

Monday, October 23, 2023**6:00 PM****McFarland Municipal Center**
*Community Room***AGENDA**

You are invited to this meeting through a Zoom webinar. The public may attend in-person or remotely through the webinar or telephone options listed below.

PLEASE CLICK THE LINK BELOW TO JOIN THE ZOOM WEBINAR:

<https://us02web.zoom.us/j/87321231583>

Or by Telephone: +1 (312) 626-6799

Webinar ID: 873 2123 1583

Press *9 to raise/lower hand. Press *6 to mute/unmute.

1. CALL TO ORDER, ROLL CALL.

2. PUBLIC APPEARANCES.

- a. This is an opportunity for members of the public to address the Public Works and Utilities Committee for items that are not on the agenda. Please remember this is a hybrid meeting conducted in person and through the Zoom online meeting platform. Meeting attendees wishing to address the Committee about items not on the agenda may do so at this time. Zoom attendees should type their name and address in the Question and Answer feature within the Zoom online meeting platform at this time. Members of the public who are present in person and wish to address the Committee should fill out a public comment form and turn into the meeting chairperson. When you are called upon to speak, state your name, address, and provide your comments to the Committee for their consideration. Please adhere to the 3-minute time limit. Additionally, you may send your public comments to public.works@mcfarland.wi.us to be included as part of the meeting.

Members of the public may also speak during their selected agenda item as they designate on the public comment form or in the Question and Answer feature on Zoom.

3. APPROVAL OF MINUTES.

- a. Discussion and action on rescinding the meeting minutes of the August 28th Public Works and Utilities Committee meeting.
- b. Discussion and action on the meeting minutes of the August 28th Public Works & Utilities Committee meeting.
- c. Motion to approve the minutes of the September 27, 2023 Public Works & Utility Committee meeting.

4. BUSINESS.

- a. Discussion and action to make a recommendation to the Village Board regarding the final design for Lift Station 2 and authorize the project for bid.
- b. Discussion and action to make a recommendation to the Village Board regarding the purchase of a generator for Lift Station 2.

- c. Presentation, discussion and action to make a recommendation of approval to the Village Board regarding the final plans of the 2024 Exchange Street project and authorize the project for bid.
- d. Discussion and action to make a recommendation to the Village Board regarding the draft 2024 Budget for the Utilities Fund (600).
- e. Discussion and action to make a recommendation to the Village Board regarding the draft 2024 Budget for the Stormwater Utility Fund (605).

5. SCHEDULE NEXT MEETING DATE.

- a. Monday, November 27, 2023 at 6:00 p.m.

6. ADJOURNMENT.

Any person who has a qualifying disability as defined by the Americans with Disabilities Act that requires the meeting or materials at the meeting to be in an accessible location or format should contact the McFarland Municipal Center at (608)838-3153, 5915 Milwaukee Street, McFarland, Wisconsin, or village.clerk@mcfarland.wi.us by 2:00 p.m. at least 5 business days prior to the meeting so that any necessary arrangements can be made to accommodate each request. If the meeting or request is less than 5 business days from the meeting, requests for accommodations may still be made and reasonable efforts will be made to accommodate each request.

VILLAGE OF MCFARLAND
Public Works & Utilities Committee Minutes

Monday, August 28, 2023 - 6:00 PM

1. CALL TO ORDER, ROLL CALL.

Trustee Wreh called the regular meeting of the Public Works & Utilities Committee to order at 6:00 PM in the Community Room of the Municipal Center. This meeting was also held via Zoom webinar.

Members present: Edward Wreh, Hilary Brandt, Marc Nielsen, Chris Fredrick, Eric Kindschi, Matthew Coan

Members not present: Pauline Boness

Staff Present: Public Works Director Lee Igl, Assistant to the Public Works Director Aimee Irwin, Town & Country staff Brian Berquist, and Baker Tilly staff Jodi Dobson.

2. PUBLIC APPEARANCES.

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Members of the public may also speak during their selected agenda item as they designate on the public comment form or in the Question and Answer feature on Zoom.
None.

3. APPROVAL OF MINUTES.

- a. *Motion to approve the minutes of the July 24, 2023 Public Works & Utilities Committee meeting.*
Motion by Trustee Wreh, seconded by Kindschi, to approve the minutes of the July 24, 2023 Public Works & Utilities Committee meeting. Motion carries 4 - 0 - 2, with Brandt and Nielsen abstaining.

4. BUSINESS.

- a. *Discussion regarding the conventional rate case for test year 2024.*
Jodi Dobson of Baker Tilly reviewed the enclosed Water Rate Application Summary document. The document provided a comparison between the previously filed rate case in 2021 to the current rate case for test year 2024. Based on calculations, Dobson estimated that an increase of \$11.00 per bi-monthly bill is required for the average

customer. Dobson stated her team needs direction on the methodology for collecting the Public Fire Protection, as well as if it's the desire to change from a declining rate block to either a flat rate or an inclining rate block.

- Nielsen asked if the federal funding associated with the Exchange Street project was included in the rate case calculations. Fredrick explained that there are portions of the Exchange Street project that are funded by the village, such as water and sewer work which would be included in the calculations.
- Fredrick and Trustee Wreh asked for additional data regarding the utility customer base in order to make a decision regarding the rate structure.
- Fredrick expressed his concern related to the amount of debt service compared to the revenue brought in each year for future project years.

Nielsen presented his recommendations regarding the water rate case as stated in his email sent on August 25, 2023. His comments and recommendations include: concern about the economic inequity of including the cost of paving, curb and gutters in the utility plant rate base when streets are reconstructed and the annual payment made by the water utility to the village general fund exacerbates this economic inequity. Nielsen recommends that the auditor recalculate the water revenue requirement with the street, curb and gutter plant depreciated values removed and recalculate after removing the annual transfer of funds from the utility to the general fund.

Igl provided comments regarding non-profit entities that would not pay, explained the adjustments previously made regarding the allocation percentage, and the changes recommended by Nielsen would impact the tax levy.

Dobson explained that there is a value in the books for such items as water mains, which may include the allocated funds. As this value is set for the historical data, it is not able to be removed.

Trustee Wreh recommended that data be brought back to the committee regarding what other municipalities do for their allocation process.

5. SCHEDULE NEXT MEETING DATE.

a. Wednesday, September 27, 2023 at 6:00 p.m.

6. ADJOURNMENT.

Motion by Trustee Brandt, seconded by Fredrick, to adjourn at 6:50 p.m.

Pursuant to law, written notice of this meeting was given to the public and posted on the public bulletin board in accordance with Open Meetings Law.

Respectfully submitted,
Aimee Irwin
Assistant to the Public Works Director

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Members present: Edward Wreh, Hilary Brandt, Marc Nielsen, Chris Fredrick, Eric Kindschi, Matthew Coan

Members not present: Pauline Boness

Staff Present: Public Works Director Lee Igl, Assistant to the Public Works Director Aimee Irwin, Town & Country staff Brian Berquist, and Baker Tilly staff Jodi Dobson.

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None.

3. APPROVAL OF MINUTES.

- a. *Motion to approve the minutes of the July 24, 2023 Public Works & Utilities Committee meeting.*

Motion by Trustee Wreh, seconded by Kindschi, to approve the minutes of the July 24, 2023 Public Works & Utilities Committee meeting. Motion carries 4 - 0 - 2, with Brandt and Nielsen abstaining.

4. BUSINESS.

- a. *Discussion regarding the conventional rate case for test year 2024.*

Jodi Dobson of Baker Tilly reviewed the enclosed Water Rate Application Summary document. The document provided a comparison between the previously filed rate case in 2021 to the current rate case for test year 2024. Based on calculations, Dobson estimated that an increase of \$11.00 per bi-monthly bill is required for the average

customer. Dobson stated her team needs direction on the methodology for collecting the Public Fire Protection, as well as if it's the desire to change from a declining rate block to either a flat rate or an inclining rate block.

- Nielsen asked if the federal funding associated with the Exchange Street project was included in the rate case calculations. Fredrick explained that there are portions of the Exchange Street project that are funded by the village, such as water and sewer work which would be included in the calculations.
- Fredrick and Trustee Wreh asked for additional data regarding the utility customer base in order to make a decision regarding the rate structure.
- Fredrick expressed his concern related to the amount of debt service compared to the revenue brought in each year for future project years.

Nielsen presented his recommendations regarding the water rate case as stated in his email sent on August 25, 2023. His comments and recommendations include: concern about the economic inequity of including the cost of paving, curb and gutters in the utility plant rate base when streets are reconstructed and the annual payment made by the water utility to the village general fund exacerbates this economic inequity. Nielsen recommends that the auditor recalculate the water revenue requirement with the street, curb and gutter plant depreciated values removed and recalculate after removing the annual transfer of funds from the utility to the general fund.

Igl provided comments regarding non-profit entities that would not pay, explained the adjustments previously made regarding the allocation percentage, and the changes recommended by Nielsen would impact the tax levy.

Dobson explained that there is a value in the books for such items as ~~paving, curb and gutters~~ water mains, services and hydrants, which may include allocated ~~administrative and general funds~~ overhead costs such as paving. As this value is set for the historical data, it is not able to be ~~removed~~ zeroed out.

Trustee Wreh recommended that data be brought back to the committee regarding what other municipalities do for their allocation process.

5. SCHEDULE NEXT MEETING DATE.

a. Wednesday, September 27, 2023 at 6:00 p.m.

6. ADJOURNMENT.

Motion by Trustee Brandt, seconded by Fredrick, to adjourn at 6:50 p.m.

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Respectfully submitted,
Aimee Irwin
Assistant to the Public Works Director

VILLAGE OF MCFARLAND

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Members present: Edward Wreh, Marc Nielsen, Chris Fredrick, Eric Kindschi

Members not present: Hilary Brandt, Pauline Boness, Matthew Coan

Staff Present: Village Administrator Matt Schuenke, Public Works Director Lee Igl, Assistant to the Public Works Director Aimee Irwin, and Baker Tilly staff Jodi Dobson.

2. PUBLIC APPEARANCES.

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Members of the public may also speak during their selected agenda item as they designate on the public comment form or in the Question and Answer feature on Zoom.
None.

3. APPROVAL OF MINUTES.

- a. *Motion to approve the minutes of the August 28, 2023 Public Works & Utilities Committee meeting.*

Motion by Trustee Wreh, seconded by Fredrick, to approve the minutes of the August 28, 2023 Public Works & Utilities Committee meeting with amendments presented by Nielsen. Motion carries 4 - 0 - 0.

4. BUSINESS.

- a. *Discussion and action to make a recommendation to the Village Board regarding the conventional rate case for test year 2024, for submission to the Public Service Commission.*

Dobson presented the conventional rate case for test year 2024, noting one change from last month's committee meeting. The change adjusts the rate block from a declining rate block to a flat rate block otherwise known as uniform rate by the Public Service

Commission (PSC).

- Trustee Wreh asked what the difference is between declining and flat rate blocks. Dobson stated that declining rate blocks have the rate decrease as more water is used versus flat, which would have the rate remain the same regardless of usage.
- Fredrick asked if the documents enclosed included a flat rate that was being requested. Dobson responded that this item is noted within the Revenue Requirement document enclosed.
- Trustee Wreh asked what the PSC could change after the rate case is filed. Dobson responded that changes are not usually huge but they may ask for additional details or clarifications.
- Nielsen commented that public intervention could delay or impact the rates. Dobson explained that public comment can be provided in a variety of ways, which could impact the process depending on the comments.
- Fredrick asked if the next business item was contingent upon the rate case. Schuenke stated that public fire protection is separate from the rate case.

Motion by Trustee Wreh, seconded by Kindschi, to recommend approval to the Village Board regarding the conventional rate case for test year 2024 as presented and for submission to the Public Service Commission. Motion carries 3 - 0 - 1 with Nielsen abstaining.

b. Discussion and action to make a recommendation to the Village Board regarding Resolution 2023-16: A resolution approving the change of Public Fire Protection to a direct charge to utility customers.

Schuenke explained the proposed resolution would shift public fire protection from the tax levy to a direct charge to utility customers. Dobson explained the most common method for applying this charge is based on an equivalent meter method.

- Fredrick asked if this would be a new user charge. Dobson explained this would be a separate line item on the utility customer bill.
- Trustee Wreh asked if having this as a direct charge is more predictable. Dobson explained that an increase could be problematic for the tax levy given the constraints of the levy.
- Fredrick asked if this direct charge would be charged to non-water utility customers. Dobson stated this could be charged to non-water utility customers and data would need to be provided to the PSC.

Motion by Fredrick, seconded by Trustee Wreh, to recommend approval to the Village Board regarding Resolution 2023-16: A resolution approving the change of Public Fire Protection to a direct charge to all village residents including non-water utility customers. Motion carries 3 - 1 - 0.

5. SCHEDULE NEXT MEETING DATE.

a. Monday, October 23, 2023 at 6:00 p.m.

6. ADJOURNMENT.

Motion by Fredrick, the Committee adjourned by unanimous consent at 6:49 p.m.

Pursuant to law, written notice of this meeting was given to the public and posted on the public bulletin board in accordance with Open Meetings Law.

Respectfully submitted,
Aimee Irwin
Assistant to the Public Works Director

McFarland
SUMMARY SHEET

MEETING DATE: Monday, October 23, 2023

SECTION: Business

DEPARTMENT: Public Works

CONTACT: Lee Igl, Public Works Director

AGENDA ITEM: Discussion and action to make a recommendation to the Village Board regarding the final design for Lift Station 2 and authorize the project for bid.

PREVIOUS ACTION:

The Public Works & Utilities committee recommended approval to the Village Board regarding a proposal from Town & Country Engineering to complete final engineering design and bidding for Lift Station #2 at their May 22, 2023 meeting.

ISSUE SUMMARY:

Town and Country Engineering will be providing an update on the Lift Station 2 design and will be requesting approval to put the project out for bid.

Lift Station #2, located along Pheasant Run, is in the process of planning for an upgrade. This station was constructed back in the late 1970's and is an underground steel-canned unit that houses the pumps and motors along with controls. This station handles over 50% of the village's daily volume of sewage pumped into Madison Metropolitan Sewerage District's conveyance pipes. Lift station #2 is responsible for handling the ongoing growth on the eastside of the village.

Village staff met with engineering personnel from Town & Country Engineers to discuss the needs of a station to handle today's flows while looking into future projections related to village growth on the east side. As part of the concept of a building layout, confined space entry elimination was included. This elimination helps to promote worker safety. Another aspect of the design is the inclusion of a permanent indoor backup electrical generator with an instantaneous start. All new controls along with pumping apparatuses are being planned to be incorporated too.

The current wetwell, where the sewage is stored until pumping time, will be turned into a manhole structure. A new wetwell will be constructed to accommodate the new submissible pumping system along with capacity for future growth.

Plans are enclosed within the packet.

FINANCIAL/BUDGET IMPACT:

The Lift Station 2 project was approved in the 2023 Budget and CIP. It has been carried forward as proposed within the 2024 Budget as well. We are borrowing for the project through



the State of Wisconsin DNR Clean Water Fund Program.

VILLAGE PLAN REFERENCE:

None.

ORDINANCE REFERENCE:

None.

BOARD, COMMISSION OR COMMITTEE RECOMMENDATION:

Recommended motion:

Motion and second to recommend approval to the Village Board for the Lift Station 2 project plans as presented and authorize the project for bid.

ATTACHMENTS:

1. LS2 Current Compilation 10.18.23

2023 LIFT STATION 2 IMPROVEMENTS

Marsh Woods Drive

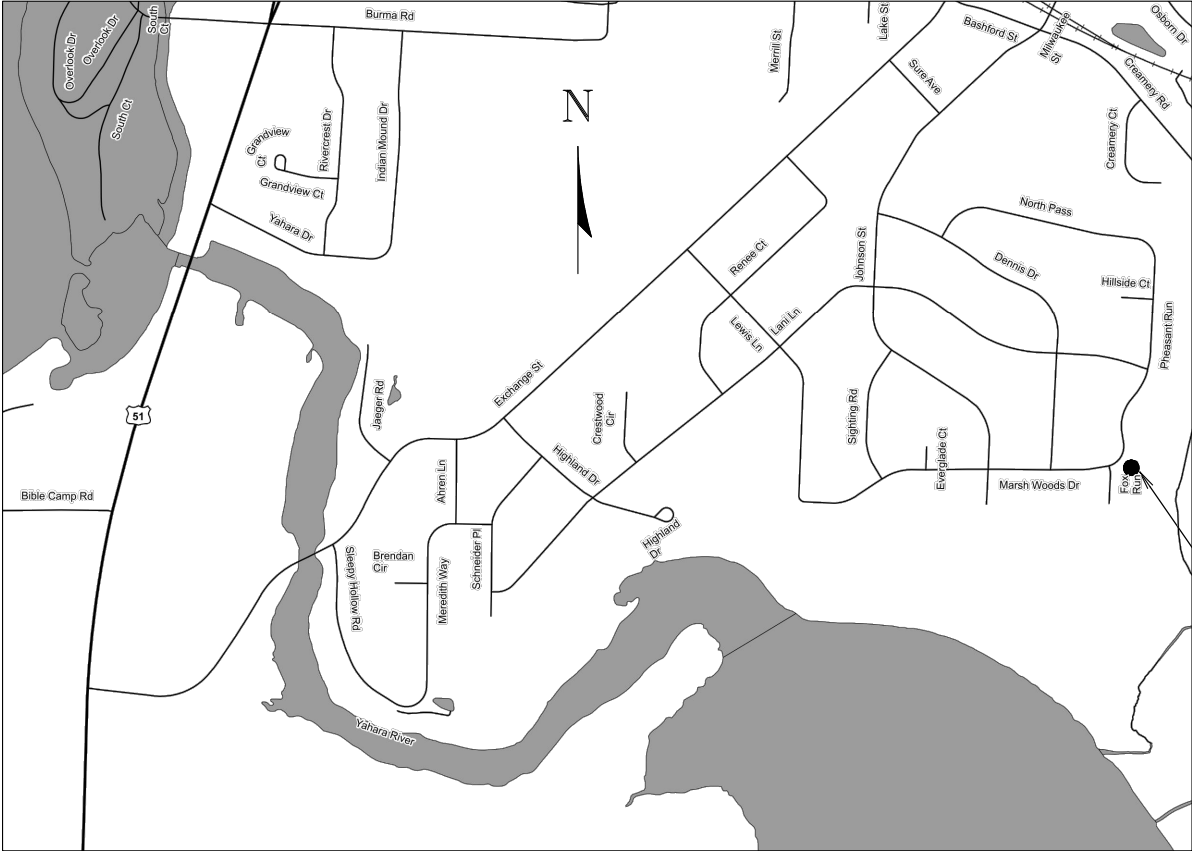
Village of McFarland, Wisconsin

MEMBER

TO OBTAIN LOCATION OF PARTICIPANTS' UNDERGROUND FACILITIES BEFORE YOU DIG IN WISCONSIN

CALL DIGGERS HOTLINE
1-800-242-8511
TOLL FREE

WIS. STATUTE 182.0175 (1974)
REQUIRES MIN. OF 3 WORK DAYS
NOTICE BEFORE YOU EXCAVATE.



NO SCALE



VILLAGE OF MCFARLAND
DANE COUNTY, WISCONSIN

PROJECT SITE
MARSH WOODS DRIVE
MCFARLAND, WI 53558

ELECTRICAL ENGINEER	DRAWN BY: MC 198 CHECKED BY: T.J.S. DATE: 9-6-23	PLUMBING ENGINEER	HVAC ENGINEER	STRUCTURAL ENGINEER	ARCHITECT	CIVIL/PROCESS ENGINEER	CIVIL/PROCESS ENGINEER	BY	DATE	REVISIONS	SHEET	2023 LIFT STATION 2 IMPROVEMENTS Marsh Woods Drive Village of McFarland, Wisconsin		tc TOWN & COUNTRY ENGINEERING, INC. 6264 Nesbitt Road Madison, WI 53719 (608) 273-3350 www.tcengineers.net

00 – GENERAL

00 – G – 01	INDEX SHEET
00 – G – 02	STANDARD ABBREVIATIONS, DESIGNATIONS, SITE/PROCESS LEGENDS & GENERAL NOTES
00 – G – 03	PLUMBING AND HVAC GENERAL NOTES, ABBREVIATIONS AND LEGENDS
00 – G – 04	ELECTRICAL SYMBOLS AND ABBREVIATIONS
00 – G – 05	ELECTRICAL SYMBOLS AND ABBREVIATIONS

05 – LIFT STATION SITE

05 – C – 01	EXISTING SITE PLAN AND REMOVAL PLAN
05 – C – 02	SITE IMPROVEMENTS PLAN
05 – C – 03	EROSION CONTROL AND GENERAL NOTES
05 – M – 01	SITE PIPING PLAN

10 – EXISTING INFLUENT STRUCTURE

10 – M – 01	PROCESS PLAN AND SECTIONS
10 – E – 01	ELECTRICAL PLAN

20 – EXISTING ADMIN/PROCESS BUILDING

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20 – AS – 02	FOUNDATION PLAN
20 – AS – 03	ROOF FRAMING PLAN
20 – AS – 04	EXTERIOR ELEVATIONS
20 – AS – 05	BUILDING SECTIONS
20 – AS – 06	ENLARGED WALL SECTIONS
20 – M – 01	PROCESS PLAN
20 – M – 02	PROCESS SECTION
20 – P – 01	PLUMBING PLANS
20 – H – 01	HVAC PLAN
20 – E – 01	LIGHTING PLAN
20 – E – 02	POWER AND INSTRUMENTATION PLAN

100 – SCHEDULES/DETAILS

100 – C – 01	SITE DETAILS
100 – AS – 01	STANDARD DETAILS
100 – AS – 02	STANDARD DETAILS
100 – AS – 03	STANDARD DETAILS
100 – M – 01	PROCESS DETAILS
100 – H – 01	HVAC SCHEDULES
100 – E – 01	ONE–LINE
100 – E – 02	SCHEDULES
100 – E – 03	FIELD WIRING SCHEDULE
100 – E – 04	DETAILS
100 – E – 05	DETAILS
100 – W – 01	PID No.1
100 – W – 02	PID No.2
100 – W – 03	SCADA ARCHITECTURE

INDEX SHEET

2023 LIFT STATION 2 IMPROVEMENTS
Marsh Woods Drive
Village of McFarland, Wisconsin

PROJECT NO.:
MC 198

DRAWING FILE:
00-G

DRAWN BY:
D.D.E.

CHECKED BY:
T.J.S.

DATE:
9-6-23

REVISIONS:

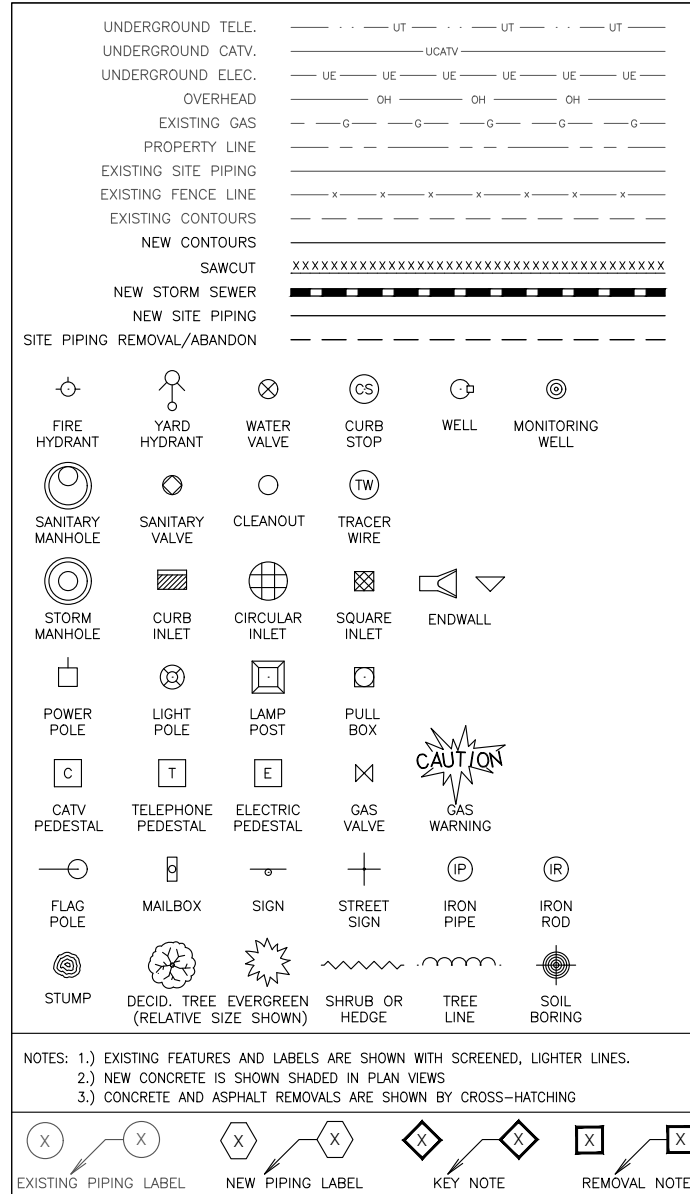
SCALE:

SHEET:

STANDARD ABBREVIATIONS

AER	ACTUATED	MATL	METER
AFF	AERATION, AEROBIC	MAX	MATERIAL
AHP	ABOVE FINISHED FLOOR	MECH	MAXIMUM
ALP	AIR — HIGH PRESSURE	MFR	MECHANICAL
ALT	AIR — LOW PRESSURE	MGD	MANUFACTURER
ALUM	ALTERNATE	MH	MILLION GALLONS PER DAY
APPROX	ALUMINUM	MID	MANHOLE
ARCH	APPROXIMATE, —LY	MIN	MIDDLE
ASPH	ARCHITECTUAL	MISC	MINIMUM
ASSY	ASPHALT	MJ	MISCELLANEOUS
AVG	ASSEMBLY	ML	MECHANICAL JOINT
	AVERAGE	MLSS	MIXED LIQUOR
B/		MM	MIXED LIQUOR SUSPENDED SOLIDS
BAF	BOTTOM OF	MOT	MILLIMETER
BCKWSH	BAFFLE	MTL	MOTOR, —IZED
BFV	BACKWASH		METAL
BF	BUTTERFLY VALVE	N	NORTHING
BIT	BLIND FLANGE	NH3—N	AMMONIA—NITROGEN
BLDG	BITUMINOUS	NO.	NUMBER
BM	BUILDING	NPT	NATIONAL PIPE THREAD
BOD	BENCH MARK	NPW	NONPOTABLE WATER
BOT	BIOCHEMICAL OXYGEN DEMAND	NTS	NOT TO SCALE
BSMT	BOTTOM		
BV	BASEMENT	OC	ON CENTER
BYP	BALL VALVE	OD	OUTSIDE DIAMETER
	BYPASS	OPNG	OPENING
C/C	CENTER TO CENTER	OVER	OVER, —FLOW
CF	CUBIC FEET		
CFM	CUBIC FEET PER MINUTE	P	PHOSPHORUS
CHAN	CHANNEL	PNEU	PNEUMATIC
CHEM	CHEMICAL	PNV	PINCH VALVE
CI	CAST IRON	PE	POLYETHYLENE
C/L	CENTERLINE	PLMB	PLUMBING
CLASS	CLASSIFICATION	POLY	POLYMER
CLG	CEILING	PP	POWER POLE
CMP	CORRUGATED METAL PIPE	PRV	PRESSURE REDUCING VALVE
CON	CONCENTRIC	PSF	POUNDS PER SQUARE FOOT
CONC	CONCRETE	PSI	POUNDS PER SQUARE INCH
CONN	CONNECTION	PT	POINT
CONTR	CONTRACTOR	PV	PLUG VALVE
CTR, CTRD	CENTER, —ED	PVC	POLYVINYL CHLORIDE
CV	CHECK VALVE	PVMT	PAVEMENT
CY	CUBIC YARD	PW	POTABLE WATER
DAF	DISSOLVED AIR FLOTATION THICKENER	R	RADIUS
DEC	DECANT	R/W	RIGHT—OF—WAY
DEG	DEGREE	RAS	RETURN ACTIVATED SLUDGE
DG	DIGESTER GAS	RCP	REINFORCED CONCRETE PIPE
DIA	DIAMETER	RCY	RECYCLE
DIG	DIGESTER	RED	REDUCER
DI	DUCTILE IRON	REF	REFERENCE
DISCH	DISCHARGE	REQ'D	REQUIRED
DN	DOWN	RM	ROOM
DNR	DEPARTMENT OF NATURAL RESOURCES	ROT	ROTATE, —D
DRN	DRAIN	RR	RAILROAD
DWG	DRAWING	RT	RIGHT
		RWW	RAW WASTEWATER
E	EASTING		
EA	EACH	SAN	SANITARY
ECC	ECCENTRIC	SBR	SEQUENCING BATCH REACTOR
EFFL	EFFLUENT	SCH	SCHEDULE
ELB	ELBOW	SDR	STRUCTURAL DIMENSION RATIO
ELEC	ELECTRIC, —AL	SEC	SECTION
EL, ELEV	ELEVATION	SEP	SEPTAGE
EQ	EQUALIZATION	SF	SQUARE FOOT
EQUIP	EQUIPMENT	SHT	SHEET
EST	ESTIMATE, —D	SLG	SLUDGE
EX	EXISTING	SPEC	SPECIFICATION
		SQ	SQUARE
FH	FIRE HYDRANT	SS	STAINLESS STEEL
FFC	FLANGED FLEXIBLE CONNECTOR	STA	STATION
FL	FLOW LINE	STL	STEEL
FLR	FLOOR	STR	STRUCTURE
FLTR	FILTER	SUP	SUPERNATANT
FM	FORCE MAIN	SNV	SOLENOID VALVE
FRP	FIBERGLASS REINFORCED PLASTIC	SW	SIDEWALK
FT	FEET	SY	SQUARE YARD
FTG	FOOTING		
		T/	TOP OF
GAL	GALLON	T/W	TOP OF WALL
GALV	GALVANIZED	TEMP	TEMPERATURE
GC	GENERAL CONTRACTOR	TSS	TOTAL SUSPENDED SOLIDS
GND	GROUND	TYP	TYPICAL
GR	GRIT		
GV	GATE VALVE	UV	ULTRAVIOLET
HORIZ	HORIZONTAL	VERT	VERTICAL
HP	HORSEPOWER	VF	VERTICAL FEET
HR	HOUR		
HVAC	HEATING, VENTILATING, AND AIR CONDITIONING	W/	WITH
HWL	HIGH WATER LEVEL	W/O	WITHOUT
HYD	HYDRANT	WAS	WASTE ACTIVATED SLUDGE
		WAT	WATER
ID	INSIDE DIAMETER	WW	WASTEWATER
IN	INCH		
INCL	INCLUDE, —ING	YD	YARD
INFL	INFLUENT	YR	YEAR
INV	INVERT		
LB(S)	POUND(S)		
LF	LINEAL FEET		
LIN	LINEAR		
LR	LONG RADIUS		
LS	LUMP SUM		
LT	LEFT		
LWL	LOW WATER LEVEL		

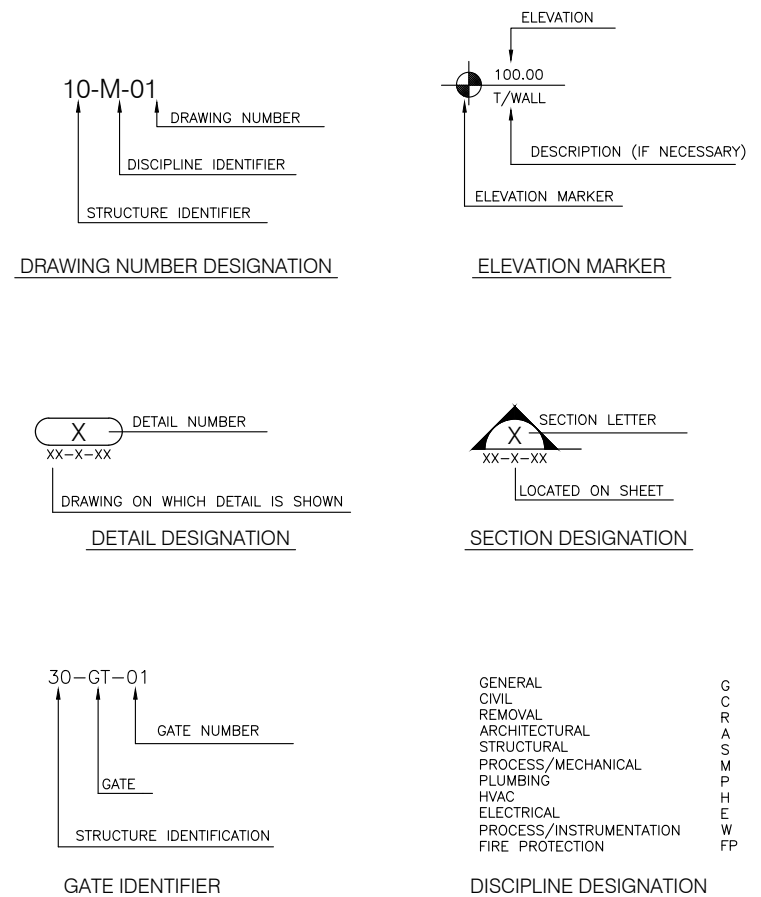
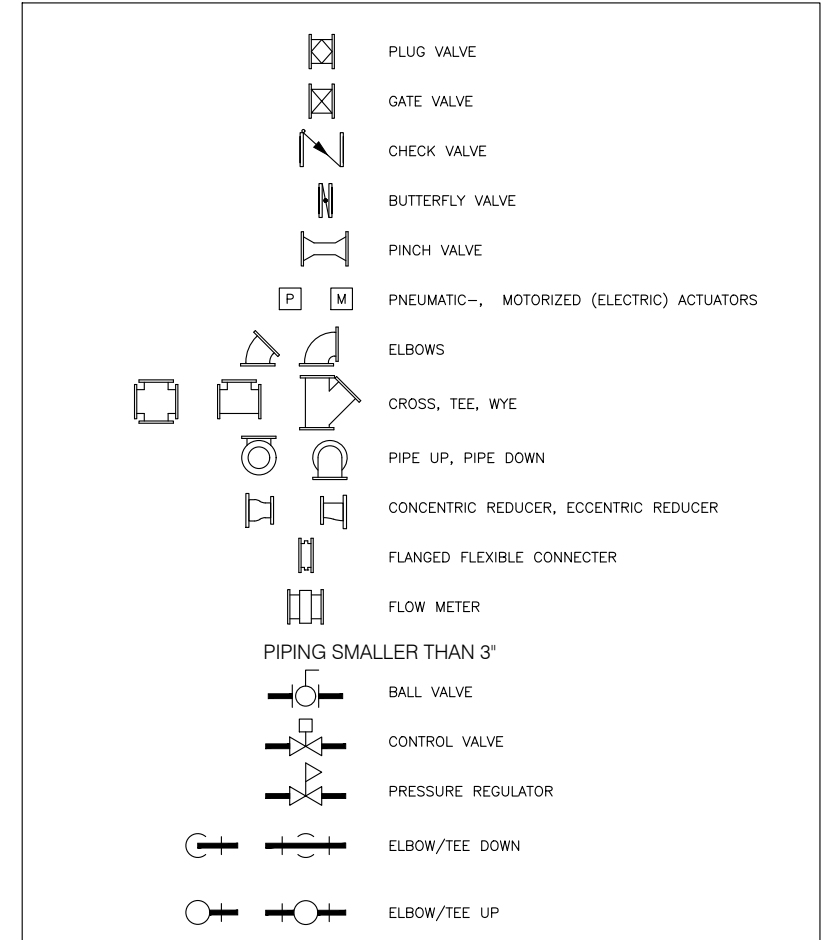
SITE LEGEND



GENERAL NOTES

1. EXISTING INFORMATION, INCLUDING UNDERGROUND PIPING AND UTILITIES, SHOWN ON THE PLANS WAS OBTAINED FROM OWNER INFORMATION AND FIELD MEASUREMENTS WHERE AVAILABLE. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE ACCURACY OF ALL EXISTING INFORMATION AS REQUIRED TO ACCOMMODATE NECESSARY CONSTRUCTION. UTILITIES THAT MAY BE AFFECTED BY CONSTRUCTION MUST BE MAINTAINED AND ANY DAMAGES TO EXISTING UTILITIES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
2. THE CONTRACTOR IS RESPONSIBLE FOR THE PRESERVATION OF PROPERTY AND RESTORATION OF DAMAGED PROPERTY CAUSED BY CONSTRUCTION ACTIVITIES. AFTER THE COMPLETION OF CONSTRUCTION, ANY EXISTING PROPERTY DAMAGED AS A RESULT OF THE CONTRACTOR'S ACTIVITIES DURING EXECUTION OF THE CONTRACT SHALL BE RESTORED SO AS TO MATCH THE EXISTING AT NO COST TO THE OWNER.
3. DRAWINGS SCALES MAY VARY FROM ONE SHEET TO THE NEXT. ALL PERSONS SHALL BE RESPONSIBLE FOR VERIFYING THE CORRECT SCALE OF ANY MEASUREMENTS MADE ON THE PLAN SHEETS. DRAWINGS IN GENERAL DO NOT SHOW DIMENSIONS OF EXISTING CONSTRUCTION, BUT ARE DRAWN APPROXIMATELY TO SCALE. CONTRACTOR SHALL OBTAIN ALL DIMENSIONS REQUIRED FOR CONSTRUCTION.
4. WHEN THE TERM "REMOVE" IS USED IN THE DRAWINGS IT SHALL MEAN THAT THE CONTRACTOR IS TO REMOVE THE REFERENCED MATERIAL OR EQUIPMENT AND DISPOSE OF IT IN A PROPER MANNER. WHEN THE TERM "REMOVE AND SALVAGE" IS USED THE CONTRACTOR SHALL REMOVE THE REFERENCED MATERIAL OR EQUIPMENT, TRANSPORT TO THE DESTINATION INDICATED, AND UNLOAD THE MATERIAL OR EQUIPMENT AS DIRECTED BY THE OWNER. THE PLANS DO NOT NECESSARILY SPELL OUT ALL ITEMS REQUIRING REMOVAL, DEMOLITION, OR PATCHING. WHERE NOT SHOWN, ALL REMOVAL, DEMOLITION, CUTTING, PATCHING AND OTHER WORK NECESSARY TO ACCOMMODATE NEW CONSTRUCTION SHALL BE PROVIDED AS A PART OF THE CONTRACT.

PROCESS PIPING LEGEND



ELECTRICAL PLAN SYMBOLS

OUTLETS AND DEVICES

	DUPLEX
	DUPLEX (COUNTER TOP HEIGHT)
	SINGLE
	DOUBLE DUPLEX
	SPECIAL OUTLET
	EQUIPMENT CONNECTION
	DATA OUTLET
	TELEPHONE/DATA OUTLET
	TELEPHONE OUTLET
	TELEPHONE BLACKBOARD

LIGHTING

	LUMINAIRE, CEILING MOUNTED, RECESSED OR SURFACE
	WALL MOUNTED FIXTURE
	FIXTURE - DOUBLE OR SINGLE HEAD SPOTLIGHT
	EXIT FIXTURE
	EMERGENCY BATTERY REMOTE HEADS
	EMERGENCY BATTERY UNIT WITH HEADS
	SINGLE POLE MOUNTED FIXTURE
	TWIN POLE MOUNTED FIXTURE

SWITCHES

\$	SINGLE POLE SWITCH
\$ ₂	DOUBLE POLE SWITCH
\$ ₃	THREE WAY SWITCH
\$ ₄	FOUR WAY SWITCH
\$ _a \$ _b \$ _c	SWITCH CONTROL A, B, C
\$ _K	KEY OPERATED
\$ _P	SWITCH WITH PILOT LIGHT
\$ _{WP}	WEATHERPROOF SWITCH
\$ _D	DIMMER SWITCH
	OCCUPANCY SENSOR, WALL MOUNTED
	OCCUPANCY SENSOR, CEILING MOUNTED
\$ _M	MOTOR RATED SWITCH
\$ _{MS}	MANUAL MOTOR STARTER

SERVICE AND DISTRIBUTION

	LIGHTING OR POWER PANEL - RECESSED
	LIGHTING OR POWER PANEL - SURFACE
	DISTRIBUTION PANEL
	MOTOR CONTROL CENTER
	TRANSFORMER - REFER TO ONE-LINE. XX-XFMR-01 INDICATES LOCATION AT STRUCTURE XX.
XFMR#	
	CURRENT TRANSFORMER CABINET (UTILITY METERING)
	METER AND SOCKET

MOTOR CONTROL

	DISCONNECT SWITCH, NON-FUSED
	DISCONNECT SWITCH, FUSED
	ENCLOSED CIRCUIT BREAKER
	MAGNETIC CONTACTOR
	ADJUSTABLE FREQUENCY DRIVE
	MAGNETIC MOTOR STARTER
	COMBINATION MAGNETIC MOTOR STARTER
	EQUIPMENT CONTROL PANEL - XXX INDICATES EQUIPMENT SERVED
	PUSHBUTTON
	ON/OFF PUSHBUTTON
	THREE FUNCTION PUSHBUTTON (UP/DOWN/STOP)
	THERMOSTAT
	SOLENOID VALVE
	MOTOR - NUMBER INDICATES HORSEPOWER

GENERAL NOTES

- THIS DRAWING IS A STANDARD LEGEND. SYMBOLS SHOWN MAY NOT ALL APPEAR ON DRAWINGS FOR THIS PROJECT.
- ALL CONTACTS ARE SHOWN IN THE DE-ENERGIZED (SHELF) POSITION. BI-STABLE RELAYS ARE SHOWN IN THE RESET POSITION.
- ONE-LINE DIAGRAMS FOR POWER SWITCHGEAR, USE ANSI STANDARD SYMBOLS AND ABBREVIATIONS.
- SEE INSTRUMENTATION I + C SYMBOLS LEGEND FOR INSTRUMENTATION SYMBOLS AND DETAILS.
- OTHER ABBREVIATIONS PER NECA 100-213 AND ISA S5.1
- ELEVATIONS ADJACENT TO SYMBOLS ARE BASED ON STATION DATUM. HEIGHTS ADJACENT TO SYMBOLS (+4.0) ARE REFERENCED TO FINISHED FLOOR GRADE.
- SEE SPECIFICATIONS AND SCHEDULES FOR COMPONENT REQUIREMENTS FOR MOTOR CONTROLLERS AND FOR CONTRACTORS.

SECURITY AND FIRE PROTECTION

	DOOR HOLDER
	HORN AND STROBE
	HORN ONLY
	STROBE ONLY
	MANUAL PULL STATION
	SMOKE DETECTOR
	HEAT DETECTOR - RATE OF RISE
	HEAT DETECTOR - FIXED TEMPERATURE
	WATER FLOW SWITCH
	LOW PRESSURE SWITCH
	TAMPER SWITCH
	SECURITY CAMERA - WP INDICATES WEATHERPROOF EXTERIOR CAMERA
	MOTION DETECTOR
	FIRE ALARM ANNUNCIATOR
	FIRE ALARM CONTROL PANEL

WIRING AND CONDUIT

- SIZE CONDUIT PER NEC. MINIMUM SIZE $\frac{3}{4}$ ".
- (X)#12 & #12G

REFERS TO NUMBER OF WIRE(S) AND SIZE OF WIRE(S) REQUIRED, WHERE AS:
(1)= ONE WIRE
#12 = THE SIZE OF WIRE REQUIRED
G = GROUND WIRE

- (X) 1-1/2"C

REFERS TO NUMBER OF CONDUIT(S) AND SIZE OF CONDUIT(S) REQUIRED, WHERE AS:

(1)= ONE CONDUIT
1-1/2"C = THE SIZE OF CONDUIT REQUIRED

*REFER TO DRAWINGS FOR REQ'D WIRE AND CONDUIT SIZES AND AMOUNTS

CIRCUITS

	CONDUIT STUB - TERMINATE WITH CAP
	CONDUIT TURNING UP
	CONDUIT TURNING DOWN
	HOMERUN TO PANELBOARD - H(X)-(Y,Z) OR L(X)-(Y,Z) - HIGH OR LOW VOLTAGE PANEL (X) - CIRCUIT (Y,Z) AS INDICATED
	JUNCTION BOX

ELECTRICAL ABBREVIATIONS

1P	ONE POLE
2P	TWO POLE
3P	THREE POLE
4P	FOUR POLE
1P1W	ONE POLE, ONE WIRE
1P2W	ONE POLE, TWO WIRE
2P2W	TWO POLE, TWO WIRE
2P3W	TWO POLE, THREE WIRE
3P2W	THREE POLE, TWO WIRE
3P3W	THREE POLE, THREE WIRE
3P4W	THREE POLE, FOUR WIRE
4P4W	FOUR POLE, FOUR WIRE
A	AMPERE
AC	ALTERNATING CURRENT
AF	AMP FRAME
AFCI	ARC-FAULT CIRCUIT INTERRUPTER
AFD	ADJUSTABLE FREQUENCY DRIVE
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AHU	AIR HANDLING UNIT
AIC	AMPERE INTERRUPTING CAPACITY
ALUM	ALUMINUM
AS	AMP SWITCH
AT	AMP TRIP
ARCH	ARCHITECT
ATS	AUTOMATIC TRANSFER SWITCH
AUD	AUDIOMETER BOX CONNECTION
AUX	AUXILIARY
A/V	AUDIO VISUAL
AWG	AMERICAN WIRE GAUGE
BLDG	BUILDING
C	CONDUIT (GENERIC TERM FOR RACEWAY.)
CAM	CAMERA
CAT	CATALOG
CATV	CABLE TELEVISION
CB	CIRCUIT BREAKER
CKT	CIRCUIT
COL	COLUMN
C.T.	CURRENT TRANSFORMER
CU	COPPER
CL	CENTERLINE
DC	DIRECT CURRENT
Δ	DELTA
DET	DETECTOR
DISC	DISCONNECT
DIST	DISTRIBUTION
DN	DOWN
DWG	DRAWING

E	WIRED ON EMERGENCY CIRCUIT
EA	EACH
EC	ELECTRICAL CONTRACTOR
ECB	ENCLOSED CIRCUIT BREAKER
EDH	ELECTRICAL DUCT HEATER
EF	EXHAUST FAN
ELEC	ELECTRIC(AL)
ELEV	ELEVATION
EM	EMERGENCY
EMT	ELECTRIC METALLIC TUBING
ENCL	ENCLOSURE
ENL	END OF LINE
EP	EXPLOSION PROOF
EPO	EMERGENCY POWER OFF
EQUIP	EQUIPMENT
EUH	ELECTRIC UNIT HEATER
EW	ELECTRIC WATER COOLER
EW	ELECTRIC WATER HEATER
EXIST.	EXISTING
F	FLUSH
FA	FIRE ALARM
FBO	FURNISHED BY OTHERS
FC	FIRE PROTECTION CONTRACTOR
FCU	FAN COIL UNIT
FDN	FOUNDATION
FIXT	FIXTURE
FLA	FULL LOAD AMPS
FLEX	FLEXIBLE
FLR	FLOOR
FMC	FLEXIBLE METALLIC CONDUIT
FRE	FIBERGLASS REINFORCED EPOXY CONDUIT
FURN	FURNITURE
G	GROUND
GC	GENERAL CONTRACTOR
GEN	GENERATOR
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GFPE	GROUND FAULT PROTECTION EQUIPMENT
GND	GROUND
GRC	GALVANIZED RIGID CONDUIT
HGT	HEIGHT
HP	HORSEPOWER
HTR	HEATER
HV	HIGH VOLTAGE
HVAC	HEATING, VENTILATING AND AIR CONDITIONING
HW	HOT WATER
HZ	HERTZ (CYCLE) PER SECOND

IAM	INDIVIDUAL ADDRESSABLE MODULE
ID	IDENTIFICATION
IG	ISOLATED GROUND
IMC	INTERMEDIATE METAL CONDUIT
I/O	INPUT/OUTPUT
IR	PASSIVE INFARED
I.S.	INTRINSICALLY SAFE
J-JO	JUNCTION BOX
KCMIL	ONE THOUSAND CIRCULAR MILS
K/O	KNOCK-OUT
KVA	KILOVOLT AMPERE
KVAR	KILOVOLT AMPERE REACTIVE
KW	KILOWATT
LFMC	LIQUIDTIGHT FLEXIBLE METALLIC CONDUIT
LFNC	LIQUIDTIGHT FLEXIBLE NONMETALLIC CONDUIT
LP	LIGHTING PANELBOARD
LS	LIMIT SWITCH
LTG	LIGHTING
LV	LOW VOLTAGE
MAINT	MAINTAINED
MAU	MAKE-UP AIR UNIT
MAX	MAXIMUM
MC	METAL CLAD CABLE
MCB	MAIN CIRCUIT BREAKER
MCC	MOTOR CONTROL CENTER
MD	MOTORIZED DAMPER
MDP	MAIN DISTRIBUTION PANEL
MISC	MISCELLANEOUS
MFR	MANUFACTURER
MLO	MAIN LUGS ONLY
MOD	MOTOR OPERATED DISCONNECT SWITCH
MTD	MOUNTED
MTG	MOUNTING
MTS	MANUAL TRANSFER SWITCH
N	NORTH
N/A	NOT APPLICABLE
NC	NORMALLY CLOSED
NEC	NATIONAL ELECTRIC CODE
NF	NON-FUSED
NIC	NOT IN CONTRACT
NL	NIGHT LIGHT
NM	NONMETALLIC SHEATHED CABLE
NO	NORMALLY OPEN
NRTL	NATIONALLY RECOGNIZED TESTING LAB
#	NUMBER
NTS	NOT TO SCALE

OHD	OVERHEAD DOOR OPERATOR
OL	OVERLOAD
P	POLE
PB	PULL BOX
PC	PLUMBING SYSTEM CONTRACTOR
PE	PRIMARY SERVICE
PEC	PHOTO ELECTRIC CONTROL
PH	PHASE
PIV	POST INDICATING VALVE
PNL	PANEL(BOARD)
PP	POWER PANEL
PR	PAIR
PRI	PRIMARY
PT	POTENTIAL TRANSFORMER
PVC	POLYVINYL CHLORIDE CONDUIT
PWR	POWER
RE	REMOVE EXISTING
REC	RECESSED
RECP	RECEPTACLE
REQD	REQUIRED
RM	ROOM
RMC	RIGID METAL CONDUIT
RTU	ROOFTOP UNIT
S	SURFACE MOUNTED
SCH	SCHEDULE
SEC	SECONDARY
SIG	SIGNAL
SN	SOLID NEUTRAL
SP	SPARE
SPD	160KA/ PHASE MINIMUM SURGE PROTECTIVE DEVICE
SPEC	SPECIFICATION
SPKR	SPEAKER
SS	STAINLESS STEEL
STP	SHIELDED TWISTED PAIR
STL	CARBON STEEL
SUSP	SUSPENDED
SW	SWITCH
SWBD	SWITCHBOARD
SWGR	SWITCHGEAR
TC	TELEPHONE CABINET
TCI	TELECOMMUNICATIONS CABLING INSTALLER
TCP	TEMPERATURE CONTROL PANEL
TEL	TELEPHONE/DATA
TEL/DATA	TELEPHONE
TEMP	TEMPORARY
TERM	TERMINAL(S)
TV	TELEVISION
TYP	TYPICAL

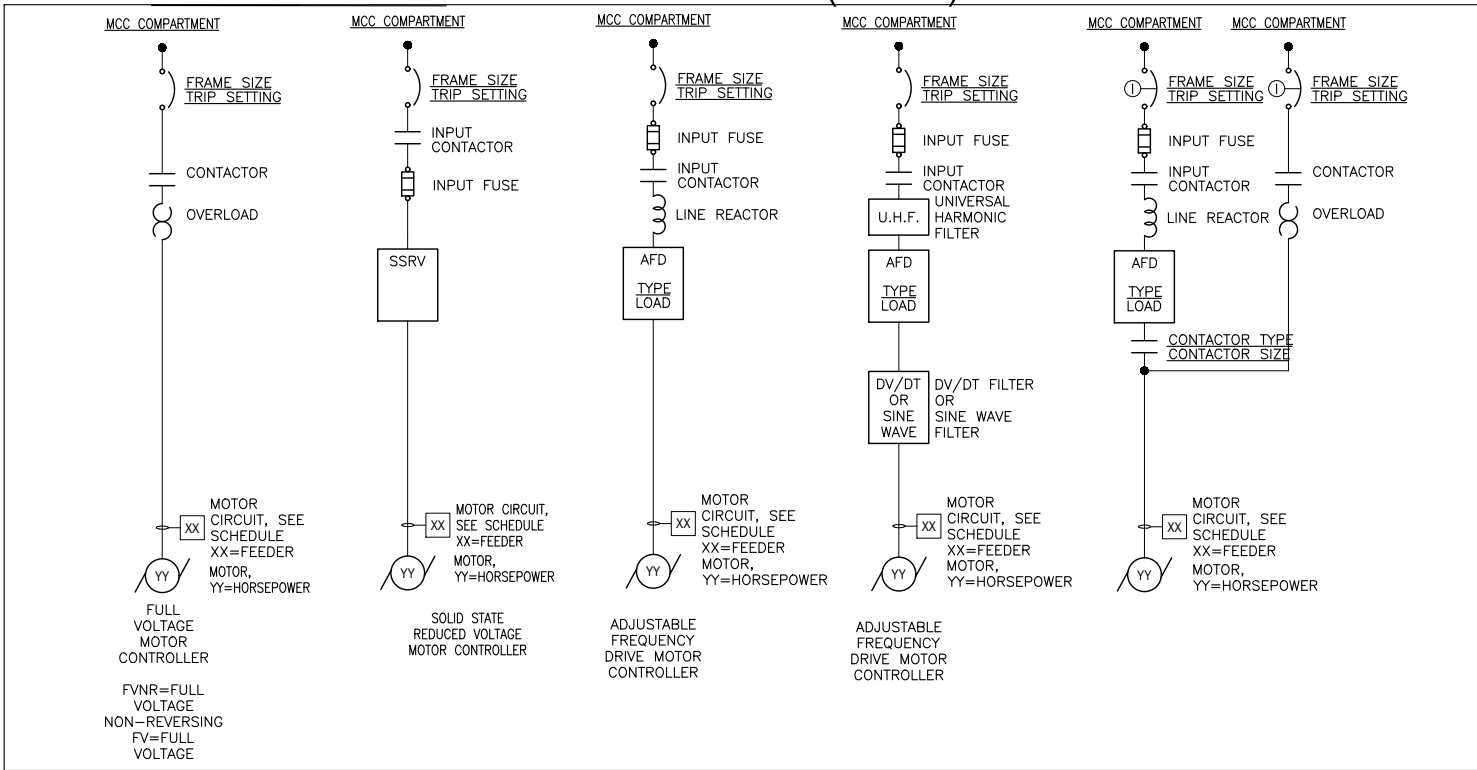
UC	UNDER COUNTER
UG	UNDERGROUND
UH	UNIT HEATER
UPS	UNINTERRUPTIBLE POWER SOURCE
UTIL	UTILITY
UTP	UNSHIELDED TWISTED PAIR
V	VOLT
VPD	VARIABLE FREQUENCY DRIVE
W	WATT
W/	WITH
WH	WATTHOUR
WP	WEATHERPROOF
XFMR	TRANSFORMER
XLP	CROSS LINKED POLETHYLENE
Y	WYE
ZAM	ZONE ADAPTER MODULE

PROJECT NO.: MC 198
DRAWING FILE: 00-G-03
DRAWN BY: N.W.W
CHECKED BY: S.R.M.
DATE: 7-17-23
REVISIONS:
SCALE:
N.T.S.
SHEET:

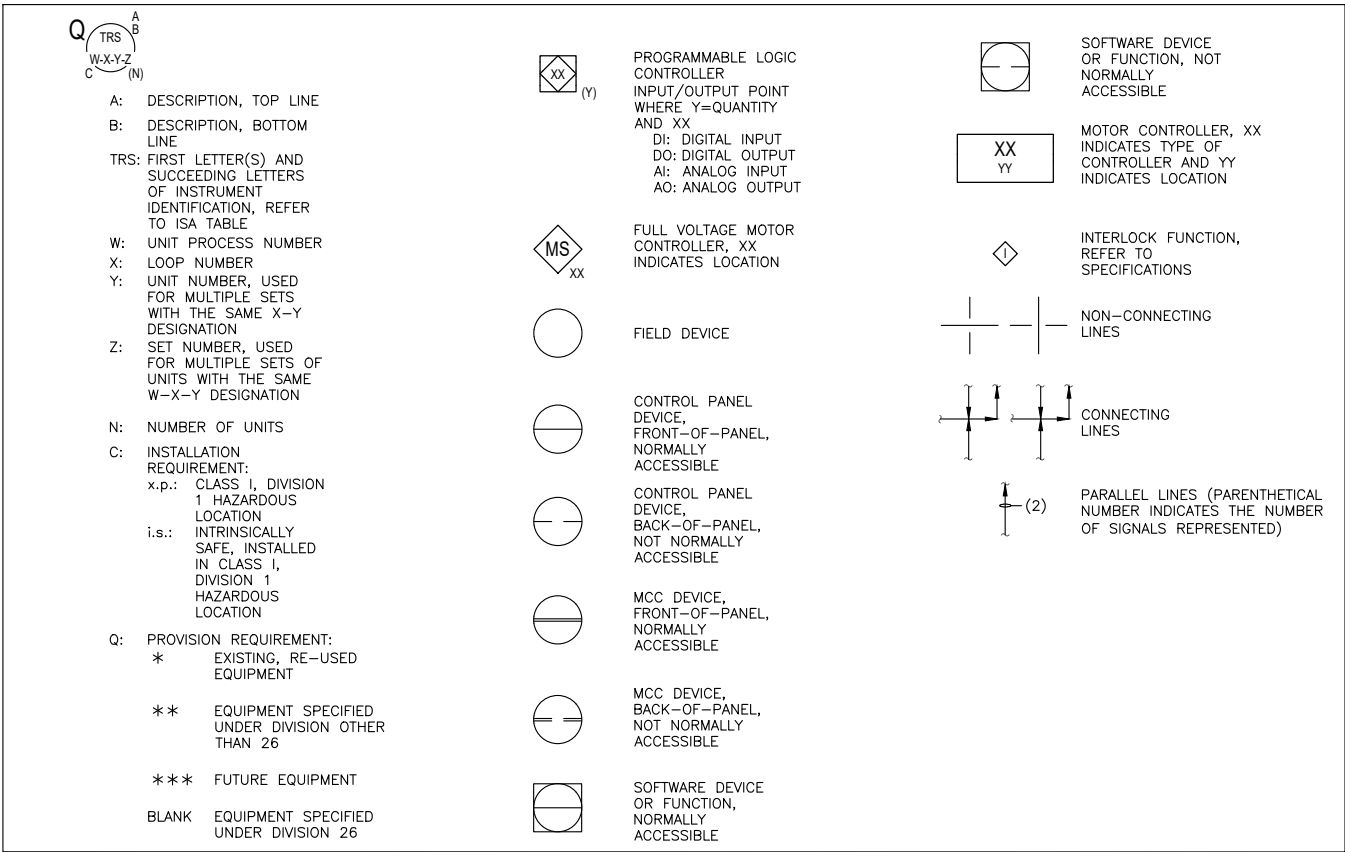
INTERNATIONAL SOCIETY OF AUTOMATION
INSTRUMENT IDENTIFICATION

	FIRST LETTER(S)		SUCCEEDING LETTERS		
	MEASURED OR INITIATING VARIABLE	VARIABLE	READOUT / PASSIVE FUNCTION	OUTPUT / ACTIVE FUNCTION	FUNCTION
A	ANALYSIS		ALARM		
B	BURNER, COMBUSTION		USER'S CHOICE	USER'S CHOICE	USER'S CHOICE
C	USER'S CHOICE			CONTROL	CLOSE
D	USER'S CHOICE	DIFFERENCES			DEVIATION
E	VOLTAGE		SENSOR (PRIMARY ELEMENT)		
F	FLOW, FLOW RATE	RATIO			
G	USER'S CHOICE		GLASS, VIEWING DEVICE		
H	HAND				HIGH
I	CURRENT		INDICATE		
J	POWER				
K	TIME, SCHEDULE	TIME RATE OF CHANGE		CONTROL STATION	
L	LEVEL		LIGHT		LOW
M	MOISTURE				MIDDLE, INTERMEDIATE
N	TORQUE		USER'S CHOICE	USER'S CHOICE	USER'S CHOICE
O	USER'S CHOICE		ORIFICE, RESTRICTION		OPEN
P	PRESSURE (VACUUM)		POINT, TEST CONNECTION		
Q	QUANTITY	INTEGRATE, TOTALIZE			
R	RADIATION		RECORD		RUN
S	SPEED, FREQUENCY	SAFETY		SWITCH	STOP
T	TEMPERATURE			TRANSMIT	
U	MULTIVARIABLE		MULTIFUNCTION	MULTIFUNCTION	
V	VIBRATION, MECHANICAL ANALYSIS			VALVE, DAMPER, LOUVER	
W	WEIGHT, FORCE		WELL		
X	UNCLASSIFIED	X AXIS	UNCLASSIFIED	UNCLASSIFIED	UNCLASSIFIED
Y	EVENT, STATE, PRESENCE	Y AXIS	AUXILIARY DEVICES		
Z	POSITION, DIMENSION	Z AXIS, SAFETY INSTRUMENT OF SYSTEM		DRIVE ACTUATE OR UNCLASSIFIED FINAL CONTROL ELEMENT	

MOTOR CONTROL (MCC) SYMBOLS



P&ID SYMBOLS (TYPICAL)



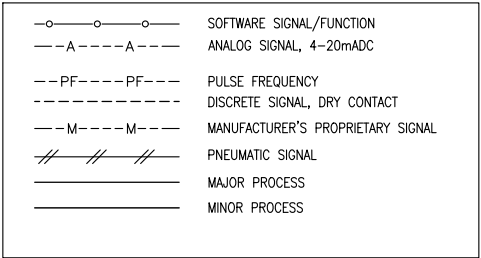
INSTRUMENT WIRING LEGEND

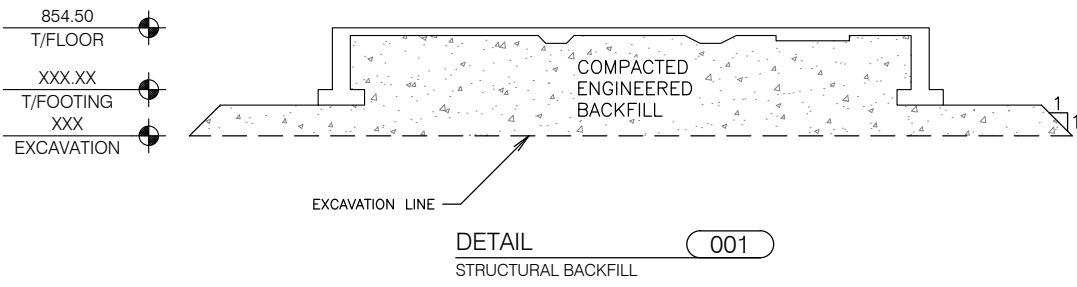
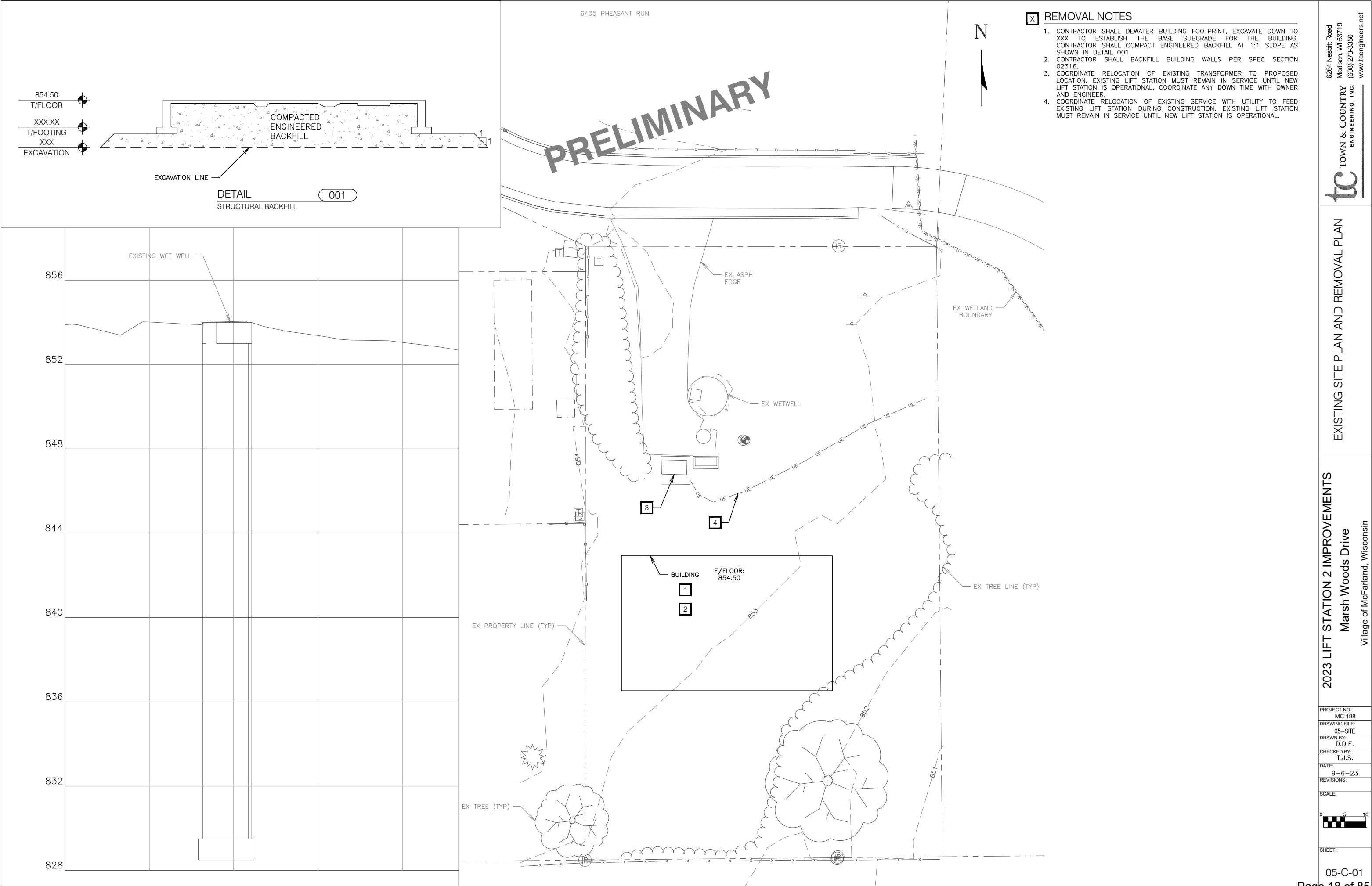
- AX = 2C#16 SHIELDED, TWISTED PAIR CABLE (X = NUMBER OF CABLES)
- DX = #14 THHN WIRE (X = NUMBER OF WIRES)
- MX = 1" CONDUIT FOR CABLE SUPPLIED BY MANUFACTURER (X = NUMBER OF CONDUITS)
- ELX = 3/4" CONDUIT AND CAT6(X) 300V CABLE(S) (X = NUMBER OF CABLES)
- EHX = 3/4" CONDUIT AND CAT6(X) 600V CABLE(S)
- FO(X) = CONDUIT AND FIBER OPTIC CABLE (X = NUMBER OF STRANDS)

PROCESS NOTES

- PROVIDE SEPARATE CONDUITS FOR THE FOLLOWING:
 - 24 V DC ANALOG
 - 24 V DC CONTROL/ DC PULSE
 - INTRINSICALLY SAFE
 - MANUFACTURERS CABLE
 - 120 VOLT CONTROL
 - 120 VOLT POWER
 - 480 VOLT POWER
 - LOW VOLTAGE INSTRUMENTATION
 - COMMUNICATION
- REFER TO SPECIFICATION 26 90 00 FOR LOOP AND OPERATOR INTERFACE FUNCTIONS.
- REFER TO RESPECTIVE DIVISION SPECIFICATIONS FOR ADDITIONAL DETAILS REGARDING INSTRUMENTATION AND CONTROL EQUIPMENT FURNISHED UNDER THOSE SPECIFICATIONS.

LINETYPE LEGEND





- ☒ REMOVAL NOTES
1. CONTRACTOR SHALL DEWATER BUILDING FOOTPRINT, EXCAVATE DOWN TO XXX TO ESTABLISH THE BASE SUBGRADE FOR THE BUILDING. CONTRACTOR SHALL COMPACT ENGINEERED BACKFILL AT 1:1 SLOPE AS SHOWN IN DETAIL 001.

2. CONTRACTOR SHALL BACKFILL BUILDING WALLS PER SPEC SECTION 02316.

3. COORDINATE RELOCATION OF EXISTING TRANSFORMER TO PROPOSED LOCATION. EXISTING LIFT STATION MUST REMAIN IN SERVICE UNTIL NEW LIFT STATION IS OPERATIONAL. COORDINATE ANY DOWN TIME WITH OWNER AND ENGINEER.

4. COORDINATE RELOCATION OF EXISTING SERVICE WITH UTILITY TO FEED EXISTING LIFT STATION DURING CONSTRUCTION. EXISTING LIFT STATION MUST REMAIN IN SERVICE UNTIL NEW LIFT STATION IS OPERATIONAL.

6264 Nesbitt Road
Madison, WI 53719
(608) 273-3350
www.tceengineers.net

tc TOWN & COUNTRY
ENGINEERING, INC.

EXISTING SITE PLAN AND REMOVAL PLAN

2023 LIFT STATION 2 IMPROVEMENTS
Marsh Woods Drive
Village of McFarland, Wisconsin

PROJECT NO.:
MC 198

DRAWING FILE:
05-SITE

DRAWN BY:
D.D.E.

CHECKED BY:
T.J.S.

DATE:
9-6-23

REVISIONS:

SCALE:

SHEET:
05-C-01

Page 18 of 85

STRUCTURE SCHEDULE	
10	WETWELL
20	LIFT STATION BUILDING



GENERAL NOTES

1. ANY EXCESS MATERIAL CAN BE SPREAD ON SITE TO MATCH FINAL GRADES OR DISTRIBUTED TO THE PLAT GRADING CONTRACTOR.
2. EROSION CONTROL TO COMPLY WITH SPEC SECTION 02270 AND THE DNR TECHNICAL STANDARDS FOR EROSION CONTROL AND STABILIZATION PROCESS PER SHEETS 100-C-01. ALL EROSION CONTROL MUST BE MAINTAINED THROUGH OUT CONSTRUCTION AND REMOVED AT END OF PROJECT.
3. DISTURBED AREAS LEFT INACTIVE FOR MORE THAN 7 CALENDAR DAYS MUST BE TEMPORARY SEEDED OR WOOD CHIPPED.
4. THE CONSTRUCTION LIMITS PROVIDE THE AREA THAT THE CONTRACTOR IS RESPONSIBLE TO MAINTAIN DURING CONSTRUCTION. THE FINAL GRADES NEED TO BLEND INTO THE PLAT CONTRACTOR'S FINAL GRADES AND IS THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE.
5. THE ENTIRE AREA SHALL BE HYDROMULCHED UNLESS DIRECTED OTHERWISE
6. ALL SIDEWALKS SHALL BE 5 FEET WIDE, 5 INCH THICKNESS, EXCEPT AT DOOR STOOPS.
7. CONTRACTOR SHALL SPREAD 6" OF TOPSOIL OVER THE ENTIRE AREA WITHIN THE CONSTRUCTION LIMITS.
8. SPOT ELEVATIONS SHOWN ARE FOR DRAINAGE PURPOSES. FINAL ELEVATIONS WILL BE DETERMINED ON SITE.

KEY NOTES

1. ALL PAVED AREAS SHALL HAVE A COMBINED MINIMUM DEPTH OF 12" OF BASE COURSE, 2-1/4" OF BINDER PAVEMENT AND 1-3/4" OF SURFACE PAVEMENT. ACCORDING TO THE CITY STANDARD SPECIFICATIONS, 12" OF BASE COURSE SHALL HAVE A LOWER LAYER OF DENSE 3" CRUSHED AGGREGATE, 7"-8" DEEP, AND AN UPPER LAYER OF DENSE 1-1/4" CRUSHED AGGREGATE 4"-5" DEEP.
2. CONTRACTOR RESPONSIBLE FOR PROVIDING 12" BASE COURSE FOR TRANSFORMER PAD BY OTHERS. TOP OF BASE COURSE=XXX.XX'. PROPOSED LOCATION OF UTILITY TRANSFORMER PAD. COORDINATE EXACT LOCATION WITH ENGINEER.
3. COORDINATE RELOCATION OF EXISTING TRANSFORMER TO NEW LOCATION. EXISTING LIFT STATION MUST REMAIN IN SERVICE UNTIL NEW LIFT STATION IS FULLY OPERATIONAL. COORDINATE ANY OUTAGES WITH OWNER AND ENGINEER.
4. COORDINATE RELOCATION OF EXISTING SERVICE WITH UTILITY TO FEED EXISTING LIST STATION DURING CONSTRUCTION. EXISTING LIFT STATION MUST REMAIN IN SERVICE UNTIL NEW LIFT STATION IS FULLY OPERATIONAL.
5. APPROXIMATE LOCATION OF ELECTRIC UTILITY METER. COORDINATE EXACT LOCATION WITH ENGINEER.

PRELIMINARY

6407 FOX RUN

6407 FOX RUN

6409 FOX RUN

N: 457,570.18
E: 847,426.02

N: 457,570.18
E: 847,476.02

N: 457,590.95
E: 847,469.48

N: 457,538.18
E: 847,426.02

N: 457,538.18
E: 847,476.02

20

F/FLOOR:
854.50

B-1

B-2

NEW TRANSFORMER PAD

EX TREE LINE (TYP)

EX WETLAND
BOUNDARY

EX ASPH
EDGE

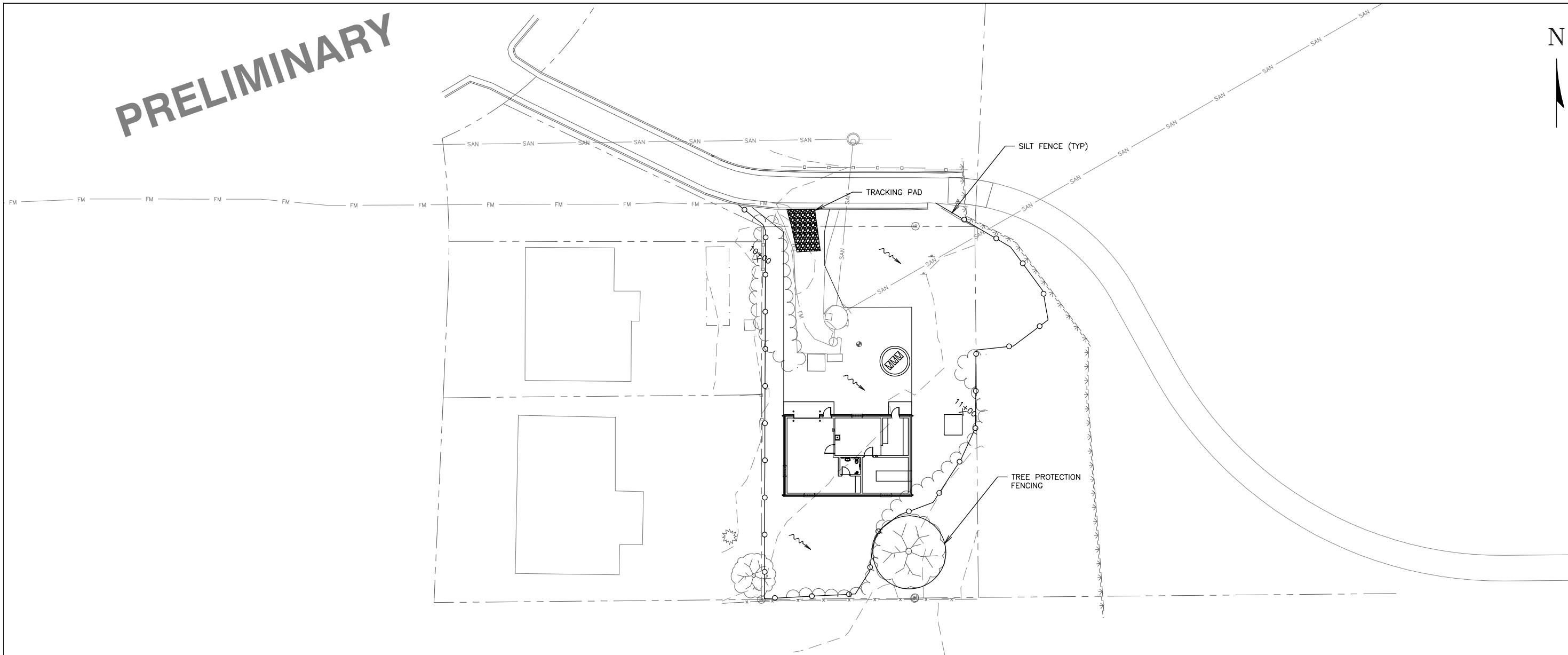
EX WETWELL
RIM = 854.03
N. INV. = 841.16 (10")
NE. INV. = 840.93 (16")
SE. INV. = 839.43 (24")

NEW ASPH EDGE

EX PROPERTY LINE (TYP)

EX TREE (TYP)

PRELIMINARY



EROSION CONTROL NOTES:

- LOCATIONS MARKED WITH "■" TO RECEIVE INLET FILTER PROTECTION DURING CONSTRUCTION. ALL NEW STREET INLETS MUST ALSO RECEIVE INLET FILTER PROTECTION.
- CONSTRUCT A STONE CHECK DAM IN GUTTER LINE AT ALL LOCATIONS MARKED WITH "▲"
- SURFACE FLOW DIRECTION IS INDICATED WITH 
- SILT FENCE INSTALLATION IS INDICATED WITH 
- POST WDNR CERTIFICATE OF PERMIT COVERAGE ON SITE AND MAINTAIN UNTIL CONSTRUCTION ACTIVITIES HAVE CEASED, THE SITE IS STABILIZED, AND A NOTICE OF TERMINATION IS FILED WITH WDNR.
- KEEP A COPY OF THE CURRENT EROSION CONTROL PLAN ON SITE THROUGHOUT THE DURATION OF THE PROJECT.
- SUBMIT PLAN REVISIONS OR AMENDMENTS TO THE WDNR AT LEAST 5 DAYS PRIOR TO FIELD IMPLEMENTATION.
- THE CONTRACTOR IS RESPONSIBLE FOR ROUTINE SITE INSPECTIONS AT LEAST ONCE EVERY 7 DAYS AND WITHIN 24 HOURS AFTER A RAINFALL EVENT OF 0.5 INCHES OR GREATER. KEEP INSPECTION REPORTS ON-SITE AND MAKE THEM AVAILABLE UPON REQUEST.
- INSPECT AND MAINTAIN ALL INSTALLED EROSION CONTROL PRACTICES UNTIL THE CONTRIBUTING DRAINAGE AREA HAS BEEN STABILIZED.
- WHEN POSSIBLE: PRESERVE EXISTING VEGETATION (ESPECIALLY ADJACENT TO SURFACE WATERS), MINIMIZE LAND-DISTURBING CONSTRUCTION ACTIVITY ON SLOPES OF 20% OR MORE, MINIMIZE SOIL COMPACTION, AND PRESERVE TOPSOIL.
- REFER TO THE WDNR STORMWATER CONSTRUCTION TECHNICAL STANDARDS AT http://dnr.wi.gov/topic/stormwater/standards/const_standards.html.
- INSTALL PERIMETER EROSION CONTROLS AND ROCK TRACKING PAD CONSTRUCTION ENTRANCE(S) PRIOR TO ANY LAND-DISTURBING ACTIVITIES, INCLUDING CLEARING AND GRUBBING. USE WDNR TECHNICAL STANDARD STONE TRACKING PAD AND TIRE WASHING #1057 FOR ROCK CONSTRUCTION ENTRANCE(S).
- INSTALL INLET PROTECTION PRIOR TO LAND-DISTURBING ACTIVITIES IN THE CONTRIBUTING DRAINAGE AREA AND/OR IMMEDIATELY UPON INLET INSTALLATION. COMPLY WITH WDNR TECHNICAL STANDARD STORM DRAIN INLET PROTECTION FOR CONSTRUCTION SITES #1060.
- STAGE CONSTRUCTION GRADING ACTIVITIES TO MINIMIZE THE CUMULATIVE EXPOSED AREA. CONDUCT TEMPORARY GRADING

FOR EROSION CONTROL PER WDNR TECHNICAL STANDARD TEMPORARY GRADING PRACTICES FOR EROSION CONTROL #1067.

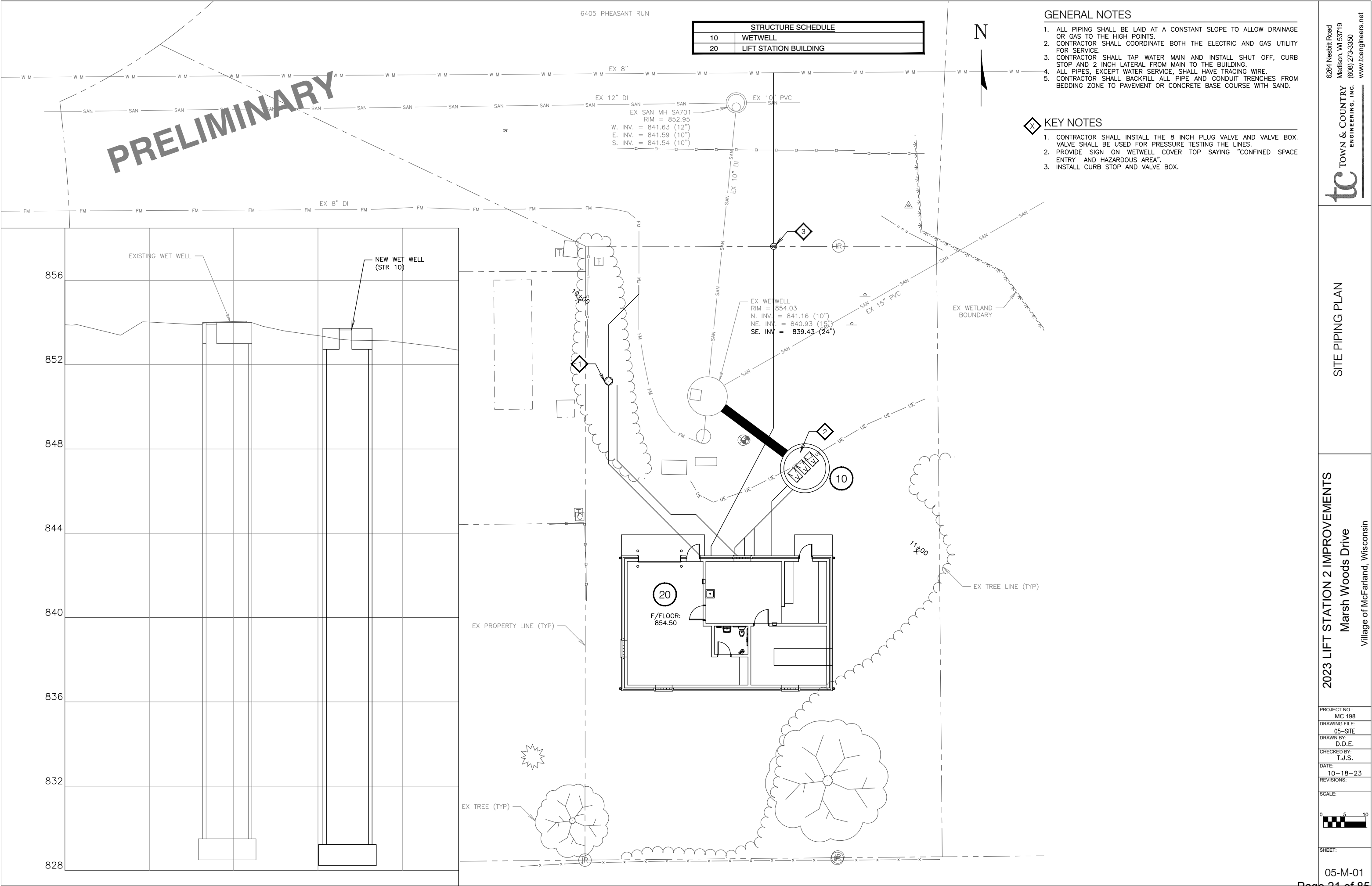
- NOTIFY THE OWNER IF DEWATERING IS SCHEDULED TO OCCUR IN AREAS OF SOIL AND/OR GROUNDWATER CONTAMINATION, OR IF DEWATERING WILL OCCUR FROM A HIGH CAPACITY WELL (70 GPM OR MORE). DEWATER ONLY AFTER THE APPROPRIATE WDNR DEWATERING DISCHARGE PERMIT HAS BEEN OBTAINED.
- PROVIDE ANTI-SCOUR PROTECTION AND MAINTAIN NON-EROSIVE FLOW DURING DEWATERING. LIMIT PUMPING RATES TO EITHER (A) THE SEDIMENT BASIN/TRAP DESIGN DISCHARGE RATE, OR (B) THE BASIN DESIGN RELEASE RATE WITH THE CORRECTLY-FITTED HOSE AND GEOTEXTILE FILTER BAG. PERFORM DEWATERING OF ACCUMULATED SURFACE RUNOFF IN ACCORDANCE WITH WDNR TECHNICAL STANDARD DE-WATERING #1061.
- COMPLETE AND STABILIZE SEDIMENT BASINS/TRAPS OR WET PONDS PRIOR TO MASS LAND DISTURBANCE TO CONTROL RUNOFF DURING CONSTRUCTION. REMOVE SEDIMENT AS NEEDED TO MAINTAIN 3 FEET OF DEPTH TO THE OUTLET, AND PROPERLY DISPOSE OF SEDIMENT REMOVED DURING MAINTENANCE (REFER TO NR 528). CONSTRUCT AND MAINTAIN THE SEDIMENT BASIN PER WDNR TECHNICAL STANDARD SEDIMENT BASIN #1064 AND SEDIMENT TRAP #1063.
- CONSTRUCT AND PROTECT THE BIOINFILTRATION BASIN AND VEGETATION FROM RUNOFF AND SEDIMENT DURING CONSTRUCTION. REFERENCE THE WDNR TECHNICAL STANDARD BIORETENTION FOR INFILTRATION #1004.
- INSTALL AND MAINTAIN SILT FENCING PER WDNR TECHNICAL STANDARD SILT FENCE #1056. REMOVE SEDIMENT FROM BEHIND SILT FENCES AND SEDIMENT BARRIERS BEFORE SEDIMENT REACHES A DEPTH THAT IS EQUAL TO ONE-HALF OF THE FENCE AND/OR BARRIER HEIGHT.
- REPAIR BREAKS AND GAPS IN SILT FENCES AND BARRIERS IMMEDIATELY. REPLACE DECOMPOSING STRAW BALES (TYPICAL BALE LIFE IS 3 MONTHS). LOCATE, INSTALL, AND MAINTAIN STRAW BALES PER WDNR TECHNICAL STANDARD DITCH CHECKS #1062.
- INSTALL AND MAINTAIN FILTER SOCKS IN ACCORDANCE WITH WDNR TECHNICAL STANDARD INTERIM MANUFACTURED PERIMETER CONTROL AND SLOPE INTERRUPTION PRODUCTS #1071.
- IMMEDIATELY STABILIZE STOCKPILES AND SURROUND STOCKPILES AS NEEDED WITH SILT FENCE OR OTHER PERIMETER CONTROL IF STOCKPILES WILL REMAIN INACTIVE FOR 7 DAYS OR LONGER.
- IMMEDIATELY STABILIZE ALL DISTURBED AREAS THAT WILL REMAIN INACTIVE FOR 14 DAYS OR LONGER. BETWEEN SEPTEMBER 15 AND OCTOBER 15: STABILIZE WITH MULCH, TACKIFIER, AND A PERENNIAL SEED MIXED WITH WINTER WHEAT, ANNUAL OATS, OR ANNUAL RYE, AS APPROPRIATE FOR REGION AND SOIL TYPE. OCTOBER 15 THROUGH COLD WEATHER: STABILIZE WITH A POLYMER AND DORMANT SEED MIX, AS APPROPRIATE FOR REGION AND SOIL TYPE.
- STABILIZE AREAS OF FINAL GRADING WITHIN 7 DAYS OF REACHING FINAL GRADE.
- SWEEP/CLEAN UP ALL SEDIMENT/TRASH THAT MOVES OFF-SITE DUE TO CONSTRUCTION ACTIVITY OR STORM EVENTS

- BEFORE THE END OF THE SAME WORKDAY OR AS DIRECTED BY THE OWNER. SEPARATE SWEEPED MATERIALS (SOILS AND TRASH) AND DISPOSE OF APPROPRIATELY. THE CONTRACTOR IS RESPONSIBLE FOR CONTROLLING DUST PER WDNR TECHNICAL STANDARD DUST CONTROL ON CONSTRUCTION SITES #1068.
- PROPERLY DISPOSE OF ALL WASTE AND UNUSED BUILDING MATERIALS (INCLUDING GARBAGE, DEBRIS, CLEANING WASTES, OR OTHER CONSTRUCTION MATERIALS) AND DO NOT ALLOW THESE MATERIALS TO BE CARRIED BY RUNOFF INTO THE RECEIVING CHANNEL.
- COORDINATE WITH THE OWNER TO UPDATE THE LAND DISTURBANCE PERMIT TO INDICATE THE ANTICIPATED OR LIKELY DISPOSAL LOCATIONS FOR ANY EXCAVATED SOILS OR CONSTRUCTION DEBRIS THAT WILL BE HAULED OFF-SITE FOR DISPOSAL. THE DEPOSITED OR STOCKPILED MATERIAL NEEDS TO INCLUDE PERIMETER SEDIMENT CONTROL MEASURES (SUCH AS SILT FENCE, HAY BALES, FILTER SOCKS, OR COMPACTED EARTHEN BERMS).
- FOR NON-CHANNELIZED FLOW ON DISTURBED OR CONSTRUCTED SLOPES, PROVIDE CLASS I, II OR III TYPE A EROSION CONTROL MATTING. SELECT EROSION MATTING FROM APPROPRIATE MATRIX IN WDOT'S WIDOT PRODUCT ACCEPTABILITY LIST (PAL); INSTALL AND MAINTAIN PER WDNR TECHNICAL STANDARD NON-CHANNEL EROSION MAT #1052.
- FOR CHANNELIZED FLOW ON DISTURBED OR CONSTRUCTED AREAS, PROVIDE CLASS I, II, OR III TYPE B EROSION CONTROL MATTING. SELECT EROSION MATTING FROM APPROPRIATE MATRIX IN WDOT'S WIDOT PRODUCT ACCEPTABILITY LIST (PAL); INSTALL AND MAINTAIN PER WDNR TECHNICAL STANDARD CHANNEL EROSION MAT #1053.
- MAKE PROVISIONS FOR WATERING DURING THE FIRST 8 WEEKS FOLLOWING SEEDING OR PLANTING OF DISTURBED AREAS WHENEVER MORE THAN 7 CONSECUTIVE DAYS OF DRY WEATHER OCCUR.
- INSTALL ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES (SUCH AS TEMPORARY SEDIMENT BASINS, DITCH CHECKS, EROSION CONTROL MATTING, SILT FENCING, FILTER SOCKS, WATTLES, SWALES, ETC.), OR AS DIRECTED BY THE OWNER.
- THE CONTRACTOR IS RESPONSIBLE FOR COMPLYING WITH ALL APPLICABLE WDNR REMEDIATION AND WASTE MANAGEMENT REQUIREMENTS FOR HANDLING AND DISPOSING OF CONTAMINATED MATERIALS. SITE-SPECIFIC INFORMATION FOR AREAS WITH KNOWN OR SUSPECTED SOIL AND/OR GROUNDWATER CONTAMINATION CAN BE FOUND ON WDNR'S BUREAU OF REMEDIATION AND REDEVELOPMENT TRACKING SYSTEM (BRRTS) PUBLIC DATABASE AT: <http://dnr.wi.gov/botw/>

EROSION CONTROL PLAN
AND GENERAL NOTES

2023 LIFT STATION 2 IMPROVEMENTS
Marsh Woods Drive
Village of McFarland, Wisconsin

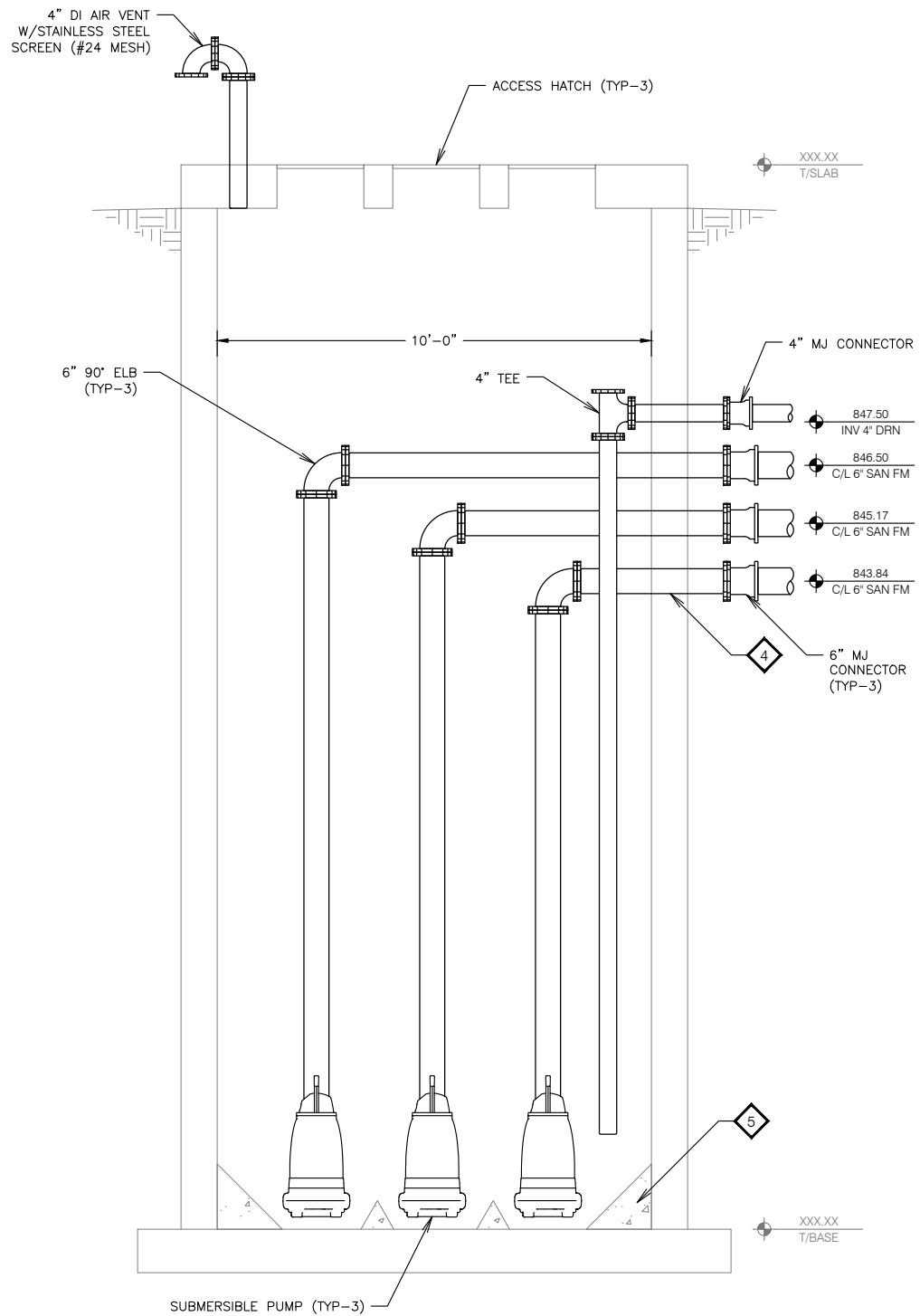
PROJECT NO.: MC 198
DRAWING FILE: 05-SITE
DRAWN BY: D.D.E.
CHECKED BY: T.J.S.
DATE: 9-27-23
REVISIONS:
SCALE:
0 5 10 20
SHEET:



STRUCTURE SCHEDULE	
10	WETWELL
20	LIFT STATION BUILDING

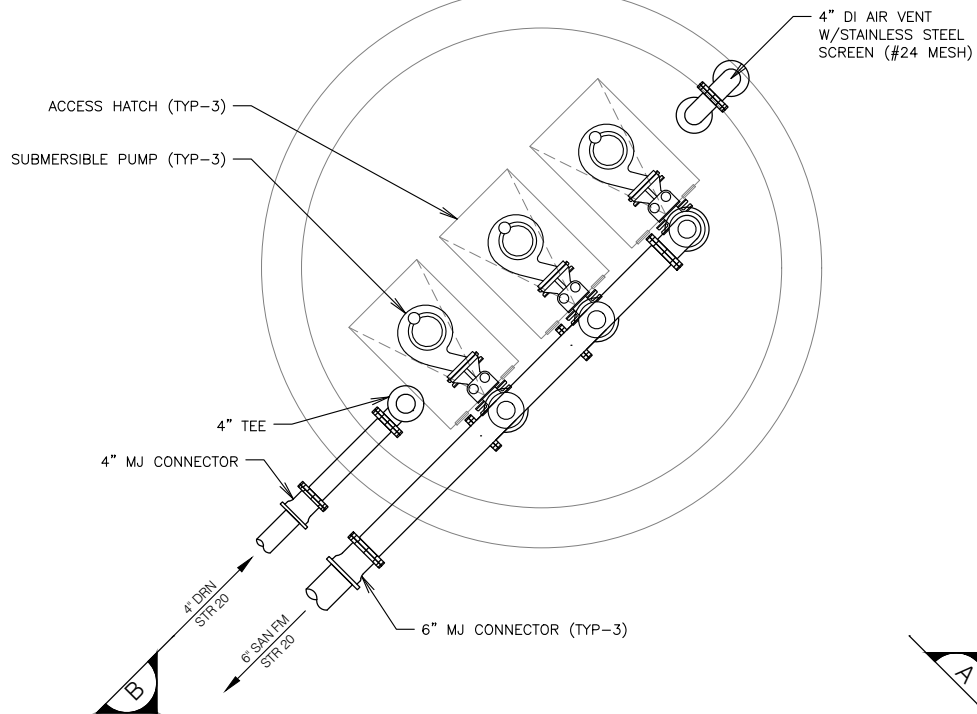
- GENERAL NOTES
1. ALL PIPING SHALL BE LAID AT A CONSTANT SLOPE TO ALLOW DRAINAGE OR GAS TO THE HIGH POINTS.
 2. CONTRACTOR SHALL COORDINATE BOTH THE ELECTRIC AND GAS UTILITY FOR SERVICE.
 3. CONTRACTOR SHALL TAP WATER MAIN AND INSTALL SHUT OFF, CURB STOP AND 2 INCH LATERAL FROM MAIN TO THE BUILDING.
 4. ALL PIPES, EXCEPT WATER SERVICE, SHALL HAVE TRACING WIRE.
 5. CONTRACTOR SHALL BACKFILL ALL PIPE AND CONDUIT TRENCHES FROM BEDDING ZONE TO PAVEMENT OR CONCRETE BASE COURSE WITH SAND.

- KEY NOTES
1. CONTRACTOR SHALL INSTALL THE 8 INCH PLUG VALVE AND VALVE BOX. VALVE SHALL BE USED FOR PRESSURE TESTING THE LINES.
 2. PROVIDE SIGN ON WETWELL COVER TOP SAYING "CONFINED SPACE ENTRY AND HAZARDOUS AREA".
 3. INSTALL CURB STOP AND VALVE BOX.

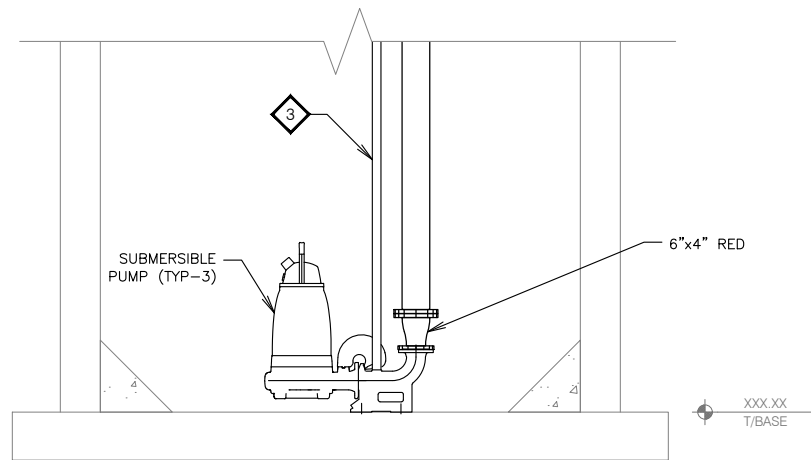


SECTION

B



PROCESS PLAN
Wetwell



SECTION

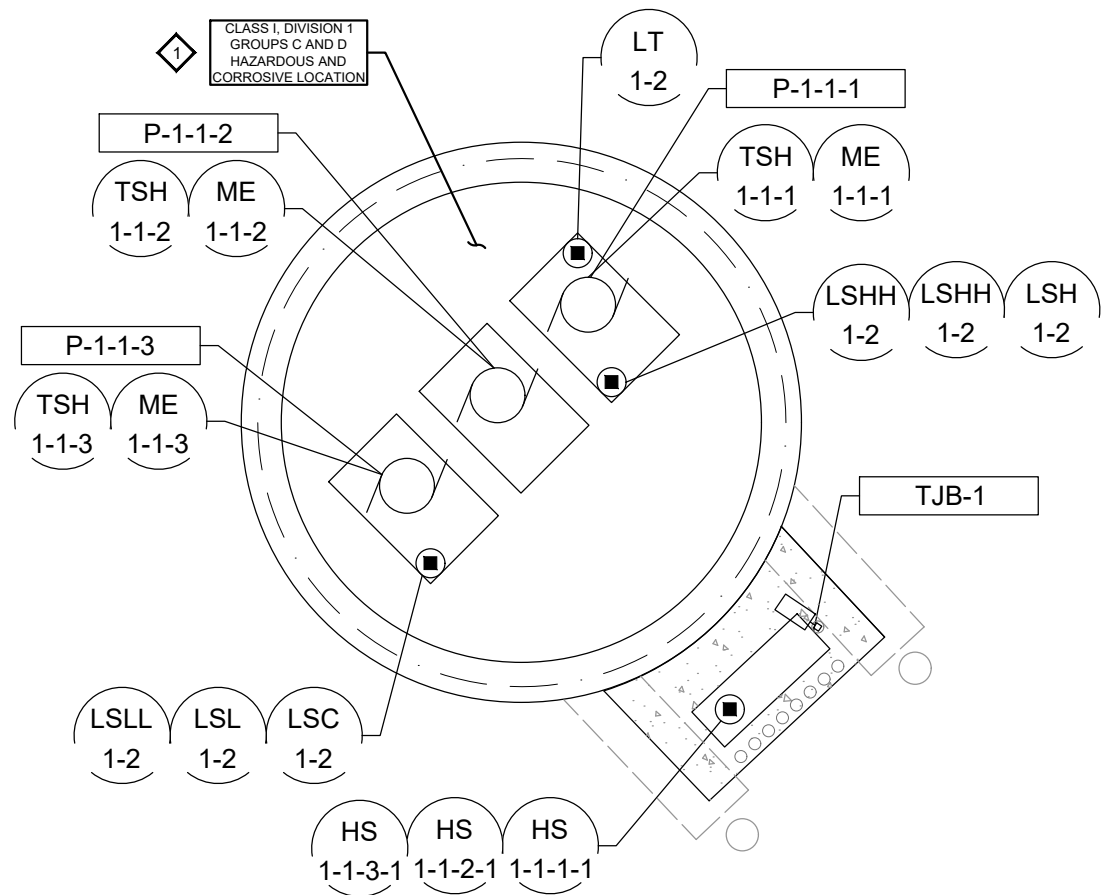
A

GENERAL NOTES

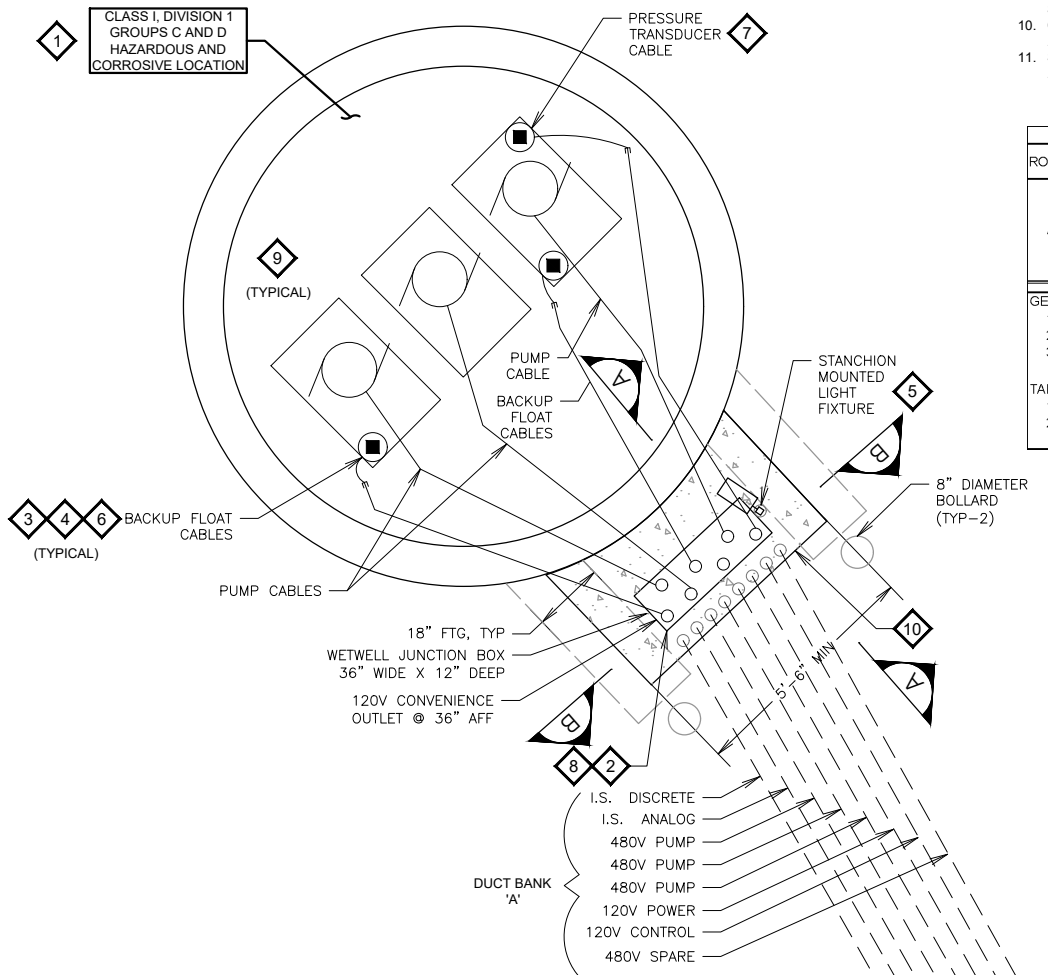
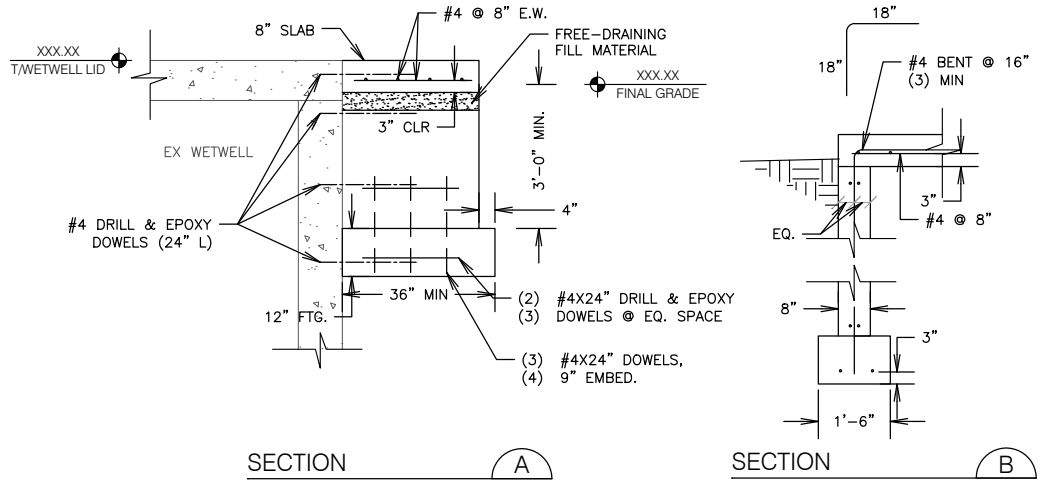
1. ALL PIPING THROUGH THE WETWELL WALLS SHALL BE CORED WITH WATER TIGHT SEALS.
2. CONTRACTOR SHALL GROUT THE BOTTOM OF WETWELL AS SHOWN AND PER MANUFACTURER'S RECOMMENDATIONS.
3. ALL EXPOSED PIPING SHALL BE EPOXY PAINTED CLASS 53 DI AND PAINTED ACCORDING TO THE HIGH PERFORMANCE COATINGS SPECIFICATION UNLESS NOTED OTHERWISE.
4. ALL MATERIAL IN WETWELL WILL BE 304SS, DUCTILE IRON EPOXY COATED, AND PVC COATED RIGID ELECTRIC CONDUIT.

KEY NOTES

1. ALL CONSTRUCTION MATERIALS INSTALLED IN THE WETWELL SHALL BE 304 STAINLESS STEEL UNLESS NOTED OTHERWISE.
2. PROVIDE SS PIPE BRACING PER THE PIPING SPECIFICATIONS.
3. PROVIDE SS GUIDE RAILINGS AND APPROPRIATE INTERMEDIATE SUPPORT BRACING AS PER THE PUMP MANUFACTURERS RECOMMENDATIONS.
4. CONTRACTOR SHALL CORE AND LINK SEAL ALL NEW OPENINGS PER DETAIL 414-TYPE H ON 100-M-01.
5. GROUT ACCORDING TO MANUFACTURERS RECOMMENDATIONS.



POWER AND INSTRUMENTATION PLAN



POWER DISTRIBUTION AND CONDUIT ROUTING PLAN

GENERAL NOTES

- DO NOT SCALE DRAWINGS TO DETERMINE EXACT LOCATION OF ELECTRICAL EQUIPMENT AND CONNECTIONS.
- 120V HOMERUN WIRING SHALL BE A MINIMUM OF (2) #12 & #12G IN 3/4" UNLESS OTHERWISE NOTED. SIZE FOR VOLTAGE DROP.
- SEE ONE-LINE DIAGRAM, PANEL SCHEDULE, AND FIELD DEVICE WIRING SCHEDULE FOR WIRING OF ALL PROCESS AND INSTRUMENTATION.
- PROVIDE RACEWAY FOR ALL HVAC EQUIPMENT. PROVIDE WIRING FOR LINE VOLTAGE AND ABOVE POWER AND CONTROL WIRING.
- INSTALL FIELD INSTRUMENTS PER DETAIL REFERENCED IN FIELD DEVICE WIRING SCHEDULE.
- ALL CONDUIT STUBBED UP THROUGH CONCRETE SHALL BE PVC COATED GRS.
- SEE SCADA OVERVIEW FOR COMMUNICATIONS CABLING REQUIREMENTS.
- TRANSITION FROM PVC TO FMCCS PRIOR TO TRANSITIONING FROM UNDERGROUND TO EXPOSED CONDUIT.
- UNDERGROUND CONDUIT ROUTING IS DIAGRAMMATIC IN NATURE AND NOT INTENDED TO DICTATE EXACT ROUTING CONTRACTOR IS TO COORDINATE WITH ENGINEER AND DETERMINE BEST ROUTING BASED ON OTHER UTILITIES AND FIELD CONDITIONS.
- ALL EQUIPMENT SHALL BE LABELED PER CITY'S REQUIREMENT.

KEY NOTES

- WETWELL IS CLASS I DIV 1, GROUPS C AND DE ENVIRONMENT. AREA ABOUT WETWELL VENT IS CLASS I DIV 1 TO A RADIUS OF 3 FEET, AND CLASS I DIV 2 FOR A RADIUS OF 3 TO 5 FEET. AREA ABOUT WETWELL HATCH WHEN OPEN IS CLASS I DIV 2 TO A HEIGHT OF 1.5 FEET AND AN AREA EXTENDING 3 FEET FROM THE HATCH OPENING.
- PROVIDE WETWELL JUNCTION BOX AND CONDUIT ROUTING PER DETAIL E1-18.
- PROVIDE SEPERATE STAINLESS STEEL SUPPORTS IN WETWELL FOR EACH CABLE.
- PROVIDE TWO FLOAT MOUNTING KITS, ONE FOR LSSL-1-2 AD LSL-1-2, LSC-1-2 AND THE SECOND FOR LSH-1-2, LSHH-1-2, AND LSHH-1-2.
- INSTALL FIXTURE POLE AND BASE PER DETAIL E3-04. FIXTURE TO BE MOUNTED AT 15' AFG AND CONTROLLED BY ON-OFF-AUTO SWITCH IN STRUCTURE 20.
- FLOAT INSTALLATION PER DETAIL E5-L01.
- TRANSDUCER INSTALLATION PER DETAIL E5-LO3.
- LB ENTERS WETWELL VENTILATED JUNCTION PANEL ON BACK SIDE.
- ALL CONDUIT IN WETWELL SHALL BE SLOPED TO DRAIN BACK TO WETWELL, AND SHALL BE BRACED WITH STAINLESS STEEL SUPPORTS.
- CONTRACTOR SHALL DETERMINE FINAL LENGTH AND WIDTH OF PLATFORM TO ALLOW SPACE FOR LBS. DIMENSIONS SHOWN ARE MINIMUM.
- SEE SECTION 01000 FOR DIVISION OF WORK BETWEEN THE ELECTRIC UTILITY AND THE CONTRACTOR.

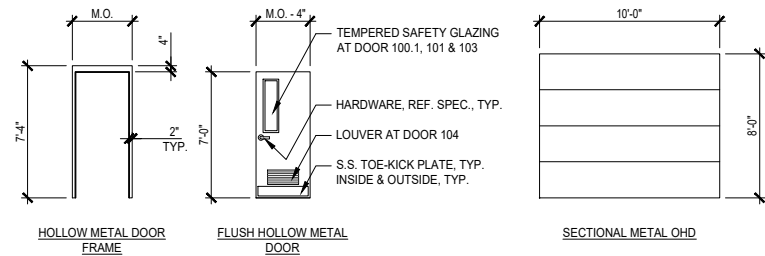
UNDERGROUND CONDUIT SCHEDULE					
ROUTE	CIRCUIT TYPE	CONDUIT QTY	CONDUIT SIZE	CONDUIT TYPE	NOTES
A	480V POWER	3	2"	RNC	
	120V POWER	1	2"	RNC	
	120V DISCRETE SIGNAL	1	2"	RNC	
	I.S. SIGNAL	1	2"	RNC	
	SPARE POWER	1	2"	RNC	
	SPARE SIGNAL	1	2"	RNC	
GENERAL NOTES:					
1. TRANSITION TO PVC COATED GRC PRIOR TO EXITING GROUND.					
2. REFER TO SECTION 26 90 10 FOR ADDITIONAL REQUIREMENTS.					
3. WHERE MORE THAN ONE CONDUIT SIZE IS CALLED OUT IN PLANS, USE LARGEST CONDUIT SIZE SPECIFIED.					
TABLE NOTES:					
1. CONCRETE ENCASED CONDUIT PER DETAIL E2-09					
2. DIRECT-BURIED CONDUIT PER DETAIL E2-10.					

BUILDING CODE SUMMARY	
BUILDING INFORMATION	
PROJECT TYPE	NEW
STRUCTURE PURPOSE	NOTE-3
USE & OCCUPANCY	NOTE-4
NO. STORIES	1
CONSTRUCTION CLASS	IIIB
GROSS AREA NEW CONSTRUCTION	1,600 SF
GROSS AREA EXIST. & NEW	N/A
GROSS ENCLOSED VOLUME	22,000 CF
FIRE SUPPRESSION (Y/N)	N
FIRE ALARM (Y/N)	N
EXIT TRAVEL DIST. (MAX. PER T.1017.2)	NOTE-6
ACCESSIBILITY	NOTE-5
CODE AUTHORITY SUBMITTAL (Y/N)	N

- BUILDING CODE SUMMARY NOTES:**
- PROJECT ADDRESS:
 - COMMERCIAL BUILDINGS DELEGATED AUTHORITY: WISCONSIN DEPARTMENT OF SAFETY & PROFESSIONAL SERVICES (IBC 2015)
 - STRUCTURE PURPOSE:
CONSTRUCT NEW MUNICIPAL SEWAGE LIFT STATION
 - USE & OCCUPANCY:
FACTORY GROUP F-2, NO SEPARATIONS REQUIRED, TABLE 508.4, ALLOWABLE BUILDING AREA:
GROUP F-2 = 19,000 SQ. FT. (NS. MOST RESTRICTIVE), TABLE 506.2
 - ACCESSIBILITY: EXEMPT PER IBC 1103.2.7 AND/OR 1103.2.9
 - ALLOWABLE EXIT TRAVEL DISTANCE: 300' (GROUP F-2)

BASIS OF STRUCTURAL DESIGN	
[1.0] ROOF LIVE LOADS:	
SNOW, GROUND (P _g)/ROOF FLAT (P _f)	30/25 PSF
UNBAL. SNOW LOAD (ASCE-7 FIG. 7-5)	40/25 PSF
IMPORTANCE FACTOR (I _s)	1.0
THERMAL FACTOR (C _t)	1.0
SNOW EXPOSURE FACTOR (C _e)	1.2
[1.1] SUPERIMPOSED ROOF DEAD LOADS (LOADS ON COMPONENTS):	
ROOFING, INSUL., FP, GWB, MISC.	18 PSF
[1.2] FLOOR LIVE LOADS:	
SLAB-ON-GRADE	250 PSF
[2.0] WIND (SIMPLIFIED PROCEDURE LOW-RISE BUILDINGS):	
WIND RISK CATEGORY	II
ENCLOSURE LEVEL	FULL
ULTIMATE DESIGN WIND SPEED (V _{ult})	115 MPH
NOMINAL DESIGN WIND SPEED (V _{asd})	90 MPH
IMPORTANCE FACTOR (I _w)	1.0
EXPOSURE CATEGORY	C
INTERNAL PRESSURE COEFFICIENT	±0.18
[3.0] SEISMIC (EQUIVALENT LATERAL FORCE PROCEDURE):	
SEISMIC RISK CATEGORY	II
SEISMIC IMPORTANCE FACTOR (I _s)	1.00
SITE CLASS	D
SEISMIC DESIGN CATEGORY	A
SEISMIC FORCE-RESISTING SYSTEM	NOTE-2
[4.0] ALLOWABLE SOIL BEARING CAPACITY & SUBGRADE MODULUS:	
FOOTINGS	2,000 PSF
SLAB-ON-GRADE	150 PCI

- BASIS OF STRUCTURAL DESIGN NOTES:**
- PROVIDE FOR ADDITIONAL 5 PSF LL AT ALL ATTIC SPACES.
 - SEISMIC FORCE-RESISTING SYSTEM: A. BEARING WALL SYSTEMS, 9. ORDINARY REINFORCED MASONRY SHEAR WALLS (PER ASCE 7).
 - COMPONENT DELEGATED DESIGN AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH PROVISIONS OF THE WISCONSIN DEPARTMENT OF ADMINISTRATIVE CODE, CHAPTER SPS 362 (CURRENT EDITION). COMPONENT SUBMITTAL SHALL INCLUDE: WOOD ROOF TRUSSES.



- DOOR NOTES:**
- REF. SPECIFICATION SECTION 08 71 00 (3.3) FOR DOOR HARDWARE SETS. HARDWARE TYPE & FINISHES AS SPECIFIED. COORDINATE LOCKSET KEYING WITH OWNER.
 - PROVIDE SHAFT-MOUNTED ELECTRIC OPERATOR (SIDE MOUNT), ACCESS KEYPAD, DOOR SENSING EDGE, & (4) REMOTES. TRACKS SHALL BE HIGH-CLEARANCE.
 - EXTERIOR DOORS 100.1 AND 100.2 & 102 SHALL BE INSULATED.
 - INTERIOR DOOR 103 SHALL BE 2-HR RATED, TEMPERED SAFETY GLAZING SHALL BE RATED FOR 1 1/2 HRS.

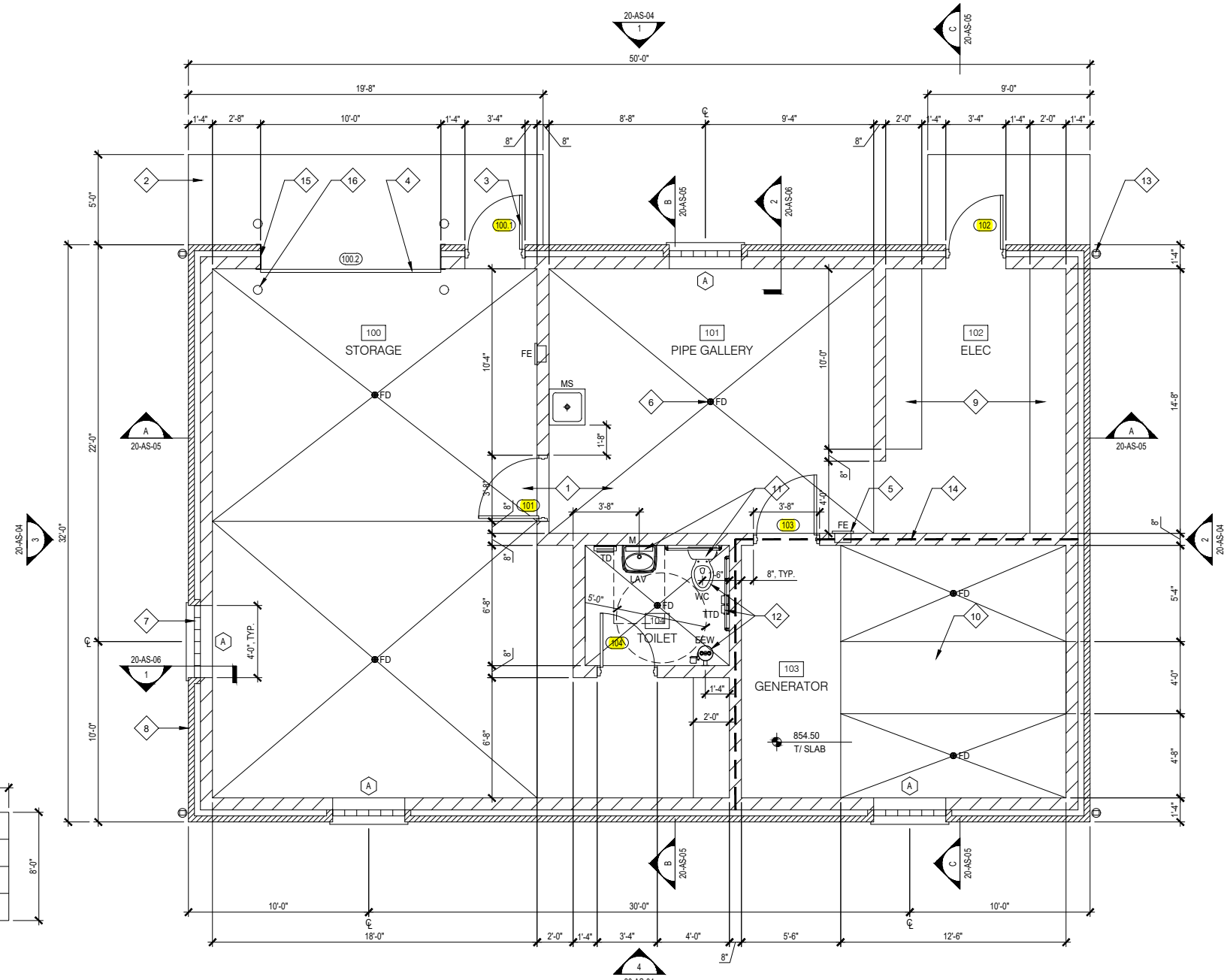
ROOM FINISH SCHEDULE											
BUILDING	ROOM NO.	ROOM NAME	WALLS				FLOOR	BASE	CEILING		REMARKS
			N	E	S	W			MAT'L	HEIGHT	
LIFT STATION NO. 2	100	STORAGE	CMU/PT	CMU/PT	CMU/PT	CMU/PT	SC	N/A	GWB	10'-2"±	NOTE-1, 2
	101	PIPE GALLERY	CMU/PT	CMU/PT	CMU/PT	CMU/PT	SC	N/A	GWB	10'-2"±	NOTE-1, 2
	102	ELECTRICAL	CMU/PT	CMU/PT	CMU/PT	CMU/PT	SC	N/A	GWB	10'-2"±	NOTE-1, 2
	103	EMERGENCY GENERATOR	CMU/PT	CMU/PT	CMU/PT	CMU/PT	SC	N/A	GWB	10'-2"±	NOTE-1, 2, 3
	104	TOILET	CMU/PT	CMU/PT	CMU/PT	CMU/PT	SC	N/A	GWB	10'-2"±	NOTE-1, 2

ROOM FINISH SCHEDULE ABBREVIATIONS:

C - CONCRETE
CMU - CONCRETE MASONRY UNIT
GWB - 5/8" TYPE-X MOISTURE-RESISTANT GYPSUM WALL BOARD, FINISHED, ORANGE-PEEL TEXTURED & PAINTED

PT - PAINTED
SC - SEALED CONCRETE

- ROOM FINISH SCHEDULE NOTES:**
- SEALED CONCRETE FINISH: (2) COATS ARMOR 'AR350' OR EQ., FOLLOW MFR RECOMMENDATIONS FOR SURFACE PREP, MIXING & APPLICATION RATES.
 - GWB 5/8" MOISTURE-RESISTANT, TYPE-X, MAX. INSTALLATION GAP 1/16".
 - 2-HR FIRE SEPARATION AREA: PROVIDE (2) LAYERS 5/8" TYPE-X GWB AT RM 103 CEILING. MUD & TAPE BOTH LAYERS; FINISHED, PAINTED & TEXTURED EXPOSED SURFACE ONLY.



FLOOR PLAN

1
1/4" = 1'-0"

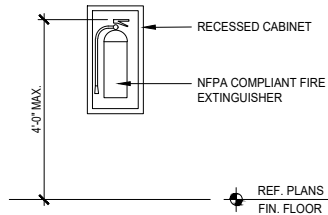
GENERAL NOTES

- KEY NOTES BELOW APPLY TO THIS SHEET ONLY.
- REFERENCE DETAIL 4/100-AS-02 & 5/100-AS-02 FOR APPLICABLE HEAD, JAMB, SILL AND/OR THRESHOLD DETAILS OF CONSTRUCTION.

KEY NOTES

- CONCRETE FLOOR SLAB-ON-GRADE: 4" THICK ROOMS 102 & 104, 6" THICK REMAINING ROOMS
- CONCRETE FROST-PROTECTED STRUCTURAL STOOP
- INSULATED HOLLOW METAL DOOR, FRAME & HARDWARE, REF. DETAIL THIS SHEET AND SPECIFICATIONS 08 11 13 & 08 71 00
- INSULATED METAL SECTIONAL OVERHEAD DOOR, REF. DETAIL THIS SHEET AND SPECIFICATION 08 36 13
- FIRE EXTINGUISHER IN CABINET: INSET-MOUNTED CABINET, REF. FIRE EXTINGUISHER MOUNTING ELEVATION THIS SHEET, TYP.
- FLOOR DRAIN (FD), REF. PLUMBING DRAWINGS & FOUNDATION PLAN FOR ELEVATION(S), TYP.
- GLASS BLOCK WINDOW ASSEMBLY AT LOCATIONS SHOWN AND DENOTED 'A', (4) LOCATIONS, TYP.
- 16" INSULATED MASONRY CAVITY WALL, REF. APPLICABLE DETAILS FOR CONSTRUCTION.
- 4" RAISED CONC. PAD, ALSO REF. ELEC. DWGS
- EMERGENCY GENERATOR RAISED ISOLATED BASE
- TOILET ROOM FIXTURES: WC = WATER CLOSET, LAV = LAVATORY, EEW = EMERGENCY EYE WASH, MS = MOP SINK, REF. PLUMBING DRAWINGS & SPECIFICATIONS, ALSO REF. 1/100-AS-03 & 2/100-AS-03 FOR APPLICABLE MOUNTING INFORMATION
- TOILET ROOM ACCESSORIES: GB = STAINLESS STEEL GRAB BARS, TTD = TOILET TISSUE DISPENSER, TD = TOWEL DISPENSER, M = MIRROR, REF. SPECIFICATION 10 80 00 AND REF. 1/100-AS-03 & 2/100-AS-03 FOR APPLICABLE MOUNTING INFORMATION, MOUNT FIXTURE 'EEW' OUTSIDE 5'-0" CLEARANCE RADIUS SHOWN
- FACTORY-FINISHED ALUM. DOWNSPOUT TO UNDERDRAIN SYSTEM, REF. SITE DWGS, TYP. (4) LOCATIONS SHOWN
- 2-HR RATED WALL AND CEILING SYSTEM REQUIRED BETWEEN GENERATOR ROOM 103 AND ADJACENT STRUCTURE (HEAVY DASHED LINE)
- 1/8" PLATE STEEL PROTECTIVE JAMB COVER, 2" RETURNS, GALVANIZED & PAINTED, (2) REQ'D
- 8" CONCRETE-FILLED STEEL PIPE BOLLARD

FIRE EXTINGUISHER NOTE:
PROVIDE (2) WALL FIRE EXTINGUISHERS (FE), GENERAL LOCATIONS AS SHOWN ON FLOOR PLAN. COORDINATE EXACT PLAN LOCATION TO ACCOMMODATE INSTALLATIONS BY OTHER TRADES.

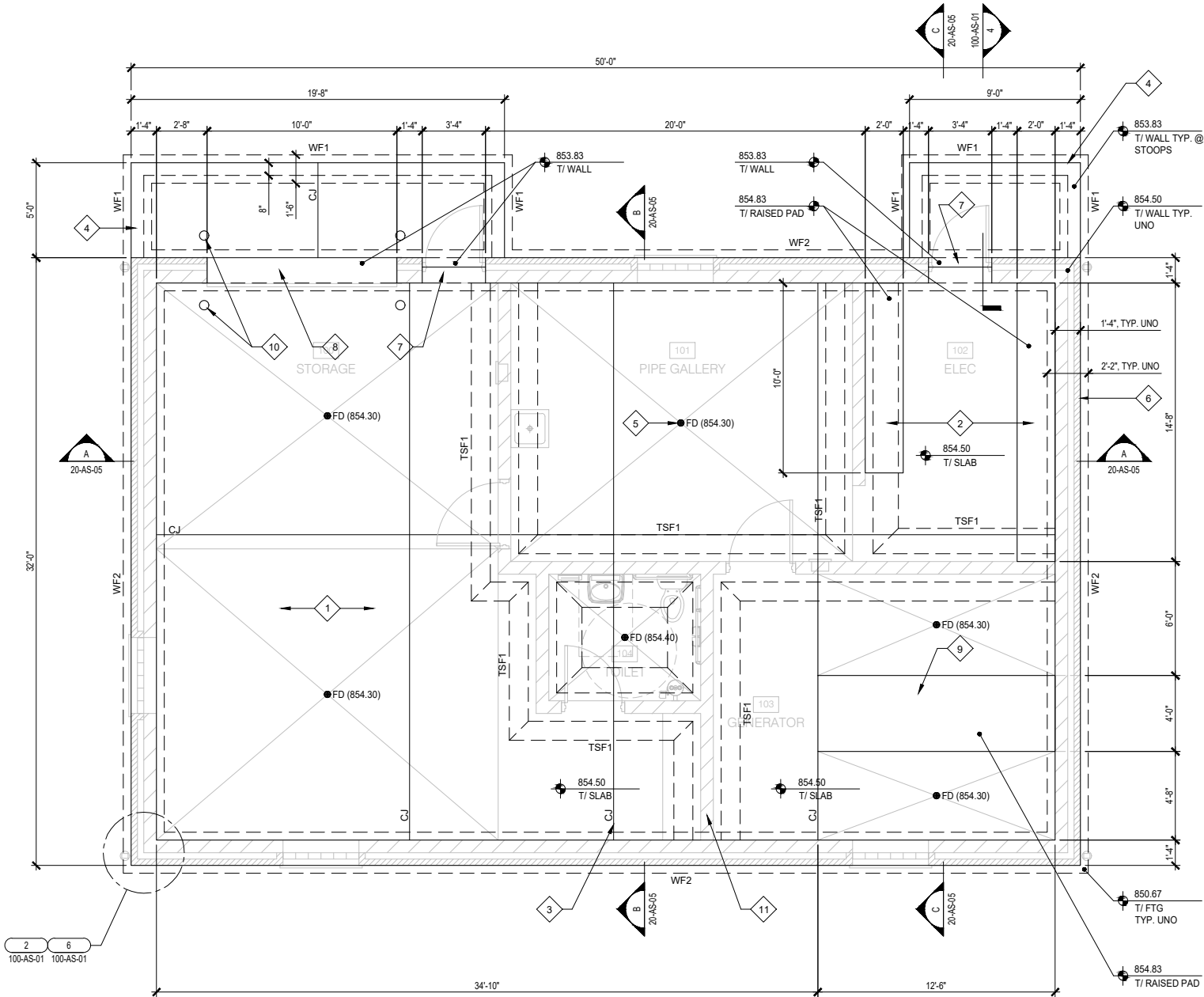


FIRE EXTINGUISHER MOUNTING ELEVATION

NOTE:
ALL FINISH-EXPOSED FORMED CONCRETE SURFACES SHALL RECEIVE A SMOOTH RUBBED FINISH PER SPECIFICATION SECTION 03 30 00 (3.7). CONCRETE SLABS SHALL BE FINISHED TO TOLERANCE $F_2=25$, $F_1=20$, UNO.

WALL FOOTINGS				
MARK	SIZE		REINF.	REMARKS
	W (IN)	T (IN)		
WF1	1'-6"	12"	(2) #4 CONT.	-
WF2	2'-0"	12"	(3) #5 CONT.	-
TSF1	1'-8"	12"	-	REF. 12/100-AS-01

NOTES:
1. FOOTINGS ARE CENTERED BELOW CONCRETE (OR CMU) WALLS TYP. UNO.
2. INSTALL CONC. WALL-TO-FOOTING DOWELS, #4 X 24" STRAIGHT DOWELS @ 48" O.C., 9" EMBED. INTO FOOTING, TYP. UNO.



FOUNDATION PLAN

1

1/4" = 1'-0"

GENERAL NOTES

- KEY NOTES BELOW APPLY TO THIS SHEET ONLY.
- REF. 8/100-AS-01 FOR CONCRETE REINFORCING LAP SPLICE TABLE AND REINFORCING CLEAR COVER REQUIREMENTS.
- REF. 3/100-AS-01 FOR CONCRETE REINFORCING TYPICAL BAR BEND DETAILING.
- SEQUENCED CONCRETE PLACEMENT SHALL UTILIZE LAP SPLICES AS INDICATED IN 8/100-AS-01 EXCEPT WHERE APPROVED BY A/E IN ADVANCE WHERE DETAIL 7/100-AS-01 MAY BE PERMITTED.
- REF. 11/100-AS-01 FOR UTILITY PIPING/CONDUIT CONFLICTS WITH FOUNDATION, TYP.
- A SITE-SPECIFIC GEOTECHNICAL SUBSURFACE INVESTIGATION AND REPORT WAS COMPLETED FOR THE SITE. RECOMMENDATIONS THEREIN SHALL BE INCORPORATED INTO THE PROJECT REQUIREMENTS. IN GENERAL, BIDDER SHALL PROVIDE FOR ENTIRE PROJECT BASE BID TO INCLUDE THE FOLLOWING SOILS WORK:

- PREPARE BUILDING FOOTING BEARING SOILS TO MEET MINIMUM CAPACITY INDICATED IN 'BASIS OF BUILDING STRUCTURAL DESIGN' TABLE ON SHEET 02-AS-01. SUBSTANDARD SOILS THAT MAY BE ENCOUNTERED REQUIRING ADDITIONAL SUB-GRADE REMOVAL & REPLACEMENT WITH ENGINEERED FILL, AS APPROVED IN ADVANCE BY ENGINEER, SHALL BE PROVIDED FOR WITH UNIT COSTS UNDER SUPPLEMENTAL BID ITEM.

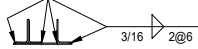
- PREPARE CONCRETE FLOOR SLAB-ON-GRADE SUB-GRADE AS DETAILED IN REPORT, OR AS OTHERWISE DETAILED ON DRAWINGS WHICHEVER PROVIDES FOR GREATER SUB-GRADE CAPACITY. MIN. 6" COMPACTED AGGREGATE BASE BELOW FLOOR SLAB-ON-GRADE REQUIRED. ALSO REF. 5/100-AS-01 FOR VAPOR RETARDER REQUIREMENTS.

- FOR DETAILED DESCRIPTION OF SOILS AND FOUNDATION SUB-GRADE PREPARATION, REFER TO:

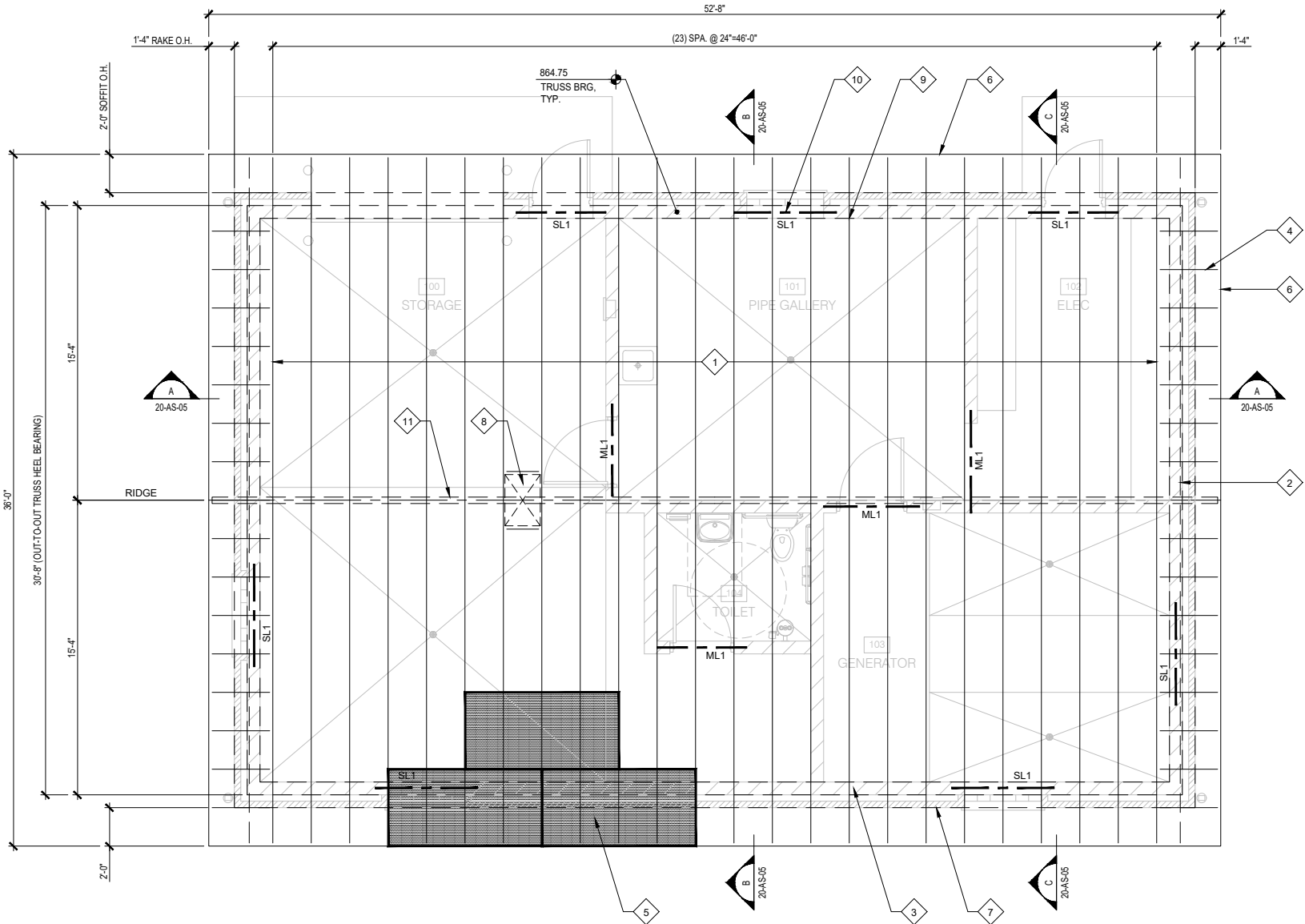
GEOTECHNICAL EXPLORATION REPORT
CGC, INC.
MAY 26, 2023
CGC REPORT NO.: C23162
CGC CONTACT:
TIM F. GASSENHEIMER, PE, CST
2921 PERRY ST., MADISON, WI 53713
608-288-7887

KEY NOTES

- CONCRETE SLAB-ON-GRADE:
 - ROOMS 102 & 104: 4" THICK, REINF. W/6X6 W1.4 X W1.4 WWF, SLAB PLACED OVER 10 MIL VAPOR RETARDER
 - ELSEWHERE: 6" THICK, REINFORCE W/ (1) MAT #4 BARS @ 16" O.C. E.W. CENTERED IN SLAB, SLAB PLACED OVER 10 MIL VAPOR RETARDER
 - STRUCTURAL STOOPS: REF. 4/100-AS-01
 - WHERE WWF SPECIFIED, FURNISH IN FLAT SHEETS, CENTER IN SLAB, MIN. 6" OVERLAP WWF SHEET EDGES, REF. 6/100-AS-03 FOR SUB-GRADE PREP. & POLY VAPOR RETARDER REQUIREMENTS, SLAB FINISH TOLERANCE F/F = 25, F/L = 20. STEEL TROWEL FINISH INTERIOR SLABS, BROOM FINISH EXT. SLABS, PITCH FLOOR TO FLOOR DRAINS WHERE PRESENT, TYP.
- 4" RAISED EQUIPMENT PAD, ALSO REF. ELEC. DWGS
- CONCRETE SLAB CONTROL JOINT (CJ), SAW-CUT WITHIN 12 HRS CONCRETE PLACEMENT/FINISHING, REF. 5/100-AS-01
- NEW STRUCTURAL CONCRETE STOOP AT EXTERIOR WALK DOORS & OVERHEAD DOOR
- FLOOR DRAIN, FLOOR SLOPE AS SHOWN, T/DRAIN EL. AS SHOWN IN PARENTHESIS, ALSO REF. PLUMBING DWGS
- CONCRETE FROST WALL AND CONT. FTG
- DROP T/WALL ELEVATION DOWN 8" AT WALK DOOR OPENINGS TO ALLOW STOOP SLAB OVER-POUR. LOCATE CONSTRUCTION JOINT BETWEEN INTERIOR SLAB AND EXT. STOOP SLAB BELOW THRESHOLD
- DROP T/WALL ELEVATION DOWN 8" AT OVERHEAD DOOR OPENING TO ALLOW GARAGE FLOOR SLAB OVER-POUR
- ISOLATED RAISED EQUIPMENT BASE, REF. 3/100-AS-03, SIM/TYP.
- 8" CONCRETE-FILLED STEEL PIPE BOLLARD, REF. 8/100-AS-02, TYP.
- THICKENED SLAB FOOTING, REF. SCHEDULE THIS SHEET, TYP.

LINTEL SCHEDULE		
MARK	TYPE	DETAIL/REMARKS
ML1	8"W. BOND BEAM W/2-#5 CONT. (& LOOSE STEEL LINTEL AT MASONRY VENEER LOCATIONS)	 GROUT W/ MIN. 3,000 PSI CONC.
SL1	B/B L6X3 1/2X3/8 (LLV) WITH 3/8" T. BOT. PL., PL. WIDTH = WALL MINUS 1"	 3/16 2@6

- NOTES:
- MINIMUM LINTEL BEARING 8" UNLESS DETAILED OTHERWISE.
 - INSTALL LINTEL TYPE 'ML1' AT MISC. HVAC OPENINGS < 24" WIDE (NOT SHOWN).



ROOF FRAMING PLAN

1

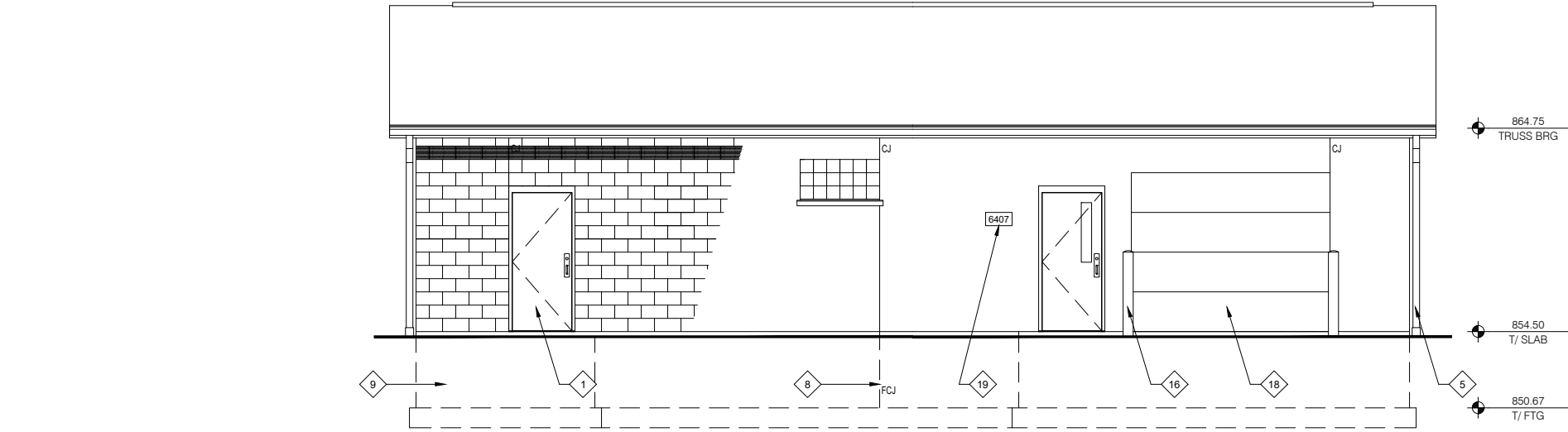
1/4" = 1'-0"

GENERAL NOTES

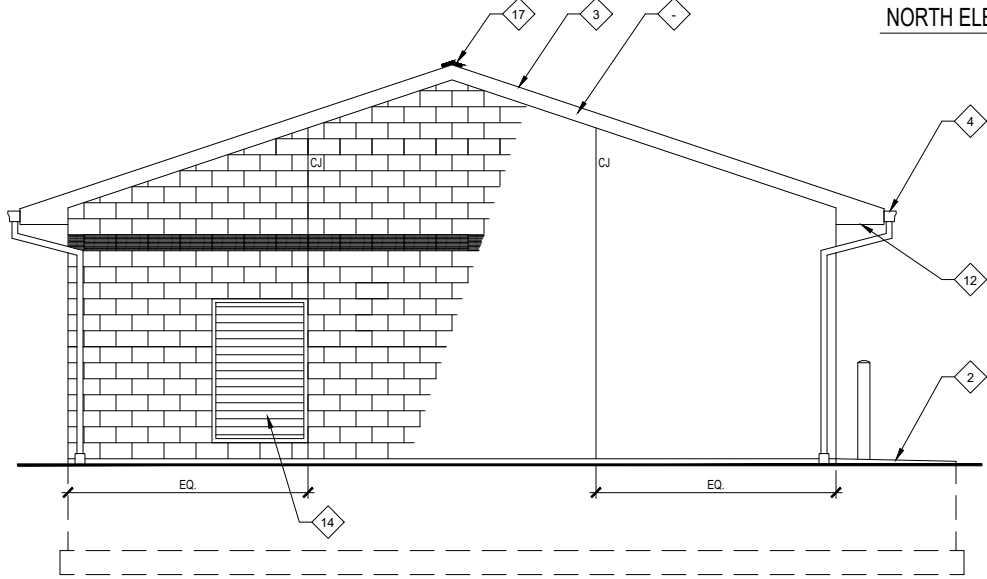
- KEY NOTES BELOW APPLY TO THIS SHEET ONLY.
- VERIFY SIZE AND LOCATION OF ANY AND ALL ROOF & WALL OPENINGS WITH MECHANICAL, HVAC AND ELECTRICAL CONTRACTORS. OPENINGS LESS THAN 24 INCHES IN DIMENSION ARE GENERALLY NOT SHOWN.
- UNO, WOOD FASTENING SHALL BE COMPLETED IN ACCORDANCE WITH IBC 2015 TABLE 2304.9.1
- TRUSS COMPONENT DELEGATED DESIGN AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH PROVISIONS OF THE WISCONSIN DEPARTMENT OF ADMINISTRATIVE CODE, CHAPTER SPS 362 (CURRENT EDITION).
- G.C. SHALL SUBMIT THE FOLLOWING COMPONENT DESIGNS TO A/E: WOOD ROOF TRUSSES.
- NEW TRUSS WEB GEOMETRY SHALL BE AS DESIGNED BY TRUSS SUPPLIER.
- TRUSS DESIGN SUPERIMPOSED DEAD AND LIVE DESIGN LOADS:
 - DL: 15 PSF TOP CHORD, 5 PSF BOT. CHORD
 - LL: 25 PSF TOP CHORD, 5 PSF BOT. CHORD
- REF. 7/100-AS-02 FOR PERMANENT TRUSS BRACING REQUIREMENTS. BRACING INSTALLATION SHALL BE IN COMPLIANCE WITH 'BUILDING COMPONENT SAFETY INFORMATION' (BCSI) MANUAL JOINTLY PRODUCED BY THE TRUSS PLATE INSTITUTE (TPI) AND STRUCTURAL BUILDING COMPONENTS ASSOCIATION (SBCA), 2013 EDITION., UPDATED MARCH 2015.
- INSTALL PERMANENT TRUSS BRIDGING AS RECOMMENDED BY TRUSS SUPPLIER.
- ALL WOOD IN CONTACT WITH MASONRY SHALL BE PRESSURE-TREATED.

KEY NOTES

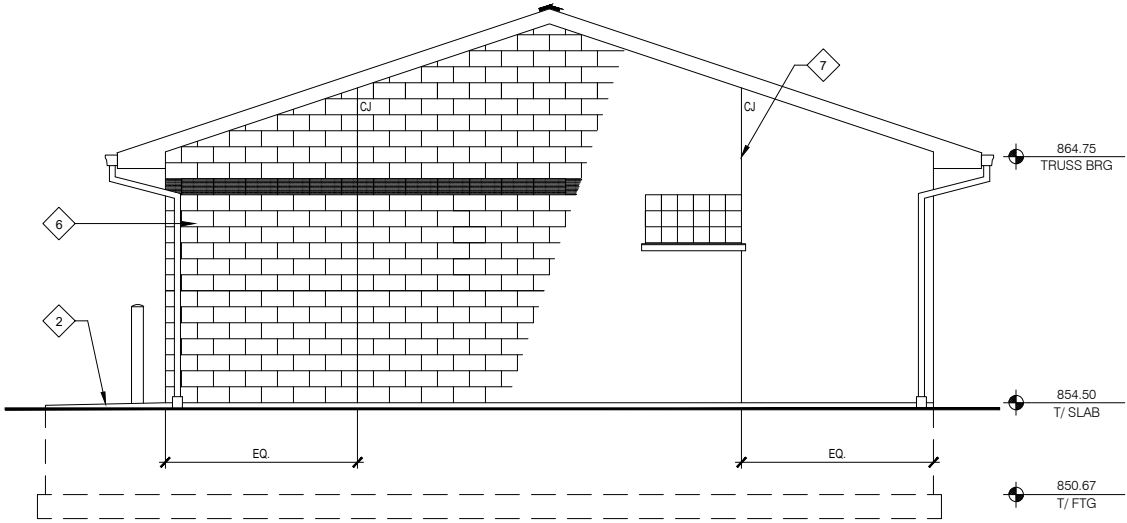
- WOOD COMMON TRUSSES AT 24" O.C., TYP.
- STEP-DOWN WOOD END WALL TRUSS, TYP.
- TRUSS BEARING ON 8" CMU STRUCTURAL WYTHE P.T. WOOD NAILER PLATES BELOW
- 2X LOOKOUTS @ 24" O.C.
- 19/32" STRUCTURAL USE OSB SHEATHING, SPAN RATING 32/16, SPAN PERPENDICULAR TO TRUSS, STAGGER JOINTS
- 2X8 FASCIA ALL AROUND
- MASONRY CAVITY WALL BELOW (DASHED LINES)
- 22"X32" ATTIC ACCESS, PROVIDE MITERED 1X4 FINISH WOOD TRIMMED OPENING, REMOVABLE ACCESS PANEL: PLYWOOD & 5/8" TYPE-X GWB FINISH SURFACE, GRAVITY MOUNTED, 3" MIN. POLYSTYRENE ON ATTIC SIDE, EXPOSED WOOD PAINTED
- SIMPSON STRONG-TIE 'H2.5' (OR EQ.) HOLD-DOWN ANCHOR, EA. TRUSS BRG. OPTION: USE (1) MITEK 'TIMBERLOK' THROUGH DOUBLE TOP PLATE INTO BOT. CHORD TRUSS AT EA. TRUSS AND/OR LOOKOUT BEARING (MIN. SERVICE CAPACITY UPLIFT = 420#, SHEAR = 320# EA. ANCHOR), OR APPROVED EQUAL
- STEEL (OR MASONRY) LINTEL OVER OPENING, REF. LINTEL SCHEDULE THIS SHEET, TYP.
- CONT. RIDGE VENT ABOVE (DASHED LINE)



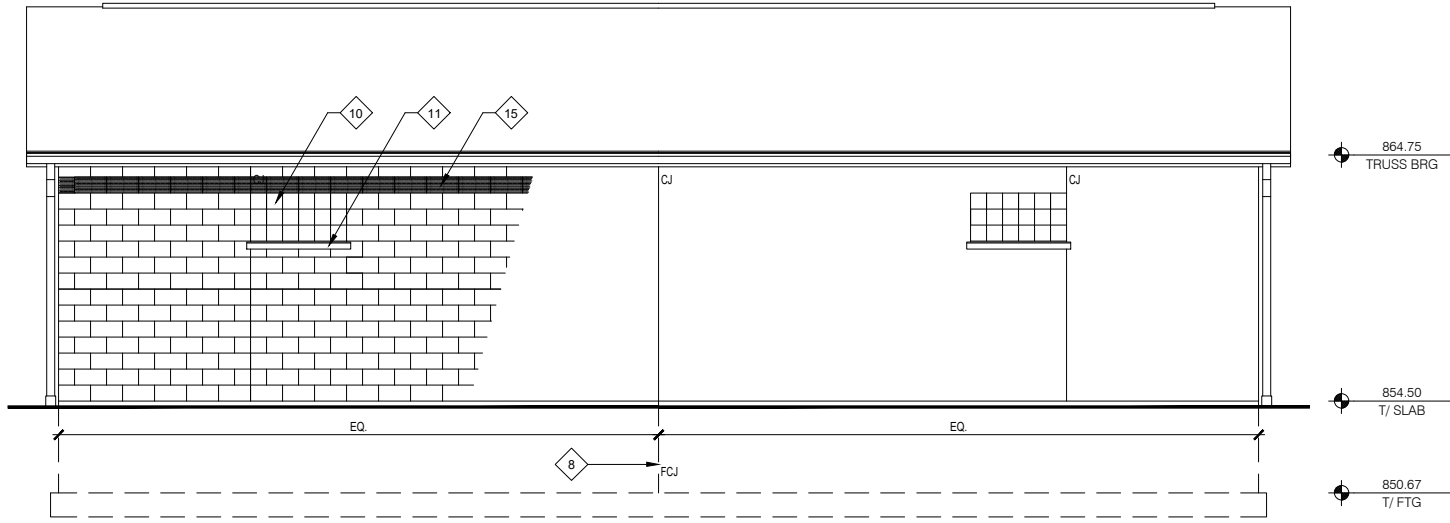
NORTH ELEVATION 1



EAST ELEVATION 2

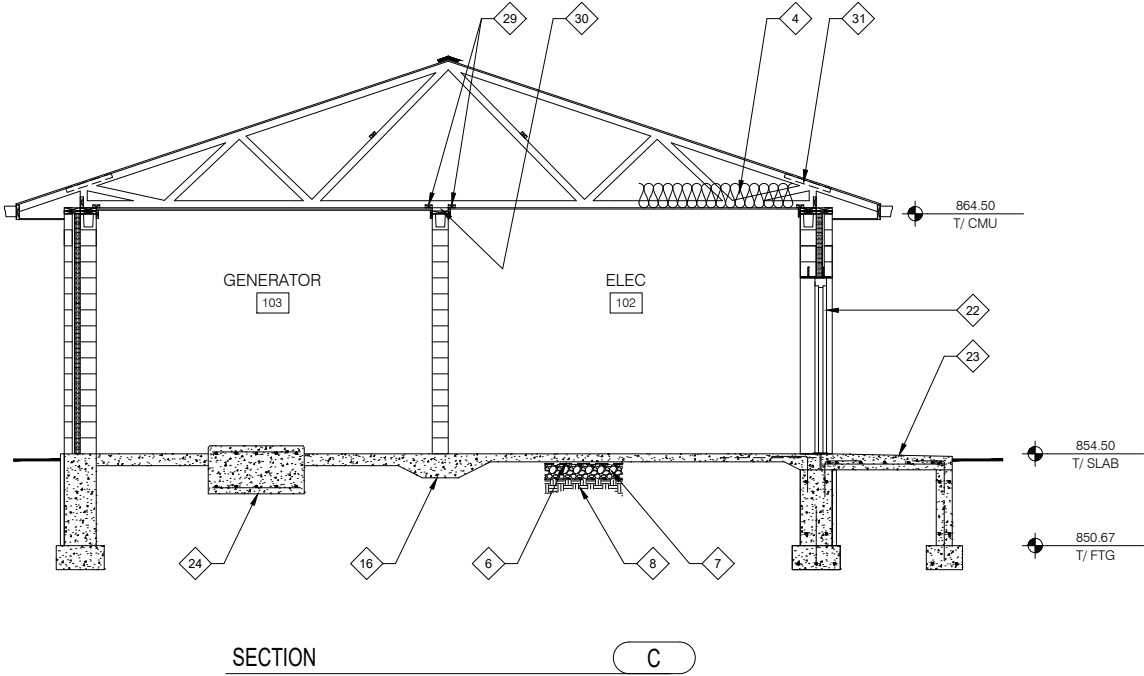
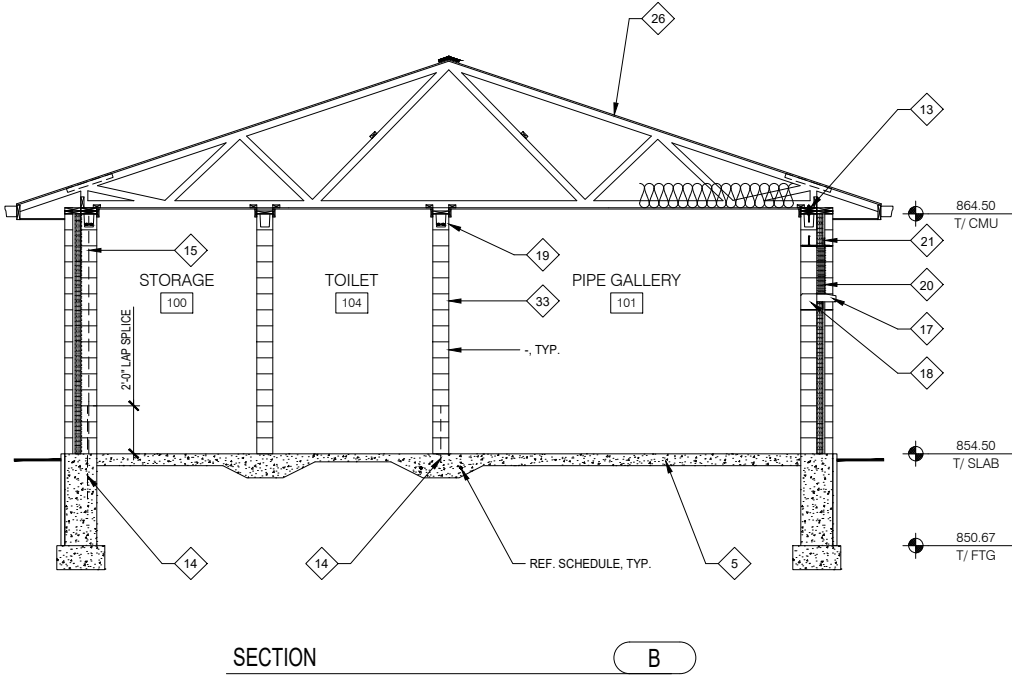
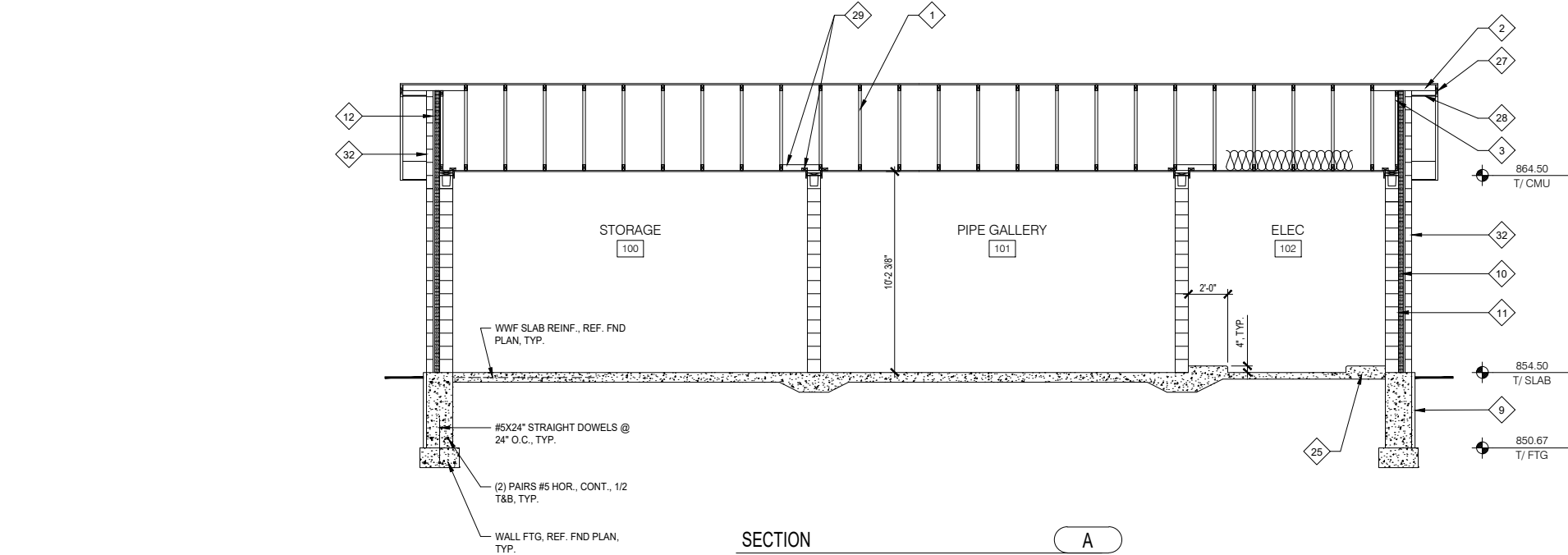


WEST ELEVATION 3



SOUTH ELEVATION 4

- GENERAL NOTES**
- KEY NOTES BELOW APPLY TO THIS SHEET ONLY.
 - EXPOSED CONCRETE SURFACES TO RECEIVE 'GROUT-CLEAN RUBBED FINISH' PER SPECIFICATION SECTION 03 30 00, TYP. AS APPLICABLE.
- KEY NOTES**
- HOLLOW METAL DOOR, FRAME & HARDWARE, AS SCHEDULED
 - STRUCTURAL CONCRETE STOOP
 - FIBERGLASS-ASPHALT ROOF SYSTEM. REF. SPECIFICATIONS & APPLICABLE DETAILS FOR UNDERLAYMENT, DRIP EDGE, FLASHING, AND ICE & WATER SHIELD REQUIREMENTS
 - FACTORY-FINISHED SEAMLESS TYPE-K COMMERCIAL ALUMINUM 6"W. GUTTER
 - FACTORY-FINISHED 3" X 4" DOWNSPOUT SYSTEM, DISCHARGE INTO BELOW-GRADE STORM WATER CONVEYANCE SYSTEM, TYP. AT (4) LOCATIONS SHOWN
 - INSULATED CAVITY-WALL MASONRY STRUCTURE, SPLIT-FACED CMU VENEER, RUNNING BOND
 - MASONRY CONTROL JOINT (CJ) AT LOCATIONS SHOWN. REF. 3/100-AS-02, TYP.
 - FOUNDATION CONTROL JOINT (FCJ), ONLY AT (2) LOCATIONS SHOWN, ALIGN WITH MASONRY CONTROL JOINT, REF. 1/100-AS-01
 - CAST-IN-PLACE CONCRETE FOUNDATION
 - GLASS BLOCK WINDOW SYSTEM, TYP.
 - PRECAST CONCRETE SILL WITH DRIP, TYP.
 - FACTORY-FINISHED VENTED ALUMINUM SOFFIT, TYP. AT EAVE AND RAKE
 - FACTORY-FINISHED ALUMINUM CLAD FASCIA SYSTEM, TYP.
 - LOUVER, REF. HVAC DWGS
 - CMU VENEER ACCENT COURSE, RUNNING BOND
 - 8" CONCRETE-FILLED PIPE BOLLARD, (2) LOC. SHOWN, REF. 8/100-AS-02
 - CONT. RIDGE VENT. SYSTEM, ASPHALT SHINGLE EXPOSED SURFACE TO MATCH ROOF SHINGLE SYSTEM
 - INSULATED METAL SECTIONAL OVERHEAD DOOR
 - ADDRESS INSERT BLOCK, COORDINATE MATERIAL, STYLE AND '6407' FONT WITH OWNER



- GENERAL NOTES
1. KEY NOTES BELOW APPLY TO THIS SHEET ONLY.
- X KEY NOTES
1. WOOD ROOF TRUSSES @ 24" O.C.

2. 2X LOOK-OUTS AT 24" O.C.

3. DROPPED ENDWALL TRUSS TO ACCEPT LOOK-OUTS, TYP.

4. R42 BLOWN-IN INSULATION OVER 6 MIL POLY VAPOR RETARDER, TYP.

5. CONCRETE SLAB-ON-GRADE, REF. 20-AS-02 FOR REINF.

6. 10 MIL POLY VAPOR RETARDER, TYP. IMMEDIATELY BELOW ALL INTERIOR SLAB-ON-GRADE FLOORS, TYP.

7. MIN. 6" COMPACTED CRUSHED AGGREGATE SUB-BASE BELOW SLABS-ON-GRADE, TYP.

8. REF. GENERAL NOTES ON SHEET 20-AS-02 FOR SUB-GRADE PREP. REQUIREMENTS AT SLAB-ON-GRADE, THICKENED SLABS AND CONTINUOUS WALL FOOTINGS

9. 2" POLYSTYRENE INSULATION TO MIN. 48" BELOW GRADE, TYP. AT PERIM. WALLS, FIRST COAT EXT. BUILDING WALLS BELOW GRADE W/ ASPHALTIC COATING, SPRAY-APPLIED, COAT EXPOSED FACE INSULATION TO 12" BELOW GRADE WITH PROTECTIVE CEMENTITIOUS COATING, COLOR GRAY, TYP.

10. 3" POLYISOCYANURATE INSULATION, FOIL-FACED & TAPED, TYP.

11. SPRAY-ON MOISTURE BARRIER CONCEALED FACE 8" STRUCTURAL WYTHE, TYP.

12. 15/32" OSB WALL SHEATHING AT GABLE END WALL TRUSSES, INSTALL AIR-INFILTRATION BARRIER OVER OSB PRIOR TO VENEER TIE ATTACHMENT, TYP.

13. 1/2" DIA. EXPANSION ANCHORS @ MAX. 48" O.C. THRU DOUBLE P.T. BEARING PLATE, INSTALL W/ 3" SQ. X 1/4" PL. WASHER AT EA. ANCHOR, TYP.

14. MASONRY DOWELS, REF. 1/100-AS-02, TYP.

15. REINFORCED STRUCTURAL MASONRY WYTHE, REF. 1/100-AS-02, TYP.

16. THICKENED SLAB FOOTING, REF. FND PLAN FOR REINF.

17. PRECAST CONC. SILL WITH DRIP, TYP.

18. SOLID BULLNOSE CMU AT INT. WINDOW SILL, TYP.

19. CONT. BOND BEAM UNIT, REINF. W/ (2) #5 CONT., TYP.

20. GLASS BLOCK WINDOW ASSEMBLY, REF. SCHED., TYP.

21. STEEL LINTEL, REF. ROOF FRAMING PLAN & SCHEDULE

22. HOLLOW METAL DOOR & FRAME

23. REINFORCED CONCRETE STRUCTURAL STOOP, REF. 4/100-AS-01, TYP.

24. RAISED EQUIP. BASE, ISOLATED, REF. 3/100-AS-03 FOR REINF., REF. 'H' DWGS & CONFIRM T/ BASE EL. BASED ON EQUIP. FINAL SELECTION PRIOR TO CONSTRUCTION

25. 4" RAISED EQUIPMENT PAD, REF. 9/100-AS-01, ALSO REF. 'E' DWGS

26. 19/32" OSB ROOF SHEATHING

27. FACTORY-FINISHED ALUM. CLADDING OVER 2X8 FASCIA, TYP.

28. FACTORY-FINISHED VENTED ALUM. SOFFIT, TYP.

29. WOOD BLOCKING FOR TOP OF WALL BRACING & TRIM ATTACHMENT, TYP.

30. INTERIOR PARTITION WALLS RECEIVE ONLY (1) P.T. TOP PLATE, AT WALLS SEPARATING RM 103 PACK SPACE BETWEEN TOP PLATE & TRUSS BOTTOM CHORD WITH FIRE SAFINGS TO 2-HR PROTECTION LIMIT, TYP.

31. VENT CHUTE EA. TRUSS SPACE

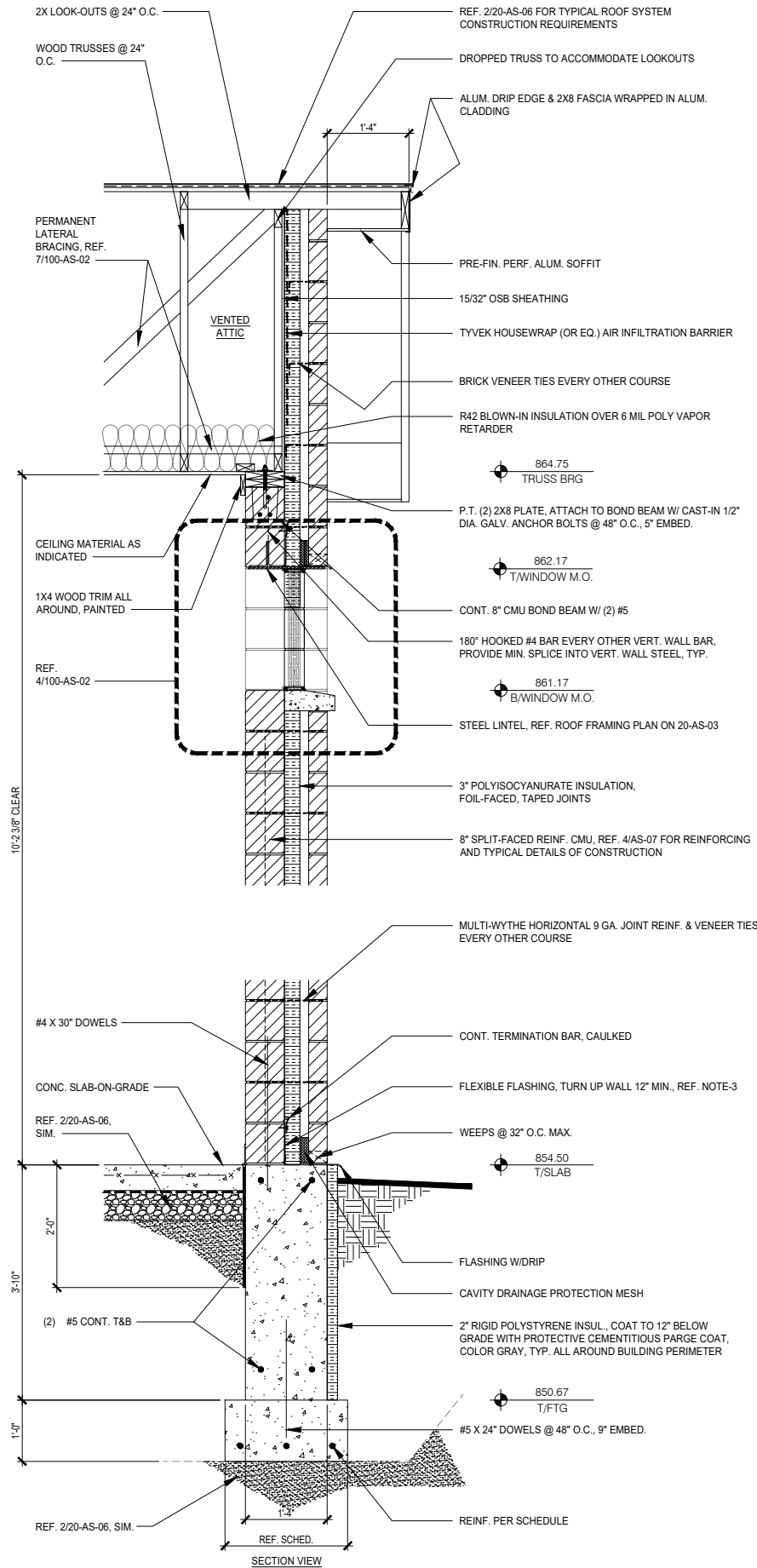
32. SPLIT-FACED CMU VENEER, RUNNING BOND

33. INTERIOR CMU PARTITION WALLS ARE VERTICALLY UNREINFORCED EXCEPT FOR DOWELS INDICATED, REF. 1/100-AS-02 FOR REQUIRED HORIZONTAL JOINT AND BOND BEAM REINFORCING, TYP.

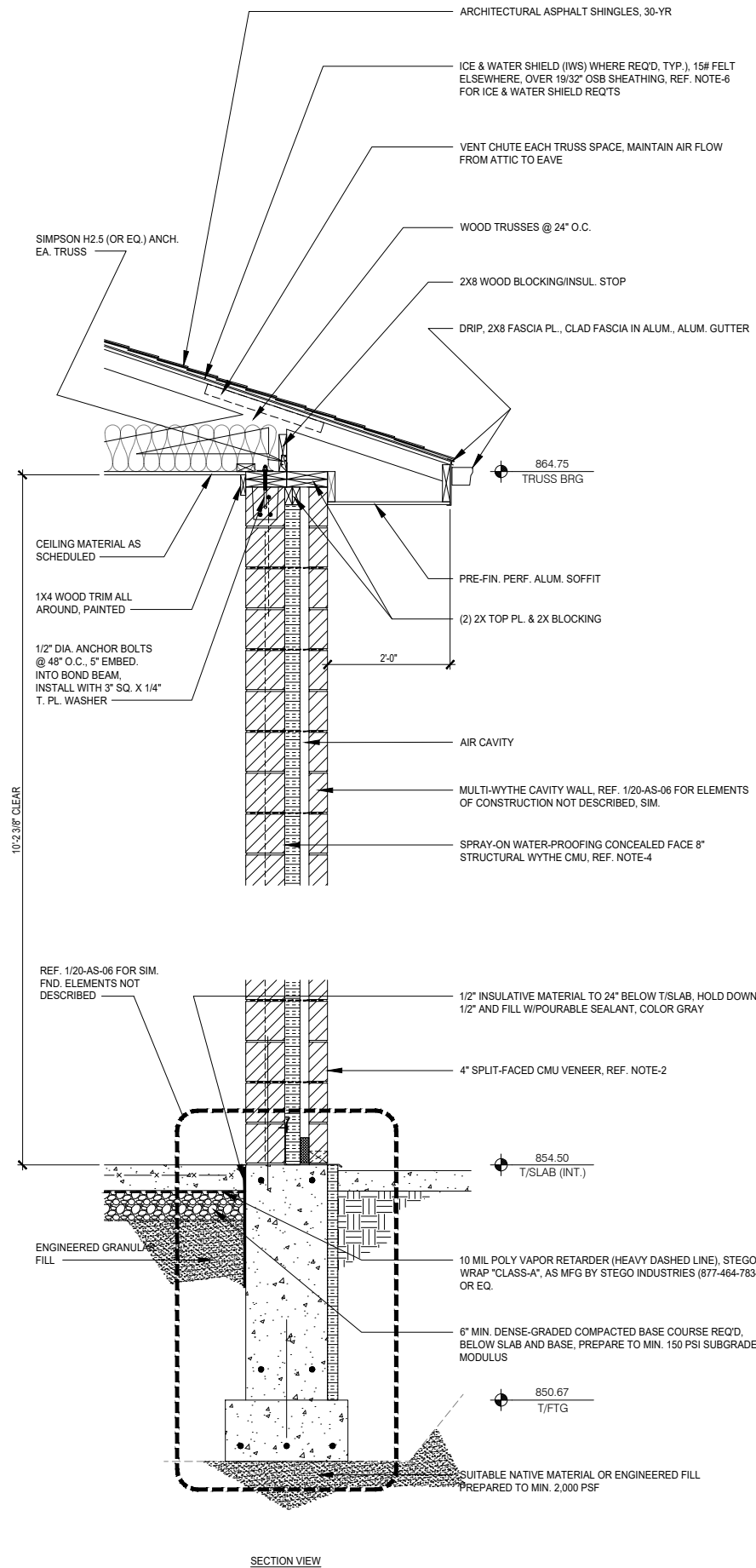
NOTE:
REINFORCING NOT SHOWN ALL LOCATIONS, WHERE TYPICAL REF.
CONSTRUCTION NOTES ELSEWHERE THIS SHEET FOR SIMILAR
REINFORCING REQUIREMENTS.

DETAIL 1 & 2/20-AS-06 NOTES:

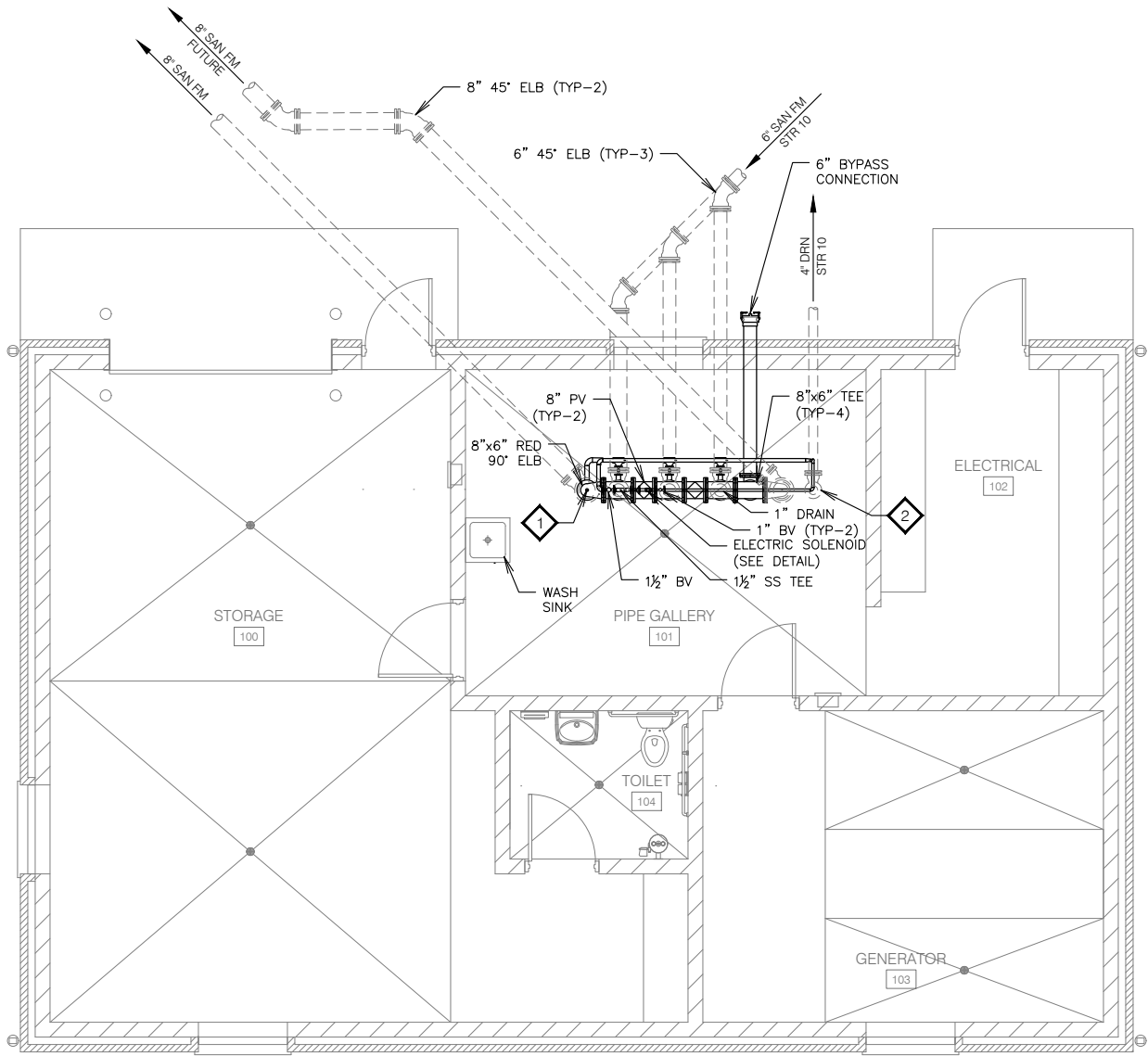
- NOTES APPLY COLLECTIVELY TO SIMILAR DETAILING SHOWN IN DETAILS THIS SHEET.
- CMU VENEER TO BE COUNTY MATERIALS SPLIT-FACED CMU VENEER, OR EQ., SIZE: 8"H.X16"L.X4"T. (NOMINAL).
- CONT. FLEXIBLE FLASHING, GCP 'PERM-A-BARRIER', OR EQ., RETURN UP FACE OF CONCRETE WALL MIN. 12" AND FASTEN WITH CONT. TERMINATION BAR & CAULK.
- SPRAY-APPLY FLUID MOISTURE PROTECTION BARRIER TO CONCEALED FACE CMU WALL WITHIN CAVITY SPACE PRIOR TO FLEXIBLE FLASHING AND INSULATION INSTALLATION.
- HOLD-DOWN ANCHOR EA. TRUSS
- INSTALL ICE & WATER SHIELD CONT. BARRIER 5'-0" INWARD FROM ROOF EDGES AND RIDGE.



DETAIL 1 NTS
ROOF GABLE END WALL SECTION



DETAIL 2 NTS
ROOF EAVE WALL SECTION



GENERAL NOTES

1. ALL PIPING SHALL BE EPOXY PAINTED DUCTILE IRON, CLASS 53, UNLESS NOTED.

KEY NOTES

1. 1/2\"/>



6264 Nesbitt Road
Madison, WI 53719
(608) 273-3350
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PROCESS PLAN
STRUCTURE 20

2023 LIFT STATION 2 IMPROVEMENTS
Marsh Woods Drive
Village of McFarland, Wisconsin

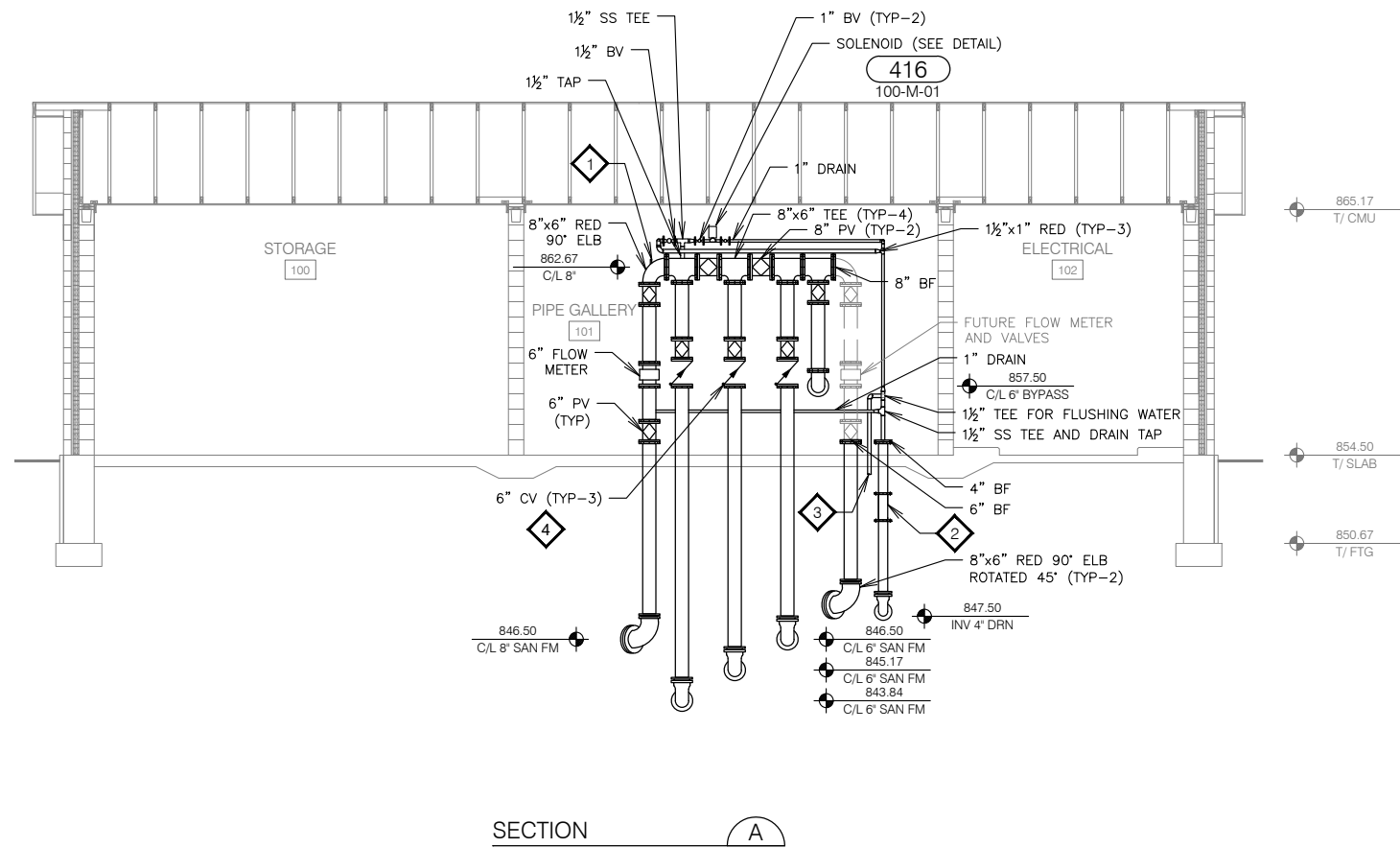
PROJECT NO.:
MC 198
DRAWING FILE:
20-M
DRAWN BY:
D.D.E.
CHECKED BY:
T.J.S.

DATE:
9-6-23
REVISIONS:

SCALE:
0 1 2 4
FEET

SHEET:

20-M-01



GENERAL NOTES

1. ALL PIPING SHALL BE EPOXY PAINTED DUCTILE IRON, CLASS 53, UNLESS NOTED.

KEY NOTES

1. 1/2" TAP WITH BALL VALVE AND PRESSURE GAUGE.
2. PROVIDE WYE FOR SANITARY DRAIN CONNECTION. ELEVATION DETERMINED BY PLUMBING PLANS.
3. 1-1/2" FLUSHING WATER LINE.
4. PUMP CHECK VALVES SHALL BE APCO MODEL 6000 BE DEZURIK OR GA INDUSTRIES 250-D.

PROCESS SECTION STRUCTURE 20

2023 LIFT STATION 2 IMPROVEMENTS
Marsh Woods Drive
Village of McFarland, Wisconsin

PROJECT NO.:
MC 198
DRAWING FILE:
20-M
DRAWN BY:
D.D.E.
CHECKED BY:
T.J.S.

DATE:
9-6-23
REVISIONS:

SCALE:



SHEET:

20-M-02

DIFFUSERS AND GRILLES								
TYPE	MANUFACTURER	MODEL	TYPE	SERVICE	MATERIAL	MOUNTING	FINISH	REMARKS
A	CONTR. FABRICATED	-	-	EXHAUST	STAINLESS STEEL	DUCT	MILL	1
1. 1" x 1" STAINLESS STEEL SCREENING WITH STAINLESS STEEL FRAMED BORDER.								

ELECTRIC BASEBOARD						
MARK	MANUFACTURER	MODEL	LENGTH	ELECTRICAL		REMARKS
				WATTS	VOLTS / PH	
20-EBB-01	Q-MARK	QMKC25126	30"	500	120 / 1Ø	1, 2
1. PROVIDE FACTORY MOUNTED AND WIRED INTEGRAL THERMOSTAT. 2. PROVIDE FACTORY MOUNTED AND WIRED INTEGRAL DISCONNECT.						

LOUVERS													
MARK	MANUFACTURER	MODEL	SERVICE	CFM	CONSTRUCTION		SIZE			MAX FREE AREA VELOCITY (FPM)	MAX PRESSURE DROP (IN WC)	FINISH	REMARKS
					TYPE	MATERIAL	WIDTH	HEIGHT	DEPTH				
20-L-01	GREENHECK	ESK-402	STORAGE	450	INTAKE	ALUMINUM	16"	24"	4"	689	0.08	70% KYNAR	1, 2
20-L-02	GREENHECK	ESK-402	GENERATOR	7,700	EXHAUST	ALUMINUM	72"	72"	4"	689	0.08	70% KYNAR	1, 2
20-L-03	GREENHECK	ESK-402	GENERATOR	8,063	INTAKE	ALUMINUM	56"	64"	4"	689	0.08	70% KYNAR	1, 2
1. COLOR SELECTION BY ARCHITECT. 2. PROVIDE WITH BIRD SCREEN													

ELECTRIC CONTROL DAMPERS							
MARK	MANUFACTURER	MODEL	BLADE CONFIGURATION	SIZE	LOCATION	VOLTS/ PHASE	REMARKS
20-D-01	TAMCO	SERIES 9000	PARALLEL	16" x 24"	20-L-01	115V / 1Ø	1
20-D-02	TAMCO	SERIES 9000	PARALLEL	72" x 72"	20-L-02	115V / 1Ø	1
20-D-03	TAMCO	SERIES 9000	PARALLEL	56" x 64"	20-L-03	115V / 1Ø	1
1. PROVIDE WITH BELIMO ACTUATOR. VERIFY NUMBER OF ACTUATORS REQUIRED AND COORDINATE WITH ELECTRICAL CONTRACTOR.							

DUCTLESS SPLIT SYSTEMS																	
MARK	MANUFACTURER	MODEL		TYPE	LOCATION	COOLING CAPACITY (BUTH)	HEATING CAPACITY (BTUH)	AIRFLOW (CFM)	ELECTRICAL UNIT				PHYSICAL DATA				REMARKS
		INDOOR UNIT	OUTDOOR UNIT						AMPS	MCA	MOCP	VOLTS / PH	LENGTH (IN)	WIDTH (IN)	HEIGHT (IN)	WEIGHT (LBS)	
20-DSS-01	LG	#1 - LSN120HSV5	-	HIGH WALL	PIPE GALLERY	12,000	13,600	459 / 338 / 317	0.4	-	-	208-230V / 1Ø	33	8	12	20	1, 2, 3
		#2 - LMN249HVT	-	HIGH WALL	ELEC	24,000	25,600	597 / 452 / 367	0.4	-	-	208-230V / 1Ø	40	9	14	30	1, 2, 3
		-	LMU363HV	MULTI-ZONE	OUTSIDE	36,000	36,000	2,119	15	18.4	25	208-230V / 1Ø	38	16	33	140	1, 4, 5
1. PROVIDE DISCONNECT. 2. INDOOR UNIT IS POWERED FROM OUTDOOR UNIT. 3. PROVIDE WALL MOUNTED WIRED THERMOSTAT. 4. PROVIDE LOW AMBIENT WIND BAFFLE TO PERMIT OPERATION DOWN TO 0°F. 5. PROVIDE WALL MOUNTING BRACKETS FOR OUTDOOR UNIT.																	

FANS																
MARK	MANUFACTURER	MODEL	SERVICE	LOCATION	CONSTRUCTION			AIR			ELECTRICAL			WEIGHT (LBS)	SONES	REMARKS
					TYPE	FAN MATERIAL	DRIVE	CFM	ESP (IN WC)	RPM	HP	BHP	VOLTS / PH			
20-EF-01	GREENHECK	CUE-095-VG	STORAGE	EXTERIOR WALL	SIDEWALL	ALUMINUM	DIRECT	450	0.25	1,327	1/6	0.07	115 / 1Ø	50	6.6	1, 2, 3, 4
20-EF-02	GREENHECK	SP-A200	TOILET	TOILET	CEILING	ALUMINUM	DIRECT	75	0.50	776	29 WATTS	-	115 / 1Ø	20	2.5	1, 2, 5, 6, 7
1. PROVIDE GRAVITY BACKDRAFT DAMPER. 2. PROVIDE FACTORY MOUNTED AND WIRED DISCONNECT SWITCH. 3. PROVIDE VARI-GREEN EC MOTOR WITH DIAL SPEED CONTROL MOUNTED ON MOTOR FOR BALANCING PURPOSES. 4. PROVIDE KYNAR FINSH. COLOR SELECTION BY ARCHITECT. 5. PROVIDE WHITE ALUMINUM GRILLE AND SPEED CONTROL MOUNTED ON FAN FOR BALANCING PURPOSES. 6. PROVIDE NEOPRENE VIBRATION ISOLATION HANGERS. 7. PROVIDE ALUMINUM WALL CAP EQUAL TO GREENHECK MODEL WC-6.																

ELECTRIC UNIT HEATERS										
MARK	MANUFACTURER	MODEL	KW	CFM	MOTOR		UNIT ELECTRICAL		OPERATING WEIGHT	REMARKS
					HP	RPM	AMPS	VOLTS / PH		
20-EUH-01	Q-MARK	MUH07-41	7.5	650	1/30	1,600	9.0	480 / 3Ø	38 LBS	1, 2, 3
20-EUH-02	Q-MARK	MUH07-41	7.5	650	1/30	1,600	9.0	480 / 3Ø	38 LBS	1, 2, 3
20-EUH-03	Q-MARK	MUH03-41	3	350	1/100	1,600	3.6	480 / 3Ø	27 LBS	1, 2, 3
20-EUH-04	Q-MARK	MUH03-41	3	350	1/100	1,600	3.6	480 / 3Ø	27 LBS	1, 2, 3
20-EUH-05	Q-MARK	MUH05-41	5	350	1/100	1,600	6.0	480 / 3Ø	27 LBS	1, 2, 3
1. PROVIDE FACTORY MOUNTED AND WIRED INTEGRAL DISCONNECT SWITCH. 2. PROVIDE REMOTE WALL MOUNTED THERMOSTAT. 3. MOUNT HEATER SUCH THAT THE BOTTOM OF THE UNIT IS AT A HEIGHT OF 8'-0" AFF.										

HVAC GENERAL NOTES

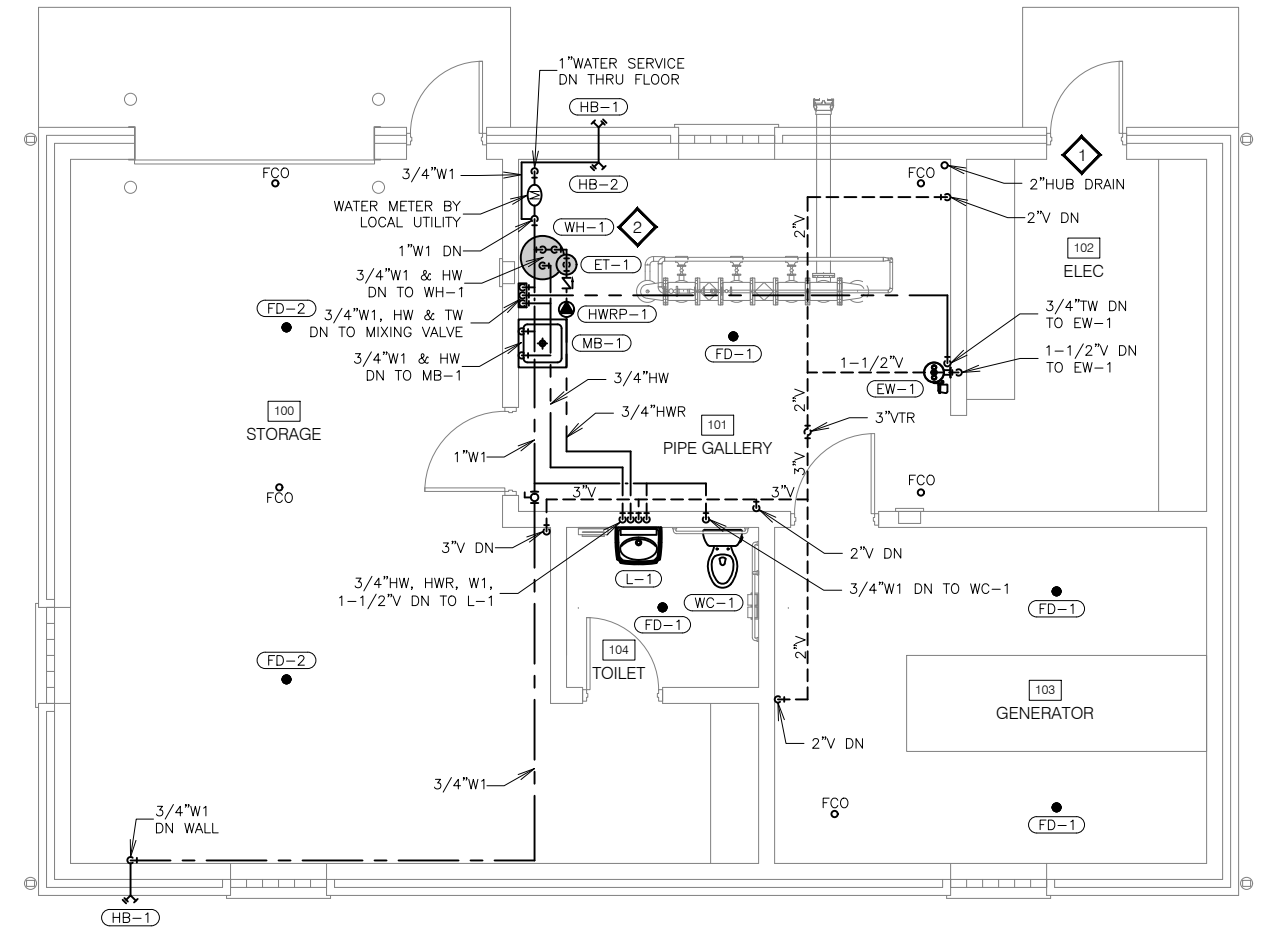
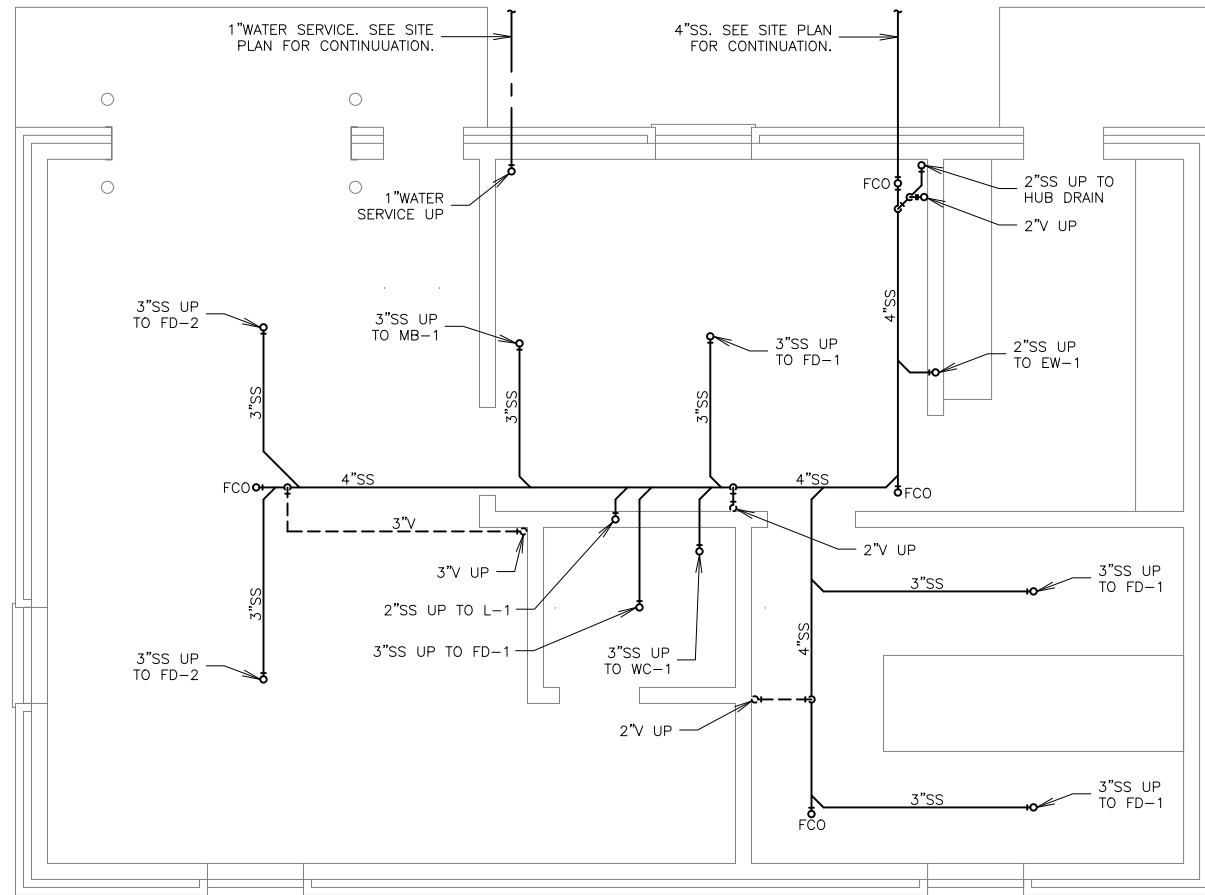
1. THESE DRAWINGS DO NOT ATTEMPT TO SHOW THE COMPLETE DETAILS OF BUILDING CONSTRUCTION, WHICH AFFECT THE MECHANICAL INSTALLATION. THE CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS AND REFER TO THE ARCHITECTURAL, CIVIL, STRUCTURAL, PLUMBING AND ELECTRICAL DRAWINGS FOR ADDITIONAL DETAILS WHICH AFFECT THE PROPER INSTALLATION OF THIS WORK. NO EXTRA PAYMENT WILL BE ALLOWED FOR THE FAILURE TO OBTAIN THIS INFORMATION.
2. CONTRACTOR SHALL COORDINATE HIS WORK WITH THE WORK OF OTHER TRADES. RESOLVE ALL CONFLICTS AT NO ADDITIONAL COST TO THE OWNER OR ARCHITECT.
3. THESE DRAWINGS ARE A DIAGRAMMATIC REPRESENTATION OF WORK TO BE ACCOMPLISHED AND AS SUCH DO NOT SHOW ALL REQUIRED OFFSETS OF DUCTWORK AND PIPING. MECHANICAL CONTRACTOR SHALL INSTALL MATERIAL AND EQUIPMENT AS TO CONFORM TO THE STRUCTURE, EQUIPMENT CONNECTIONS AND MAINTAIN HEADROOM AND PASSAGEWAY.
4. KEY NOTES PERTAIN ONLY TO THE DRAWING THEY ARE LOCATED ON.
5. DUCT SIZES ARE CLEAR INSIDE DIMENSIONS.
6. ALL BRANCH DUCTS SHALL MATCH DIFFUSER NECK SIZES UNLESS OTHERWISE NOTED.
7. ALL CONTROL WIRING SHALL BE RUN IN CONDUIT.
8. MAINTAIN 10' MINIMUM DISTANCE FROM OUTSIDE AIR INTAKES TO ANY EXHAUST OR TOILET VENTS.

HVAC ABBREVIATIONS

- AFF
- AP
- BD
- BOD
- CAI
- CD
- CFM
- DIA
- DN
- EA
- EF
- MIN
- MAX
- OA
- RA
- SA
- UG
- ABOVE FINISHED FLOOR
- ACCESS PANEL
- BALANCING DAMPER
- BOTTOM OF DUCT
- COMBUSTION AIR INTAKE
- CONDENSATE DRAIN
- CUBIC FEET PER MINUTE
- DIAMETER
- DOWN
- EXHAUST AIR
- EXHAUST FAN
- MINIMUM
- MAXIMUM
- OUTSIDE AIR
- RETURN AIR
- SUPPLY AIR
- UNDERGROUND

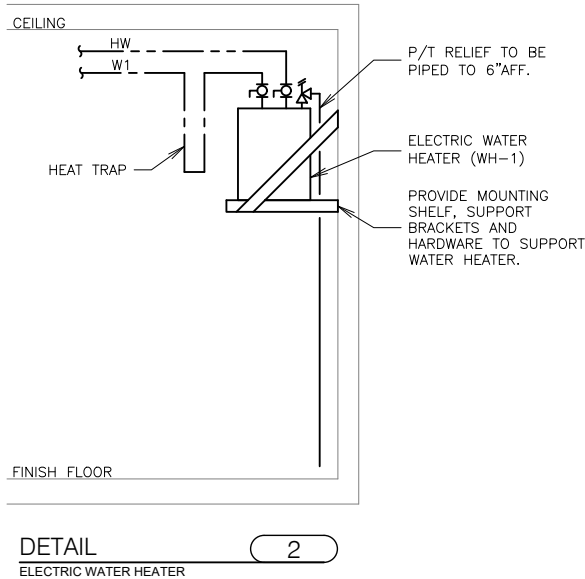
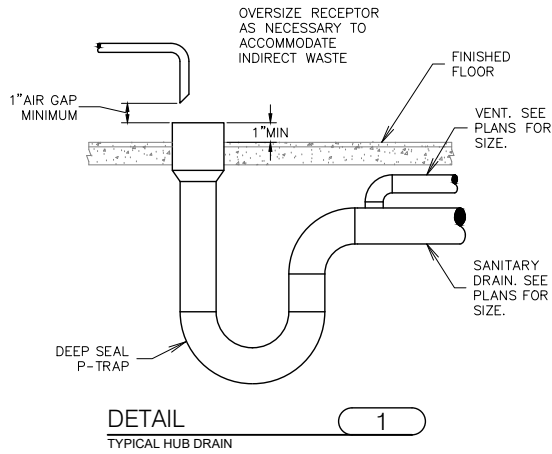
HVAC LEGEND

-  HVAC EQUIPMENT
-  DUCTWORK
-  INSULATED DUCTWORK
-  THERMOSTAT
-  REVERSE-ACTING THERMOSTAT
-  DUCT UP
-  DUCT DOWN
-  FLEX DUCT
-  MOTORIZED DAMPER
-  BALANCING DAMPER
-  ELBOW WITH TURNING VANES
-  AIR FLOW INDICATOR
-  DOOR UNDER CUT
-  BALL VALVE
-  PIPE ELBOW/TEE DOWN
-  PIPE ELBOW/TEE UP
-  CAPPED PIPE END



 KEY NOTES

1. HUB DRAIN FOR AIR CONDITIONER CONDENSATE. COORDINATE EXACT LOCATION WITH HVAC CONTRACTOR. SEE THE TYPICAL HUB DRAIN DETAIL.
2. MOUNT ELECTRIC WATER HEATER HIGH ON WALL. FIELD VERIFY EXACT LOCATION. SEE THE ELECTRIC WATER HEATER DETAIL.



PLUMBING FIXTURE SCHEDULE							
MARK	MANUFACTURER	MODEL	DESCRIPTION	WSFU			DFU
				HW	CW	TOTAL	VALUE
EW-1	GUARDIAN	G1750	WALL MOUNTED EYE/FACE WASH WITH STAINLESS STEEL BOWL, TWO ABS PLASTIC GENTLE SPRAY EYE/FACE WASH HEADS WITH INTERNAL FLOW CONTROL, FILTERS, AND FLIP TOP DUST COVERS, A 1/2" CHROME PLATED BRASS STAY OPEN BALL VALVE ACTIVATED BY A POWDER COATED CAST ALUMINUM FLAG HANDLE AND CAST ALUMINUM WALL BRACKET WITH POWDER COATED FINISH. PROVIDE WITH 1-1/2"CHROME PLATED BRASS TAILPIECE AND P-TRAP WITH CLEANOUT PLUG. MIXING VALVE: GUARDIAN MODEL G6020 THERMOSTATIC MIXING VALVE WITH INTEGRAL STRAINER CHECKSTOPS ON INLETS, ADJUSTABLE SET POINT AND DIAL THERMOMETER IN SURFACE MOUNTED STAINLESS STEEL CABINET.	NA	NA	NA	NA
FD-1	SIOUX CHIEF	863-43NR	ADJUSTABLE 3" FLOOR DRAIN, PVC ADAPTER BODY, ABS TOP HOUSING AND FLASHING COLLAR WITH ROUND NICKEL-BRONZE RING AND STRAINER, PROVIDE 3"SCHEDULE 40 HUB ADAPTER.	N/A	N/A	N/A	3.0
FD-2	JR SMITH	2142	4"FLOOR DRAIN, DUCO CAST IRON BODY AND FLASHING COLLAR WITH 12" ROUND HEAVY DUTY DUCTILE IRON TRACTOR GRATE AND REMOVEABLE SOLID FREE STANDING SEDIMENT BUCKET.	NA	NA	NA	4.0
HB-1	WOODFORD	19	FREEZELESS WALL FAUCET WITH ANTI-SIPHON AND NON-RUPTURE PROTECTION, AUTOMATIC DRAINING, 3/4" MALE HOSE THREAD NOZZLE, BRASS VALVE BODY, ONE PIECE VALVE PLUNGER TO CONTROL BOTH FLOW AND DRAINAGE, HARDENED STAINLESS STEEL OPERATING STEM AND OVAL POWDER COATED DIE CAST ALUMINUM HANDLE.	NA	4.0	4.0	NA
HB-2	WOODFORD	24	NON-FREEZE AREA, ANTI-SIPHON VACUUM BREAKER PROTECTED WALL FAUCET, 3/4"MALE HOSE THREAD NOZZLE, BRASS VALVE BODY, ONE PIECE VALVE PLUNGER, HARDENED STAINLESS STEEL OPERATING STEM AND POLYCARBONATE WHEEL HANDLE. PROVIDE WITH POLISHED CHROME FINISH.	NA	4.0	4.0	NA
L-1	KOHLER	K-2005 KINGSTON	WALL MOUNT VITREOUS CHINA LAVATORY DRILLED FOR CONCEALED ARM CARRIER. FAUCET OPENINGS 4" ON CENTER WITH OVERFLOW. COORDINATE COLOR WITH ARCHITECT. FAUCET: CHICAGO FAUCET 2200-4E2805ABCP, 4" CENTERS, SINGLE METAL LEVER HANDLE, 0.5 GPM. DRAIN: KOHLER K-7131-A-CP, 1-1/4" OFFSET DRAIN WITH GRID STRAINER AND KOHLER K-8999 1-1/4"x1-1/2" CAST BRASS ADJUSTABLE "P" TRAP WITH C.O. PLUG. SUPPLIES AND STOPS: CHICAGO FAUCET 1006 ANGLE VALVE WITH LOOSE KEY HANDLE, 1/2" FEMALE INLET, 1/2"OD x 12" RISER (QUANTITY OF 2). PROVIDE "HANDY-SHIELD MAXX" PIPE INSULATION ON P-TRAP, WATER VALVES AND EXPOSED SUPPLY PIPING.	0.5	0.5	1.0	1.0
MB-1	FIAT	TSB3000	24"x24"x12" PRECAST TERRAZZO MOP BASIN WITH 6"DROP FRONT, STAINLESS STEEL CAPS ON ALL CURBS AND STAINLESS STEEL CAST-IN DRAIN BODY FOR 3"PIPE. FAUCET: CHICAGO FAUCET 835-369CP, VACUUM BREAKER SPOUT, 3/4" MALE HOSE THREAD OUTLET, WALL BRACE AND PAIL HOOK. PROVIDE WATTS 8B VACUUM BREAKER ON FAUCET. HOSE & WALL HOOK: FIAT #832-AA, 30"LONG FLEXIBLE HEAVY DUTY 5/8" RUBBER HOSE WITH 3/4" COUPLUNG ON ONE END AND STAINLESS STEEL WALL BRACKET.	2.0	2.0	3.0	3.0
WC-1	KOHLER	K-3493 HIGHLINE	ADA COMPLIANT, FLOOR MOUNT, VITREOUS CHINA, PRESSURE ASSISTED TANK WATER CLOSET WITH ELONGATED BOWL, 17-1/8" RIM HEIGHT AND 1.6 GALLON FLUSH. COORDINATE COLOR WITH ARCHITECT. SEAT: KOHLER K-4650 SOLID PLASTIC, OPEN FRONT WITH COVER. SUPPLIES AND STOPS: CHICAGO FAUCET 1006 ANGLE VALVE WITH LOOSE KEY HANDLE, 1/2" FEMALE INLET, 1/2"OD x 12" RISER.	N/A	3.0	3.0	6.0
WH-1	AO SMITH	DEL-20	ELECTRIC WATER HEATER WITH 20 GALLON GLASS LINED STORAGE TANK, A SINGLE 2,500 WATT, 208V/1Ø HEATING ELEMENT CONTROLLED BY AN INTEGRALLY MOUNTED THERMOSTAT WITH HIGH TEMPERATURE CUT-OFF SWITCH, TEMPERATURE/PRESSURE RELIEF VALVE AND DRAIN VALVE.	N/A	N/A	N/A	N/A

PUMPS											
MARK	MANUFACTURER	MODEL	PUMP TYPE	MATERIAL	GPM	HEAD (FT WC)	MOTOR				REMARKS
							WATTS	RPM	VOLTS	PHASE	
HWRP-1	BELL & GOSSETT	NBF-25	INLINE	BRONZE	2	10	125	2,950	115	1	1, 2
1. PROVIDE WITH PLUG IN POWER CORD. 2. PROVIDE AQUASTAT AND TIMER.											

POTABLE WATER EXPANSION TANK									
MARK	MANUFACTURER	MODEL	CAPACITY		SYSTEM CONNECTION (INCHES)	MAXIMUM OPERATING PRESSURE (PSI)	DIMENSIONS		REMARKS
			TANK VOLUME (GALLONS)	ACCEPTANCE VOLUME (GALLONS)			DIAMETER (INCHES)	HEIGHT (INCHES)	
ET-1	BELL & GOSSETT	PTA-12	5	3.3	3/4"	150	12"	14"	1
1. TANK SHALL BE ASME RATED.									

- PLUMBING GENERAL NOTES**
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 - CONTRACTOR SHALL COORDINATE HIS WORK WITH THE WORK OF OTHER TRADES. RESOLVE ALL CONFLICTS AT NO ADDITIONAL COST TO THE OWNER OR ARCHITECT.
 - THESE DRAWINGS ARE A DIAGRAMMATIC REPRESENTATION OF WORK TO BE ACCOMPLISHED AND AS SUCH DO NOT SHOW ALL REQUIRED OFFSETS OF PIPING. PLUMBING CONTRACTOR SHALL INSTALL MATERIAL AND EQUIPMENT AS TO CONFORM TO THE STRUCTURE, EQUIPMENT CONNECTIONS AND MAINTAIN HEADROOM AND PASSAGEWAY.
 - ALL NON-POTABLE WATER PIPING AND FIXTURES SHALL CLEARLY BE LABELED AS SUCH.

PLUMBING ABBREVIATIONS	
BFP	BACKFLOW PREVENTER
CO	CLEANOUT
DN	DOWN
ES	EMERGENCY SHOWER
EW	EYE WASH
FCO	FLOOR CLEANOUT
FD	FLOOR DRAIN
HB	HOSE BIB
HD	HUB DRAIN
LAV	LAVATORY
RD	ROOF DRAIN
SH	SHOWER
SPD	SUMP PUMP DISCHARGE
UG	UNDERGROUND
WC	WATER CLOSET
WCO	WALL CLEANOUT
WH	WATER HEATER
VTR	VENT THRU ROOF

PLUMBING LEGEND	
— — — — —	DOMESTIC COLD WATER (W1)
— · — · — · —	DOMESTIC HOT WATER (HW)
— · — — — · —	DOMESTIC TEMPERED WATER (TW)
— · — — — · —	DOMESTIC HOT WATER RETURN (HWR)
— · — — —	NON-POTABLE WATER (W2)
— — — — —	SANITARY SEWER (SS)
— — — — —	STORM PIPING (ST)
— · — · — · —	VENT (V)
	BALL VALVE
	GATE VALVE
	CHECK VALVE
	CONTROL VALVE
	PRESSURE REGULATOR
	STRAINER
	HOSE BIB
	PIPE ELBOW/TEE DOWN
	PIPE ELBOW/TEE UP
	CAPPED PIPE END

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TOWN & COUNTRY
ENGINEERING, INC.

PLUMBING SCHEDULES

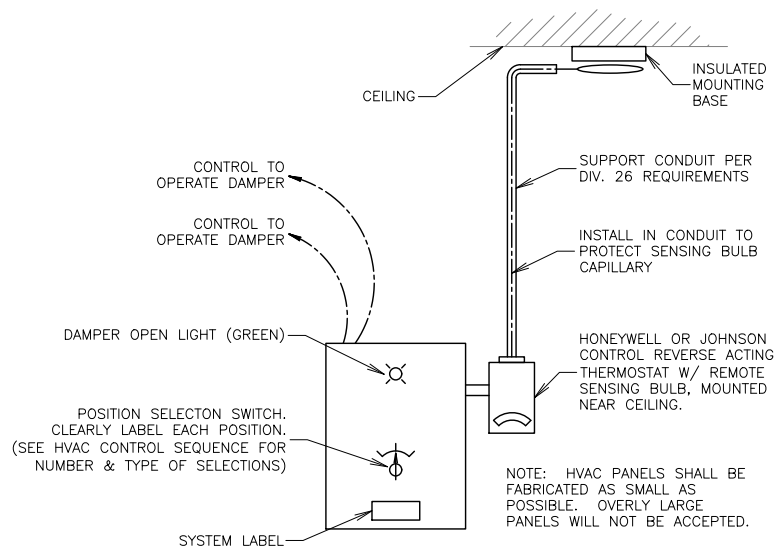
2023 LIFT STATION 2 IMPROVEMENTS
Marsh Woods Drive
Village of McFarland, Wisconsin

PROJECT NO.:
MC 198
DRAWING FILE:
20-P-02
DRAWN BY:
B.M.C.
CHECKED BY:
M.R.R.
DATE:
10-17-23
REVISIONS:

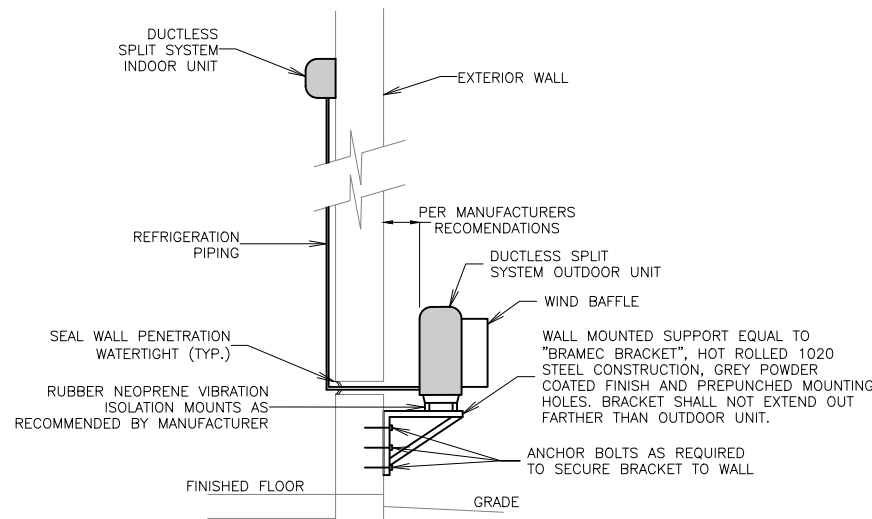
SCALE:

SHEET:

20-P-02



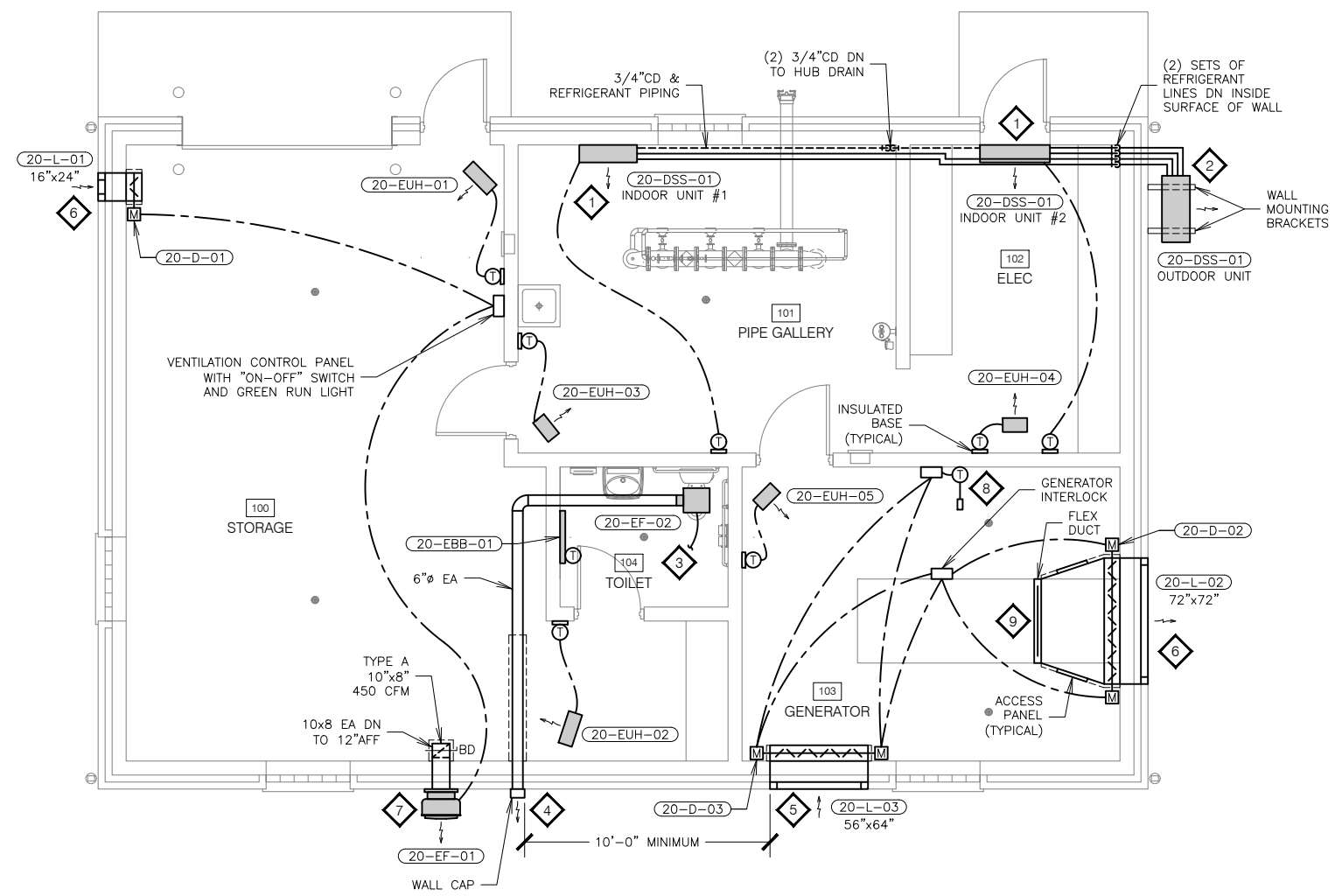
DETAIL 2
TYPICAL HVAC CONTROL PANEL



DETAIL 1
DUCTLESS SPLIT SYSTEM



- KEY NOTES**
1. MOUNT 20-DSS-01 (INDOOR UNIT) HIGH ON WALL PER MANUFACTURERS RECOMMENDATIONS. FIELD VERIFY EXACT LOCATION. REFRIGERANT PIPING SHALL DROP VERTICALLY ALONG THE INSIDE SURFACE OF THE WALL AND PENETRATE THE WALL AT THE ELEVATION OF THE OUTDOOR CONDENSING UNIT. DO NOT RUN PIPING DOWN THE OUTSIDE SURFACE OF THE WALL. SEE THE DUCTLESS SPLIT SYSTEM DETAIL ON THIS SHEET.
 2. MOUNT 20-DSS-01 (OUTDOOR UNIT) TO WALL WITH WALL MOUNTING BRACKETS. BOTTOM OF UNIT SHALL BE AT A HEIGHT OF 2'-0" ABOVE GRADE. FIELD VERIFY EXACT LOCATION. SIZE AND INSTALL REFRIGERANT PIPING PER MANUFACTURERS RECOMMENDATIONS. SEE THE DUCTLESS SPLIT SYSTEM DETAIL ON THIS SHEET. ALL EXTERIOR REFRIGERANT PIPING SHALL BE PAINTED WITH UV RESISTANT PAINT TO MATCH BUILDING COLOR.
 3. INTERLOCK OPERATION OF TOILET ROOM EXHAUST FAN WITH ROOM LIGHT SWITCH.
 4. INSTALL WALL CAP FOR TOILET EXHAUST AT A MINIMUM HEIGHT OF 8'-0" AFF. FIELD VERIFY EXACT LOCATION.
 5. TOP OF LOUVER SHALL BE AT A HEIGHT OF 8'-0" AFF.
 6. TOP OF LOUVER SHALL BE AT A HEIGHT OF 9'-4" AFF.
 7. TOP OF WALL OPENING SHALL BE AT A HEIGHT OF 8'-8" AFF.
 8. HVAC CONTROL PANEL WITH "ON-OFF-AUTO" SWITCH AND REVERSE-ACTING THERMOSTAT WITH SENSING BULB NEAR THE CEILING FOR ELECTRIC CONTROL DAMPERS. FIELD VERIFY FINAL LOCATION. SEE THE TYPICAL HVAC CONTROL PANEL DETAIL ON THIS SHEET.
 9. PROVIDE DUCTED CONNECTION FROM GENERATOR RADIATOR TO LOUVER (20-L-02). COORDINATE RADIATOR CONNECTION SIZE WITH GENERATOR MANUFACTURER. PROVIDE ACCESS PANELS IN DUCTWORK.



HVAC PLAN

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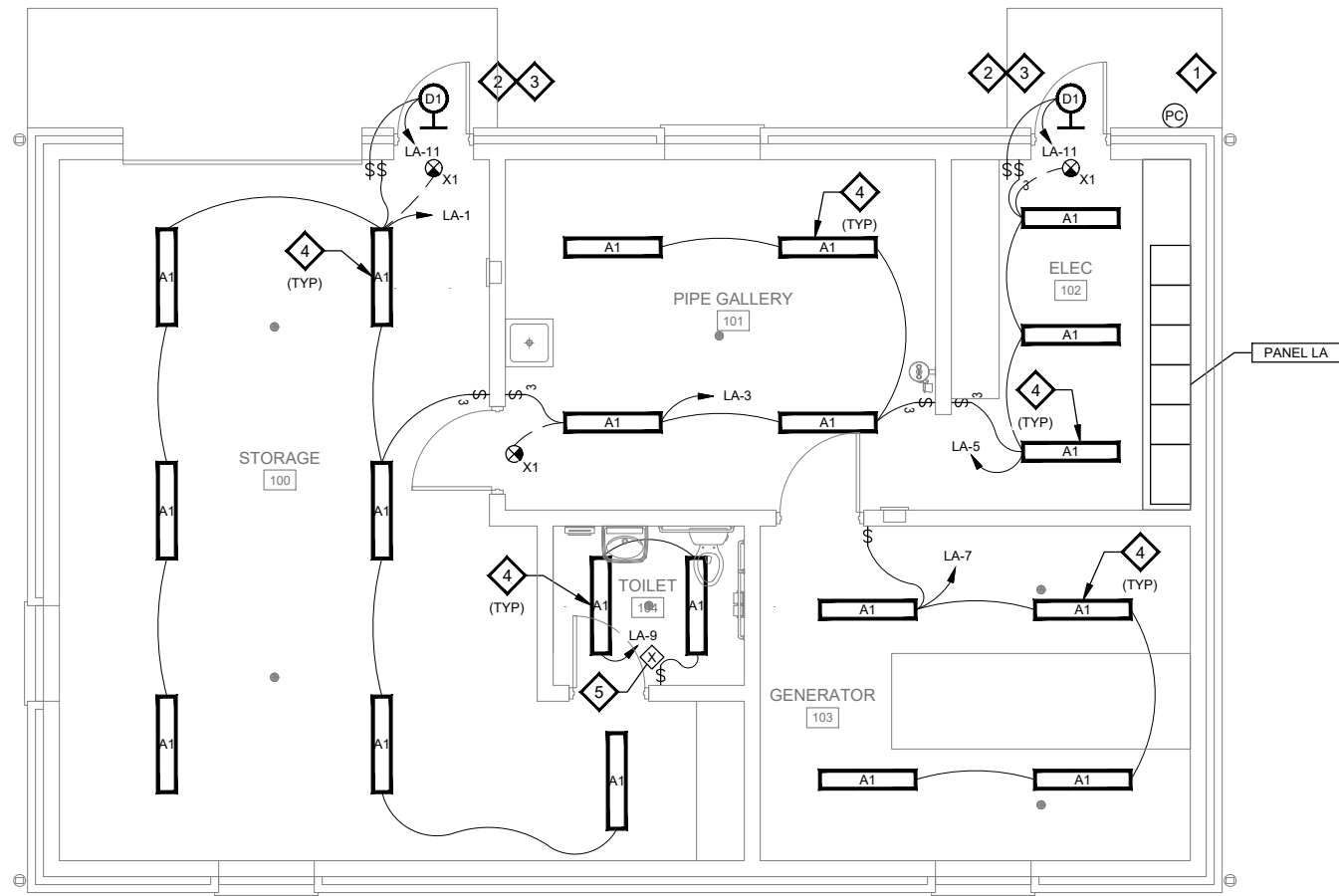
tc TOWN & COUNTRY
ENGINEERING, INC.

HVAC PLAN
STRUCTURE 20

2023 LIFT STATION 2 IMPROVEMENTS
Marsh Woods Drive
Village of McFarland, Wisconsin

PROJECT NO.:	MC 198
DRAWING FILE:	20-H-01
DRAWN BY:	B.M.C.
CHECKED BY:	M.R.R.
DATE:	10-17-23
REVISIONS:	
SCALE:	
	0 1 2 4 FEET
SHEET:	20-H-01

Page 35 of 85



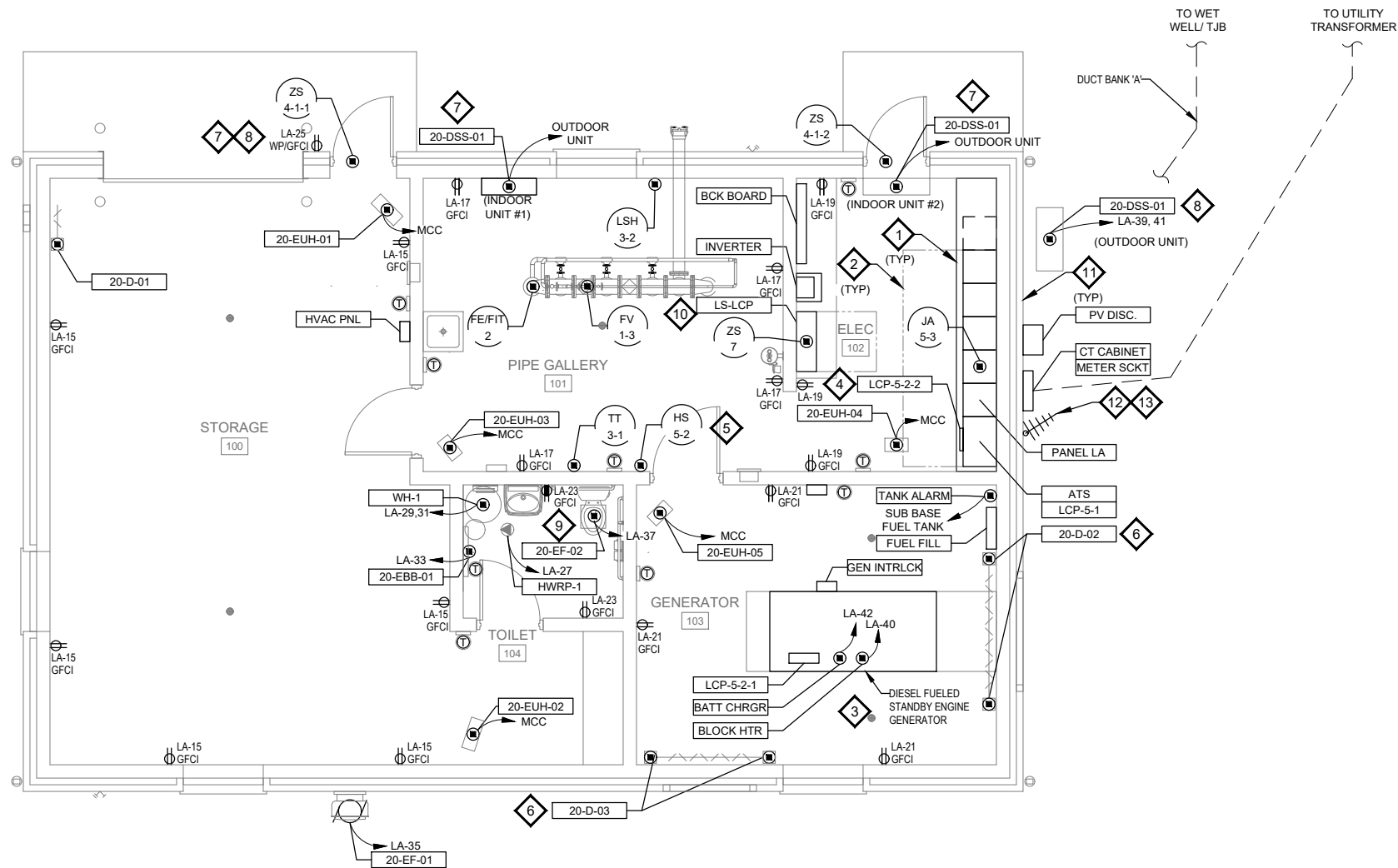
ELECTRICAL LIGHTING PLAN

GENERAL NOTES

1. DO NOT SCALE DRAWINGS TO DETERMINE EXACT LOCATION OF ELECTRICAL EQUIPMENT AND CONNECTIONS.
2. 120V HOMERUN WIRING SHALL BE A MINIMUM OF (2) #12 & #12G IN 3/4" UNLESS OTHERWISE NOTED. SIZE FOR VOLTAGE DROP.
3. SEE ONE-LINE DIAGRAM, PANEL SCHEDULE, AND FIELD DEVICE WIRING SCHEDULE FOR WIRING OF ALL PROCESS AND INSTRUMENTATION.
4. PROVIDE RACEWAY FOR ALL HVAC EQUIPMENT. PROVIDE WIRING FOR LINE VOLTAGE AND ABOVE POWER AND CONTROL WIRING.
5. INSTALL FIELD INSTRUMENTS PER DETAIL REFERENCED IN FIELD DEVICE WIRING SCHEDULE.
6. ALL CONDUIT STUBBED UP THROUGH CONCRETE SHALL BE PVC COATED GRS.
7. SEE SCADA OVERVIEW FOR COMMUNICATIONS CABLING REQUIREMENTS.

KEY NOTES

1. PROVIDE PHOTOCELL, TORK MODEL #2001, OR EQUAL, TO CONTROL EXTERIOR WALL PACK FIXTURES.
2. WIRE EXTERIOR TYPE "D1" FIXTURES TO BE CONTROLLED FROM PHOTOCELL AND INTERNAL MOTION SENSOR WHEN SWITCH IS IN THE ON POSITION. CIRCUIT AS INDICATED.
3. MOUNT TYPE "D1" FIXTURES 12" ABOVE HEIGHT OF DOOR OPENING.
4. MOUNT TYPE "A1" FIXTURES TIGHT TO CEILING AT LOCATIONS SHOWN.
5. PROVIDE VACANCY SENSOR.



ELECTRICAL POWER AND INSTRUMENTATION PLAN

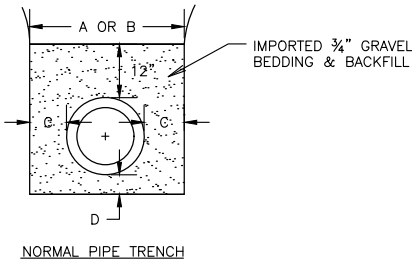
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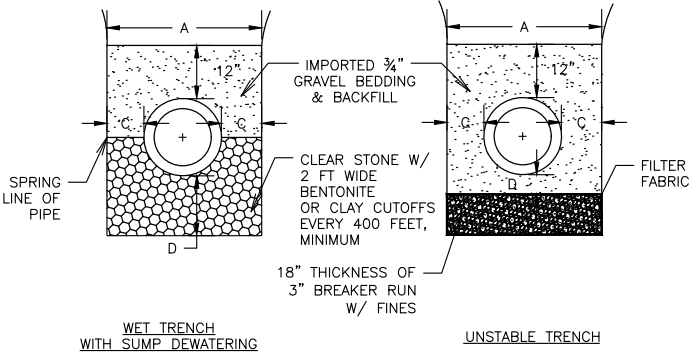
KEY NOTES

1. PROVIDE 4" CONCRETE HOUSEKEEPING PAD FOR MCC. SEE ARCHITECTURAL/STRUCTURAL DETAILS FOR REQUIREMENTS. PAD TO EXTEND 4" IN FRONT OF AND 2" TO THE SIDES OF EQUIPMENT. COORDINATE SIZE WITH EQUIPMENT TO BE SUPPLIED.
2. NEC REQUIRED MINIMUM WORKING SPACE (TYP.)
3. INSTALL GENERATOR PER DETAIL E4-03 ON SHEET 100-E-04 AND PER MANUFACTURER'S RECOMMENDATIONS. PROVIDE CONCRETE HOUSEKEEPING PAD PER ARCHITECTURAL/STRUCTURAL REQUIREMENTS.
4. INSTALL GENERATOR REMOTE ANNUNCIATOR ON THE DOOR OF THE AUTOMATIC TRANSFER SWITCH.
5. INSTALL GENERATOR E-STOP SWITCH ON WALL.
6. INTERLOCK DAMPERS WITH GENERATOR OPERATION AND THERMOSTAT CONTROL. REFER TO HVAC PLANS AND ELECTRICAL CONTROLS DESCRIPTIONS.
7. INDOOR UNIT POWERED BY OUTDOOR UNIT.
8. PROVIDE 2-#10 AND 1-#10 GROUND PER MANUFACTURER'S RECOMMENDATIONS FOR POWER CONDUCTORS TO DSS.
9. INTERLOCK OPERATION OF TOILET ROOM EXHAUST FAN WITH ROOM LIGHT SWITCH.
10. MOUNT INTERIOR CONTROL PANEL PER DETAIL E2-01.
11. PROVIDE CONDUIT ENTRANCE PER E2-14.
12. PROVIDE ANTENNA AND INSTALL PER DETAILS E6-02 AND E6-03 IN LOCATION AND AT HEIGHT AS DIRECTED BY SYSTEM INTEGRATOR.
13. MOUNT TELEMETRY RADIO ANTENNAS PER DETAIL E6-02 AND E6-03 AT HEIGHT AS DETERMINED BY SYSTEM INTEGRATOR. PROVIDE 1-1/2" FOR ANTENNA CABLE TO RADIO LOCATION IN LCP.
14. PROVIDE GFCI RECEPTACLES WITH METALLIC WEATHERPROOF WHEN IN USE COVERPLATES.
15. PROVIDE STAINLESS STEEL, WEATHERPROOF-WHEN-IN-USE-PAD-LOCKABLE RECEPTACLE COVER, CALBRITE S6000FVCD OR EQUAL.
16. PROVIDE 2" CONDUIT PENETRATION FROM ROOF MOUNTED PHOTOVOLTAIC SYSTEM TO INVERTER.
17. PROVIDE 2" CONDUIT PENETRATION TO BUILDING EXTERIOR FOR FUTURE PHOTOVOLTAIC SYSTEM.
9. SEE SECTION 01000 FOR DIVISION OF WORK BETWEEN THE ELECTRIC UTILITY AND THE CONTRACTOR.

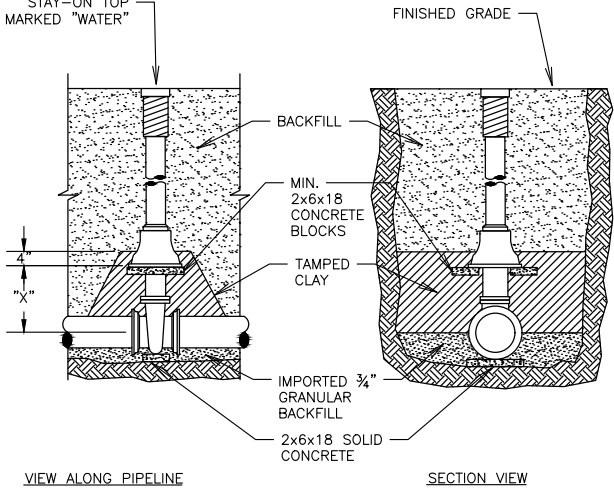
DIMENSIONS:
A: OUTSIDE DIAMETER OF PIPE PLUS 24" MAXIMUM, EXCEPT NEED NOT BE LESS THAN 36". TRENCH SHIELDS NARROWER THAN 4 FEET INSIDE WIDTH WILL NOT BE REQUIRED UNLESS SPECIFICALLY REQUIRED IN THE PROJECT SPECIFICATIONS.
B: FOR ROCK, OUTSIDE DIAMETER OF PIPE PLUS 18" MAXIMUM, EXCEPT NEED NOT BE LESS THAN 36".
C: MINIMUM - 6"
D: MINIMUM 4" BELOW BARREL AND 3" BELOW BELL.



NORMAL PIPE TRENCH



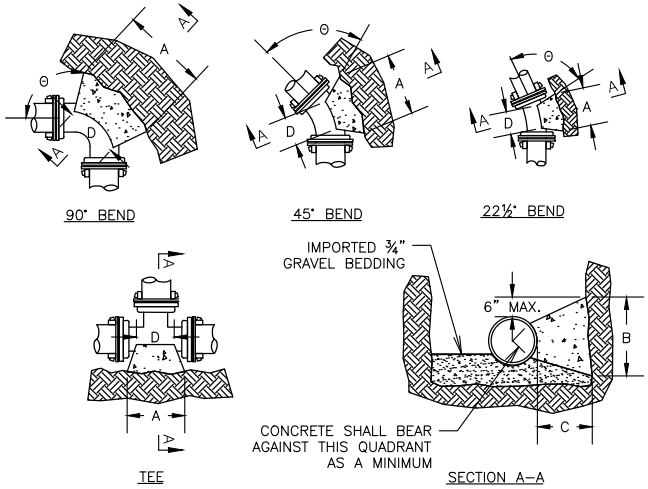
DETAIL 100
TRENCH WIDTH AND BEDDING



PIPE DIA., INCHES	6	8	10	12	14	16
"x" DIMENSION, INCHES	12	13	17	21	25	30

NOTES:
- SOLID CONCRETE BLOCKS MUST BE USED.
- VALVES SHALL BE SECURED WITH RODDING OR MEGALUGS TO THE NEAREST "TEE" FITTING OR TO THE FIRST JOINT CONNECTING A FULL SECTION OF WATER MAIN PIPE. SEE RODDING DETAIL "OFFSET AND RODDING".

DETAIL 101
VALVE BOX SETTING



WOOD BLOCKING MAY NOT BE USED. ONLY SOLID CONCRETE BLOCKS ARE ALLOWED.
DIMENSION "D" SHALL BE AS LARGE AS POSSIBLE, BUT THE CONCRETE SHALL NOT INTERFERE WITH THE MECHANICAL JOINTS.
DIMENSION "C" SHALL BE AT LEAST 6 INCHES, AND LARGE ENOUGH TO MAKE THE "theta" ANGLE EQUAL TO OR GREATER THAN 45 DEGREES WITH THE DIMENSION "A" AS SHOWN ON THE TABLE, OR GREATER, AND WITH DIMENSION "D" AS LARGE AS POSSIBLE.

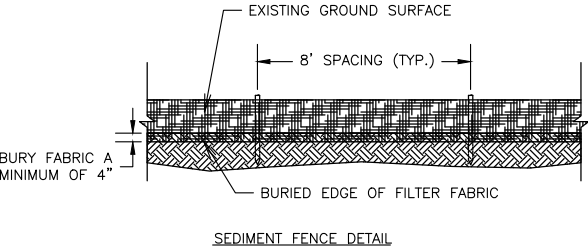
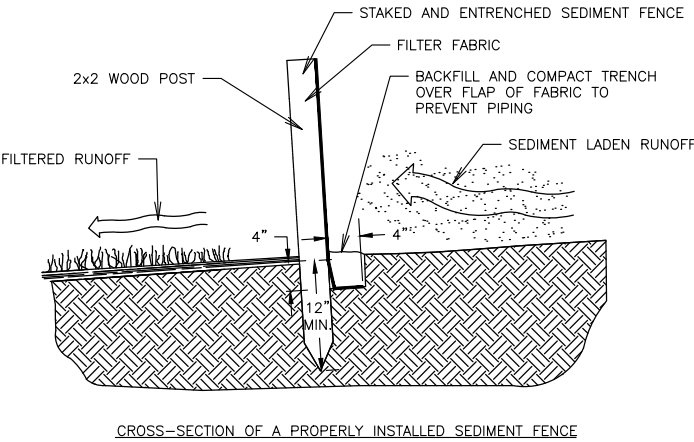
CONCRETE SHALL BE CLASS "CC". SEE SECTION 03301.

PIPE SIZE	TEES		22.5° BEND		45° BEND		90° BEND	
	A	B	A	B	A	B	A	B
6	1'-3"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-4"	1'-2"
8	1'-6"	1'-4"	1'-0"	1'-4"	1'-4"	1'-2"	1'-10"	1'-6"
10/12	2'-0"	1'-4"	1'-4"	1'-10"	1'-10"	2'-8"	2'-3"	
14/18	2'-6"	1'-10"	1'-8"	2'-6"	2'-4"	3'-10"	2'-10"	
18/24	3'-0"	2'-4"	2'-0"	3'-3"	2'-10"	5'-0"	3'-4"	
22/24	3'-4"	2'-10"	2'-4"	4'-0"	3'-3"	6'-4"	3'-10"	
30	6'-3"	4'-3"	3'-6"	5'-4"	3'-10"	8'-0"	4'-8"	

* = FOR TEE THIS WILL BE THE BRANCH PIPE

DIMENSIONS IN THE TABLE ARE BASED ON A WATER PRESSURE OF 150 PSI AND SOIL RESISTANCE OF 200 LBS/SQ.FT.

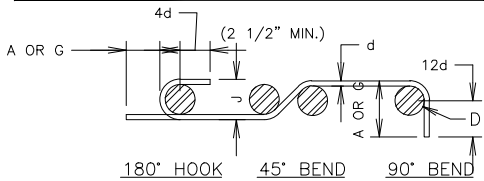
DETAIL 102
BUTTRESS



DETAIL 103
SEDIMENT FENCE

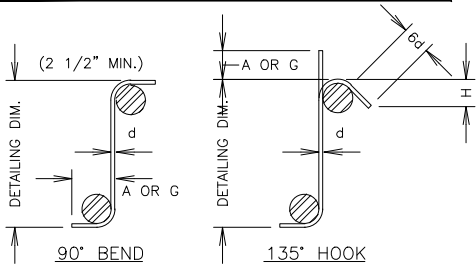
BAR SIZE	D	180°		90°
		A OR G	J	A OR G
#3	2 1/4"	6d	5"	3"
#4	3"		6"	4"
#5	3 3/4"		7"	5"
#6	4 1/2"		8"	6"
#7	5 1/4"		10"	7"
#8	6"	8d	11"	8"
#9	9 1/2"		15"	11 3/4"
			16"	

NOTE: "D" DENOTES FINISHED BAR BEND DIAMETER.

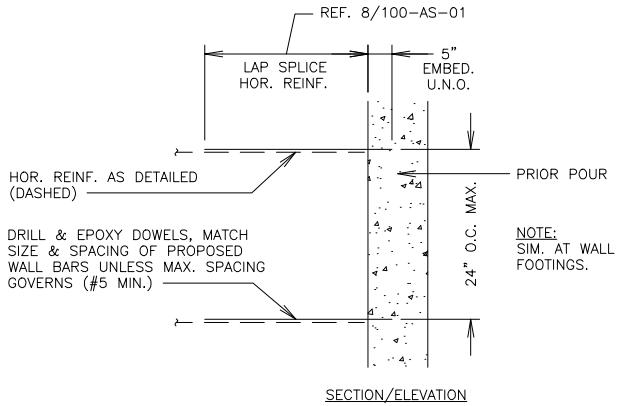


BAR SIZE	D	90° HOOK		135° HOOK
		A OR G	A OR G	H
#3	1 1/2"	4"	4 1/4"	3"
#4	2"	4 1/2"	4 1/2"	3"
#5	2 1/2"	6"	5 1/2"	3 3/4"

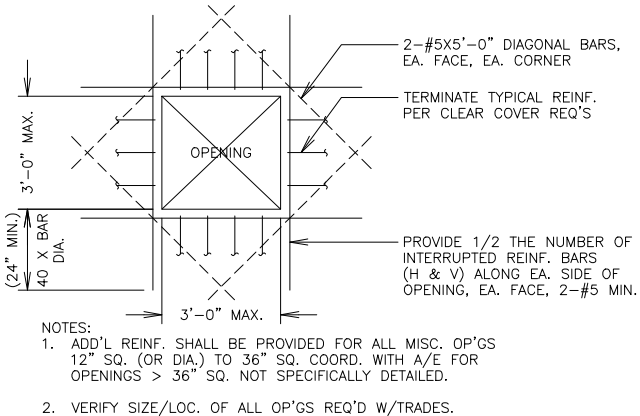
NOTE: "D" DENOTES FINISHED BAR BEND DIAMETER.



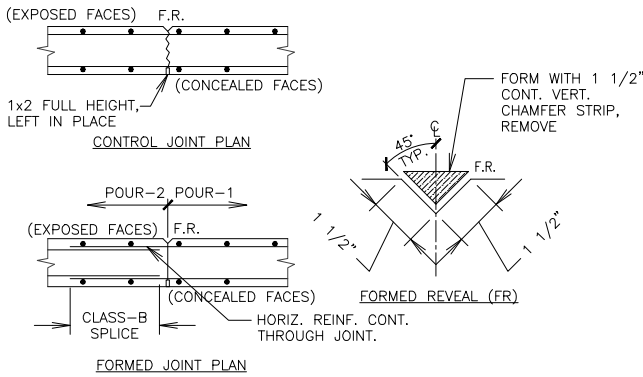
DETAIL 3 NTS
MILD REINFORCING BENDS



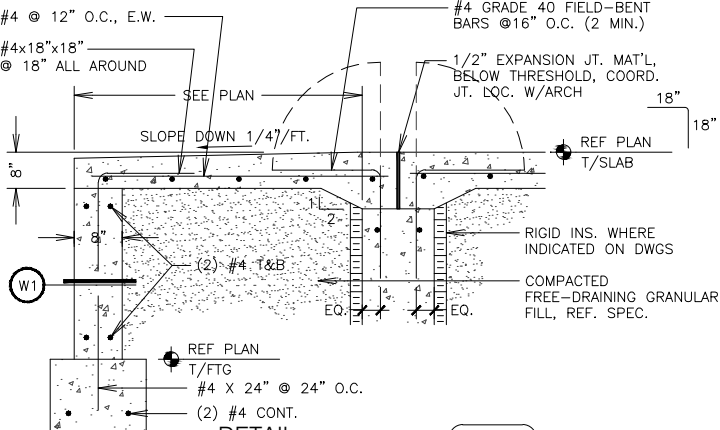
DETAIL 7 NTS
SEQUENCED CONCRETE PLACEMENT



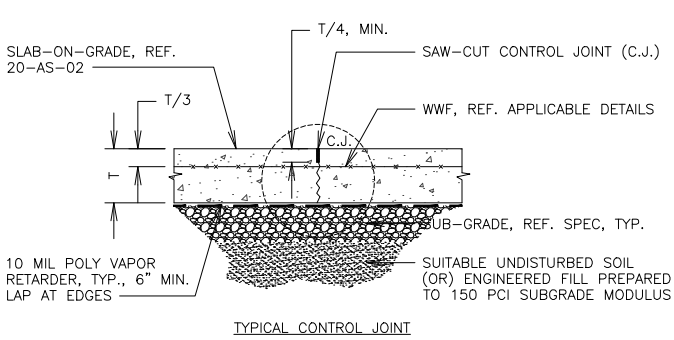
DETAIL 10 NTS
ADD'L REINF. AT CONC. WALL OPENINGS



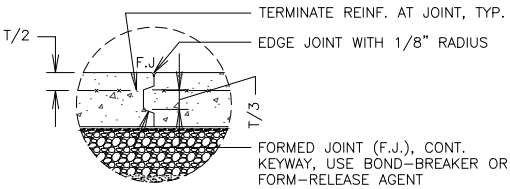
DETAIL 1 NTS
FOUNDATION WALL CONTROL JOINT



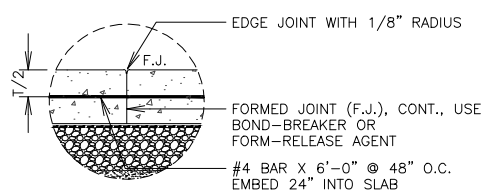
DETAIL 4 NTS
STRUCTURAL CONCRETE STOOP



TYPICAL CONTROL JOINT



TYPICAL CONSTRUCTION JOINT TYPE-1



TYPICAL DOWELED CONSTRUCTION JOINT TYPE-2

DETAIL 5 NTS
SLAB-ON-GRADE JOINTS

CLASS-B TENSION LAP SPLICE SCHEDULE															
CLASS		COL. (N/A)		FOUNDATIONS						SLABS					
BAR SIZE	f'c = 4 KSI	f'c = 5 KSI	f'c = 4 KSI			f'c = 5 KSI			f'c = 4 KSI			f'c = 5 KSI			
			BOT. BARS	TOP BARS	*BARS	BOT. BARS	TOP BARS	*BARS	BOT. BARS	TOP BARS	*BARS	BOT. BARS	TOP BARS	*BARS	
#3	16	16	16	18	24	16	16	21	16	18	24	16	16	21	
#4	19	17	19	24	32	17	22	28	19	24	32	17	22	28	
#5	23	21	23	30	40	21	27	35	23	30	40	21	27	35	
#6	28	25	28	36	47	25	33	42	28	36	47	25	33	42	
#7	33	29	33	42	55	29	38	50	33	43	57	30	39	51	
#8	39	35	39	51	67	35	46	60	44	57	75	39	51	67	
#9	50	44	50	64	84	44	58	75	56	72	94	50	65	84	
#10	88	79	63	82	107	56	73	96	70	92	120	63	82	107	
#11	108	97	77	100	131	69	90	117	86	112	147	77	101	131	

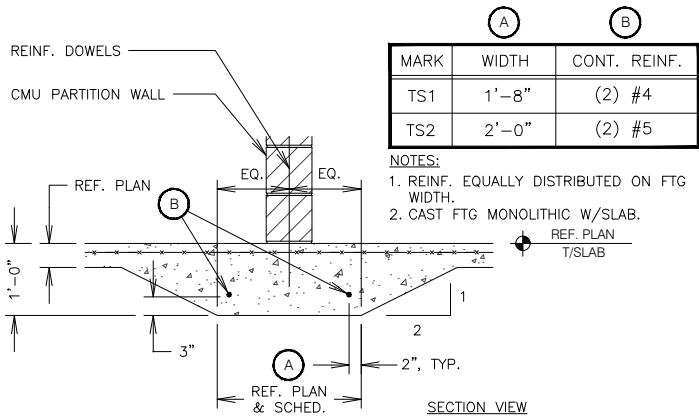
NOTES:

1. * DENOTES EPOXY-COATED REINFORCING, AS APPLICABLE WHERE INDICATED ON DWGS ONLY.

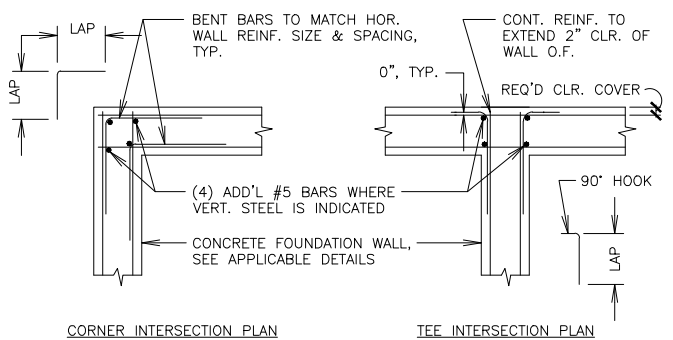
CONCRETE REINFORCING SHALL HAVE THE FOLLOWING MINIMUM COVER, TYPICAL UNLESS DETAILED OTHERWISE:

- CONCRETE IN CONTACT AND/OR PLACED AGAINST EARTH (3")
- CONCRETE EXPOSED TO WEATHER: #5 & SMALLER (2")
- CONCRETE WITH INTERIOR EXPOSURE (1 1/2")

DETAIL 8 NTS
REINF. LAP SPLICE & PROTECTIVE COVER

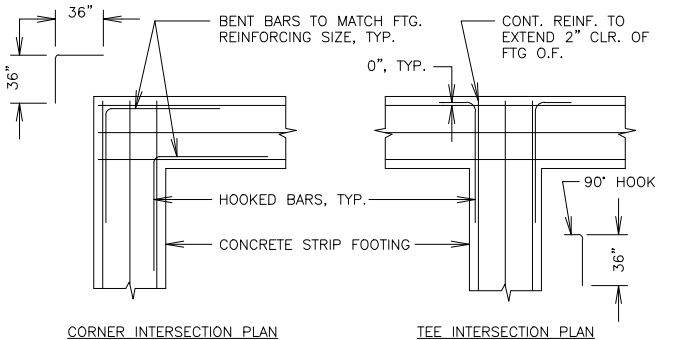


DETAIL 12 NTS
THICKENED SLAB FOOTING



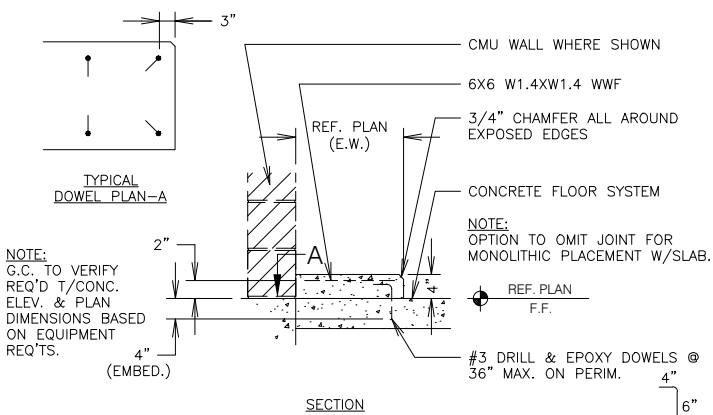
CORNER INTERSECTION PLAN

DETAIL 2 NTS
CONC. WALL INTERSECTION REINFORCING (TYP. UNLESS NOTED OTHERWISE)



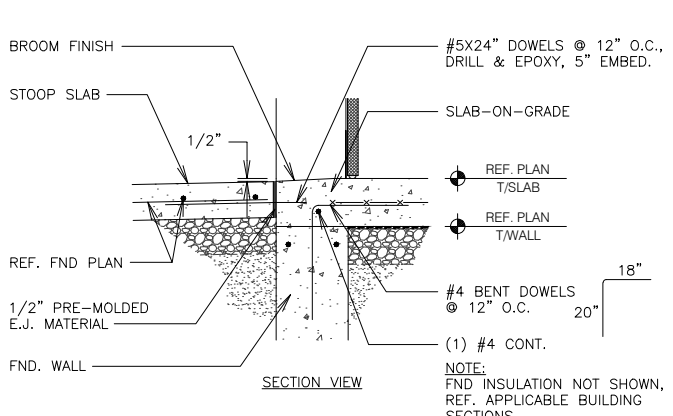
CORNER INTERSECTION PLAN

DETAIL 6 NTS
FOOTING INTERSECTION REINFORCING

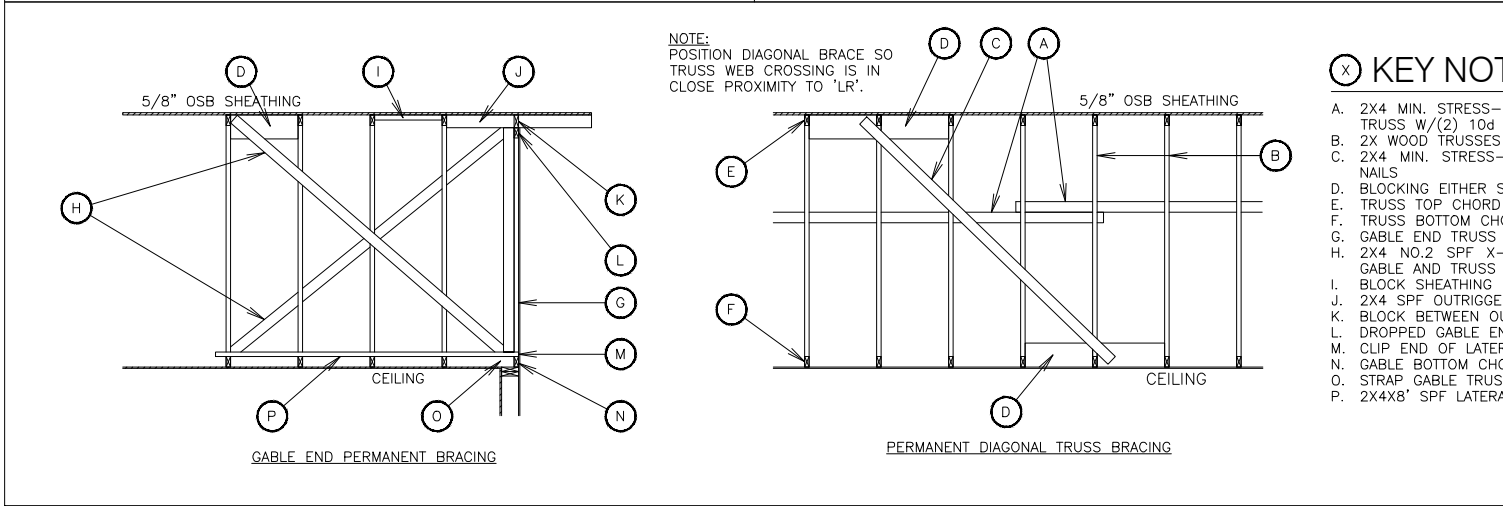
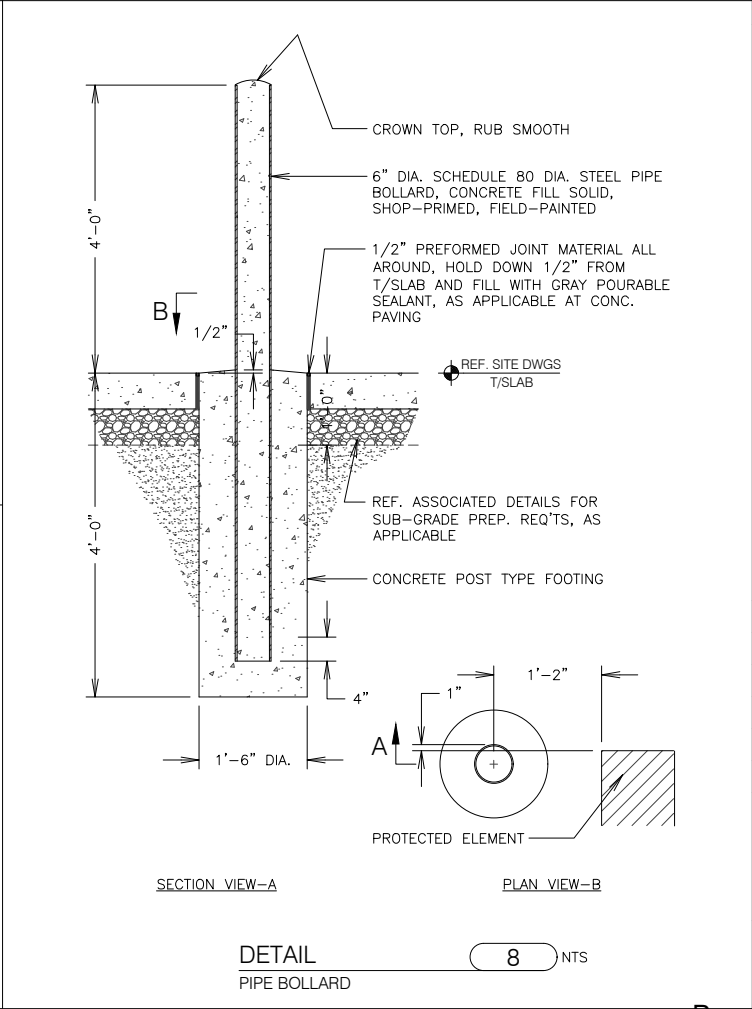
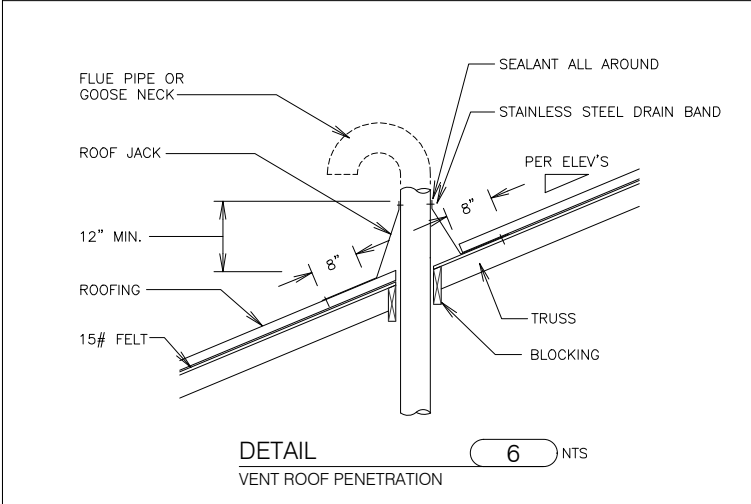
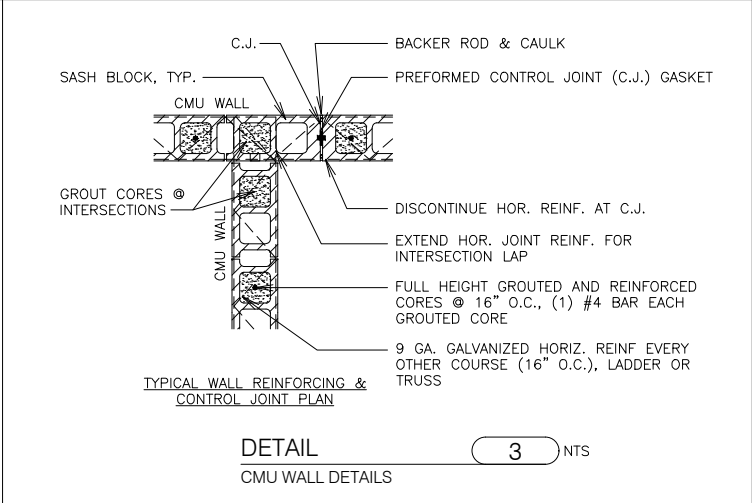
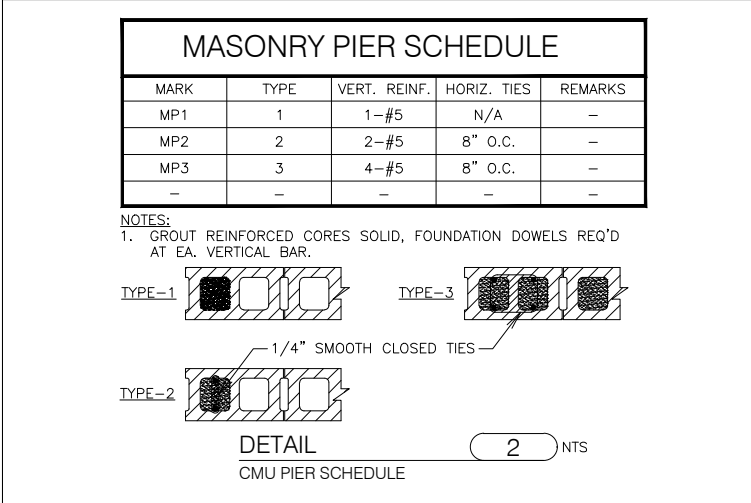
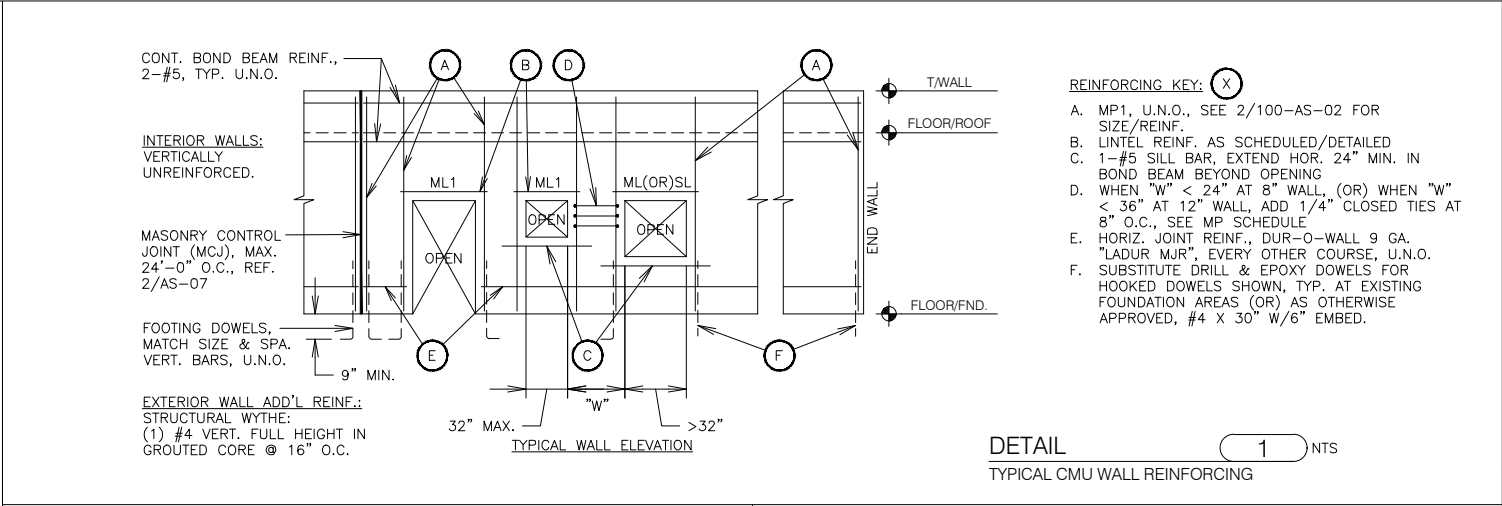
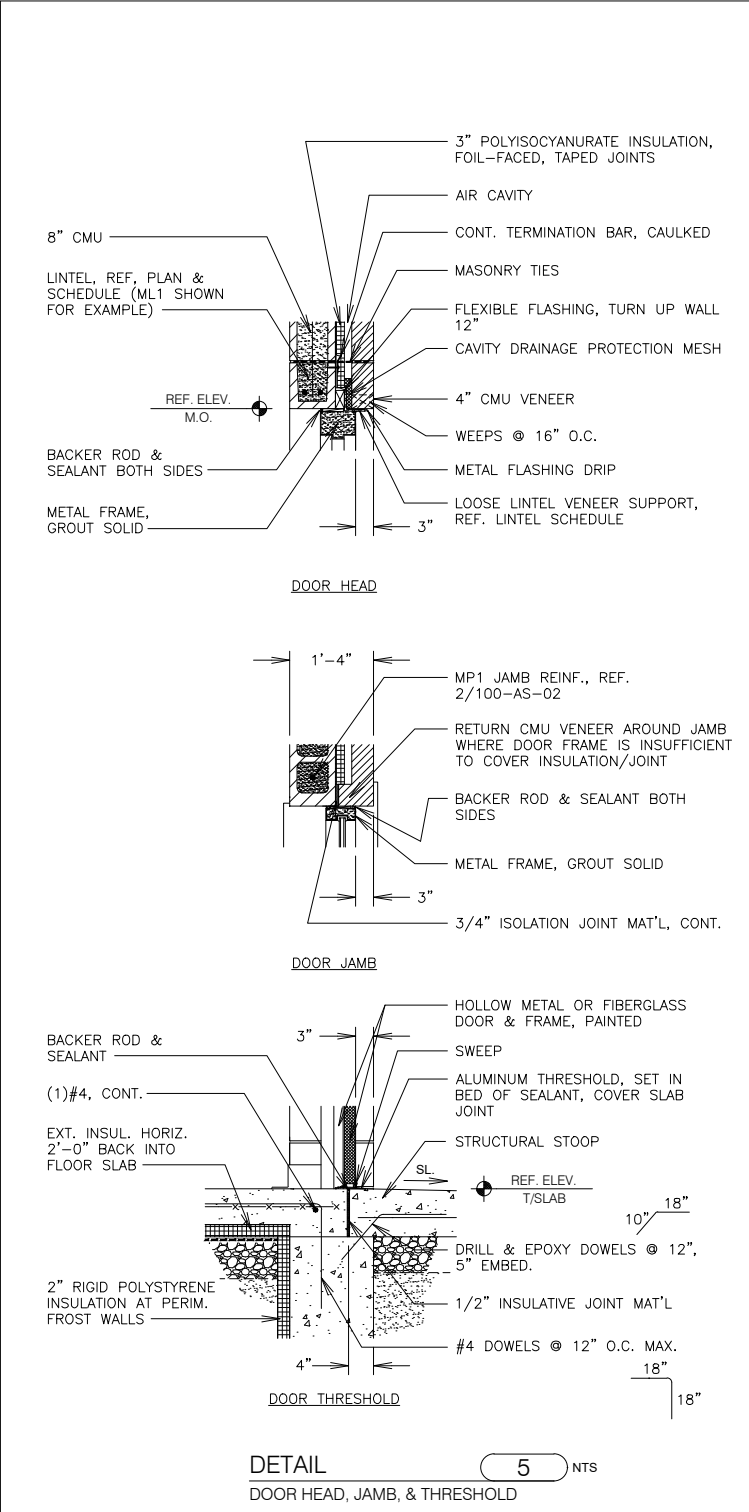
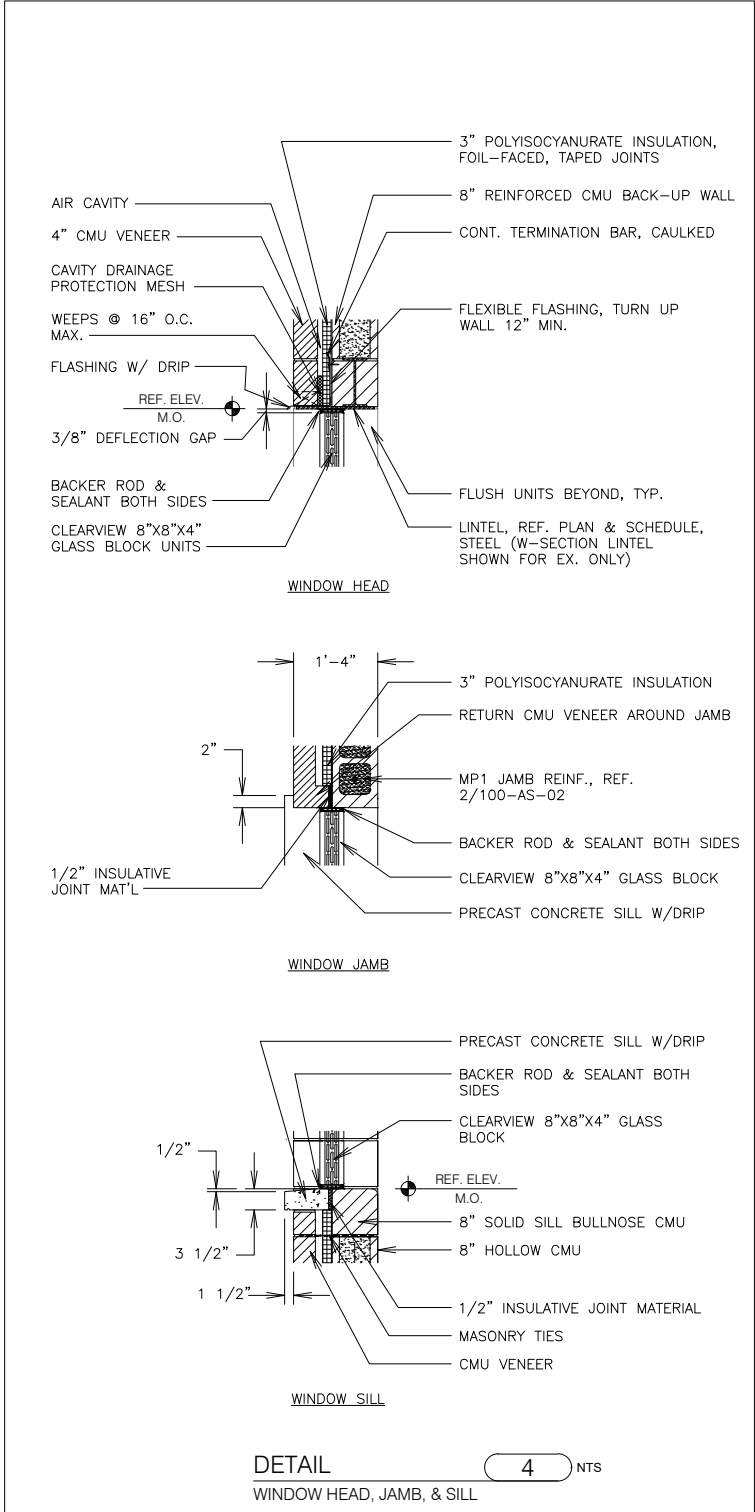


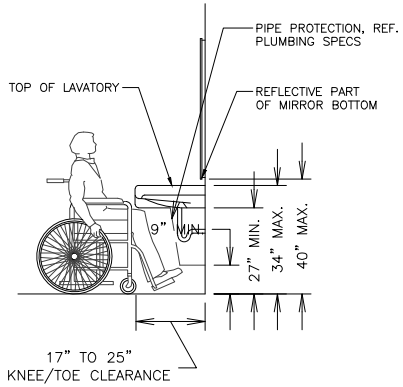
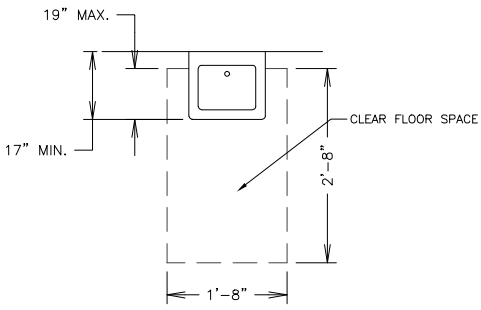
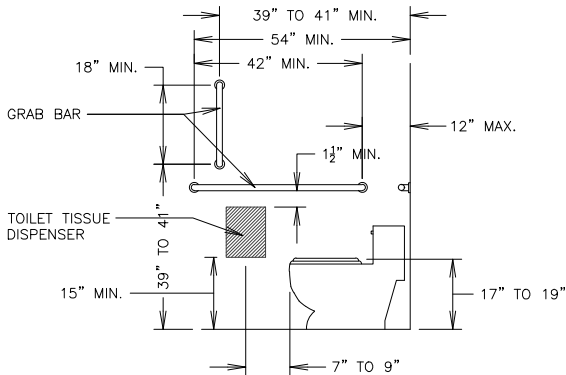
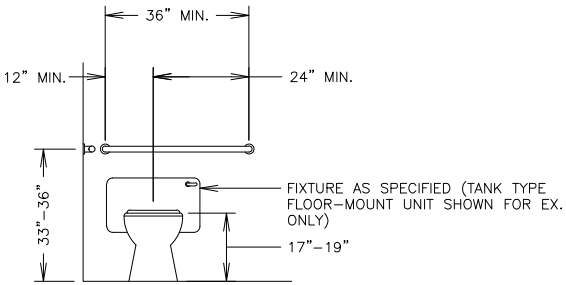
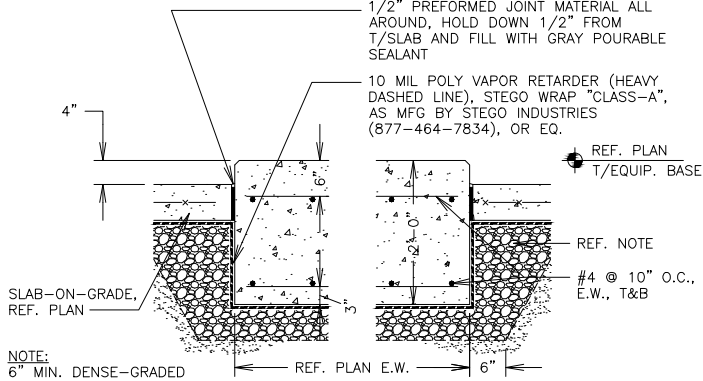
SECTION

DETAIL 9 NTS
NON-ISOLATED EQUIPMENT PAD



DETAIL 13 NTS
THRESHOLD AT OVERHEAD DOOR

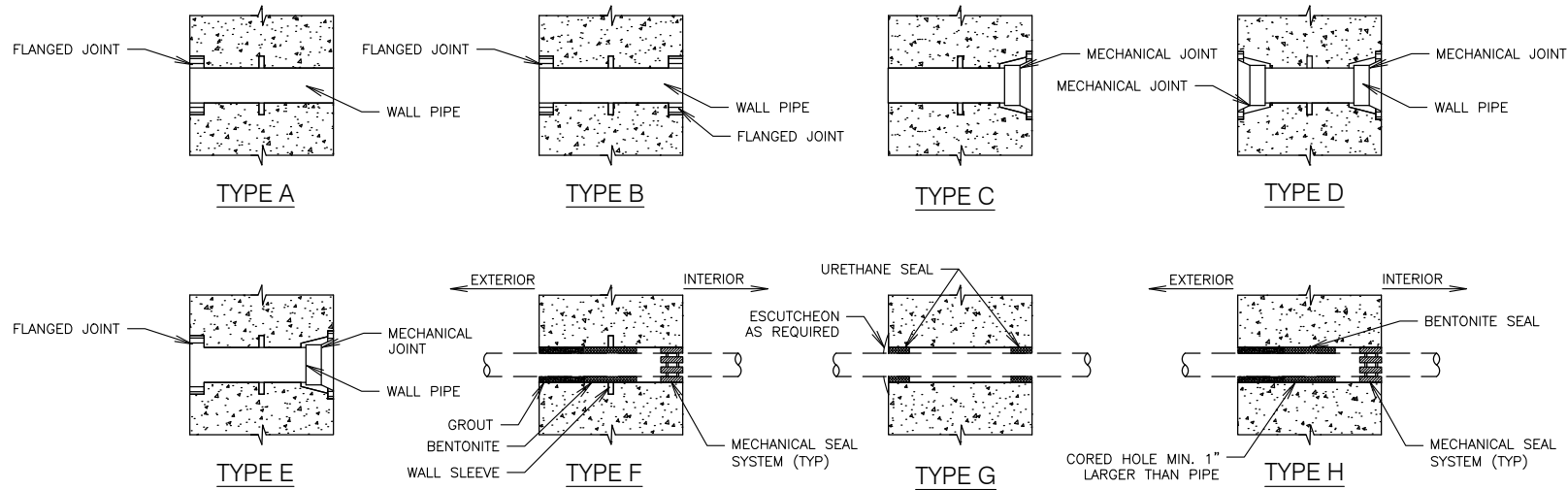


 <u>SIDE ELEVATION VIEW</u>	 <u>PLAN VIEW</u> DETAIL 1 NTS ACCESSIBILITY AT LAVATORY	 <u>SIDE ELEVATION VIEW</u>	 <u>FRONT ELEVATION VIEW</u> DETAIL 2 NTS ACCESSIBILITY AT WATER CLOSET	STANDARD DETAILS
 <u>SECTION VIEW</u> DETAIL 3 NTS ISOLATED EQUIPMENT BASE				

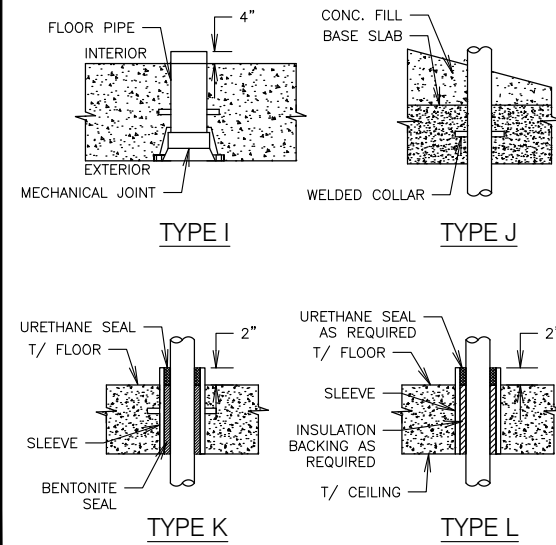
STANDARD DETAILS

2023 LIFT STATION 2 IMPROVEMENTS
Marsh Woods Drive
Village of McFarland, Wisconsin

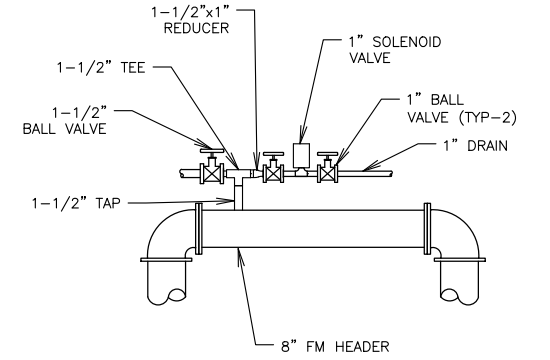
PROJECT NO.:	MC 198
DRAWING FILE:	
DRAWN BY:	WTS
CHECKED BY:	
DATE:	6/28/23
REVISIONS:	
SCALE:	
SHEET:	



DETAIL 414
WALL PIPING PENETRATION (SEE SPECS FOR USE)



DETAIL 415
BASE/FLOOR PIPING PENETRATION (SEE SPECS FOR USE)



DETAIL 416
AIRE RELEASE SOLENOID VALVE

FANS																
MARK	MANUFACTURER	MODEL	SERVICE	LOCATION	CONSTRUCTION			AIR			ELECTRICAL			WEIGHT (LBS)	SONES	REMARKS
					TYPE	FAN MATERIAL	DRIVE	CFM	ESP (IN WC)	RPM	HP	BHP	VOLTS / PH			
20-EF-01	GREENHECK	CUE-100-VG	EXHAUST	STORAGE	UPBLAST	ALUMINUM	DIRECT	450	0.25	849	1/4	.03	120 / 1Ø	60	1.1	1, 2
20-EF-02	GREENHECK	SP-A50-90-VG	EXHAUST	TOILET	CEILING	ALUMINUM	DIRECT	75	0.25	887	6 W	-	120 / 1Ø	20	1.5	1, 2
1. PROVIDE DIAL ON FAN. 2. PROVIDE GRAVITY BACKDRAFT DAMPER.																

DUCTLESS SPLIT SYSTEMS																		
MARK	MANUFACTURER	MODEL		TYPE	LOCATION		COOLING CAPACITY (BTUH)	HEATING CAPACITY (BTUH)	AIRFLOW (CFM)	ELECTRICAL UNIT				PHYSICAL DATA				REMARKS
		INDOOR UNIT	OUTDOOR UNIT		NAME	NO.				AMPS	MCA	MOC	VOLT /PH	LENGTH (IN)	WIDTH (IN)	HEIGHT (IN)	WEIGHT (LBS)	
20-DSS-01	LG	LSN120HSV5	-	HIGH WALL	PIPE	101	12,000	13,600	230	0.4	-	-	208	33	8	12	20	
		LMN249HVT	-	HIGH WALL	ELEC	102	24,000	25,600	450	0.6	-	-	208	40	9	14	30	
		-	LMU363HV	MULTI-ZONE	OUTSIDE	-	36,000	39,200	-	19	18.4	25	208	38	16	33	140	

LOUVER (L)														
MARK	MANUFACTURER	MODEL	SERVICE	CFM	CONSTRUCTION		SIZE			MAX FREE AREA VELOCITY (FPM)	MAX PRESSURE DROP (IN WC)	FINISH	REMARKS	
					TYPE	MATERIAL	WIDTH	HEIGHT	DEPTH					
20-L-01	GREENHECK	ESK-402	20-EF-01	450	0.03	405	16	24	4	675	0.08	70% KYNAR	1, 2	
20-L-02	GREENHECK	ESK-402	GENERATOR	8100	0.01	210	72	136	4	675	0.08	70% KYNAR	1, 2	
20-L-03	GREENHECK	ESK-402	GENERATOR	8100	0.06	615	66	64	4	675	0.08	70% KYNAR	1, 2	
1. BAKED ENAMEL FINISH 2. PROVIDE INSECT SCREEN														

ELECTRIC UNIT HEATERS										
MARK	MANUFACTURER	MODEL	MOUNTING	HEATING CAPACITY (MBH)	CFM	MOTOR		UNIT ELECTRICAL		REMARKS
						HP	RPM	AMPS	VOLTS / PH	
20-EUH-01	QMARK	MUH-07-4	HORIZONTAL	7.5	650	1/30	1,600	9.0	480 / 3Ø	1, 2
20-EUH-02	QMARK	MUH-07-4	HORIZONTAL	7.5	650	1/30	1,600	9.0	480 / 3Ø	1, 2
20-EUH-03	QMARK	MUH-03-41	HORIZONTAL	3	350	1/100	1,600	3.6	480 / 3Ø	1, 2
20-EUH-04	QMARK	MUH-03-41	HORIZONTAL	3	350	1/100	1,600	3.6	480 / 3Ø	1, 2
20-EUH-05	QMARK	MUH-05-41	HORIZONTAL	5	350	1/100	1,600	6.0	480 / 3Ø	1, 2
1. PROVIDE OSHA FAN GUARD 2. PROVIDE REMOTE THERMOSTAT										

ELECTRIC BASEBOARD							
MARK	MANUFACTURER	MODEL	KW	ELECTRICAL		WEIGHT	REMARKS
				AMPS	VOLTS / PH		
20-EBB-01	QMARK	QMKC25126	0.5	4.2	120 / 1Ø	8	

PROJECT NO.: MC 198
DRAWING FILE: 100-H-01
DRAWN BY: B.M.C.
CHECKED BY: M.R.R.
DATE: 08-25-23
REVISIONS:
SCALE:

0 1 2 4
FEET

SHEET:

2023 LIFT STATION 2 IMPROVEMENTS
Marsh Woods Drive
Village of McFarland, Wisconsin

100-H-01

6264 Nesbit Road
Madison, WI 53719
(608) 273-3350
www.tcengineers.net

TC TOWN & COUNTRY
ENGINEERING, INC.

HVAC SCHEDULES

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Madison, WI 53719
(608) 273-3350
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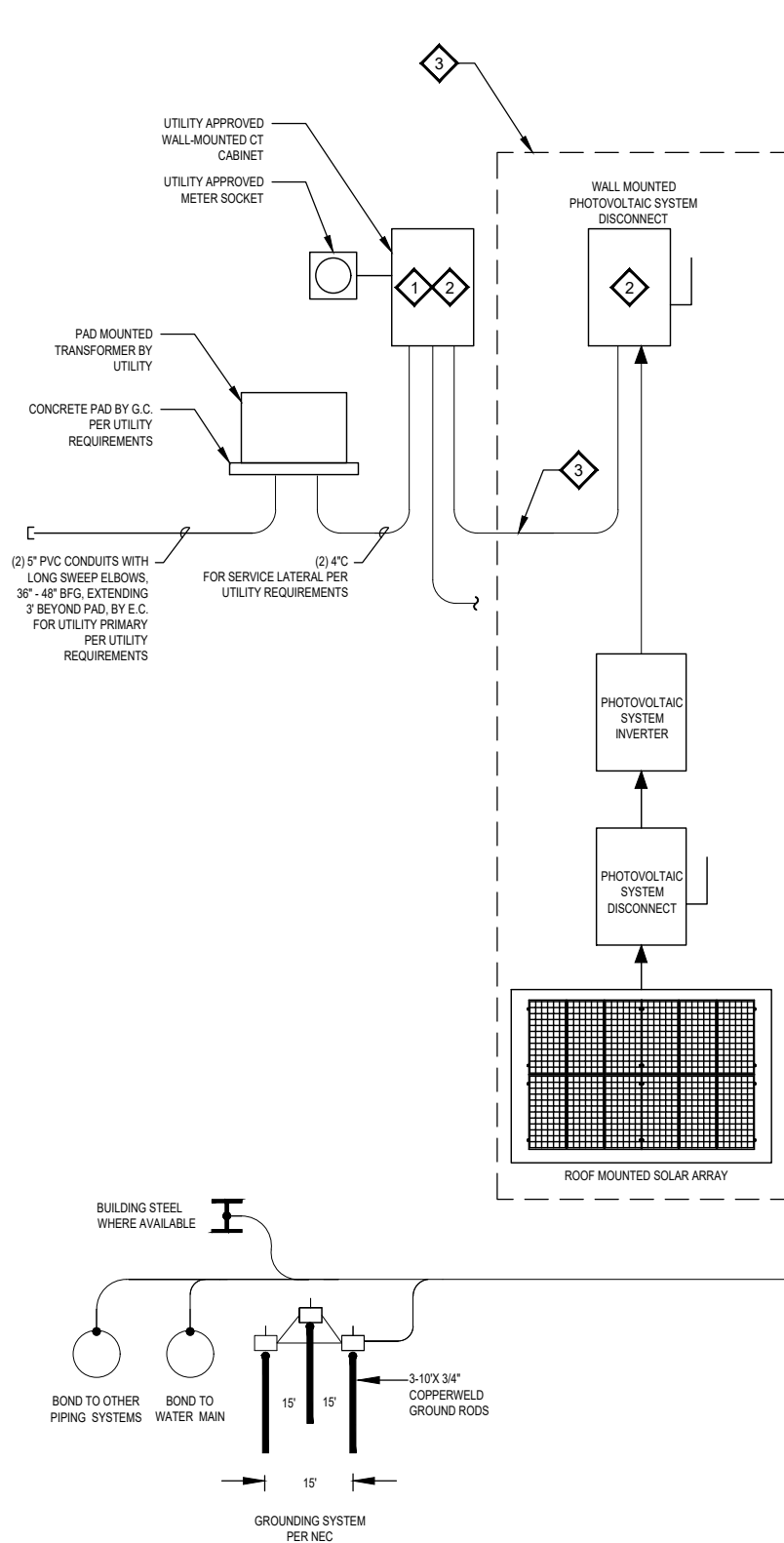
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TOWN & COUNTRY
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HVAC SCHEDULES

2023 LIFT STATION 2 IMPROVEMENTS
Marsh Woods Drive
Village of McFarland, Wisconsin

PROJECT NO.: MC 198
DRAWING FILE: 100-H-01
DRAWN BY: B.M.C.
CHECKED BY: M.R.R.
DATE: 08-25-23
REVISIONS:
SCALE:
0 1 2 4
FEET
SHEET:
100-H-01



KEY NOTES

1. PROVIDE CT CABINET AS SPECIFIED AND PER UTILITY REQUIREMENTS. INSTALL CTS PROVIDED BY UTILITY. PROVIDE LOAD SIDE LUGS SUFFICIENT TO ACCOMMODATE FUTURE PHOTOVOLTAIC FEEDER IN ADDITION TO UTILITY FEEDER.
2. PROVIDE PLACARDING TO INDICATE THAT EQUIPMENT IS FED BY TWO POWER SOURCES, AND THE LOCATIONS OF THE DISCONNECTS.
3. PHOTOVOLTAIC SYSTEM FURNISHED AND INSTALLED BY PHOTOVOLTAIC SYSTEM SUPPLIER.
4. PROVIDE CONDUIT SIZED FOR FEEDER CIRCUIT "42," MINIMUM 1-1/4", TO ACCOMMODATE LARGER PUMP SIZE IN FUTURE.

LS2-MCC, STRUCTURE 20

200A, 277/480V, 3Ø, 4W, 42,000AIC

SECTION 6

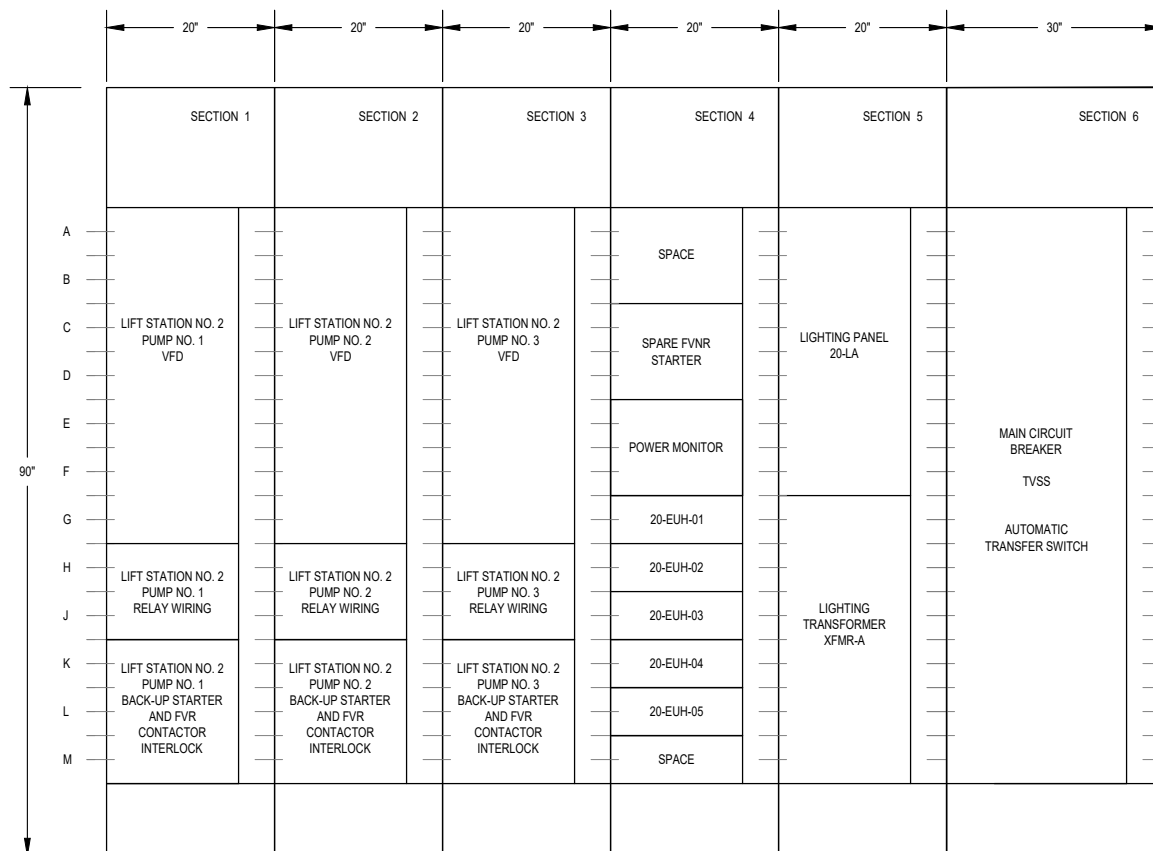
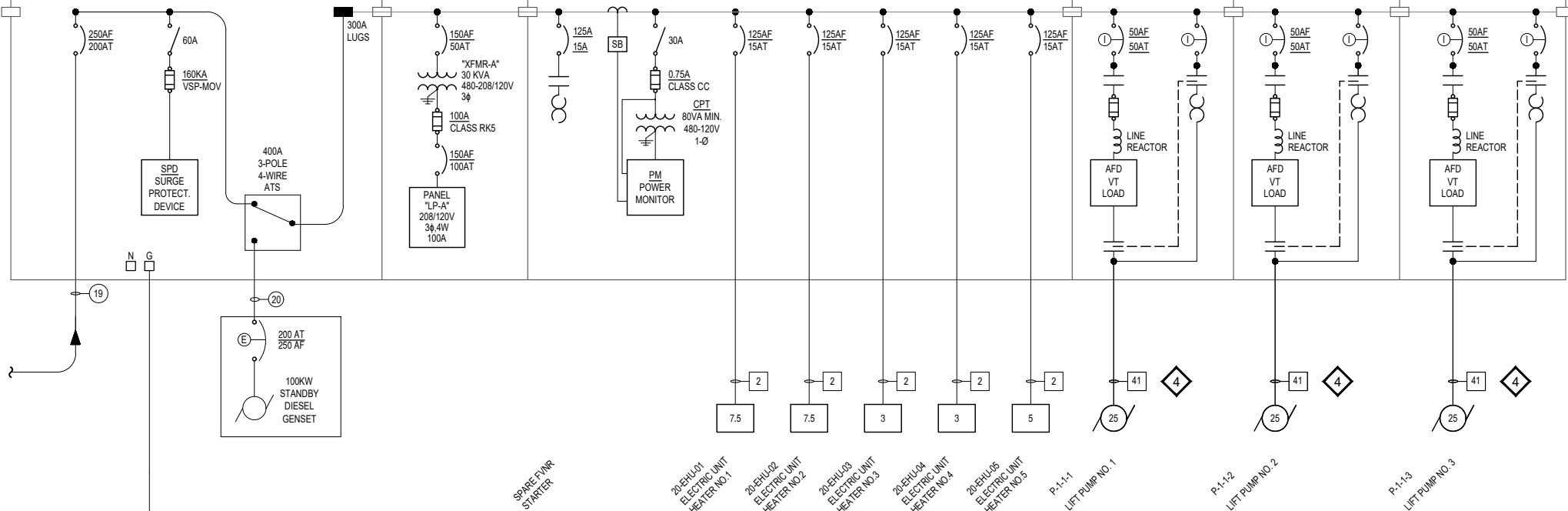
SECTION 5

SECTION 4

SECTION 3

SECTION 2

SECTION 1



LS2-MCC

MOTOR CONTROL CENTER FRONT ELEVATION

NTS

6264 Nesbitt Road
Madison, WI 53719
(608) 273-3350
www.tcengineers.net

tc TOWN & COUNTRY
ENGINEERING, INC.

ONE-LINE

2023 LIFT STATION 2 IMPROVEMENTS

Marsh Woods Drive

Village of McFarland, Wisconsin

PROJECT NO.: MC 198
DRAWING FILE: 100-E-01
DRAWN BY: N.W.W.
CHECKED BY: S.R.M.
DATE: 10-17-23
REVISIONS:

SCALE:

N.T.S.

SHEET:

100-E-01

THREE PHASE PANEL SCHEDULE										20-LA	
TYPE: LIGHTING & APPLIANCE		VOLTAGE: 208 /120 - 3P4W		MOUNT: SURFACE		SINGLE TUB		BUS CONSTRUCTION: CU		GROUND BUS: YES	
								ISOLATED GROUND BUS: NO		BUS AMPACITY: 225A	
										MAIN CIRCUIT BREAKER: 175A	
										SUB-FEED LUGS: NONE	
										INTERRUPTING CAPACITY: 10 KAIC	
	DESCRIPTION	LOAD	BKR	A	B	C	BKR	LOAD	DESCRIPTION		
1	LIGHTS, STORAGE RM 100	3.25	20/1	4.3	***	***	20/1	1.00	LOCAL CONTROL PANEL		2
3	LIGHTS, PIPE GALLERY RM 101	1.75	20/1	***	2.3	***	20/1	0.50	FIT		4
5	LIGHTS, ELEC RM 102	1.50	20/1	***	***	1.5	20/1		SPARE		6
7	LIGHTS, GENERATOR RM 103	1.75	20/1	1.8	***	***	20/1		SPARE		8
9	LIGHTS, TOILET RM 104, 20-EF-02	1.50	20/1	***	1.5	***	20/1		SPARE		10
11	LIGHTS, EXTERIOR	0.50	20/1	***	***	0.5	20/1		SPARE		12
13	SPARE		20/1	0.0	***	***	20/1		SPARE		14
15	RECEPT., STORAGE RM 100	9.00	20/1	***	9.0	***	20/1		SPARE		16
17	RECEPT., PIPE GALLERY RM 101	4.50	20/1	***	***	4.5	20/1		SPARE		18
19	RECEPT., ELEC RM 102	4.50	20/1	4.5	***	***	20/1		SPARE		20
21	RECEPT., GENERATOR RM 103	4.50	20/1	***	4.5	***	20/1		SPARE		22
23	RECEPT., TOILET RM 104	3.00	20/1	***	***	3.0	20/1		SPARE		24
25	RECEPT., EXTERIOR	1.50	20/1	1.5	***	***			SPACE		26
27	HWRP-1	1.00	20/1	***	1.0	***			SPACE		28
29		21.00		***	***	21.0			SPACE		30
31	WH-1	21.00	30/2	21.0	***	***			SPACE		32
33	20-EBB-01	4.50	20/1	***	4.5	***			SPACE		34
35	20-EF-01	6.00	20/1	***	***	6.0			SPACE		36
37	20-D-02, 20-D-03	1.00	20/1	1.0	***	***			SPACE		38
39	20-DSS-01	18.40		***	18.4	***	20/1		GENERATOR BLOCK HEATER		40
41		18.40	30/2	***	***	18.4	20/1		GENERATOR BATT. CHARGER		42
TOTAL AMPS / PHASE: 34.0 41.2 54.9											
KVA / PHASE: 4.1 4.9 6.6											
TOTAL CONNECTED KVA: 15.6											

FIXTURE SCHEDULE						
TYPE	DESCRIPTION	LAMP TYPE	WATTS	MANUFACTURER	CATALOG NUMBER	NOTE
A	1X4, LENSED INDUSTRIAL STRIP	LED - 4000K	52	METALUX	4SNLED-LD5-56L-LW-UNV-L840-CD1-U	
D1	WALL PACK, EXTERIOR	LED - 3000K	52	GARDCO	121-32L-530-VW-G4-4-UNV-BL-IMR3-BZ	
D2	POLE MOUNTED, EXTERIOR	LED - 4000K	45	CROUSE-HINDS	VMVL5P-UNV1-S891	
X1	EXIT FIXTURE - LED NEMA 4X	LED	N/A	EMERGH-LITE	GA-SVX-1-R-4X	
GENERAL NOTES:						
1. ALL BALLASTS SHALL BE LOW HARMONIC ELECTRONIC.						
2. HUBBELL AND DAYBRITE SHALL BE CONSIDERED EQUAL.						
FIXTURE NOTES:						

FEEDER SCHEDULE															
IDENTIFIER	THERMAL-MAGNETIC CIRCUIT BREAKER	BREAKER PICKUP AMPS (80%)	SINGLE-PHASE TWO-WIRE CIRCUIT		SINGLE OR THREE-PHASE THREE-WIRE CIRCUIT		THREE-PHASE FOUR-WIRE CIRCUIT		ALL	MAX. DISTANCES (FT) 480V 3-PHASE		MAX. DISTANCES (FT) 240V 3-PHASE		MAX. DISTANCES (FT) 208V 3-PHASE OR 120/240V 1-PHASE	
			CONDUIT	CIRCUIT CONDUCTORS	CONDUIT	CIRCUIT CONDUCTORS	CONDUIT	CIRCUIT CONDUCTORS		FEEDER (2% DROP)	BRANCH (3% DROP)	FEEDER (2% DROP)	BRANCH (3% DROP)	FEEDER (2% DROP)	BRANCH (3% DROP)
1	10	8	3/4"	(2) #12	3/4"	(3) #12	3/4"	(4) #12	#12	335	502	167	251	145	218
2	15	12	3/4"	(2) #12	3/4"	(3) #12	3/4"	(4) #12	#12	223	335	112	167	97	145
3	20	16	3/4"	(2) #12	3/4"	(3) #12	3/4"	(4) #12	#12	167	251	84	126	73	109
4	25	20	3/4"	(2) #10	3/4"	(3) #10	3/4"	(4) #10	#10	212	317	106	159	92	138
5	30	24	3/4"	(2) #10	3/4"	(3) #10	3/4"	(4) #10	#10	176	264	88	132	76	115
6	35	28	3/4"	(2) #8	3/4"	(3) #8	3/4"	(4) #8	#10	241	361	120	181	104	157
7	40	32	3/4"	(2) #8	3/4"	(3) #8	3/4"	(4) #8	#10	211	316	105	158	91	137
8	45	36	3/4"	(2) #8	3/4"	(3) #8	3/4"	(4) #8	#10	187	281	94	140	81	122
9	50	40	3/4"	(2) #8	3/4"	(3) #8	3/4"	(4) #8	#10	169	253	84	126	73	110
10	60	48	3/4"	(2) #6	3/4"	(3) #6	3/4"	(4) #6	#10	224	336	112	168	97	146
11	70	56	1"	(2) #4	1"	(3) #4	1-1/4"	(4) #4	#8	305	457	152	228	132	198
12	80	64	1"	(2) #4	1"	(3) #4	1-1/4"	(4) #4	#8	266	400	133	200	115	173
13	90	72	1"	(2) #3	1"	(3) #3	1-1/4"	(4) #3	#8	290	436	145	218	126	189
14	100	80	1"	(2) #3	1"	(3) #3	1-1/4"	(4) #3	#8	261	392	131	196	113	170
15	110	88	1"	(2) #2	1"	(3) #2	1-1/2"	(4) #2	#6	307	461	154	230	133	200
16	125	100	1-1/4"	(2) #1	1-1/2"	(3) #1	1-1/2"	(4) #1	#6	340	510	170	255	147	221
17	150	120	1-1/4"	(1) #1/0	1-1/2"	(3) #1/0	2"	(4) #1/0	#6	355	533	178	266	154	231
18	175	140	N/A	N/A	2"	(3) #2/0	2"	(4) #2/0	#6	377	566	189	283	163	245
19	200	160	N/A	N/A	2"	(3) #3/0	2"	(4) #3/0	#6	413	619	206	310	179	268
20	225	180	N/A	N/A	2"	(3) #4/0	2-1/2"	(4) #4/0	#4	459	688	229	344	199	298
21	250	200	N/A	N/A	2-1/2"	(3) 250K CMIL	3"	(4) 250K CMIL	#4	484	725	242	363	210	314
22	300	240	N/A	N/A	3"	(3) 350K CMIL	3"	(4) 350K CMIL	#4	552	829	276	414	239	359
23	350	280	N/A	N/A	3"	(3) 500K CMIL	3-1/2"	(4) 500K CMIL	#3	647	970	323	485	280	420
24	400	320	N/A	N/A	3-1/2"	(3) 600K CMIL	4"	(4) 600K CMIL	#3	661	992	331	496	286	430
25	450	360	N/A	N/A	(2) 2"	2 SETS OF (3) #4/0	(2) 2-1/2"	2 SETS OF (4) #4/0	#2	459	688	229	344	199	298
26	500	400	N/A	N/A	(2) 2-1/2"	2 SETS OF (3) 250KCMIL	(2) 3"	2 SETS OF (4) 250KCMIL	#2	484	725	242	363	210	314
27	600	480	N/A	N/A	(2) 3"	2 SETS OF (3) 350KCMIL	(2) 3"	2 SETS OF (4) 350KCMIL	#1	552	829	276	414	239	359
28	700	560	N/A	N/A	(2) 3"	2 SETS OF (3) 500KCMIL	(2) 3-1/2"	2 SETS OF (4) 500KCMIL	#1/0	647	970	323	485	280	420
29	800	640	N/A	N/A	(2) 3-1/2"	2 SETS OF (3) 600KCMIL	(2) 4"	2 SETS OF (4) 600KCMIL	#1/0	661	992	331	496	286	430
30	900	720	N/A	N/A	(3) 3"	3 SETS OF (3) 350KCMIL	(3) 3"	3 SETS OF (4) 350KCMIL	#2/0	552	829	276	414	239	359
31	1000	800	N/A	N/A	(4) 2-1/2"	4 SETS OF (3) 250KCMIL	(4) 3"	4 SETS OF (4) 250KCMIL	#2/0	484	725	242	363	210	314
32	1200	960	N/A	N/A	(4) 3"	4 SETS OF (3) 350KCMIL	(4) 3"	4 SETS OF (4) 350KCMIL	#3/0	552	829	276	414	239	359
33	1600	1280	N/A	N/A	(4) 3-1/2"	4 SETS OF (3) 600KCMIL	(4) 4"	4 SETS OF (4) 600KCMIL	#4/0	661	992	331	496	286	430
34	1800	1440	N/A	N/A	(6) 3"	6 SETS OF (3) 350KCMIL	(6) 3"	6 SETS OF (4) 350KCMIL	250KCMIL	552	829	276	414	239	359
35	2000	1600	N/A	N/A	(6) 3"	6 SETS OF (3) 500KCMIL	(6) 3-1/2"	6 SETS OF (4) 500KCMIL	250KCMIL	679	1019	340	509	294	442
36	2500	2000	N/A	N/A	(6) 3-1/2"	6 SETS OF (3) 600KCMIL	(6) 4"	6 SETS OF (4) 600KCMIL	350KCMIL	635	952	317	476	275	413
37	3000	2400	N/A	N/A	(8) 3"	8 SETS OF (3) 500KCMIL	(8) 3-1/2"	8 SETS OF (4) 500KCMIL	400KCMIL	604	906	302	453	262	392
38	4000	3200	N/A	N/A	(10) 3-1/2"	8 SETS OF (3) 600KCMIL	(10) 4"	8 SETS OF (4) 600KCMIL	500KCMIL	529	793	264	397	229	344
39	20	16	N/A	N/A	1"	3C#12 SHIELDED MOTOR CABLE	N/A	N/A	(3) #10	167	251	84	126	73	109
40	30	24	N/A	N/A	1"	3C#10 SHIELDED MOTOR CABLE	N/A	N/A	(3) #10	176	264	88	132	76	115
41	50	40	N/A	N/A	1"	3C#8 SHIELDED MOTOR CABLE	N/A	N/A	(3) #10	189	253	84	126	73	110
42	80	48	N/A	N/A	1 1/4"	3C#6 SHIELDED MOTOR CABLE	N/A	N/A	(3) #10	224	336	112	168	97	146
43	80	64	N/A	N/A	1 1/4"	3C#4 SHIELDED MOTOR CABLE	N/A	N/A	(3) #10	266	400	133	200	115	173
44	100	80	N/A	N/A	1 1/2"	3C#3 SHIELDED MOTOR CABLE	N/A	N/A	(3) #10	261	392	131	196	113	170
45	125	100	N/A	N/A	2"	3C#1 SHIELDED MOTOR CABLE	N/A	N/A	(3) #8	340	510	170	255	147	221
46	175	140	N/A	N/A	2"	3C#2/0 SHIELDED MOTOR CABLE	N/A	N/A	(3) #6	377	566	189	283	163	245
47	200	160	N/A	N/A	2"	3C#3/0 SHIELDED MOTOR CABLE	N/A	N/A	(3) #4	413	619	206	310	179	268
48	225	180	N/A	N/A	2"	3C#4/0 SHIELDED MOTOR CABLE	N/A	N/A	(3) #4	459	688	229	344	199	298
49	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
50	300	240	N/A	N/A	2 1/2"	3C#350 KCMIL SHIELDED MOTOR CABLE	N/A	N/A	(3) #2	552	829	276	414	239	359
51	350	280	N/A	N/A	3"	3C#500 KCMIL SHIELDED MOTOR CABLE	N/A	N/A	(3) #1	647	970	323	485	280	420
52	450	360	N/A	N/A	(2) 2"	2 SETS 3C#4/0 SHIELDED MOTOR CABLE	N/A	N/A	(3) #4 EACH	459	688	229	344	199	298
53	600	480	N/A	N/A	(2) 2 1/2"	2 SETS 3C#350 KCMIL SHIELDED MOTOR CABLE	N/A	N/A	(3) #2 EACH	552	829	276	414	239	359
54	700	560	N/A	N/A	(2) 3"	2 SETS 3C#500 KCMIL SHIELDED MOTOR CABLE	N/A	N/A	(3) #1 EACH	647	970	323	485	280	420
PLAN NOTATION: Δ SINGLE-PHASE, TWO-WIRE FEEDER, NUMBER IS THE FEEDER IDENTIFIER □ SINGLE OR THREE-PHASE, THREE-WIRE FEEDER, NUMBER IS THE FEEDER IDENTIFIER ○ THREE-PHASE, FOUR-WIRE FEEDER, NUMBER IS THE FEEDER IDENTIFIER															

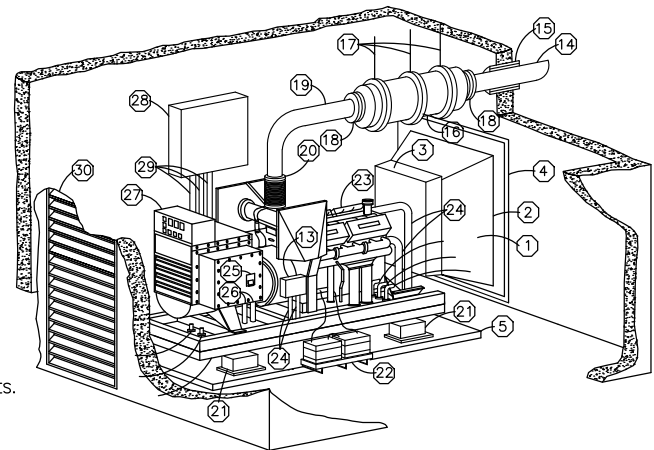
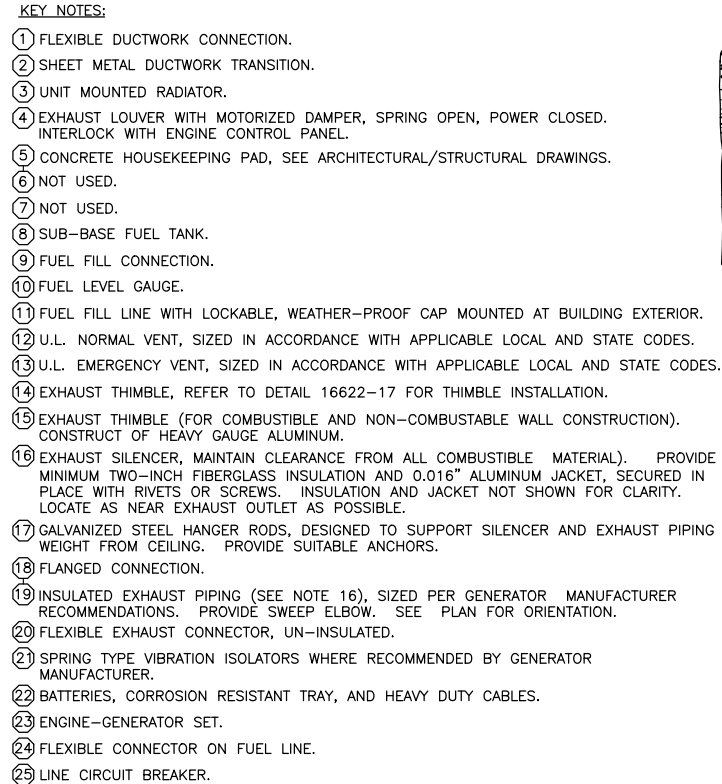
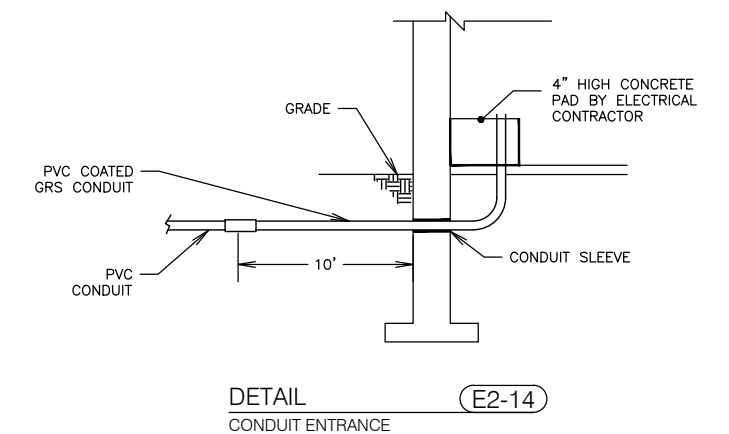
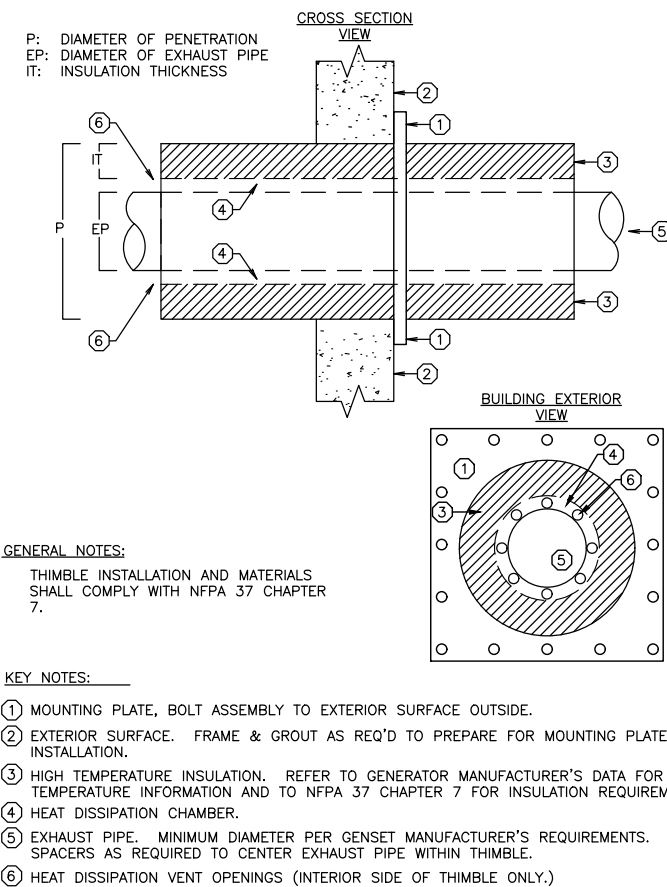
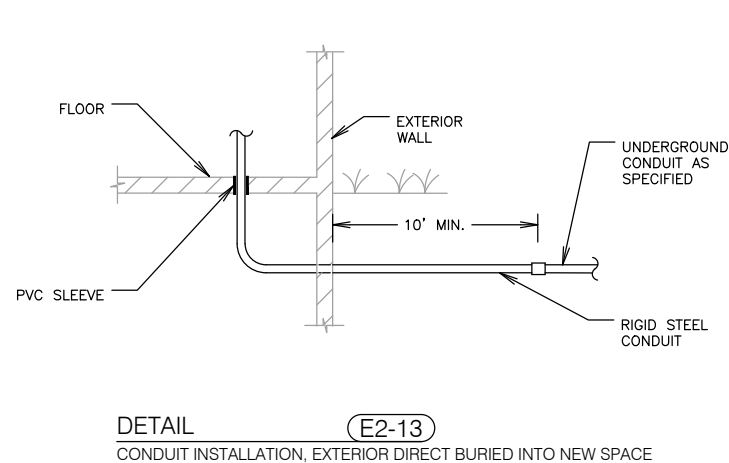
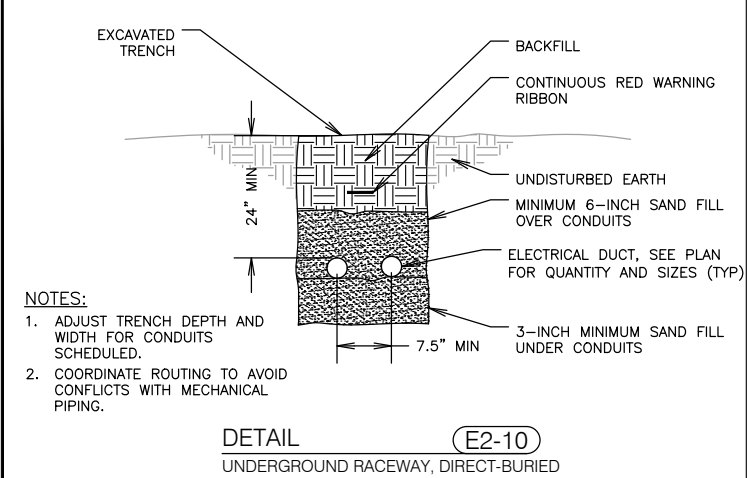
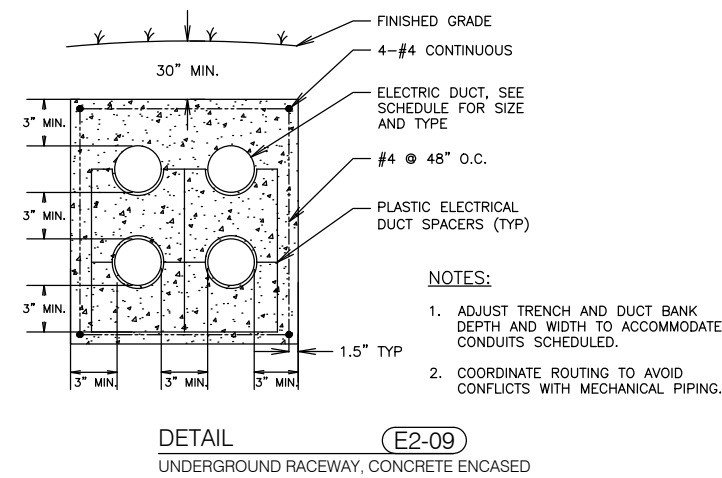
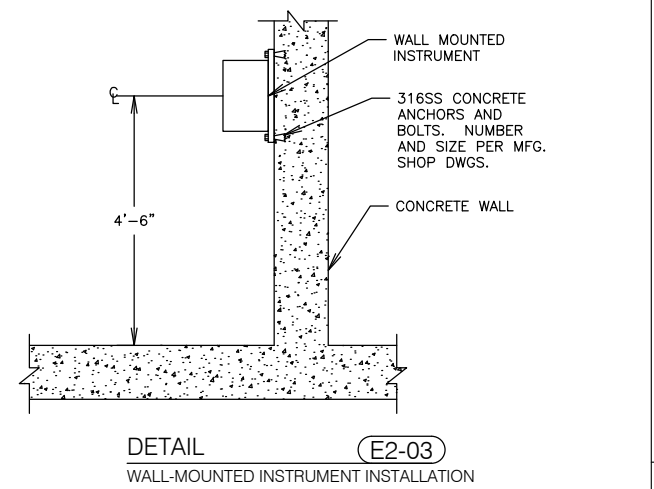
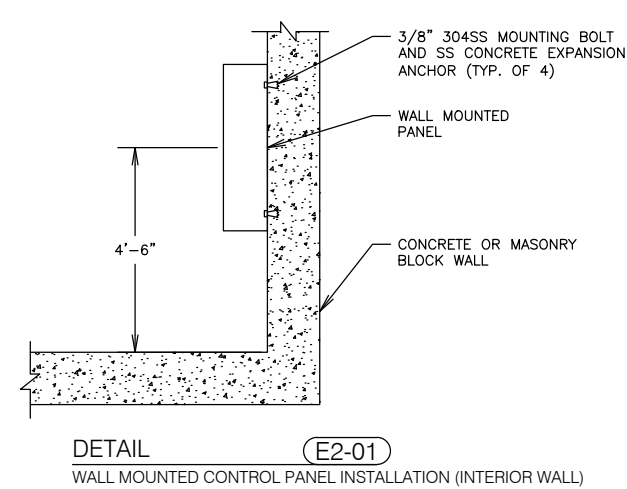
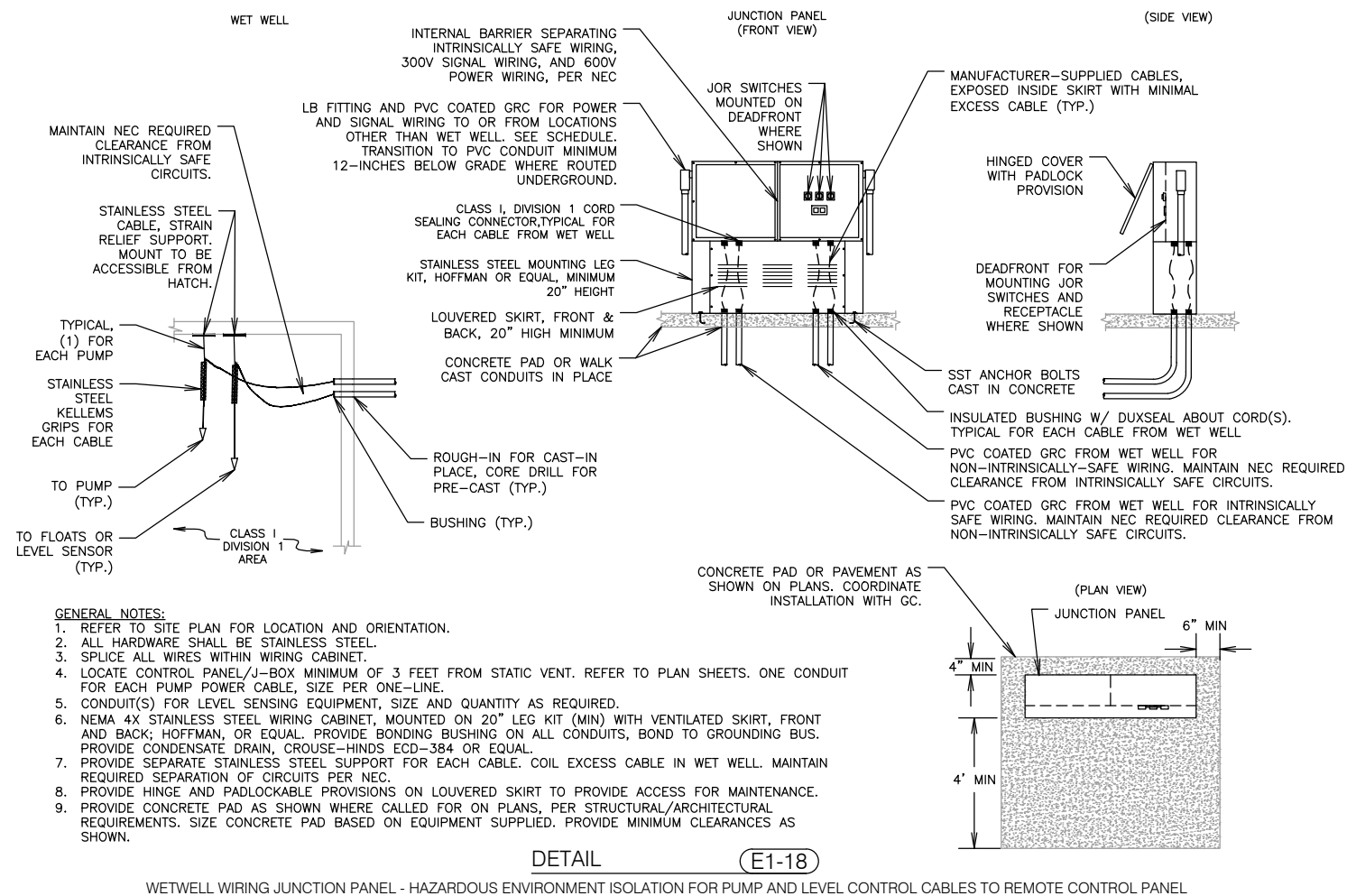
SCHEDULES

2023 LIFT STATION 2 IMPROVEMENTS
Marsh Woods Drive
Village of McFarland, Wisconsin

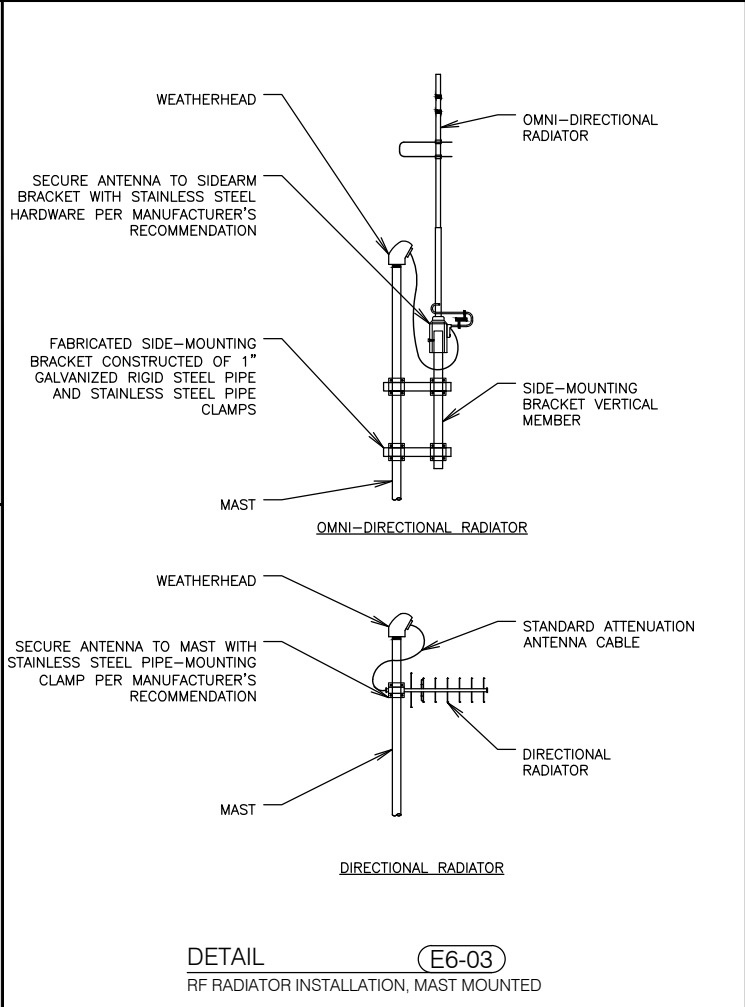
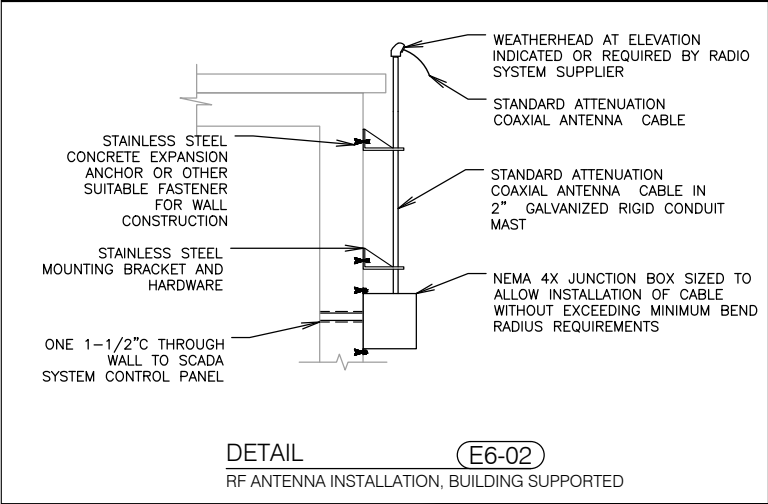
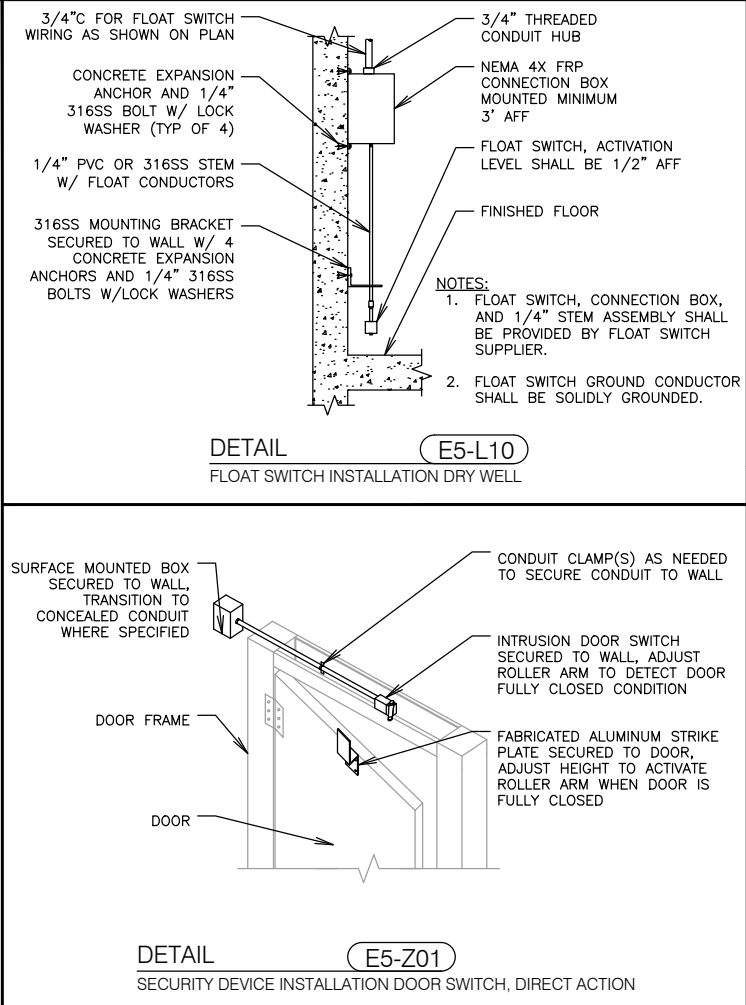
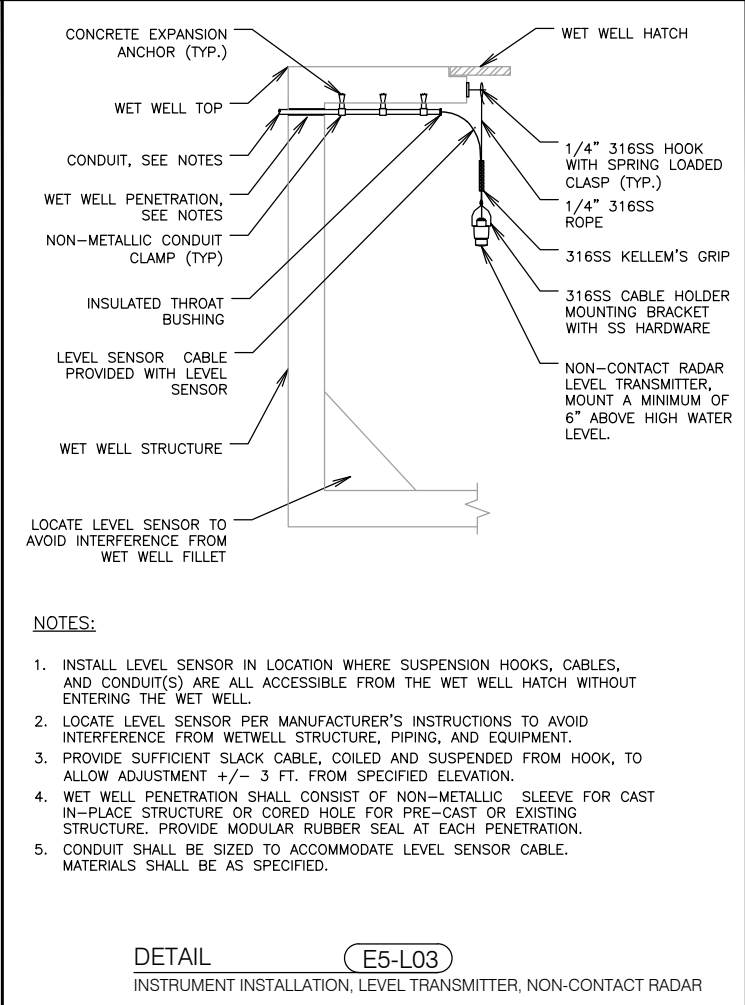
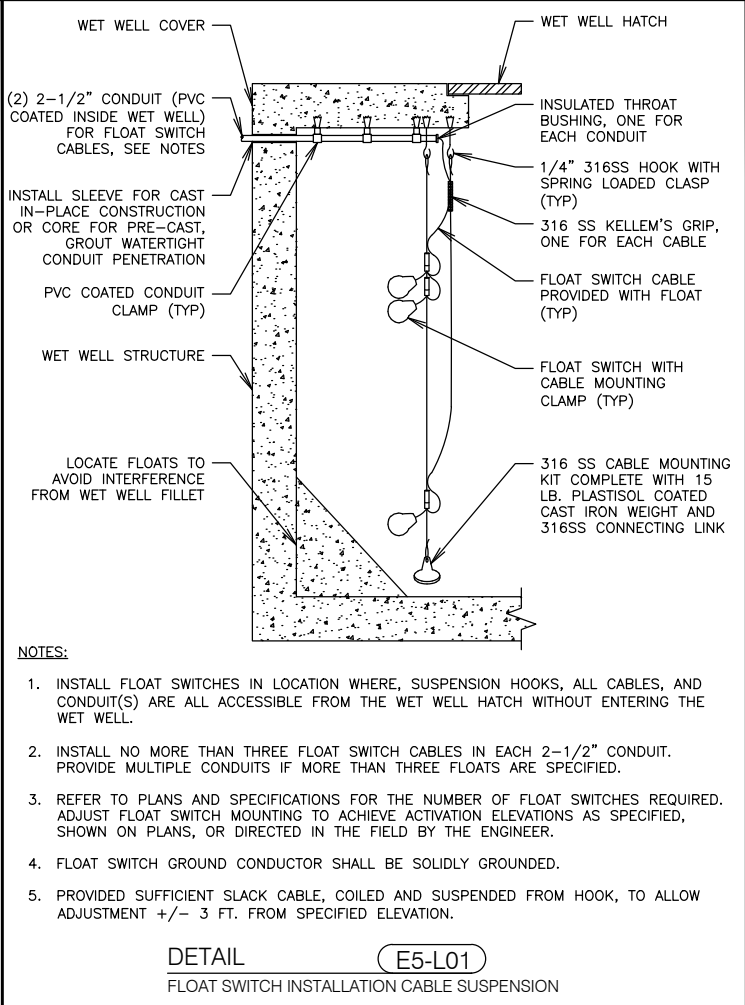
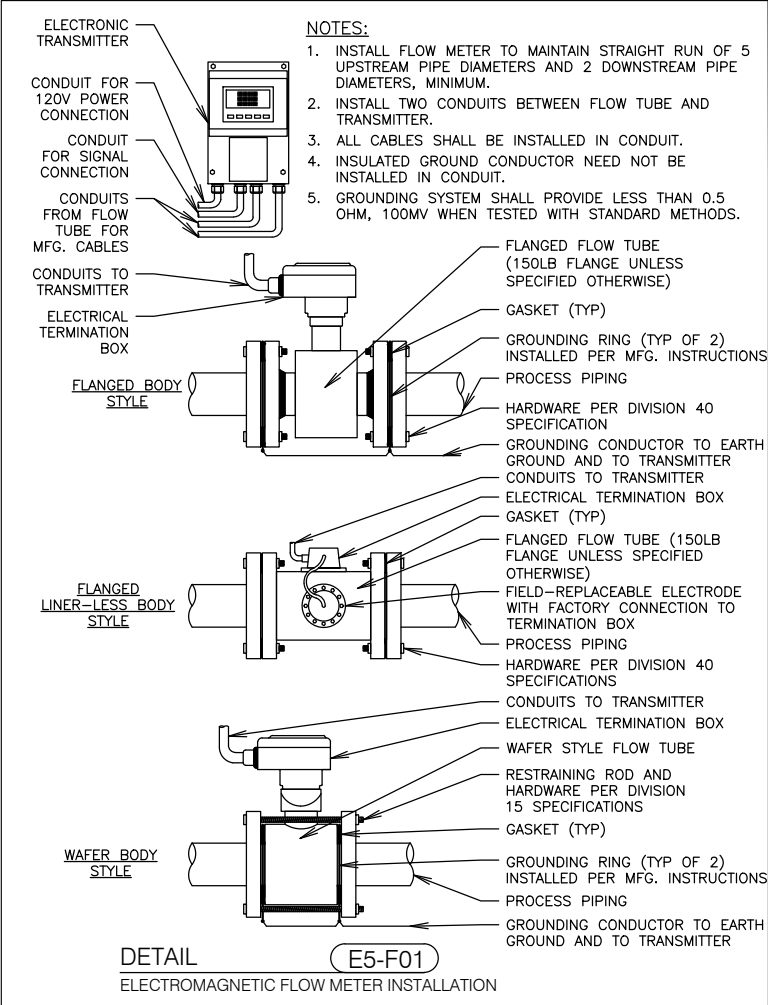
PROJECT NO.: MC 198
DRAWING FILE: 100-E-02
DRAWN BY: N.W

STR-10: PROCESS INSTRUMENTATION AND EQUIPMENT WIRING SCHEDULE													
		FIRST SIGNAL/CONTROL HOMERUN			SECOND SIGNAL/CONTROL HOMERUN			POWER HOMERUN					
TAG NUMBER	DESCRIPTION	DESTINATION	WIRING TYPE	WIRING	DESTINATION	WIRING TYPE	WIRING	CIRCUIT	VOLTAGE	CKT. BKR.	WIRING	DETAIL	NOTES
TJB-1	TERMINAL JUNCTION BOX	LS-LCP	120VAC DISCRETE	D12	LS-LCP	24VDC ANALOG	A1					E1-18	
TSH-1-1-1	TEMPERATURE SWITCH, HIGH, LIFT PUMP NO.1 MOTOR	TJB-1	120VAC DISCRETE	D2									
ME-1-1-1	MOISTURE SWITCH, HIGH, LIFT PUMP NO.1 MOTOR	TJB-1	120VAC DISCRETE	D2									
HS-1-1-1-1	JOG-OFF-REMOTE, LIFT PUMP NO.1	LS-LCP	120VAC DISCRETE	D2									
TSH-1-1-2	TEMPERATURE SWITCH, HIGH, LIFT PUMP NO.2 MOTOR	TJB-1	120VAC DISCRETE	D2									
ME-1-1-2	MOISTURE SWITCH, HIGH, LIFT PUMP NO.2 MOTOR	TJB-1	120VAC DISCRETE	D2									
HS-1-1-2-1	JOG-OFF-REMOTE, LIFT PUMP NO.2	LS-LCP	120VAC DISCRETE	D2									
TSH-1-1-3	TEMPERATURE SWITCH, HIGH, LIFT PUMP NO.3 MOTOR	TJB-1	120VAC DISCRETE	D2									
ME-1-1-3	MOISTURE SWITCH, HIGH, LIFT PUMP NO.3 MOTOR	TJB-1	120VAC DISCRETE	D2									
HS-1-1-3-1	JOG-OFF-REMOTE, LIFT PUMP NO.3	LS-LCP	120VAC DISCRETE	D2									
LSC-1-2	LEVEL SWITCH, LEAD PUMP ON, WET WELL	TJB-1	120VAC DISCRETE	D2									
LT-1-2	LEVEL TRANSDUCER, WET WELL LEVEL	TJB-1	24VDC ANALOG	A1									
LSH-1-2	LEVEL SWITCH, HIGH, LAG PUMP ON, WET WELL	TJB-1	120VAC DISCRETE	D2									
LSL-1-2	LEVEL SWITHCH, LOW, PUMPS OFF, WET WELL	TJB-1	120VAC DISCRETE	D2									
LSLL-1-2	LEVEL SWITCH, LOW LOW, WET WELL	TJB-1	120VAC DISCRETE	D2									
LSHH-1-2	LEVEL SWITCH, HIGH HIGH, ALARM, WET WELL	TJB-1	120VAC DISCRETE	D2									
LSHH-1-2	LEVEL SWITCH, HIGH HIGH, BACK-UP REQUIRED, WET WELL	TJB-1	120VAC DISCRETE	D2									

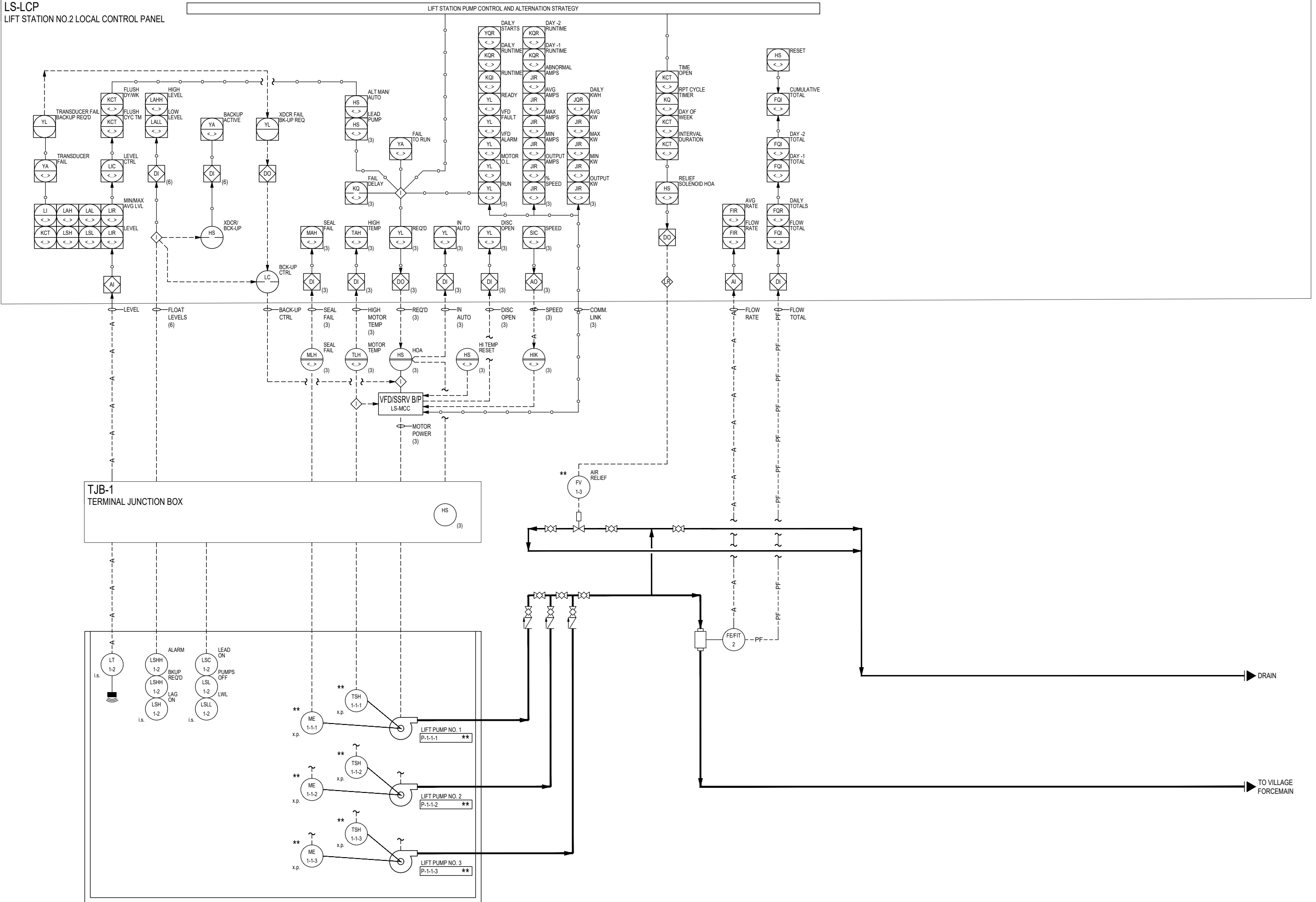
STR-20: PROCESS INSTRUMENTATION AND EQUIPMENT WIRING SCHEDULE													
		FIRST SIGNAL/CONTROL HOMERUN			SECOND SIGNAL/CONTROL HOMERUN			POWER HOMERUN					
TAG NUMBER	DESCRIPTION	DESTINATION	WIRING TYPE	WIRING	DESTINATION	WIRING TYPE	WIRING	CIRCUIT	VOLTAGE	CKT. BKR.	WIRING	DETAIL	NOTES
FV-1-3	AIR RELIEF VALVE	LS-LCP	120VAC DISCRETE	D2									
FE/FIT-2	FLOW ELEMENT/INDICATING TRANSMITTER, LIFT STATION NO.2	LS-LCP	24VDC ANALOG	A1	LS-LCP	PULSE FREQUENCY	A1	LA-XX	120V/1-PH	20A/1-POLE	2#12 & #12G	E5-F01	
TT-3-1	TEMPERATURE TRANSMITTER, PIPE GALLERY	LS-LCP	24VDC ANALOG	A1								E2-03	
LSH-3-2	FLOODING SWITCH, PIPE GALLERY	LS-LCP	120VAC DISCRETE	D2								E5-F12	
ZS-4-1-1	DOOR SWITCH, STORAGE ROOM	LS-LCP	120VAC DISCRETE	D2								E5-Z01	
ZS-4-1-2	DOOR SWITCH, ELECTRICAL ROOM	LS-LCP	120VAC DISCRETE	D2									
LCP-5-1	AUTOMATIC TRANSFER SWITCH	LS-LCP	120VAC DISCRETE	D12									
HS-5-2	GENERATOR E-STOP	LCP-5-2-1	120VAC DISCRETE	D2								E2-03	
LCP-5-2-1	GENERATOR CONTROL PANEL	LS-LCP	120VAC DISCRETE	D4	LCP-5-1	120VAC DISCRETE	D2						
LCP-5-2-2	GENERATOR REMOTE ANUNCIATOR	LS-LCP	MANUFACTURER'S CABLE	M1									
JA-5-3	POWER MONITOR	LS-LCP	COPPER ETHERNET600V	EH1									
LS-LCP	LIFT STATION NO.2 LOCAL CONTROL PANEL												



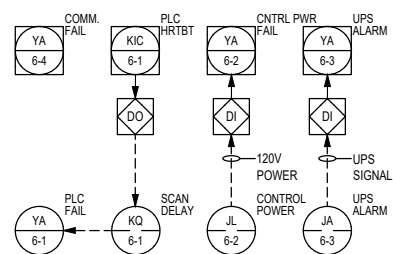
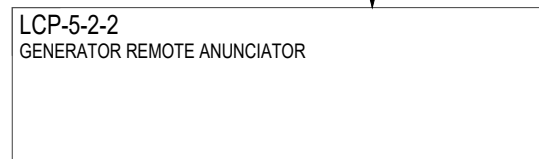
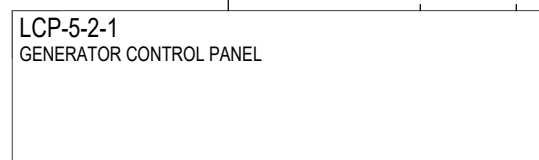
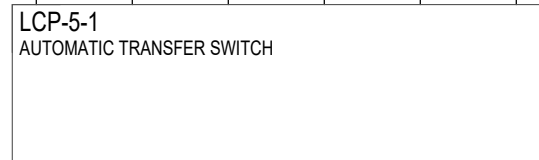
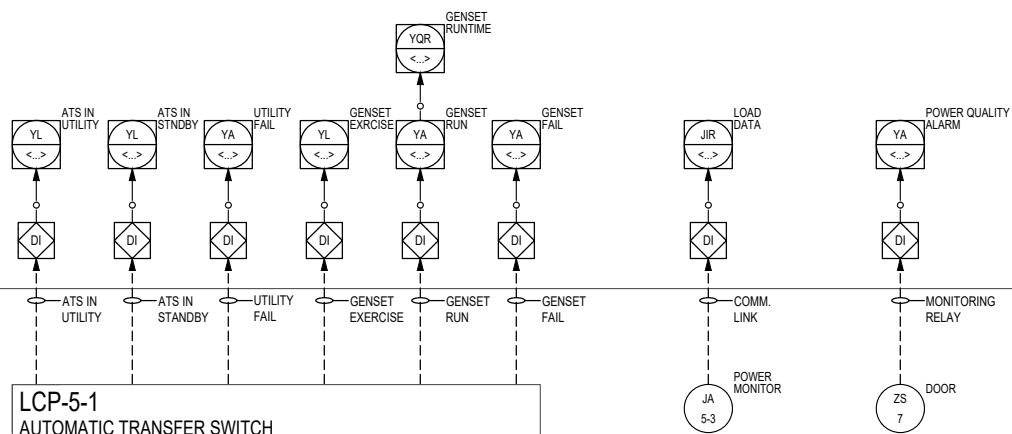
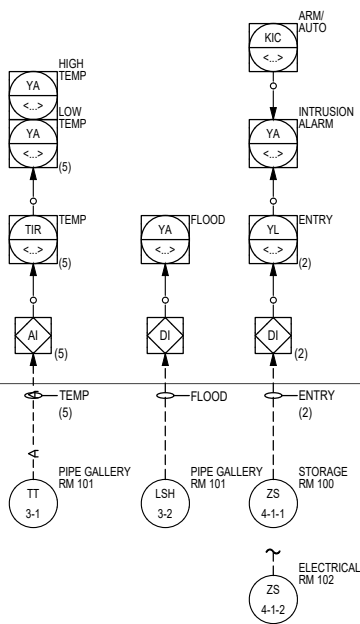
- 26 CONDUITS TO TRANSFER SWITCH FOR POWER AND CONTROL. PROVIDE FLEXIBLE CONNECTORS. ROUTE ALARM WIRING TO SCADA SYSTEM THROUGH TRANSFER SWITCH. TRANSFER SWITCH CONTROL WIRING PER MANUFACTURER PROVIDED INSTALLATION DRAWINGS.
- 27 ENGINE GENERATOR CONTROL PANEL WITH CONTACTS FOR CONTROL OF EXHAUST SYSTEM AND FOR STATUS MONITORING.
- 28 AUTOMATIC TRANSFER SWITCH (SHOWN OUT OF POSITION).
- 29 CONDUITS FOR LINE POWER, GENERATOR POWER, OUTPUT POWER, GENERATOR CONTROL, AND CONTROL TO SCADA SYSTEM.
- 30 INTAKE LOUVER WITH MOTORIZED DAMPER, SPRING OPEN, POWER CLOSED. EXHAUST FAN WITH MOTORIZED DAMPER NOT SHOWN. INTERLOCK WITH ENGINE CONTROL PANEL.



LS-LCP
LIFT STATION NO.2 LOCAL CONTROL PANEL



XXXXXXX LOCAL CONTROL PANEL



PID No.2
STRUCTURE 10

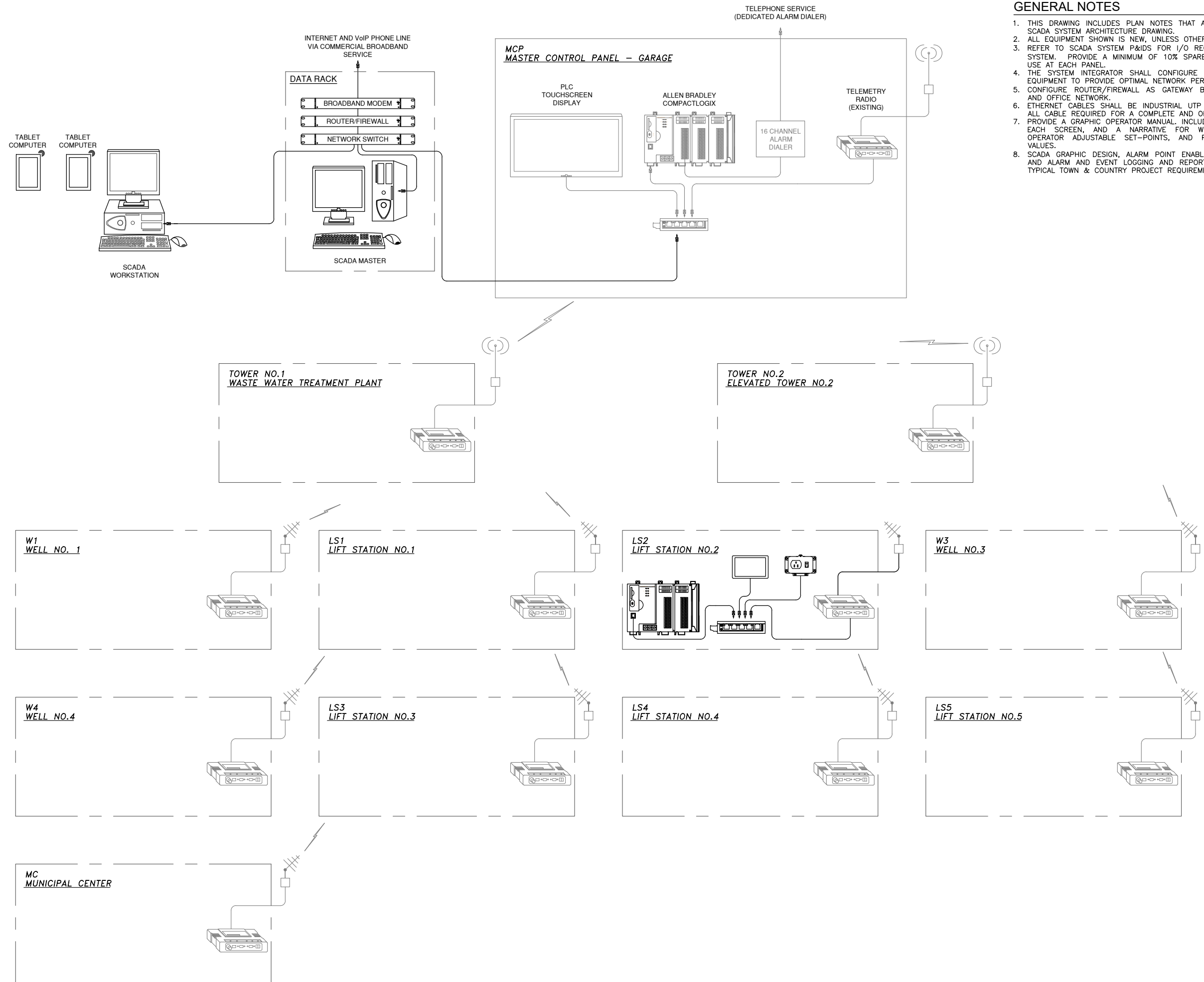
2023 LIFT STATION 2 IMPROVEMENTS
Marsh Woods Drive
Village of McFarland, Wisconsin

PROJECT NO.:	MC 198
DRAWING FILE:	100-W-02 PID No.2
DRAWN BY:	N.W.W
CHECKED BY:	S.R.M.
DATE:	9-1-23
REVISIONS:	
SCALE:	



SHEET:

100-W-02



- GENERAL NOTES**
1. THIS DRAWING INCLUDES PLAN NOTES THAT ARE REFERENCED ON THE SCADA SYSTEM ARCHITECTURE DRAWING.
 2. ALL EQUIPMENT SHOWN IS NEW, UNLESS OTHERWISE NOTED.
 3. REFER TO SCADA SYSTEM P&IDS FOR I/O REQUIREMENTS OF NEW PLC SYSTEM. PROVIDE A MINIMUM OF 10% SPARE I/O FOR EACH TYPE IN USE AT EACH PANEL.
 4. THE SYSTEM INTEGRATOR SHALL CONFIGURE ALL ETHERNET SWITCHING EQUIPMENT TO PROVIDE OPTIMAL NETWORK PERFORMANCE.
 5. CONFIGURE ROUTER/FIREWALL AS GATEWAY BETWEEN SCADA NETWORK AND OFFICE NETWORK.
 6. ETHERNET CABLES SHALL BE INDUSTRIAL UTP CAT 6 CABLE. PROVIDE ALL CABLE REQUIRED FOR A COMPLETE AND OPERABLE SYSTEM.
 7. PROVIDE A GRAPHIC OPERATOR MANUAL. INCLUDE SCREEN PRINTOUTS OF EACH SCREEN, AND A NARRATIVE FOR WHAT IS DISPLAYED, ALL OPERATOR ADJUSTABLE SET-POINTS, AND PERMISSIBLE RANGES OF VALUES.
 8. SCADA GRAPHIC DESIGN, ALARM POINT ENABLE/DISABLE FUNCTIONALITY, AND ALARM AND EVENT LOGGING AND REPORTING SHALL COMPLY WITH TYPICAL TOWN & COUNTRY PROJECT REQUIREMENTS.

**VILLAGE OF
McFarland
SUMMARY SHEET**

MEETING DATE: Monday, October 23, 2023

SECTION: Business

DEPARTMENT: Public Works

CONTACT: Lee Igl, Public Works Director

AGENDA ITEM: Discussion and action to make a recommendation to the Village Board regarding the purchase of a generator for Lift Station 2.

PREVIOUS ACTION:

The generator is part of the entire Lift Station 2 project, which was approved in the 2023 CIP. We are also proposing to advance the rest of the project as part of this meeting.

ISSUE SUMMARY:

With the Lift Station 2 project, the purchase of the generator is anticipated to have a long lead time, which could delay the project completion well into 2025 or 2026. We are requesting a recommendation to the Village Board to bid the generator and necessary electrical outside of the bidding process for the facility. This is in an attempt to decrease the completion time of the project. Funding would not be needed until receipt of the generator, so it would not have a budgetary impact within this year. The Village Engineer will go over how to address this within the contract and likely route the specifications will note the make, model that the contractor will be required to install but we provide.

FINANCIAL/BUDGET IMPACT:

The Lift Station 2 project, with the generator as part of the project, was approved in the 2023 Budget and CIP. It has been carried forward as proposed within the 2024 Budget as well. We are borrowing for the project through the State of Wisconsin DNR Clean Water Fund Program which would remove it from that funding stream. We do have reserves for equipment such as this in this fund at an amount around \$564,847 at the end of 2022 that could be accessed or we include it as part of a note issuance. Either way, this request is to order the equipment and get the clock running on its delivery as its a necessary part of the project.

VILLAGE PLAN REFERENCE:

None.

ORDINANCE REFERENCE:

None.

BOARD, COMMISSION OR COMMITTEE RECOMMENDATION:

Recommended motion:

Motion and second to recommend to the Village Board the immediate bid of the generator and electrical for the Lift Station 2 project.



ATTACHMENTS:

None

**VILLAGE OF
McFarland
SUMMARY SHEET**

MEETING DATE: Monday, October 23, 2023

SECTION: Business

DEPARTMENT: Public Works

CONTACT: Lee Igl, Public Works Director, Matt Schuenke, Village Administrator

AGENDA ITEM: Presentation, discussion and action to make a recommendation of approval to the Village Board regarding the final plans of the 2024 Exchange Street project and authorize the project for bid.

PREVIOUS ACTION:

The Public Works Committee:

- Recommended approval regarding the State Municipal Agreement (SMA) at their June 9, 2020 meeting. [Please click on this link to view the adopted SMA.](#)
- Discussed the project and recommended scheduling of a Public Information Meeting on February 16, 2021 at their January 12, 2021 meeting.
- Discussed the project and recommended scheduling of the next Public Information Meeting on October 12, 2021 at their July 13, 2021 meeting.

The Public Utilities Committee:

- Recommended approval regarding the State Municipal Agreement (SMA) at their June 16, 2020 meeting.
- Discussed the project and recommended scheduling of a Public Information Meeting on February 16, 2021 at their January 19, 2021 meeting.

Joint Public Works & Public Utilities Committees:

- Public Information Meeting was held on February 16, 2021.

The Public Works & Utilities Committee:

- Update and discussion about the project on May 23, 2022. Committee members discussed updates related to driveway concerns on the north and south ends of the project corridor.
- Recommended scheduling of the next Public Information meeting on September 26, 2022 at their August 22, 2022 meeting.
- Public Information Meeting was held on September 26, 2022.

**ISSUE SUMMARY:**

Town & Country Engineering will be in attendance to present and review the final plan set for the 2024 Exchange Street project. Exchange Street Reconstruction will occur from Farwell Street to Sleepy Hollow Road in 2024. The project will include a full street reconstruction, addition of on-street bike lanes, a new sidewalk on the northern side of the road, and utility replacements. The Village is receiving grant funding for the project through the WisDOT Surface Transportation Program (STP) in the amount of \$1,177,000.

This project has been in design and development since 2019. The project has held multiple public information meetings throughout the design process. Regulatory agencies have approved all of the project's cultural, historical, and environmental information. Detailed plan development, reporting documentation, and real estate documentation has been ongoing.

Provided is a link to the [final plan set](#) for the 2024 Exchange Street project. Staff are seeking the committee's approval recommendation to the Village Board for the presented plans and authorize the project for bid.

FINANCIAL/BUDGET IMPACT:

The Exchange Street project is partially funded by grant funding through the WisDOT Surface Transportation Program. The remaining funding was approved within the Capital Improvement Plan and is included in the upcoming 2024 budget.

VILLAGE PLAN REFERENCE:

None.

ORDINANCE REFERENCE:

None.

BOARD, COMMISSION OR COMMITTEE RECOMMENDATION:

Recommended motion:

Motion and second to recommend approval to the Village Board regarding the Exchange Street project final design and authorize the project for bid.

ATTACHMENTS:

None

McFarland
SUMMARY SHEET

MEETING DATE: Monday, October 23, 2023

SECTION: Business

DEPARTMENT: Public Works

CONTACT: Lee Igl, Public Works Director, Matt Schuenke, Village Administrator

AGENDA ITEM: Discussion and action to make a recommendation to the Village Board regarding the draft 2024 Budget for the Utilities Fund (600).

PREVIOUS ACTION:

None.

ISSUE SUMMARY:

The Utilities Fund is comprised of the revenues and expenses needed to fund the operations of sewer and water services. Funding for both services is primarily dependent on charges for services while expenses vary from personnel to contracted services. A brief summary of the major issues is highlighted as follows:

- Sewer Service - Revenue projections are aligned with the rate increase that was implemented earlier this year. This has thus far proven effective as we see the deficit from 2022 turn into a projected surplus for 2023. No additional rate increase is proposed for 2024; however, we'll likely need to study one next summer for possible implementation in 2025. The reason being are the increases on treatment costs for MMSD, debt service, and growing operational expenses. Preliminary estimate for MMSD is around 11.5% and they have forecasted 9-10% increases for the next several years. Lift Station #2 will be constructed in 2024 and when we'll incur the borrowing proceeds that will start payback with the State in 2025. We have still been able to maintain our savings within this budget, and will look to continue to do so going forward but increases in these costs beyond what's projected are likely to eat into those numbers.
- Water Service - Revenue projections are aligned with the estimated 31% increase that has been approved by the Committee and Village Board. This has been submitted to the Public Service Commission and they will begin their review. New rates will be implemented sometime in the first part of 2024. The revenue need is driven by our operating and capital allocations for the coming year. Operating is showing some growth in general cost to continue at existing levels along with advances in staffing. Major capital projects for next year include reconstruction of water mains on Exchange Street and beginning the design process to construct new Well #5.

FINANCIAL/BUDGET IMPACT:

Overall the operation costs for Sewer Services are expected to grow within the fund from \$1,852,000 to \$2,061,750 which is an increase of \$209,750 or 11.3%. Growth of this number is again attributed to increased costs for treatment through MMSD, capital investments, and other



growth operational needs. The overall budget for 2024 is \$5,065,500 with the bulk of that additional amount for the reconstruction of Lift Station #2.

On the water side, the total operational cost is expected to increase to \$2,149,500 from \$1,832,250 the previous year which amounts to growth of \$317,250 or 17%. Most of this growth is as a result of increased debt service to support capital projects. The overall budget for 2024 is \$3,740,500 with the majority of the additional funds going towards the Exchange Street project.

VILLAGE PLAN REFERENCE:

None.

ORDINANCE REFERENCE:

None.

BOARD, COMMISSION OR COMMITTEE RECOMMENDATION:

Recommended Action:

Motion, second to recommend to the Village Board approval of the draft 2024 Budget for the Utilities Fund (600).

ATTACHMENTS:

1. 2024 Budget - Utilities Fund 600 DRAFT 09262023

ANNUAL BUDGET

Utility

Fund #600

**ANNUAL
BUDGET**

Utility

Fund #600

Summary

Village of McFarland

2024 Utility Fund Operating Budget

SUMMARY of SEWER SERVICE

		2022 Actual	2023 Budget	YTD 6/30/2023	2023 Projected	2024 Budget	% Change vs. 2023
REVENUES							
42000	Special Assessments	29,750	60,000	13,523	15,000	30,000	-50.00%
43000	Intergovernmental Revenues	312	0	0	0	0	-----
46000	Public Charges for Services	1,462,816	1,940,250	754,776	1,659,397	2,016,750	3.94%
48000	Miscellaneous	51,488	10,250	65,748	121,767	125,250	1121.95%
49000	Other Financing Sources	0	2,632,500	0	650,111	2,893,500	9.91%
	Total SEWER SERVICE Revenues	1,544,365	4,643,000	834,046	2,446,275	5,065,500	9.10%

		2022 Actual	2023 Budget	YTD 6/30/2023	2023 Projected	2024 Budget	% Change vs. 2023
EXPENSES							
53610	ADMINISTRATION	386,987	393,500	222,150	382,295	418,000	6.23%
53611	BILLING AND COLLECTIONS	59,187	63,750	27,834	60,184	85,000	33.33%
53612	MISCELLANEOUS	164,926	6,000	1,519	6,000	6,000	0.00%
53613	DEBT SERVICE	31,416	279,250	10,016	45,250	289,000	3.49%
53614	CAPITAL PROJECTS	172,487	2,791,000	0	808,611	3,003,750	7.62%
53615	TRANSPORTATION	867,513	948,750	483,398	912,750	1,013,750	6.85%
53616	SYSTEM MAINTENANCE	74,345	160,750	52,542	174,500	250,000	55.52%
	Total SEWER SERVICE Expenses	1,756,861	4,643,000	797,460	2,389,590	5,065,500	9.10%

Difference in SEWER Rev over Exp **(212,496)** **0** **36,586** **56,685** **0**

SUMMARY of WATER SERVICE

REVENUES							
42000	Special Assessments	36,402	55,000	8,775	45,000	55,000	0.00%
46000	Public Charges for Services	1,467,089	1,447,500	716,329	1,436,400	1,881,250	29.97%
48000	Miscellaneous	123,490	10,250	79,160	120,260	125,250	1121.95%
49000	Other Financing Sources	0	2,680,500	0	1,698,443	1,679,000	-37.36%
	Total WATER SERVICE Revenues	1,626,981	4,193,250	804,264	3,300,103	3,740,500	-10.80%

EXPENSES							
53710	ADMINISTRATION	349,598	412,750	235,136	487,031	428,250	3.76%
53711	BILLING AND COLLECTIONS	64,048	86,500	44,389	92,769	110,250	27.46%
53712	MISCELLANEOUS	640,494	307,500	1,571	305,250	307,500	0.00%
53713	DEBT SERVICE	246,688	709,500	87,655	709,500	716,500	0.99%
53714	CAPITAL PROJECTS	1,500	2,361,000	22,532	1,698,443	1,591,000	-32.61%
53715	SUPPLY	(56,936)	5,750	7,624	8,750	8,750	52.17%
53716	PUMPING	164,255	93,500	45,236	90,033	164,750	76.20%
53717	TREATMENT	34,820	42,500	14,257	31,504	154,750	264.12%
53718	TRANSMISSION AND DISTRIBUTION	122,565	174,250	83,747	191,549	258,750	48.49%
	Total WATER SERVICE Expenses	1,567,032	4,193,250	542,148	3,614,827	3,740,500	-10.80%

Difference in WATER Rev over Exp **59,949** **0** **262,116** **(314,724)** **0**

SUMMARY of UTILITY FUND

Difference in UTILITY FUND Rev over Exp **(152,546)** **0** **298,702** **(258,039)** **0**

**ANNUAL
BUDGET**

Utility

Fund #600

Revenues

REVENUES

UTILITY FUND - FUND 600

Budget Summary

SEWER SERVICE

Special Assessments	
	42000

		2022 Actual	2023 Budget	YTD 6/30/2023	2023 Projected	2024 Budget	% Change vs. 2023
42104-000	Sewer: Contributed Cap Revenue	0	0	0	0	0	-----
42201-000	Sewer Impact Fees	0	0	0	0	0	-----
42202-000	Sewer Assessments	29,750	60,000	13,523	15,000	30,000	-50.00%
	Total SPECIAL ASSESSMENTS Rev	29,750	60,000	13,523	15,000	30,000	-50.00%

Intergovernmental Revenue	
	43000

		2022 Actual	2023 Budget	YTD 6/30/2023	2023 Projected	2024 Budget	% Change vs. 2023
43560-000	State - COVID Reimbursement	0	0	0	0	0	-----
43570-101	State - Grants (Sewer)	312	0	0	0	0	-----
	Total INTERGOV REVENUES Rev	312	0	0	0	0	-----

Public Charges for Services	
	46000

		2022 Actual	2023 Budget	YTD 6/30/2023	2023 Projected	2024 Budget	% Change vs. 2023
46410-101	Residential Use Charges	1,191,213	1,574,250	606,788	1,343,370	1,625,000	3.22%
46410-102	Commercial Use Charges	238,934	325,000	129,193	276,777	350,000	7.69%
46410-103	Multi-Family Use Charges	0	0	0	0	0	-----
46410-104	Public Authority	27,031	36,000	15,818	33,250	36,000	0.00%
46410-105	Forfeited Discounts	5,638	5,000	2,976	6,000	5,750	15.00%
46410-106	Residential Fixed Charges	0	0	0	0	0	-----
46410-107	Commercial Fixed Charges	0	0	0	0	0	-----
	Total PUBLIC CHARGES Rev	1,462,816	1,940,250	754,776	1,659,397	2,016,750	3.94%

Miscellaneous Revenue	
	48000

		2022 Actual	2023 Budget	YTD 6/30/2023	2023 Projected	2024 Budget	% Change vs. 2023
48025-000	Miscellaneous Revenue	289	250	1,767	1,767	250	0.00%
48125-000	Interest	51,199	10,000	63,981	120,000	125,000	1150.00%
48325-000	Gain/Loss on Sale	0	0	0	0	0	-----
	Total MISC REVENUE Rev	51,488	10,250	65,748	121,767	125,250	1121.95%

Other Financing Sources	
	49000

		2022 Actual	2023 Budget	YTD 6/30/2023	2023 Projected	2024 Budget	% Change vs. 2023
49125-000	Borrowing Proceeds	0	2,548,500	0	0	2,845,250	11.64%
49225-000	Transfers from Other Funds	0	0	0	0	0	-----
49325-000	Fund Balance Applied	0	84,000	0	650,111	48,250	-42.56%
	Total OTHER FINAN SOURCES Rev	0	2,632,500	0	650,111	2,893,500	9.91%

Total SEWER SERVICE Revenues	1,544,365	4,643,000	834,046	2,446,275	5,065,500	9.10%
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REVENUES

UTILITY FUND - FUND 600

Budget Summary

WATER SERVICE

Special Assessments
42000

		2022 Actual	2023 Budget	YTD 6/30/2023	2023 Projected	2024 Budget	% Change vs. 2023
42101-000	Water Impact Fees	36,402	35,000	8,775	35,000	35,000	0.00%
42102-000	Water Assessments (Holscher)	0	20,000	0	10,000	20,000	0.00%
42103-000	Water: Contributed Cap Revenue	0	0	0	0	0	-----
	Total SPECIAL ASSESSMENTS Rev	36,402	55,000	8,775	45,000	55,000	0.00%

Public Charges for Services
46000

		2022 Actual	2023 Budget	YTD 6/30/2023	2023 Projected	2024 Budget	% Change vs. 2023
46450-101	Residential Use Charges	705,969	657,500	310,959	650,000	861,500	31.03%
46450-102	Commercial Use Charges	86,433	80,000	38,966	73,000	105,000	31.25%
46450-103	Multi-Family Use Charges	61,750	52,500	27,785	50,000	69,000	31.43%
46450-104	Public Authority	29,477	25,000	15,409	30,000	32,750	31.00%
46450-105	Forfeited Discounts	3,546	3,000	1,728	3,000	4,000	33.33%
46450-106	Residential Fixed Charges	0	0	0		0	-----
46450-107	Commercial Fixed Charges	0	0	0		0	-----
46450-108	Public Fire Protection	472,300	472,250	236,125	472,250	600,000	27.05%
46450-109	Private Fire Protection	52,161	45,000	26,476	45,000	59,000	31.11%
46450-110	Other Water Revenues	51,334	110,000	57,389	110,900	145,000	31.82%
46450-111	Unmetered Sales to Gen Cust	4,119	2,250	1,492	2,250	5,000	122.22%
	Total PUBLIC CHARGES Rev	1,467,089	1,447,500	716,329	1,436,400	1,881,250	29.97%

Miscellaneous Revenue
48000

		2022 Actual	2023 Budget	YTD 6/30/2023	2023 Projected	2024 Budget	% Change vs. 2023
48050-000	Miscellaneous Revenue	305	250	15,179	260	250	0.00%
48150-000	Interest	123,185	10,000	63,981	120,000	125,000	1150.00%
48350-000	Gain/Loss on Sale	0	0	0	0	0	-----
	Total MISC REVENUE Rev	123,490	10,250	79,160	120,260	125,250	1121.95%

Other Financing Sources
49000

		2022 Actual	2023 Budget	YTD 6/30/2023	2023 Projected	2024 Budget	% Change vs. 2023
49150-000	Borrowing Proceeds	0	0	0	0	1,591,000	-----
49250-000	Transfers from Other Funds	0	0	0	0	0	-----
49350-000	Fund Balance Applied	0	2,680,500	0	1,698,443	88,000	-96.72%
	Total OTHER FINAN SOURCES Rev	0	2,680,500	0	1,698,443	1,679,000	-37.36%

Total WATER SERVICE Revenues	1,626,981	4,193,250	804,264	3,300,103	3,740,500	-10.80%
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Total Budget Revenues	3,171,346	8,836,250	1,638,310	5,746,378	8,806,000	-0.34%
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**ANNUAL
BUDGET**

Utility

Fund #600

Expenses

SEWER SERVICE

UTILITY FUND - FUND 600

MISSION STATEMENT:

To provide efficient and high quality sanitary sewer service to the Village Utility customers while holding costs and minimizing impacts to the residents.

PROGRAM DESCRIPTION:

The Sewer Service provides sanitary sewer services to residential and commercial properties within the Village. The sewer mains connect to nearly every building throughout the Village in order to convey the wastewater to the Madison Metropolitan Sewerage District for treatment. The Utility has 1/3 of the main lines cleaned and televised on a yearly basis with the intent of keeping the sewer lines clean and functional for all users.

PROGRAM OBJECTIVES:

- Continue to improve efficiency through billing and collection system in online program.
- Review and consider options for management and mitigation of wastewater treatment standards.

SEWER SERVICE BUDGET SUMMARY

REVENUES

	2022 Actual	2023 Budget	YTD 6/30/2023	2023 Projected	2024 Budget	% Change vs. 2023
Allocated Revenues	1,756,861	4,643,000	797,460	2,389,590	5,065,500	9.10%

Notes:

- 42202** Each time a building permit is taken out for new home construction in Juniper Ridge or Prairie Place Subdivision, an assessment is collected by the Village in order for each new home built to pay a share of the cost to reconstruct Holscher Road from a rural to urban cross section. The assessment also includes a share of the cost for a lift station that was constructed to support these developments. Collections are on the decline as planned with final vacant lot construction finishing up.
- 46410** These are the main categories for user charges that customers of the utility pay for sanitary sewer service in order to treat wastewater. They are billed based upon water usage. Deficit cash flow was first reviewed as part of the **101-103** 2021 Audit and in 2022 a rate increase approved for implementation in 2023 on the variable portion of the rate. **106, 107**
- 49125** A borrowing is planned through the State from the Clean Water Fund Program to fund the reconstruction of Lift Station #2. A small GO Note Issuance will also be borrowed to fund the second phase of meter replacements and general sewer projects.
- 49325** Fund balance is suggested to cover remaining smaller capital needs within the Sewer Service for the coming year to cover costs on remaining capital expenses that do not need to be supported by long term debt.

SEWER SERVICE (continued)

UTILITY FUND - FUND 600

EXPENDITURES

ADMINISTRATION

		2022 Actual	2023 Budget	YTD 6/30/2023	2023 Projected	2024 Budget	% Change vs. 2023
	53610						
110	Salaries	123,828	161,000	69,889	151,933	170,500	5.90%
120	Part-Time	3,587	6,750	1,124	2,442	8,000	18.52%
130-135	Employee Pensions and Benefits	43,272	46,500	22,619	45,237	51,500	10.75%
190	Overtime	936	1,000	466	932	1,000	0.00%
210	Support Services	27,647	40,000	30,912	40,000	40,000	0.00%
211	Consultant Services	15,702	15,000	11,039	15,750	15,750	5.00%
221	Communication	213	1,250	0	250	1,250	0.00%
310	Office Supplies	3,912	4,000	980	4,000	4,000	0.00%
311	Postage	2,161	3,000	2,175	5,250	5,000	66.67%
320	Dues and Subscriptions	151	500	62	500	500	0.00%
321	Printing/Publication	546	1,250	357	750	1,250	0.00%
330	Meeting Expenses	34	250	0	250	250	0.00%
331	Training Expenses	1,832	5,000	4,002	5,000	5,500	10.00%
340	Operating Supplies	3,808	3,000	1,181	3,000	3,500	16.67%
510	Insurance	38,528	42,000	48,346	49,000	47,000	11.90%
515	Retiree Contribution	10,860	5,000	0	0	5,000	0.00%
530	Rent	109,971	58,000	29,000	58,000	58,000	0.00%
	Total ADMINISTRATION Exp	386,987	393,500	222,150	382,295	418,000	6.23%

Notes:

110-120 These include expenses generally applied from salaries from those positions that oversee general operations and administration of sanitary sewer services.

130-135 The proportionate rate of benefit costs are also applied to these line items including Health Insurance, Retirement, Social Security, and Other Fringe Benefits.

210 Includes funds for a share in the expenses of the network administration, accounting software, auditing, diggers hotline, equipment leases, attorney bills, PSN, and other similar service drive needs.

211 The funding for the engineer is included within this line item for assistance they provide on sanitary projects.

BILLING AND COLLECTIONS

		2022 Actual	2023 Budget	YTD 6/30/2023	2023 Projected	2024 Budget	% Change vs. 2023
	53611						
110	Salaries	23,925	27,500	10,307	22,407	29,000	5.45%
120	Part-Time	13,721	12,750	5,320	11,565	13,500	5.88%
130-135	Employee Pensions and Benefits	14,519	20,000	5,731	11,462	20,000	0.00%
190	Overtime	493	0	409	750	500	-----
210	Support Services	4,447	1,500	5,555	12,000	20,000	1233.33%
311	Postage	958	1,000	480	1,000	1,000	0.00%
340	Operating Expenses	1,125	1,000	33	1,000	1,000	0.00%
	Total METER READING Exp	59,187	63,750	27,834	60,184	85,000	33.33%

Notes:

110 Some funding from the Administration Department is allocated to this line to account for their assistance in the meter reading process including billing and collections.

120 A portion of the cost for the Utility Clerk and Meter reader are provided within this line item.

SEWER SERVICE (continued)

UTILITY FUND - FUND 600

EXPENDITURES (continued)

MISCELLANEOUS

		2022 Actual	2023 Budget	YTD 6/30/2023	2023 Projected	2024 Budget	% Change vs. 2023
	53612						
390	Miscellaneous	833	5,000	1,519	5,000	5,000	0.00%
391	Programming	0	1,000	0	1,000	1,000	0.00%
540	Depreciation	178,058	0	0	0	0	-----
541	Amortization	(13,965)	0	0	0	0	-----
	Total MISCELLANEOUS Exp	164,926	6,000	1,519	6,000	6,000	0.00%

Notes:

- 390** Formerly referred to as the "Operating Contingency", this account is used to address expenses that were not expected or anticipated.
- 391** This line item is presented to provide some money for the Department to create programs, provide education, and otherwise interact with the public regarding the sewer service such as public events.

DEBT SERVICE

		2022 Actual	2023 Budget	YTD 6/30/2023	2023 Projected	2024 Budget	% Change vs. 2023
	53613						
610	Principal Payment	0	260,000	0	26,000	275,000	5.77%
620	Interest Payment	31,416	19,250	10,016	19,250	14,000	-27.27%
690	Other Debt Service	0	0	0	0	0	-----
	Total DEBT SERVICE Exp	31,416	279,250	10,016	45,250	289,000	3.49%

Notes:

- 610-620** This represents the Sewer's share of the current debt expense within the Utilities Fund. A borrowing is proposed for 2023.

CAPITAL PROJECTS

		2022 Actual	2023 Budget	YTD 6/30/2023	2023 Projected	2024 Budget	% Change vs. 2023
	53614						
590	Facility Reserve - Collection System	0	33,500	0	33,500	33,500	0.00%
593	Equipment Reserve - Replacement	0	125,000	0	125,000	125,000	0.00%
822	Capital - Sewer	172,487	2,632,500	0	650,111	2,845,250	8.08%
	Total CAPITAL PROJECTS Exp	172,487	2,791,000	0	808,611	3,003,750	7.62%

Notes:

- 590** The rate increase authorized in 2022 provided for reserve allocations to go towards future collection system replacements. The creation and growth of this fund balance will help to limit future debt service.
- 593** The rate increase also provided an allocation for future equipment replacement savings. The number included in the budget is what was projected in the analysis. The creation and growth of this fund balance will help to limit future debt service.
- 822** The main capital project for 2023 is the reconstruction of Lift Station #2. Additionally the Village will conduct some sewer lining and proceed with the second phase of the meter project.

SEWER SERVICE (continued)

UTILITY FUND - FUND 600

EXPENDITURES (continued)

TRANSPORTATION

		2022 Actual	2023 Budget	YTD 6/30/2023	2023 Projected	2024 Budget	% Change vs. 2023
	53615						
130-135	Employee Pensions and Benefits	0	0	0	0	0	-----
210	Support Services	857,180	935,000	475,823	900,000	1,000,000	6.95%
220	Utilities	8,802	9,500	5,434	9,000	9,500	0.00%
240	Equipment Maintenance	0	1,000	0	500	1,000	0.00%
340	Operating Supplies	0	1,500	1,181	1,500	1,500	0.00%
341	Fuel	1,531	1,750	959	1,750	1,750	0.00%
	Total TRANSPORTATION Exp	867,513	948,750	483,398	912,750	1,013,750	6.85%

Notes:

- 210** This represents the charges for treatment services paid to MMSD. They set the rates which are then passed on to our customers through the billing process. Actual rate increases set by MMSD continue to outpace local rates established by the Village.
- 240** This account covers such items as pump repairs and other services related to sewerage pumping.
- 340** Welding supplies, pump parts, oil/grease, nuts/bolts, and other items needed for maintenance.

SYSTEM MAINTENANCE

		2022 Actual	2023 Budget	YTD 6/30/2023	2023 Projected	2024 Budget	% Change vs. 2023
	53616						
110	Salaries	16,882	79,000	12,290	82,000	85,000	7.59%
124	Seasonal	0	1,000	0	250	250	-75.00%
130-135	Employee Pensions and Benefits	10,168	34,500	5,286	37,500	40,000	15.94%
190	Overtime	10,548	5,000	4,577	8,500	9,000	80.00%
220	Utilities	0	0	0	0	0	-----
241	Vehicle Maintenance	7,972	15,000	14,567	20,000	20,000	33.33%
242	Facility Maintenance	18,649	17,500	8,600	15,000	17,500	0.00%
340	Operating Supplies	7,065	5,500	5,304	8,000	75,000	1263.64%
341	Fuel	3,062	3,250	1,918	3,250	3,250	0.00%
	Total SYSTEM MAINTENANCE Exp	74,345	160,750	52,542	174,500	250,000	55.52%

Notes:

- 110** Maintenance is conducted by Village Staff for the infrastructure and equipment that moves the wastewater through the system. Time is spent to clean, check, monitor, and make adjustments in order to make sure the flow is consistent and steady to the treatment plant.
- 242** Charges to this account include cleaning supplies, HVAC work, light bulbs, minor repairs, roof repairs, plumbing, and other items needed to maintain facilities containing sanitary infrastructure.

Total SEWER SERVICE Expenses	1,756,861	4,643,000	797,460	2,389,590	5,065,500	9.10%
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WATER SERVICE

UTILITY FUND - FUND 600

MISSION STATEMENT:

To provide efficient and high quality water service to the Village Utility customers while holding costs and minimizing impacts to the residents.

PROGRAM DESCRIPTION:

The Water Utility provides drinking water service to the residents of the Village. The Utility tests the water on a daily, weekly, monthly, and yearly basis as required by the Department of Natural Resources. The water mains connect to nearly every building throughout the Village. The Utility flushes all water mains throughout the Village on a year basis, turns one third of all the water main valves annually, and monitors condition of the pipes in order to provide quality drinking water to its customers.

PROGRAM OBJECTIVES:

- Continue to improve efficiency through billing and collection system in online program.
- Limit or prevent all service outages as available and practicable through the capital improvement program and responsive service to main breaks.

WATER SERVICE BUDGET SUMMARY

REVENUES		2022 Actual	2023 Budget	YTD 6/30/2023	2023 Projected	2024 Budget	% Change vs. 2023
	Allocated Revenues	1,567,032	4,193,250	542,148	3,614,827	3,740,500	-10.80%

Notes:

- 42101** The Water Service charges an impact fee on new home construction to help fund future water infrastructure needs including wells, mains, and water towers as applicable. Collections are on the decline as planned with final vacant lot construction finishing up.
- 42102** Each time a building permit is taken out for new home construction in Juniper Ridge or Prairie Place Subdivision, an assessment is collected by the Village in order for each new home built to pay a share of the cost to reconstruct Holscher Road from a rural to urban cross section. Collections are on the decline as planned with final vacant lot construction finishing up.
- 46450** These are the main categories for user charges that customers of the utility to pay for drinking water service. They are billed based upon water usage collected at the water meter. The Public Service Commission did approve a Full Rate Case Increase for the Village in 2021 which became effective late Summer of that year. Rates forecasted for 2022 recognize a full year's worth of collection. Another rate case is likely recommended for study in 2023 for consideration to implement in 2024.

WATER SERVICE (continued)

UTILITY FUND - FUND 600

EXPENDITURES

ADMINISTRATION

		2022 Actual	2023 Budget	YTD 6/30/2023	2023 Projected	2024 Budget	% Change vs. 2023
53710							
110	Salaries	133,476	161,000	72,981	158,653	170,000	5.59%
120	Part-Time	3,587	6,750	1,124	2,442	8,000	18.52%
130-135	Employee Pensions and Benefits	41,182	52,500	23,554	51,205	53,750	2.38%
190	Overtime	945	1,000	471	1,025	1,000	0.00%
210	Support Services	25,812	36,000	30,253	65,000	40,000	11.11%
211	Consultant Services	11,701	20,000	11,083	18,000	20,000	0.00%
221	Communication	213	1,500	0	1,500	1,500	0.00%
240	Equipment Maintenance	75	250	0	0	250	0.00%
310	Office Supplies	3,873	4,000	1,420	4,000	4,000	0.00%
311	Postage	3,301	4,500	3,257	4,500	4,500	0.00%
320	Dues and Subscriptions	701	750	677	750	750	0.00%
321	Printing/Publication	2,588	5,500	340	3,750	5,500	0.00%
330	Meeting Expenses	34	500	0	500	500	0.00%
331	Training Expenses	5,204	7,500	4,878	7,500	7,500	0.00%
340	Operating Supplies	4,324	2,500	1,192	2,500	2,500	0.00%
341	Fuel	3,062	3,500	1,918	3,500	3,500	0.00%
510	Insurance	38,528	42,000	52,989	53,000	42,000	0.00%
515	Retiree Contribution	12,992	5,000	0	0	5,000	0.00%
530	Rent	58,000	58,000	29,000	58,000	58,000	0.00%
Total ADMINISTRATION Exp		349,598	412,750	235,136	487,031	428,250	3.76%

Notes:

110-120 These include expenses generally applied from salaries from those positions that oversee general operations and administration of water services.

130-135 The proportionate rate of benefit costs are also applied to these line items including Health Insurance, Retirement, Social Security, and Other Fringe Benefits.

210 Includes funds for a share in the expenses of the network administration, accounting software, auditing, diggers hotline, equipment leases, attorney bills, PSN, and other similar service drive needs.

BILLING AND COLLECTIONS

		2022 Actual	2023 Budget	YTD 6/30/2023	2023 Projected	2024 Budget	% Change vs. 2023
53711							
110	Salaries	26,498	36,000	17,547	38,145	38,000	5.56%
120	Part-Time	13,986	19,500	8,512	18,505	20,750	6.41%
124	Seasonal	0	0	0	0	0	-----
130-135	Employee Pensions and Benefits	15,537	27,500	9,521	20,698	28,500	3.64%
190	Overtime	493	0	654	1,421	1,000	-----
210	Support Services	5,024	1,500	7,595	12,000	20,000	1233.33%
311	Postage	973	1,000	528	1,000	1,000	0.00%
340	Operating Expenses	1,538	1,000	33	1,000	1,000	0.00%
Total METER READING Exp		64,048	86,500	44,389	92,769	110,250	27.46%

Notes:

110 Some funding from the Administration Department is allocated to this line to account for their assistance in the meter reading process including billing and collections.

120 A portion of the cost for the Utility Clerk and Meter reader are provided within this line item.

WATER SERVICE (continued)

UTILITY FUND - FUND 600

EXPENDITURES (continued)

MISCELLANEOUS

		2022 Actual	2023 Budget	YTD 6/30/2023	2023 Projected	2024 Budget	% Change vs. 2023
	53712						
390	Miscellaneous	783	5,000	1,571	4,500	5,000	0.00%
391	Programming	0	2,500	0	750	2,500	0.00%
540	Depreciation	400,304	0	0	0	0	-----
541	Amortization	(20,259)	0	0	0	0	-----
591	Tax Equivalency	259,666	300,000	0	300,000	300,000	0.00%
	Total MISCELLANEOUS Exp	640,494	307,500	1,571	305,250	307,500	0.00%

Notes:

- 390** Formerly referred to as the "Operating Contingency", this account is used to address expenses that were not expected or anticipated.
- 391** This line item is presented to provide some money for the Department to create programs, provide education, and otherwise interact with the public regarding the water service to promote proper waterworks operations and usage.
- 591** The Water Service pays a tax equivalency to the general fund which amounts to a payment in lieu of taxes for what the value of their land and improvements would be if they were not tax-exempt.

DEBT SERVICE

		2022 Actual	2023 Budget	YTD 6/30/2023	2023 Projected	2024 Budget	% Change vs. 2023
	53713						
610	Principal Payment	0	535,000	0	535,000	555,000	3.74%
620	Interest Payment	122,570	174,500	87,655	174,500	161,500	-7.45%
690	Other Debt Service	124,119	0	0	0	0	-----
	Total DEBT SERVICE Exp	246,688	709,500	87,655	709,500	716,500	0.99%

Notes:

- 610-620** A revenue bond was borrowed for in 2022 that covered capital needs for 2022 and 2023. This avoided the inclusion of the borrowing within the General Obligation series and extended the debt over a longer term. No borrowing is proposed for 2023 as a result and the increase is large but again covers the growth of debt service needs for two years versus one.

CAPITAL PROJECTS

		2022 Actual	2023 Budget	YTD 6/30/2023	2023 Projected	2024 Budget	% Change vs. 2023
	53714						
822	Capital - Water	1,500	2,361,000	22,532	1,698,443	1,591,000	-32.61%
	Total CAPITAL PROJECTS Exp	1,500	2,361,000	22,532	1,698,443	1,591,000	-32.61%

Notes:

- 822** The main projects for 2023 include new water main on Paulson Road, painting the Burma Road Water Tower, water main looping on Taylor Road, and the second phase of the water meter replacement project.

WATER SERVICE (continued)

UTILITY FUND - FUND 600

EXPENDITURES (continued)

SUPPLY

		2022 Actual	2023 Budget	YTD 6/30/2023	2023 Projected	2024 Budget	% Change vs. 2023
	53715						
110	Salaries	0	0	0	0	0	-----
130-135	Employee Pensions and Benefits	(65,601)	0	0	0	0	-----
210	Support Services	8,411	5,250	7,519	8,500	8,500	61.90%
340	Operating Supplies	255	500	105	250	250	-50.00%
	Total SUPPLY Exp	(56,936)	5,750	7,624	8,750	8,750	52.17%

Notes:

210 Expenses related to PSN charges and chemical testing.

340 Expenses mainly provided for various testing and monitoring of the water supply.

PUMPING

		2022 Actual	2023 Budget	YTD 6/30/2023	2023 Projected	2024 Budget	% Change vs. 2023
	53716						
110	Salaries	10,751	13,000	3,387	7,364	9,750	-25.00%
124	Seasonal	0	0	378	822	1,000	-----
130-135	Employee Pensions and Benefits	7,618	8,500	2,122	4,613	8,500	0.00%
190	Overtime	9,159	5,000	3,788	8,234	7,500	50.00%
220	Utilities	44,526	46,000	27,214	46,000	46,000	0.00%
242	Facility Maintenance	70,674	6,000	2,753	8,000	7,000	16.67%
340	Operating Supplies	21,526	15,000	5,594	15,000	15,000	0.00%
	Total PUMPING Exp	164,255	93,500	45,236	90,033	164,750	76.20%

Notes:

110 Village Staff monitors and maintains pumping equipment to ensure water is distributed from the water supply to the piping system through the high capacity wells.

220 Associated energy costs to keep the wells operating non-stop for continuous water supply throughout the Village.

TREATMENT

		2022 Actual	2023 Budget	YTD 6/30/2023	2023 Projected	2024 Budget	% Change vs. 2023
	53717						
110	Salaries	10,390	15,000	4,516	9,817	9,750	-35.00%
124	Seasonal	0	0	0	0	0	-----
130-135	Employee Pensions and Benefits	3,836	10,000	1,328	2,886	7,500	-25.00%
190	Overtime	56	0	23	51	250	-----
242	Facility Maintenance	3,056	2,500	733	2,750	2,500	0.00%
340	Operating Supplies	17,481	15,000	7,657	16,000	16,000	6.67%
	Total TREATMENT Exp	34,820	42,500	14,257	31,504	154,750	264.12%

Notes:

340 Supplies include chemicals added to the water by Village Staff as part of the distribution within the system.

WATER SERVICE (continued)

UTILITY FUND - FUND 600

EXPENDITURES (continued)

TRANSMISSION AND DISTRIBUTION

		2022 Actual	2023 Budget	YTD 6/30/2023	2023 Projected	2024 Budget	% Change vs. 2023
	53718						
110	Salaries	46,892	35,000	39,853	86,638	45,000	28.57%
124	Seasonal	0	0	0	0	0	-----
130-135	Employee Pensions and Benefits	20,852	26,500	13,594	29,551	38,500	45.28%
190	Overtime	5,996	5,000	1,086	2,360	5,000	0.00%
241	Vehicle Maintenance	7,997	17,500	14,839	20,000	17,500	0.00%
340	Operating Supplies	3,890	3,750	2,064	3,750	3,750	0.00%
341	Fuel	1,531	1,500	959	1,500	1,500	0.00%
590	Facility Reserve (Water Tower)	0	27,500	0	2,750	27,500	0.00%
822-101	Maintenance - Mains	17,865	30,000	1,514	18,000	30,000	0.00%
822-102	Maintenance - Services	4,106	10,000	5,612	10,000	10,000	0.00%
822-103	Maintenance - Meters	4,322	5,000	1,154	5,000	5,000	0.00%
822-104	Maintenance - Hydrants	9,115	12,500	3,072	12,000	12,500	0.00%
	Total TRANS & DISTR Exp	122,565	174,250	83,747	191,549	258,750	48.49%

Notes:

- 110** A bulk of the Village Staff time is devoted to making sure the water is delivered to the home. This line accounts for their time regarding responsibilities for transmission and distribution.
- 241** Funds to repair and maintain vehicles used in the operation of the water utility.
- 341** Fuel for the vehicles used in the operation of the transmission and distribution system.
- 590** Annually the Village reserves funds from its operating budget towards future replacement and/or maintenance of the water tower.
- 822** These are the expenses for specifically repairing, replacing, and generally maintaining the main infrastructure within the system including the mains, services, meters, and hydrants.
- 101-104**

Total WATER SERVICE Expenses	1,567,032	4,193,250	542,148	3,614,827	3,740,500	-10.80%
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McFarland
SUMMARY SHEET

MEETING DATE: Monday, October 23, 2023

SECTION: Business

DEPARTMENT: Public Works

CONTACT: Lee Igl, Public Works Director, Matt Schuenke, Village Administrator

AGENDA ITEM: Discussion and action to make a recommendation to the Village Board regarding the draft 2024 Budget for the Stormwater Utility Fund (605).

PREVIOUS ACTION:

None.

ISSUE SUMMARY:

The Stormwater Utility Fund only provides for the operational and capital needs in order to maintain our stormwater needs in the Community. This includes our storm sewers used for conveyance, wet/dry ponds for holding when needed, and treatment where applicable. The costs within this fund support the maintenance of these public improvements. The fund is dependent on a unit charge that is set by ordinance based upon the land use of the property and its size, but is applied equally to all involved.

A fee adjustment is needed at the end of 2023 or early 2024 to address its ongoing financial support. We have not previously adopted an increase within this fund since 2015. The Village Engineer will be presenting the cost projections at our next meeting as well as a recommendation on increase. Costs associated with operations and capital have increased to the point where the annual audit has shown growing constriction between revenues and expenses.

The main capital projects for next year include the Exchange Street project and purchasing a new sweeper. We will be looking to borrow again within this fund next year; however, the last payment from the 2015 borrowing will be made next year and the debt service needed in 2025 will replace that.

FINANCIAL/BUDGET IMPACT:

Overall the operational costs for Stormwater Services are expected to grow from \$641,500 to \$651,000 which is an increase of \$9,500 or around 1.5%.

VILLAGE PLAN REFERENCE:

None.

ORDINANCE REFERENCE:

None.

BOARD, COMMISSION OR COMMITTEE RECOMMENDATION:

Recommended Action:



Motion, second to recommend to the Village Board approval of the draft 2024 Budget for the Stormwater Utility Fund (605).

ATTACHMENTS:

1. 2024 Budget - Stormwater Utility Fund 605 DRAFT 09262023

ANNUAL BUDGET

Stormwater Utility

Fund #605

**ANNUAL
BUDGET**

Stormwater Utility

Fund #605

Summary

Village of McFarland
2024 Stormwater Utility Fund Operating Budget

SUMMARY of REVENUES

		2022 Actual	2023 Budget	YTD 6/30/2023	2023 Projected	2024 Budget	% Change vs. 2023
42000	Special Assessments	0	0	0	0	0	-----
43000	Intergovernmental Revenues	192	0	0	0	0	-----
44000	Licenses and Permits	15,130	20,250	3,880	7,250	20,250	0.00%
46000	Public Charges for Services	546,687	621,250	264,833	552,500	617,750	-0.56%
48000	Miscellaneous Revenue	9,318	2,500	21,816	28,500	15,500	520.00%
49000	Other Financing Sources	0	218,250	0	438,073	917,000	320.16%
Total Budget Revenue		571,327	862,250	290,529	1,026,323	1,570,500	82.14%

SUMMARY of EXPENDITURES

		2022 Actual	2023 Budget	YTD 6/30/2023	2023 Projected	2024 Budget	% Change vs. 2023
STORMWATER SERVICE							
100	PERSONAL SERVICES	204,650	284,000	99,833	214,679	255,000	-10.21%
200	CONTRACTUAL SERVICES	158,044	155,250	84,336	162,000	162,750	4.83%
300	SUPPLIES AND EXPENSES	40,404	39,500	28,309	44,000	46,750	18.35%
500	FIXED CHARGES	242,148	95,000	70,341	89,000	115,000	21.05%
600	DEBT SERVICE	4,411	67,750	1,403	67,805	71,500	5.54%
800	CAPITAL OUTLAY	0	220,750	0	440,573	919,500	316.53%
Total STORMWATER SERVICE Exp		649,657	862,250	284,221	1,018,057	1,570,500	82.14%
59200	TRANSFERS TO OTHER FUNDS	0	0	0	0	0	-----

Total Budget Expenditures	649,657	862,250	284,221	1,018,057	1,570,500	82.14%
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Difference in Revenues over Expenditures **(78,330)** **0** **6,308** **8,266** **0**

**ANNUAL
BUDGET**

Stormwater Utility

Fund #605

Revenues

REVENUES

STORMWATER UTILITY FUND - FUND 605

Budget Summary

Special Assessments		2022	2023	YTD	2023	2024	% Change
		Actual	Budget	6/30/2023	Projected	Budget	vs. 2023
42000							
42401-000	Stormwater Impact Fees	0	0	0	0	0	-----
42402-000	Stormwater Assessments (Holscher)	0	0	0	0	0	-----
42403-000	STW: Contributed Cap Revenue	0	0	0	0	0	-----
Total SPECIAL ASSESSMENTS Rev		0	0	0	0	0	-----
Intergovernmental Revenues		2022	2023	YTD	2023	2024	% Change
		Actual	Budget	6/30/2023	Projected	Budget	vs. 2023
43000							
43560-000	State - COVID Reimbursement	0	0	0	0	0	-----
43570-000	State - Grants	192	0	0	0	0	-----
Total INTERGOV REVENUES Rev		192	0	0	0	0	-----
Licenses and Permits		2022	2023	YTD	2023	2024	% Change
		Actual	Budget	6/30/2023	Projected	Budget	vs. 2023
44000							
44300-000	Erosion Control Permits	14,750	20,000	3,850	7,000	20,000	0.00%
44900-000	Yard Waste Permits	380	250	30	250	250	0.00%
Total LICENSES AND PERMITS Rev		15,130	20,250	3,880	7,250	20,250	0.00%
Public Charges for Services		2022	2023	YTD	2023	2024	% Change
		Actual	Budget	6/30/2023	Projected	Budget	vs. 2023
46000							
46320-000	Stormwater Unit Charge	544,101	618,750	263,698	550,000	615,000	-0.61%
46900-000	Forfeited Discounts	2,586	2,500	1,135	2,500	2,750	10.00%
Total PUBLIC CHARGES FOR SERVICES Rev		546,687	621,250	264,833	552,500	617,750	-0.56%
Miscellaneous Revenues		2022	2023	YTD	2023	2024	% Change
		Actual	Budget	6/30/2023	Projected	Budget	vs. 2023
48000							
48000-000	Miscellaneous Revenue	260	500	19,076	19,500	500	0.00%
48100-000	Interest	9,058	2,000	2,740	9,000	15,000	650.00%
48200-000	Rent	0	0	0	0	0	-----
48300-000	Property Sales	0	0	0	0	0	-----
Total MISCELLANEOUS REVENUES Rev		9,318	2,500	21,816	28,500	15,500	520.00%
Other Financing Sources		2022	2023	YTD	2023	2024	% Change
		Actual	Budget	6/30/2023	Projected	Budget	vs. 2023
49000							
49100-000	Borrowing Proceeds	0	0	0		572,000	-----
49200-000	Transfers from Other Funds	0	0	0	0	0	-----
49300-000	Fund Balance Applied	0	218,250	0	438,073	345,000	58.08%
Total OTHER FINANCING SOURCES Rev		0	218,250	0	438,073	917,000	320.16%
Total Budget Revenues		571,327	862,250	290,529	1,026,323	1,570,500	82.14%

**ANNUAL
BUDGET**

Stormwater Utility

Fund #605

Expenses

STORMWATER SERVICE

STORMWATER UTILITY FUND - FUND 605

MISSION STATEMENT:

The Stormwater Utility strives to properly manage the conveyance and treatment of stormwater for the protection of property and the environment as may be necessary and feasible.

PROGRAM DESCRIPTION:

The Stormwater Utility provides an infrastructure throughout the Village with the goal of obtaining maximum water quality before the water enters our lakes, rivers, and streams. The Utility also evaluates the system to try to improve the management of storm water quantity, as it effects the lands through out the Village.

PROGRAM OBJECTIVES:

- Evaluate rate case to affirm revenues are at a sufficient level to support services provided through expenditures.
- Review and study opportunities to improve stormwater conveyance.
- Review all new developments to ensure compliance with Village Ordinance on stormwater management.
- Develop plan for addressing Waubesa lagoon/channel waterways as recommended for inclusion within the Capital Improvement Plan (CIP).

STORMWATER SERVICE BUDGET SUMMARY

REVENUES	2022 Actual	2023 Budget	YTD 6/30/2023	2023 Projected	2024 Budget	% Change vs. 2023
Allocated Revenues	649,657	862,250	284,221	1,018,057	1,570,500	82.14%

EXPENDITURES

PERSONAL SERVICES	2022 Actual	2023 Budget	YTD 6/30/2023	2023 Projected	2024 Budget	% Change vs. 2023
53440						
110 Salaries	159,384	193,500	70,374	152,986	172,000	-11.11%
120 Part-Time	9,934	11,250	3,718	8,084	12,500	11.11%
124 Seasonal	41	3,500	0	0	750	-78.57%
130 Health Insurance	32,928	41,500	13,511	27,022	40,250	-3.01%
131 Retirement	11,663	13,500	5,063	11,006	12,250	-9.26%
132 Social Security/Medicare	13,289	15,750	5,623	12,223	14,250	-9.52%
133 Stormwater Fringe Benefits	(25,618)	0	0	0	0	-----
134 Stormwater Emp Pension & Benefits	(46)	0	0	0	0	-----
135 Other Employee Benefits	454	500	145	316	500	0.00%
190 Overtime	2,619	4,500	1,400	3,043	2,500	-44.44%
Total PERSONAL SERVICES Exp	204,650	284,000	99,833	214,679	255,000	-10.21%

Notes:

- 110-124** These include expenses generally applied from salaries from those positions that oversee general operations and administration of stormwater services.
- 130-190** The proportionate rate of benefit costs are also applied to these line items including Health Insurance, Retirement, Social Security, and Other Fringe Benefits.

STORMWATER SERVICE (continued)

STORMWATER UTILITY FUND - FUND 605

EXPENDITURES (continued)

CONTRACTUAL SERVICES

		2022 Actual	2023 Budget	YTD 6/30/2023	2023 Projected	2024 Budget	% Change vs. 2023
	53440						
210	Support Services	26,745	42,000	33,167	39,000	42,000	0.00%
211	Consultant Services	19,297	16,000	9,680	18,000	18,000	12.50%
214	Yard Waste Services	47,020	72,500	22,726	72,500	72,500	0.00%
221	Communication	124	500	0	250	500	0.00%
240	Equipment Maintenance	50	3,250	1,519	3,250	3,250	0.00%
241	Vehicle Maintenance	13,656	14,500	16,014	22,500	20,000	37.93%
242	Facility Maintenance	51,152	6,500	1,229	6,500	6,500	0.00%
	Total CONTRACTUAL SERVICES Exp	158,044	155,250	84,336	162,000	162,750	4.83%

Notes:

- 210** This includes expenses associated with the services needed to support its operations including legal expenses, adaptive management through MMSD, and other related functions.
- 211** The charges for the auditor and engineer are included within this line item as needed to support the operations of the service.
- 214** The Village contracts for curbside chipping and yard waste collection as well as the transport of yard waste materials collected at the Public Works site. This is done on a limited basis in the Spring and Fall. The contract is split between this fund and the Solid Waste Fund.

SUPPLIES AND EXPENSES

		2022 Actual	2023 Budget	YTD 6/30/2023	2023 Projected	2024 Budget	% Change vs. 2023
	53440						
310	Office Supplies	885	1,500	569	1,250	1,500	0.00%
311	Postage	1,822	2,000	2,006	3,000	3,000	50.00%
320	Dues and Subscriptions	4,744	4,750	4,455	5,000	5,000	5.26%
321	Printing/Publication	2,182	2,750	1,359	2,250	2,750	0.00%
330	Meeting Expenses	34	250	0	250	250	0.00%
331	Training Expenses	1,019	5,000	4,160	5,000	5,500	10.00%
340	Operating Supplies	24,592	17,500	12,855	22,000	22,500	28.57%
341	Fuel	4,592	4,250	2,877	4,500	4,750	11.76%
390	Miscellaneous	511	1,000	28	500	1,000	0.00%
391	Programming	23	500	0	250	500	0.00%
	Total SUPPLIES AND EXPENSES Exp	40,404	39,500	28,309	44,000	46,750	18.35%

Notes:

- 320** Our annual membership fee for the Madison Area Municipal Stormwater Partnership (MAMSWaP) which puts together a joint permit for stormwater discharge on behalf of its members.
- 321** This is the share of the newsletter expense to cover costs for stormwater subject materials.
- 341** Fuel for the street sweeper.

STORMWATER SERVICE (continued)

STORMWATER UTILITY FUND - FUND 605

EXPENDITURES (continued)

FIXED CHARGES

		2022 Actual	2023 Budget	YTD 6/30/2023	2023 Projected	2024 Budget	% Change vs. 2023
	53440						
510	Insurance	43,480	40,000	52,698	53,000	45,000	12.50%
515	Retiree Contribution	3,577	5,000	0	0	5,000	0.00%
520	Loan Principal	0	0	0	0	0	-----
530	Rent	35,344	30,000	17,643	36,000	35,000	16.67%
540	Depreciation	160,151	0	0	0	0	-----
541	Amortization	(405)	0	0	0	0	-----
591	Vehicle Reserve (Sweeper)	0	20,000	0	0	30,000	50.00%
	Total FIXED CHARGES Exp	242,148	95,000	70,341	89,000	115,000	21.05%

Notes:

530 Includes the utilities share of facility and equipment costs.

591 Annually funds are set aside to be put towards a new street sweeper when replacement comes due.

DEBT SERVICE

		2022 Actual	2023 Budget	YTD 6/30/2023	2023 Projected	2024 Budget	% Change vs. 2023
	53440						
610	Principal Payment	0	65,000	0	65,000	70,000	7.69%
620	Interest Payment	4,411	2,750	1,403	2,805	1,500	-45.45%
690	Other Debt Service	0	0	0	0	0	-----
	Total DEBT SERVICE Exp	4,411	67,750	1,403	67,805	71,500	5.54%

Notes:

610-620 There was no borrowing in 2021 and 2022. No borrowing is planned either for 2023. This represents the Stormwater Sewer's share of the current debt expense.

CAPITAL OUTLAY

		2022 Actual	2023 Budget	YTD 6/30/2023	2023 Projected	2024 Budget	% Change vs. 2023
	53440						
810	Capital - General	0	2,500	0	2,500	2,500	0.00%
823	Capital - Stormwater	0	218,250	0	438,073	917,000	320.16%
	Total CAPITAL OUTLAY Exp	0	220,750	0	440,573	919,500	316.53%

Notes:

810 Some funds are provided for small capital items that are general in nature.

823 The main capital expense for next year is sharing in the cost of its share of vehicle and equipment purchases. Additionally, the utility will contribute towards some aspects of the paving work next year. Funding for these improvements will be offset with fund balance next year.

Total STORMWATER SERVICE Expenses	649,657	862,250	284,221	1,018,057	1,570,500	82.14%
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TRANSFERS TO OTHER FUNDS

STORMWATER UTILITY FUND - FUND 605

MISSION STATEMENT:

To allow for the ability to transfer money to other funds as needed and/or approved by the Village Board.

PROGRAM DESCRIPTION:

Occasionally, other funds within the Village require money to be transferred to them. This line item is included for accounting purposes as the Auditor typically identifies when this is a necessary action according to applicable accounting standards or approved budget actions.

PROGRAM OBJECTIVES:

- Reduces the need to amend the budget if a transfer between funds is needed.
- Transfers from will be identified within the annual audit.

TRANSFERS TO OTHER FUNDS BUDGET SUMMARY

REVENUES

	2022 Actual	2023 Budget	YTD 6/30/2023	2023 Projected	2024 Budget	% Change vs. 2023
Allocated Revenue	0	0	0	0	0	-----

EXPENDITURES

	2022 Actual	2023 Budget	YTD 6/30/2023	2023 Projected	2024 Budget	% Change vs. 2023
59200						
390 Miscellaneous	0	0	0	0	0	-----
Total TRANSFERS Exp	0	0	0	0	0	-----

Notes:

- 390** None anticipated at time of budget approval. To be used as needed and/or approved by the Village Board.