU	#10	CU	3/4"
40	#	1	#8	CU	#10	CU	3/4"
50	#	1	#6	CU	#10	CU	1"
60	#	1	#4	CU	#10	CU	1-1/4"
70	#	1	#4	CU	#8	CU	1-1/4"
80	#	1	#3	CU	#8	CU	1-1/4"
90	#	1	#2	CU	#8	CU	1-1/2"
100	#	1	#1	CU	#8	CU	1-1/2"
110	#	1	#1/0	AL	#6	CU	2"
125	#	1	#2/0	AL	#6	CU	2"
150	#	1	#3/0	AL	#6	CU	2"
175	#	1	#4/0	AL	#6	CU	3"
200	#	1	250 KCM	AL	#6	CU	3"
225	#	1	300 KCM	AL	#4	CU	3"
250	#	1	350 KCM	AL	#4	CU	3"
300	#	1	500 KCM	AL	#4	CU	4"
350	#	2	#4/0	AL	#3	CU	3"
400	#	2	250 KCM	AL	#3	CU	3"
450	#	2	300 KCM	AL	#2	CU	3"
500	#	2	350 KCM	AL	#2	CU	3"
600	#	2	500 KCM	AL	#1	CU	4"
800	#	3	400 KCM	AL	#1/0	CU	3"
1000	#	4	350 KCM	AL	#2/0	CU	3"
1200	#	4	500 KCM	AL	#3/0	CU	4"
1600	#	6	400 KCM	AL	#4/0	CU	4"
2000	#	8	350 KCM	AL	250 KCM	CU	4"
2500	#	10	350 KCM	AL	350 KCM	CU	4"
3000	#	10	500 KCM	AL	400 KCM	CU	4"
4000	#	12	600 KCM	AL	500 KCM	CU	4"

FEEDER SCHEDULE NOTES: EXAMPLE TAG: 1200# = 1200A, 3PH-4W SYSTEM
A. PROVIDE GROUND CONDUCTOR WITH ALL FEEDERS EXCEPT SERVICE ENTRANCE FEEDERS.
B. WIRE SYS INDICATES THE FEEDER WIRING SYSTEM: 2=2 WIRE, 3=3 WIRE, 4=4 WIRE.
C. FEEDER TAGS ENDING WITH X REFER TO TRANSFORMER SCHEDULE FOR GEC AND BONDING.
D. ALL RACEWAYS ARE SIZED FOR SYSTEMS FOR FUTURE CAPACITY.



1 ONE-LINE DIAGRAM - ELECTRICAL
SCALE: NOT TO SCALE

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sheet number: E6.1