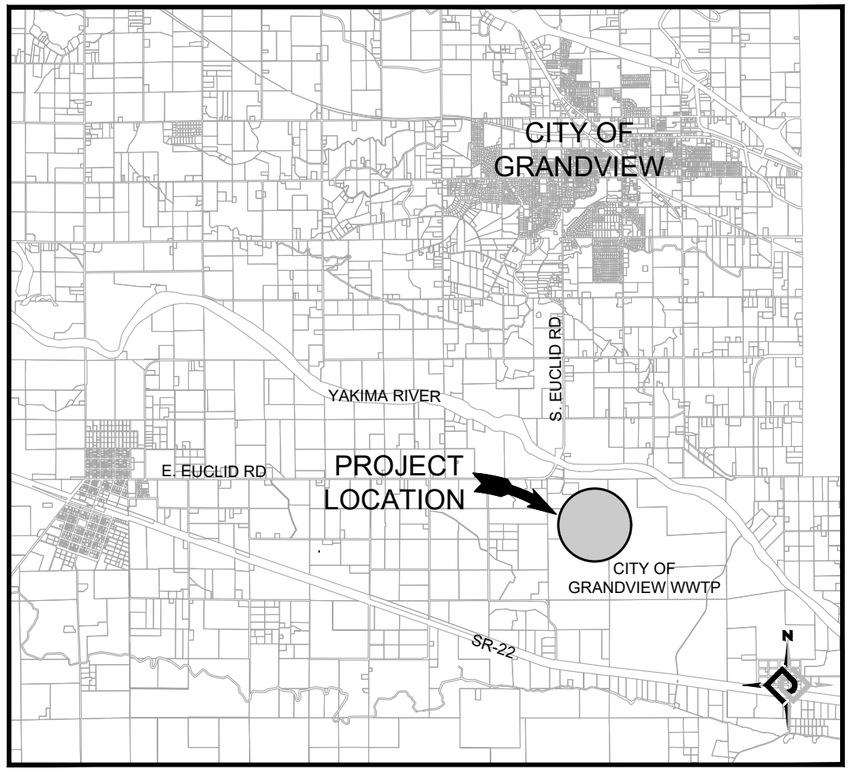


VICINITY MAP

NOT TO SCALE

CITY OF GRANDVIEW

YAKIMA COUNTY WASHINGTON

WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1

HLA PROJECT NO. 23030

MARCH 2026

DATUM ELEVATION

ELEVATIONS BASED ON WASHINGTON STATE REFERENCE NETWORK (WSRN) NAVD88

811 Know what's **below.** **Call** before you dig.

LOCATION OF ALL UNDERGROUND UTILITIES SHOWN HEREON ARE APPROXIMATE AND ARE BASED ON FIELD LOCATIONS OF ALL VISIBLE STRUCTURES SUCH AS: CATCH BASINS, MANHOLES, WATER GATES, ETC. AND COMPILING INFORMATION FROM PLANS SUPPLIED BY VARIOUS UTILITY COMPANIES. ALL CONTRACTORS MUST CALL 509-248-0202 OR 1-800-424-5555 PRIOR TO ANY EXCAVATION WORK.

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JAKOB W. MICHAEL — STATE OF WASHINGTON — 24009283 — REGISTERED PROFESSIONAL ENGINEER

ROBERT J. SCOTT — STATE OF WASHINGTON — 46427 — REGISTERED PROFESSIONAL ENGINEER

REVISION	DATE

JOB NUMBER: 23030 | DATE: 3/13/2026

FILE NAMES:
DRAWING: Sheets-G.dwg
PLAN: 23030.dwg

DESIGNED BY: RJS/JWM
ENTERED BY: KWC/KRN

CITY OF GRANDVIEW
WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1

COVER

G-1

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CITY OF GRANDVIEW
WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1
SHEET INDEX

G-2

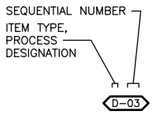
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SCHEDULED ITEM LEGEND

DOOR	D-03	SEE SCHEDULE ON SHEET GA-1
ROOM NUMBER	132	
WINDOW TYPE	13	
WALL TYPE	1B	
HVAC EQUIPMENT	AC-01	SEE SCHEDULE ON SHEET GM-1

SCHEDULED ITEM EXAMPLE:

DOOR #3 WOULD BE CALLED OUT AS (SEE SCHEDULE FOR COMPLETE LIST):



SCHEDULED ITEM NOTES:

1. SEE ADDITIONAL SCHEDULES ELSEWHERE IN THE PLAN SET.
2. NOT ALL SCHEDULED ITEMS ARE CALLED OUT ON THE SHEETS. SCHEDULES REFERENCED HEREIN ARE PROVIDED FOR THE CONTRACTORS CONVENIENCE AND SHOULD NOT BE CONSIDERED A COMPREHENSIVE LIST OF THE REQUIRED EQUIPMENT.

CIVIL SITE PLAN LEGEND

EXISTING FEATURES

FENCE	X X
POTABLE WATER	W W
IRRIGATION WATER	IRR IRR
STORM DRAIN	SD SD
UNDERGROUND POWER	UP UP
OVERHEAD POWER	OHP OHP
GAS	G G
CHLORINE SOLUTION	CL CL
CAUSTIC SOLUTION (SODIUM HYDROXIDE)	CA CA
POLYMER SOLUTION	PS PS
RAW SEWER	SS SS
SEWER FORCE MAIN	FM FM
SCUM/ HUMUS	SC SC
SLUDGE	SL SL
WASTE ACTIVATED SLUDGE	WAS WAS
DRAIN (STORM)	D D
EFFLUENT	EFF EFF
OVERHEAD TELEPHONE	OHT OHT

TREE	
UTILITY POLE	
MANHOLE	
DRYWELL	
CATCH BASIN	
WATER VALVE	
SPLICE BOX	
CLEANOUT	
FIRE HYDRANT	
YARD HYDRANT	
IRRIGATION VALVE	
GAS METER	
BOLLARD	
ANCHOR	
LIGHT	
CONTOUR	1156

NEW FEATURES

ASPHALT PAVEMENT	
GRAVEL SURFACING	
HYDROSEED	
STRAIGHT CURB	
INTEGRAL CURB	
CEMENT CONCRETE SIDEWALK/FLATWORK	
POTABLE WATER LINE	
PROCESS/SEWER LINE	
IRRIGATION WATER LINE	
DRAIN LINE	
AIR LINE	
NEW AND/OR RELOCATED CHAINLINK FENCE	
MANHOLE	
YARD HYDRANT	
BOLLARD	
FIRE HYDRANT	
CLEANOUT	
WATER VALVE	
SPOT ELEVATION	XXXX
CONTOUR	1156

VALVE SYMBOLS

DOUBLE LINE	SINGLE LINE	
		GATE
		BUTTERFLY
		BALL
		PLUG
		CHECK
		CONTROL VALVE
		BALL CHECK VALVE
		DIAPHRAGM VALVE
		PRESSURE REGULATING VALVE

PIPE AND FITTING SYMBOLS

DOUBLE LINE	SINGLE LINE	
		NEW PIPE
		FLANGED JOINT
		MECHANICAL JOINT
		FLANGE COUPLING ADAPTER
		RESTRAINED FLANGE COUPLING ADAPTER
		FLEXIBLE BOLTED SLEEVE COUPLING
		ELASTOMER BELLOWS EXP JOINT
		ELBOW UP
		ELBOW DOWN
		TEE UP
		TEE DOWN
		CONCENTRIC REDUCER
		ECCENTRIC REDUCER
		UNION
		ELBOW, 90 DEGREE
		TEE
		ELBOW, 45 DEGREE
		HOSE BIBB

SYMBOL NOTES:

1. FLANGED END CONNECTIONS ARE SHOWN HERE FOR DOUBLE LINE FITTINGS. FITTINGS WITH OTHER END PATTERNS ARE SHOWN SIMILARLY ON THE CONSTRUCTION DRAWINGS.
2. SYMBOLS SHOWN HERE FOR SINGLE LINE FITTINGS ARE GENERIC ONLY. REFER TO PIPING SPECIFICATIONS FOR SPECIFIC END CONNECTIONS FOR SINGLE LINE PIPE AND FITTINGS.
3. EXISTING PIPE AND EQUIPMENT IS SHOWN LIGHT-LINED AND/OR SCREENED AND IS NOTED AS EXISTING. NEW PIPING AND EQUIPMENT IS SHOWN HEAVY-LINED.

GENERAL PIPING NOTES:

1. LAY PIPE TO UNIFORM GRADE BETWEEN INDICATED ELEVATION POINTS.
2. SIZE OF FITTINGS SHOWN ON PLANS SHALL CORRESPOND TO ADJACENT STRAIGHT RUN OF PIPE, UNLESS OTHERWISE INDICATED. TYPE OF JOINT AND FITTING MATERIAL SHALL BE THE SAME AS SHOWN FOR ADJACENT STRAIGHT RUN OF PIPE.
3. LOCATION AND NUMBER OF PIPE HANGERS AND PIPE SUPPORTS SHOWN IS ONLY APPROXIMATE. FINAL SUPPORT REQUIREMENTS SHALL BE DETERMINED IN THE FIELD AND REVIEWED BY THE ENGINEER PRIOR TO INSTALLATION. MAXIMUM SPACING SHALL BE AS SPECIFIED.
4. ALL JOINTS SHALL BE WATERTIGHT. WALL PIPES SHALL BE USED WHEREVER PIPING PASSES FROM A STRUCTURE TO BACKFILL.
5. ALL FLEXIBLE CONNECTORS OR FLANGED COUPLING ADAPTERS SHALL BE PROVIDED WITH THRUST TIES, BLOCKS, OR ANCHORS, UNLESS OTHERWISE NOTED. THRUST PROTECTION SHALL BE ADEQUATE FOR TEST PRESSURES SPECIFIED.
6. ALL BURIED DUCTILE IRON PIPING SHALL BE MECHANICAL JOINT OR PUSH-ON JOINT PIPE. ALL JOINTS BENEATH STRUCTURES SHALL BE RESTRAINED JOINTS.
7. ALL FITTINGS IN BURIED PRESSURE PIPE SHALL BE RESTRAINED USING RESTRAINED JOINTS OR CONCRETE THRUST BLOCKING. WHEN RESTRAINED JOINTS ARE USED, RESTRAIN ADJOINING PIPE JOINTS THE MINIMUM DISTANCE SPECIFIED.
8. NUMBER AND LOCATION OF UNIONS SHOWN ON PLANS IS ONLY APPROXIMATE. PROVIDE ALL UNIONS NECESSARY TO FACILITATE CONVENIENT REMOVAL OF VALVES AND MECHANICAL EQUIPMENT.
9. WHERE A FLANGED COUPLING ADAPTER IS SHOWN, A STANDARD FLANGE SHALL BE JOINED TO THE COUPLING ADAPTER. THE USE OF UNI-FLANGE OR SIMILAR FLANGE ADAPTERS WILL NOT BE ALLOWED.
10. PIPE LOCATION DIMENSIONS ARE MEASURED TO NOMINAL FACE OF WALL OR FINISHED FLOOR UNLESS NOTED OTHERWISE.
11. EQUIPMENT SCHEDULES DO NOT LIST ALL REQUIRED PIPING. THE CONTRACTOR IS RESPONSIBLE FOR HIS OWN QUANTITY TAKE-OFF FOR PIPE, FITTINGS, AND VALVES.
12. ALL DUCTILE IRON SLUDGE PIPING AND FITTINGS USED ON THIS PROJECT SHALL BE GLASS-LINED.

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CITY OF GRANDVIEW
WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1
LEGEND AND SYMBOL SCHEDULE

G-3

GENERAL NOTES

1. ALL CONSTRUCTION SHALL CONFORM TO THE 2025 EDITION OF THE STANDARD SPECIFICATIONS FOR ROAD, BRIDGE, AND MUNICIPAL CONSTRUCTION AS PUBLISHED BY THE WASHINGTON STATE DEPARTMENT OF TRANSPORTATION (WSDOT), THE AMERICAN PUBLIC WORKS ASSOCIATION (APWA) AND THE SPECIAL PROVISIONS OF THE CITY OF GRANDVIEW.
2. THE CONTRACTOR IS ADVISED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES SHOWN HEREON ARE BASED UPON UTILITY INFORMATION OF RECORD, INFORMATION PROVIDED TO HLA ENGINEERING AND LAND SURVEYING, INC. AND WHERE POSSIBLE MEASUREMENTS TAKEN IN THE FIELD. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY PERTINENT LOCATIONS AND ELEVATIONS, ESPECIALLY AT CONNECTION POINTS AND AT POTENTIAL UTILITY CONFLICTS.
3. THE CONTRACTOR MUST CALL THE LOCAL UTILITY LOCATION REQUEST CENTER NOT LESS THAN 72 HOURS NOR MORE THAN 10 BUSINESS DAYS BEFORE ANY EXCAVATION, TO REQUEST FIELD LOCATIONS OF UTILITIES. THE TELEPHONE NUMBER FOR THE ONE CALL CENTER FOR THIS PROJECT IS 1-800-424-5555. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL VERIFY PERTINENT LOCATIONS AND ELEVATIONS, ESPECIALLY AT THE CONNECTION POINTS AND AT POTENTIAL UTILITY CONFLICTS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY THE ENGINEER IMMEDIATELY WHERE EXISTING UTILITIES ARE FOUND TO CONFLICT WITH PROJECT IMPROVEMENTS. NO ADDITIONAL COMPENSATION WILL BE ALLOWED FOR POTHOLING OR VERIFICATION OF EXISTING UTILITY LOCATIONS.
4. ANY DAMAGE TO PUBLIC UTILITIES OR ADJACENT PROPERTIES AS A RESULT OF THE CONSTRUCTION ACTIVITIES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. REPAIRS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE MADE IN A TIMELY MANNER TO THE SATISFACTION OF THE DAMAGED PARTY.
5. EXCAVATION OF MATERIAL OF WHATEVER NATURE ENCOUNTERED AND DEWATERING FOR ALL UNDERGROUND ITEMS SHALL BE INCIDENTAL TO AND INCLUDED IN THE BID ITEMS. NO SEPARATE PAYMENT FOR ROCK EXCAVATION OR DEWATERING SHALL BE MADE. CONTRACTORS WHO ARE PROSPECTIVE BIDDERS ARE INSTRUCTED TO EXAMINE THE EXCAVATION AREAS TO DETERMINE THE LIKELIHOOD OF ENCOUNTERING ROCK OR WATER TO THEIR OWN SATISFACTION.
6. THE CONTRACTOR SHALL REMOVE ALL DEBRIS FROM THE SITE. NO BURNING WILL BE ALLOWED. THE CONTRACTOR SHALL BE REQUIRED TO SECURE AND OPERATE HIS OWN WASTE DISPOSAL SITE AT HIS OWN EXPENSE FOR THE DISPOSAL OF ALL UNSUITABLE MATERIAL, ASPHALT, CONCRETE, DEBRIS, WASTE MATERIAL, AND ANY OTHER OBJECTIONABLE MATERIAL WHICH IS DIRECTED TO WASTE. THE CONTRACTOR SHALL COMPLY WITH THE STATE OF WASHINGTON REGULATIONS REGARDING DISPOSAL OF WASTE MATERIAL AS OUTLINED IN WAC 173-304, SUBCHAPTER 461.
7. AT ALL TIMES DURING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTROLLING ON-SITE EROSION DUE TO WIND AND RUNOFF.
8. A PRECONSTRUCTION MEETING WITH THE ENGINEER, THE CONTRACTOR, AND INTERESTED UTILITY COMPANIES SHALL BE HELD A MINIMUM OF ONE WEEK PRIOR TO BEGINNING CONSTRUCTION. PUD INSPECTOR SHALL BE GIVEN 48-HOURS MINIMUM NOTICE PRIOR TO THE START OF WORK.
9. THE CONTRACTOR SHALL HAVE ONE (1) SIGNED COPY OF THE APPROVED PLANS, ONE (1) COPY OF THE APPROPRIATE STANDARDS AND SPECIFICATIONS, AND A COPY OF ANY PERMITS AND EXTENSION AGREEMENTS NEEDED FOR THE JOB, ON-SITE AT ALL TIMES.
10. IF WORKERS ENTER ANY TRENCH OR OTHER EXCAVATION FOUR FEET OR MORE IN DEPTH THAT DOES NOT MEET THE OPEN PIT REQUIREMENTS OF WSDOT/APWA SECTION 2-09.3(3)B, IT SHALL BE SHORED AND CRIBBED. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR WORKER SAFETY AND THE ENGINEER ASSUMES NO RESPONSIBILITY. ALL TRENCH SAFETY SYSTEMS SHALL MEET THE REQUIREMENTS OF THE WASHINGTON INDUSTRIAL SAFETY AND HEALTH ACT, CHAPTER 49.17 RCW.
11. IF, DURING THE CONSTRUCTION PROCESS, CONDITIONS ARE ENCOUNTERED BY THE CONTRACTOR, HIS SUBCONTRACTORS, OR OTHER AFFECTED PARTIES, WHICH COULD INDICATE A SITUATION THAT IS NOT IDENTIFIED IN THE PLANS OR SPECIFICATIONS, THE CONTRACTOR SHALL CONTACT THE ENGINEER IMMEDIATELY.
12. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ADEQUATE SAFEGUARDS, SAFETY DEVICES, PROTECTIVE EQUIPMENT, FLAGGERS, AND ANY OTHER ACTIONS NEEDED TO PROTECT THE LIFE, HEALTH, AND SAFETY OF THE PUBLIC, AND TO PROTECT PROPERTY IN CONNECTION WITH THE PERFORMANCE OF WORK COVERED BY THIS CONTRACT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ANY AND ALL TRAFFIC CONTROL DEVICES AS MAY BE REQUIRED BY THE CONSTRUCTION ACTIVITIES. ALL SECTIONS OF THE WSDOT/APWA STANDARD SPECIFICATIONS SECTION 1-10, TEMPORARY TRAFFIC CONTROL, SHALL APPLY IF WORK WITHIN THE RIGHT OF WAY WILL INTERRUPT NORMAL TRAFFIC OPERATION.
13. THE CONTRACTOR SHALL BE RESPONSIBLE FOR KEEPING ROADWAYS FREE AND CLEAR OF ALL CONSTRUCTION DEBRIS AND DIRT TRACKED FROM THE SITE.
14. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RECORDING AS-BUILT INFORMATION ON A SET OF RECORD DRAWINGS KEPT AT THE CONSTRUCTION SITE, AND AVAILABLE TO THE PUD INSPECTOR AND ENGINEER AT ALL TIMES. THE CONTRACTOR SHALL DELIVER THESE DRAWINGS TO THE ENGINEER AT THE COMPLETION OF THE WORK.
15. THE CONTRACTOR SHALL DETERMINE EXTENT OF FACILITIES NECESSARY TO ADEQUATELY CONTROL DEWATERING WATER. A GEOTECHNICAL REPORT WAS PREPARED FOR THIS PROJECT WHICH IDENTIFIES THE POTENTIAL FOR PERCHED GROUNDWATER IN ISOLATED LOCATIONS. THE CONTRACTOR MAY CONDUCT EXPLORATORY OPERATIONS NECESSARY TO DETERMINE THE EXTENT OF DEWATERING PRIOR TO BID. SOIL EXPLORATIONS MUST BE COORDINATED WITH THE CITY PRIOR TO BID, AND SHALL BE AT NO COST TO THE OWNER.
16. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DEWATERING REQUIRED AT NO ADDITIONAL COST TO THE OWNER. CONTRACTOR TO SUBMIT A PLAN FOR ALL DEWATERING OPERATIONS FOR REVIEW AND APPROVAL PRIOR TO IMPLEMENTATION.

GEN. SITE GRADING AND DRAINAGE NOTES

1. THE CONTRACTOR SHALL VERIFY THE DEPTH AND LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO SITE GRADING. NOTIFY THE ENGINEER IF FINAL ELEVATIONS SHOWN CONFLICT WITH EXISTING UTILITY ELEVATIONS.
2. EXCAVATED MATERIAL CONTAINING VEGETATION, ORGANIC, OR ANY OTHER UNSUITABLE MATERIALS SHALL NOT BE USED FOR BACKFILL AREAS AND SHALL BE HAULED TO WASTE.
3. ALL EXCAVATED NATIVE MATERIAL, INCLUDING EXCAVATED ROCK, USED AS FILL SHALL BE SUBJECT TO THE REQUIREMENTS FOR IMPORTED GRAVEL BORROW. SEE SECTION 31 14 11 OF THE SPECIFICATIONS.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING ALL FINAL GRADING QUANTITIES REQUIRED TO BALANCE EXCAVATED MATERIAL. NO ADDITIONAL PAYMENT WILL BE MADE FOR IMPORTING OR EXPORTING EXCESS MATERIAL HAULED TO OR FROM THE SITE.
5. THE FINAL CONTOURS AND ELEVATIONS SHOWN REPRESENT FINISHED SURFACE ELEVATIONS. ALL NECESSARY ADJUSTMENTS TO THE SUBGRADE ELEVATIONS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
6. SPOT ELEVATIONS SHALL TAKE PRECEDENCE OVER CONTOURS AND SLOPES SHOWN. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF SPOT ELEVATIONS THAT DO NOT APPEAR TO BE CONSISTENT WITH THE CONTOURS AND SLOPES.
7. UNLESS OTHERWISE SHOWN OR DIRECTED BY THE ENGINEER, NO SLOPE SHALL EXCEED 3:1.
8. ALL UTILITIES (MANHOLES, VALVE COVERS, CLEANOUTS, VAULTS, BOXES, ETC.) SHALL BE ADJUSTED TO FINAL GRADE PRIOR TO PLACEMENT OF FINAL SURFACING.
9. REMOVE EXISTING ASPHALT, CONCRETE, STRUCTURES, UTILITIES, FENCING, AND OTHER EXISTING FEATURES AS REQUIRED TO CONSTRUCT NEW SITE GRADING AND DRAINAGE IMPROVEMENTS, TYP.
10. REMOVE AND STOCKPILE EXISTING GRAVEL SURFACING FOR USE AS FINAL GRAVEL SURFACING AROUND PROJECT SITE, TYPICAL.

GENERAL DEMOLITION NOTES

1. ALL DEMOLITION WORK SHALL BE PERFORMED IN ACCORDANCE WITH ALL STATE AND LOCAL CODES AND REQUIREMENTS. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR COMPLIANCE WITH ALL REQUIREMENTS INCLUDING, BUT NOT LIMITED TO, HAZARDOUS MATERIALS, DISPOSAL, AND HOURS OF OPERATION.
2. THE CONTRACTOR SHALL OBTAIN WRITTEN PERMISSION FROM ALL UTILITY COMPANIES AFFECTED, PRIOR TO ANY DEMOLITION WORK OR DISCONNECTION OF ANY SERVICES. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING AND COMPLYING WITH ALL REQUIREMENTS OF THE RESPECTIVE UTILITY COMPANIES.
3. THE CONTRACTOR IS RESPONSIBLE FOR PROTECTING ALL EXISTING UTILITIES WHICH ARE TO REMAIN IN SERVICE, INCLUDING BUT NOT LIMITED TO, ELECTRIC, GAS, SEWER, WATER, STORM WATER, AND IRRIGATION.
4. ANY DAMAGE TO PUBLIC OR PRIVATE UTILITIES OR ADJACENT PROPERTIES AS A RESULT OF DEMOLITION ACTIVITIES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. ALL REPAIR COSTS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE MADE IN A TIMELY MANNER TO THE SATISFACTION OF THE DAMAGED PARTY.
5. ANY UNFORESEEN CONDITIONS WHICH MAY BE UNCOVERED DURING DEMOLITION SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE ENGINEER. ADDITIONAL EXPENSES INCURRED BY THESE CONDITIONS SHALL BE APPROVED BY THE ENGINEER PRIOR TO THE ADDITIONAL WORK BEING PERFORMED.
6. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO INSPECT THE PROPERTY FOR TYPE AND QUANTITY OF DEMOLITION REQUIRED, PRIOR TO SUBMISSION OF A BID.
7. THE CONTRACTOR SHALL HAVE WATER ON SITE FOR DUST ABATEMENT AT ALL TIMES DURING DEMOLITION ACTIVITIES.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE APPROPRIATE DISPOSAL OF ALL DEBRIS. BURNING ON SITE SHALL NOT BE PERMITTED. NO DEBRIS, INCLUDING CONCRETE OR ASPHALT, MAY BE PLACED IN ANY FILL AREAS UNLESS APPROVED BY THE ENGINEER.
9. EXISTING EQUIPMENT AND MATERIALS THAT ARE SCHEDULED TO REMAIN OR BE REUSED SHALL BE PROTECTED AT ALL TIMES DURING DEMOLITION AND CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIR OR REPLACEMENT OF DAMAGED EQUIPMENT AND MATERIALS. SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION.

GEN. NOTES - CONSTRUCTION SEQUENCE

1. THE SPECIFICS OF THE ORDER OF WORK SHALL BE AT THE CONTRACTOR'S OPTION, BUT WORK MUST COORDINATE WITH THE CONSTRUCTION SEQUENCE DESCRIBED HEREIN. ALL WORK SHALL BE SCHEDULED SO THE EXISTING WASTEWATER TREATMENT FACILITIES CAN REMAIN IN OPERATION AT ALL TIMES.
2. THE CONTRACTOR SHALL MAKE ALL PIPING CHANGEOVERS, BUT ONLY AFTER REVIEW BY THE ENGINEER. ALL PIPING SHALL BE EXPOSED, AND ALL LABOR, TOOLS, MATERIALS, AND EQUIPMENT NECESSARY TO MAKE THE CONNECTION SHALL BE ON HAND PRIOR TO BEGINNING WORK. THE CONNECTION SHALL THEN BE MADE IN THE MINIMUM TIME POSSIBLE TO MINIMIZE THE IMPACTS TO THE TREATMENT PROCESS.
3. COORDINATE AND SCHEDULE POWER UTILITY WORK WITH OPERATIONS STAFF AND UTILITY COMPANY. PLANT OPERATIONS STAFF SHALL BE GIVEN A MINIMUM OF 3-DAY NOTICE PRIOR TO ANY POWER SERVICE SHUTDOWNS AND/OR INTERRUPTIONS THAT MAY TAKE PLACE THROUGHOUT THE CONSTRUCTION DURATION.
4. COORDINATE AND SCHEDULE PROCESS REVISIONS WITH OPERATIONS STAFF. PLANT OPERATIONS STAFF SHALL BE GIVEN A MINIMUM OF 3-DAY NOTICE PRIOR TO ANY FLOW REALIGNMENT AND/OR BYPASS PUMPING PLAN BEING STARTED OR STOPPED TO ALLOW APPROPRIATE PLANT OPERATIONS TO BE MODIFIED.

OVERALL CONSTRUCTION SEQUENCE

1. INSTALL REQUIRED TESC AND BMPS FOR STORMWATER RUNOFF CONTROL SYSTEMS. WORK NEAR STREAMS SHOULD BE SCHEDULED AFTER SPRING RUNOFF WHEN THE WATER IN THE STREAMS IS MINIMIZED.
2. THE CONTRACTOR'S SCHEDULE SHALL REFLECT CONSTRUCTION OF THE NEW UV DISINFECTION SYSTEM AS EARLY AS FEASIBLE IN OVERALL PROJECT SCHEDULE.
3. THE CONSTRUCTION, TESTING, AND COMMISSIONING OF THE NEW SLUDGE STORAGE TANK SHALL BE COMPLETED PRIOR TO REMOVING ANY OF THE EXISTING BELT PRESSES FROM SERVICE DURING DEWATERING EQUIPMENT CUTOVER.
4. EXISTING BELT FILTER PRESSES SHALL NOT BE REMOVED FROM SERVICE DURING THE PERIOD JULY 1 – OCTOBER 31.

INFLUENT PUMP STATION SEQUENCE

1. POTHOLE AND LOCATE ALL PIPES TO/FROM EXISTING LIFT STATION.
2. CONSTRUCT NEW WET WELL, VALVE VAULT, AND FORCE MAIN MANIFOLD.
3. PERFORM WATERTIGHTNESS AND OPERATIONAL TESTING OF NEW LIFT STATION USING POTABLE WATER.
4. CUT EXISTING GRAVITY INFLUENT, DRAIN LINE, AND FORCE MAIN PIPES IN VICINITY OF LIFT STATION AND MAKE PIPE CONNECTIONS TO NEW LIFT STATION.

UV DISINFECTION SEQUENCE

1. SEE SHEET M8-3

SLUDGE HOLDING TANK SEQUENCE

1. THE NEW SLUDGE HOLDING TANK SHALL BE CONSTRUCTED AND FULLY OPERATIONAL BEFORE MODIFYING THE EXISTING DEWATERING PROCESS.
2. ONCE THE NEW SLUDGE HOLDING TANK IS FULLY OPERATIONAL, INCLUDING COMPLETED PIPING CONNECTIONS TO EXISTING SYSTEM AND MIXER INSTALLATION AND ACCEPTANCE, THE CONTRACTOR MAY BEGIN WORK ON THE EXISTING SLUDGE HOLDING TANK. INSTALLATION AND ACCEPTANCE OF NEW MIXERS WILL RELY ON THE CONTRACTOR PROVIDING TEMPORARY POWER TO THE NEW MIXERS, AS PERMANENT INSTALLATION OF THE MIXER CONTROLS AND POWER DISTRIBUTION EQUIPMENT IS ANTICIPATED TO BE ACHIEVED BY DEMOLISHING EXISTING DEWATERING EQUIPMENT.
3. BOTH THE NEW AND EXISTING SLUDGE HOLDING TANKS SHALL BE FULLY OPERATIONAL BEFORE DEMOLITION OF EXISTING DEWATERING EQUIPMENT AND INSTALLATION OF NEW DEWATERING EQUIPMENT.

DEWATERING SEQUENCE

1. EXISTING DEWATERING EQUIPMENT SHALL NOT BE OFFLINE LONGER THAN 5 CONSECUTIVE DAYS, OR AS OTHERWISE DIRECTED BY THE CITY OR ENGINEER.
2. THE NEW NON-POTABLE WATER PIPING SYSTEM, INCLUDING FILTER AND EXPANSION TANK, MAY BE INSTALLED INDEPENDENTLY OF DEWATERING EQUIPMENT DEMOLITION AND INSTALLATION.
3. SHUTDOWN AND DEMOLITION OF THE EXISTING POTABLE WATER SYSTEM FOR INSTALLATION OF THE NEW POTABLE WATER SYSTEM MAY BE ONLY OCCUR DURING DEWATERING EQUIPMENT SHUTDOWN PERIODS. DEPENDING ON THE CONTRACTORS SEQUENCE AND SCHEDULE, THE EXISTING POTABLE WATER SYSTEM MAY BE TEMPORARILY CONNECTED TO THE POLYMER MAKEDOWN SYSTEMS UNTIL THE NEW POTABLE WATER IS INSTALLED.
3. THE EXISTING POLYMER SYSTEM TO THE (2) EXISTING BELT FILTER PRESSES SHALL BE DISCONNECTED FOR INSTALLATION OF THE NEW NEAT POLYMER SYSTEMS. TWO (2) NEW POLYMER SYSTEMS SHALL BE INSTALLED AND TEMPORARILY CONNECTED TO EXISTING BELT FILTER PRESSES. NEW POTABLE WATER SHALL BE CONNECTED TO THE NEW POLYMER SYSTEMS, OR THE EXISTING POTABLE WATER MAY BE CONNECTED TEMPORARILY.
4. AFTER DESIRED FLOCCULATION PERFORMANCE IS ACHIEVED AND THE EXISTING BELT FILTER PRESSES ARE FULLY OPERATIONAL, THE CONTRACTOR MAY INSTALL NEW SCREW PRESS NO. 1, CONVEYOR IN TEMPORARY POSITION, AND ALL SUPPORTING APPURTENANCES.
5. ISOLATE EXISTING SLUDGE PUMP NO. 1 AND INSTALL NEW SLUDGE PIPING, VALVES, AND FITTINGS FROM EXISTING SLUDGE FEED PUMP TO PREFORM STARTUP OF NEW DEWATERING EQUIPMENT. INSTALL NEW NON-POTABLE WASH WATER CONNECTIONS DEMOLITION OF EXISTING BELT FILTER PRESS EQUIPMENT AND BELT CONVEYOR MAY ONLY BE PERFORMED AFTER NEW SCREW PRESS NO. 1 AND SUPPORTING DEWATERING EQUIPMENT ARE ACCEPTED AND FULLY OPERATIONAL.

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ROBERT J. SCOTT — STATE OF WASHINGTON — 46421 — REGISTERED PROFESSIONAL ENGINEER

REVISION	DATE

JOB NUMBER: 23030 | DATE: 3/13/2026

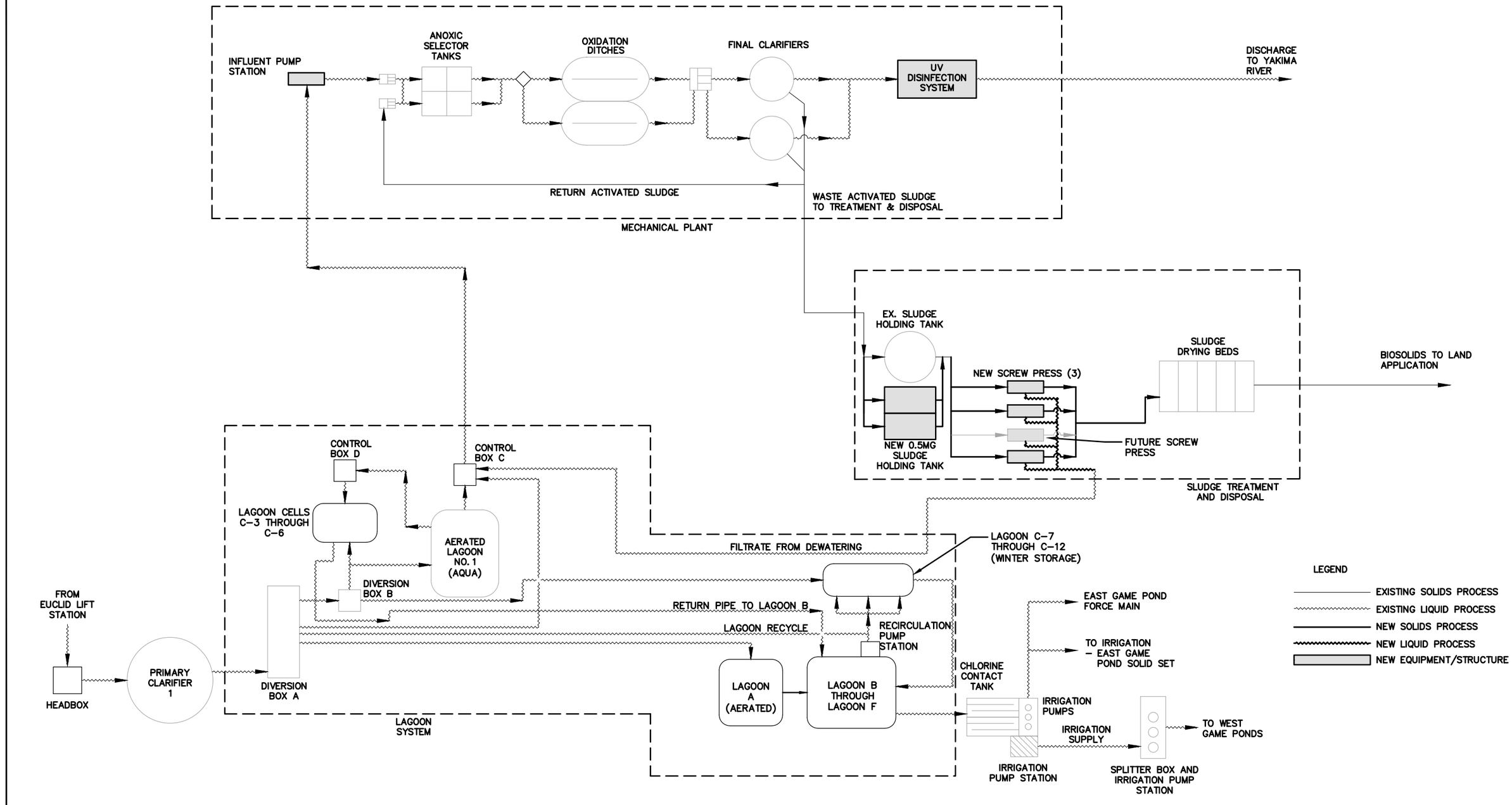
FILE NAMES:
DRAWING: Sheets-G.dwg
PLAN: 23030.dwg

DESIGNED BY: RJS/JWM
ENTERED BY: KWC/KRN

CITY OF GRANDVIEW
WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1
GENERAL NOTES/CONSTRUCTION SEQUENCING

G-4

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CITY OF GRANDVIEW
WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1
PROCESS FLOW DIAGRAM

G-5

PLANT DESIGN CRITERIA

MECHANICAL PLANT CAPACITY	
MAXIMUM MONTH FLOW	1.5 MGD
MAXIMUM DAY FLOW	2.0 MGD
AVERAGE ANNUAL FLOW	1.5 MGD
ANNUAL AVERAGE BOD	3,750 LBS/DAY
MAXIMUM MONTH BOD	11,400 LBS/DAY
ANNUAL AVERAGE TSS	3,750 LBS/DAY
MAXIMUM MONTH TSS	11,400 LBS/DAY
ANNUAL AVERAGE NH3	375 LB/DAY
MAXIMUM MONTH NH3	1,140 LBS/DAY
EUCLID HEADWORKS SCREENS	
TYPE	MECHANICAL FINE SCREEN
NUMBER	1
MOTOR	2.0 HP
CAPACITY	6.25 MGD
EUCLID HEADWORKS WASHER/COMPACTORS	
NUMBER	1
MOTOR	10.0 HP
CAPACITY	78 CF/HR
EUCLID LIFT STATION	
TYPE	SUBMERSIBLE CENTRIFUGAL
NUMBER (3 EXISTING)	3
POWER	150 HP
CAPACITY	4,300 GPM @ 95 FT TDH
PRIMARY CLARIFIERS	
TYPE	SPIRAL
NUMBER	1
MOTOR	1 HP, 230 V, 3 PH
DIAMETER	80 FT
SIDEWATER DEPTH	12 FT
SURFACE AREA	5,027 SF
SURFACE LOADING RATE (@ 1.5 MGD	298 GPD/SF
SURFACE LOADING RATE (@ 6.25 MGD	1,243 GPD/SF
SOLIDS LOADING RATE (@ 1.5 MGD (4,000 MG/L)	10 LB/SF/DAY
PRIMARY WAS PUMPS	
TYPE	ROTARY LOBE
NUMBER	3
MOTOR	10 HP, 460 V, 3 PH
CAPACITY	100 GPM @ 69 FT TDH
PRIMARY WAS GRINDERS	
TYPE	MACERATING
NUMBER	1
MOTOR	3 HP, 460 V, 3 PH
CAPACITY	200 GPM
AERATED LAGOON	
LAGOON VOLUME	18,000,000 GAL
AVERAGE LAGOON DEPTH	12 FT
AVERAGE OPERATING DEPTH	9.2 FT
LAGOON SURFACE AREA	6.0 ACRES
LAGOON DETENTION TIME (AAF)	12 DAYS
LAGOON DETENTION TIME (MDF)	9 DAYS
AERATED LAGOON AERATORS	
TYPE	FLOATING AERATOR
NUMBER	8
MOTOR	75 HP, 480 V, 3 PH
OXYGEN TRANSFER, EACH	206 LB/HR
AERATED LAGOON MIXERS	
TYPE	FLOATING
NUMBER	4
MOTOR	120 VAC
MIXING CAPACITY	10,000 GPM
NEW INFLUENT PUMP STATION	
TYPE	SUBMERSIBLE CENTRIFUGAL
NUMBER	3
MOTOR	15 HP, 480 V, 3 PH
CAPACITY	800 GPM @ 47 FT TDH
ANOXIC SELECTOR TANKS	
NUMBER	4
VOLUME, EACH	230,000 GAL
DIMENSIONS, EACH	49 FT X 52 FT
SIDEWATER DEPTH	14 FT
DETENTION TIME (AAF)	7.4 HR
DETENTION TIME (MDF)	5.5 HR

PLANT DESIGN CRITERIA

SELECTOR MIXERS	
TYPE	VERTICAL
NUMBER	4
MOTOR	15 HP, 480 V, 3 PH
OXIDATION DITCHES	
NUMBER	2
VOLUME, EACH	800,000 GAL
DIMENSIONS, EACH	201 FT X 48 FT
SIDEWATER DEPTH	11.2 – 12.0 FT
DETENTION TIME (AAF, 50% RAS)	17.1 HR
DETENTION TIME (MDF, 50% RAS)	12.8 HR
MLSS	3,000 MG/L
OXIDATION DITCH AERATORS	
TYPE	WESTECH LANDY AERATOR
NUMBER	4
MOTOR	100 HP, 480 V, 3 PH
OXYGEN TRANSFER, EACH	365 LB/HR
INTERNAL RECYCLE PUMPS	
TYPE	SUBMERSIBLE PROPELLER
NUMBER	2
MOTOR (EXISTING)	7.5 HP, 480 V, 3 PH
DESIGN POINT	2,500 GPM @ 2 FT TDH
OXIDATION DITCH SCUM PUMPS	
TYPE	SUBMERSIBLE NON–CLOG
NUMBER	2
MOTOR	3 HP, 460 V, 3 PH
DESIGN POINT	70 GPM @ 35 FT TDH
FINAL CLARIFIER MECHANSIMS	
TYPE	SPIRAL
NUMBER	2
MOTOR	1 HP, 460 V, 3 PH
DIAMETER	50 FT
SIDEWATER DEPTH	15 FT
SURFACE AREA	1,964 SF
SURFACE LOADING RATE (@	1.12 MGD (50% OF MMF) 570 GPD/SF
SOLIDS LOADING RATE @ 2.25 MGD (50% OF MMF+RAS, 6,000 MG/L)	57 LB/SF/DAY
NEW UV DISINFECTION SYSTEM	
TYPE	CLOSED CHANNEL
NUMBER OF MODULES	2
LAMPS PER MODULE	20
TOTAL NUMBER OF LAMPS	40
DESIGN UV TRANSMITTANCE	55%
DESIGN PEAK DISINFECTION FLOW	2.25 MGD
DESIGN MAX TSS	30MG/L
DISENFECTION STANDARD	100 TCU/100 ML
POWER (EACH MODULE)	16KW, 480 V, 3 PH
RAS PUMPS	
TYPE	SELF–PRIMING CENTRIFUGAL
NUMBER	3
MOTOR	20 HP, 460 V, 3 PH
CAPACITY	1,050 GPM @ 36 FT TDH
WAS PUMPS	
TYPE	SELF–PRIMING CENTRIFUGAL
NUMBER	2
MOTOR	15 HP, 460 V, 3 PH
CAPACITY	350 GPM @ 50 FT TDH
RECIRCULATION/UTILITY WATER PUMPS	
TYPE	VERTICAL TURBINE
NUMBER (3 EXISTING)	3
MOTOR	15 HP, 460 V, 3 PH
CAPACITY	150 GPM @ 75 TO 100 PSI
0.25 MG SLUDGE HOLDING TANK MIXERS	
TYPE	VERTICAL MIXER
NUMBER (EACH)	2
MOTOR	5 HP, 480V, 3 PH
0.50 SLUDGE HOLDING TANK MIXERS	
TYPE	VERTICAL MIXER
NUMBER (EACH)	4
MOTOR	10 HP, 480V, 3 PH
SLUDGE FEED PUMPS	
TYPE	SELF–PRIMING CENTRIFUGAL
NUMBER (3 EXISTING)	3
MOTOR	15 HP, 460 V, 3 PH
CAPACITY	400 GPM @ 60 FT TDH

PLANT DESIGN CRITERIA CONT.

DEWATERING EQUIPMENT	
TYPE	SCREW PRESS
NUMBER (3 NEW)	3
MOTOR	3 HP
CAPACITY	700 DRY LBS/HR
PLANT DRAIN PUMPS	
TYPE	SUBMERSIBLE CENTRIFUGAL
NUMBER	2
MOTOR	3HP
CAPACITY	70GPM @ 35FT TDH

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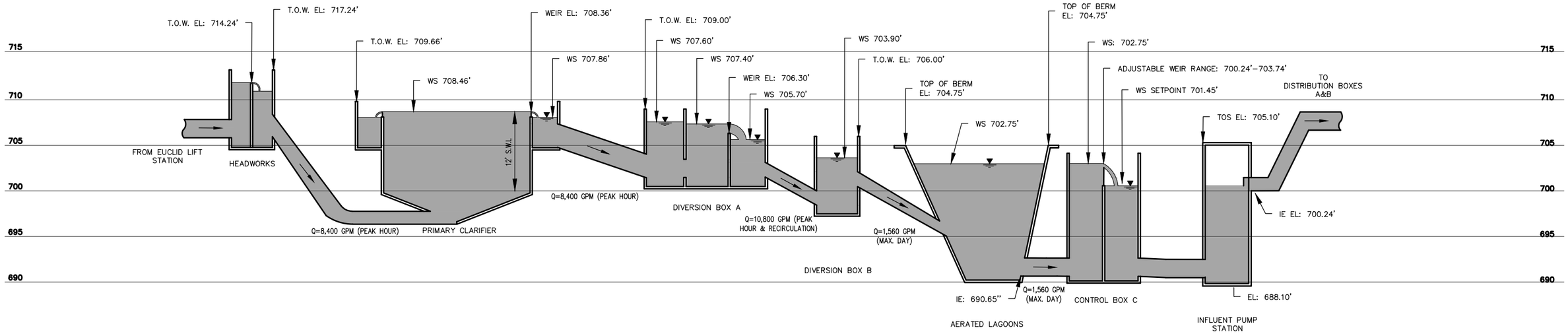
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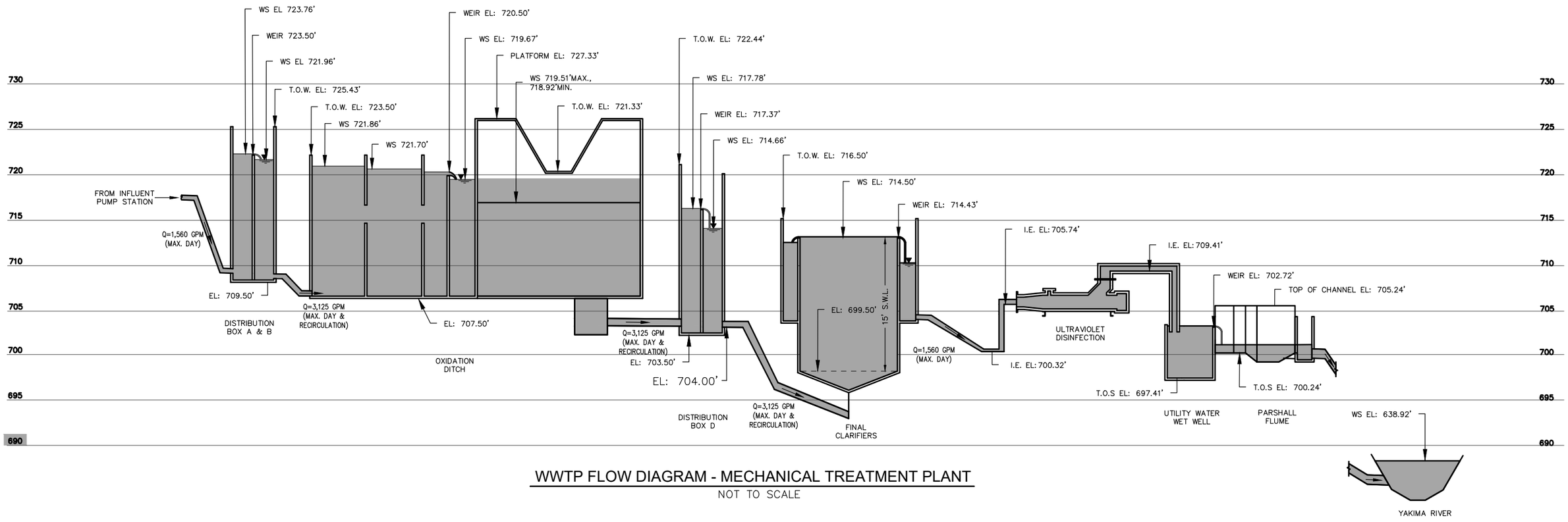
CITY OF GRANDVIEW
WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1
DESIGN CRITERIA

G-6

SHEET 6 OF 192



WWTP FLOW DIAGRAM - LAGOON SYSTEM



WWTP FLOW DIAGRAM - MECHANICAL TREATMENT PLANT

NOT TO SCALE

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CITY OF GRANDVIEW
WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1
HYDRAULIC PROFILE

G-7

SHEET 7 OF 192

PIPING SYMBOLS

MECHANICAL EQUIPMENT SYMBOLS

- CENTRIFUGAL PUMP (PCN)
- PROGRESSIVE CAVITY PUMP (PPC)
- CHEMICAL PUMP
- SUBMERSIBLE PUMP
- ROTARY LOBE PUMP
- ROTARY LOBE BLOWER
- PROPELLER PUMP
- HYPERBOLIC MIXER
- SURFACE AERATOR
- MIXER (MIX)
- INTAKE FILTER
- GRINDER
- SCUM SKIMMER

PIPE LINE DEVICE SYMBOLS

- INJECTOR
- INDUCTOR
- CARTRIDGE FILTER/ SEPARATOR
- CAP OR PLUG
- BLIND FLANGE
- STRAINER
- REDUCER OR INCREASER
- BACK FLOW PREVENTER
- CALIBRATION TUBE
- EXPANSION JOINT
- SPRAY NOZZLE
- SIGHT GLASS
- EQUIPMENT DRAIN
- VFD — VARIABLE FREQUENCY DRIVE
- PRESSURE GAUGE
- COMBINATION AIR VALVE

MISCELLANEOUS

EQA#
- EQUIPMENT NUMBER
- AREA DESIGNATION
- EQUIPMENT ABBREVIATIONS

VALVE & ACTUATOR SYMBOLS

- GATE VALVE
- GLOBE VALVE
- PLUG VALVE
- BALL VALVE
- BUTTERFLY VALVE
- CHECK VALVE
- BALL CHECK VALVE
- NEEDLE VALVE (VND)
- PRESSURE RELIEF VALVE (VRF)
- VACUUM RELIEF VALVE
- FLOAT VALVE
- PRESSURE REDUCING VALVE
- BACK PRESSURE SUSTAINING VALVE
- SOLENOID OPERATED VALVE (VOS)
- ELECTRICAL MOTOR OPERATED VALVE
- DIAPHRAGM OPERATED VALVE
- TELESCOPING VALVE
- SLUICE GATE
- FABRICATED SLIDE GATE
- ADJUSTABLE WEIR GATE
- HAND OPERATED SLIDE GATE
- SET WEIR

INSTRUMENTATION SYMBOLS

PRIMARY ELEMENT SYMBOLS

- PROPELLER OR TURBINE METER
- POSITIVE DISPLACEMENT FLOW METER
- MAGNETIC FLOW METER
- FLUME
- VARIABLE AREA FLOW METER (ROTAMETER)
- DIAPHRAGM CHEMICAL SEAL
- FLOAT SWITCH
- GUIDED FLOAT SWITCH
- SUBMERSIBLE LEVEL TRANSDUCER
- ULTRASONIC LEVEL TRANSMITTER
- RADAR LEVEL TRANSMITTER

FUNCTION IDENTIFICATION

	FIRST LETTER(S)		SUCCEEDING LETTERS		
	MEASURED OR INITIATING VARIABLE	MODIFIER	READOUT OR PASSIVE FUNCTION	OUTPUT FUNCTION	MODIFIER
A	ANALYSIS		ALARM		
B	BURNER (FLAME)				
C	CONDUCTIVITY			CONTROL	CLOSED
D	DENSITY	DIFFERENTIAL			
E	POTENTIAL (ELEC)		PRIMARY ELEMENT		
F	FLOW RATE	RATIO			
G	FIRE, SMOKE		GLASS		
H	HAND				HIGH
I	CURRENT (ELEC)		INDICATE		
J	POWER	SCAN			
K	TIME	TIME RATE CHANGE		CONTROL STATION	
L	LEVEL		PILOT LIGHT		LOW
M	MOISTURE	MOMENTARY			MIDDLE
N	EQUIPMENT STATUS				
O	OXYGEN		ORIFICE		OPEN
P	PRESSURE		TEST CONNECTION		
Q	QUANTITY	INTEGRATE			
R	RADIATION		RECORD		
S	SPEED, FREQUENCY	SAFETY		SWITCH	
T	TEMPERATURE			UNCLASSIFIED	
U	MULTIVARIABLE		MULTIFUNCTION	MULTIFUNCTION	MULTIFUNCTION
V	VIBRATION			VALVE, DAMPER	
W	WEIGHT, FORCE		WELL		
X	UNCLASSIFIED		UNCLASSIFIED	TRANSMIT	
Y	EVENT, STATUS			RELAY, COMPUTE	
Z	POSITION			MISC. ACTUATOR	

ABBREVIATIONS

VFD	–	VARIABLE FREQUENCY DRIVE
HOA	–	HAND/OFF/AUTO
HOL	–	HAND/OFF/LOW (SPEED)
OAC	–	OPEN/AUTO/CLOSE
N.O.	–	NORMALLY OPEN
N.C.	–	NORMALLY CLOSED
OOC	–	OPEN/OFF/CLOSED
MA	–	MANUAL/AUTO

PROCESS & SIGNAL LINE SYMBOLS

LINE	DESCRIPTION
▲	ANALOG INPUT
▼	ANALOG OUTPUT
△	DIGITAL INPUT
▽	DIGITAL OUTPUT
---–---–---	MODULATED SIGNAL
----------	DISCRETE SIGNAL
	CONTINUED ON DRAWING XX.XX RELEVANT DATA X
	EXISTING
	NEW

NOTES:

1. PIPING, PROCESS, AND INSTRUMENTATION DIAGRAM IS NOT INTENDED TO SHOW ALL REQUIRED FITTINGS AND VALVES. REFER TO OTHER PLAN SHEETS AND SPECIFICATIONS FOR ADDITIONAL PIPING INFORMATION.
2. REFER TO ELECTRICAL DRAWINGS AND MANUFACTURER SHOP DRAWINGS FOR COMPLETE ELECTRICAL AND CONTROL SYSTEM CIRCUIT AND EQUIPMENT INFORMATION.
3. FIELD INSTRUMENT TAG NAMES AND FUNCTIONS PER INSTRUMENT SOCIETY OF AMERICA DESIGNATIONS, TYP.

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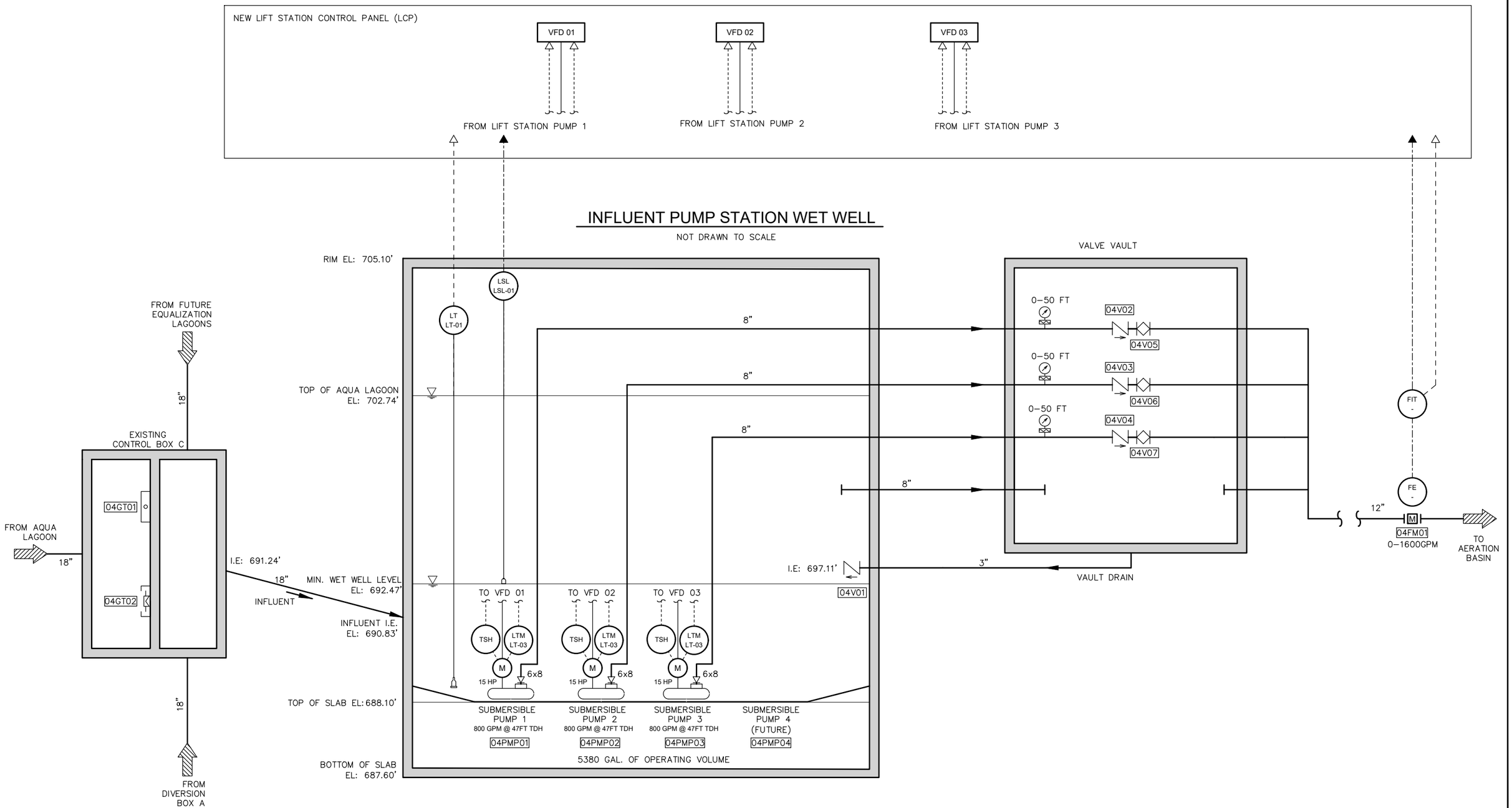
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WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1

P&ID – LEGEND

G-8

SHEET 8 OF 192



SCHEDULE C

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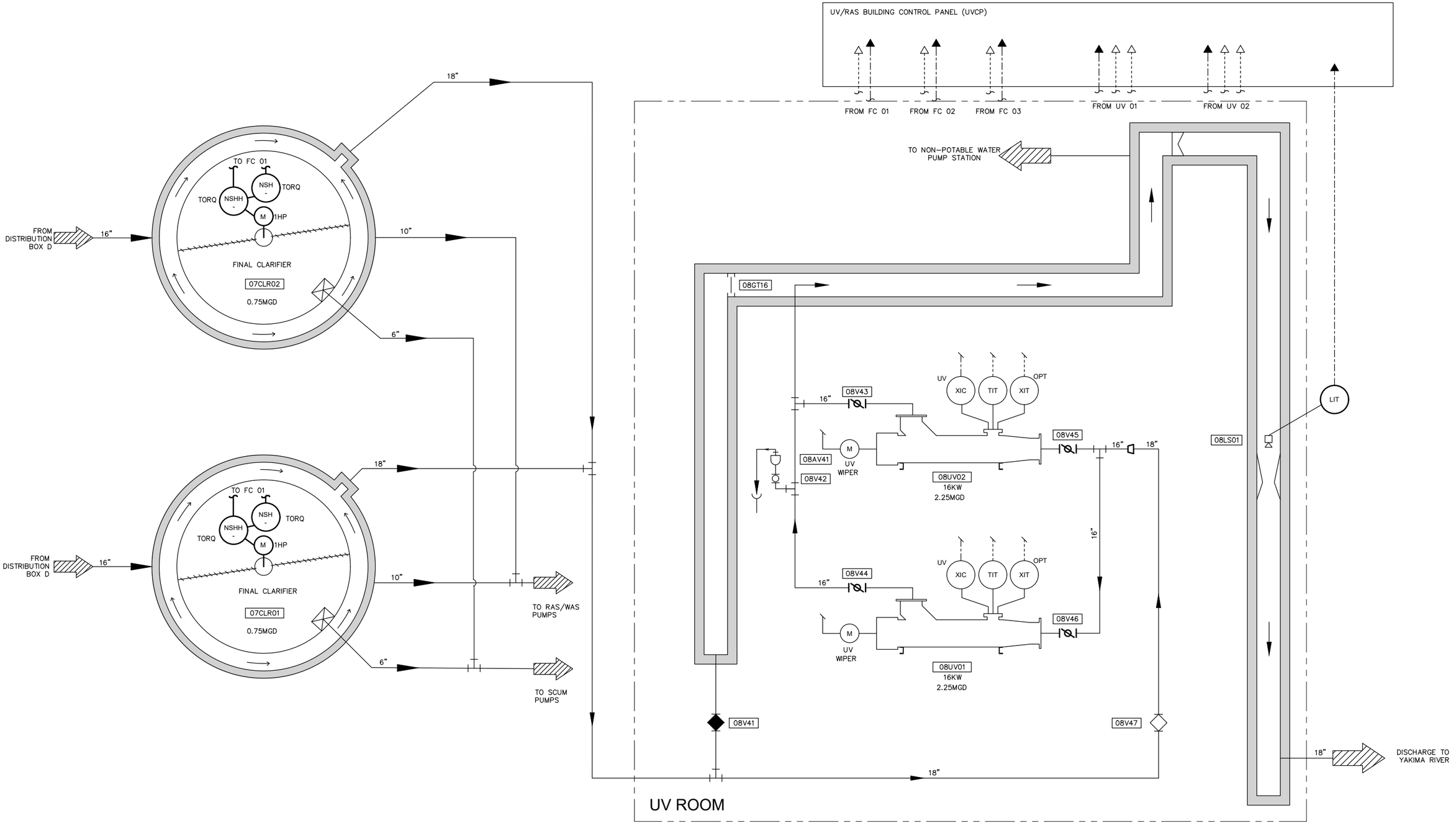
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WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1
P&ID – INFLUENT PUMP STATION

G-9

SHEET 9 OF 192



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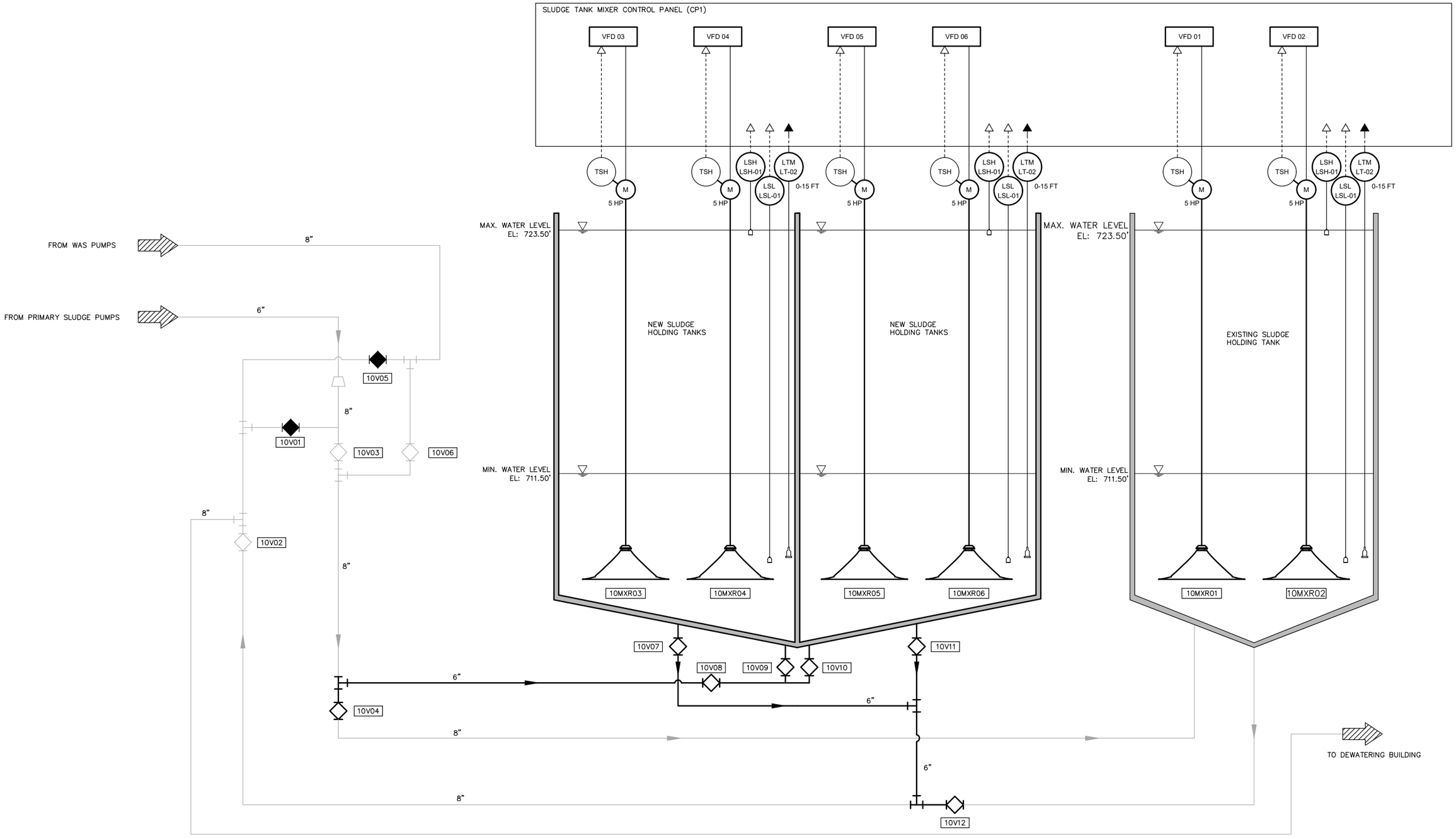
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WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1

P&ID – FINAL CLARIFIERS AND UV ROOM

G-10

SHEET 10 OF 192



SCHEDULE A

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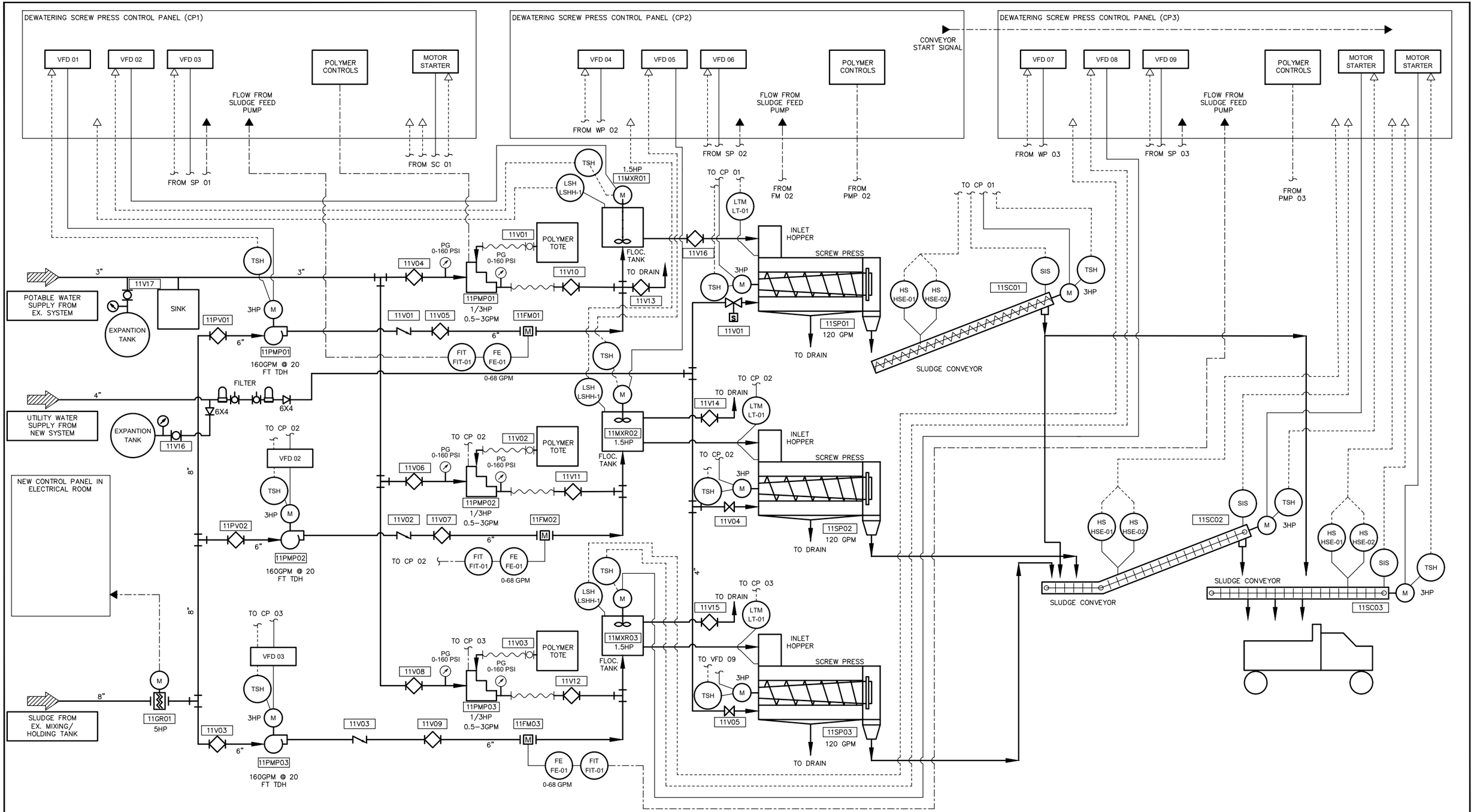
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P&ID – SLUDGE HOLDING TANKS

G-11

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DEWATERING BUILDING

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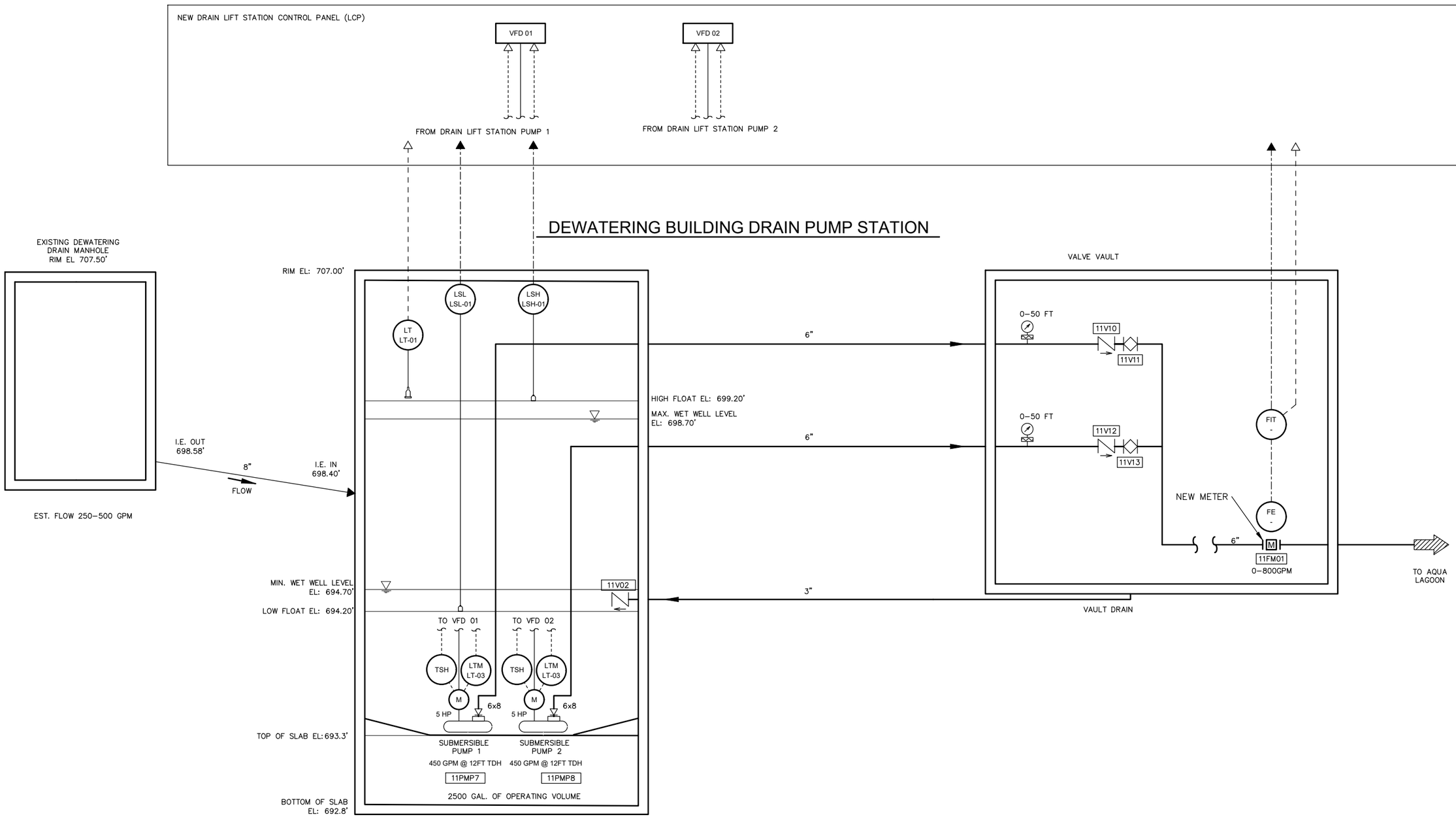
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P&ID – DEWATERING BUILDING

G-12

SHEET 12 OF 192



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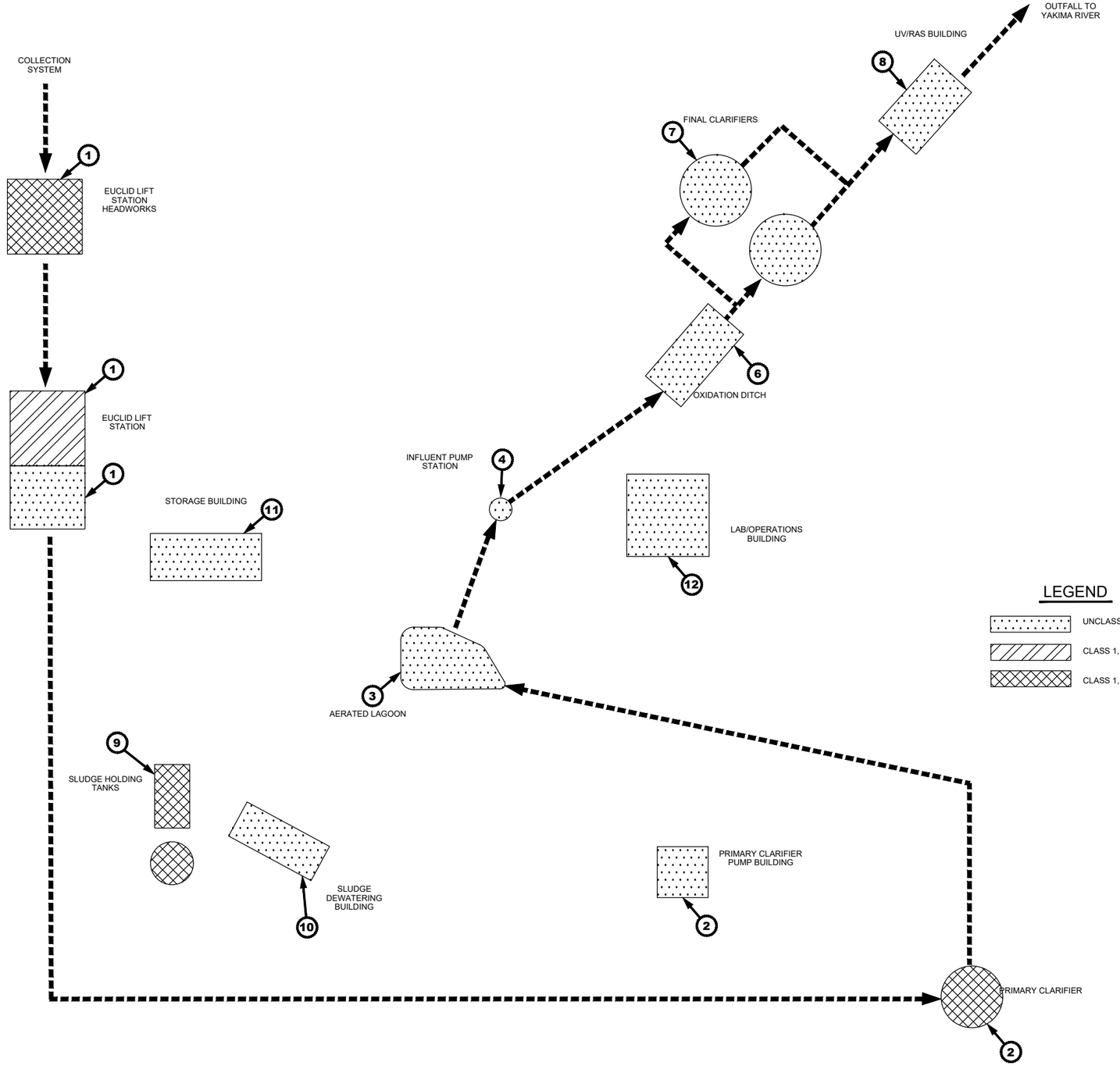
P&ID – DRAIN LIFT STATION

G-13

SHEET 13 OF 192

SUMMARY OF ELECTRICAL HAZARDOUS LOCATION CLASSIFICATIONS

NUMBER	EXISTING/PLANNED INSTALLATION	EFFECTIVE LOCATION EXTENTS (FT)	CLASSIFICATION
1	EUCLID LIFT STATION HEADWORKS	WITHIN 10' ENVELOPE AROUND EQUIPMENT AND OPEN CHANNEL	CLASS 1 DIVISION 2
1	EUCLID LIFT STATION WET WELL	ENTIRE ROOM OR SPACE, 5 FT BEYOND VENT PLUS 18 IN.	CLASS 1, DIVISION 1
1	EUCLID LIFT STATION DRY WELL	ENTIRE BUILDING	UNCLASSIFIED
2	PRIMARY CLARIFIERS	INTERIOR OF TANK, ENVELOPE 18 IN ABOVE TOP OF WALL, EXTENDING 10 FT HORIZONTALLY FROM EXTERIOR WALLS.	CLASS 1, DIVISION 2
2	PRIMARY CLARIFIER PUMP BUILDING	ENTIRE BUILDING	UNCLASSIFIED
3	AERATED LAGOONS	ENTIRE LAGOONS	UNCLASSIFIED
4	INFLUENT PUMP STATION	ENTIRE STRUCTURE	UNCLASSIFIED
6	OXIDATION DITCH	ENTIRE STRUCTURE	UNCLASSIFIED
7	FINAL CLARIFEIRS	ENTIRE STRUCTURE	UNCLASSIFIED
8	UV/RAS BUILDING	ENTIRE BUILDING	UNCLASSIFIED
9	SLUDGE HOLDING TANKS	INTERIOR OF TANK, ENVELOPE 18 IN ABOVE TOP OF WALL EXTENDING 10 FT. HORIZONTALLY FROM EXTERIOR WALLS.	CLASS 1, DIVISION 2
10	SLUDGE DEWATERING BUILDING	ENTIRE BUILDING	UNCLASSIFIED
11	STORAGE BUILDING	ENTIRE BUILDING	UNCLASSIFIED
12	LAB/OPERATIONS BUILDING	ENTIRE BUILDING	UNCLASSIFIED
13	GAME POND CHLORINATION PUMP STATION	ENTIRE STRUCTURE	UNCLASSIFIED



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WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1
ELECTRICAL HAZARDOUS AREA CLASSIFICATION

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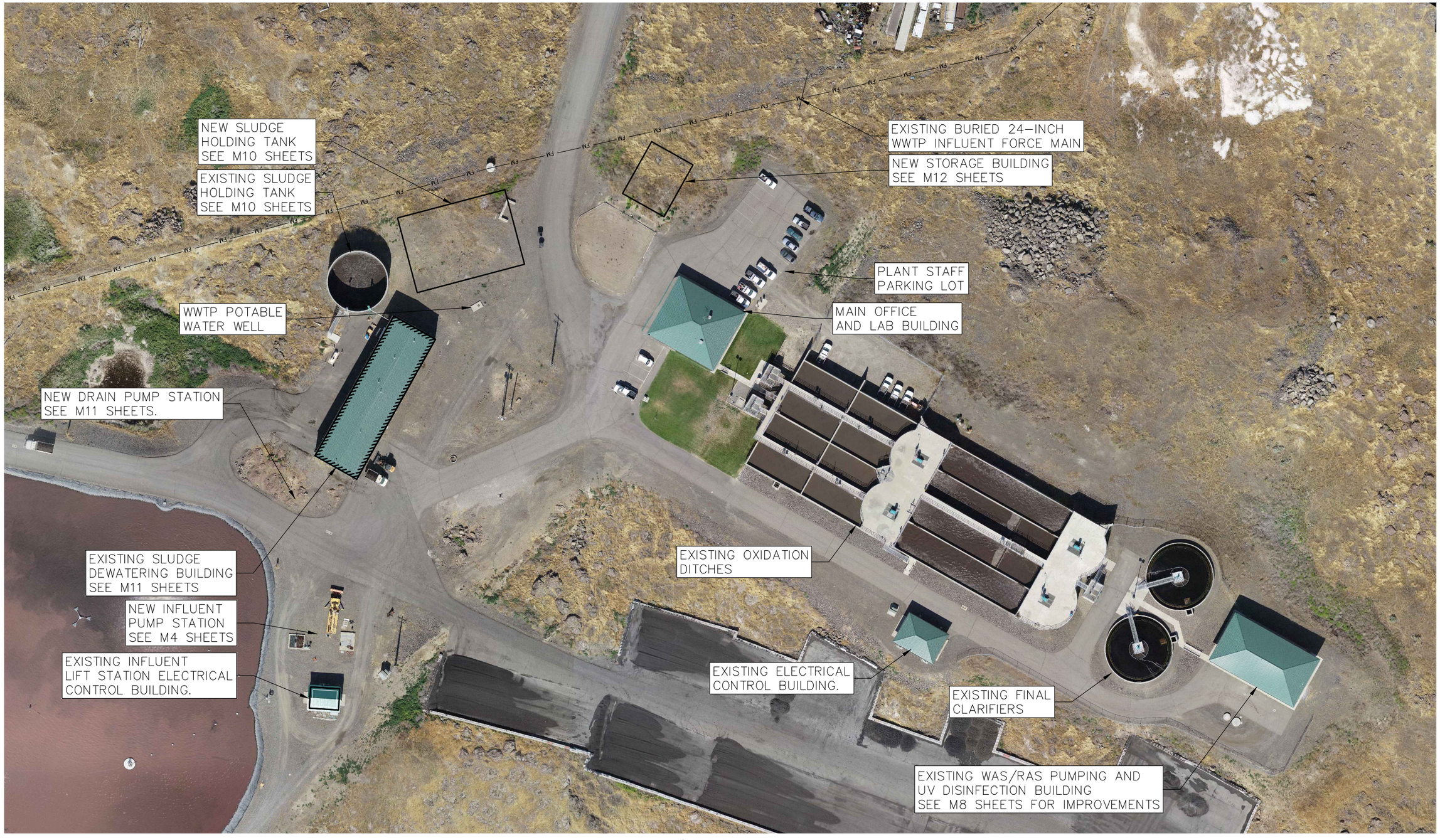
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WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1
OVERALL SITE MAP

G-15

SHEET 15 OF 192



SITE PLAN

0 20' 40' 80'

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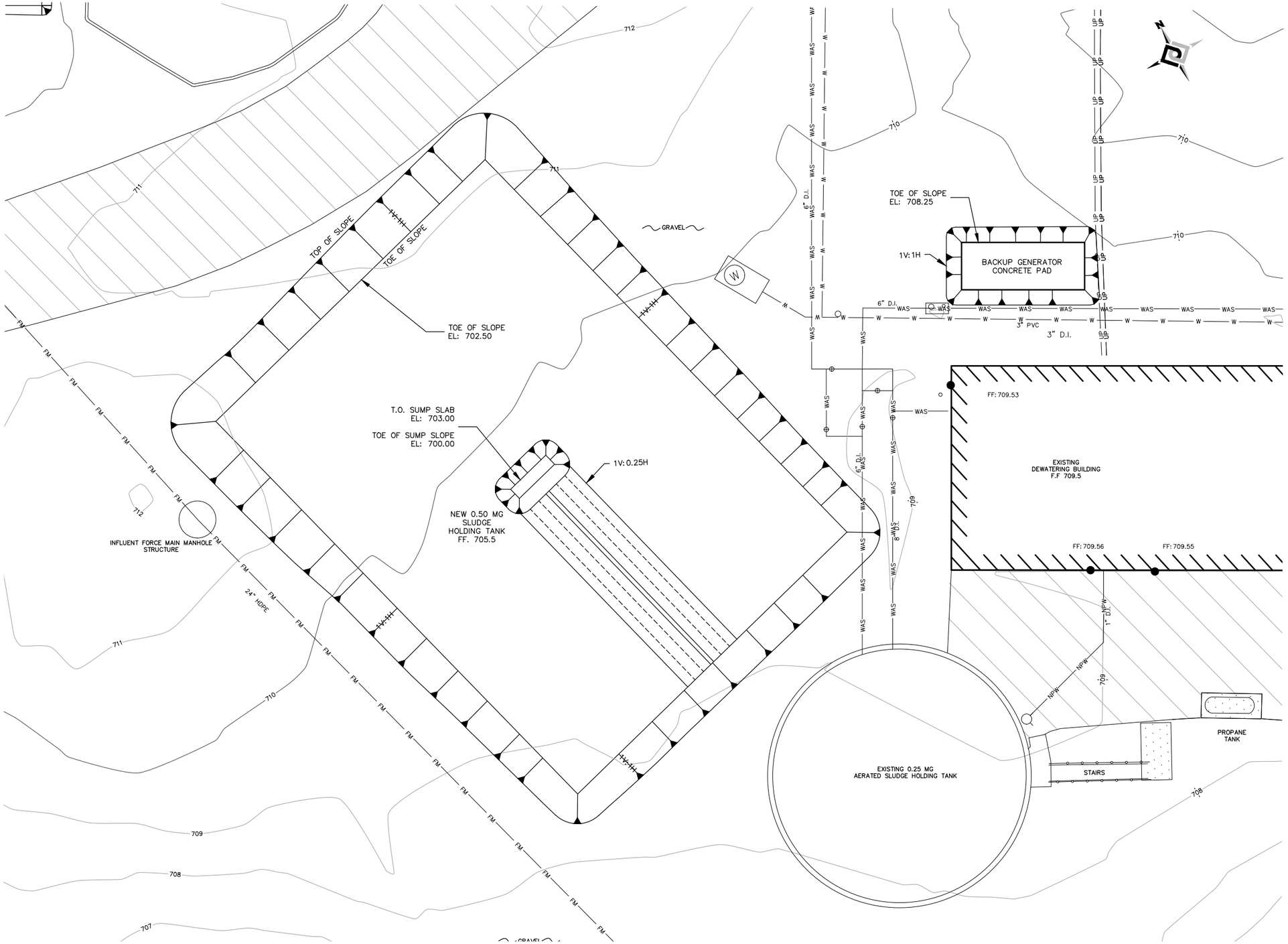
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WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1

OVERALL TREATMENT PLANT SITE PLAN

C-1

SHEET 16 OF 192



GENERAL SITE GRADING AND DRAINAGE NOTES

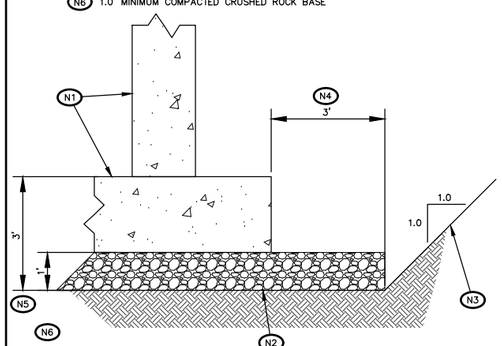
0 5' 10' 20'

1. THE CONTRACTOR SHALL VERIFY THE DEPTH AND LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO SITE GRADING. NOTIFY THE ENGINEER IF FINAL ELEVATIONS SHOWN CONFLICT WITH EXISTING UTILITY ELEVATIONS.
2. EXCAVATED MATERIAL CONTAINING VEGETATION, ORGANIC, OR ANY OTHER UNSUITABLE MATERIALS SHALL NOT BE USED FOR BACKFILL AREAS AND SHALL BE HAULED TO WASTE.
3. ALL EXCAVATED NATIVE MATERIAL, INCLUDING EXCAVATED ROCK, USED AS FILL SHALL BE SUBJECT TO THE REQUIREMENTS FOR IMPORTED GRAVEL BORROW. SEE SECTION 31 14 11 OF THE SPECIFICATIONS.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING ALL FINAL GRADING QUANTITIES REQUIRED TO BALANCE EXCAVATED MATERIAL. NO ADDITIONAL PAYMENT WILL BE MADE FOR IMPORTING OR EXPORTING EXCESS MATERIAL HAULED TO OR FROM THE SITE.
5. THE FINAL CONTOURS AND ELEVATIONS SHOWN REPRESENT FINISHED SURFACE ELEVATIONS. ALL NECESSARY ADJUSTMENTS TO THE SUBGRADE ELEVATIONS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
6. SPOT ELEVATIONS SHALL TAKE PRECEDENCE OVER CONTOURS AND SLOPES SHOWN. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF SPOT ELEVATIONS THAT DO NOT APPEAR TO BE CONSISTENT WITH THE CONTOURS AND SLOPES.
7. UNLESS OTHERWISE SHOWN OR DIRECTED BY THE ENGINEER, NO SLOPE SHALL EXCEED 3:1.
8. ALL UTILITIES (MANHOLES, VALVE COVERS, CLEANOUTS, VAULTS, BOXES, ETC.) SHALL BE ADJUSTED TO FINAL GRADE PRIOR TO PLACEMENT OF FINAL SURFACING.
9. REMOVE EXISTING ASPHALT, CONCRETE, STRUCTURES, UTILITIES, FENCING, AND OTHER EXISTING FEATURES AS REQUIRED TO CONSTRUCT NEW SITE GRADING AND DRAINAGE IMPROVEMENTS, TYP.
10. REMOVE AND STOCKPILE EXISTING GRAVEL SURFACING FOR USE AS FINAL GRAVEL SURFACING AROUND PROJECT SITE, TYPICAL.

SCHEDULE A

DETAIL NOTES

- (N1) SEE PLANS FOR STRUCTURAL DETAILS
- (N2) FOUNDATION EXCAVATION LINE
- (N3) MAINTAIN SLOPE TO CATCH EXISTING GROUND
- (N4) 1.0' MINIMUM EXCAVATION BEYOND STRUCTURE LOCATION
- (N5) 3.0' FROM FINISHED SLUDGE HOLDING TANK SLAB TO TOP OF SUBGRADE (SEE STRUCTURAL PLANS
- (N6) 1.0' MINIMUM COMPACTED CRUSHED ROCK BASE



TYPICAL SECTION AT SLUDGE HOLDING TANK
1" = 0'-6"

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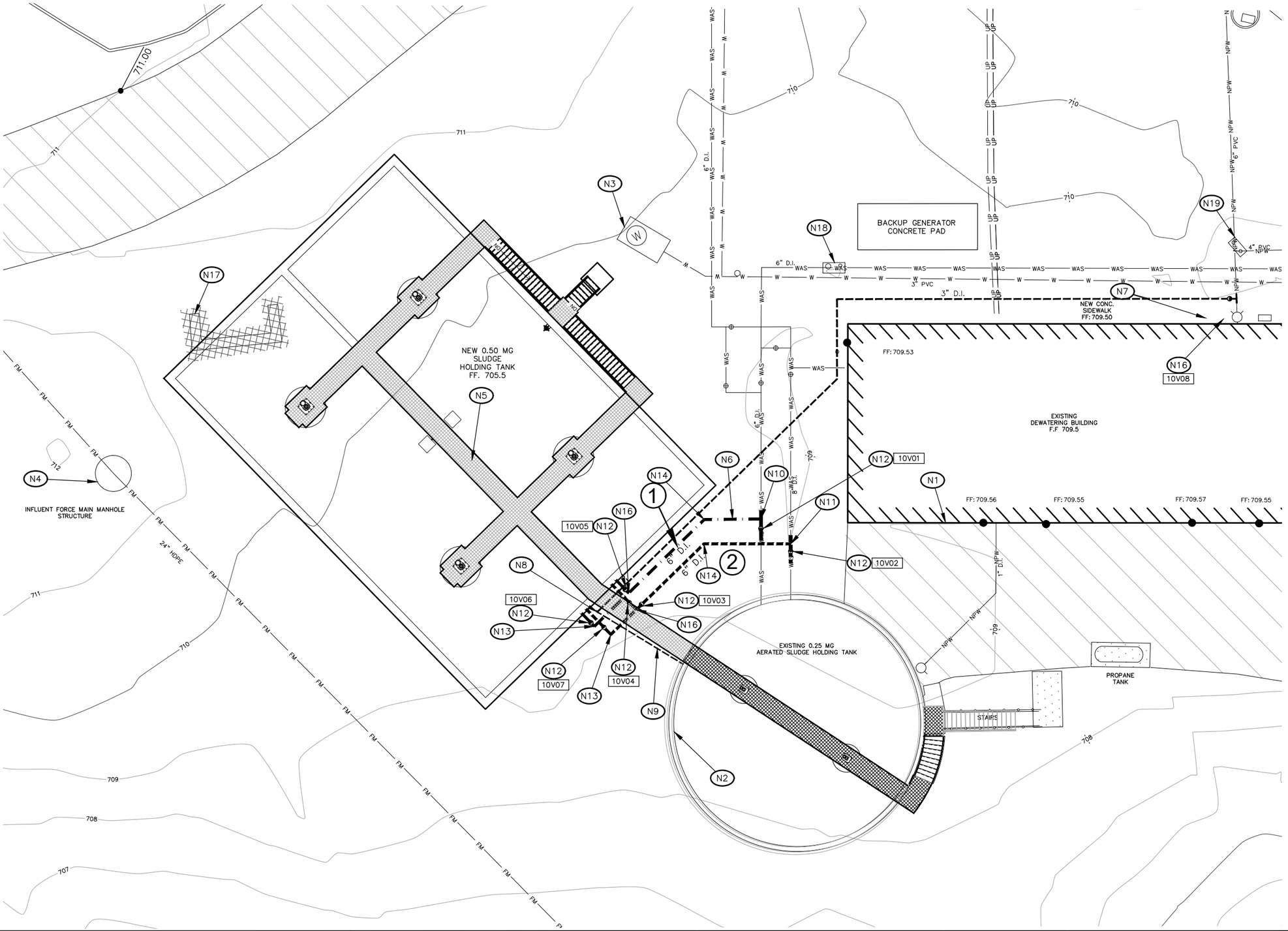
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WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1

PARTIAL EXCAVATION PLAN – SW

C-2

SHEET 17 OF 192



0 5' 10' 20'

CONSTRUCTION NOTES

- (N1) EX. DEWATERING BUILDING.
- (N2) EX. SLUDGE HOLDING TANK.
- (N3) EX. POTABLE WATER WELL.
- (N4) EX. AIR RELEASE VAULT.
- (N5) NEW SLUDGE HOLDING TANK
- (N6) INSTALL 6" GLASS-LINED D.I WAS PIPING FROM EXISTING SLUDGE HOLDING TANK INLET/OUTLET PIPING TO NEW SLUDGE HOLDING TANK INLET/OUTLET.
- (N7) INSTALL 3" D.I. NON POTABLE PIPING FROM EXISTING 4" NON-POTABLE PIPING. INSTALL 4" X 3" D.I. MJ TEE, 3" MJ GATE VALVE, AND MJ SOLID SLEEVE RESTRAINED COUPLING AS REQUIRED FOR CONNECTION TO EXISTING 4" PIPING.
- (N8) INSTALL 3" MJ TEE, (2) EA. 2" CURB STOP BALL VALVES AND VALVE BOXES.
- (N9) INSTALL 2" PEX IRRIGATION PIPING TO SLUDGE HOLDING TANKS AS SHOWN. TRANSITION TO 1-1/2" GI RISER PIPE AND FITTING UP TANK WALL. SEE CONTINUATION ON M-10 SHEETS.
- (N10) REMOVE PORTION OF EXISTING 6" WAS INLET PIPING AS REQUIRED FOR INSTALLATION OF NEW 6" WAS PIPING CONNECTION. INSTALL 6" D.I. MJ TEE, 6" D.I. PE SPOOL, 6" MJ PLUG VALVE SOUTH OF TEE, AND MJ SOLID SLEEVE OR ROMAC ALPHA RESTRAINED COUPLING AS REQUIRED FOR CONNECTION TO EXISTING 6" PIPING.
- (N11) REMOVE PORTION OF EXISTING 8" WAS OUTLET PIPING AS REQUIRED FOR INSTALLATION OF NEW 6" WAS PIPING CONNECTION. INSTALL 8" X 6" D.I. MJ TEE, 8" D.I. PE SPOOL, 8" MJ PLUG VALVE SOUTH OF TEE, AND MJ SOLID SLEEVE OR ROMAC ALPHA RESTRAINED COUPLING AS REQUIRED FOR CONNECTION TO EXISTING 8" PIPING.
- (N12) INSTALL 6" MJ PLUG VALVE WITH 2" OPERATING NUT AND VALVE BOX.
- (N13) INSTALL 6" D.I. MJ 90° ELBOW.
- (N14) INSTALL 6" D.I. MJ 45° ELBOW.
- (N15) INSTALL 6" D.I. MJ TEE.
- (N16) INSTALL 3" MJ PLUG VALVE WITH 2" OPERATING NUT AND VALVE BOX.
- (N17) EX. ECOLOGY BLOCKS. REMOVE AND SALVAGE TO OWNER.
- (N18) EX. VALVE AND CLEANOUT.
- (N19) EX. NPW VALVE.

GENERAL NOTES:

(#) = DENOTES PIPE PROFILE NUMBER. SEE SHEET C-10.

SCHEDULE A

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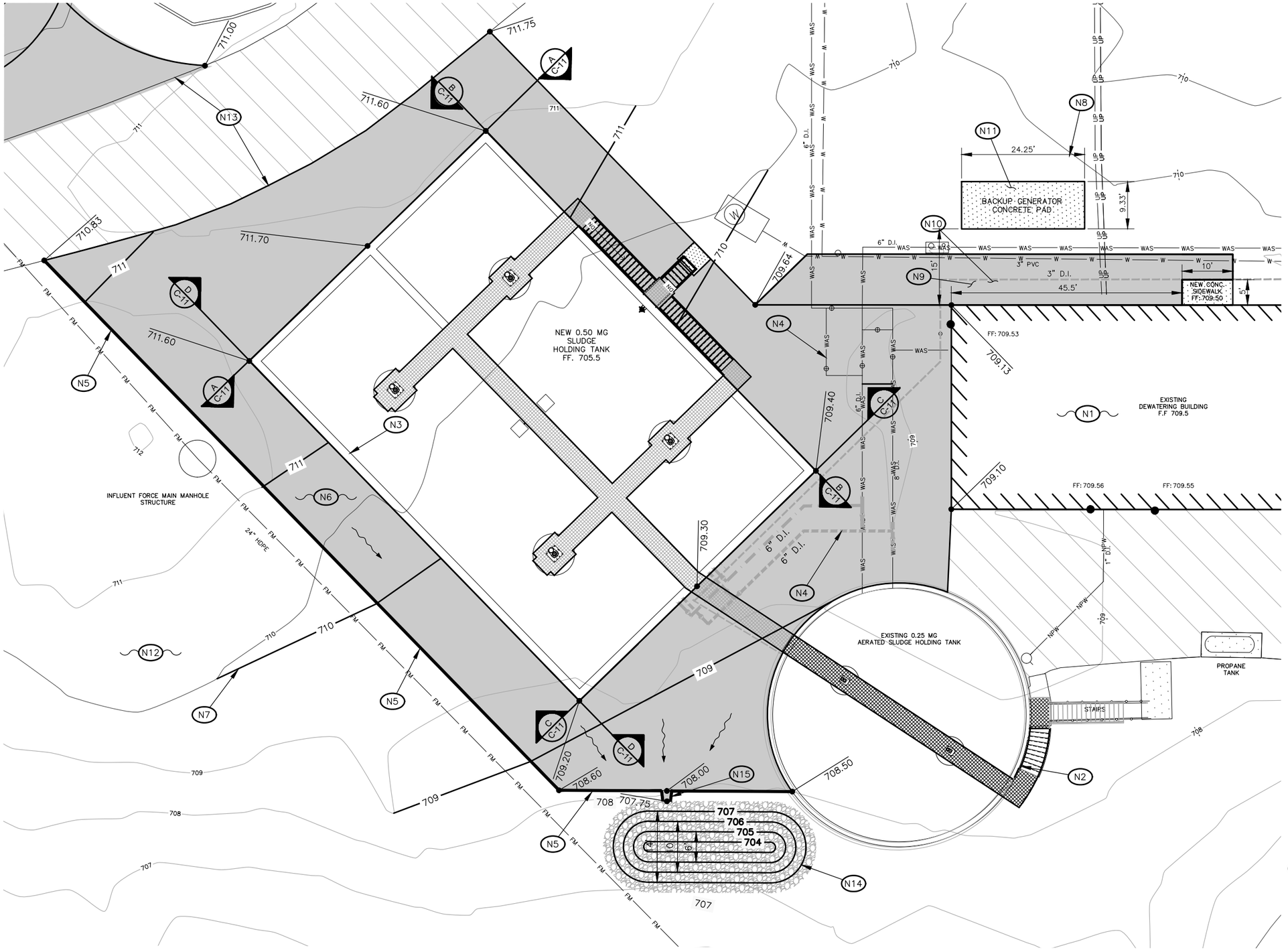
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WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1

PARTIAL SITE PIPING PLAN – SW

C-3

SHEET 18 OF 192



CONSTRUCTION NOTES

- (N1) EXISTING SLUDGE DEWATERING BUILDING.
- (N2) EXISTING SLUDGE MIXING/HOLDING TANK. SEE M-10 SHEETS.
- (N3) NEW SLUDGE HOLDING TANK STRUCTURE. SEE M-10 SHEETS.
- (N4) PROCESS PIPING, TYPICAL. SEE SHEET C-2.
- (N5) INSTALL 6" ROLLED ASPHALT CURB AT EDGE OF PAVEMENT
- (N6) HMA PAVEMENT, TYPICAL. SEE PAVEMENT SECTION DETAIL SHEET GC-1.
- (N7) NEW GRADING. BLEND IN NEW CONTOURS AS SHOWN.
- (N8) INSTALL 12" THICK CONCRETE GENERATOR ISOLATION PAD OVER 6" MIN. COMPACTED DEPTH CRUSHED SURFACING BASE COURSE. TOP OF PAD ELEVATION 709.50 FEET. REINFORCE WITH #5 @ 12" O.C. EACH WAY TOP AND BOTTOM, 3" CLR FROM TOP & BOTTOM. SECURE GENERATOR TO PAD WITH MIN. (8) EA 5/8" DIAM. A36 GALVENIZED ADHESIVE ANCHORS, 6" MIN. EMBEDMENT INTO CONCRETE PAD. SEE GENERATOR MANUFACTURER DRAWING FOR ANCHOR BOLT QUANTITY, SIZE AND LAYOUT.
- (N9) SEE ELECTRICAL SHEETS FOR ADDITIONAL EXISTING UNDERGROUND CIRCUIT PRESERVATION/PROTECTION REQUIREMENTS.
- (N10) CONTRACTOR TO PERFORM SURFACE RESTORATION AFTER CONSTRUCTION OF NEW ELECTRICAL CONDUITS. SEE ELECTRICAL SHEETS FOR DETAILS.
- (N11) CONTRACTOR-FURNISHED STANDBY GENERATOR. SEE ELECTRICAL SHEETS FOR ADDITIONAL INFORMATION.
- (N12) CONTRACTOR TO RE-GRADE WITH NATIVE MATERIALS.
- (N13) MATCH EXISTING ASPHALT ELEVATION.
- (N14) STORMWATER INFILTRATION SWALE, BOTTOM AREA APPROXIMATELY 50 SQ FT., VOLUME AT ELEVATION 708.0 FT. APPROXIMATELY 750 CUFT. INSTALL 6" MIN. DEPTH CRUSHED BASALT SURFACING OVER NON-WOVEN GEOTEXTILE TO LIMITS SHOWN.
- (N15) ASPHALT SPILL APRON TO NEW INFILTRATION SWALE.
- (N16) NEW CONCRETE SIDEWALK WITH THICKENED EDGE. COORDINATE LOCATION AND CENTER SIDEWALK ON NEW DEWATERING BUILDING METAL DOORS.

GENERAL SITE GRADING AND DRAINAGE NOTES

1. SEE GENERAL NOTES SHEET G-4

SCHEDULE A

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JAKOB W. MICHAEL — STATE OF WASHINGTON — 24009293 — REGISTERED PROFESSIONAL ENGINEER

ROBERT J. SCOTT — STATE OF WASHINGTON — 46421 — REGISTERED PROFESSIONAL ENGINEER

REVISION	DATE

JOB NUMBER: 23030 | DATE: 3/13/2026

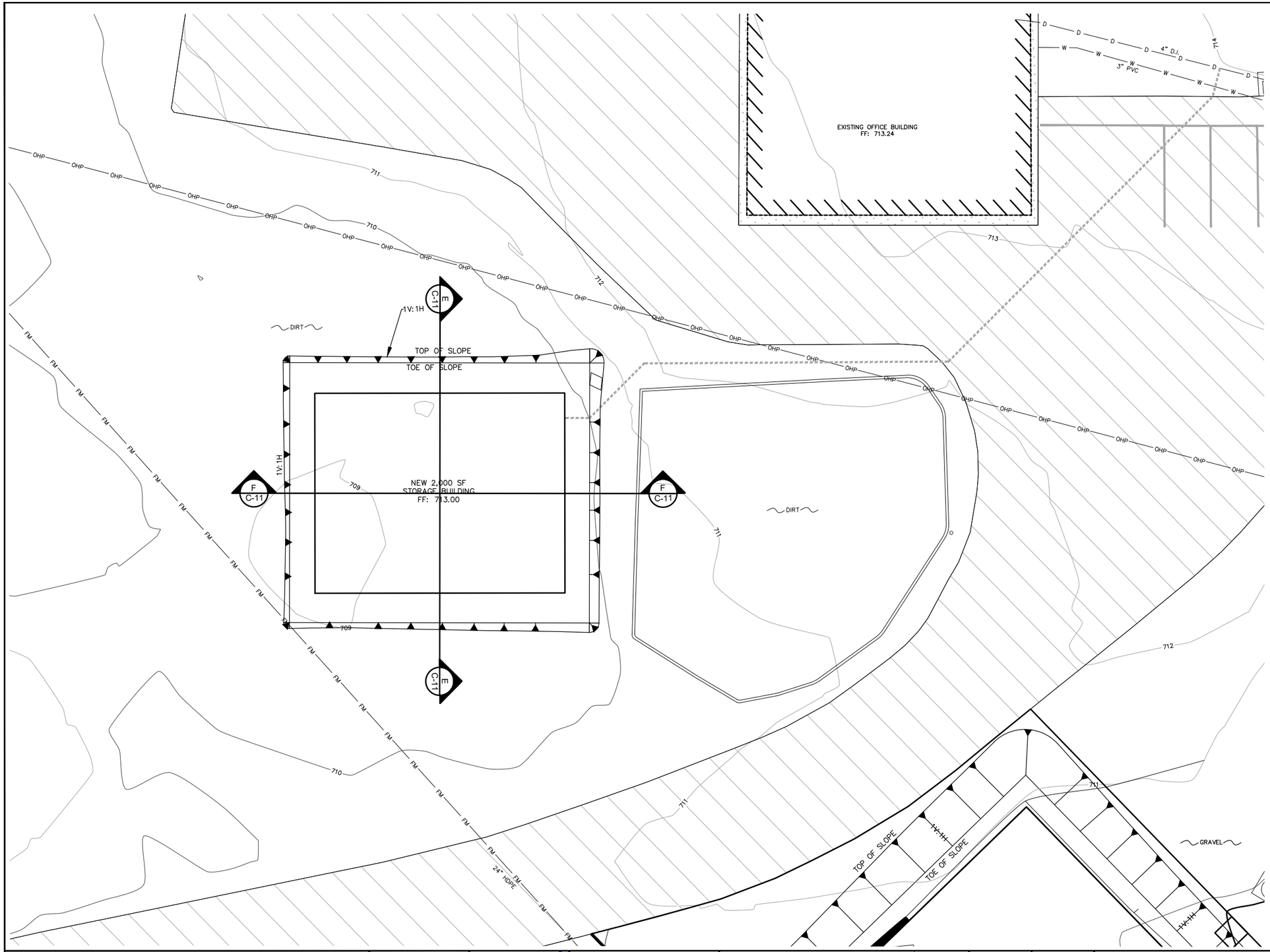
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ENTERED BY: KWC/KRN

CITY OF GRANDVIEW
WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1
PARTIAL GRADING PLAN – SW

C-4

SHEET 19 OF 192



0 5' 10' 20'

GENERAL SITE GRADING AND DRAINAGE NOTES

1. THE CONTRACTOR SHALL VERIFY THE DEPTH AND LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO SITE GRADING. NOTIFY THE ENGINEER IF FINAL ELEVATIONS SHOWN CONFLICT WITH EXISTING UTILITY ELEVATIONS.
2. EXCAVATED MATERIAL CONTAINING VEGETATION, ORGANIC, OR ANY OTHER UNSUITABLE MATERIALS SHALL NOT BE USED FOR BACKFILL AREAS AND SHALL BE HAULED TO WASTE.
3. ALL EXCAVATED NATIVE MATERIAL, INCLUDING EXCAVATED ROCK, USED AS FILL SHALL BE SUBJECT TO THE REQUIREMENTS FOR IMPORTED GRAVEL BORROW. SEE SECTION 31 14 11 OF THE SPECIFICATIONS.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING ALL FINAL GRADING QUANTITIES REQUIRED TO BALANCE EXCAVATED MATERIAL. NO ADDITIONAL PAYMENT WILL BE MADE FOR IMPORTING OR EXPORTING EXCESS MATERIAL HAULED TO OR FROM THE SITE.
5. THE FINAL CONTOURS AND ELEVATIONS SHOWN REPRESENT FINISHED SURFACE ELEVATIONS. ALL NECESSARY ADJUSTMENTS TO THE SUBGRADE ELEVATIONS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
6. SPOT ELEVATIONS SHALL TAKE PRECEDENCE OVER CONTOURS AND SLOPES SHOWN. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF SPOT ELEVATIONS THAT DO NOT APPEAR TO BE CONSISTENT WITH THE CONTOURS AND SLOPES.
7. UNLESS OTHERWISE SHOWN OR DIRECTED BY THE ENGINEER, NO SLOPE SHALL EXCEED 3:1.
8. ALL UTILITIES (MANHOLES, VALVE COVERS, CLEANOUTS, VAULTS, BOXES, ETC.) SHALL BE ADJUSTED TO FINAL GRADE PRIOR TO PLACEMENT OF FINAL SURFACING.
9. REMOVE EXISTING ASPHALT, CONCRETE, STRUCTURES, UTILITIES, FENCING, AND OTHER EXISTING FEATURES AS REQUIRED TO CONSTRUCT NEW SITE GRADING AND DRAINAGE IMPROVEMENTS, TYP.
10. REMOVE AND STOCKPILE EXISTING GRAVEL SURFACING FOR USE AS FINAL GRAVEL SURFACING AROUND PROJECT SITE, TYPICAL.

SCHEDULE B

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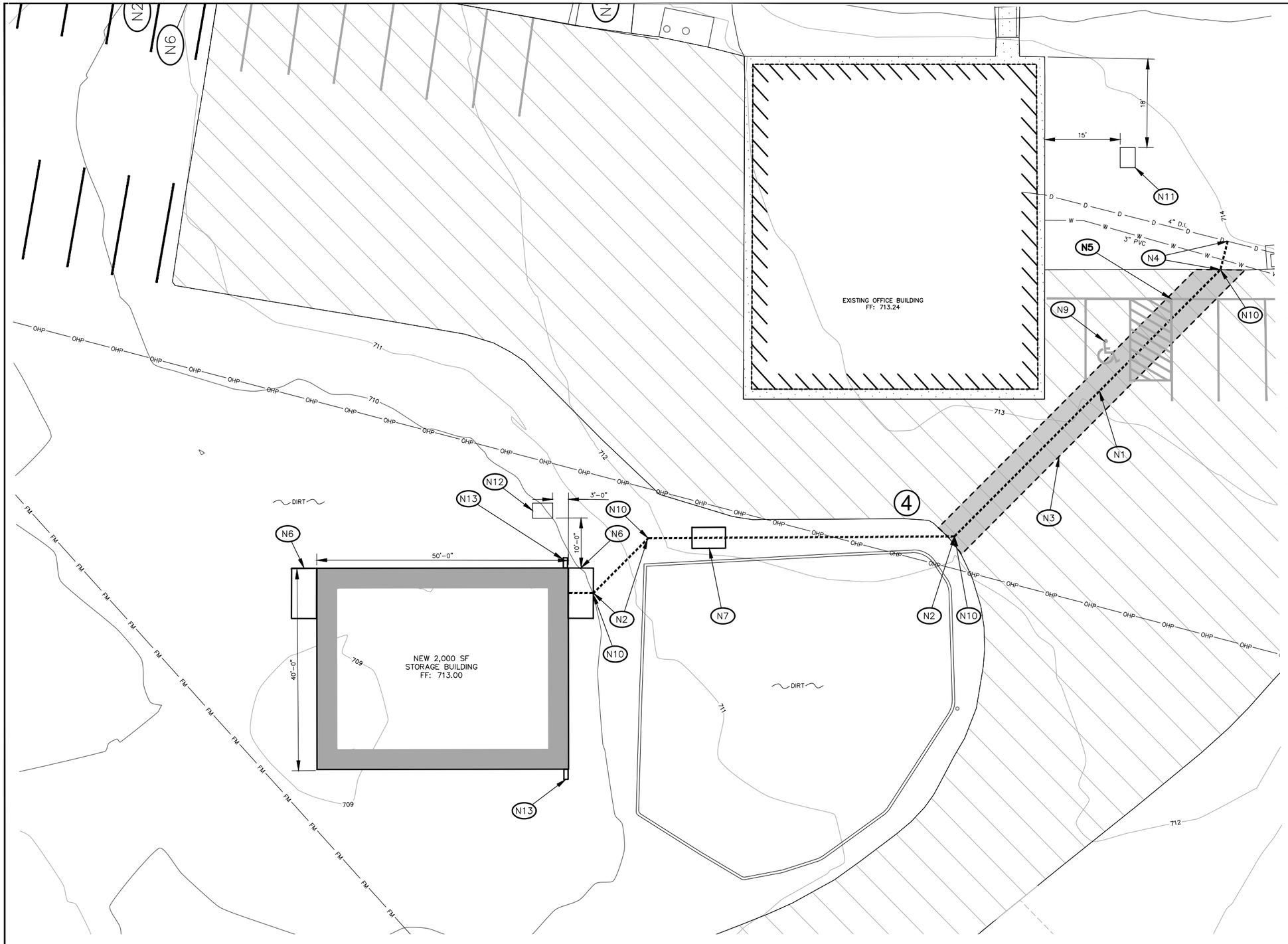
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CITY OF GRANDVIEW
WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1

PARTIAL EXCAVATION PLAN – N

C-5

SHEET 20 OF 192



NOTES

(N1) 4" D.I. PIPE

(N2) 4" D.I. 45° ELBOW

(N3) RESTORE ASPHALT PAVEMENT PER DETAIL SHEET GC-2/3.3.

(N4) CONNECT TO EXISTING DRAINAGE PIPING W/ SANITARY TEE. INSTALL 4" MJ TEE, 22.5° BEND, AND (2) 4" SLEEVE COUPLINGS TO CONNECT TO NEW 4" D.I. DRAIN PIPING TO EX. 4" D.I. PIPING. DEFLECT PIPING & FITTINGS W/ IN MFG REQUIREMENTS TO MAKE FINAL CONNECTION.

(N5) RE-PAINT PARKING STRIPES AS NEEDED AFTER TRENCH REPAIR.

(N6) 5' X 10' X 4" THICK MAN PAD.

(N7) INSTALL 200 GAL. ZURN OIL SEPERATOR TANK MODEL #GMC-OMC-SMC 50-300. OR EQUAL.

(N8) 9" CATCH BASIN (2 EACH) W/DUCTILE IRON GRATE (FOR DOWNSPOUTS). 4" OUTLET PIPE AND ±45 LF PVC DRAIN PIPE 4" DIA. @ S=0.02 FT./FT. MIN NDS PART #900 W/ #913 GRATE. RIM ELEVATION 713.00. I.E. OUT 711.5.

(N9) PAINT HANDICAP STALL PER DETAIL 3.1/GC-2.

(N10) INSTALL CLEANOUT PER DETAIL 3.4/GC-1.

(N11) INSTALL 3'-0" X 4'-0" X 0'-8" THICK CONCRETE TRANSFORMER HOUSEKEEPING PAD OVER 4" MIN. COMPACTED DEPTH CRUSHED SURFACING BASE COURSE. TOP OF PAD ELEVATION 714.00 FEET. REINFORCE WITH #5 @ 12" O.C. EACH WAY CENTERED IN PAD. SECURE EQUIPMENT TO PAD WITH STAINLESS STEEL ANCHORS, SEE ELECTRICAL SPECIFICATIONS.

(N12) INSTALL 3'-0" X 4'-0" X 0'-8" THICK CONCRETE TRANSFORMER HOUSEKEEPING PAD OVER 4" MIN. COMPACTED DEPTH CRUSHED SURFACING BASE COURSE. TOP OF PAD ELEVATION 713.00 FEET. REINFORCE WITH #5 @ 12" O.C. EACH WAY CENTERED IN PAD. SECURE EQUIPMENT TO PAD WITH STAINLESS STEEL ANCHORS, SEE ELECTRICAL SPECIFICATIONS.

(N13) APPROXIMATE LOCATION OF SPLASH PADS. REFER AND COORDINATE LOCATION WITH RAIN LEADER LOCATIONS. SEE DETAIL 2.5 ON SHEET GC-2.

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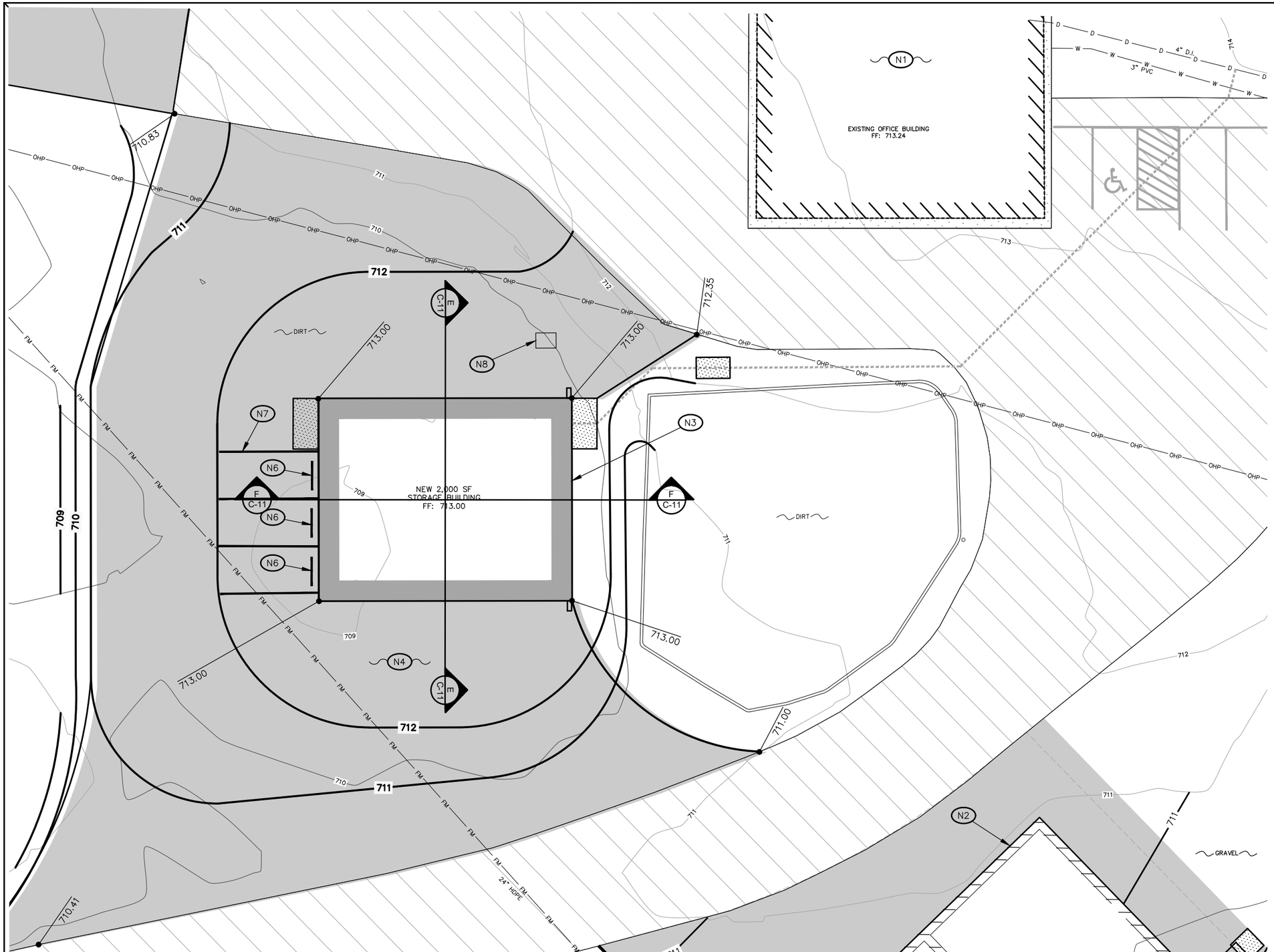
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CITY OF GRANDVIEW
WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1

PARTIAL SITE PIPING PLAN – N

C-6

SHEET 21 OF 192



0 5' 10' 20'

NOTES

- (N1) EXISTING OPERATIONS/LAB BUILDING.
- (N2) NEW SLUDGE HOLDING TANK STRUCTURE. SEE SHEETS M10.
- (N3) NEW STORAGE BUILDING. SEE SHEETS M12.
- (N4) HMA PAVEMENT, TYPICAL. SEE PAVEMENT SECTION DETAIL SHEET GC–1.
- (N5) NEW GRADING. BLEND IN NEW CONTOURS AS SHOWN.
- (N6) INSTALL NEW CURB STOP BUMPER PER DETAIL 1.1/GC–1.
- (N7) PAINT PARKING STALLS PER DETAIL 1.1/GC–2.
- (N8) NEW TRANSFORMER HOUSEKEEPING PAD. SEE SHEET C–6 FOR DETAILS.

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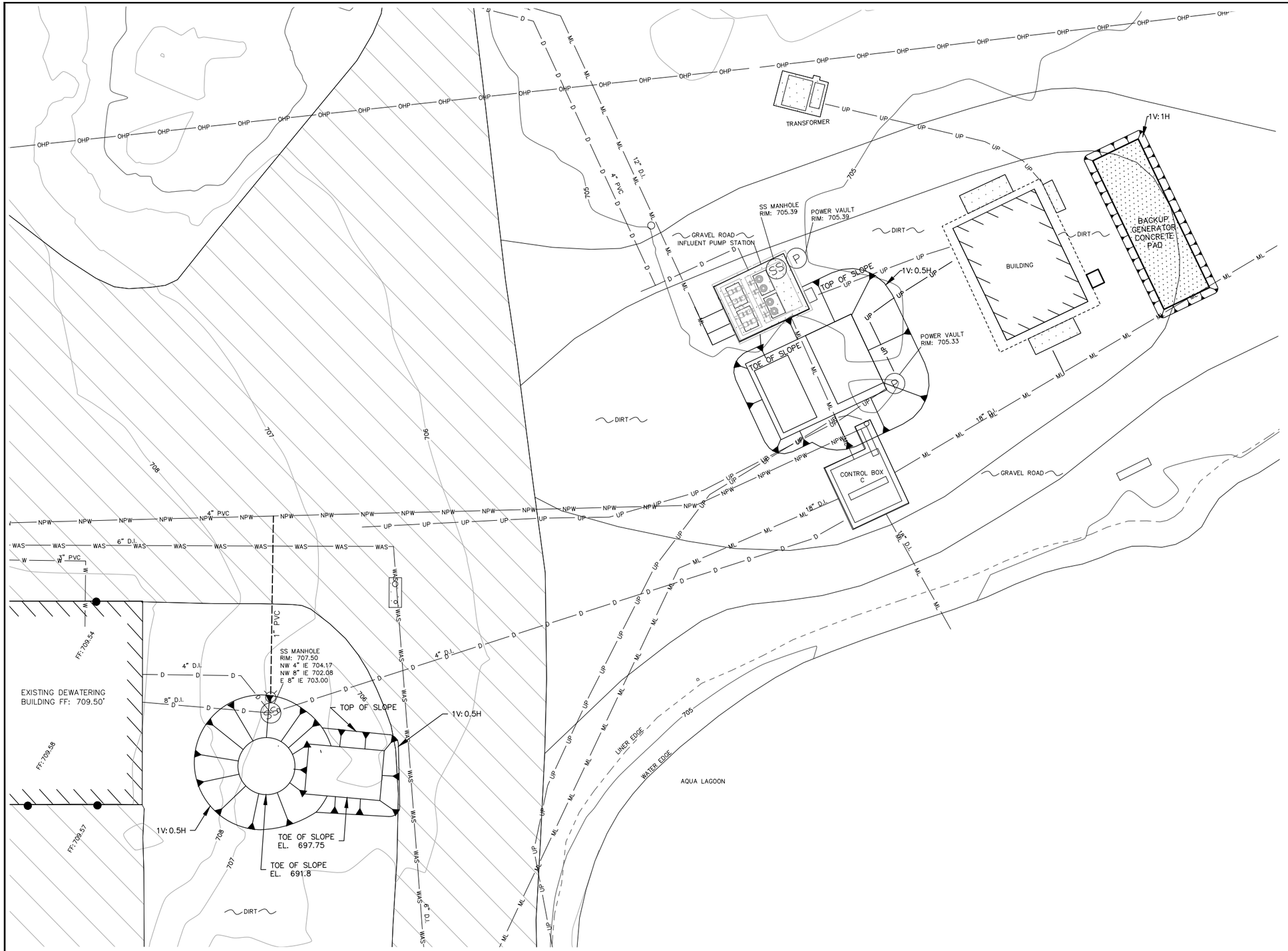
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CITY OF GRANDVIEW
WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1

PARTIAL GRADING PLAN – N

C-7

SHEET 22 OF 192



GENERAL SITE GRADING AND DRAINAGE NOTES

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SCHEDULE A & C

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WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1

PARTIAL EXCAVATION PLAN – E

C-8

SHEET 23 OF 192

DETAIL NOTES

(N1) EX. WATER SURFACE

(N2) EX. LINER ANCHOR

(N3) NEW 6" DI MJ 90° BEND

(N4) NEW 6" D.I. FLG 90° BEND

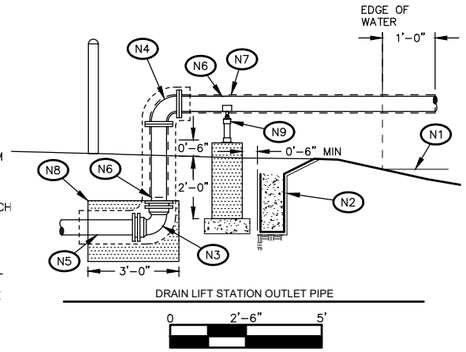
(N5) NEW 6" D.I. PE X PE SPOOL

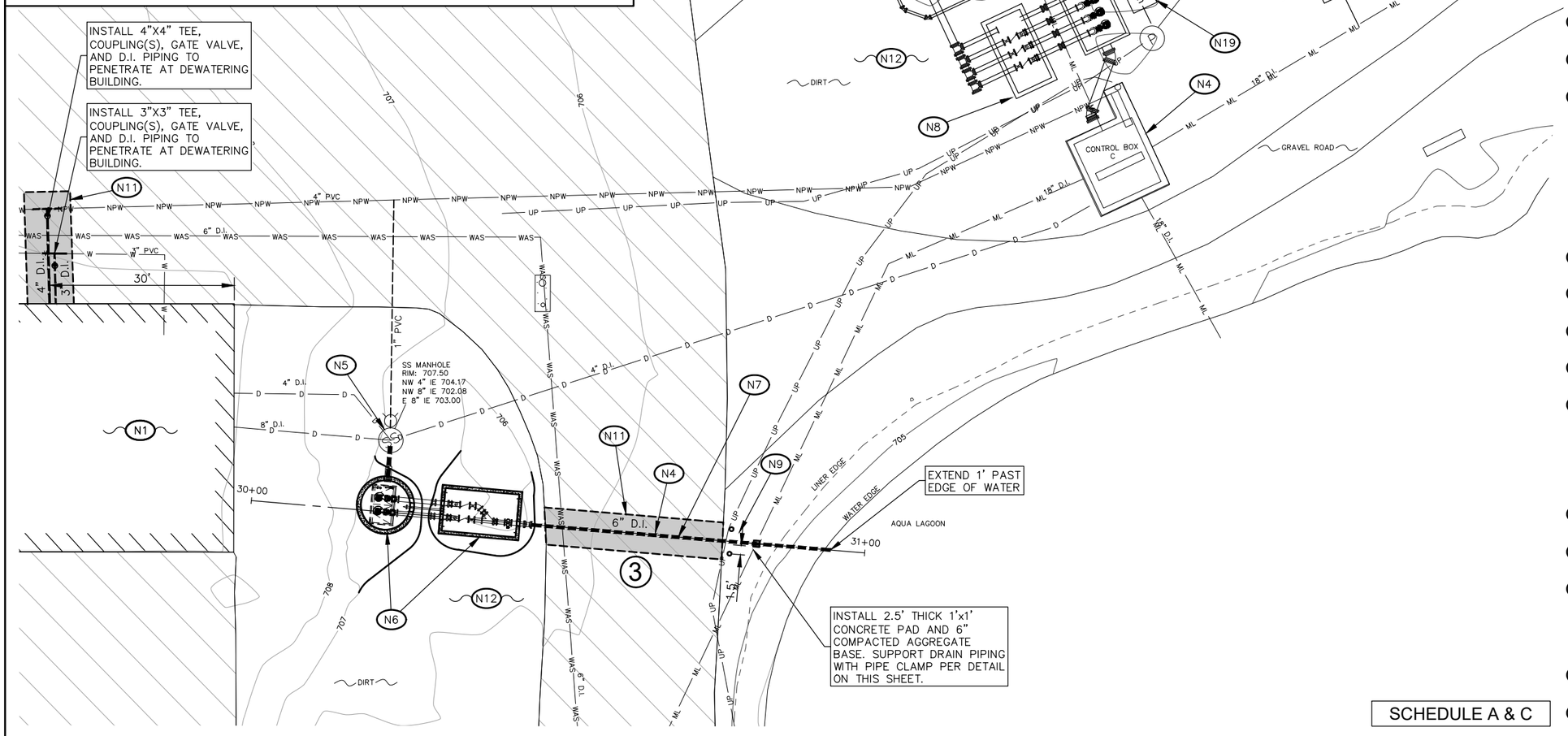
(N6) NEW 6" D.I. FLG X PE SPOOL

(N7) INSULATE NEW 6" PIPING WITH 1" MINIMUM THICKNESS PRE-FORMED WATER-REPELLANT MINERAL WOOL WITH PROTECTIVE ALUMINUM JACKETING. JACKETING MATERIAL SHALL BE 0.024-INCH THICK SMOOTH OR EMBOSSED ALUMINUM WITH INTEGRAL INTERIOR MOISTURE BARRIER. SEAL ALL JOINTS AN SECURE JACKETING WITH 1/2-INCH ALUMINUM BANDS AT 8-INCHES ON CENTER. INSTALL FACTORY-FORMED FITTINGS AROUND 90° ELBOW. PIPE INSULATION AND PROTECTIVE ALUMINUM JACKETING SHALL BE AS MANUFACTURED BY JOHNS MANVILLE, OR ENGINEER APPROVED EQUAL. WRAP UNDERGROUND INSULATION AROUND PIPE WITH POLYETHYLENE ENCASEMENT TO 90° BEND CONNECTION ABOVE GROUND.

(N8) PROVIDE CONCRETE ENCASEMENT AROUND MJ FITTING AND PIPING, APPROX. 3'X2'X2'.

(N9) ANCHORED PIPE STAND AND GROUT LEVELING PAD; STANDON OR EQUAL.





CONSTRUCTION NOTES

0 5' 10' 20'

(N1) EXISTING SLUDGE DE-WATERING BUILDING.

(N2) EX. INFLUENT LIFT STATION.

(N3) EX. ELECTRICAL CONTROL BUILDING.

(N4) EX. HYDRAULIC CONTROL BOX.

(N5) EX. DEWATERING DRAIN COLLECTION MANHOLE. CORE NEW 12" OUTLET SOUTHWEST FOR INSTALLATION OF NEW 12" PVC SDR 35 SEWER DRAINAGE PIPING. GROUT NEW OUTLET PIPING AT PENETRATION AND SEAL CONNECTION. GROUT BOTTOM OF EXISTING MANHOLE AND FORM/CORE CHANNEL TO NEW 12" OUTLET. INSTALL NEW 12" PVC SDR 35 PIPING TO NEW WET WELL. PROVIDE POSITIVE DRAINAGE FROM NEW OUTLET TO NEW WET WELL.

(N6) NEW DEWATERING DRAIN LIFT STATION INCLUDING 8' DIAMETER WET WELL AND CONTROL VALVE AND METER VAULT. CONTRACTOR TO REPAIR ASPHALT SURFACING DEMOLISHED DURING CONSTRUCTION OF NEW LIFT STATION. SEE M11 SHEETS FOR CONSTRUCTION DETAILS.

(N7) NEW 6" DEWATERING DRAIN FORCE MAIN. INSTALL 6" DI PIPING FROM VALVE VAULT TO NEW OUTLET INTO AQUA LAGOON. INSTALL (2) 90° VERTICAL BENDS OUTSIDE OF LAGOON LINER ANCHOR SECTION, AND EXTEND NEW 6" PIPING 0'-6" ABOVE CONCRETE PAD TO I.E. AND ROUTE PLAIN END OF HORIZONTAL PIPING 2' PAST EDGE OF EXPOSED LAGOON LINER. SUPPORT PIPING ON 2'X2' 1/4" STEEL PLATE, WELDED TO STANDON SADDLE SUPPORT, OR EQUAL. INSTALL DURABLE RUBBER MAT UNDER STEEL PLATE TO PREVENT LAGOON LINER PUNCTURE. SEE DETAIL THIS SHEET.

(N8) NEW INFLUENT LIFT STATION INCLUDING PRECAST WET WELL AND VALVE VAULT. SEE M-4 SHEETS FOR CONSTRUCTION DETAILS.

(N9) INSTALL (2) NEW 4" PROTECTIVE BOLLARDS AT PIPING SURFACE PENETRATION, 1'-0" FROM PIPE CENTERLINE.

(N10) INSULATE NEW 6" PIPING WITH 1" MINIMUM THICKNESS PRE-FORMED WATER-REPELLANT MINERAL WOOL WITH PROTECTIVE ALUMINUM JACKETING. JACKETING MATERIAL SHALL BE 0.024-INCH THICK SMOOTH OR EMBOSSED ALUMINUM WITH INTEGRAL INTERIOR MOISTURE BARRIER. SEAL ALL JOINTS AN SECURE JACKETING WITH 1/2-INCH ALUMINUM BANDS AT 8-INCHES ON CENTER. INSTALL FACTORY-FORMED FITTINGS AROUND 45° ELBOW. PIPE INSULATION AND PROTECTIVE ALUMINUM JACKETING SHALL BE AS MANUFACTURED BY JOHNS MANVILLE, OR ENGINEER APPROVED EQUAL. WRAP UNDERGROUND INSULATION AROUND PIPE WITH POLYETHYLENE ENCASEMENT TO 45° BEND CONNECTION ABOVE GROUND.

(N11) SAW CUT EXISTING ASPHALT SURFACING FOR INSTALLATION OF NEW PIPE. REPAIR ASPHALT TRENCH SURFACING PER DETAIL 3.3/GC-2.

(N12) BLEND SURFACING INTO EXISTING CONTOURS UPON COMPLETION OF STRUCTURE INSTALLATION.

(N13) CONNECT INTO EXISTING 12" WITH RESTRAINED MJ BARREL SLEEVE, SEE M4 SHEETS.

(N14) CONNECT NEW 4" PVC PIPE TO EXISTING PIPE WITH 4" RESTRAINED MJ BARREL SLEEVE.

(N15) INSTALL 12" THICK CONCRETE GENERATOR ISOLATION PAD OVER 6" MIN. COMPACTED DEPTH CRUSHED SURFACING BASE COURSE. TOP OF PAD ELEVATION 709.50 FEET. REINFORCE WITH #5 @ 12" O.C. EACH WAY TOP AND BOTTOM, 3" CLR FROM TOP & BOTTOM. SECURE GENERATOR TO PAD WITH MIN. (8) EA 5/8" DIAM. A36 GALVENIZED ADHESIVE ANCHORS, 6" MIN. EMBEDMENT INTO CONCRETE PAS. SEE GENERATOR MANUFACTURER DRAWING FOR ANCHOR BOLT QUANTITY, SIZE AND LAYOUT.

(N16) CONTRACTOR-FURNISHED, 350 KW GENERATOR. SEE ELECTRICAL SHEETS FOR ADDITIONAL INFORMATION.

(N17) CONTRACTOR TO PERFORM SURFACE RESTORATION AFTER CONSTRUCTION OF NEW ELECTRICAL CONDUITS.

(N18) INSTALL 3'-0" X 2'-7" X 0'-8" THICK CONCRETE TRANSFORMER HOUSEKEEPING PAD OVER 4" MIN. COMPACTED DEPTH CRUSHED SURFACING BASE COURSE. TOP OF PAD ELEVATION 705.51 FEET. REINFORCE WITH #5 @ 12" O.C. EACH WAY CENTERED IN PAD. SECURE EQUIPMENT TO PAD WITH STAINLESS STEEL ANCHORS, SEE ELECTRICAL SPECIFICATIONS.

(N19) HOUSEKEEPING PAD FOR INFLUENT LIFT STATION CONTROL PANEL. SEE M4 SHEETS FOR DETAILS.

(N20) POTHOLE AND VERIFY MIXED LIQUOR LINE BEFORE PLACING CONCRETE PAD.

SCHEDULE A & C

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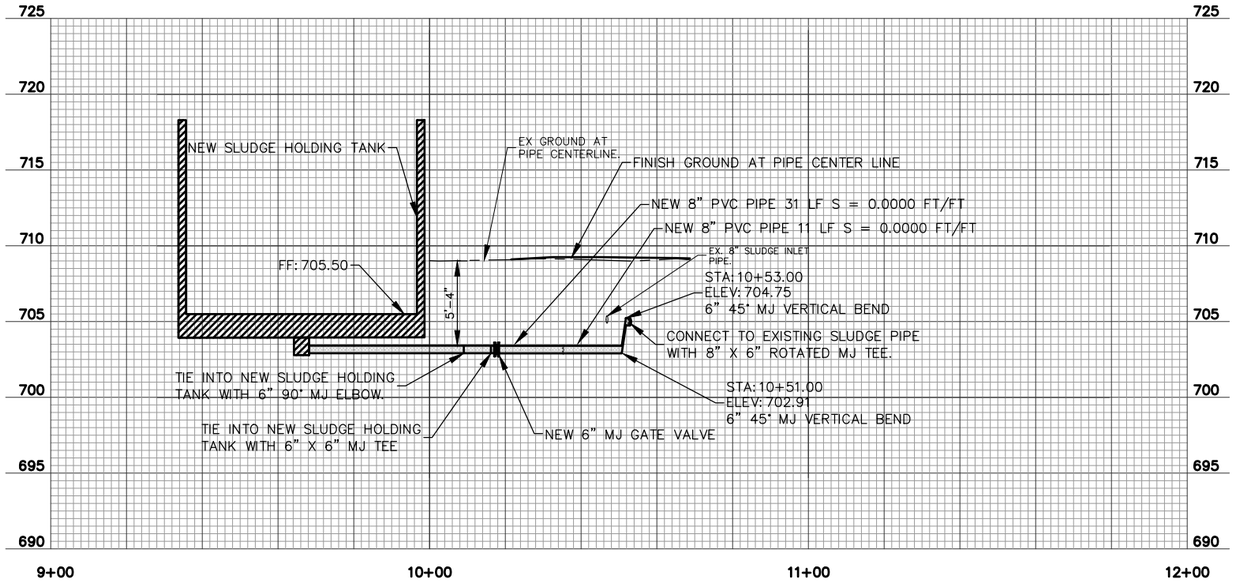
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CITY OF GRANDVIEW
WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1

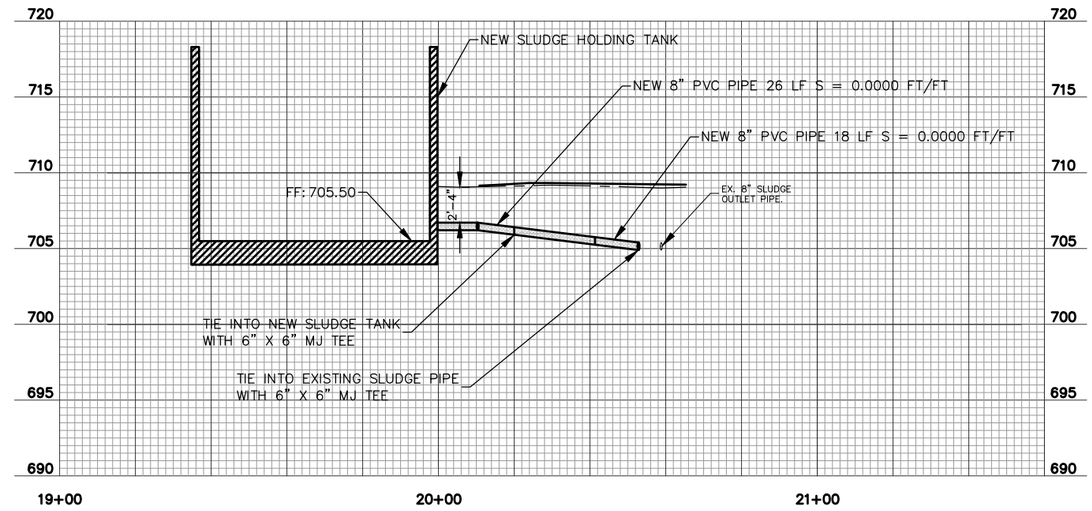
PARTIAL SITE PIPING PLAN – E

C-9

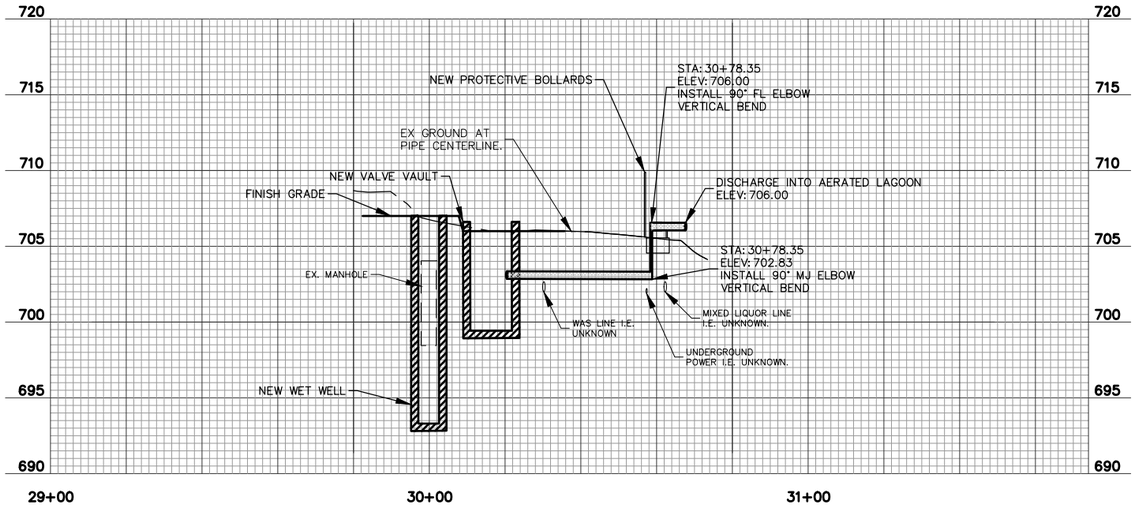
SHEET 24 OF 192



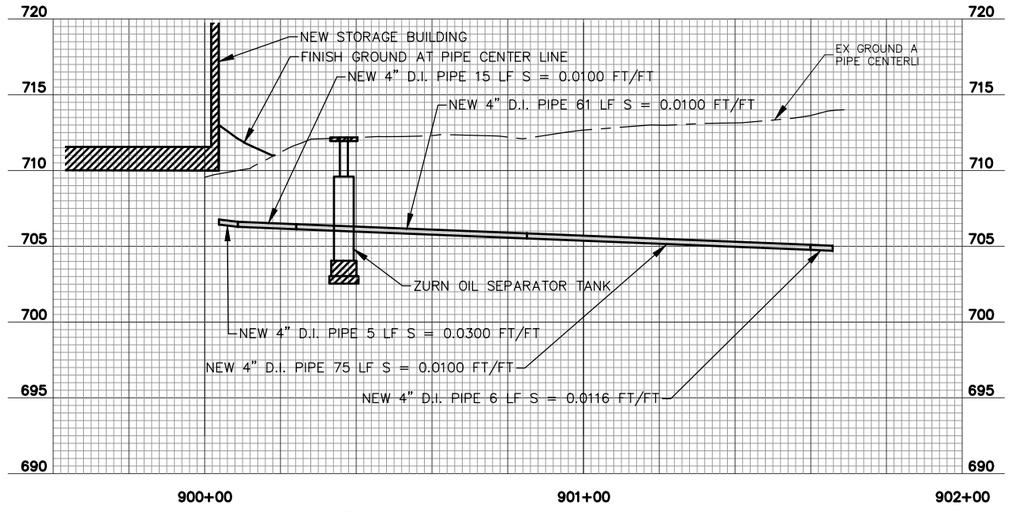
1 NEW SLUDGE TANK DISCHARGE



2 NEW SLUDGE TANK TO WAS PROFILE.



3 DRAIN PUMP STATION PROFILE



4 STORAGE BUILDING DRAIN PROFILE

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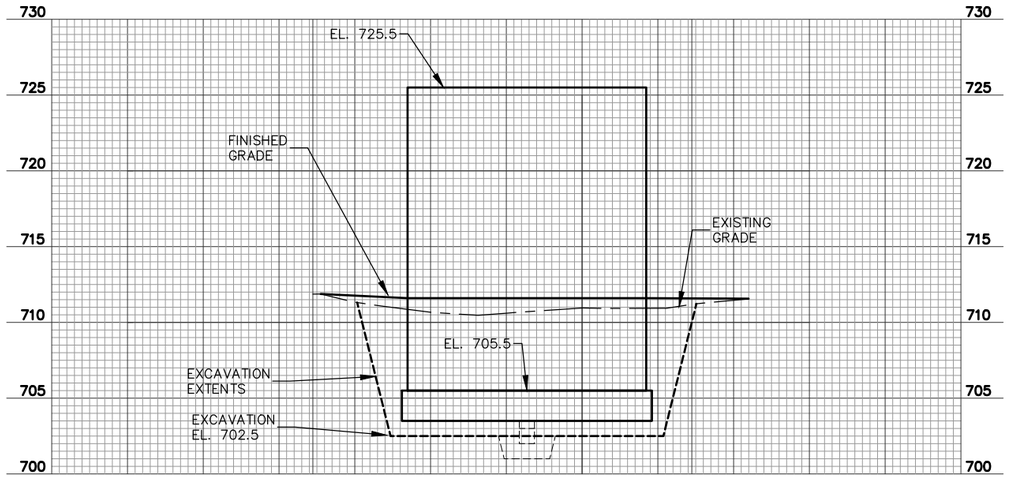
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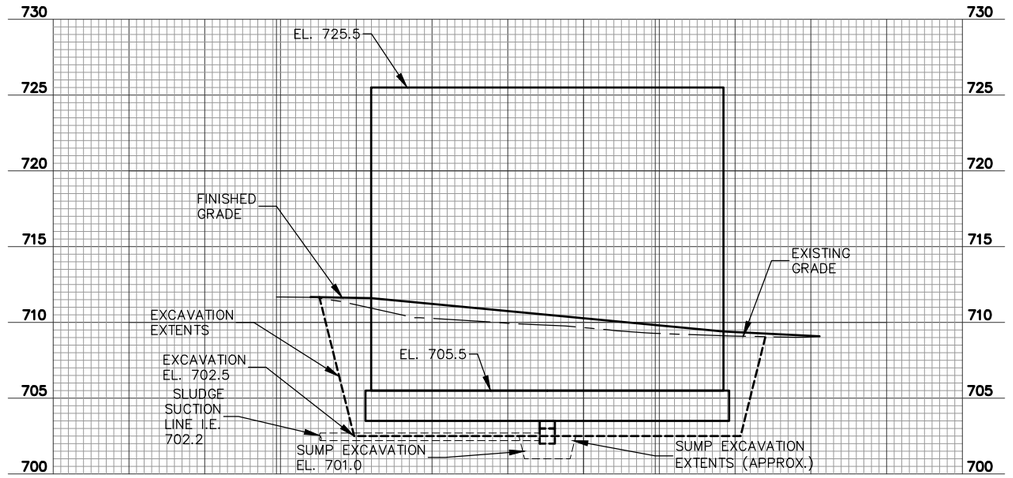
CITY OF GRANDVIEW
WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1
PIPING PROFILES

C-10

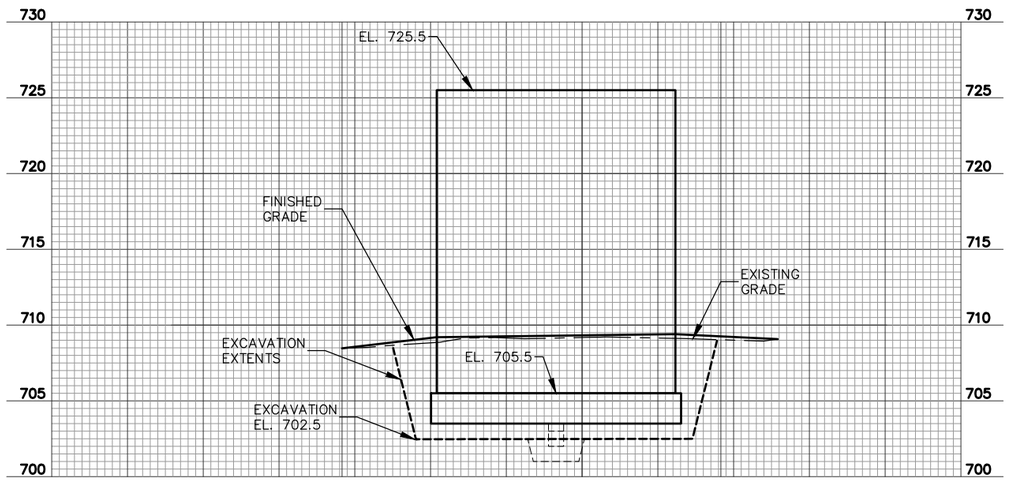
SHEET 25 OF 192



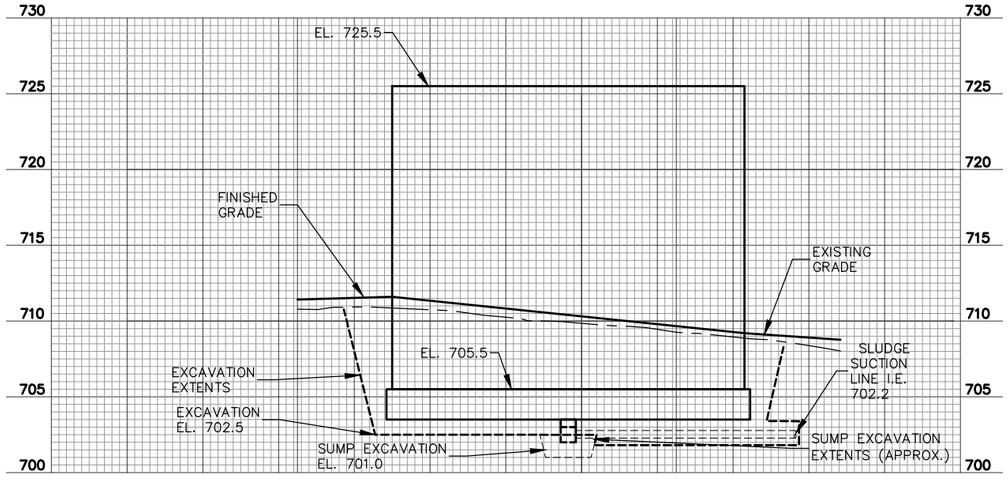
A C-4 NORTH WALL GRADING SECTION



B C-4 EAST WALL GRADING SECTION



C C-4 SOUTH WALL GRADING SECTION



D C-4 WEST WALL GRADING SECTION

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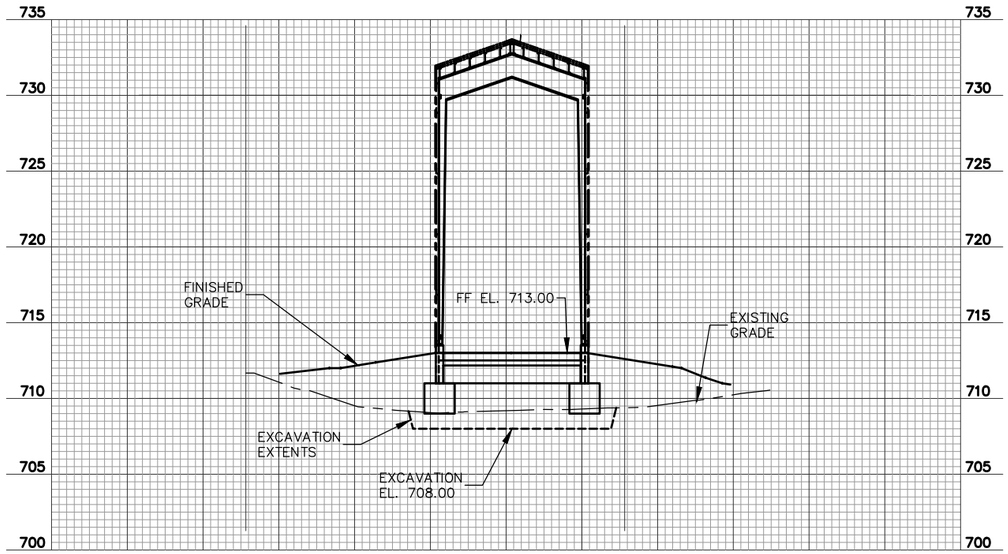
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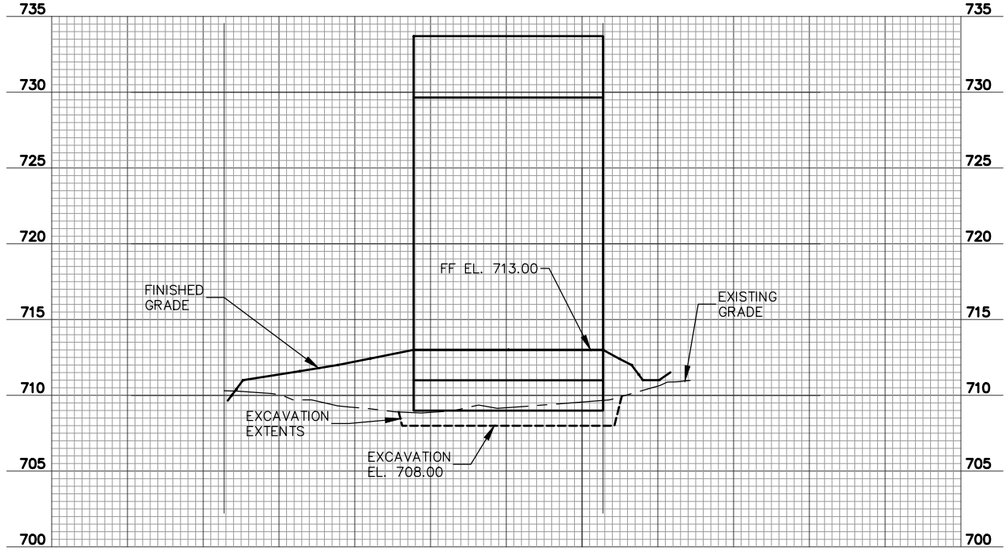
DESIGNED BY: RJS/JWM
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CITY OF GRANDVIEW
WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1
SLUDGE TANK SECTIONS

C-11



E / C-7 EAST WALL GRADING SECTION



F / C-7 NORTH WALL GRADING SECTION

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ROBERT J. SCOTT — STATE OF WASHINGTON — 46421 — REGISTERED PROFESSIONAL ENGINEER

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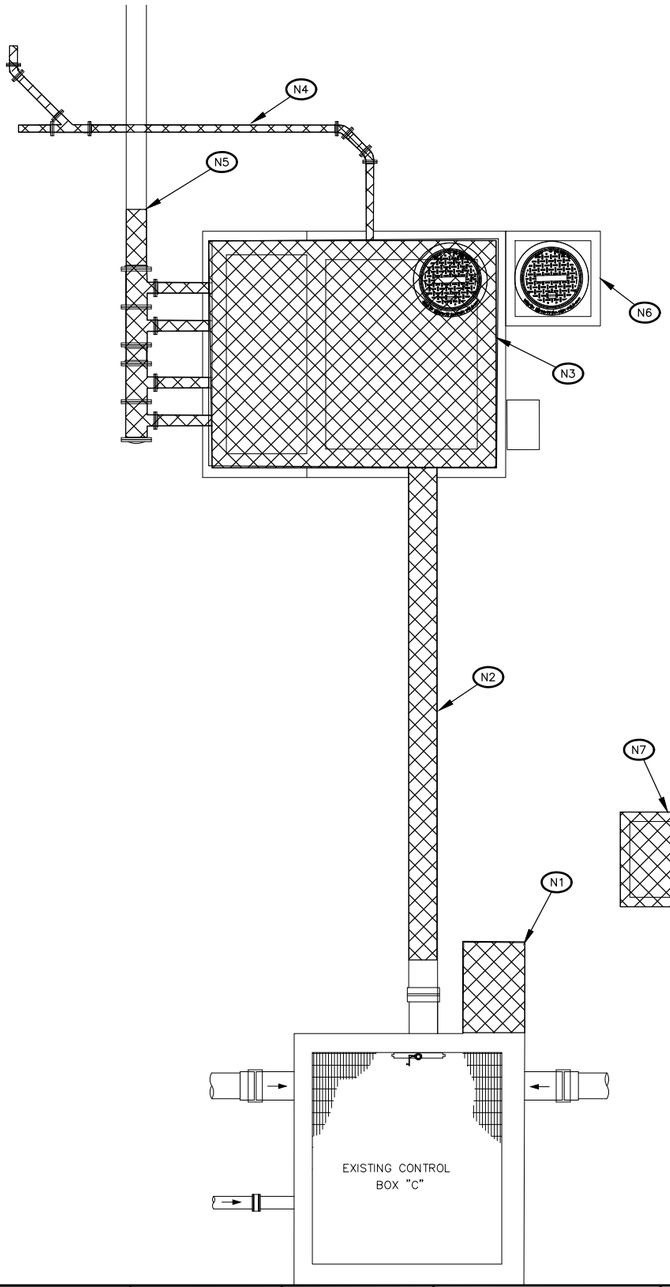
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PLAN: 23030

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CITY OF GRANDVIEW
WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1
STORAGE BUILDING SECTIONS

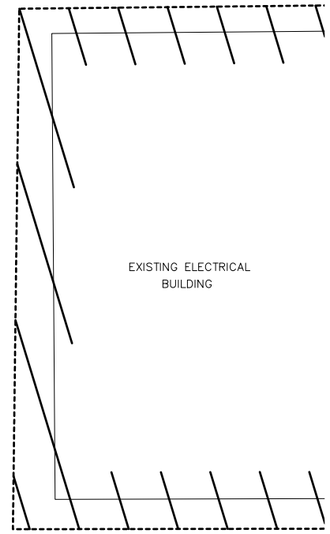
C-12

SHEET 27 OF 192



DEMO PLAN

0 2' 4' 8'



CONSTRUCTION NOTES

(N1) REMOVE EXISTING UTILITY WATER SUPPLY PUMP. DEMOLISH CONCRETE PUMP PAD AND CONNECT PIPE INTO NEW YARD HYDRANT. SEE M4–2.

(N2) ABANDON 12" PVC GRAVITY PIPE IN PLACE NORTH OF NEW PIPE CONNECTION.

(N3) CUT LID AND WALLS OF EXISTING VAULT TO 2' BELOW EXISTING GRADE & BREAK UP FLOOR SLAB AFTER NEW LIFT STATION IS TESTED AND OPERATIONAL. BACKFILL TO GRADE.

(N4) ABANDON 4" DI DRAIN PIPE IN PLACE SOUTH OF NEW PIPE CONNECTION.

(N5) CUT EXISTING 12" FORCE MAIN AND DEMOLISH SOUTH OF CONNECTION POINT.

(N6) DEMO EXISTING POWER VAULT ONCE NEW LIFT STATION IS TESTED AND OPERATIONAL.

(N7) RELOCATE PULLHOLE. SEE ELECTRICAL SHEETS.

GENERAL NOTE

CLOSELY COORDINATE ALL DEMOLITION WORK WITH SUGGESTED SEQUENCE OF CONSTRUCTION PROVIDED ON SHEET G–4. ALL EXISTING EQUIPMENT SHALL REMAIN IN OPERATION UNTIL NEW LIFT STATION IS READY FOR FINAL TIE IN. REFERENCE ELECTRICAL SHEETS FOR OTHER PHASING INFORMATION

DENOTES EXISTING EQUIPMENT TO BE REMOVED/RELOCATED

SCHEDULE D

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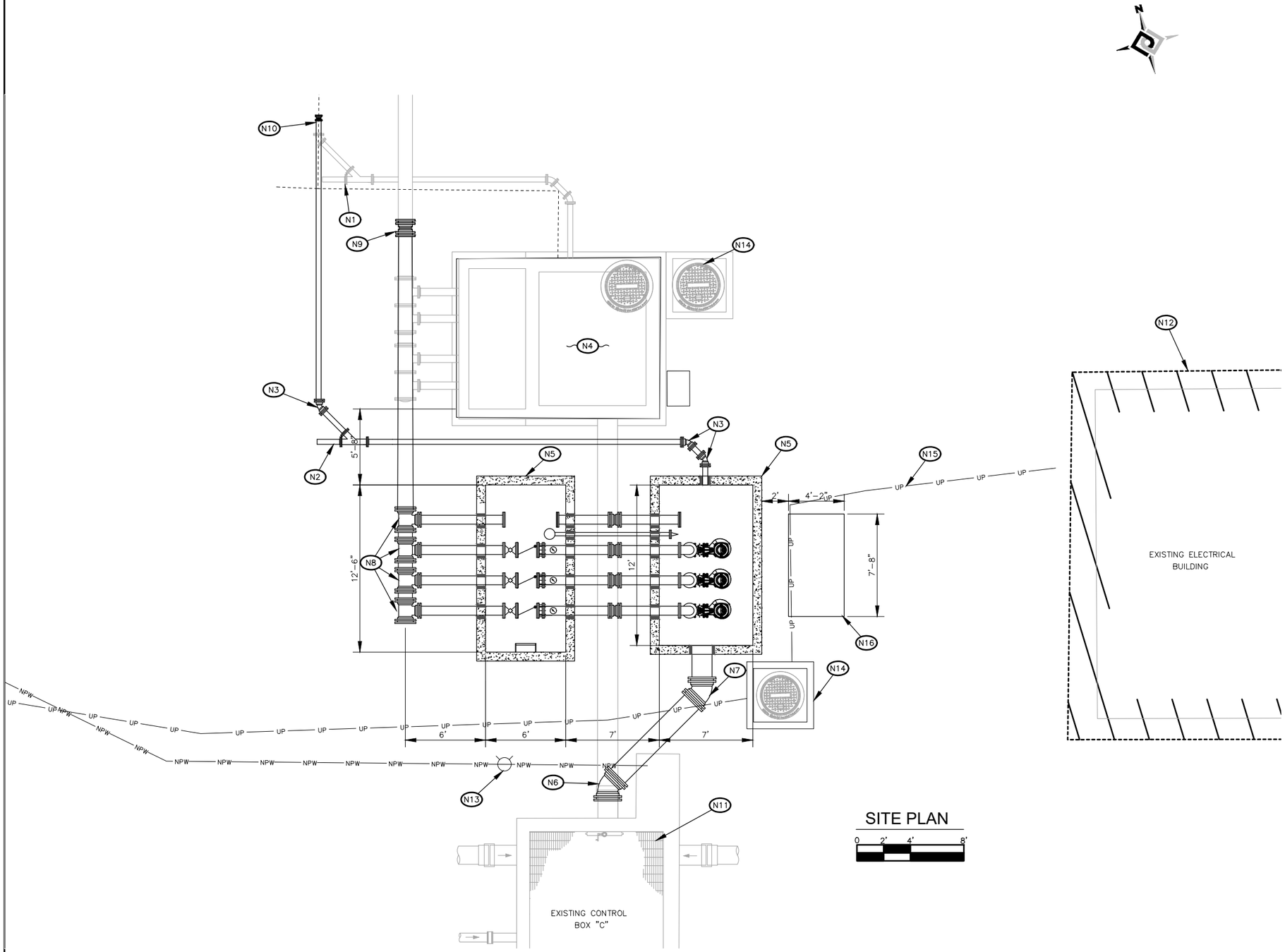
JOB NUMBER: 23030 | DATE: 3/13/2026

FILE NAMES:
DRAWING: Sheets–M4.dwg
PLAN: INFLUENTLIFTSTATIONMODEL.dwg

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CITY OF GRANDVIEW
WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1
INFLUENT PUMP STATION DEMOLITION PLAN

M4-1



SITE PLAN

0 2' 4' 8'

CONSTRUCTION NOTES

(N1) EXISTING CLEANOUT.

(N2) 4" SEWER CLEANOUT, TYPICAL.

(N3) 4" MJ 45 DEGREE BEND.

(N4) EXISTING LIFT STATION.

(N5) NEW LIFT STATION, SEE SHEET M4–3 FOR DETAILS.

(N6) CONNECT NEW 18" GRAVITY PIPE TO EXISTING PIPE WITH 18" RESTRAINED MJ 45 DEG BEND.

(N7) 18" MJ 45 DEGREE BEND.

(N8) 12" X 8" MJ DUCTILE IRON TEE.

(N9) 12" RESTRAINED MJ BARREL SLEEVE.

(N10) CONNECT NEW 4" PVC PIPE TO EXISTING PIPE WITH 4" RESTRAINED MJ BARREL SLEEVE.

(N11) EXISTING CONTROL BOX "C".

(N12) EXISTING ELECTRICAL BUILDING.

(N13) CONNECT NEW YARD HYDRANT TO EXISITNG 2" NON–POT WATER LINE. SEE DETAIL 1.1/GP–1.

(N14) EXISTING POWER VAULT. SEE ELECTRICAL SHEETS.

(N15) UTILITY POWER TO BE REROUTED. SEE ELECTRICAL SHEETS.

(N16) INSTALL 8" THICK CONCRETE CONTROL PANEL HOUSEKEEPING PAD OVER 4" MIN. COMPACTED DEPTH CRUSHED SURFACING BASE COURSE. TOP OF PAD ELEVATION 705.10 FEET. REINFORCE WITH #5 @ 12" O.C. EACH WAY CENTERED IN PAD. SECURE EQUIPMENT TO PAD WITH STAINLESS STEEL ANCHORS, SEE ELECTRICAL SPECIFICATIONS.

SCHEDULE D

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REVISION	DATE

JOB NUMBER: 23030 | DATE: 3/13/2026

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PLAN: INFLUENTLIFTSTATIONMODEL.dwg

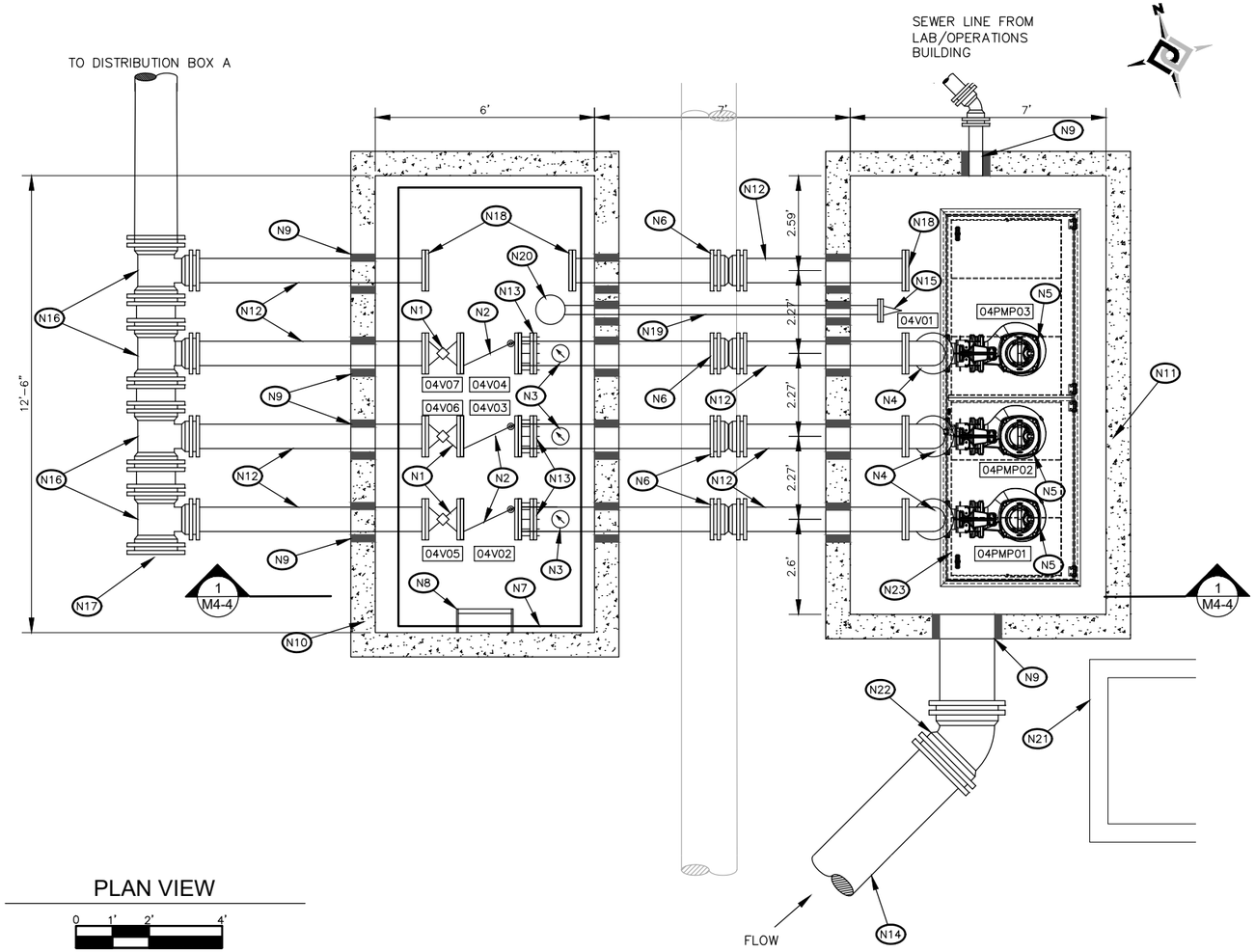
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CITY OF GRANDVIEW
WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1

INFLUENT PUMP STATION SITE PLAN

M4-2

SHEET 29 OF 192



PLAN VIEW

0 1' 2' 4'

CONSTRUCTION NOTES

- (N1) 8" FLG PLUG VALVE WITH HAND WHEEL OPERATOR.
- (N2) 8" FLG RESILIENT HINGE CHECK VALVE, CLA-VAL MODEL 584, KEN-FLEX MODEL 506, OR EQUAL. PROVIDE OPTIONAL RETURN FLOW ACTUATOR.
- (N3) PRESSURE GAUGE WITH ISOLATION VALVE AND DIAPHRAGM SEAL, REOTEMP PT45 SERIES WITH DIAPHRAGM SEAL, 0-50 FT PRESSURE RANGE. PROVIDE BACK CONNECTION TO VIEW PRESSURE FROM ABOVE PIPING. PROVIDE STAINLESS STEEL VALVE AND FITTINGS ON DIAPHRAGM SEAL FOR FLUSHING. SEE DETAIL 1.2/GP-1
- (N4) 8" FLG DI 90 DEGREE BEND
- (N5) 3 FLYGT PUMPS, 15 HP, 3 PHASE, 480 VOLT EXPLOSION PROOF MOTOR. ONE PUMP TO BE SUPPLIED WITH A FLUSH VALVE. 800 GPM AT 47 FEET TDH.
- (N6) 8" RESTRAINED MJ BARREL SLEEVE
- (N7) 144" L X 60" W (CLEAR OPENING) TWO-DOOR ALUMINUM ACCESS COVER CAST INTO TOP SLAB. SEE SPECIFICATIONS. CENTER DOOR OVER VALVES AS SHOWN.
- (N8) ACCESS LADDER, TYPICAL.
- (N9) INSTALL WATERTIGHT, FLEXIBLE RUBBER GASKET AND NON-SHRINK GROUT AT EACH PENETRATION, OR USE LINK SEAL. TYP
- (N10) 6'-0" x 10'-0" x 6'-6"H (INSIDE DIMENSIONS) PRECAST CONCRETE VAULT
- (N11) 10'-0" X 7'-0" X 16'-6" (INSIDE DIMENSIONS) PRECAST CONCRETE WET WELL
- (N12) 8" FLG X PE SPOOL, LENGTH AS REQUIRED.
- (N13) 8" RESTRAINED FLG COUPLING ADAPTER, ROMAC RFCA OR EQUAL.
- (N14) 18" INLET FROM CONTROL BOX C
- (N15) 3" DUCKBILL CHECK VALVE
- (N16) 12"X8" DI MJ TEE FITTING
- (N17) 12" MJ RESTRAINED CAP
- (N18) 8" BLIND FLANGE
- (N19) 3" PVC DRAIN PIPE AND FITTINGS.
- (N20) 3" FLOOR DRAIN, ZURN Z551 OR EQUAL.
- (N21) EXISTING POWER VAULT.
- (N22) 18" 45 MJ BEND.
- (N23) 120" L X 42" W (CLEAR OPENING) TWO-DOOR ALUMINUM ACCESS COVER CAST INTO TOP SLAB. SEE SPECIFICATIONS. CENTER DOOR OVER PUMPS AS SHOWN.

SCHEDULE D

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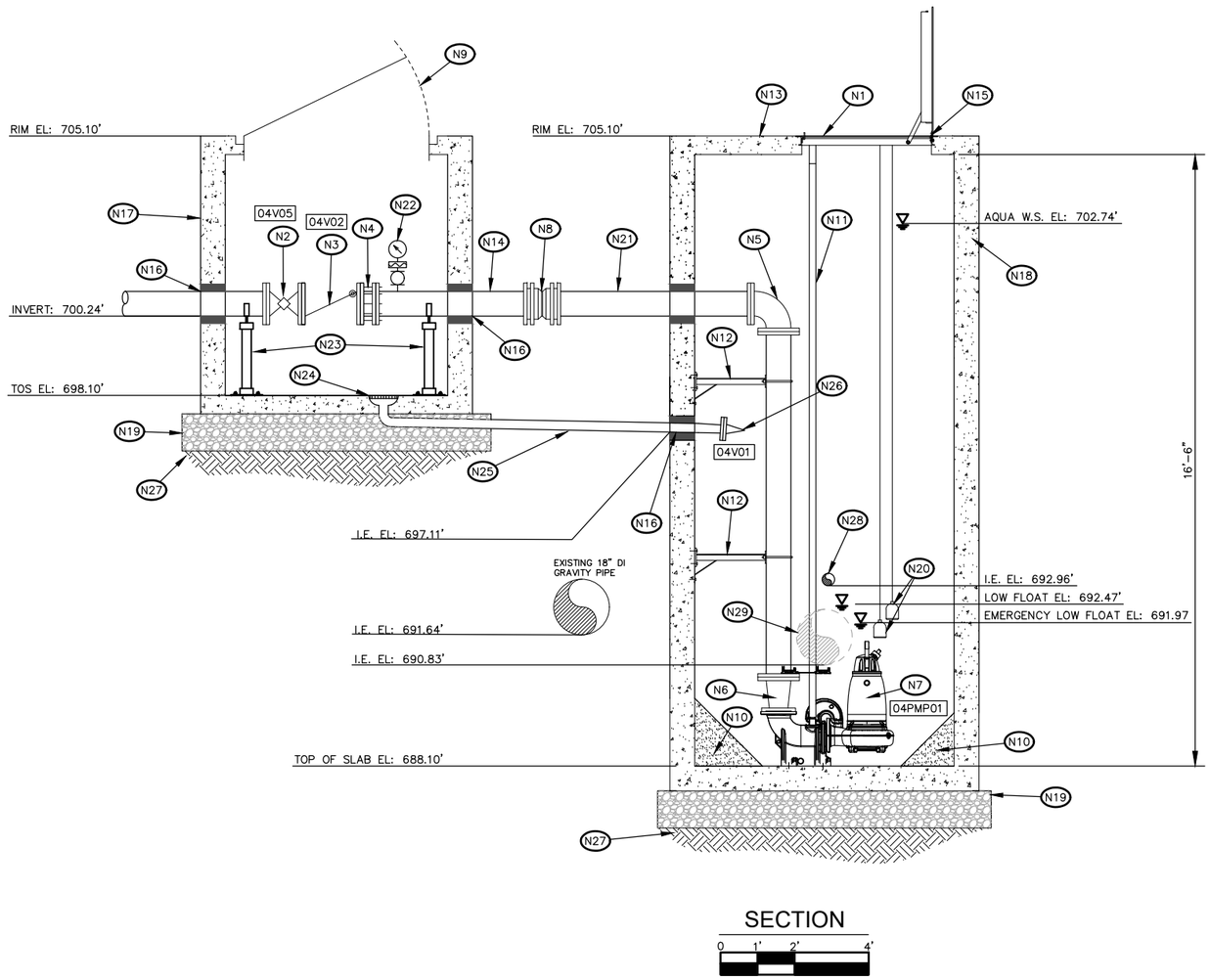
FILE NAMES:
DRAWING: Sheets-M4.dwg
PLAN: INFLUENTLIFTSTATIONMODEL.dwg

DESIGNED BY: RJS/JWM
ENTERED BY: KWC/KRN

CITY OF GRANDVIEW
WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1
INFLUENT PUMP STATION PLAN

M4-3

SHEET 30 OF 192



SECTION

0 1' 2' 4'

CONSTRUCTION NOTES

- (N1) 120" L X 42" W (CLEAR OPENING) TWO–DOOR ALUMINUM ACCESS COVER CAST INTO TOP SLAB. SEE SPECIFICATIONS. CENTER DOOR OVER PUMPS AS SHOWN. COORDINATE INSTALLATION WITH PUMP GUIDERAIL INSTALLATION REQUIREMENTS.
- (N2) 8" FLG PLUG VALVE WITH HAND WHEEL OPERATOR.
- (N3) 8" FLG RESILIENT HINGE CHECK VALVE, CLA–VAL MODEL 584, KEN–FLEX MODEL 506, OR EQUAL. PROVIDE OPTIONAL RETURN FLOW ACTUATOR.
- (N4) 8" RESTRAINED FLG COUPLING ADAPTER, ROMAC RFCA OR EQUAL.
- (N5) 8" FLG DI 90 DEGREE BEND.
- (N6) 8" x 6" DI FLG REDCUER.
- (N7) 3 FLYGT PUMPS, 15 HP, 3 PHASE, 480 VOLT EXPLOSION PROOF MOTOR. ONE PUMP TO BE SUPPLIED WITH A FLUSH VALVE. 800 GPM AT 47 FEET TDH.
- (N8) 8" RESTRAINED MJ BARREL SLEEVE.
- (N9) 144" L X 60" W (CLEAR OPENING) TWO–DOOR ALUMINUM ACCESS COVER CAST INTO TOP SLAB. SEE SPECIFICATIONS. CENTER DOOR OVER VALVES AS SHOWN.
- (N10) GROUT AROUND DISCHARGE ELBOW AND SUMP INSERT AS SHOWN. DIMENSIONS AND LAYOUT AS RECOMMENDED BY PUMP MANUFACTURER.
- (N11) STAINLESS STEEL GUIDE RAILS, 6 EA, VERIFY REQUIREMENTS AND CUT TO LENGTH.
- (N12) STAINLESS STEEL PIPE SUPPORT BRACKETS 4'–0" MAX. SPACING.
- (N13) PROVIDE DRY PACK GROUT PAD BETWEEN GUIDE ATTACHMENT BRACKET AND WET WELL LID AS NECESSARY.
- (N14) 8" FLG X PE DUCTILE IRON SPOOL. PROVIDE 3/4" TAP IN SPOOL WHERE REQUIRED FOR GAUGE CONNECTION.
- (N15) 6" THICK PRECAST REINFORCED CONCRETE WET WELL COVER, DESIGNED AND REINFORCED BY THE MANUFACTURER. COORDINATE COVER CASTING WITH HATCH SUPPLIER AND VERIFY FINAL DIMENSIONS PRIOR TO CASTING.
- (N16) INSTALL WATERTIGHT, FLEXIBLE RUBBER GASKET AND NON–SHRINK GROUT AT EACH PENETRATION, OR USE LINK SEAL.
- (N17) 6'–0" x 10'–0" x 6'–6"H (INSIDE DIMENSIONS) PRECAST CONCRETE VAULT.
- (N18) 10'–0" X 7'–0" X 16'–6" (INSIDE DIMENSIONS) PRECAST CONCRETE WET WELL.
- (N19) CRUSHED SURFACE BASE COURSE. INSTALL 6" MIN. COMPACTED DEPTH, COMPACTED TO 95% MIN. BENEATH LIFT STATION WET WELL AND VAULT.
- (N20) FLOAT SWITCHES (2 EA.) AND STAINLESS STEEL SUPPORT BRACKET, TYPICAL. INSTALL FLOATS TO TRIP AT ELEVATIONS SHOWN. COIL UP AND SECURE EXCESS FLOAT CABLE TO SUPPORT BRACKET.
- (N21) 8" FLG X PE SPOOL, LENGTH AS REQUIRED.
- (N22) PRESSURE GAUGE WITH ISOLATION VALVE AND DIAPHRAGM SEAL, REOTEMP PT45 SERIES WITH DIAPHRAGM SEAL, 0–50 FT PRESSURE RANGE. PROVIDE BACK CONNECTION TO VIEW PRESSURE FROM ABOVE PIPING. PROVIDE STAINLESS STEEL VALVE AND FITTINGS ON DIAPHRAGM SEAL FOR FLUSHING. SEE DETAIL 1.2/GP–1.
- (N23) GALVANIZED STEEL PIPE SUPPORTS (UNDER EACH FORCE MAIN). STANDON MODEL S89 OR MODEL S92, AS APPLICABLE. ANCHOR TO VAULT FLOOR WITH STAINLESS STEEL WEDGE ANCHORS. SEE DETAIL 1.4/GP–1.
- (N24) 3" FLOOR DRAIN, ZURN Z551 OR EQUAL.
- (N25) 3" PVC DRAIN PIPE.
- (N26) 3" DUCKBILL CHECK VALVE.
- (N27) NATIVE MATERIAL.
- (N28) 4" SEWER INLET FROM LAB BUILDING.
- (N29) 18" INLET FROM CONTROL BOX C.

SCHEDULE D

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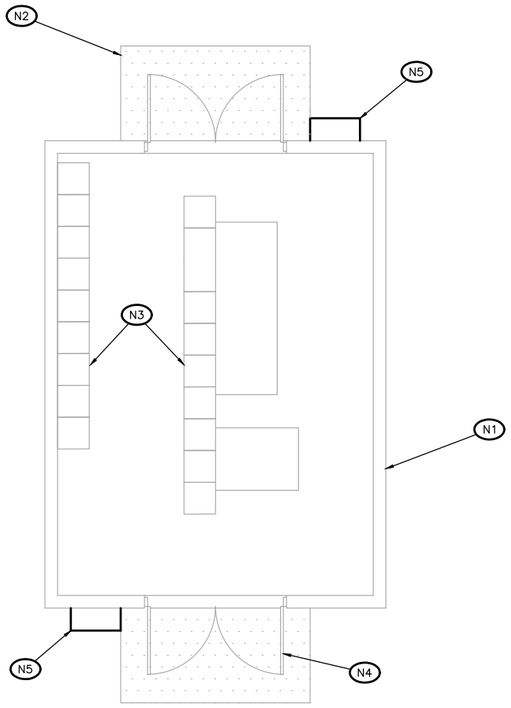
JOB NUMBER: 23030 | DATE: 3/13/2026

FILE NAMES:
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PLAN: INFLUENTLIFTSTATIONMODEL.dwg

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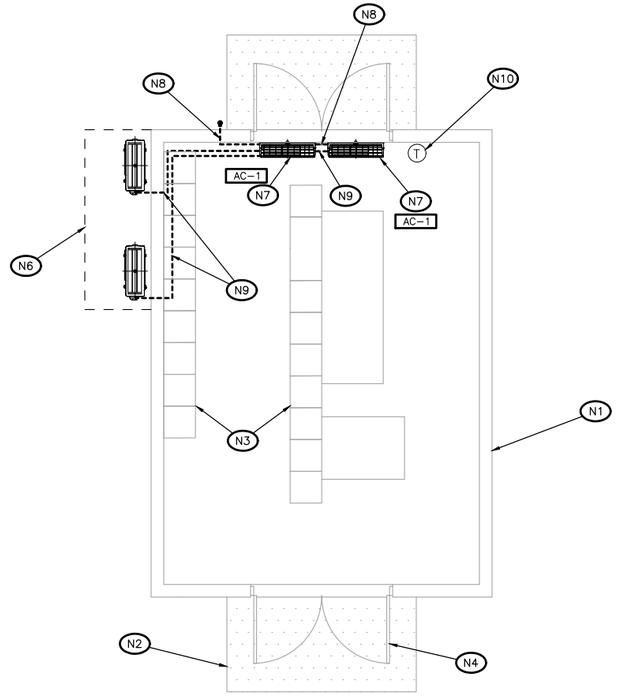
CITY OF GRANDVIEW
WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1
INFLUENT PUMP STATION SECTION

M4-4



DEMOLITION PLAN VIEW

0 2' 4' 8'



HVAC PLAN VIEW

0 2' 4' 8'

GENERAL HVAC NOTES

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING AND PROVIDING ALL REQUIRED SUPPORTS NECESSARY FOR PROPER INSTALLATION OF ALL HVAC EQUIPMENT.
2. ALL HVAC EQUIPMENT, ACCESSORIES, AND CONTROLS SHALL BE CLOSELY COORDINATED WITH ELECTRICAL. SEE ELECTRICAL PLANS FOR ADDITIONAL INFORMATION.

NOTES

- (N1) CMU BLOCK WALL, TYP.
- (N2) EXISTING CONCRETE PORCH, TYP.
- (N3) ELECTRICAL EQUIPMENT AND PANELS, TYP. SEE ELECTRICAL PLANS.
- (N4) HOLLOW METAL DOOR AND FRAME, TYP.
- (N5) EXISTING HVAC WALL UNITS. REMOVE AND FILL GAP IN CMU WALL AS NECESSARY.
- (N6) SET PACKAGE COOLING UNITS ON 4" CEMENT CONCRETE SIDEWALK PAD, MINIMUM 6" LARGER THAN BASE OUTDOOR UNIT DIMENSIONS.
- (N7) DUCTLESS SPLIT HVAC SYSTEM, TYP. SEE SCHEDULE ON SHEET GM–1. MOUNT ABOVE DOOR FRAME AS SHOWN.
- (N8) HVAC UNIT CONDENSATE DRAIN LINE. CORE THROUGH CMU WALL AS NEEDED. ROUTE 3/4" PVC CARRIER PIPE TO DRAIN TO EXTERIOR ON WEST SIDE OF DOOR AND CONCRETE AS SHOWN.
- (N9) INDOOR/OUTDOOR HVAC UNIT CONNECTION LINE. CORE THROUGH WALL TO ELECTRICAL ROOM AND ROUTE ABOVE ELECTRICAL EQUIPMENT. SEE DETAIL COORDINATE WITH ELECTRICAL.
- (N10) WALL–MOUNTED THERMOSTAT, TYP. MOUNT AT 5'–0" ABOVE FINISHED FLOOR. SEE SCHEDULE NOTE ON GM–1 FOR THERMOSTAT INFORMATION. COORDINATE WITH ELECTRICAL.

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FILE NAMES:
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PLAN: 23030.dwg

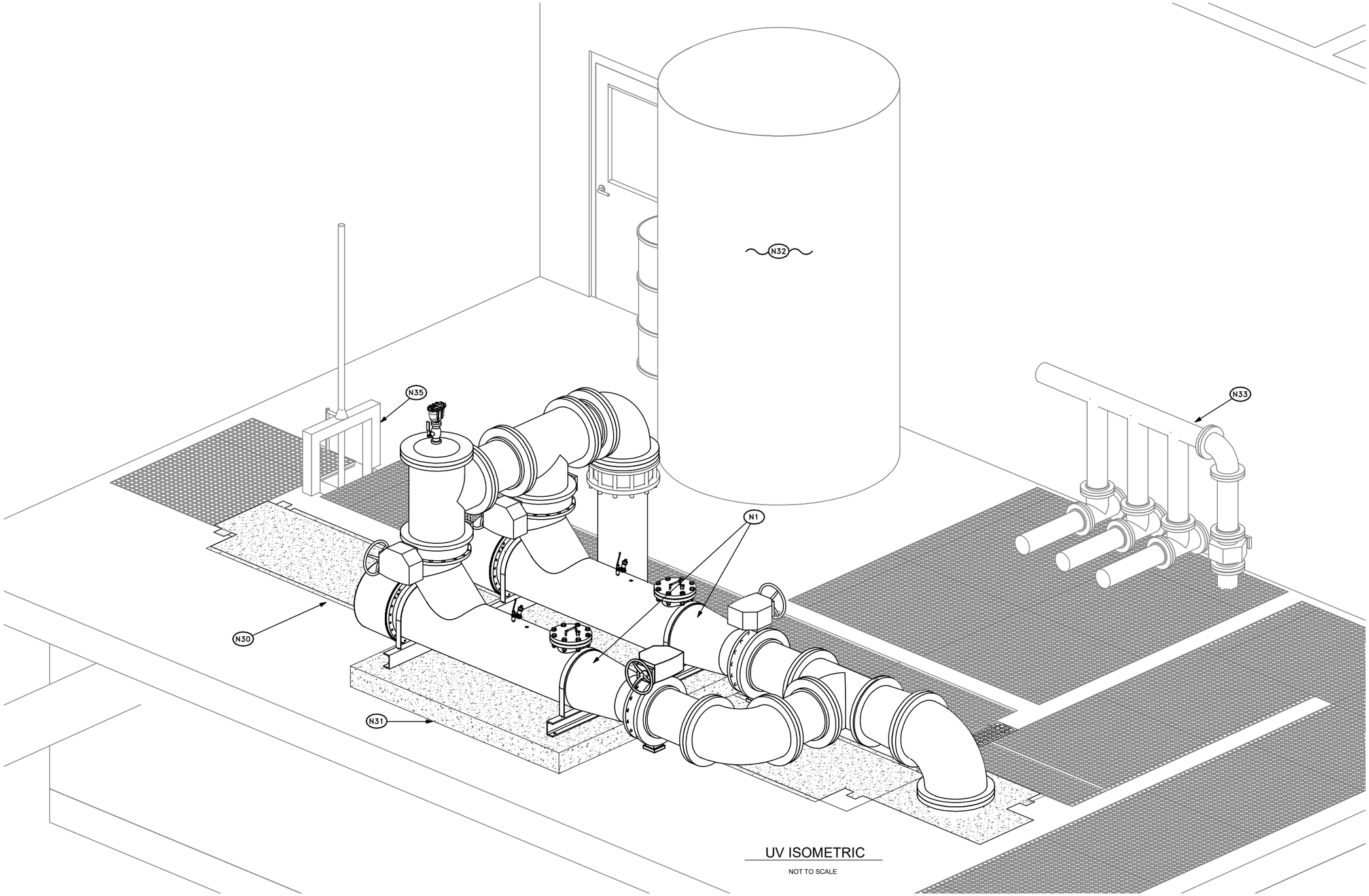
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CITY OF GRANDVIEW
WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1

AQUA ELECTRICAL BUILDING HVAC PLAN

M4-5

SHEET 32 OF 192



UV ISOMETRIC

NOT TO SCALE

CONSTRUCTION NOTES

- (N1) NEW UV MODULE.
- (N30) NEW CONCRETE FILL
- (N31) NEW HOUSEKEEPING PAD FOR UV SYSTEM
- (N32) EXISTING HYDROPNEUMATIC TANK
- (N33) EXISTING NON-POTABLE WATER PUMPS
- (N35) EXISTING SLIDE GATE

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FILE NAMES:
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PLAN: 23030

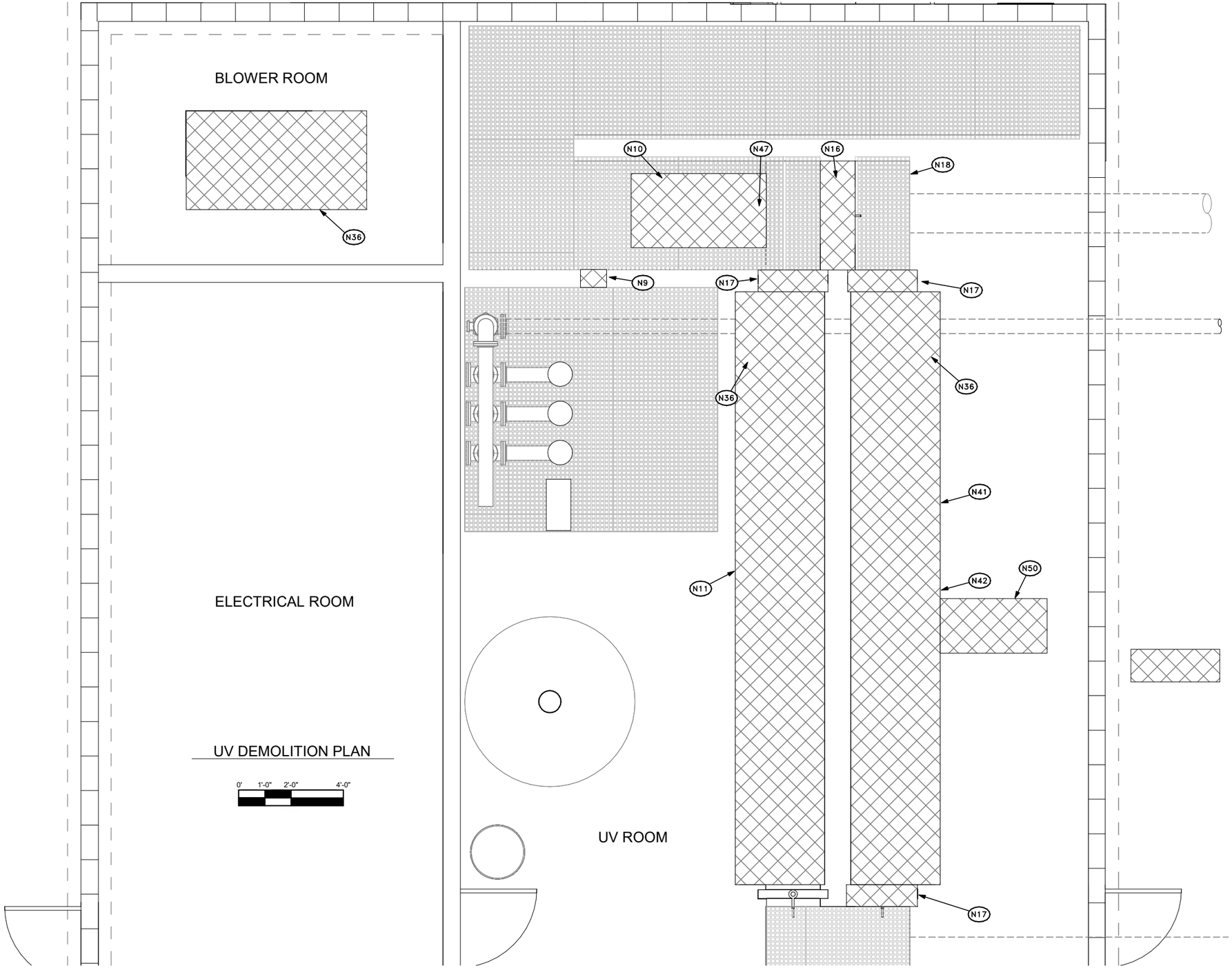
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CITY OF GRANDVIEW
WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1

UV SYSTEM ISOMETRIC

M8-1

SHEET 33 OF 192



CONSTRUCTION NOTES

(N9) EXISTING 6" DIA OPENING INTO WETWELL. CORE DRILL NEW 12" DIA HOLE THROUGH EXISTING CHANNEL WALL ADJACENT TO EXISTING OPENING.

(N10) REMOVE AND DISPOSE OF EXISTING FINGER WEIR AFTER NEW UV SYSTEM IS IN OPERATION.

(N11) REMOVE AND DISPOSE OF EXISTING UV EQUIPMENT FROM CHANNEL AFTER NEW UV SYSTEM IS IN OPERATION. MODIFY EXISTING GRATING AS NEEDED FOR NEW UV SYSTEM DISCHARGE PIPE.

(N16) REMOVE AND DISPOSE OF EXISTING SLIDE GATE AND SURROUNDING GROUT AS NEEDED TO PROVIDE SUFFICIENT SPACE TO INSTALL NEW FITTINGS.

(N17) REMOVE AND DISPOSE OF EXISTING SLIDE GATE.

(N18) REMOVE AND DISPOSE OF GRATING

(N36) REMOVE AND DISPOSE OF EXISTING BLOWER AND PIPING. CAP 4" AIR PIPING 1' ABOVE FLOOR IN BLOWER ROOM AND UV CHANNELS.

(N41) REMOVE AND DISPOSE OF EXISTING GRATING IN UV BYPASS CHANNEL.

(N42) CLOSE MUD VALVES AT BOTTOM OF CHANNEL AND ABANDON IN PLACE.

(N47) SAWCUT WALL SUPPORTING FINGER WEIR TO BE FLUSH WITH CHANNEL FLOOR. SEE SHEET M8-5 FOR SECTION VIEW.

(N50) SAWCUT AND REPAIR FLOOR FOR INSTALLATION OF NEW CONDUITS. SEE ELECTRICAL SHEETS.

DENOTES EXISTING EQUIPMENT TO BE REMOVED/RELOCATED

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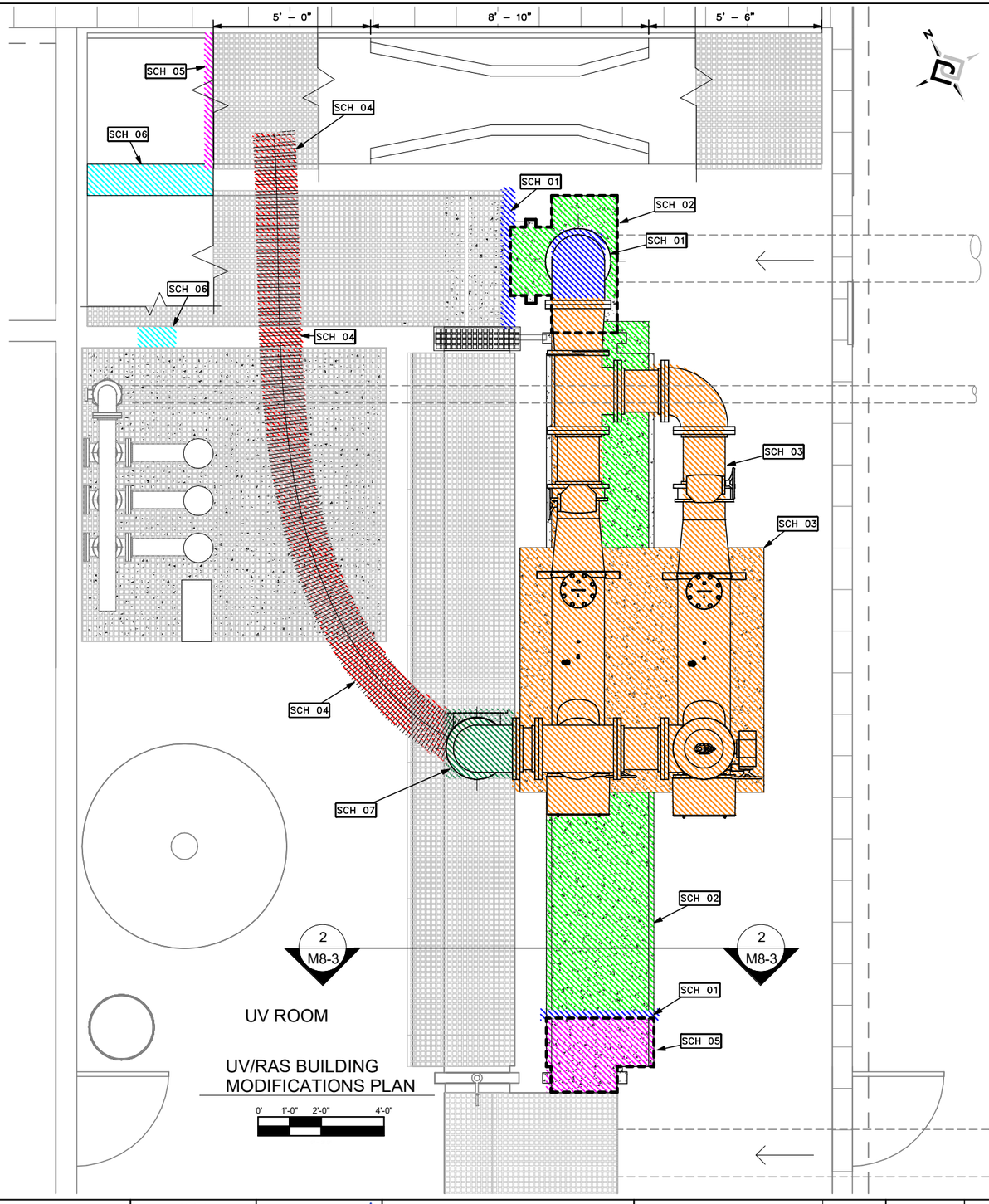
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JOB NUMBER: 23030	DATE: 3/13/2026
FILE NAMES:	
DRAWING:	UV ROOM.RVT
PLAN:	23030
DESIGNED BY:	RJS
ENTERED BY:	KWC

CITY OF GRANDVIEW
WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1
UV BUILDING DEMOLITION & MODIFICATION PLAN

M8-2

SHEET 34 OF 192



UV/RAS BUILDING
MODIFICATIONS PLAN

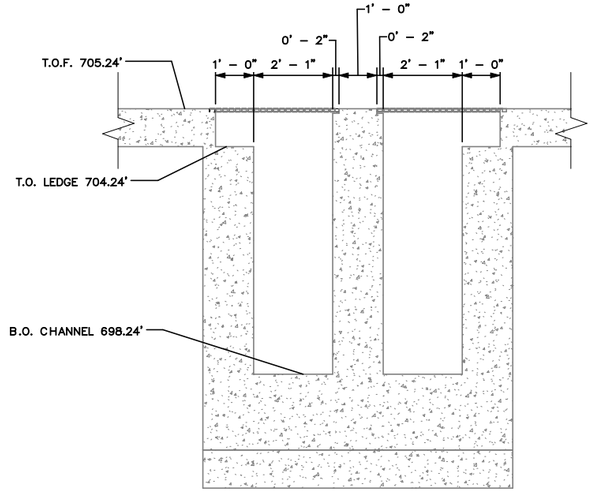
0' 1'-0" 2'-0" 4'-0"

GENERAL NOTE

1. THE SPECIFICS OF THE ORDER OF WORK SHALL BE AT THE CONTRACTOR'S OPTION, BUT MUST COORDINATE CLOSELY WITH THE PLANT. THE SEQUENCE OF CONSTRUCTION AND CONSTRUCTION SCHEDULE PROPOSED BY THE CONTRACTOR SHALL BE SUBMITTED TO THE ENGINEER AND OWNER FOR REVIEW AND APPROVAL PRIOR TO BEGINNING WORK.
2. SEE ELECTRICAL SHEETS FOR ADDITIONAL REQUIREMENTS.

CONSTRUCTION SEQUENCE

SEQUENCE 1	CONSTRUCT TEMPORARY WALLS AS REQUIRED TO REMOVE EXISTING SLIDE GATES AND COMPLETE MODIFICATIONS TO EXISTING BYPASS CHANNEL FOR CONSTRUCTION OF NEW UV SYSTEM. INSTALL NEW FITTINGS UNTIL STUBBED OUT OF THE CHANNEL. ROUTE ALL BELOW FLOOR CONDUITS (SEE ELECTRICAL SHEETS).
SEQUENCE 2	CLOSE VALVES AND CAP EXISTING AIR PIPING. REMOVE AND DISPOSE OF EXISTING GRATING AND SLIDE GATES. FILL IN EXISTING CHANNEL WITH GROUT FLUSH WITH FINISHED FLOOR ELEVATION.
SEQUENCE 3	CONSTRUCT HOUSEKEEPING PAD AND NEW UV SYSTEM. SEE SHEET M8-4/M8-5.
SEQUENCE 4	ONCE NEW UV SYSTEM HAS BEEN TESTED AND IS OPERATIONAL, ROUTE TEMPORARY DISCHARGE PIPE FROM UV TO CHANNEL UPSTREAM OF PARSHALL FLUME AS SHOWN.
SEQUENCE 5	TRANSFER ALL FLOW TO THE NEW UV SYSTEM. CONSTRUCT TEMPORARY WALL TO ISOLATE NEW WEIR LOCATION AS SHOWN. DRAIN EXISTING CHANNEL. FILL REMAINDER OF EASTERN CHANNEL WITH GROUT AND REMOVE TEMPORARY WALL ON SOUTH SIDE. COORDINATE WITH PLANT BEFORE DRAINING OF EXISTING CHANNEL. NON-POT SYSTEM IS TO BE OFFLINE FOR A MAXIMUM OF 2 DAYS AT A TIME.
SEQUENCE 6	DEMOLISH EXISTING FINGER WEIR AND SUPPORT WALL.(SEE DEMO SHEET) CORE DRILL HOLE INTO EXISTING WET WELL. REMOVE AND DISPOSE OF EXISTING UV SYSTEM. SEE SHEET M8-2. CONSTRUCT NEW WEIR/WALL. SEE SHEET M8-4.
SEQUENCE 7	REMOVE TEMPORARY WALL, CONSTRUCT FINAL DISCHARGE PIPE INTO CHANNEL.



2 M8-3 CHANNEL SECTION

0' 1'-0" 2'-0" 4'-0"

SCHEDULE D

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ROGER J. SCOTT — STATE OF WASHINGTON — 46421 — REGISTERED PROFESSIONAL ENGINEER

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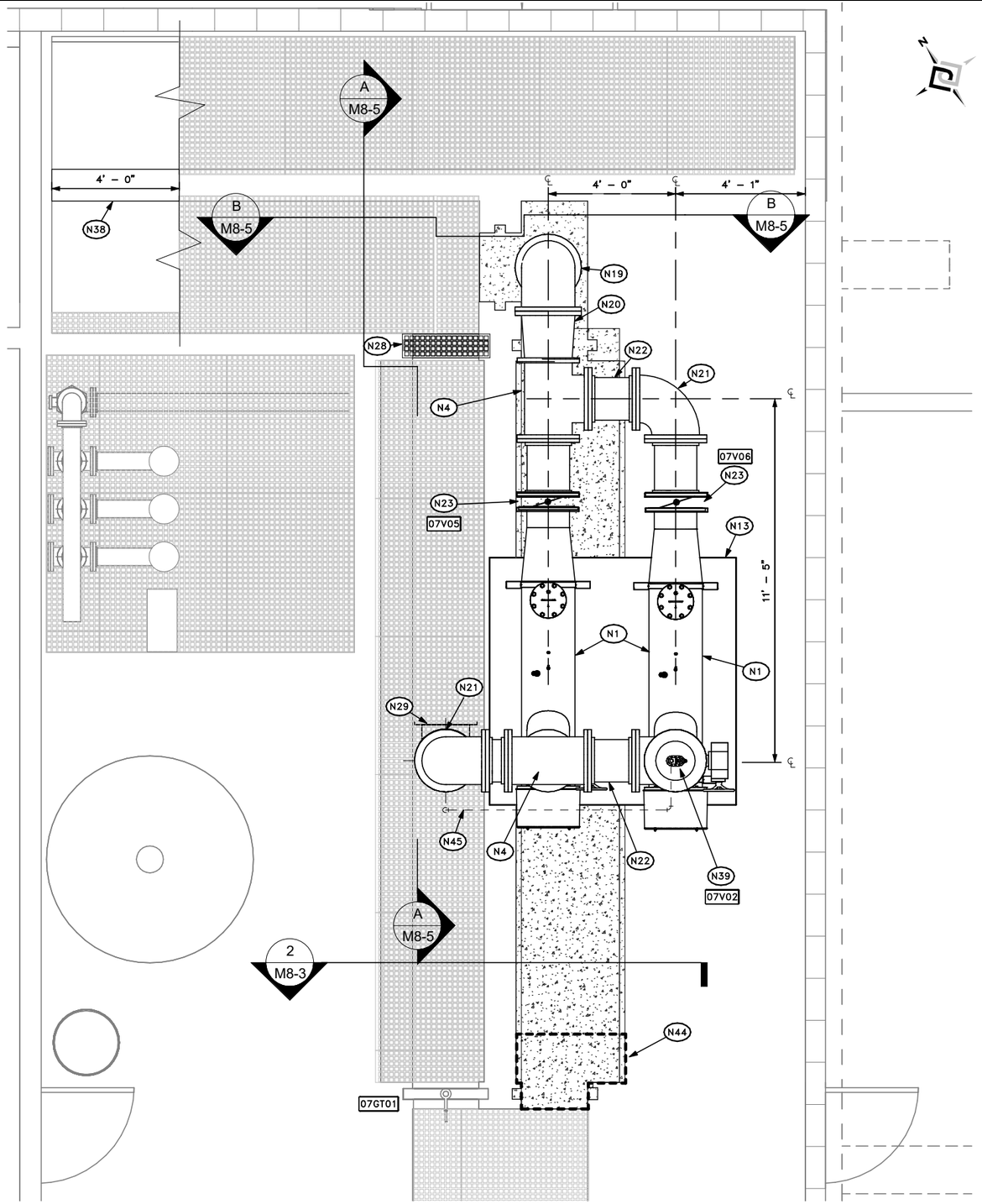
JOB NUMBER: 23030 | DATE: 3/13/2026

FILE NAMES:
DRAWING: UV ROOM.RVT
PLAN: 23030

DESIGNED BY: RJS
ENTERED BY: KWC

CITY OF GRANDVIEW
WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1
UV CONSTRUCTION SEQUENCE

M8-3



CONSTRUCTION NOTES

- (N1) NEW UV MODULE.
- (N4) 16" FLG TEE.
- (N13) HOUSEKEEPING PAD FOR UV SYSTEM. FOOTING DIMENSIONS TO BE VERIFIED PER MANUFACTURER RECOMMENDATIONS. SEE DETAIL 2.1/GS–4.
- (N19) 18" FLG 90 DEGREE ELBOW.
- (N20) 18" X 16" FLG REDUCER
- (N21) 16" FLG 90 DEGREE ELBOW.
- (N22) 16" FLG DI SPOOL
- (N23) 16" LUG TYPE BUTTERFLY VALVE WITH HANDWHEEL OPERATOR.
- (N28) INSTALL NEW GRATING IN LOCATION OF REMOVED SLIDE GATE
- (N29) CUT OR REPLACE GRATING AS NEEDED TO ACCOMMODATE NEW 16" PIPE. GRATE SHALL HAVE BANDED OPENING TO MAINTAIN BEARING STRENGTH.
- (N38) NEW CONCRETE WALL AND WEIR PLATE. SEE DETAIL 2.5/GP–2. SEE STRUCTURAL PLANS FOR REINFORCEMENT. WEIR ELEVATION 702.72'.
- (N39) 1" COMBINATION AIR RELEASE VALVE SEE DETAIL 3.5/GP–2
- (N44) FILL REMAINDER OF CHANEL TO LIMITS SHOWN UPON COMPLETION OF NEW UV SYSTEM INSTALLATION.
- (N45) COMBINATION AIR RELEASE VALVE DRAIN LINE TO BE ROUTED AS SHOWN INTO CHANNEL.

UV MECHANICAL MODIFICATIONS PLAN

0' 1'-0" 2'-0" 4'-0"

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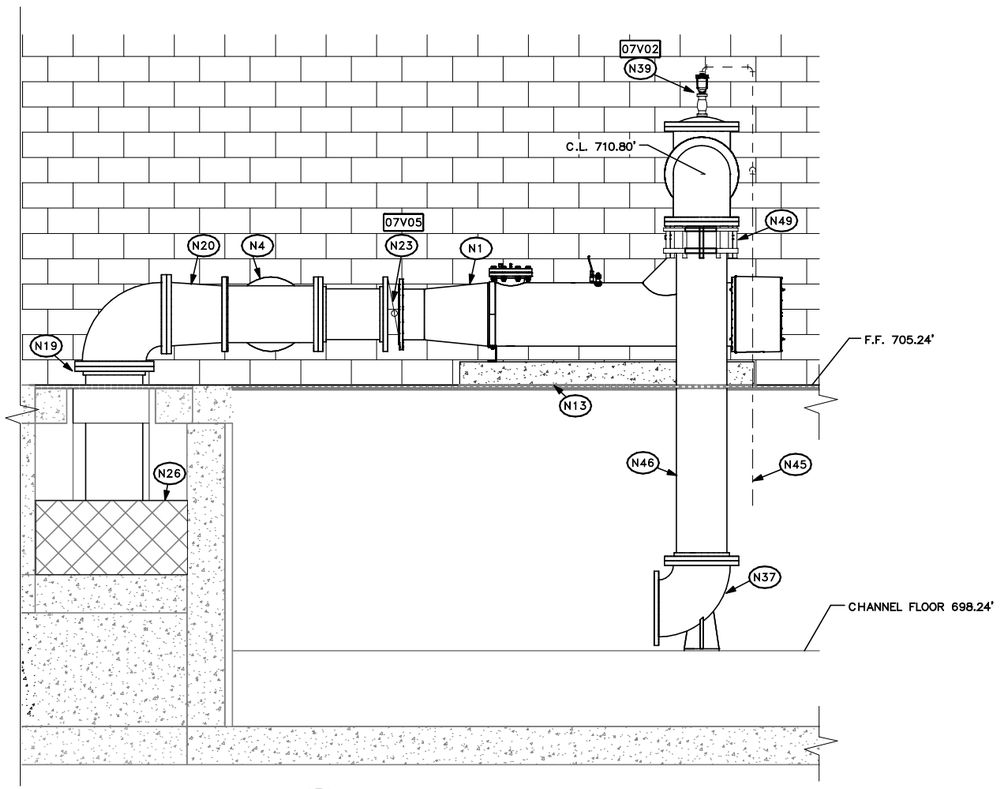
FILE NAMES:
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WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1
UV MECHANICAL MODIFICATION PLAN

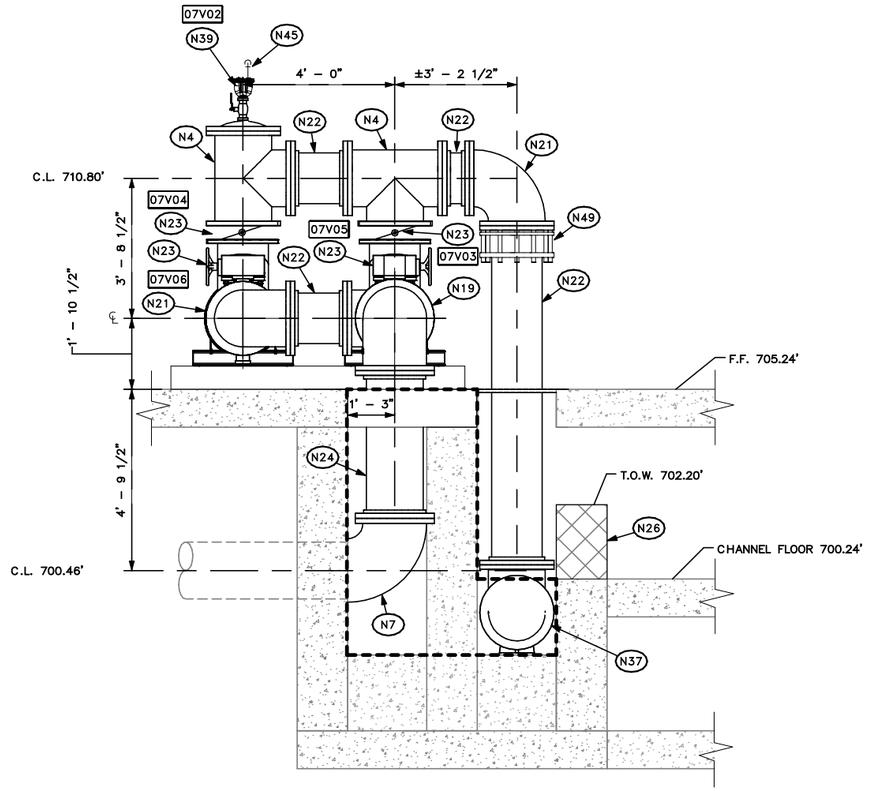
M8-4

SHEET 36 OF 192



A M8-4 UV SECTION A

0' 1'-0" 2'-0" 4'-0"



B M8-4 UV SECTION B

0' 1'-0" 2'-0" 4'-0"

CONSTRUCTION NOTES

- (N1) NEW UV MODULE.
- (N4) 16" FLG TEE.
- (N7) 18" FABRICATED TYPE 304L STAINLESS STEEL 90 DEGREE ELBOW. GROUT ATTACH TO CONCRETE WALL. WITH (8) EA. 3/4" STAINLESS STEEL ADHESIVE ANCHORS, 4" MIN. EMBEDDED.
- (N13) HOUSEKEEPING PAD FOR UV SYSTEM. FOOTING DIMENSIONS TO BE VERIFIED PER MANUFACTURER RECOMMENDATIONS. SEE DETAIL 2.1/GS–4.
- (N19) 18" FLG 90 DEGREE ELBOW.
- (N20) 18" X 16" FLG REDUCER
- (N21) 16" FLG 90 DEGREE ELBOW.
- (N22) 16" FLG DI SPOOL
- (N23) 16" LUG TYPE BUTTERFLY VALVE WITH HANDWHEEL OPERATOR.
- (N24) 18" FLG DI SPOOL
- (N26) SAWCUT WALL TO BE FLUSH WITH CHANNEL FLOOR.
- (N37) 16" FLG 90 DEGREE ELBOW WITH BASE.
- (N39) 1" COMBINATION AIR RELEASE VALVE SEE DETAIL 3.5/GP–2
- (N45) COMBINATION AIR RELEASE VALVE DRAIN LINE TO BE ROUTED AS SHOWN INTO CHANNEL.
- (N46) DOWNPIPE FROM UV SYSTEM IS TO BE INSTALLED AFTER NEW UV SYSTEM HAS BEEN TESTED AND IS OPERATIONAL. CONSTRUCT TEMPORARY PIPING TO DISCHARGE DOWNSTREAM OF EXISTING UV SYSTEM IN MEANTIME.
- (N49) 16" FLANGED COUPLING ADAPTER

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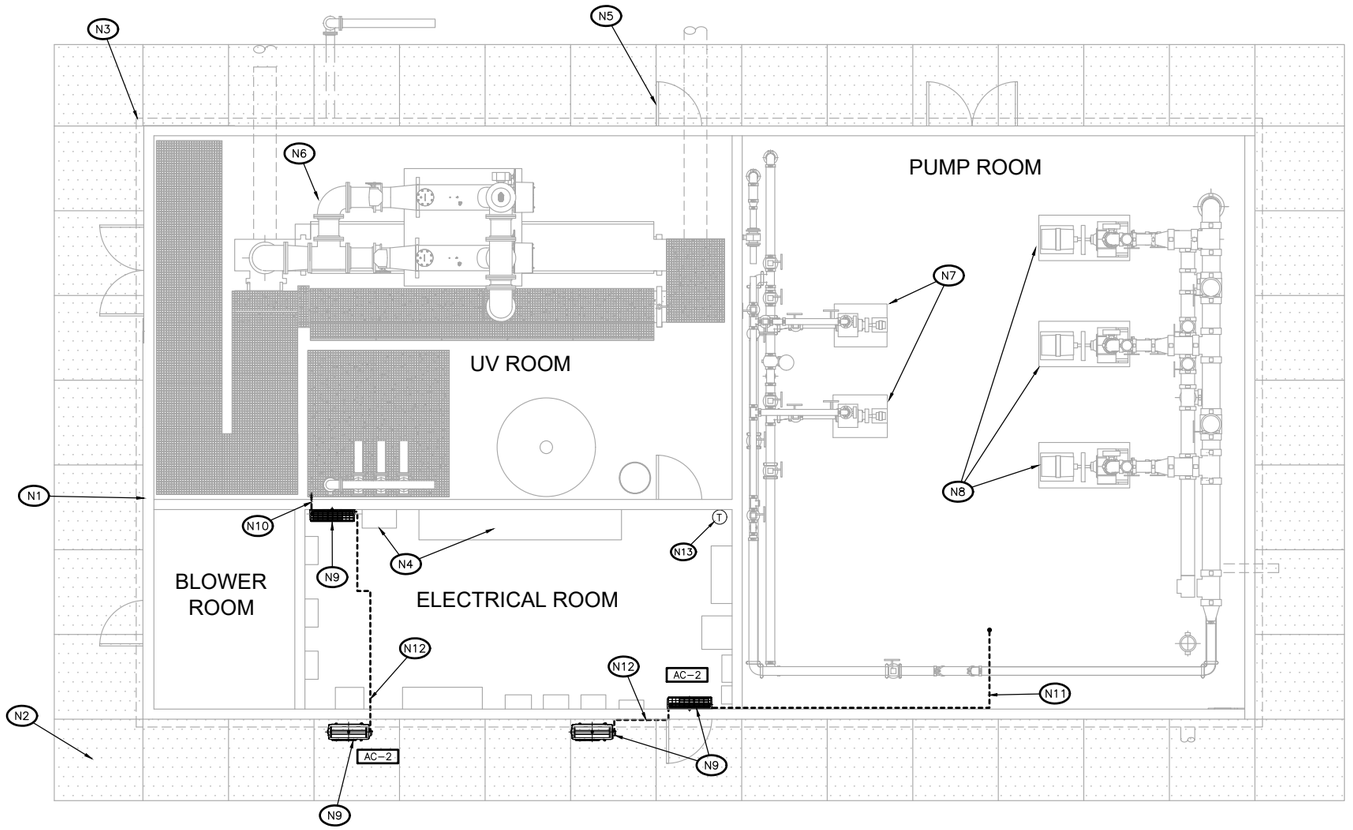
FILE NAMES:
DRAWING: UV ROOM.RVT
PLAN: 23030

DESIGNED BY: RJS
ENTERED BY: KWC

CITY OF GRANDVIEW
WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1

UV MECHANICAL MODIFICATION SECTIONS

M8-5



PLAN VIEW

0 2'-6" 5' 10'

GENERAL HVAC NOTES

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING AND PROVIDING ALL REQUIRED SUPPORTS NECESSARY FOR PROPER INSTALLATION OF ALL HVAC EQUIPMENT.
2. ALL HVAC EQUIPMENT, ACCESSORIES, AND CONTROLS SHALL BE CLOSELY COORDINATED WITH ELECTRICAL. SEE ELECTRICAL PLANS FOR ADDITIONAL INFORMATION.

NOTES

- (N1) CMU BLOCK WALL, TYP.
- (N2) EXISTING CONCRETE SIDEWALK.
- (N3) OUTLINE OF FOUNDATION FOOTING BELOW.
- (N4) ELECTRICAL EQUIPMENT AND PANELS, TYPICAL. SEE ELECTRICAL PLANS.
- (N5) HOLLOW METAL DOOR AND FRAME, TYP.
- (N6) NEW UV MODULE AND PIPING. SEE MODIFICATIONS PLAN SHEET M8-4.
- (N7) WAS PUMPS.
- (N8) RAS PUMPS.
- (N9) DUCTLESS SPLIT HVAC SYSTEM, TYP. SEE SCHEDULE ON SHEET GM-1. MOUNT ABOVE DOOR FRAME.
- (N10) HVAC UNIT CONDENSATE DRAIN LINE. CORE THROUGH CMU WALL AS NEEDED TO ROUTE INTO UV ROOM. ROUTE IN 3/4" PVC CARRIER PIPE TO DRAIN TO EXISTING WET WELL.
- (N11) HVAC UNIT CONDENSATE DRAIN LINE. CORE THROUGH CMU WALL AS NEEDED TO ROUTE INTO RAS/WAS PUMP ROOM. ROUTE IN 3/4" PVC CARRIER PIPE TO DRAIN TO EXISTING FLOOR DRAIN.
- (N12) INDOOR/OUTDOOR HVAC UNIT CONNECTION LINE. CORE THROUGH WALL TO ELECTRICAL ROOM. COORDINATE WITH ELECTRICAL.
- (N13) WALL-MOUNTED THERMOSTAT, TYP. MOUNT AT 5'-0" ABOVE FINISHED FLOOR. SEE SCHEDULE NOTE ON GM-1 FOR THERMOSTAT INFORMATION. COORDINATE WITH ELECTRICAL.

SCHEDULE D

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PLAN: 23030.dwg

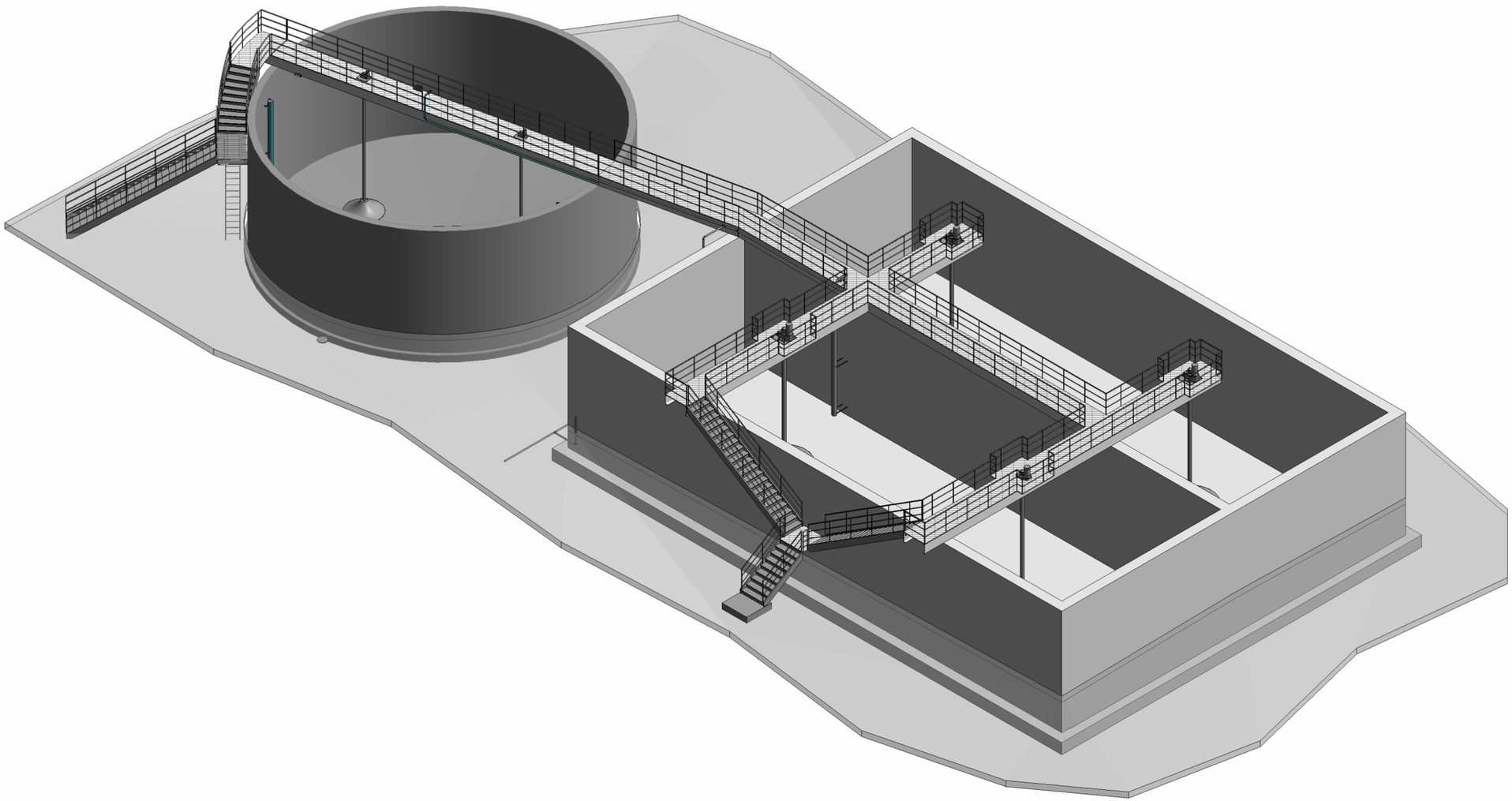
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CITY OF GRANDVIEW
WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1

UV/RAS HVAC PLAN

M8-6

SHEET 38 OF 192



ISOMETRIC
NOT TO SCALE

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DATE: 3/13/2026
FILE NAMES:
DRAWING: SLUDGE HOLDING TANK.rvt
PLAN: 23030
DESIGNED BY: JLB
ENTERED BY: KRN

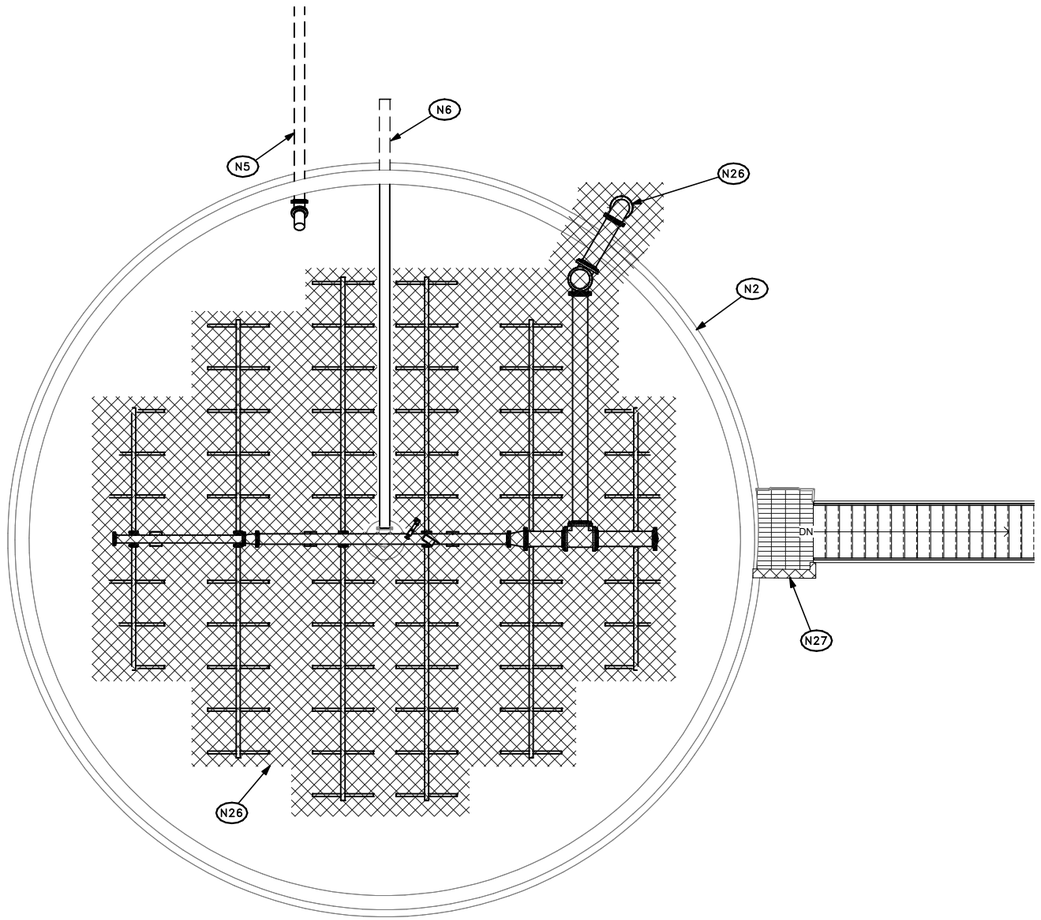
CITY OF GRANDVIEW
WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1
SLUDGE HOLDING TANK ISOMETRIC VIEW

M10-1

SHEET 39 OF 192

GENERAL NOTE:

1. CLOSELY COORDINATE ALL DEMOLITION WORK WITH SUGGESTED SEQUENCE OF CONSTRUCTION PROVIDED ON SHEET G-4. ALL EXISTING EQUIPMENT SHALL REMAIN OPERATIONAL UNTIL STARTUP AND COMISSIONING OF NEW DEWATERING EQUIPMENT IS COMPLETE.



CONSTRUCTION NOTES

N2	OUTLINE OF EXISTING TANK FOUNDATION SLAB BELOW, TYPICAL.
N5	EXISTING SLUDGE FEED PIPING. SEE SHEET C-2 FOR CONTINUATION.
N6	EXISTING SLUDGE WITHDRAWAL PIPING TO DEWATERING BUILDING. SEE SHEET C-2 FOR CONTINUATION.
N26	REMOVE EXISTING AERATION SYSTEM IN SHADED AREA. CUT AND CAP EXISTING 12" D.I. AERATION PIPING 6" MIN. ABOVE GROUND.
N27	REMOVE EXISTING HANDRAIL FOR INSTALLATION OF NEW STAIRS AND CATWALK.

DEMOLITION PLAN

0' 2'-8" 5'-4" 10'-8"

DENOTES EXISTING EQUIPMENT TO BE REMOVED/RELOCATED

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PLAN: 23030

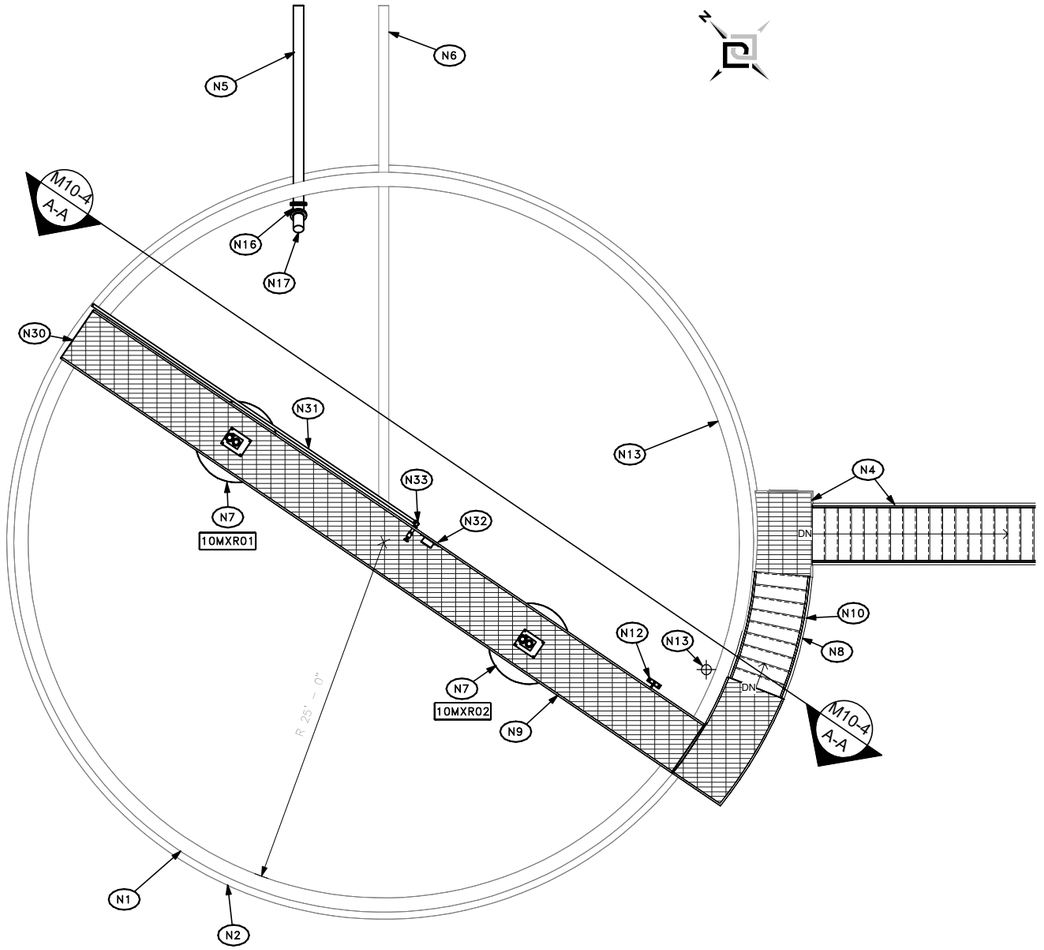
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CITY OF GRANDVIEW
WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1

EXISTING SLUDGE HOLDING TANK DEMOLITION PLAN

M10-2

SHEET 40 OF 192



EXISTING SLUDGE TANK

0' 2'-0" 4'-0" 8'-0"

CONSTRUCTION NOTES

- (N1) EXISTING 50' DIA REINFORCED CONCRETE SLUDGE MIXING AND HOLDING TANK WALL.
- (N2) OUTLINE OF EXISTING TANK FOUNDATION SLAB BELOW, TYPICAL.
- (N4) EXISTING ACCESS STAIRS AND PLATFORM.
- (N5) EXISTING SLUDGE FEED PIPING. SEE SHEET C-2 FOR CONTINUATION.
- (N6) EXISTING SLUDGE WITHDRAWAL PIPING TO DEWATERING BUILDING. SEE SHEET C-2 FOR CONTINUATION.
- (N7) NEW 5 HP FRP HYPERBOLIC TANK MIXER, INVENT ENVIRONMENTAL TECHNOLOGIES, INC. MODEL HCM/2500.
- (N8) INSTALL NEW ACCESS STAIRS AND PLATFORM. SEE STRUCTURAL PLANS AND DETAILS.
- (N9) WALKWAY/MIXER SUPPORT BRIDGE WITH ALUMINUM GRATING. SEE STRUCTURAL PLANS AND DETAILS.
- (N10) ALUMINUM GUARDRAIL, TYPICAL. SEE STRUCTURAL PLANS.
- (N12) STAINLESS STEEL FLOAT SWITCH SUPPORT BRACKET ATTACHED TO SIDE OF SUPPORT BRIDGE. SEE ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION.
- (N13) 8" PVC LEVEL TRANSDUCER STILLING WELL PIPE. SECURE TO CONCRETE WALL WITH STAINLESS STEEL OFFSET PIPE BRACKET. REFER TO ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION.
- (N16) 8" D.I. MJ 45 DEG. ELBOW ORIENTED UPWARD.
- (N17) 8" DI PE X PE SPOOL-6-INCHES LONG.
- (N30) NEW WALKWAY BRIDGE CONNECTION. CONTRACTOR TO VERIFY DIMENTIONS IN FIELD. SEE STRUCTURAL PLANS FOR DETAILS.
- (N31) 2" GALVENIZED IRON NON-POT LINE WRAPPED IN INSULATION AND HEAT TAPE.
- (N32) HOSE RACK. SEE DETAIL 2.2/GP-1.
- (N33) 2" ANGLE VALVE T-301-W NIBCO OR EQUAL.

GENERAL NOTE:

1. ALL DUCTILE IRON SLUDGE PIPING AND FITTINGS USED ON THIS SLUDGE HOLDING TANK SHALL BE GLASS-LINED.

2. UTILITY WATER PIPE INSULATION SHALL BE 1" MINIMUM THICKNESS PREFORMED WATER-REPELLENT MINERAL WOOL WITH PROTECTIVE ALUMINUM JACKETING. JACKETING MATERIAL SHALL BE 0.024-INCH THICK SMOOTH OR EMBOSSED ALUMINUM WITH INTEGRAL INTERIOR MOISTURE BARRIER. SEAL ALL JOINTS AND SECURE JACKETING WITH 1/2-INCH ALUMINUM BANDS AT 8 INCHES ON CENTER. INSTALL FACTORY-FORMED FITTINGS AROUND ALL ELBOWS, JOINTS, VALVES, ETC. PIPE INSULATION AND PROTECTIVE ALUMINUM JACKETING SHALL BE AS MANUFACTURED BY JOHNS MANVILLE, OR ENGINEER APPROVED EQUAL. HEAT TRACE SHALL BE SELF-REGULATING CABLE, 3.4W/FT OUTPUT, NVENT (RAYCHEM) XLE SERIES OR APPROVED EQUAL, SUITABLE FOR USE ON A 120VAC POWER SOURCE. PROVIDE ALL POWER CONNECTION, SPLICE KIT, TEE, ANDEND SEAL ACCESSORIES REQUIRED FOR A COMPLETE INSTALLATION.

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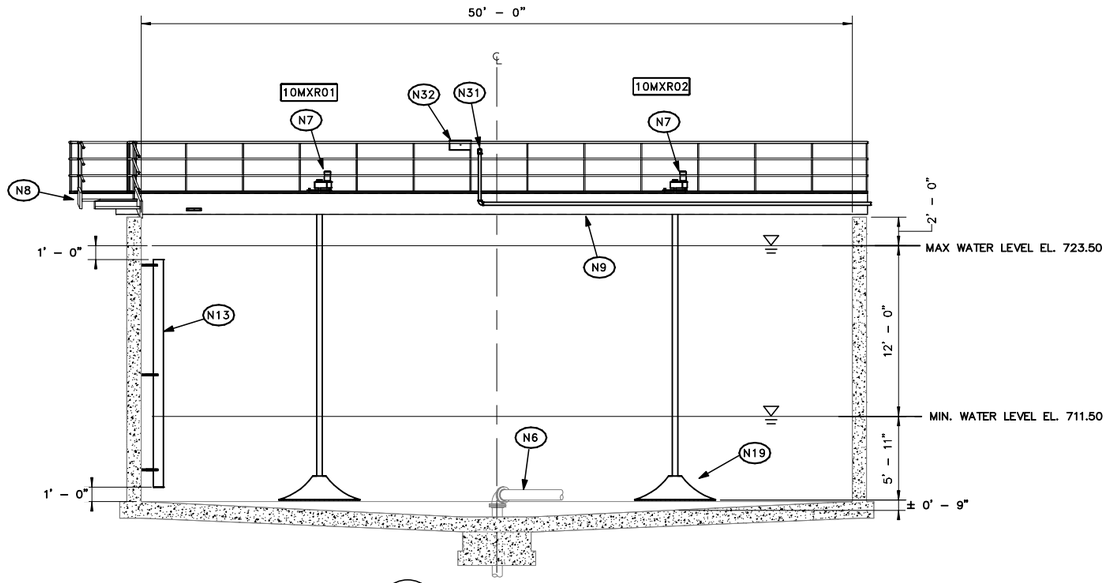
FILE NAMES:
DRAWING: EXISTING SLUDGE TANK.rvt
PLAN: 23030

DESIGNED BY: JWM
ENTERED BY: KRN

CITY OF GRANDVIEW
WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1

EXISTING SLUDGE HOLDING TANK PLAN

M10-3

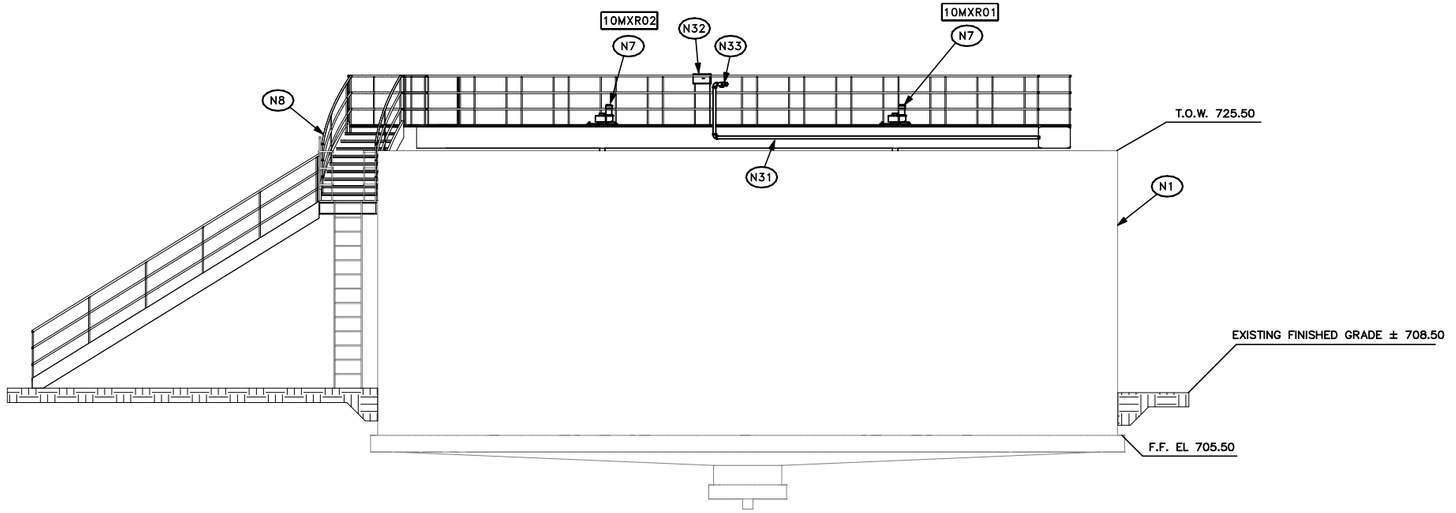


A-A / M10-3 SECTION A

0' 2'-8" 5'-4" 10'-8"

CONSTRUCTION NOTES

- (N1) EXISTING 50' DIA REINFORCED CONCRETE SLUDGE MIXING AND HOLDING TANK WALL.
- (N6) EXISTING SLUDGE WITHDRAWAL PIPING TO DEWATERING BUILDING. SEE SHEET C–2 FOR CONTINUATION.
- (N7) NEW 5 HP FRP HYPERBOLIC TANK MIXER, INVENT ENVIRONMENTAL TECHNOLOGIES, INC. MODEL HCM/2500.
- (N8) INSTALL NEW ACCESS STAIRS AND PLATFORM. SEE STRUCTURAL PLANS AND DETAILS.
- (N9) WALKWAY/MIXER SUPPORT BRIDGE WITH ALUMINUM GRATING. SEE STRUCTURAL PLANS AND DETAILS.
- (N13) 8" PVC LEVEL TRANSDUCER STILLING WELL PIPE. SECURE TO CONCRETE WALL WITH STAINLESS STEEL OFFSET PIPE BRACKET. REFER TO ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION.
- (N19) MINIMUM CLEARANCE OF +/– 9" BETWEEN MIXER AND FLOOR OF TANK, CONSTRUCT PER MIXER MANUFACTURERS'S SPECIFICATIONS.
- (N31) 2" GALVENIZED IRON NON–POT LINE WRAPPED IN INSULATION AND HEAT TAPE.
- (N32) HOSE RACK. SEE DETAIL 2.2/GP–1.
- (N33) 2" ANGLE VALVE T–301–W NIBCO OR EQUAL.



WEST ELEVATION

0' 2'-8" 5'-4" 10'-8"

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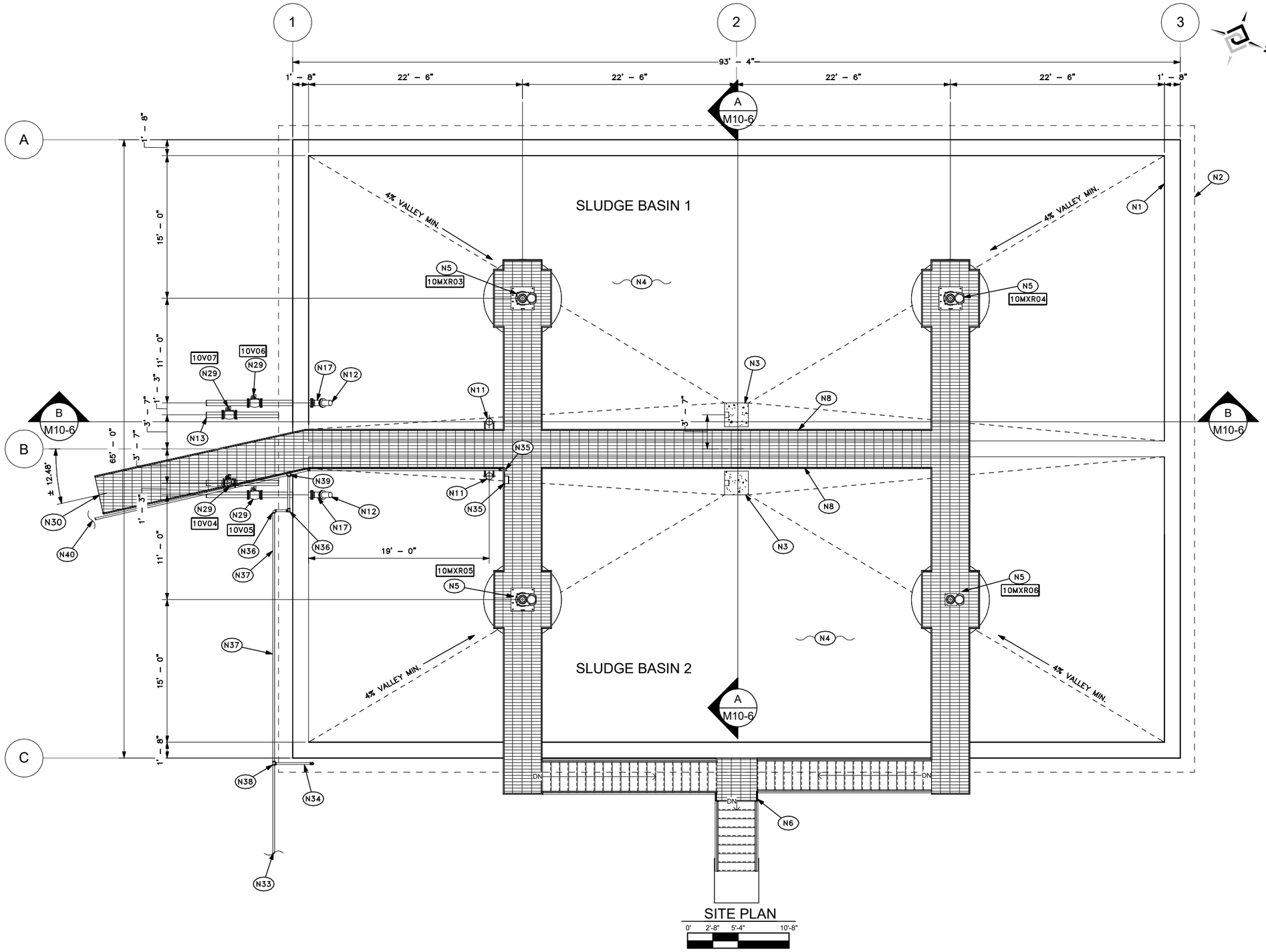
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CITY OF GRANDVIEW
WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1

EXISTING SLUDGE HOLDING TANK SECTIONS

M10-4

SHEET 42 OF 192



CONSTRUCTION NOTES

- (N1) REINFORCED CONCRETE SLUDGE MIXING AND HOLDING TANK WALL, TYPICAL. SEE STRUCTURAL DRAWINGS.
- (N2) OUTLINE OF TANK FOUNDATION SLAB BELOW, TYPICAL
- (N3) 2'–6" X 2'–6" TANK SUMP, TYPICAL. GROUT BOTTOM TO SLOPE TOWARDS OUTLET PIPE.
- (N4) GROUT SLOPE FROM TANK SUMP TO TANK WALLS. SLOPE VALLEY SHALL BE MINIMUM 4% GRADE.
- (N5) NEW 10 HP FRP HYPERBOLIC TANK MIXER, INVENT ENVIRONMENTAL TECHNOLOGIES, INC. MODEL HCM/2500, OR EQUAL.
- (N6) ACCESS STAIRS AND PLATFORM. SEE STRUCTURAL PLANS AND DETAILS.
- (N8) ALUMINUM GUARDRAIL, TYPICAL. SEE STRUCTURAL PLANS.
- (N11) 8" PVC LEVEL TRANSDUCER STILLING WELL PIPE. SECURE TO CONCRETE WALL WITH STAINLESS STEEL OFFSET PIPE BRACKETS. REFER TO ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION.
- (N12) 6" GLASS LINED DUCTILE IRON PIPING. SEE SHEET C–2 FOR CONTINUATION.
- (N13) 6" GLASS LINED DUCTILE IRON PIPING TO DEWATERING BUILDING. SEE SHEET C–2 FOR CONTINUATION.
- (N17) 6" D.I. MJ 45 DEG. ELBOW.
- (N29) 6" FLG. PLUG VALVE WITH 2" OPERATING NUT AND VALVE BOX.
- (N30) NEW WALKWAY BRIDGE TO EXISTING SLUDGE HOLDING TANK.
- (N33) 2" D.I. IRRIGATION PIPING FROM EXISTING PIPING STUB TO SLUDGE HOLDING TANKS. SEE SHEET C–4 FOR CONTINUATION.
- (N34) 2" PEX UTILITY WATER PIPING TO YARD HYDRANT. 3'–0" MIN. COVER. SEE DETAIL 3.3/GC–1.
- (N35) INSTALL 2" ANGLE VALVE T–301–W NIBCO OR EQUAL.
- (N36) 2" GI 90 DEG. ELBOW.
- (N37) TRANSITION FROM 2" PEX TO 2" GI. ROUTE RISER PIPE AND FITTINGS UP TANK WALL TO HOSE BIBB. INSULATE AND INSTALL HEAT TRACE ON EXPOSED PIPING. EXTEND INSULATION TO 2' MINIMUM BELOW FINISHED GRADE.
- (N38) 2" PEX TEE FITTING.
- (N39) 2" GI TEE FITTING.
- (N40) 2" GI UTILITY WATER PIPING CONTINUATION ON EXISTING SLUDGE TANK SHEETS.

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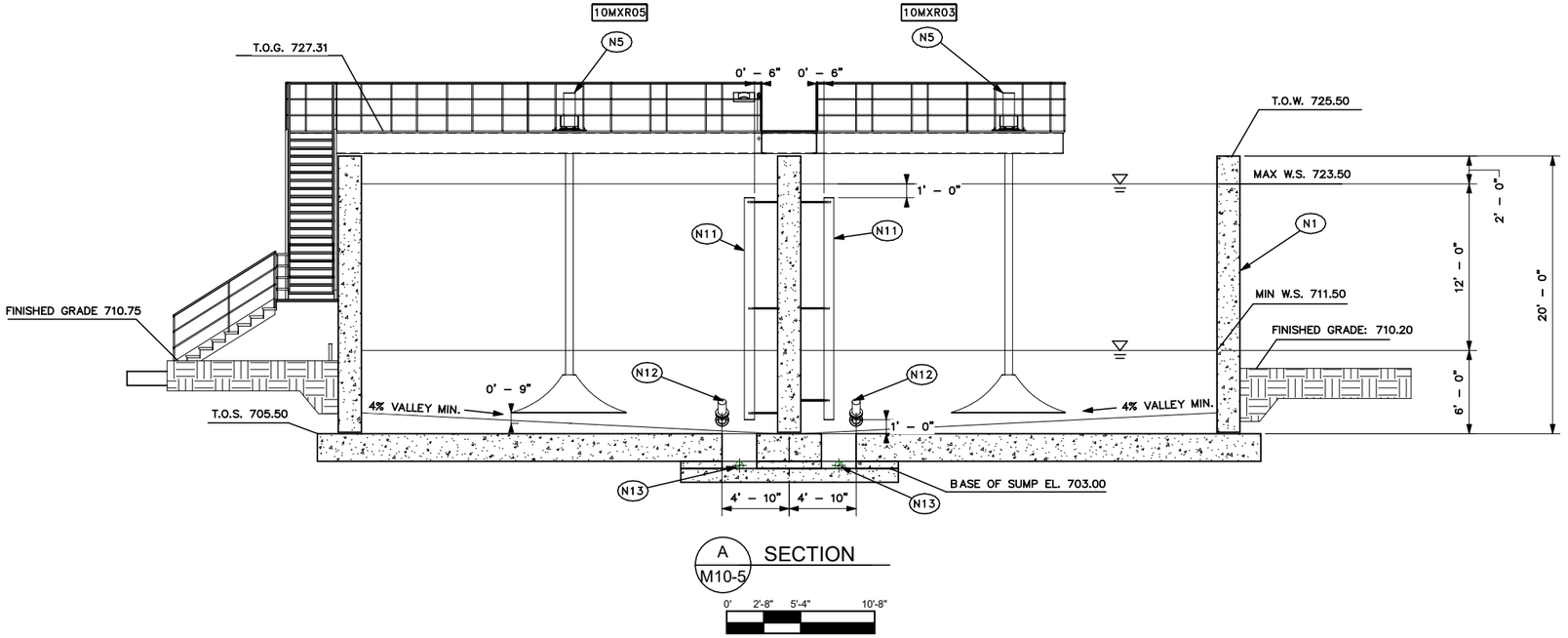
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JOB NUMBER: 23030	DATE: 3/13/2026
FILE NAMES:	
DRAWING: SLUDGE HOLDING TANK.rvt	
PLAN: 23030	
DESIGNED BY: JLB	
ENTERED BY: KRN	

CITY OF GRANDVIEW
WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1
NEW SLUDGE HOLDING TANK PLAN

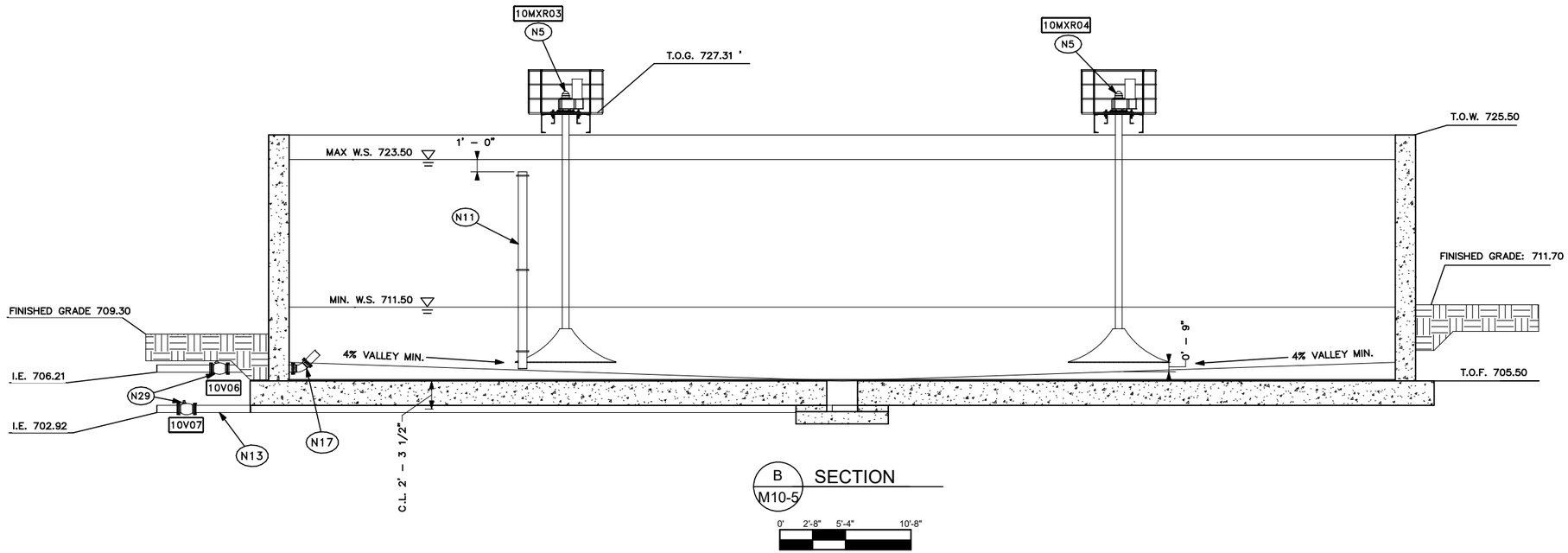
M10-5

SHEET 43 OF 192



A M10-5 SECTION

0' 2'-8" 5'-4" 10'-8"



B M10-5 SECTION

0' 2'-8" 5'-4" 10'-8"

CONSTRUCTION NOTES

- (N1) REINFORCED CONCRETE SLUDGE MIXING AND HOLDING TANK WALL, TYPICAL. SEE STRUCTURAL DRAWINGS.
- (N5) NEW 10 HP FRP HYPERBOLIC TANK MIXER, INVENT ENVIRONMENTAL TECHNOLOGIES, INC. MODEL HCM/2500, OR EQUAL.
- (N11) 8" PVC LEVEL TRANSDUCER STILLING WELL PIPE. SECURE TO CONCRETE WALL WITH STAINLESS STEEL OFFSET PIPE BRACKETS. REFER TO ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION.
- (N12) 6" GLASS LINED DUCTILE IRON PIPING. SEE SHEET C–2 FOR CONTINUATION.
- (N13) 6" GLASS LINED DUCTILE IRON PIPING TO DEWATERING BUILDING. SEE SHEET C–2 FOR CONTINUATION.
- (N17) 6" D.I. MJ 45 DEG. ELBOW.
- (N29) 6" FLG. PLUG VALVE WITH 2" OPERATING NUT AND VALVE BOX.

SCHEDULE A

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ROBERT J. SCOTT — STATE OF WASHINGTON — 46421 — REGISTERED PROFESSIONAL ENGINEER

REVISION	DATE

JOB NUMBER: 23030 | DATE: 3/13/2026

FILE NAMES:
DRAWING: SLUDGE HOLDING TANK.rvt
PLAN: 23030

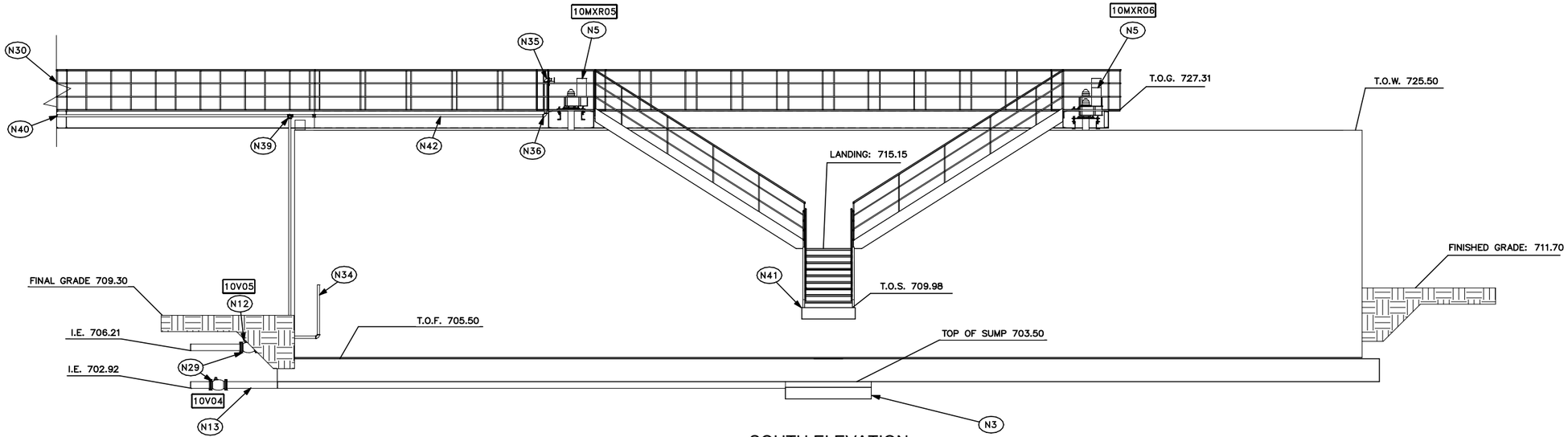
DESIGNED BY: JLB
ENTERED BY: KRN

CITY OF GRANDVIEW
WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1

NEW SLUDGE HOLDING TANK SECTIONS

M10-6

SHEET 44 OF 192



SOUTH ELEVATION

0' 2'-8" 5'-4" 10'-8"

CONSTRUCTION NOTES

(N3) 2'–6" X 2'–6" TANK SUMP, TYPICAL. GROUT BOTTOM TO SLOPE TOWARDS OUTLET PIPE.

(N5) NEW 10 HP FRP HYPERBOLIC TANK MIXER, INVENT ENVIRONMENTAL TECHNOLOGIES, INC. MODEL HCM/2500, OR EQUAL.

(N12) 6" GLASS LINED DUCTILE IRON PIPING. SEE SHEET C–2 FOR CONTINUATION.

(N13) 6" GLASS LINED DUCTILE IRON PIPING TO DEWATERING BUILDING. SEE SHEET C–2 FOR CONTINUATION.

(N29) 6" FLG. PLUG VALVE WITH 2" OPERATING NUT AND VALVE BOX.

(N30) NEW WALKWAY BRIDGE TO EXISTING SLUDGE HOLDING TANK.

(N34) 2" PEX UTILITY WATER PIPING TO YARD HYDRANT. 3'–0" MIN. COVER. SEE DETAIL 3.3/GC–1.

(N35) INSTALL 2" ANGLE VALVE T–301–W NIBCO OR EQUAL.

(N36) 2" GI 90 DEG. ELBOW.

(N39) 2" GI TEE FITTING.

(N40) 2" GI UTILITY WATER PIPING CONTINUATION ON EXISTING SLUDGE TANK SHEETS.

(N41) 12" THICK CONCRETE PAD. SEE STRUCTURAL SHEETS FOR DETAILS.

(N42) 2" GI UTILITY WATER LINE. INSULATE AND INSTALL HEAT TRACE ON EXPOSED PIPING.

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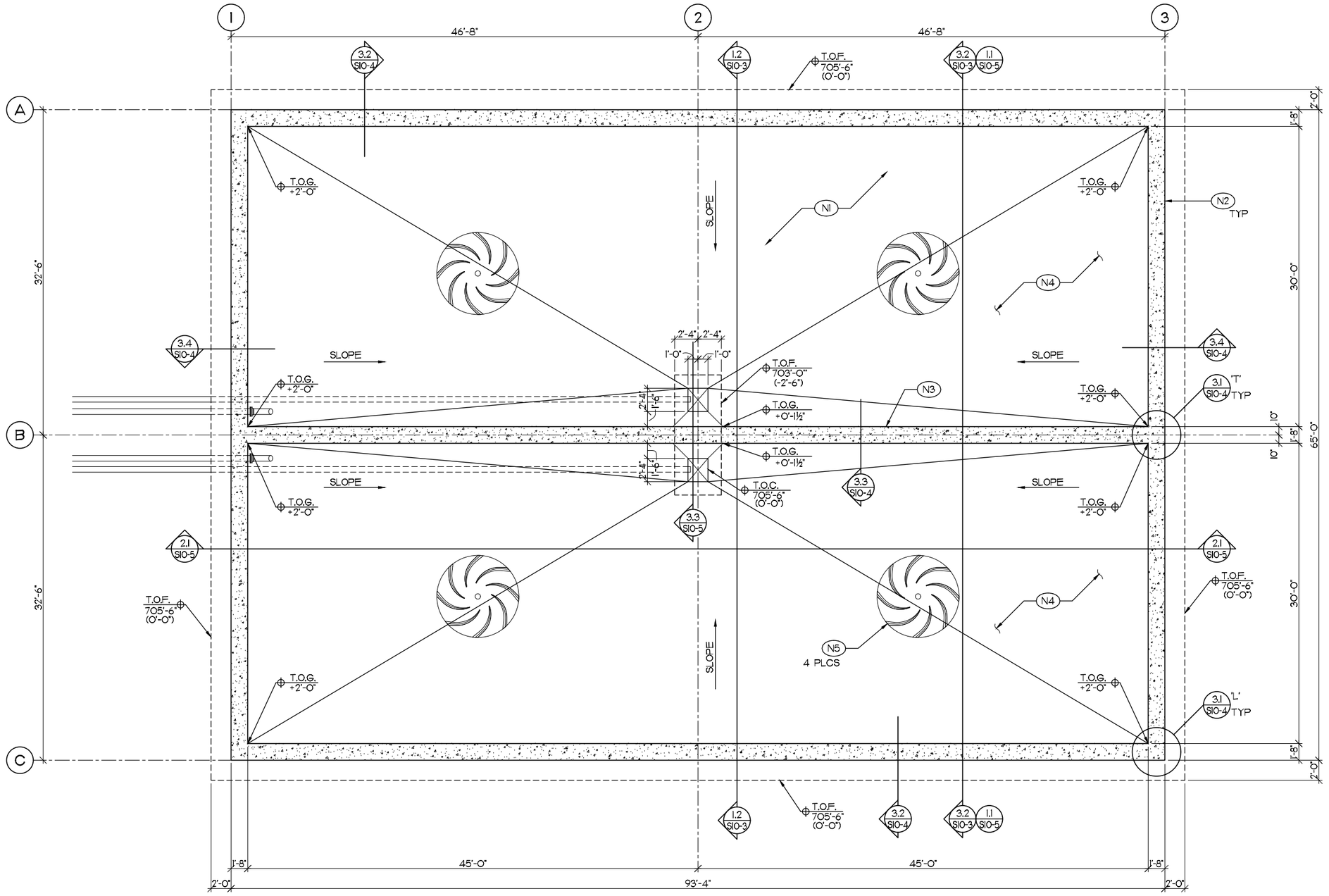
FILE NAMES:
DRAWING: SLUDGE HOLDING TANK.rvt
PLAN: 23030

DESIGNED BY: JLB
ENTERED BY: KRN

CITY OF GRANDVIEW
WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1
NEW SLUDGE HOLDING TANK ELEVATION

M10-7

SHEET 45 OF 192



NOTES (FOR THIS PLAN)

- (N1) 2'-0" CONCRETE FOUNDATION SLAB OVER PREPARED SUBGRADE, SEE SHT S10-4 FOR REINFORCMENT
- (N2) TYPICAL 20" CONCRETE PERIMETER WALL
- (N3) 20" CONCRETE CENTER WALL
- (N4) 4000G GROUT OVERLAY SLOPED AS SHOWN
- (N5) MIXER, SEE PROCESS DRAWINGS
- (N6) SUBMIT CONSTRUCTION JOINT LAYOUT FOR REVIEW FOR WALLS & FOUNDATION SLAB

  THE MAXIMUM LINEAL FEET OF ANY WALL SEGMENT FOR PLACEMENT TO BE LESS THAN 50'

NOTE:

PROVIDE DRAINAGE SYSTEM AROUND PERIMETER WALLS AS RECOMMENDED BY THE GEOTECHNICAL REPORT

NORTH

3.1 SLUDGE HOLDING TANK FOUNDATION PLAN

3/16"=1'-0"

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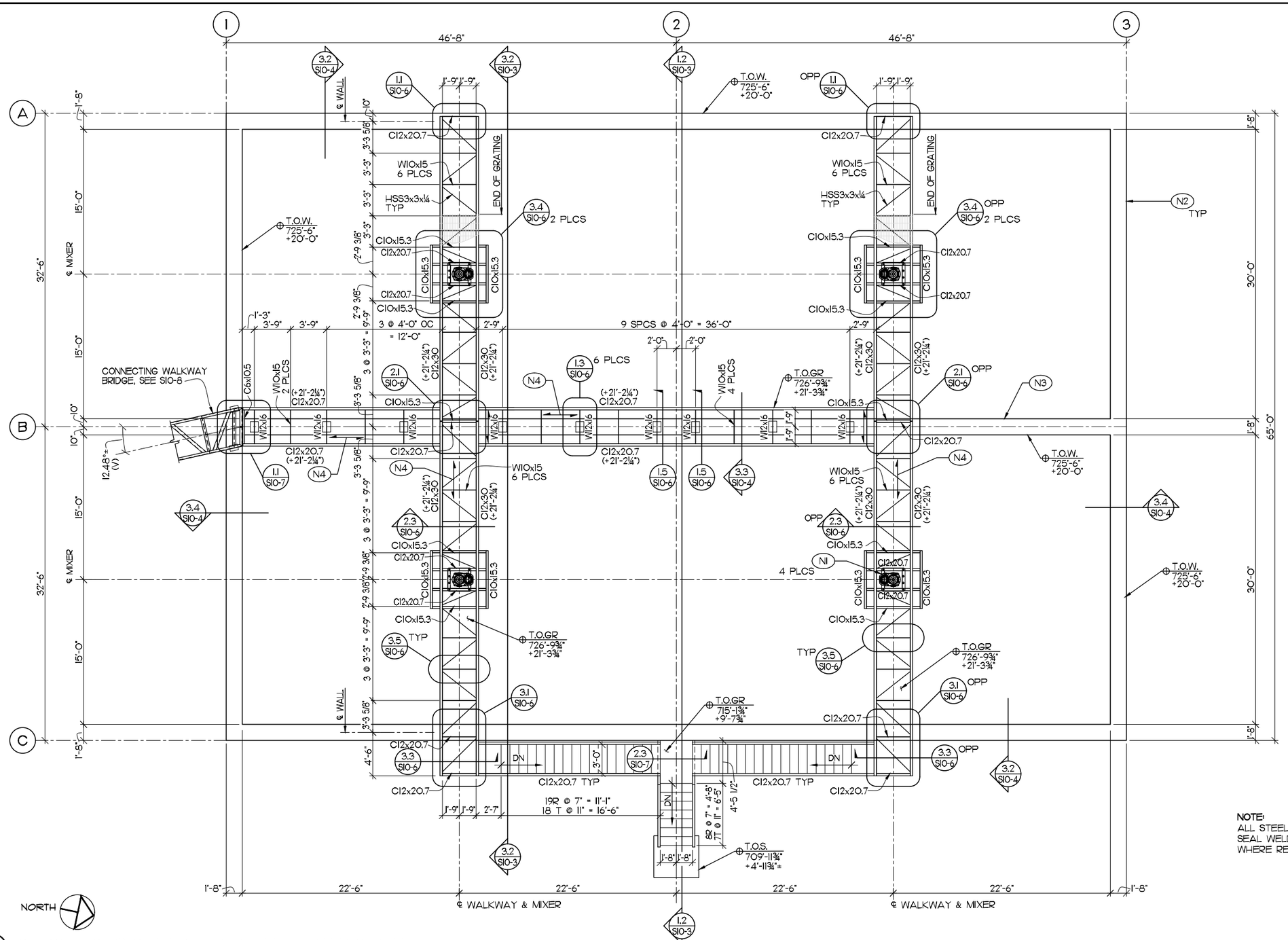
FILE NAMES:
DRAWING:
PLAN:

DESIGNED BY: JDS
ENTERED BY: JDS

CITY OF GRANDVIEW
WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1

SLUDGE HOLDING TANK FOUNDATION PLAN

S10-1



3.1 SLUDGE HOLDING TANK UPPER LEVEL FRAMING PLAN

3/16"=1'-0"

NOTES (FOR THIS PLAN)

- (N1) MIXER MOUNTING, SEE 3.4/S10-6
- (N2) TYPICAL 20" CONCRETE PERIMETER WALL
- (N3) 20" CONCRETE CENTER WALL
- (N4) ALUM GRATING, TYPE AA
  1½x⅜ BB @ 1⅜" OC
  ¼"Φ CB @ 4" OC

NOTE:
ALL STEEL & FASTENERS TO BE HOT DIPPED GALVANIZED
SEAL WELD ALL STEEL JOINTS AND PROVIDE VENT HOLES
WHERE REQUIRED ON UNDERSIDE OF HSS MEMBERS

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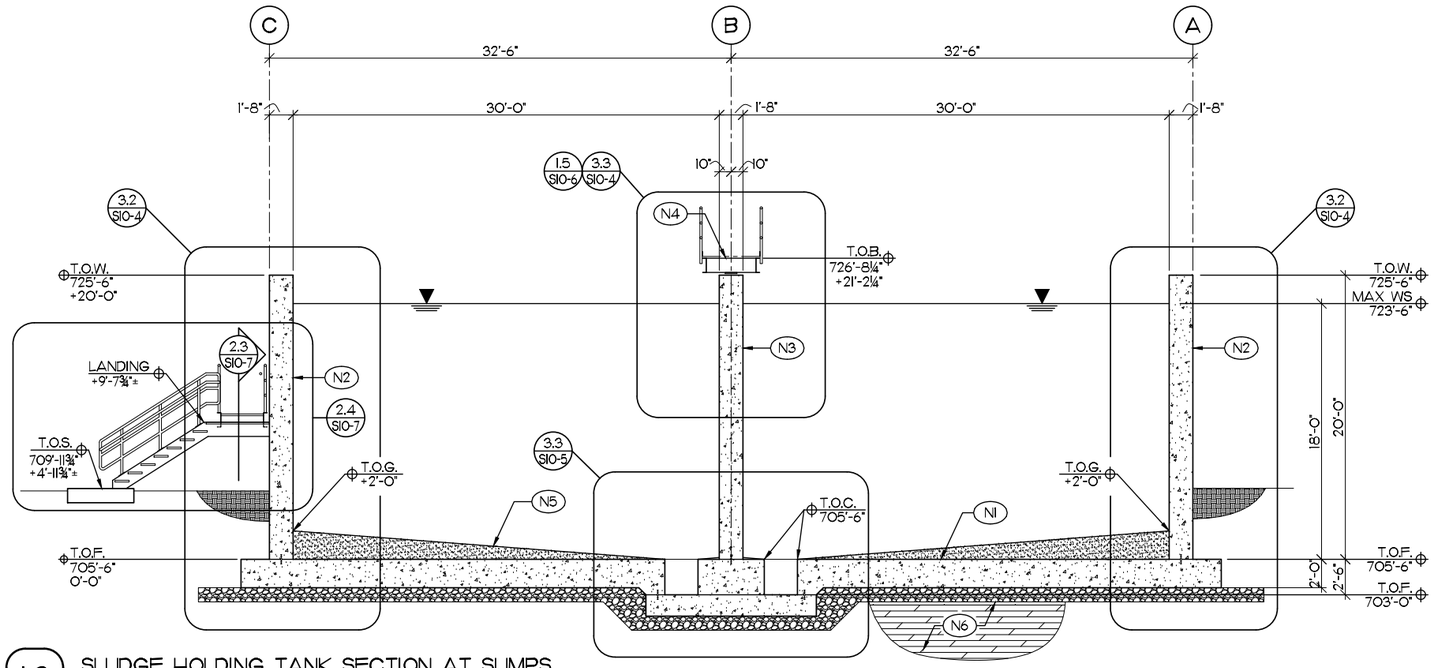
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PLAN:
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CITY OF GRANDVIEW
WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1

SLUDGE HOLDING TANK UPPER LEVEL FRAMING PLAN

S10-2

SHEET 47 OF 192

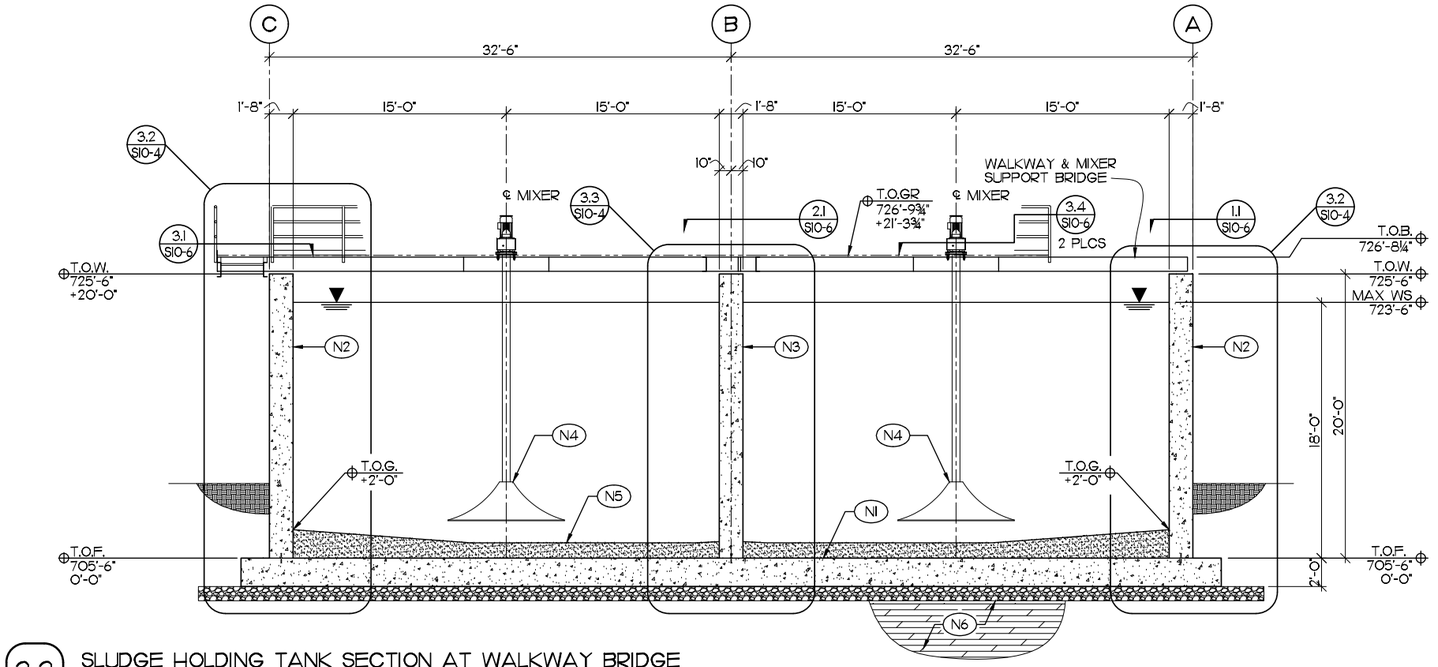


1.2 SLUDGE HOLDING TANK SECTION AT SUMPS

3/16"=1'-0"

NOTES (FOR THIS SECTION)

- (N1) 2'-0" CONCRETE FOUNDATION SLAB OVER PREPARED SUBGRADE, SEE 1.1/S10-5 FOR REINFORCMENT
- (N2) TYPICAL 20" CONCRETE PERIMETER WALL
- (N3) 20" CONCRETE CENTER WALL
- (N4) GALV STEEL FRAMED WALKWAY W/ 1½" ALUM BB GRATING
- (N5) 4000G GROUT OVERLAY SLOPED AS SHOWN
- (N6) REMOVE EXISTING BASALT AND INSTALL A MINIMUM 4" THICK LEVELING MUD-MAT SLAB OR 12" MINIMUM THICKNESS OF COMPACTED CRUSHED ROCK FILL PER RECOMMENDATIONS OF THE GEOTECHNICAL REPORT



3.2 SLUDGE HOLDING TANK SECTION AT WALKWAY BRIDGE

3/16"=1'-0"

NOTES (FOR THIS SECTION)

- (N1) 2'-0" CONCRETE FOUNDATION SLAB OVER PREPARED SUBGRADE, SEE 1.1/S10-5 FOR REINFORCMENT
- (N2) TYPICAL 20" CONCRETE PERIMETER WALL
- (N3) 20" CONCRETE CENTER WALL
- (N4) MIXER, SEE PROCESS DRAWINGS
- (N5) 4000G GROUT OVERLAY SLOPED AS SHOWN
- (N6) REMOVE EXISTING BASALT AND INSTALL A MINIMUM 4" THICK LEVELING MUD-MAT SLAB OR 12" MINIMUM THICKNESS OF COMPACTED CRUSHED ROCK FILL PER RECOMMENDATIONS OF THE GEOTECHNICAL REPORT

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WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1

SLUDGE HOLDING TANK SECTIONS

S10-3

NOTES (FOR THIS DETAIL)

(N1) #7 HORIZONTAL BARS TYP I @ 3" TOP, LAP W/ TYP HORIZONTAL WALL REINFORCEMENT (6" OC & 8" OC)

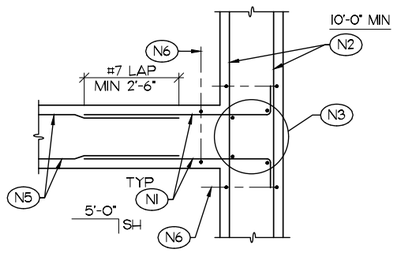
(N2) TYPICAL #7 x10'-0" MIN EACH FACE AT 'T' INTERSECTION I @ 3" TOP, LAP W/ TYP HORIZONTAL WALL REINFORCEMENT (6" OC & 8" OC) NOT REQUIRED WHERE TYP HORIZONTAL BARS RUN CONTINUOUS THROUGH 'T' INTERSECTION W/ LAP SPLICES 5'-0" MINIMUM AWAY FROM 'T' INTERSECTION

(N3) 4-#6 VERTICAL BARS AT EACH INTERSECTION

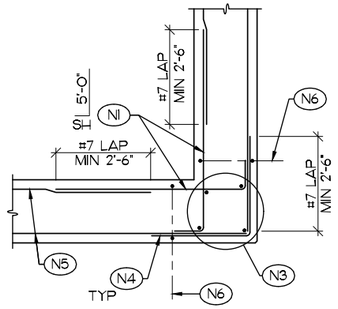
(N4) TYPICAL #7 CORNER BARS @ SAME SPACING AS HORIZONTAL WALL BARS

(N5) TYPICAL #7 HORIZONTAL BARS, SEE WALL SECTIONS FOR SPACINGS

(N6) IST WALL DOWEL AND TYPICAL FULL-HEIGHT VERTICAL BARS TO BE SPACED 6"± MAX FROM THE INSIDE CORNER



PLAN SECTION - 'T' INTERSECTION



PLAN SECTION - 'L' INTERSECTION

3.1 BAR REQUIREMENTS @ 'L' CORNERS & 'T' INTERSECTIONS

½"=1'-0"

NOTES (FOR THIS DETAIL)

(N1) 20" CONCRETE TANK WALL

(N2) #6V @ 12" OC (2" CLEAR)

(N3) #6V @ 9" OC (2" CLEAR), STAGGER 10' BAR & FULL HEIGHT BAR (4½" OC NET SPACING)

(N4) #7H @ 8" OC EF (INSIDE OF VERT BARS)

(N5) #7H @ 6" OC EF (INSIDE OF VERT BARS)

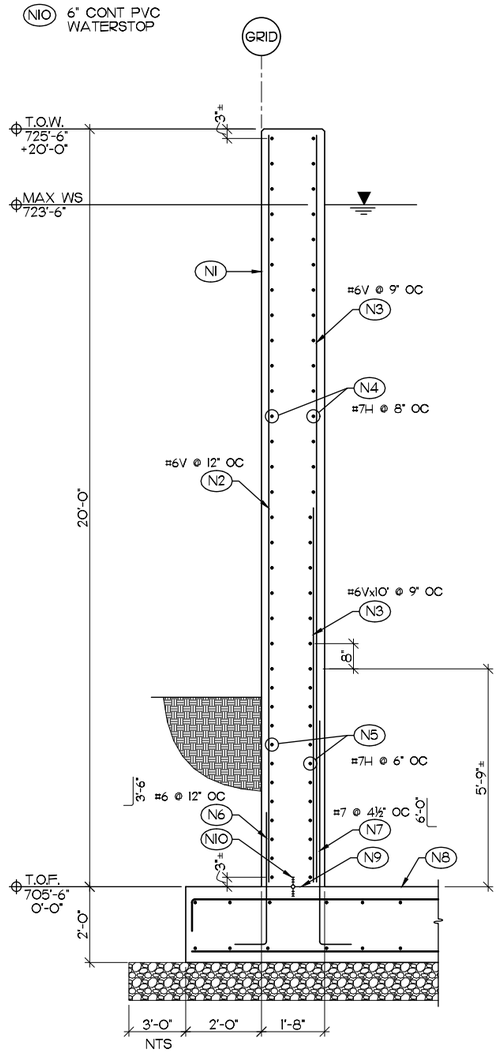
(N6) #6 DOWELS @ 12" OC (2" CLEAR)

(N7) #7 DOWELS @ 4½" OC (2" CLEAR)

(N8) 24" CONCRETE SLAB OVER PREPARED SUBGRADE, SEE S10-5 FOR REINFORCEMENT

(N9) CLEAN & ROUGHEN CONCRETE SURFACE TO ⅛" AMPLITUDE

(N10) 6" CONT PVC WATERSTOP



3.2 SLUDGE HOLDING TANK - SIDE WALL

½"=1'-0"

NOTES (FOR THIS DETAIL)

(N1) 20" CONCRETE TANK WALL

(N2) #6V @ 9" OC (2" CLEAR), STAGGER 10' BAR & FULL HEIGHT BAR (4½" OC NET SPACING)

(N3) #7H @ 8" OC EF (INSIDE OF VERT BARS)

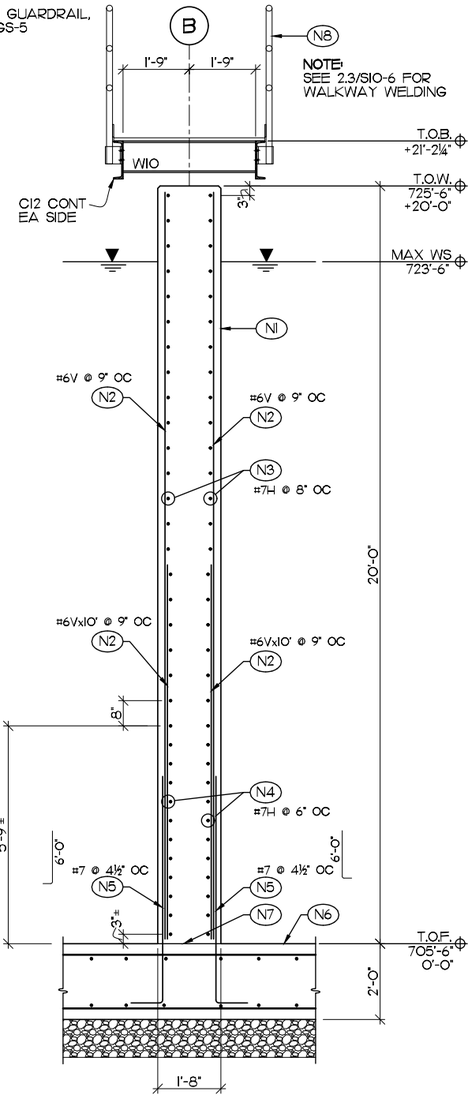
(N4) #7H @ 6" OC EF (INSIDE OF VERT BARS)

(N5) #7 DOWELS @ 4½" OC (2" CLEAR)

(N6) 24" CONCRETE SLAB OVER PREPARED SUBGRADE, SEE S10-5 FOR REINFORCEMENT

(N7) CLEAN & ROUGHEN CONCRETE SURFACE TO ⅛" AMPLITUDE

(N8) ALUM GUARDRAIL, SEE GS-5



3.3 SLUDGE HOLDING TANK - CENTER WALL

½"=1'-0"

NOTES (FOR THIS DETAIL)

(N1) 20" CONCRETE TANK WALL

(N2) #6V @ 12" OC (2" CLEAR)

(N3) #7V @ 9" OC (2" CLEAR)

(N4) #7H @ 8" OC EF (INSIDE OF VERT BARS)

(N5) #7H @ 6" OC EF (INSIDE OF VERT BARS)

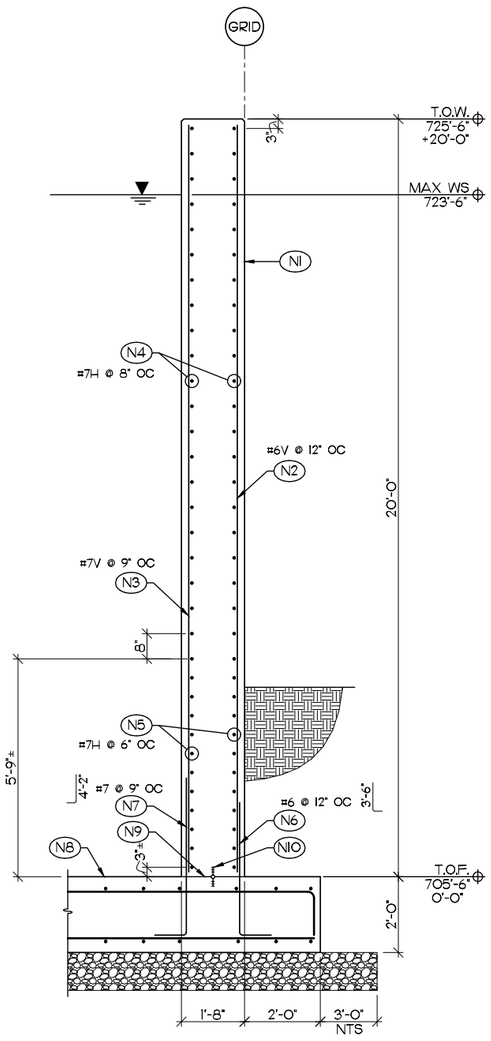
(N6) #6 DOWELS @ 12" OC (2" CLEAR)

(N7) #7 DOWELS @ 9" OC (2" CLEAR)

(N8) 24" CONCRETE SLAB OVER PREPARED SUBGRADE, SEE S10-5 FOR REINFORCEMENT

(N9) CLEAN & ROUGHEN CONCRETE SURFACE TO ⅛" AMPLITUDE

(N10) 6" CONT PVC WATERSTOP



3.4 SLUDGE HOLDING TANK - END WALL

½"=1'-0"

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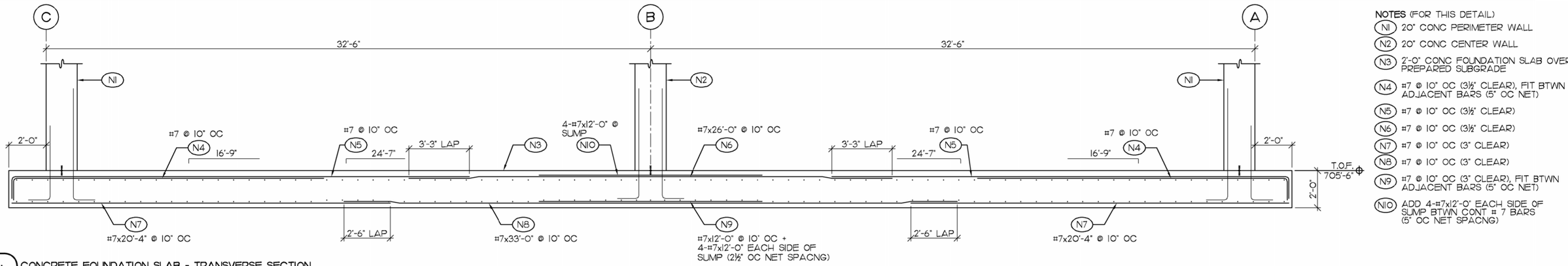
FILE NAMES:
DRAWING:
PLAN:

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WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1

SLUDGE HOLDING TANK WALL DETAILS

S10-4

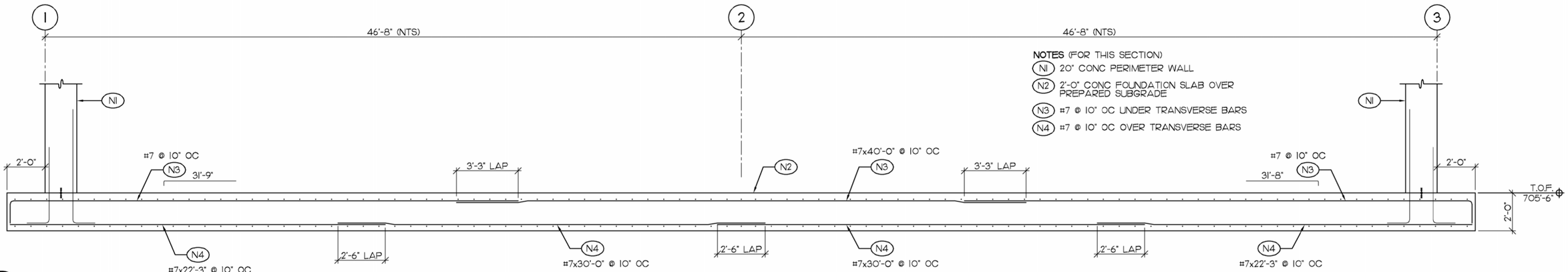


NOTES (FOR THIS DETAIL)

- N1 20" CONC PERIMETER WALL
- N2 20" CONC CENTER WALL
- N3 2'-0" CONC FOUNDATION SLAB OVER PREPARED SUBGRADE
- N4 #7 @ 10" OC (3½" CLEAR), FIT BTWN ADJACENT BARS (5" OC NET)
- N5 #7 @ 10" OC (3½" CLEAR)
- N6 #7 @ 10" OC (3½" CLEAR)
- N7 #7 @ 10" OC (3" CLEAR)
- N8 #7 @ 10" OC (3" CLEAR)
- N9 #7 @ 10" OC (3" CLEAR), FIT BTWN ADJACENT BARS (5" OC NET)
- N10 ADD 4-#7x12'-0" EACH SIDE OF SUMP BTWN CONT # 7 BARS (5" OC NET SPACNG)

1.1 CONCRETE FOUNDATION SLAB - TRANSVERSE SECTION

3/8" = 1'-0"



NOTES (FOR THIS SECTION)

- N1 20" CONC PERIMETER WALL
- N2 2'-0" CONC FOUNDATION SLAB OVER PREPARED SUBGRADE
- N3 #7 @ 10" OC UNDER TRANSVERSE BARS
- N4 #7 @ 10" OC OVER TRANSVERSE BARS

2.1 CONCRETE FOUNDATION SLAB - LONGITUDINAL SECTION

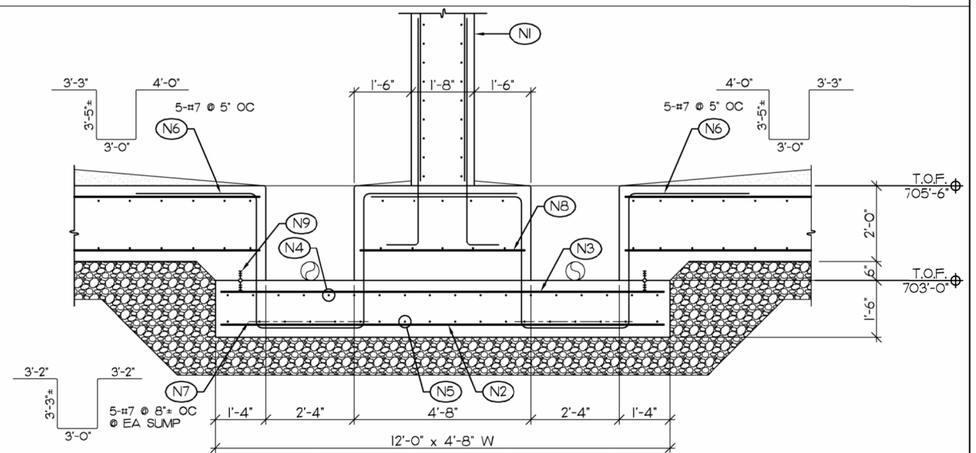
3/8" = 1'-0"

3.1 NOT USED

3.2 NOT USED

NOTES (FOR THIS DETAIL)

- N1 20" CONCRETE CENTER TANK WALL, SEE 3.3/S10-4
- N2 6-#6x11'-8" @ 10" OC (3" CLEAR)
- N3 6-#6x11'-8" @ 10" OC (3½" CLEAR)
- N4 #6 x4'-4" @ 8" OC
- N5 #6 x4'-4" @ 8" OC
- N6 5-#7 @ 5" OC (3½" CLR @ TOP, 3" CLR @ BOTTOM)
- N7 5-#7 @ 8"± OC (UNDER TRANSVERSE BARS @ TOP)
- N8 #7 x4'-4" @ 10" OC
- N9 6" CONT PVC WATERSTOP (4 SIDES)



3.3 SLUDGE HOLDING TANK - SUMPS

1/2" = 1'-0"

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WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1
SLUDGE HOLDING TANK FOUNDATION REINFORCEMENT

S10-5

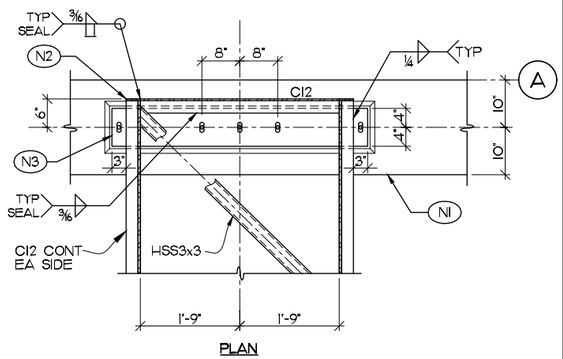
SHEET 50 OF 192

NOTES (FOR THIS DETAIL)

(N1) 20" CONC PERIMETER WALL BELOW

(N2) END PL⅜" EACH CI2

(N3) PL¾x8x4'-6" W/ 5-¾"Φ AA CNTRD IN ⅞"x2" SLOTTED HOLES (10" EMBED) OVER SLIDE PL½x9x4'-7" W/ ⅞"Φ HOLES OVER 1" GROUT



PLAN

1.1 WALKWAY CONNECTION OVER WEST CONC WALL

¾" = 1'-0"

NOTES (FOR THIS DETAIL)

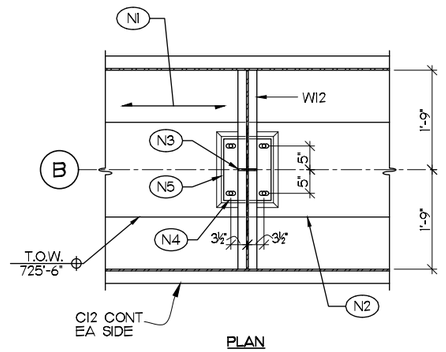
(N1) 1½" ALUM BB GRATING ABOVE, TYPE AA

(N2) 20" CONC MIDDLE WALL BELOW

(N3) STIFF PL¼" EACH SIDE

(N4) PL¾x10x1'-1" W/ 4-¾"Φ AA (12" EMBED) CNTRD IN ⅞"Φ x2" SLOTTED HOLES

(N5) SLIDE PL½x11x1'-2" OVER 1" GROUT W/ 4-⅞" HOLES



PLAN

NOTE: SEE 1.5/S10-6 FOR WELDING

1.3 WALKWAY CONNECTION TO MIDDLE CONC WALL W/ SLOTTED HOLES

¾" = 1'-0"

NOTES (FOR THIS DETAIL)

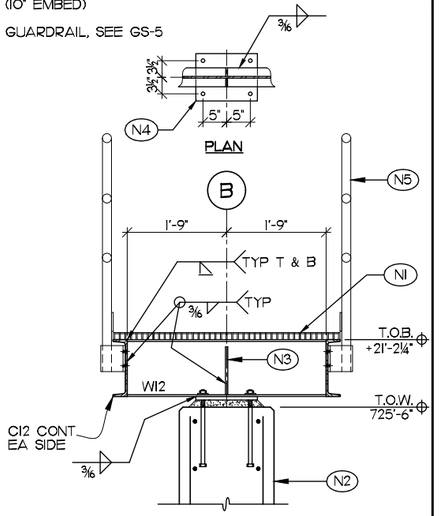
(N1) 1½" ALUM BB GRATING, TYPE AA

(N2) 20" CONC MIDDLE WALL

(N3) STIFF PL¼" EACH SIDE

(N4) PL¾x10x1'-1" OVER 1½" GROUT W/ 4-¾"Φ AA IN ⅞"Φ HOLES (10" EMBED)

(N5) GUARDRAIL, SEE GS-5



1.5 WALKWAY CONNECTION TO CONC WALL

¾" = 1'-0"

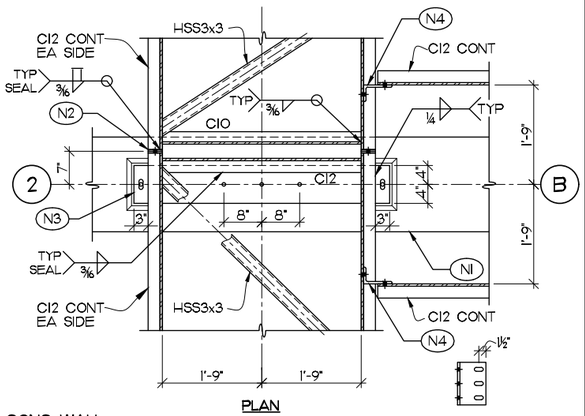
NOTES (FOR THIS DETAIL)

(N1) 20" CONC MIDDLE WALL BELOW

(N2) END PL⅜" EACH CI2 W/ 3-¾"Φ HSB

(N3) PL¾x8x4'-6" W/ 3-¾"Φ AA IN ⅞"Φ HOLES & 2-¾"Φ AA CNTRD IN ⅞"x2" SLOTTED HOLES (10" EMBED) OVER BRG PL½x9x4'-7" W/ 5-⅞"Φ HOLES OVER 1" GROUT

(N4) L6x3½x⅝ x0'-9" W/ 6-¾"Φ HSB (3 EACH LEG) PROVIDE ⅝"x2" HORIZ SLOTTED HOLES ON 6" LEG, FINGER TIGHTEN THE HSB IN SLOTTED HOLES TO ALLOW MOVEMENT



PLAN

2.1 WALKWAY CONNECTION OVER INTERIOR CONC WALL

¾" = 1'-0"

NOTES (FOR THIS DETAIL)

(N1) 1½" ALUM BB GRATING, TYPE AA

(N2) HSS3x3 DIAGONALS

(N3) GUARDRAIL, SEE GS-5

2.3 TYP WALKWAY / MIXER SUPPORT BRIDGE

¾" = 1'-0"

NOTES (FOR THIS DETAIL)

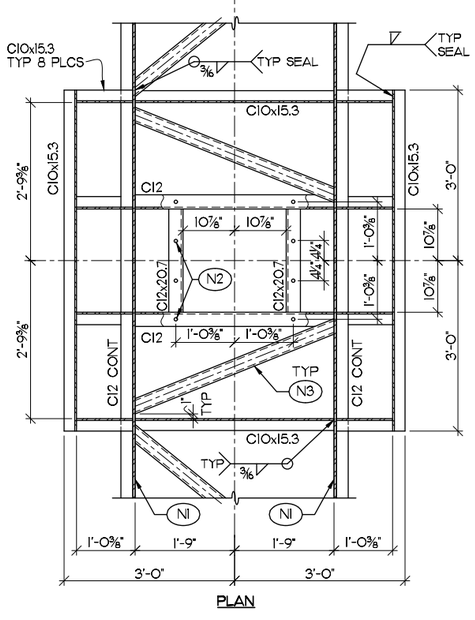
(N1) CI2 CONT

(N2) MIXER BASE MOUNTING HOLES, VERIFY SIZE & LOCATION W/ MIXER SHOP DRAWINGS

(N3) HSS3x3 DIAGONALS

NOTE:

ALL JOINTS TO SEAL WELDED PRIOR TO GALVANIZING



PLAN

3.4 BRIDGE AT MIXER CONNECTION

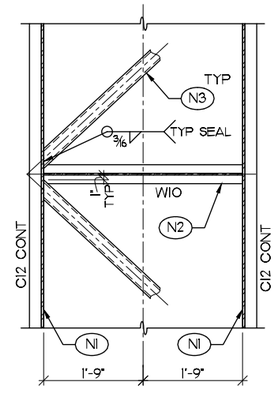
¾" = 1'-0"

NOTES (FOR THIS DETAIL)

(N1) CI2 CONT

(N2) WIO CROSS BM, SEE 2.3/S10-6 FOR CONN EACH END

(N3) HSS3x3 DIAGONALS



PLAN

3.5 TYP BRIDGE DIAGONAL CONNECTION

¾" = 1'-0"

NOTES (FOR THIS DETAIL)

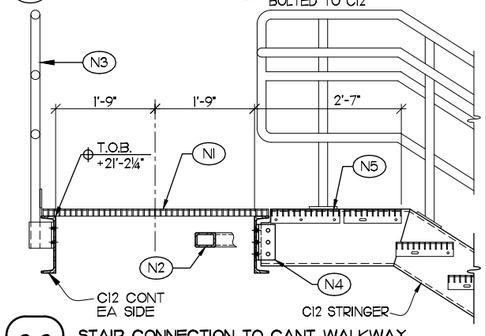
(N1) 1½" ALUM BB GRATING

(N2) HSS3x3 DIAGONALS

(N3) GUARDRAIL, SEE GS-5

(N4) L4x3½x⅝x0'-7½" W/ 6-⅝"Φ HSB @ 2½" OC, PROVIDE HORIZ SSL HOLES IN 3½" LEG

(N5) 1½" GALV BB GRATING W/ END PL BOLTED TO CI2



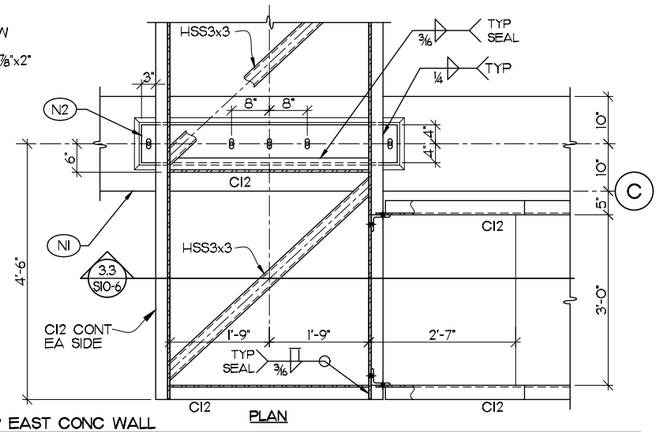
3.3 STAIR CONNECTION TO CANT WALKWAY

¾" = 1'-0"

NOTES (FOR THIS DETAIL)

(N1) 20" CONC PERIMETER WALL BELOW

(N2) PL¾x8x4'-6" W/ 5-¾"Φ AA CNTRD IN ⅞"x2" SLOTTED HOLES (10" EMBED) OVER SLIDE PL½x9x4'-7" W/ 5-⅞"Φ HOLES OVER 1" GROUT



PLAN

3.1 WALKWAY CONNECTION OVER EAST CONC WALL

¾" = 1'-0"

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REVISION	DATE

JOB NUMBER: 23030 | DATE: 3/13/26

FILE NAMES:

DRAWING:

PLAN:

DESIGNED BY: JDS

ENTERED BY: JDS

CITY OF GRANDVIEW

WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1

SLUDGE HOLDING TANK – WALKWAY DETAILS

S10-6

SHEET 51 OF 192

NOTES (FOR THIS DETAIL)

(N1) 20" CONC WALL BELOW

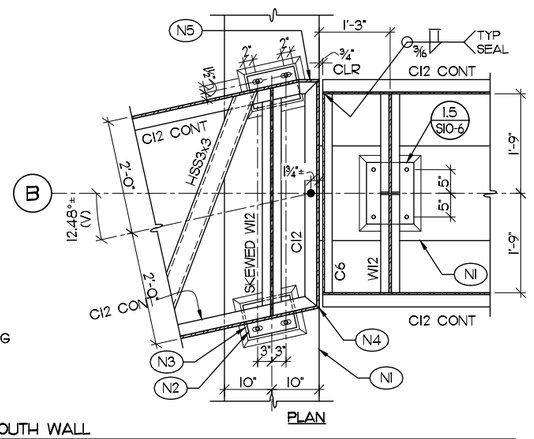
(N2) PL¾x7 W/ 2-¾"Φ AA CNTRD IN ⅞"x2" SLOTTED HOLES (10" EMBED)

(N3) BRG PL½x8 W/ 2-⅞"Φ HOLES OVER 1" GROUT

(N4) MITER & WELD C12 CORNERS TYP

(N5) CUT & MITER C12 AS REQUIRED TO ALIGN W/ SLUDGE TANK WALKWAY C12

NOTE:
VERIFY ALIGNMENT & DIMENSSIONS OF CONNECTING WALKWAY PRIOR TO STEEL FABRICATION



PLAN

1.1 CONNECTING WALKWAY AT SLUDGE TANK SOUTH WALL

¾" = 1'-0"

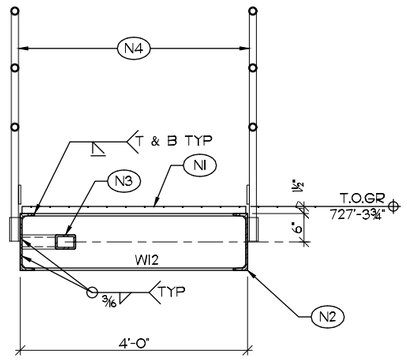
NOTES (FOR THIS DETAIL)

(N1) 1½" ALUM BB GRATING, TYPE AA

(N2) C12 CONT EACH SIDE

(N3) HSS3x3 DIAGONALS, SEE PLAN

(N4) GUARDRAIL, SEE SHT GS-5



2.1 CONNECTING WALKWAY BRIDGE TO SLUDGE TANK

¾" = 1'-0"

NOTES (FOR THIS DETAIL)

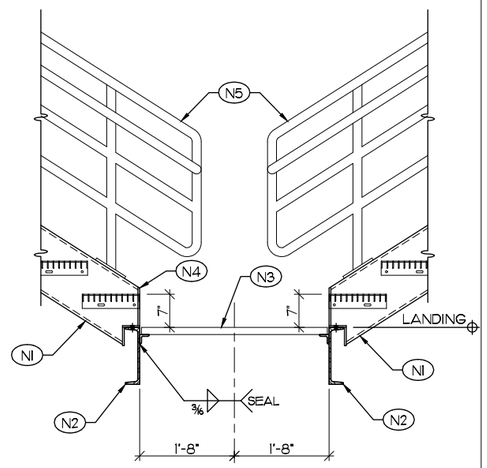
(N1) UPPER C12 STRINGER TO BRIDGE

(N2) C12 STRINGER W/ L2x2x⅜ LEDGER, SEE 2.4/SIO-7

(N3) 1½" GALV BB GRATING, TYPE GA

(N4) TYP END CLOSURE PL¼" & BRG PL⅜"

(N5) GUARDRAIL & HANDRAIL, SEE GS-5



2.3 UPPER STAIR STRINGERS AT LANDING

¾" = 1'-0"

NOTES (FOR THIS DETAIL)

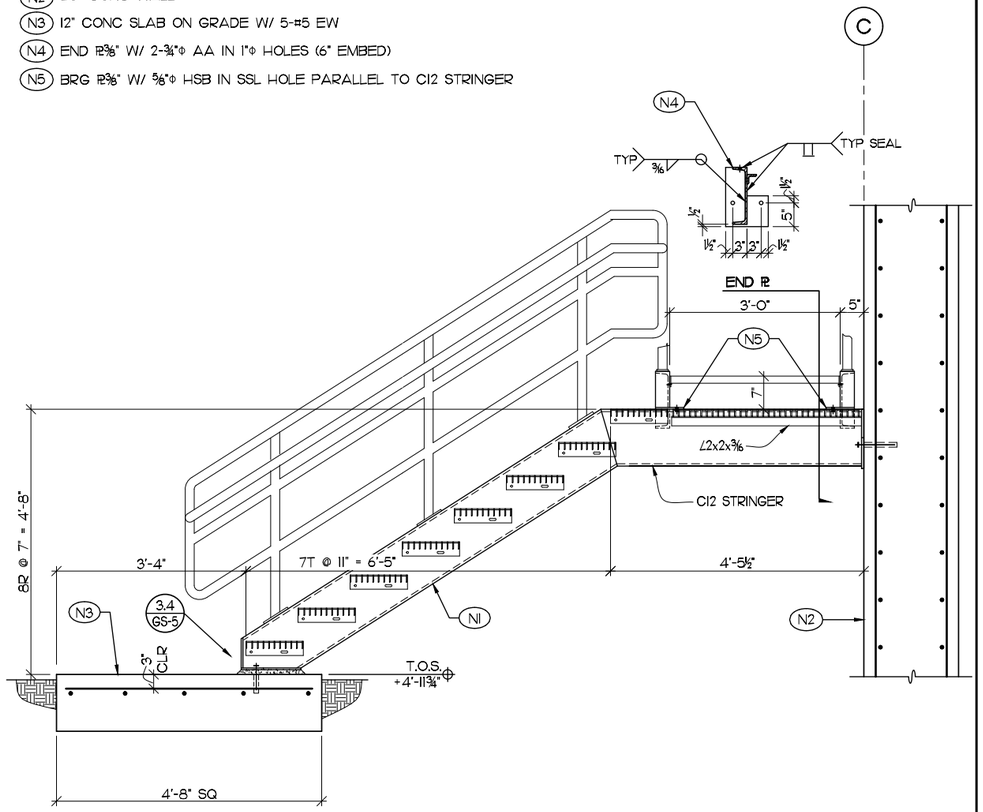
(N1) C12 STRINGER, SEE 3.1/GS-5

(N2) 20" CONC WALL

(N3) 12" CONC SLAB ON GRADE W/ 5-#5 EW

(N4) END PL⅜" W/ 2-¾"Φ AA IN 1"Φ HOLES (6" EMBED)

(N5) BRG PL⅜" W/ ⅝"Φ HSB IN SSL HOLE PARALLEL TO C12 STRINGER



2.4 STAIR FROM GRADE UP TO LANDING

¾" = 1'-0"

3.1 NOT USED

3.2 NOT USED

3.3 NOT USED

3.4 NOT USED

3.5 NOT USED

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FILE NAMES:
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DESIGNED BY: JDS
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WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1

SLUDGE HOLDING TANK – STAIR DETAILS

S10-7

SHEET 52 OF 192

NOTES (FOR THIS PLAN)

(N1) (E)12" CONCRETE RADIUSED TANK WALL

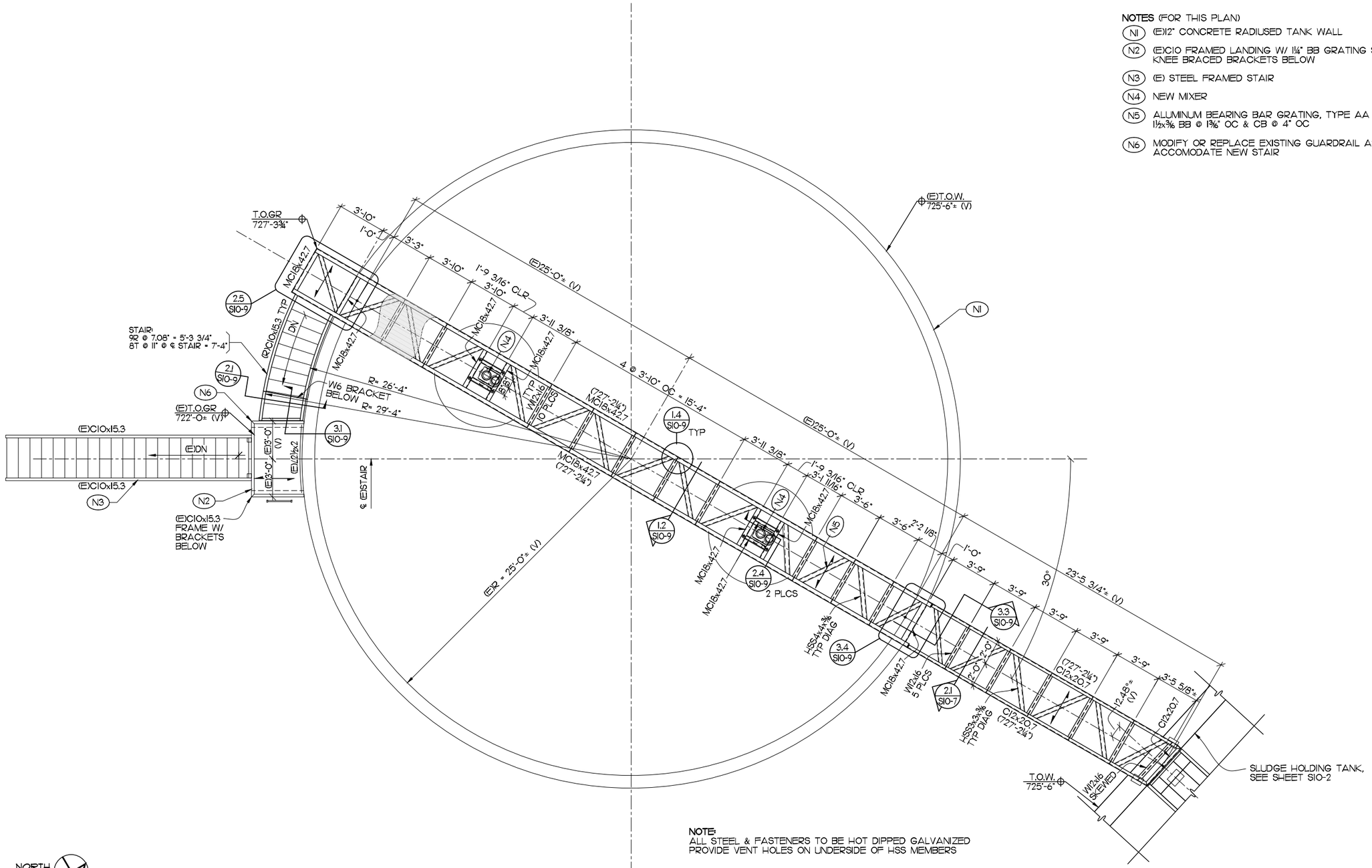
(N2) (E)C10 FRAMED LANDING W/ 1¼" BB GRATING SUPPORTED BY 2 - L4x4 KNEE BRACED BRACKETS BELOW

(N3) (E) STEEL FRAMED STAIR

(N4) NEW MIXER

(N5) ALUMINUM BEARING BAR GRATING, TYPE AA 1½x⅜ BB @ 1⅞" OC & CB @ 4" OC

(N6) MODIFY OR REPLACE EXISTING GUARDRAIL AS REQUIRED TO ACCOMODATE NEW STAIR



NOTE:
ALL STEEL & FASTENERS TO BE HOT DIPPED GALVANIZED
PROVIDE VENT HOLES ON UNDERSIDE OF HSS MEMBERS

NORTH

3.1 EXISTING SLUDGE TANK - UPPER WALKWAY FRAMING PLAN

¼"=1'-0"

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WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1

EXISTING SLUDGE TANK – UPPER WALKWAY FRAMING PLAN

S10-8

NOTES (FOR THIS DETAIL)

(N1) 1½" ALUM BB GRATING TREAD W/ NOSING

(N2) C10x15.3 RADIUSED STRINGERS

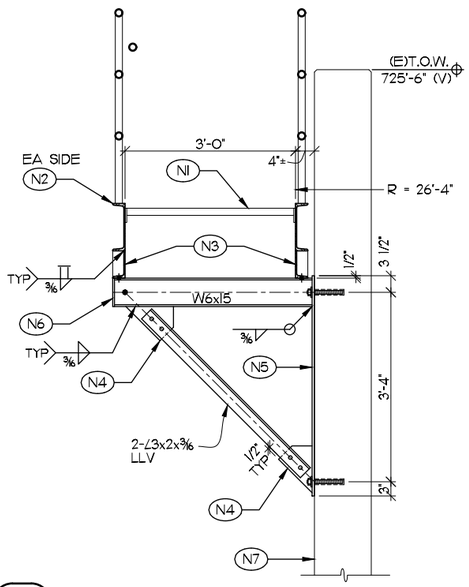
(N3) PIECE CUT FROM C10x15.3 W/ 2-⅝"Φ HSB @ W6 GA PROVIDE SSL HOLE IN C10 FLANGE & LSL HOLES IN W6 FLANGE (PERPENDICULAR TO WEB)

(N4) PL⅜" W/ 2-⅝"Φ HSB

(N5) PL½x9 W/ 2-⅝"Φ AA @ 6" GA T & B (5" EMBED & ¾"x1" HORIZ SLOTTED HOLES)

(N6) END PL¼x6

(N7) (E)12" RADIUSED CONC TANK WALL



2.1 NEW STAIR SUPPORT BRACKET

¾" = 1'-0"

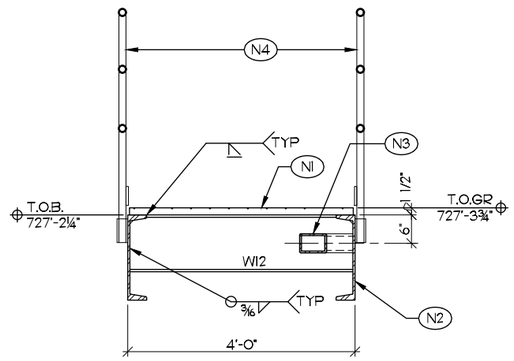
NOTES (FOR THIS DETAIL)

(N1) 1½" ALUM BB GRATING, TYPE AA

(N2) MC18 CONT EACH SIDE

(N3) HSS4x4 DIAGONALS, SEE PLAN

(N4) GUARDRAIL, SEE SHT GS-5



1.2 TYP BRIDGE WALKWAY SECTION

¾" = 1'-0"

NOTES (FOR THIS DETAIL)

(N1) 1½" ALUM BB GRATING, TYPE AA

(N2) MC18 CONT EACH SIDE

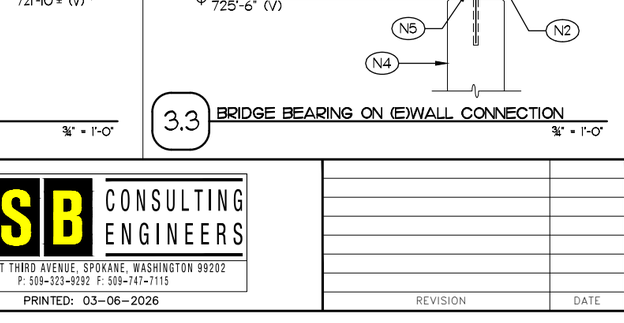
(N3) HSS4x4 DIAGONALS, SEE PLAN

(N4) GUARDRAIL, SEE SHT GS-5

(N5) C10x15.3 RADIUSED STRINGER

(N6) END PLATE ⅜x10 W/ 2-⅝"Φ HSB IN HORIZ LSL HOLES

(N7) TAPERED PIECE OF 1½" ALUM BB GRATING W/ NOSING ON L2x2x⅜ LEDGER (3 SIDES)



2.2 STAIR CONNECTION TO BRIDGE WALKWAY

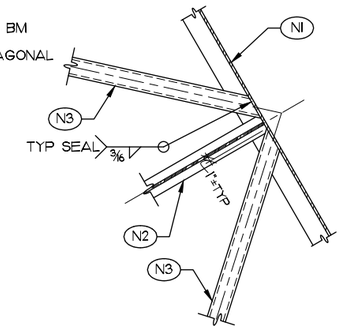
¾" = 1'-0"

NOTES (FOR THIS DETAIL)

(N1) MC18 CONT

(N2) W12 CROSS BM

(N3) HSS4x4 DIAGONAL



PLAN

1.4 TYP BRIDGE DIAGONAL CONNECTION

¾" = 1'-0"

NOTES (FOR THIS DETAIL)

(N1) MC18 CROSS BM EACH SIDE

(N2) MC18x42.7 - 2 SIDES (1'-4" CLEAR BTWN)

(N3) MIXER, VERIFY MOUNTING BOLT SIZE & GAGE W/ MFR

2.4 MIXER CONNECTION

¾" = 1'-0"

NOTES (FOR THIS DETAIL)

(N1) MC18 CONT

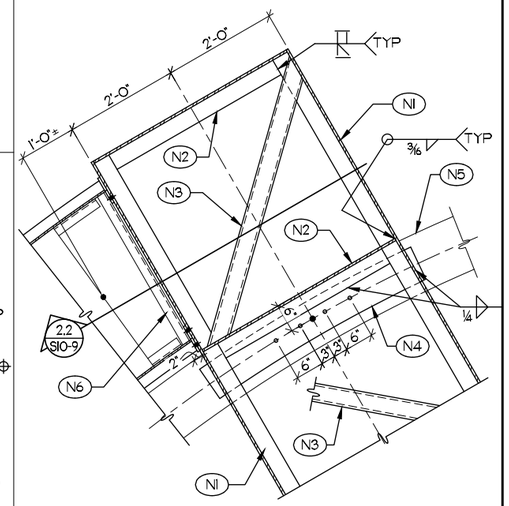
(N2) MC18 ACROSS END OR BTWN MC18S

(N3) HSS4x4 DIAGONAL

(N4) RADIUSED PL¾x7½ OVER 1½" GROUT W/ 4-¾"Φ x14" AA CNTRD (10" EMBED) PROVIDE ⅞"Φ HOLES IN PL, SEE 3.3/S10-9 SIM

(N5) (E)12" RADIUSED TANK WALL BELOW

(N6) L2x2x⅜ FOR SUPPORT OF TAPERED PIECE OF 1½" ALUM BB GRATING W/ NOSING HOLD ⅜" BACK FROM END OF C10 END PLATE & WELD W/ ⅜" FILLET ALL AROUND



PLAN

2.5 BRIDGE EAST END CONNECTION

¾" = 1'-0"

NOTES (FOR THIS DETAIL)

(N1) (E)1¼" BB GRATING

(N2) (E)L4x4 LANDING SUPPORT BRACKET

(N3) (E)C10x15.3 ON 3 SIDES OF LANDING, MODIFY (E)GUARDRAIL

(N4) W6 STAIR SUPPORT BRACKET, SEE 2.1/S10-9

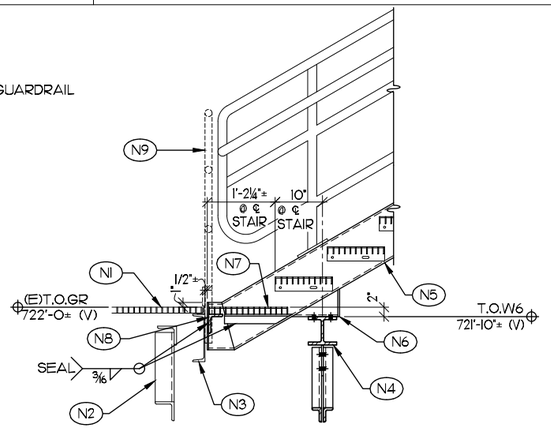
(N5) RADIUSED C10 STRINGER W/ END PL¼"

(N6) PIECE CUT FROM C10x15.3 W/ END PL¼"

(N7) 1½" ALUM BB GRATING W/ L2x2x⅜ LEDGER ON C10 STRINGER EA SIDE

(N8) L4x3x¼ LLV BTWN C10 STRINGERS

(N9) MODIFY OR REPLACE EXISTING GUARDRAIL TO ACCOMODATE NEW STAIR



3.1 STAIR AT EXISTING LANDING

¾" = 1'-0"

NOTES (FOR THIS DETAIL)

(N1) 1½" ALUM BB GRATING

(N2) MC18 ACROSS END

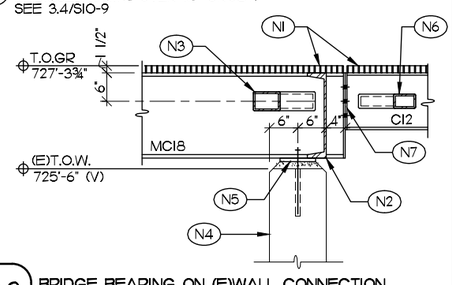
(N3) HSS4x4 DIAGONAL

(N4) (E)12" RADIUSED CONC TANK WALL

(N5) RADIUSED PL¾x7½ OVER 1½" GROUT, SEE 3.4/S10-9

(N6) HSS3x3 DIAGONAL

(N7) END PL⅜" W/ 3-¾"Φ HSB



3.3 BRIDGE BEARING ON (E)WALL CONNECTION

¾" = 1'-0"

NOTES (FOR THIS DETAIL)

(N1) MC18 CONT

(N2) MC18 ACROSS END

(N3) HSS4x4 DIAGONAL

(N4) RADIUSED PL¾x7½ OVER 1½" GROUT W/ 4-¾"Φ x14" AA IN ⅞"Φ HOLES CNTRD (10" EMBED)

(N5) PL 1½x4½" TALL x0'-6" WELDED TO RADIUSED PL W/ ¾"Φ HSB CNTRD PROVIDE ⅛" GAP @ MC18 EACH SIDE (3'-9¼" CLR)

(N6) (E)12" RADIUSED TANK WALL BELOW

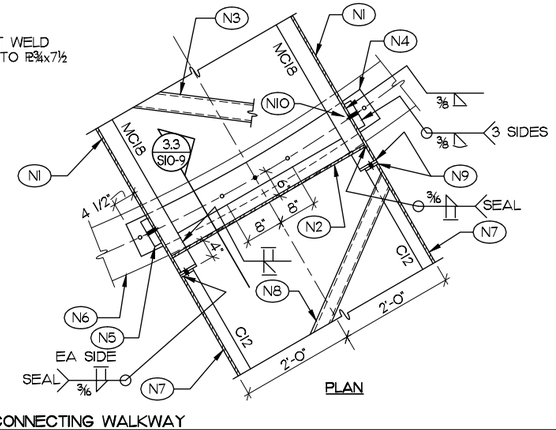
(N7) C12 CONT, SEE PLAN

(N8) HSS3x3 DIAGONAL

(N9) END PL⅜" W/ 3-¾"Φ HSB

(N10) PROVIDE ⅞" x 2" HORIZ SLOT IN WEB OF MC18 CNTRD 3" FROM BOTTOM, ¾"Φ HSB TO BE FINGER TIGHTENED ONLY

NOTE:
DO NOT WELD MC18S TO PL¾x7½



PLAN

3.4 BRIDGE WEST SIDE CONNECTION TO CONNECTING WALKWAY

¾" = 1'-0"

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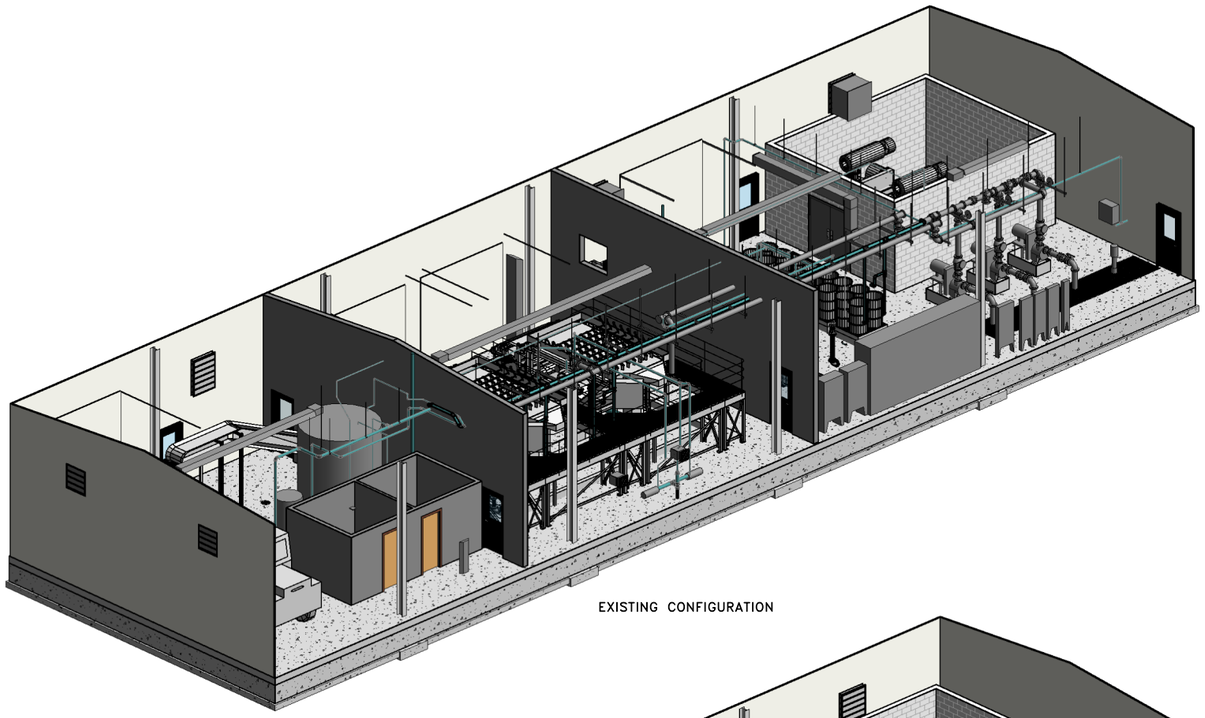
DESIGNED BY: JDS
ENTERED BY: JDS

CITY OF GRANDVIEW
WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1

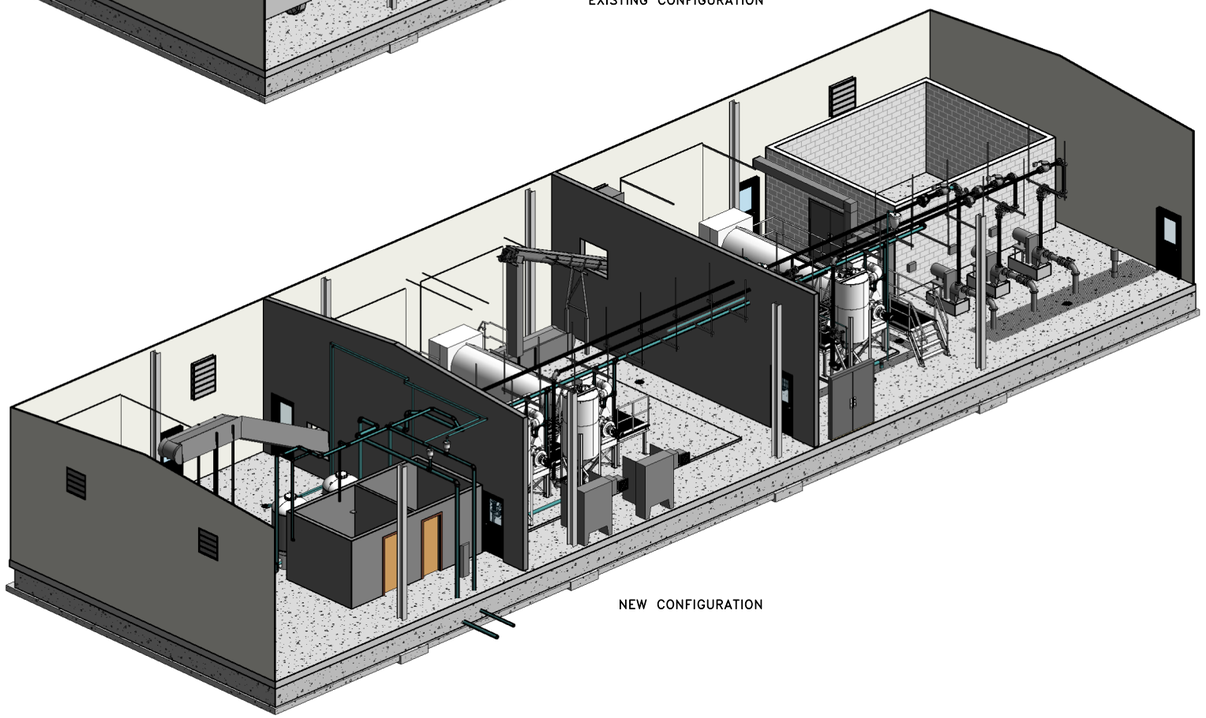
EXISTING SLUDGE TANK WALKWAY DETAILS

S10-9

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EXISTING CONFIGURATION



NEW CONFIGURATION

ISOMETRIC VIEW

NOT TO SCALE

SCHEDULE A

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ROBERT J. SCOTT — STATE OF WASHINGTON — 46421 — REGISTERED PROFESSIONAL ENGINEER

REVISION	DATE

JOB NUMBER: 23030 | DATE: 3/13/2026

FILE NAMES:
DRAWING: DEWATERING BUILDING.RVT
PLAN: 23030

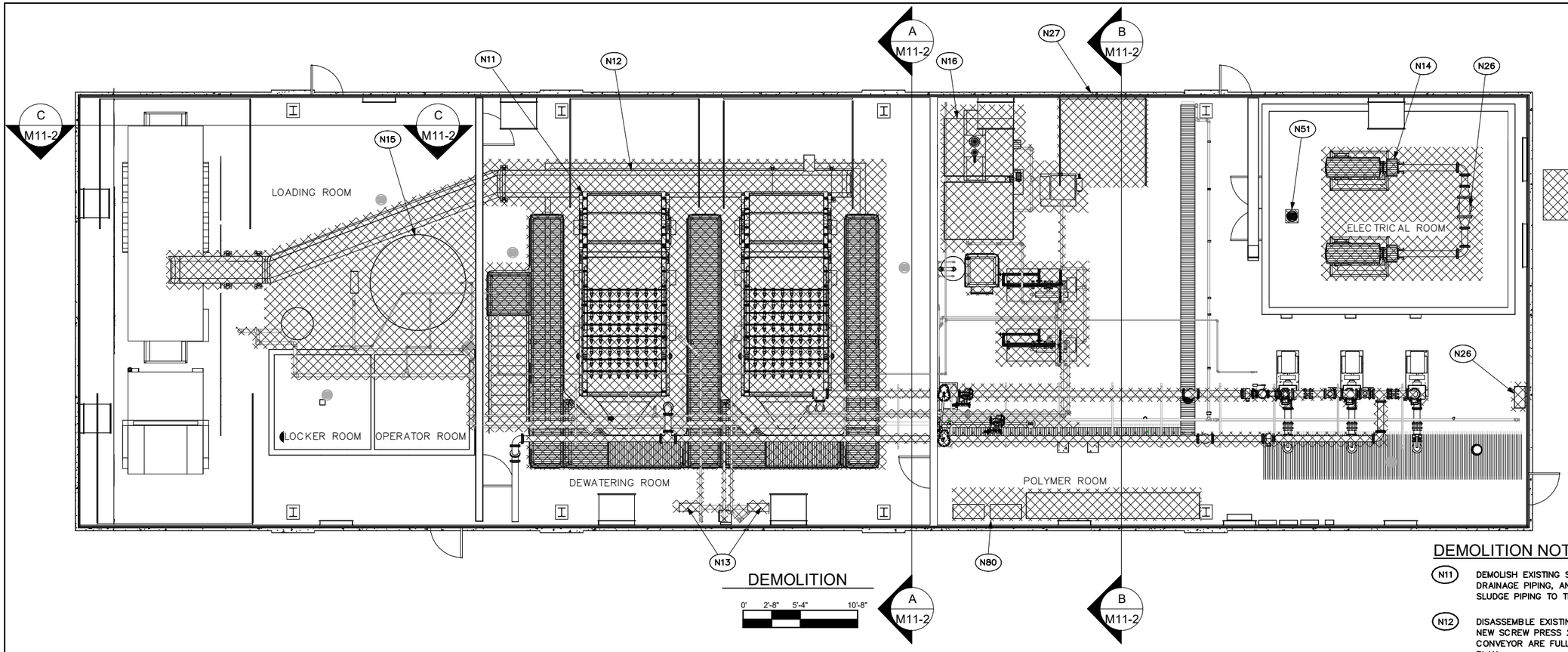
DESIGNED BY: JWM
ENTERED BY: KRN

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WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1

DEWATERING BUILDING ISOMETRIC VIEW

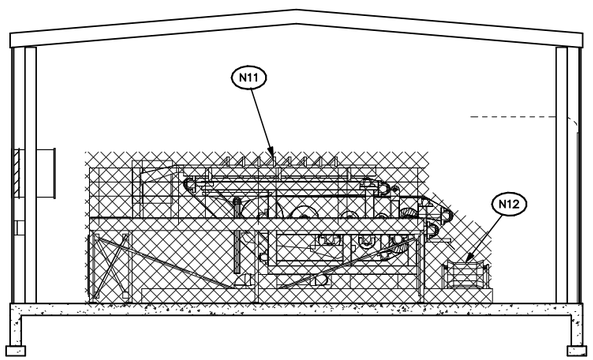
M11-1

SHEET 55 OF 192



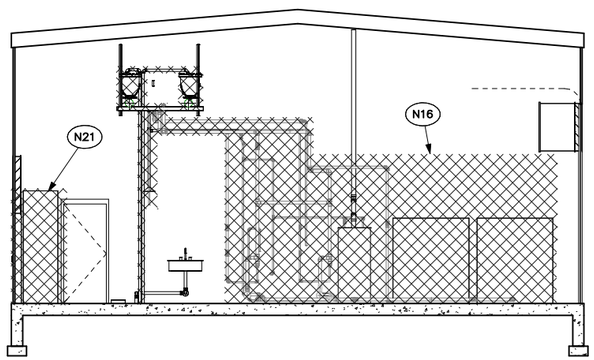
DEMOLITION

0' 2'-8" 5'-4" 10'-8"



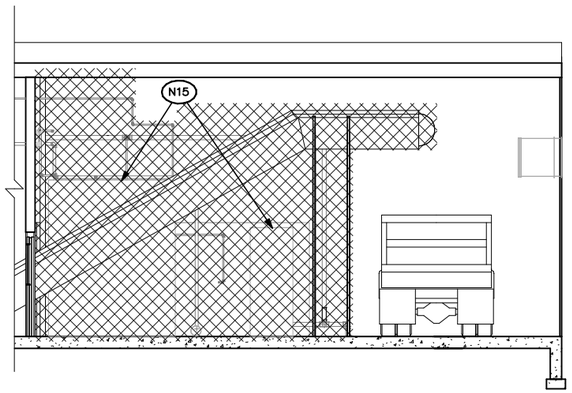
A M11-2 DEMO SECTION A

0' 2'-8" 5'-4" 10'-8"



B M11-2 DEMO SECTION B

0' 2'-8" 5'-4" 10'-8"



C M11-2 DEMO SECTION C

0' 2'-8" 5'-4" 10'-8"

GENERAL NOTE:

CLOSELY COORDINATE DEMOLITION WITH CONSTRUCTION PHASING, TESTING, COMMISSIONING, AND ACCEPTANCE SEQUENCE. ALL DEMOLITION THIS SHEET SHALL BE COMMUNICATED WITH CITY AND ENGINEER TO MINIMIZE DOWN-TIME OF DEWATERING OPERATION.

SCHEDULE A

DEMOLITION NOTES

(N11) DEMOLISH EXISTING SLUDGE BELT PRESSES (2). STAIRWAYS, CATWALKS, DRAINAGE PIPING, AND APPURTENANCES. DISCONNECT AND DEMOLISH SLUDGE PIPING TO TEE AT HEADER.

(N12) DISASSEMBLE EXISTING SERPENTIX SLUDGE CONVEYOR FOR INSTALLATION OF NEW SCREW PRESS 2 AND 3 AFTER NEW SCREW PRESS NO. 1 AND SCREW CONVEYOR ARE FULLY OPERATIONAL SEE SCREW PRESS NO. 1 PHASING PLAN.

(N13) DEMOLISH EXISTING WASHWATER BOOSTER PUMPS, PIPING, AND APPURTENANCES.

(N14) DEMOLISH EXISTING 75 HP BLOWERS, PIPING, CONDUITS, AND CONCRETE PEDESTALS (APPROX. 1'-0" TALL). ONCE NEW SLUDGE TANK HAS BEEN TESTED AND ACCEPTED, CUT PIPING BELOW CONCRETE FLOOR AND GROUT SMOOTH.

(N15) DEMOLISH EXISTING NON-POTABLE WATER TANK, CHLORINE PIPING, NON POTABLE WATER BOOSTER PUMP, POTABLE WATER EXPANSION TANK PIPING, AND APPURTENANCES. CAP EX. GI PIPING BELOW FLOOR.

(N16) DEMOLISH EXISTING POLYMER MIXING TANK, POLYMER FEED PIPING, POTABLE WATER PIPING, POLYMER CONTROL PANEL AND CONDUITS, POLYMER FEED PUMPS, POLYMER FEED HOPPER AND BLOWERS, AND APPURTENANCES. EXISTING POLYMER SYSTEM SHALL ONLY BE DEMOLISHED AFTER COMPLETE INSTALLATION OF SCREW PRESS NO.1 AND SCREW CONVEYOR. SEE SCREW PRESS NO.1 PHASING PLAN.

(N21) DEMOLISH EXISTING ELECTRICAL CABINETS FOR BELT PRESS AFTER NEW ELECTRICAL ROOM IS ESTABLISHED FOR NEW SCREW PRESS.

(N26) DEMOLISH EXISTING GRINDER PUMP CONTROL PANEL FOR INSTALLATION OF NEW CONTROL PANEL.

(N27) DEMOLISH EXISTING 8' X 10' OVERHEAD DOOR FOR INSTALLATION OF NEW 12' WIDE X 14' TALL OVERHEAD DOOR. IN TEMPORARY SCREW CONVEYOR POSITION, INSTALL TEMPORARY SHEETING AT GARAGE DOOR OPENING FOR CONVEYOR PENETRATION UNTIL NEW SCREW PRESSES 2 & 3 ARE OPERATIONAL AND CONVEYOR IS ROTATED INTO FINAL POSITION.

(N51) GROUT PLUG EXISTING FLOOR DRAIN IN ELECTRICAL ROOM.

(N80) CONTRACTOR TO DEMO EXISTING 4" EQUIPMENT HOUSEKEEPING PAD AT DOOR ENTRANCE. APPROX, 3'-0" X 8'-0" (L X W).

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ROBERT J. SCOTT — STATE OF WASHINGTON — 46421 — REGISTERED PROFESSIONAL ENGINEER

REVISION	DATE

JOB NUMBER: 23030 | DATE: 3/13/2026

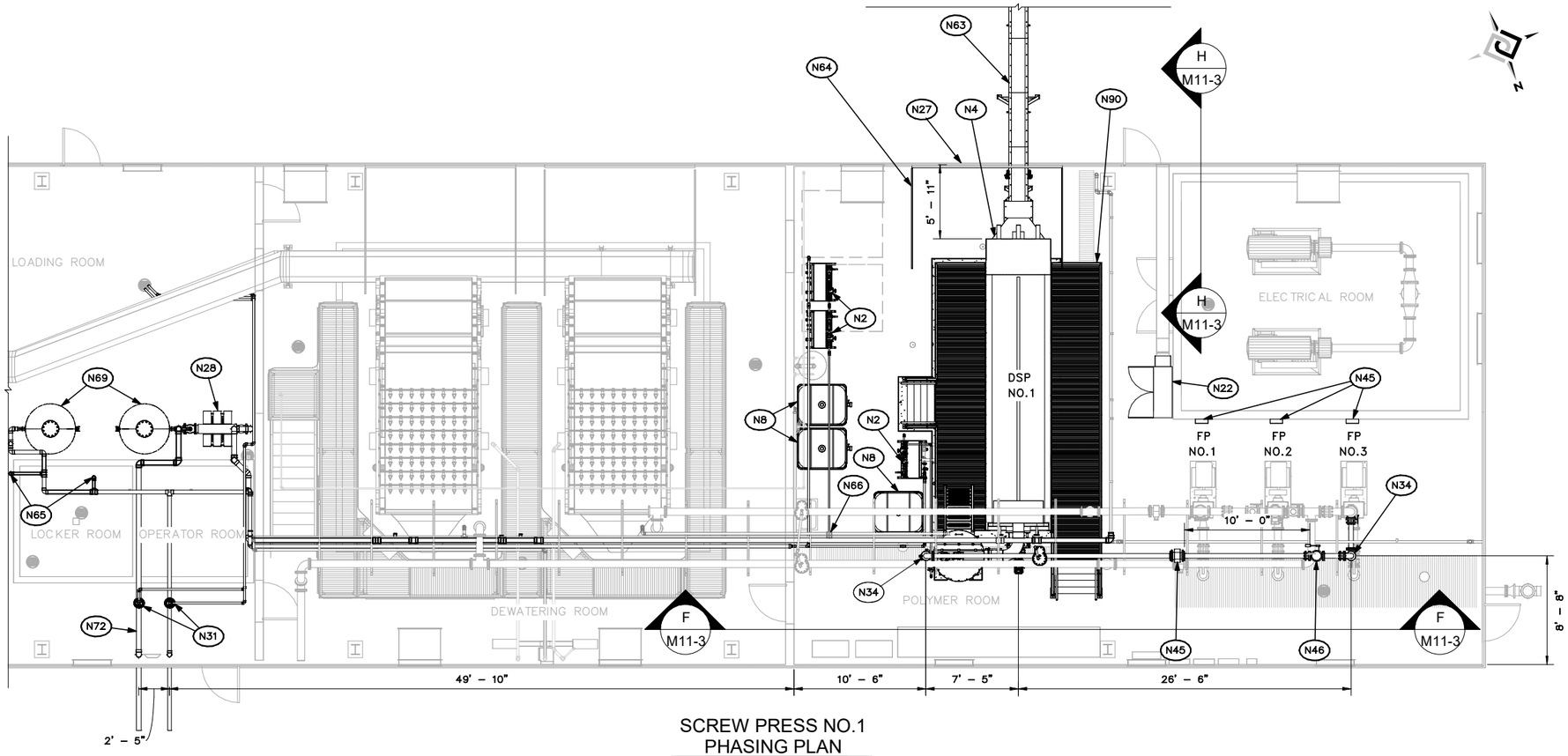
FILE NAMES:
DRAWING: DEWATERING BUILDING.RVT
PLAN: 23030

DESIGNED BY: JWM
ENTERED BY: KRN

CITY OF GRANDVIEW
WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1
DEWATERING BUILDING DEMOLITION

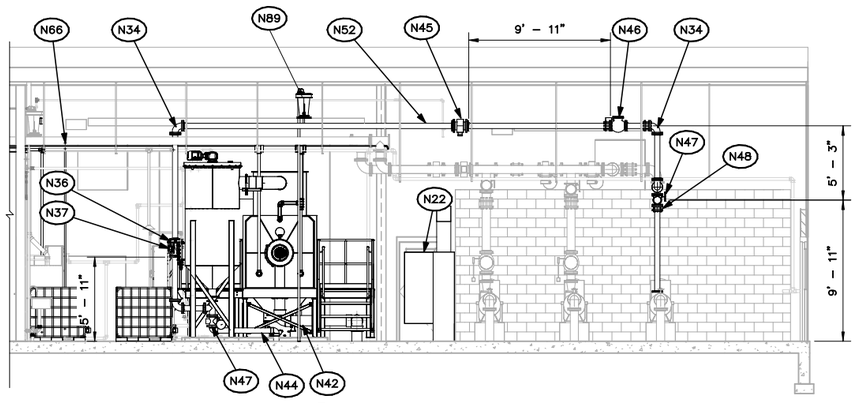
M11-2

SHEET 56 OF 192



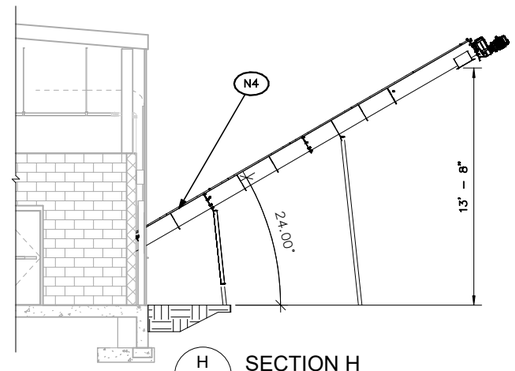
SCREW PRESS NO.1 PHASING PLAN

0' 2'-8" 5'-4" 10'-8"



F M11-3 **SECTION F**

0' 2'-8" 5'-4" 10'-8"



H M11-3 **SECTION H**

0' 2'-8" 5'-4" 10'-8"

CONSTRUCTION NOTES

- N2 NEW POLYMER BLENDING AND FEED SYSTEM.
- N4 NEW SLUDGE DEWATERING SCREW PRESS EQUIPMENT, FLOCCULATION TANKS, WALKWAYS, AND APPURTENANCES.
- N8 POLYMER TOTE SKIDS.
- N22 NEW ELECTRICAL CONTROL PANEL FOR SCREW PRESS NO. 1. SEE ELECTRICAL PLANS FOR LAYOUT.
- N27 DEMOLISH EXISTING 8' X 10' OVERHEAD DOOR FOR INSTALLATION OF NEW 12' WIDE X 14' TALL OVERHEAD DOOR. IN TEMPORARY SCREW CONVEYOR POSITION, INSTALL TEMPORARY SHEETING AT GARAGE DOOR OPENING FOR CONVEYOR PENETRATION UNTIL NEW SCREW PRESSES 2 & 3 ARE OPERATIONAL AND CONVEYOR IS ROTATED INTO FINAL POSITION.
- N28 NEW 80–MESH PLANT WATER LOW PRESSURE AUTOMATIC DISC FILTER, NETAFIM LP DISC–KLEEN SERIES 3" X 3" FILTERS, 250–600 GPM, INCL. BACKFLUSH CONTROLLER. WITH CONCRETE PEDESTAL. CONNECT NEW FILTER TO NEW WATER PIPING. SEE DETAIL 1.5 SHEET GP–2.
- N31 NEW 2" APCO OR EQUIVALENT COMBINATION AIR RELEASE VALVE. PROVIDE PIPING, FITTINGS, AND APPURTENANCES NECESSARY FOR COMPLETE INSTALLATION. PROVIDE OPTIONAL SHUT OFF VALVE, FIELD ROUTE PVC DRAIN LINE. SIZE PER MANUFACTURER RECOMMENDATIONS. SEE DETAIL 3.5 ON SHEET GP–2.
- N34 NEW 4" 90 DEG FLANGE ELBOW.
- N36 NEW 4" INJECTION RING.
- N37 NEW 4" MIXING VALVE ASSEMBLY.
- N42 OPEN EXISTING 4" MUD VALVE, INSTALL 8" DWV PVC DRAIN PIPE AND FITTINGS FROM SCREW PRESS FILTRATE CONNECTION IN EXISTING TRENCH DRAIN.
- N44 FIELD ROUTE 4" DWV PVC DRAIN PIPE AND FITTINGS FROM FLOC TRANK DRAIN VALVE CONNECTION TO 6" ABOVE EXISTING FLOOR DRAIN.
- N45 NEW 4" ELECTROMAGNETIC FLOW METER WITH REMOTE TRANSMITTER. INSTALL METER WITH A MINIMUM OF 24" STRAIGHT PIPE UP AND DOWNSTREAM. MOUNT TRANSMITTER ON WALL BEHIND PUMP NO. 3, 5'–6" ABOVE FINISHED FLOOR OR AS DIRECTED BY THE ENGINEER.
- N46 NEW 4" FLG SWING CHECK VALVE WITH EXTERNAL LEVER AND ADJUSTABLE AUXILIARY WEIGHT.
- N47 NEW 4" DI FLG TEE.
- N48 NEW 4" RFCA.
- N52 4" DI FLG X FLG
- N63 NEW SHAFTLESS SCREW CONVEYOR IN TEMPORARY ORIENTATION.
- N64 ENLARGE EXISTING OVERHEAD DOOR OPENING AND INSTALL NEW 12' WIDE X 14' TALL OVERHEAD SECTIONAL DOOR AND TRACK ASSEMBLY. MODIFY EXISTING STEEL GIRT FRAMING AND INSULATION AS NECESSARY AND RESTORE EXTERIOR FLASHING AND SIDING FOR COMPLETE INSTALLATION.
- N65 RECONNECT POTABLE WATER TO RESTROOM FACILITIES AND WASHDOWN HOSE BIB.
- N66 TEMPORARY CONNECTION FROM NEW POLYMER MIXING SYSTEM TO EXISTING POLYMER LINES.
- N69 INSTALL (2) 500 GALLON EXPANSION TANKS, PIPING, AND ISOLATION VALVING. TANK TO BE WESSELS FXA–2000 OR EQUAL.
- N72 NEW 4" SCH. 80 NON–POTABLE WATER PIPING, VALVING, FITTINGS, AND APPURTENANCES. CONNECT TO NEW SCREW PRESS WASH WATER CONNECTIONS; (1) 2" FLG TOP CONNECTION AND (2) 1–1/2" FLG BOTTOM CONNECTIONS EACH PRESS. PROVIDE ISOLATION VALVING AT HEADER TEE BRANCH.
- N89 NEW 2" APCO 401 OR EQUIVALENT SEWAGE COMBINATION AIR RELEASE VALVE. PROVIDE PIPING, FITTINGS, AND APPURTENANCES NECESSARY FOR COMPLETE INSTALLATION. PROVIDE OPTIONAL SHUT OFF VALVE, FIELD ROUTE PVC DRAIN LINE. SIZE PER MANUFACTURER RECOMMENDATIONS. SEE DETAIL 3.4/GP–2.
- N90 CONTRACTOR TO VERIFY EX. DRAIN GRATING TRENCH DIMENSION IN FIELD AND FABRICATE WALKWAY LAYOUT TO AVOID CONFLICT WITH EXISTING GRATING. WHERE INSTALL 3" MIN. GROUT LEVELING PAD AT WALKWAY AND STAIR FOOTINGS.

PHASING SEQUENCE NOTES:

1. SEE SHEET G–4 FOR SEQUENCING DETAILS.

SCHEDULE A

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ROBERT D. SCOTT — STATE OF WASHINGTON — 46421 — REGISTERED PROFESSIONAL ENGINEER — 3/13/26

REVISION	DATE

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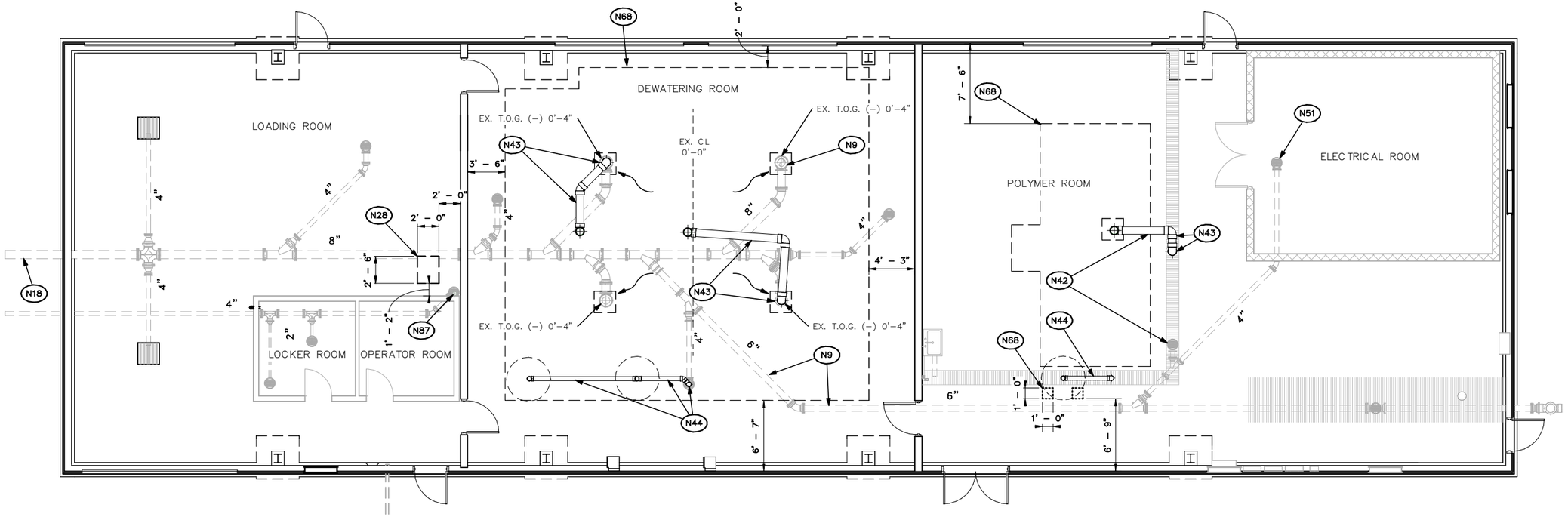
DESIGNED BY: JWM
ENTERED BY: KRN

CITY OF GRANDVIEW
WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1

SCREW PRESS NO.1 PHASING PLAN

M11-3

SHEET 57 OF 192



DRAIN/FOUNDATION

0' 2'-8" 5'-4" 10'-8"

CONSTRUCTION NOTES

- (N9) EXISTING FLOOR DRAIN, TYPICAL.
- (N18) EXISTING DRAIN PIPING TO DEWATERING BUILDING DRAIN PUMP STATION. SEE DRAWING C–9.
- (N28) NEW 80–MESH PLANT WATER LOW PRESSURE AUTOMATIC DISC FILTER, NETAFIM LP DISC–KLEEN SERIES 3" X 3" FILTERS, 250–600 GPM, INCL. BACKFLUSH CONTROLLER. WITH CONCRETE PEDESTAL. CONNECT NEW FILTER TO NEW WATER PIPING. SEE DETAIL 1.5 SHEET GP–2.
- (N42) OPEN EXISTING 4" MUD VALVE, INSTALL 8" DWV PVC DRAIN PIPE AND FITTINGS FROM SCREW PRESS FILTRATE CONNECTION IN EXISTING TRENCH DRAIN.
- (N43) REMOVE EXISTING FLOOR DRAIN GRATE, INSTALL 8" DWV PVC DRAIN PIPE AND FITTINGS FROM SCREW PRESS FILTRATE CONNECTION INTO EXISTING DRAIN. RE–BAND EXISTING GRATING AS NECESSARY.
- (N44) FIELD ROUTE 4" DWV PVC DRAIN PIPE AND FITTINGS FROM FLOC TRANK DRAIN VALVE CONNECTION TO 6" ABOVE EXISTING FLOOR DRAIN.
- (N51) GROUT PLUG EXISTING FLOOR DRAIN IN ELECTRICAL ROOM.
- (N68) EXISTING FLOOR SLOPES FROM CENTERLINE TO (–) 0"–4" AT EXISTING BFP DRAIN LOCATIONS (4). PROVIDE MINIMUM 3" HOUSEKEEPING/LEVELING PAD, FORM AROUND DRAIN OPENINGS 2' X 2' SQUARE FOR DEWATERING DRAIN CONNECTIONS. SEE HOUSEKEEPING PAD DETAIL.
- (N87) EXISTING DRAIN VENT PIPE.

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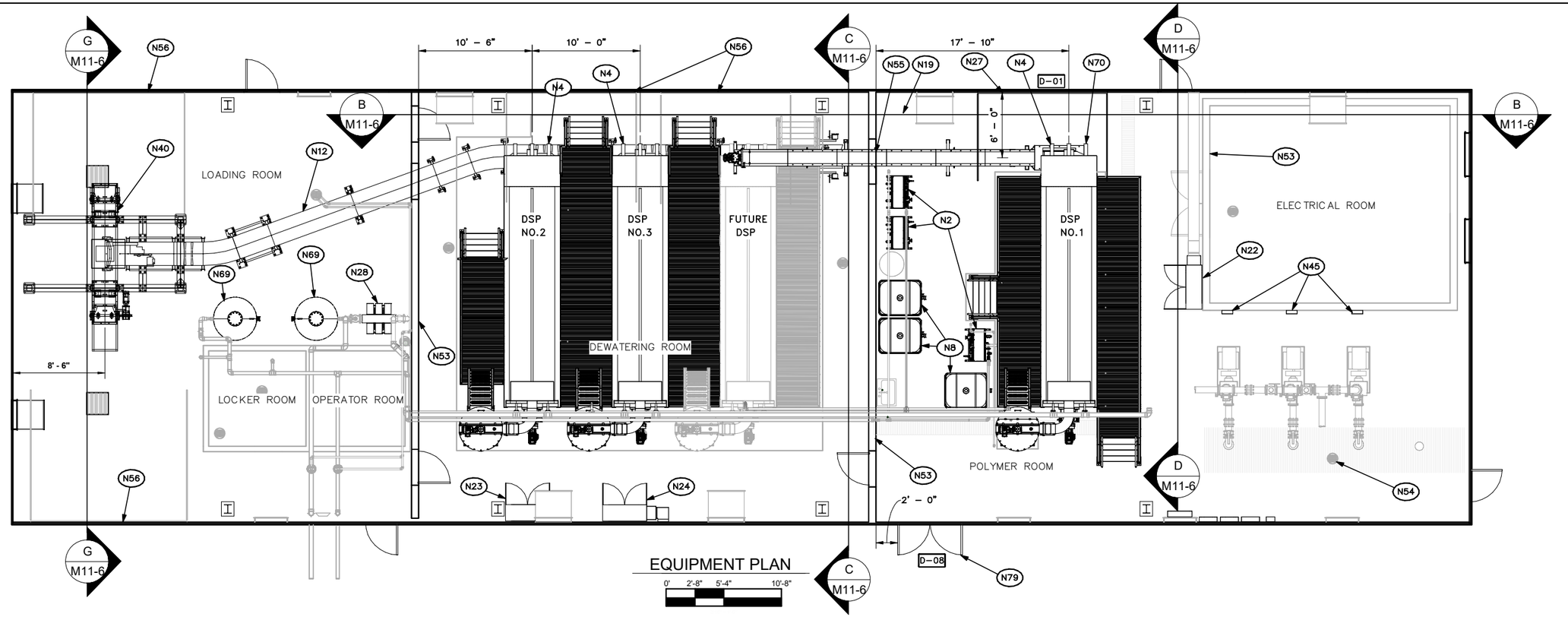
DESIGNED BY: JWM
ENTERED BY: KRN

CITY OF GRANDVIEW
WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1

DEWATERING BUILDING DRAIN/FOUNDATION

M11-4

SHEET 58 OF 192



EQUIPMENT PLAN

0' 2'-8" 5'-4" 10'-8"

CONSTRUCTION NOTES

- (N2) NEW POLYMER BLENDING AND FEED SYSTEM.
- (N4) NEW SLUDGE DEWATERING SCREW PRESS EQUIPMENT, FLOCCULATION TANKS, WALKWAYS, AND APPURTENANCES.
- (N8) POLYMER TOTE SKIDS.
- (N12) DISASSEMBLE EXISTING SERPENTIX SLUDGE CONVEYOR FOR INSTALLATION OF NEW SCREW PRESS 2 AND 3 AFTER NEW SCREW PRESS NO. 1 AND SCREW CONVEYOR ARE FULLY OPERATIONAL SEE SCREW PRESS NO. 1 PHASING PLAN.
- (N19) EXISTING POLYMER TANKS. TO BE DEMOLISHED FOR INSTALLATION OF NEW POLYMER EQUIPMENT.
- (N22) NEW ELECTRICAL CONTROL PANEL FOR SCREW PRESS NO. 1. SEE ELECTRICAL PLANS FOR LAYOUT.
- (N23) NEW ELECTRICAL CONTROL PANEL FOR SCREW PRESS NO. 2. SEE ELECTRICAL PLANS FOR LAYOUT.
- (N24) NEW ELECTRICAL CONTROL PANEL FOR SCREW PRESS NO. 3. SEE ELECTRICAL PLANS FOR LAYOUT.
- (N27) DEMOLISH EXISTING 8' X 10' OVERHEAD DOOR FOR INSTALLATION OF NEW 12' WIDE X 14' TALL OVERHEAD DOOR. IN TEMPORARY SCREW CONVEYOR POSITION, INSTALL TEMPORARY SHEETING AT GARAGE DOOR OPENING FOR CONVEYOR PENETRATION UNTIL NEW SCREW PRESSES 2 & 3 ARE OPERATIONAL AND CONVEYOR IS ROTATED INTO FINAL POSITION.
- (N28) NEW 80–MESH PLANT WATER LOW PRESSURE AUTOMATIC DISC FILTER, NETAFIM LP DISC–KLEEN SERIES 3" X 3" FILTERS, 250–600 GPM, INCL. BACKFLUSH CONTROLLER. WITH CONCRETE PEDESTAL. CONNECT NEW FILTER TO NEW WATER PIPING. SEE DETAIL 1.5 SHEET GP–2.
- (N40) NEW SERPENTIX HORIZONTAL DISTRIBUTION CONVEYOR.
- (N45) NEW 4" ELECTROMAGNETIC FLOW METER WITH REMOTE TRANSMITTER. INSTALL METER WITH A MINIMUM OF 24" STRAIGHT PIPE UP AND DOWNSTREAM. MOUNT TRANSMITTER ON WALL BEHIND PUMP NO. 3, 5'–6" ABOVE FINISHED FLOOR OR AS DIRECTED BY THE ENGINEER.
- (N53) EXISTING CMU BLOCK WALL.
- (N54) FLOOR DRAIN AND DRAIN PIPING, TYPICAL. SEE SHEET M11–4 FOR LAYOUT AND REQUIREMENTS.
- (N55) NEW CMU WALL PENETRATION FOR CONVEYOR INSTALLATION; APPROX. 2'–0" X 3'–4". CONVEYER TO BE SUPPORTED ON STRUCTURAL WALL SUPPORTS TO MAINTAIN MINIMUM 5'–0" CLEARANCE FOR TOTE ACCESS.
- (N56) EXISTING 12' X 12' OVERHEAD DOOR.
- (N69) INSTALL (2) 500 GALLON EXPANSION TANKS, PIPING, AND ISOLATION VALVING. TANK TO BE WESSELS FXA–2000 OR EQUAL.
- (N70) UPON COMPLETION AND ACCEPTANCE OF NEW SCREW PRESSES AND NEW BELT CONVEYOR, ROTATE SCREW CONVEYOR TO DISCHARGE ONTO BELT CONVEYOR. PROVIDE ALTERNATE FABRICATED DISCHARGE CHUTE FROM DSP1 FOR PERMANENT CONVEYOR POSITION. PROVIDE CONVEYOR DISCHARGE CHUTE TO DEPOSITING SOLIDS ONTO BELT CONVEYOR.
- (N79) HOLLOW METAL DOOR AND FRAME. SEE SCHEDULE 1.5/GA–1.

SCHEDULE A

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ROBERT J. SCOTT — STATE OF WASHINGTON — 46421 — REGISTERED PROFESSIONAL ENGINEER

REVISION	DATE

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FILE NAMES:
DRAWING: DEWATERING BUILDING.RVT
PLAN: 23030

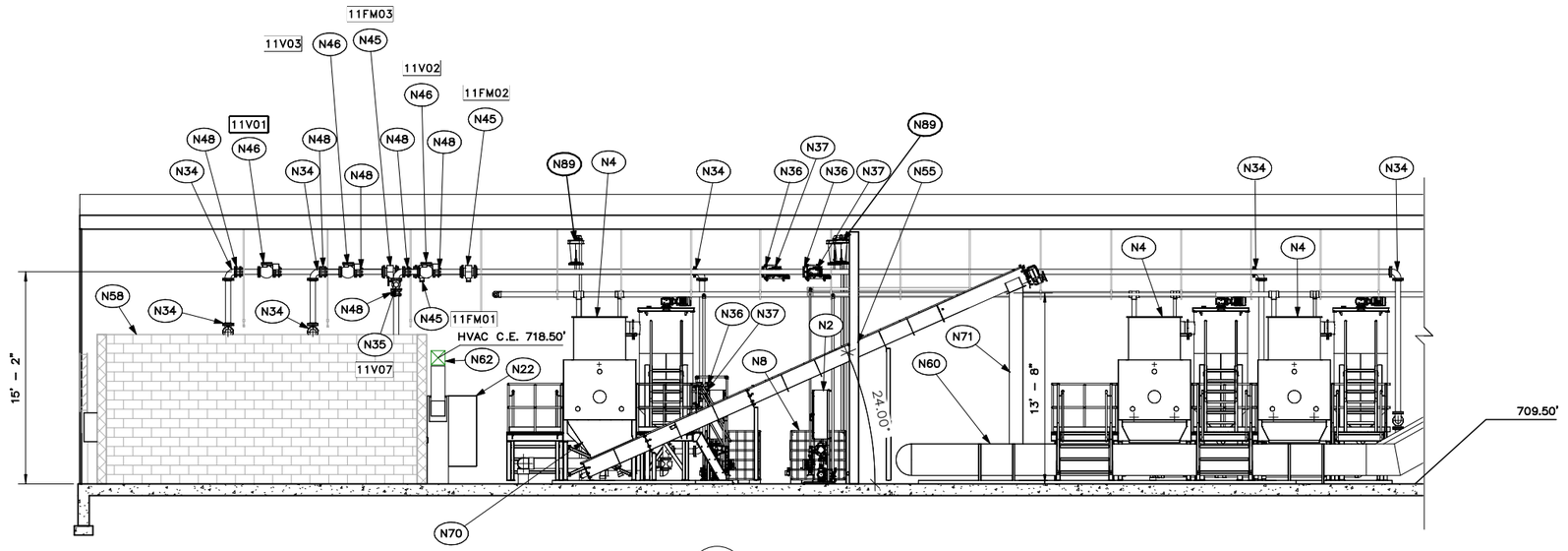
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CITY OF GRANDVIEW
WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1

DEWATERING BUILDING EQUIPMENT PLAN

M11-5

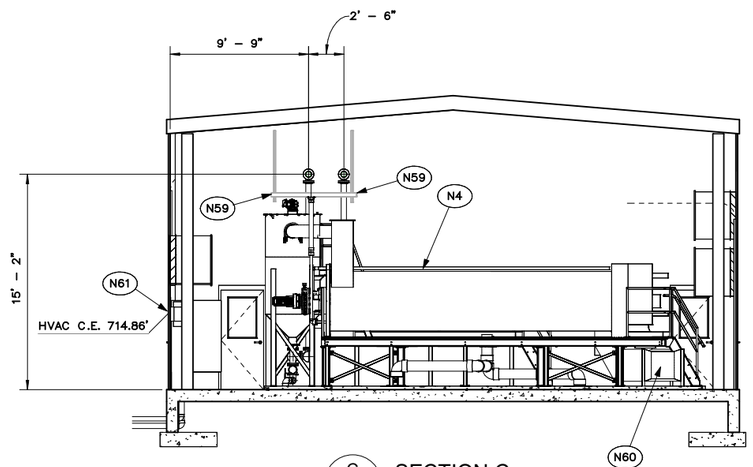
SHEET 59 OF 192



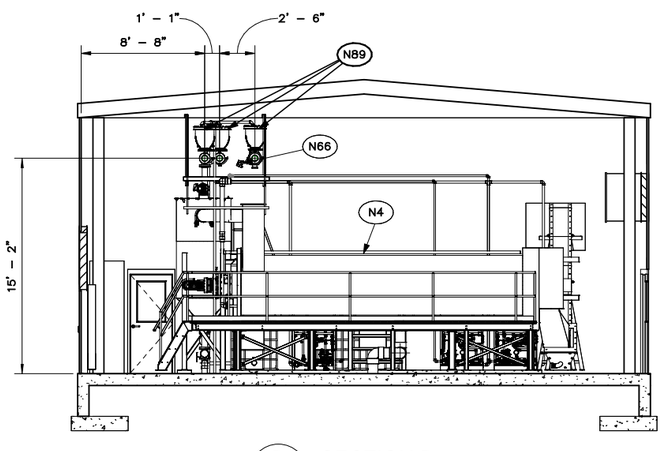
B SECTION B
M11-5 0' 2'-8" 5'-4" 10'-8"

CONSTRUCTION NOTES

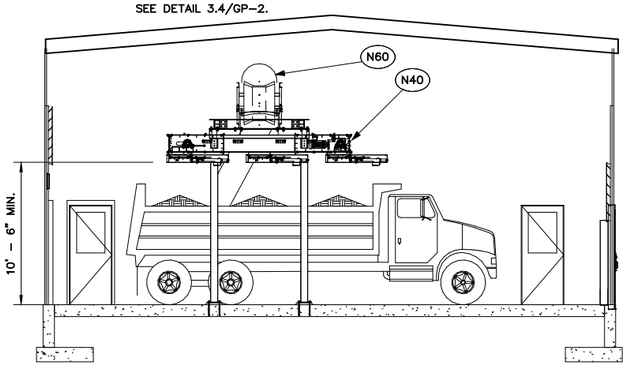
- (N2) NEW POLYMER BLENDING AND FEED SYSTEM.
- (N4) NEW SLUDGE DEWATERING SCREW PRESS EQUIPMENT, FLOCCULATION TANKS, WALKWAYS, AND APPURTENANCES.
- (N8) POLYMER TOTE SKIDS.
- (N22) NEW ELECTRICAL CONTROL PANEL FOR SCREW PRESS NO. 1. SEE ELECTRICAL PLANS FOR LAYOUT.
- (N34) NEW 4" 90 DEG FLANGE ELBOW.
- (N35) NEW 4" FLANGE PLUG VALVE.
- (N36) NEW 4" INJECTION RING.
- (N37) NEW 4" MIXING VALVE ASSEMBLY.
- (N40) NEW SERPENTIX HORIZONTAL DISTRIBUTION CONVEYOR.
- (N45) NEW 4" ELECTROMAGNETIC FLOW METER WITH REMOTE TRANSMITTER. INSTALL METER WITH A MINIMUM OF 24" STRAIGHT PIPE UP AND DOWNSTREAM. MOUNT TRANSMITTER ON WALL BEHIND PUMP NO. 3, 5'-6" ABOVE FINISHED FLOOR OR AS DIRECTED BY THE ENGINEER.
- (N46) NEW 4" FLG SWING CHECK VALVE WITH EXTERNAL LEVER AND ADJUSTABLE AUXILIARY WEIGHT.
- (N48) NEW 4" RFCA.
- (N55) NEW CMU WALL PENETRATION FOR CONVEYOR INSTALLATION; APPROX. 2'-0" X 3'-4". CONVEYER TO BE SUPPORTED ON STRUCTURAL WALL SUPPORTS TO MAINTAIN MINIMUM 5'-0" CLEARANCE FOR TOTE ACCESS.
- (N58) EXISTING BLOWER ROOM TO BE REPURPOSED FOR NEW ELECTRICAL EQUIPMENT SEE ELECTRICAL SHEETS.
- (N59) EXISTING PIPE HANGERS; CONTRACTOR MAY MODIFY AND PROVIDE ADDITIONAL HANGERS AND SUPPORTS AS NECESSARY FOR COMPLETE PIPING INSTALLATION.
- (N60) NEW SERPENTINE SLUDGE DEWATERING BELT CONVEYOR.
- (N61) HVAC LOUVERED OPENING FROM SCREW PRESS EQUIPMENT CONTROL PANEL AIR CONDITIONER EXHAUST LOCATED IN BELT PRESS ROOM.
- (N62) HVAC LOUVERED OPENING FROM SCREW PRESS EQUIPMENT CONTROL PANEL AIR CONDITIONER EXHAUST LOCATED IN POLYMER PUMP ROOM.
- (N66) TEMPORARY CONNECTION FROM NEW POLYMER MIXING SYSTEM TO EXISTING POLYMER LINES.
- (N70) UPON COMPLETION AND ACCEPTANCE OF NEW SCREW PRESSES AND NEW BELT CONVEYOR, ROTATE SCREW CONVEYOR TO DISCHARGE ONTO BELT CONVEYOR. PROVIDE ALTERNATE FABRICATED DISCHARGE CHUTE FROM DSP1 FOR PERMANENT CONVEYOR POSITION. PROVIDE CONVEYOR DISCHARGE CHUTE TO DEPOSITING SOLIDS ONTO BELT CONVEYOR.
- (N71) INSTALL NEW CHUTE DISCHARGE FROM SCREW CONVEYOR.
- (N89) NEW 2" APCO 401 OR EQUIVALENT SEWAGE COMBINATION AIR RELEASE VALVE. PROVIDE PIPING, FITTINGS, AND APPURTENANCES NECESSARY FOR COMPLETE INSTALLATION. PROVIDE OPTIONAL SHUT OFF VALVE, FIELD ROUTE PVC DRAIN LINE. SIZE PER MANUFACTURER RECOMMENDATIONS. SEE DETAIL 3.4/GP-2.



C SECTION C
M11-5 0' 2'-8" 5'-4" 10'-8"



D SECTION D
M11-5 0' 2'-8" 5'-4" 10'-8"



G SECTION G
M11-5 0' 2'-8" 5'-4" 10'-8"

SCHEDULE A

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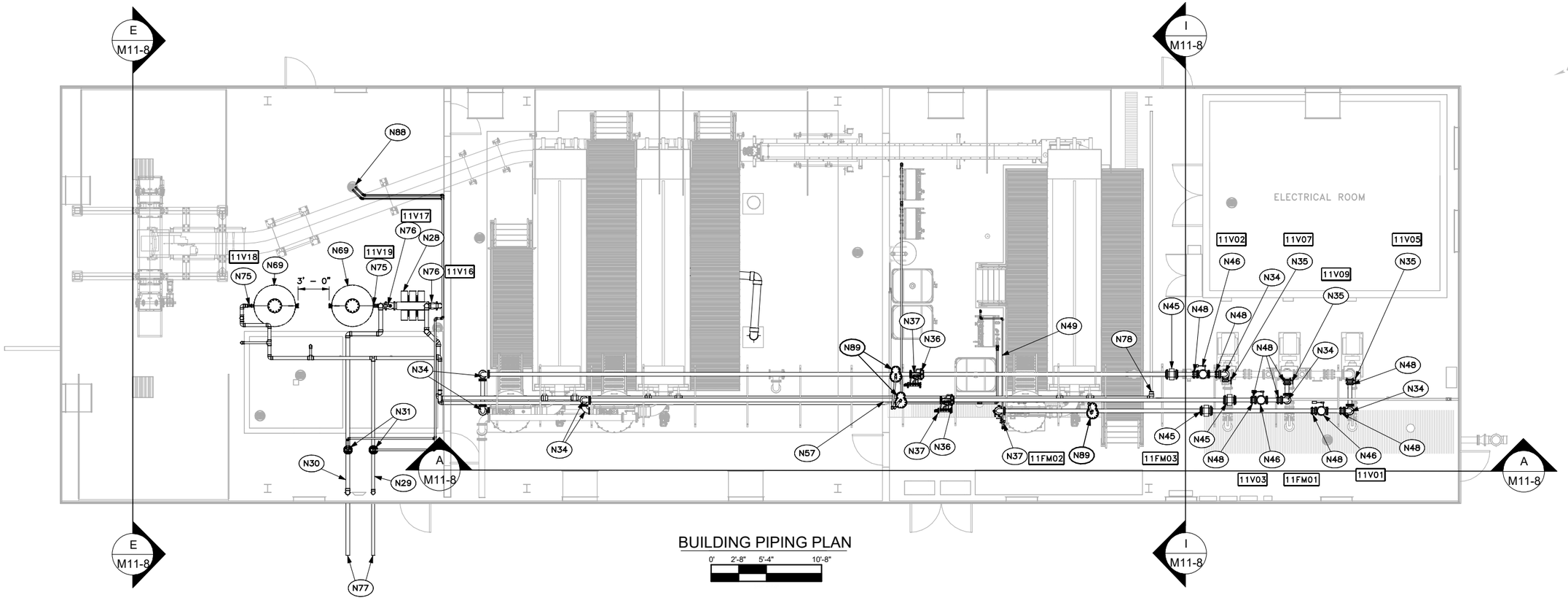
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CITY OF GRANDVIEW
WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1
DEWATERING BUILDING SECTIONS

M11-6

SHEET 60 OF 192



BUILDING PIPING PLAN

0' 2'-8" 5'-4" 10'-8"

CONSTRUCTION NOTES

N28 NEW 80-MESH PLANT WATER LOW PRESSURE AUTOMATIC DISC FILTER, NETAFIM LP DISC-KLEEN SERIES 3" X 3" FILTERS, 250-600 GPM, INCL. BACKFLUSH CONTROLLER. WITH CONCRETE PEDESTAL. CONNECT NEW FILTER TO NEW WATER PIPING. SEE DETAIL 1.5 SHEET GP-2.

N29 NEW 3" POTABLE WATER PIPING; CORE DRILL THROUGH BUILDING STEM WALL AND PENETRATE THROUGH CONCRETE FLOOR.

N30 NEW 4" NON-POTABLE WATER PIPING; CORE DRILL THROUGH BUILDING STEM WALL AND PENETRATE THROUGH CONCRETE FLOOR.

N31 NEW 2" APCO OR EQUIVALENT COMBINATION AIR RELEASE VALVE. PROVIDE PIPING, FITTINGS, AND APPURTENANCES NECESSARY FOR COMPLETE INSTALLATION. PROVIDE OPTIONAL SHUT OFF VALVE, FIELD ROUTE PVC DRAIN LINE. SIZE PER MANUFACTURER RECOMMENDATIONS. SEE DETAIL 3.5 ON SHEET GP-2.

N34 NEW 4" 90 DEG FLANGE ELBOW.

N35 NEW 4" FLANGE PLUG VALVE.

N36 NEW 4" INJECTION RING.

N37 NEW 4" MIXING VALVE ASSEMBLY.

N45 NEW 4" ELECTROMAGNETIC FLOW METER WITH REMOTE TRANSMITTER. INSTALL METER WITH A MINIMUM OF 24" STRAIGHT PIPE UP AND DOWNSTREAM. MOUNT TRANSMITTER ON WALL BEHIND PUMP NO. 3, 5'-6" ABOVE FINISHED FLOOR OR AS DIRECTED BY THE ENGINEER.

N46 NEW 4" FLG SWING CHECK VALVE WITH EXTERNAL LEVER AND ADJUSTABLE AUXILIARY WEIGHT.

N48 NEW 4" RFCA.

N49 FIELD ROUTE 1" PVC SCH 80 TO POLYMER INJECTION RING AS REQUIRED FOR COMPLETE INSTALLATION.

N57 NEW CMU WALL PENETRATION FOR SLUDGE PIPING.

N69 INSTALL (2) 500 GALLON EXPANSION TANKS, PIPING, AND ISOLATION VALVING. TANK TO BE WESSELS FXA-2000 OR EQUAL.

N75 NEW 2" EXPANSION TANK ISOLATION BALL VALVE.

N76 NEW 4" EXPANSION TANK ISOLATION BALL VALVE.

N77 CONNECTION TO EXISTING POT AND NON-POTABLE WATER LINES, SEE SHEET C-3 FOR EXISTING PIPE LOCATIONS.

N78 RECONNECT EXISTING PVC NON-POT PIPING TO NEW 4" NON-POT PVC HEADER AS SHOWN.

N88 FIELD ROUTE FILTER BACKWASH DRAIN PIPING AND AIR RELEASE DRAIN PIPING TO EXISTING DRAIN GRATE. PROVIDE DOWNWARD ELBOW FOR FILTER DRAIN OUTLET AT GRATE.

N89 NEW 2" APCO 401 OR EQUIVALENT SEWAGE COMBINATION AIR RELEASE VALVE. PROVIDE PIPING, FITTINGS, AND APPURTENANCES NECESSARY FOR COMPLETE INSTALLATION. PROVIDE OPTIONAL SHUT OFF VALVE, FIELD ROUTE PVC DRAIN LINE. SIZE PER MANUFACTURER RECOMMENDATIONS. SEE DETAIL 3.4/GP-2.

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ROBERT J. SCOTT — STATE OF WASHINGTON — 46421 — REGISTERED PROFESSIONAL ENGINEER

REVISION	DATE

JOB NUMBER: 23030 | DATE: 3/13/2026

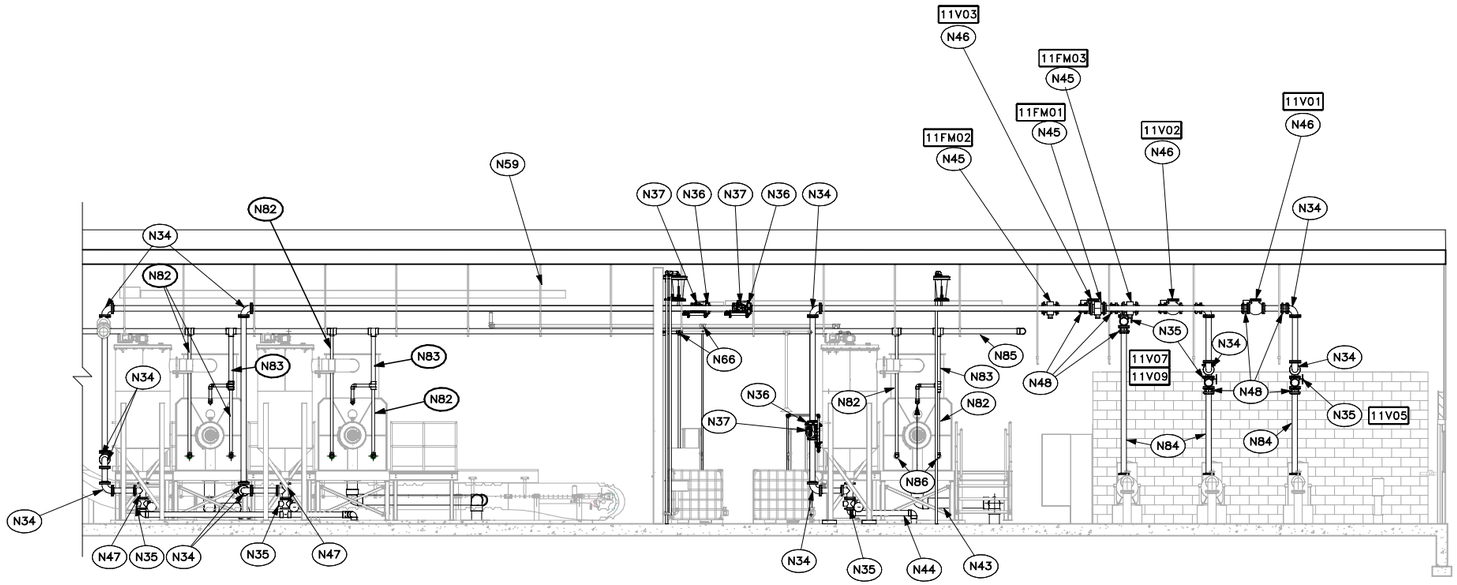
FILE NAMES:
DRAWING: DEWATERING BUILDING.RVT
PLAN: 23030

DESIGNED BY: JWM
ENTERED BY: KRN

CITY OF GRANDVIEW
WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1
DEWATERING BUILDING PIPING PLAN

M11-7

SHEET 61 OF 192

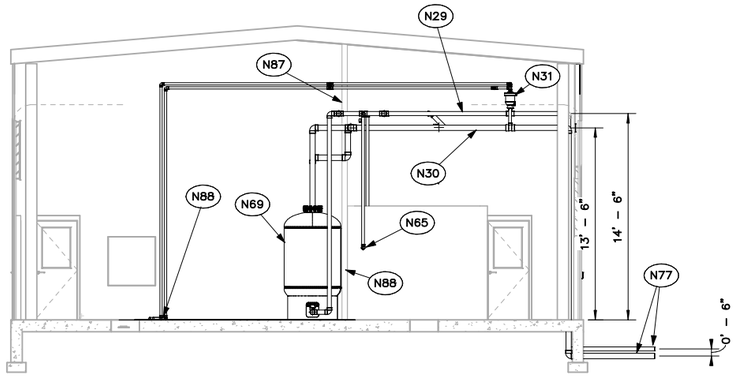


A M11-7 SECTION A

0' 2'-8" 5'-4" 10'-8"

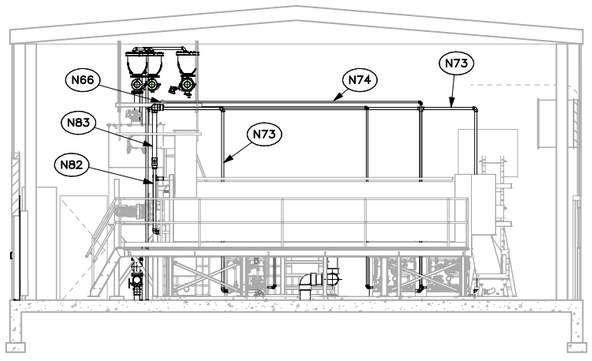
CONSTRUCTION NOTES

- (N29) NEW 3" POTABLE WATER PIPING; CORE DRILL THROUGH BUILDING STEM WALL AND PENETRATE THROUGH CONCRETE FLOOR.
- (N30) NEW 4" NON-POTABLE WATER PIPING; CORE DRILL THROUGH BUILDING STEM WALL AND PENETRATE THROUGH CONCRETE FLOOR.
- (N31) NEW 2" APCO OR EQUIVALENT COMBINATION AIR RELEASE VALVE. PROVIDE PIPING, FITTINGS, AND APPURTENANCES NECESSARY FOR COMPLETE INSTALLATION. PROVIDE OPTIONAL SHUT OFF VALVE, FIELD ROUTE PVC DRAIN LINE. SIZE PER MANUFACTURER RECOMMENDATIONS. SEE DETAIL 3.5 ON SHEET GP-2.
- (N34) NEW 4" 90 DEG FLANGE ELBOW.
- (N35) NEW 4" FLANGE PLUG VALVE.
- (N36) NEW 4" INJECTION RING.
- (N37) NEW 4" MIXING VALVE ASSEMBLY.
- (N43) REMOVE EXISTING FLOOR DRAIN GRATE, INSTALL 8" DWV PVC DRAIN PIPE AND FITTINGS FROM SCREW PRESS FILTRATE CONNECTION INTO EXISTING DRAIN. RE-BAND EXISTING GRATING AS NECESSARY.
- (N44) FIELD ROUTE 4" DWV PVC DRAIN PIPE AND FITTINGS FROM FLOC TRANK DRAIN VALVE CONNECTION TO 6" ABOVE EXISTING FLOOR DRAIN.
- (N45) NEW 4" ELECTROMAGNETIC FLOW METER WITH REMOTE TRANSMITTER. INSTALL METER WITH A MINIMUM OF 24" STRAIGHT PIPE UP AND DOWNSTREAM. MOUNT TRANSMITTER ON WALL BEHIND PUMP NO. 3, 5'-6" ABOVE FINISHED FLOOR OR AS DIRECTED BY THE ENGINEER.
- (N46) NEW 4" FLG SWING CHECK VALVE WITH EXTERNAL LEVER AND ADJUSTABLE AUXILIARY WEIGHT.
- (N47) NEW 4" DI FLG TEE.
- (N48) NEW 4" RFCA.
- (N59) EXISTING PIPE HANGERS; CONTRACTOR MAY MODIFY AND PROVIDE ADDITIONAL HANGERS AND SUPPORTS AS NECESSARY FOR COMPLETE PIPING INSTALLATION.
- (N65) RECONNECT POTABLE WATER TO RESTROOM FACILITIES AND WASHDOWN HOSE BIB.
- (N66) TEMPORARY CONNECTION FROM NEW POLYMER MIXING SYSTEM TO EXISTING POLYMER LINES.
- (N69) INSTALL (2) 500 GALLON EXPANSION TANKS, PIPING, AND ISOLATION VALVING. TANK TO BE WESSELS FXA-2000 OR EQUAL.
- (N73) 1 1/2" POTABLE WATER LINE.
- (N74) 1" POLYMER LINE.
- (N77) CONNECTION TO EXISTING POT AND NON-POTABLE WATER LINES, SEE SHEET C-3 FOR EXISTING PIPE LOCATIONS.
- (N82) 2" NON-POT PVC SCH80 WATER PIPING.
- (N83) 3" NON-POT PVC SCH80 WATER PIPING.
- (N84) 4" D.I. SLUDGE PIPING.
- (N85) 4" NON-POT PVC SCH80 WATER PIPING HEADER.
- (N86) SCREW PRESS WASH WATER CONNECTIONS. CONTRACTOR TO PROVIDE VALVES & FITTINGS AS REQUIRED FOR COMPLETE CONNECTION.
- (N87) EXISTING DRAIN VENT PIPE.
- (N88) FIELD ROUTE FILTER BACKWASH DRAIN PIPING AND AIR RELEASE DRAIN PIPING TO EXISTING DRAIN GRATE. PROVIDE DOWNWARD ELBOW FOR FILTER DRAIN OUTLET AT GRATE.



E M11-7 SECTION E

0' 2'-8" 5'-4" 10'-8"



I M11-7 SECTION I

0' 2'-8" 5'-4" 10'-8"

SCHEDULE A

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ROBERT J. SCOTT STATE OF WASHINGTON 46421 REGISTERED PROFESSIONAL ENGINEER

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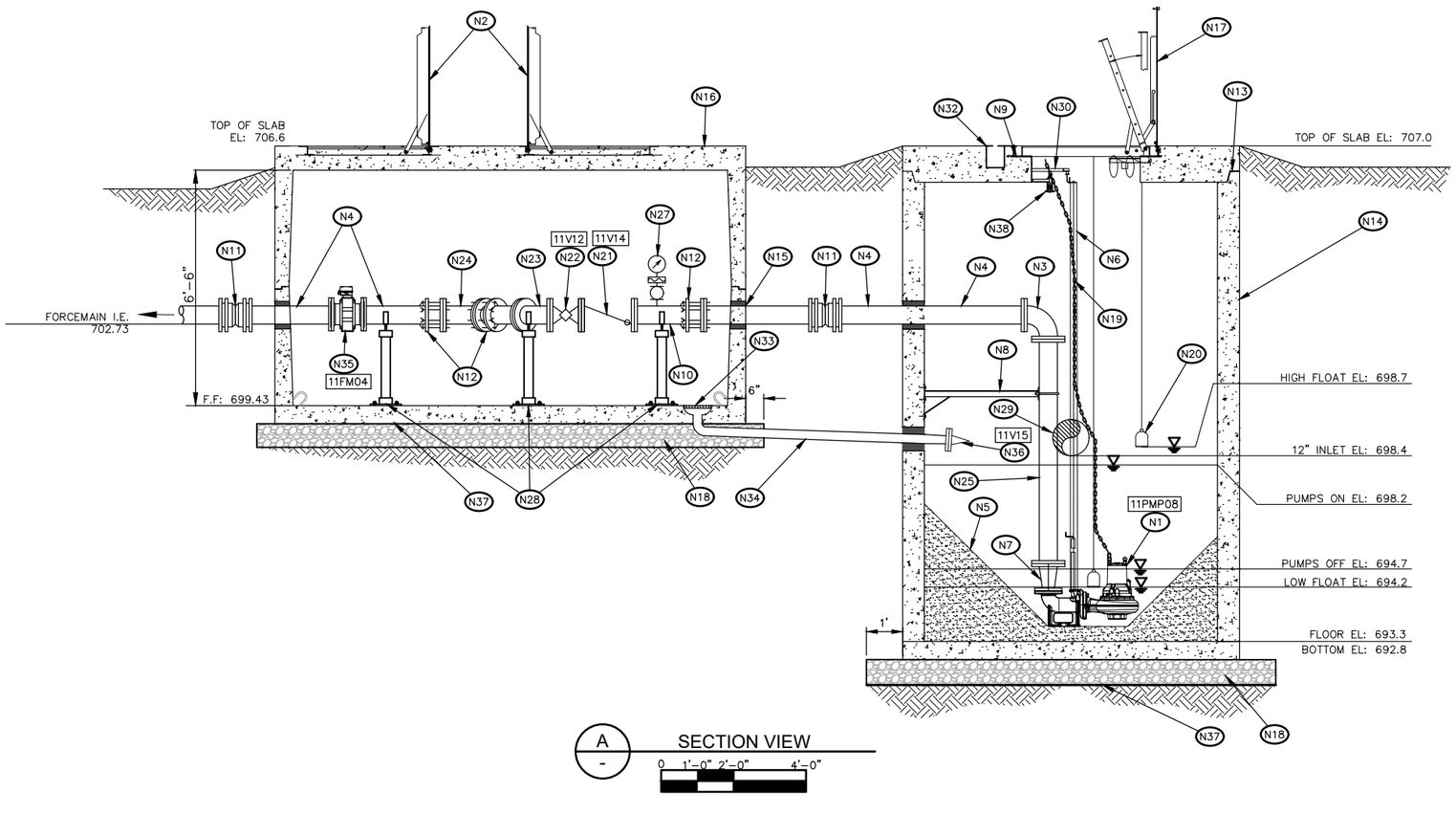
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CITY OF GRANDVIEW
WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1

DEWATERING BUILDING PIPING SECTIONS

M11-8

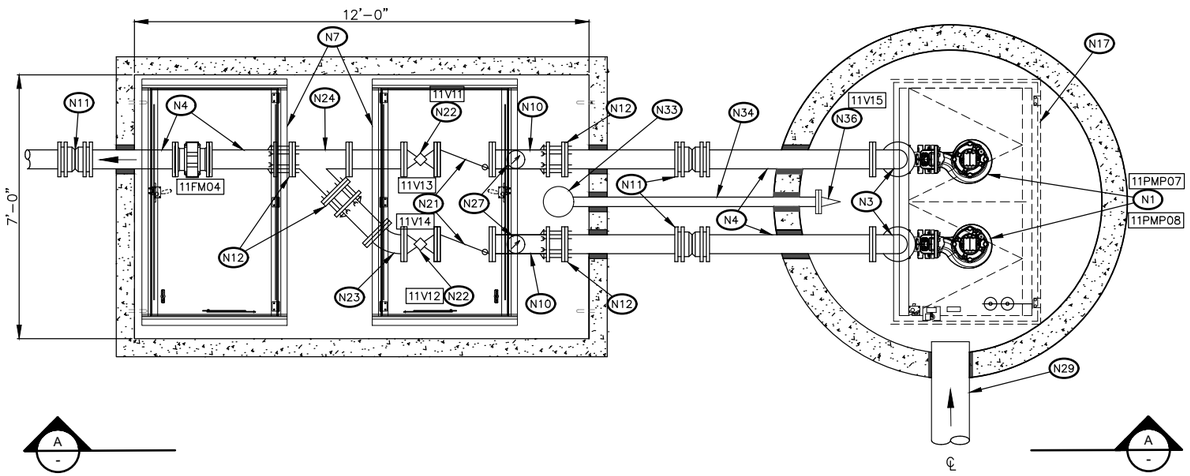
SHEET 62 OF 192



A
-

SECTION VIEW

0 1'-0" 2'-0" 4'-0"



A
-

A
-

DRAIN PUMP STATION PLAN

0 1'-0" 2'-0" 4'-0"

CONSTRUCTION NOTES

N1 (2) FLYGT PUMPS, 5.0 HP, 3 PHASE, 480 VOLT EXPLOSION PROOF MOTOR. ONE PUMP TO BE SUPPLIED WITH A FLUSH VALVE. PUMP DESIGN POINT 600 GPM AT 15 FEET TDH.

N2 TOP SLAB WITH TWO 36" W x 72" L CLEAR OPENING H-20 LOAD RATED, ALUMINUM ACCESS DOORS, USF MODEL THD W/RECESSED PADLOCK BOX AND SPRING ASSIST, OR EQUAL. EXTEND CHANNEL FRAME DRAIN INTO VAULT. CENTER DOORS OVER VALVES/FLOW METER AS SHOWN.

N3 6" FLG X FLG DI 90° BEND.

N4 6" FLG X PE DI SPOOL.

N5 GROUT AROUND DISCHARGE ELBOW AND SUMP INSERT AS SHOWN. DIMENSIONS AND LAYOUT AS RECOMMENDED BY PUMP MANUFACTURER.

N6 STAINLESS STEEL GUIDE RAILS, 4 EA, VERIFY REQUIREMENTS AND CUT TO LENGTH.

N7 6" x 4" SCH. 40 TYPE 304 STAINLESS STEEL REDUCER.

N8 STAINLESS STEEL PIPE SUPPORT BRACKETS 4'-0" MAX. SPACING.

N9 PROVIDE DRY PACK GROUT PAD BETWEEN GUIDE ATTACHMENT BRACKET AND WET WELL LID AS NECESSARY.

N10 6" FLG X PE DUCTILE IRON SPOOL. PROVIDE 3/4" TAP IN SPOOL WHERE REQUIRED FOR GAUGE CONNECTION.

N11 6" D.I. MJ SLEEVE COUPLING.

N12 6" RESTRAINED FLG COUPLING ADAPTER, ROMAC RFCA OR EQUAL.

N13 1'-0" THICK PRECAST REINFORCED CONCRETE WET WELL COVER, DESIGNED AND REINFORCED BY THE MANUFACTURER. H-20 LOADINGS REQUIRED. COORDINATE COVER CASTING WITH HATCH SUPPLIER AND VERIFY FINAL DIMENSIONS PRIOR TO CASTING.

N14 8'-0" I.D. PRECAST CONCRETE MANHOLE BASE AND SECTIONS WITH GASKETED JOINTS.

N15 INSTALL WATERTIGHT, FLEXIBLE RUBBER GASKET AND NON-SHRINK GROUT AT EACH PENETRATION TYP, OR USE LINK SEAL.

N16 12'-0" x 7'-0" x 6'-6"H (MIN. INSIDE DIMENSIONS) PRECAST CONCRETE VAULT.

N17 72" L x 36" W (CLEAR OPENING) TWO-DOOR ALUMINUM ACCESS COVER, USF MODEL TSGD W/ RECESSED PADLOCK BOX AND SPRING ASSIST OR APPROVED EQUAL, CAST INTO TOP SLAB. CENTER DOOR OVER PUMPS AS SHOWN. COORDINATE INSTALLATION WITH PUMP GUIDERAIL INSTALLATION REQUIREMENTS.

N18 CRUSHED SURFACING BASE COURSE. INSTALL 12" MIN. COMPACTED DEPTH, COMPACTED TO 95% MIN. BENEATH LIFT STATION WET WELL AND VAULT.

N19 STAINLESS STEEL PUMP LIFT OUT CHAIN ASSEMBLY, TYPICAL.

N20 BACKUP FLOAT SWITCHES (2 EA.) AND STAINLESS STEEL SUPPORT BRACKET, TYPICAL. INSTALL FLOATS TO TRIP AT ELEVATIONS SHOWN. COIL UP AND SECURE EXCESS FLOAT CABLE TO SUPPORT BRACKET. PUMPS INTENDED TO OPERATE ON VFD CONTROL BASED ON RADAR LEVEL SENSOR.

N21 6" FLG RESILIENT HINGE CHECK VALVE, CLA-VAL MODEL 584, KEN-FLEX MODEL 506, OR EQUAL. PROVIDE OPTIONAL RETURN FLOW ACTUATOR.

N22 6" FLG PLUG VALVE WITH HAND WHEEL OPERATOR.

N23 6" FLG X FLG 45° ELBOW.

N24 6" D.I. MJ WYE.

N25 6" FLG X FLG SPOOL, LENGTH AS REQUIRED.

N26 NEW FORCE MAIN CLEANOUT ASSEMBLY. SEE DETAIL 1.5 ON SHEET 10.

N27 PRESSURE GAUGE WITH ISOLATION VALVE AND DIAPHRAGM SEAL, REOTEMP PT45 SERIES WITH DIAPHRAGM SEAL, 0-50 FT PRESSURE RANGE. PROVIDE BACK CONNECTION TO VIEW PRESSURE FROM ABOVE PIPING. PROVIDE STAINLESS STEEL VALVE AND FITTINGS ON DIAPHRAGM SEAL FOR FLUSHING. SEE DETAIL 2.2 ON SHEET 10.

N28 GALVANIZED STEEL PIPE SUPPORTS (UNDER EACH FORCE MAIN). STANDON MODEL S89 OR MODEL S92, AS APPLICABLE. ANCHOR TO VAULT FLOOR WITH STAINLESS STEEL WEDGE ANCHORS. SEE DETAIL 1.2 ON SHEET 10.

N29 12" GRAVITY SEWER INLET.

N30 UPPER GUIDE RAIL BRACKET, STAINLESS STEEL.

N31 NOT USED THIS SHEET

N32 3" DIA. HOIST SOCKET W/WEEP HOLE, INCLUDE 300LB HOIST W/36" ARM AND 360° ROTATION.

N33 3" SCH 80 FLOOR DRAIN, ZURN Z551 OR EQUAL.

N34 3" PVC DRAIN PIPE AND FITTINGS.

N35 6" ELECTROMAGNETIC FLOW METER, E+H PROMAG W400 OR EQUAL WITH REMOTE TRANSMITTER. COORDINATE TRANSMITTER MOUNTING LOCATION WITH ENGINEER IN FIELD.

N36 3" DUCKBILL CHECK VALVE.

N37 GEOTEXTILE FABRIC FOR STABILIZATION.

N38 ENDRESS+HAUSER MICROPILOT FMR20 NON-CONTACT RADAR LEVEL SENSOR.

GENERAL NOTES

1. USE STAINLESS STEEL BOLTS IN ALL MJ AND FLANGE FITTINGS.
2. THE DRAIN PUMP STATION WET WELL HAS BEEN CLASSIFIED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE AS A CLASS 1, DIVISION 1, GROUP C AND D HAZARDOUS LOCATION. ALL EQUIPMENT INSTALLED IN THE WET WELL SHALL BE APPROVED FOR INSTALLATION IN THE CLASSIFIED HAZARDOUS ENVIRONMENT, AND APPROVED INSTALLATION REQUIREMENTS SHALL BE FOLLOWED.
3. COAT ALL INTERIOR METAL SURFACES, EXCEPT PUMP UNITS, WITH TNEMEC 46H-413 HI-BUILD TNEME-TAR EPOXY COATING, OR EQUAL. SURFACE PREPARATION AND PRIMER SHALL BE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
4. MOUNT STAINLESS STEEL GUIDE RAILS TO PUMP MANUFACTURER'S STANDARD MOUNTING BRACKETS AT TOP AND BOTTOM OF GUIDE RAIL.
5. ALL HARDWARE SHALL BE STAINLESS STEEL.
6. ALL MJ FITTINGS SHALL BE RESTRAINED.

SCHEDULE A

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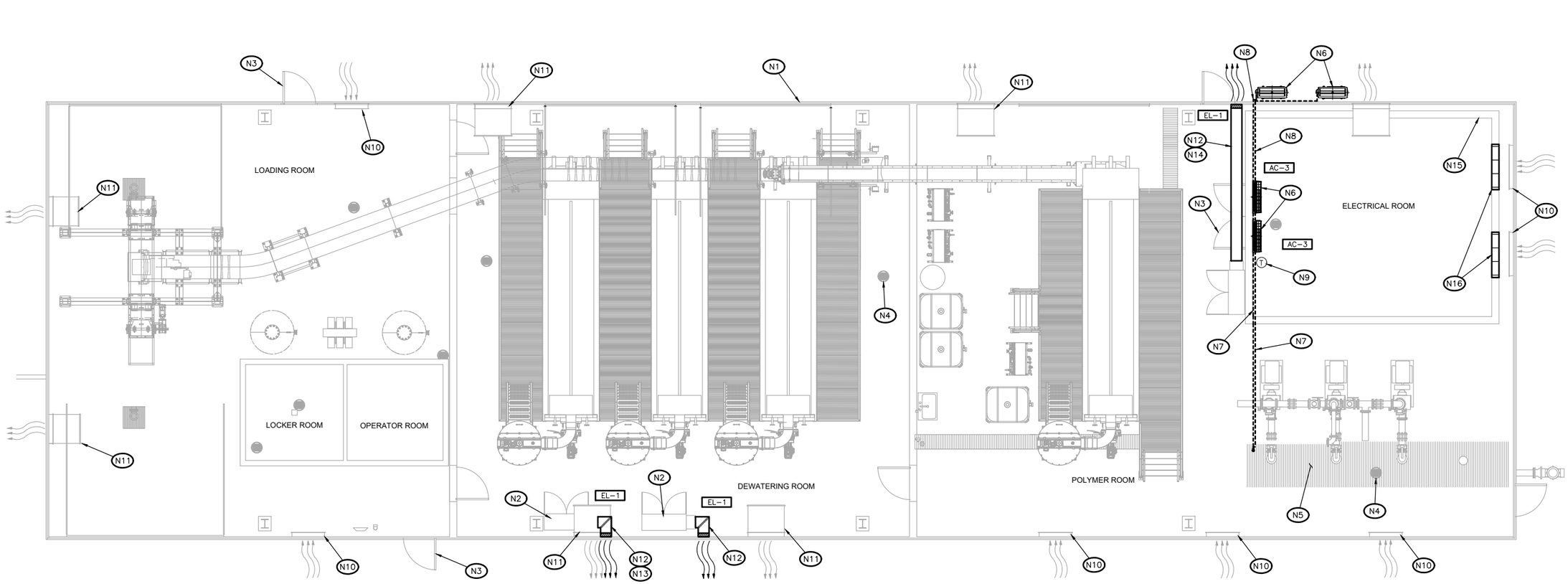
FILE NAMES:
DRAWING: Sheets-M11.dwg
PLAN: 23030.dwg

DESIGNED BY: JWM
ENTERED BY: KRN

CITY OF GRANDVIEW
WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1
DRAIN LIFT STATION

M11-9

SHEET 63 OF 192



PLAN VIEW

0 2'-6" 5' 10'

GENERAL HVAC NOTES

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING AND PROVIDING ALL REQUIRED SUPPORTS NECESSARY FOR PROPER INSTALLATION OF ALL HVAC EQUIPMENT.
2. ALL HVAC EQUIPMENT, ACCESSORIES, AND CONTROLS SHALL BE CLOSELY COORDINATED WITH ELECTRICAL. SEE ELECTRICAL PLANS FOR ADDITIONAL INFORMATION.

NOTES

(N1) STEEL STRUCTURAL WALL, TYP.

(N2) ELECTRICAL EQUIPMENT AND PANELS, TYPICAL. SEE ELECTRICAL PLANS.

(N3) HOLLOW METAL DOOR AND FRAME, TYPICAL.

(N4) FLOOR DRAIN, TYPICAL.

(N5) GRATING TO PIPE TRENCH.

(N6) DUCTLESS SPLIT HVAC SYSTEM, TYPICAL. SEE SCHEDULE ON SHEET GM-1. MOUNT ABOVE DOOR FRAME

(N7) HVAC UNIT CONDENSATE DRAIN LINE. CORE THROUGH CMU WALL AS NEEDED ROUTE OVERHEAD AS SHOWN. OUTLET TO GRATED PIPE TRENCH.

(N8) INDOOR/OUTDOOR HVAC UNIT CONNECTION LINE. CORE THROUGH WALL TO ELECTRICAL ROOM. ROUTE OVERHEAD AS SHOWN. COORDINATE WITH ELECTRICAL.

(N9) WALL-MOUNTED THERMOSTAT, TYP. MOUNT AT 5'-0" ABOVE FINISHED FLOOR. SEE SCHEDULE NOTE ON GM-1 FOR THERMOSTAT INFORMATION. COORDINATE WITH ELECTRICAL.

(N10) EXISTING LOUVER, TYPICAL.

(N11) EXISTING EXHAUST FAN, TYPICAL.

(N12) STAINLESS STEEL DUCT FROM SCREW PRESS EQUIPMENT CONTROL PANEL AIR CONDITIONER EXHAUST TO LOUVERED WALL OPENING, TYP. COORDINATE AIR CONDITIONING WITH MANUFACTURER'S CONTROL PANEL DRAWINGS. SEE SHEET M11-6 DEWATERING BUILDING SECTIONS FOR HEIGHT OF LOUVERS THROUGH WALL.

(N13) ROUTE NEW EXHAUST LOUVER OUT UNDERNEATH EXISTING EXHAUST FAN. SEE SHEET M11-6 FOR HEIGHT OF LOUVER THROUGH WALL.

(N14) ROUTE OVER ELECTRICAL ROOM DOOR TO OUTSIDE. SEE SHEET M11-6 FOR HEIGHT OF LOUVER THROUGH WALL.

(N15) INTERIOR CMU BLOCK WALL.

(N16) CONTRACTOR TO REPLACE CMU WALL SECTION FROM DEMOLITION OF EXISTING HVAC EQUIPMENT. APPROX. 3' X 3'.

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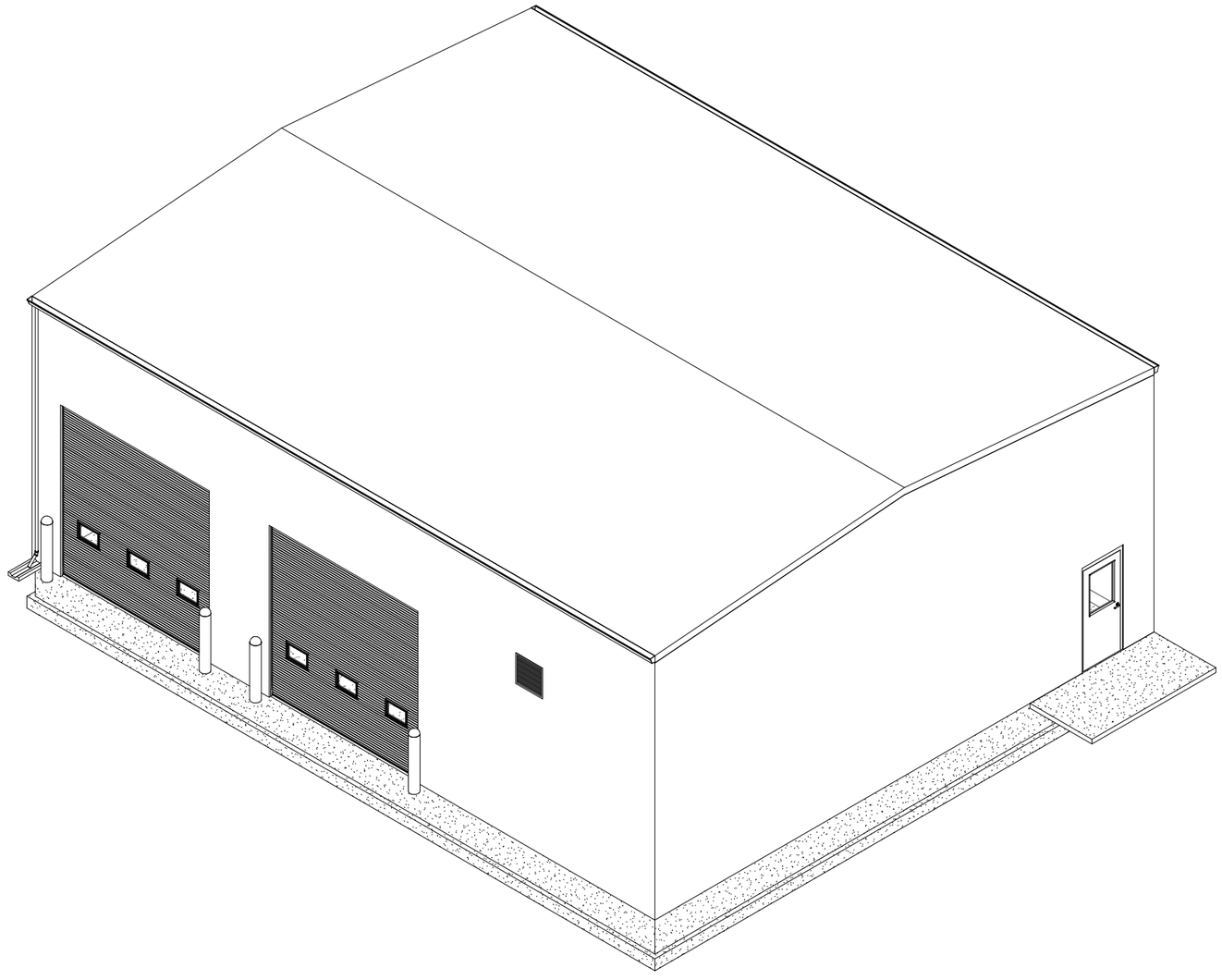
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PLAN: 23030.dwg

DESIGNED BY: JLB
ENTERED BY: AMW

CITY OF GRANDVIEW
WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1
DEWATERING BUILDING HVAC PLAN

M11-10

SHEET 64 OF 192



ISOMETRIC VIEW
NOT TO SCALE

SCHEDULE B

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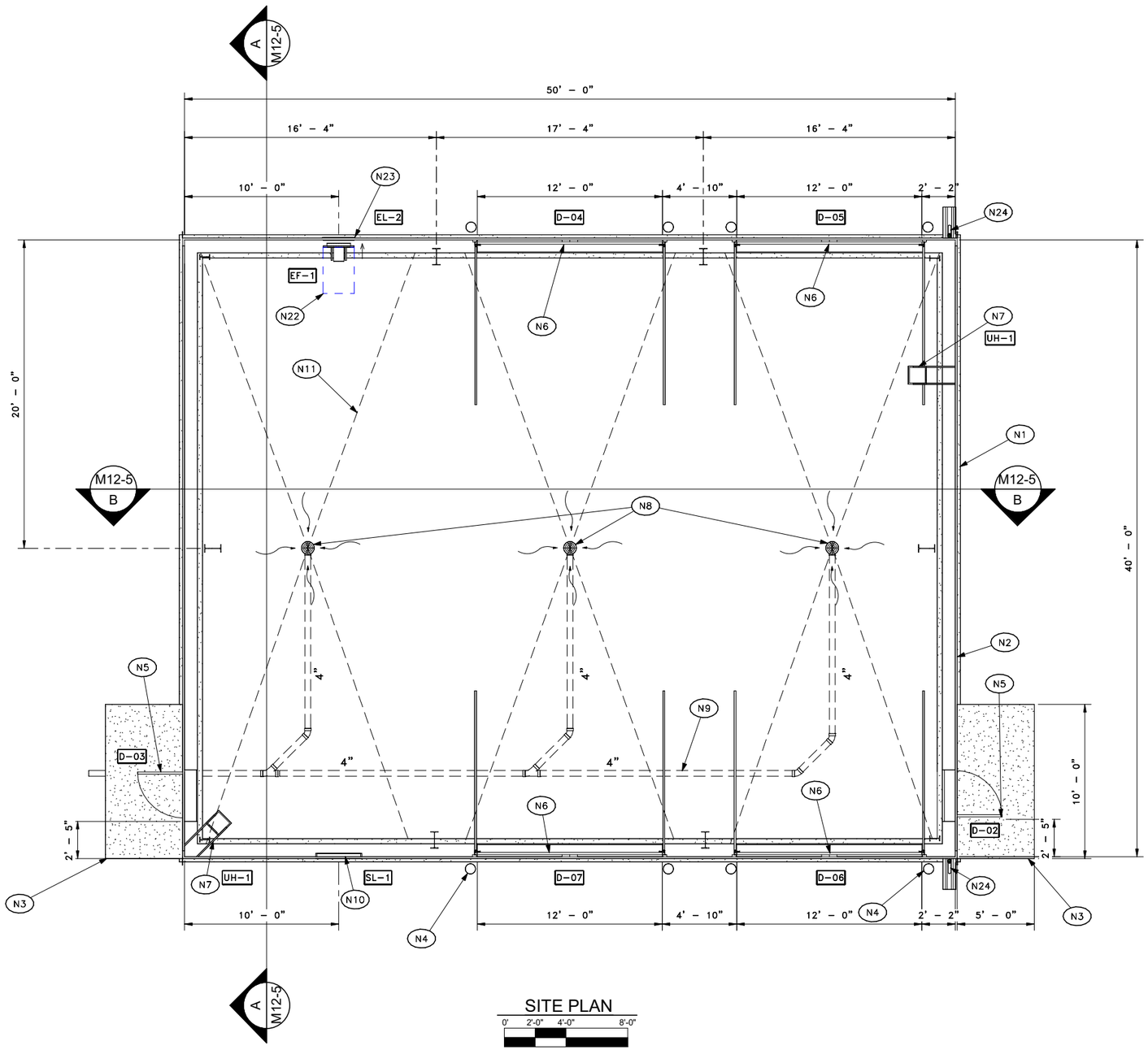
REVISION	DATE

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FILE NAMES:
DRAWING: STORAGE BUILDING.rvt
PLAN: 23030E
DESIGNED BY: RJS
ENTERED BY: KRN

CITY OF GRANDVIEW
WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1
STORAGE BUILDING ISOMETRIC

M12-1

SHEET 65 OF 179



SITE PLAN

0' 2'-0" 4'-0" 8'-0"

NOTES

- (N1) STEEL STRUCTURAL WALL. TYP.
- (N2) CONCRETE WALL/FOOTING/SLAB TYPICAL. SEE STRUCTURAL PLANS.
- (N3) 4" CEMENT CONCRETE SIDEWALK TYPICAL. SEE SHEET C–4.
- (N4) PROTECTIVE BOLLARD, TYPICAL. SEE DETAIL 1.5 ON SHEET GC–1.
- (N5) HOLLOW METAL DOOR AND FRAME. SEE SCHEDULE ON SHEET GA–1.
- (N6) 12' X 12' OVERHEAD DOOR AND ASSEMBLY. SEE SCHEDULE ON SHEET GA–1.
- (N7) UNIT HEATER, TYPICAL. SEE SCHEDULE ON SHEET GM–1.
- (N8) 9" CAST IRON FLOOR DRAIN, ZURN MODEL Z–508 OR APPROVED EQUAL.
- (N9) 4" D.I. DRAIN PIPING WITH 1% SLOPE THROUGHOUT. TOP OF GRATE ELEVATION 713.00', OUTLET PIPE I.E. 709.24'.
- (N10) INTAKE LOUVER, TYP. SEE SCHEDULE ON SHEET GM–1.
- (N11) SLOPED FLOOR TOWARDS DRAIN UP TO 1%.
- (N22) WALL MOUNTED EXHAUST FAN, TYP. SEE SCHEDULE ON GM–1.
- (N23) EXHAUST LOUVER, TYP. SEE SCHEDULE ON GM–1.
- (N24) INSTALL METAL GUTTERS WITH DOWNSPOUTS TO SPLASH PAD, SEE DETAIL 2.5 ON SHEET GC–2.

SCHEDULE B

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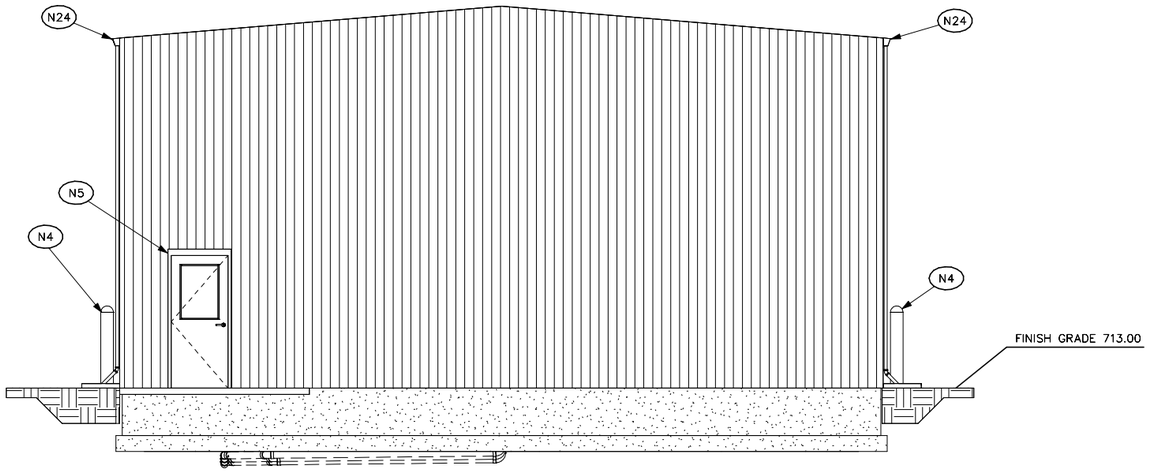
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CITY OF GRANDVIEW
WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1
STORAGE BUILDING–SITE/DRAINAGE/HVAC PLANS

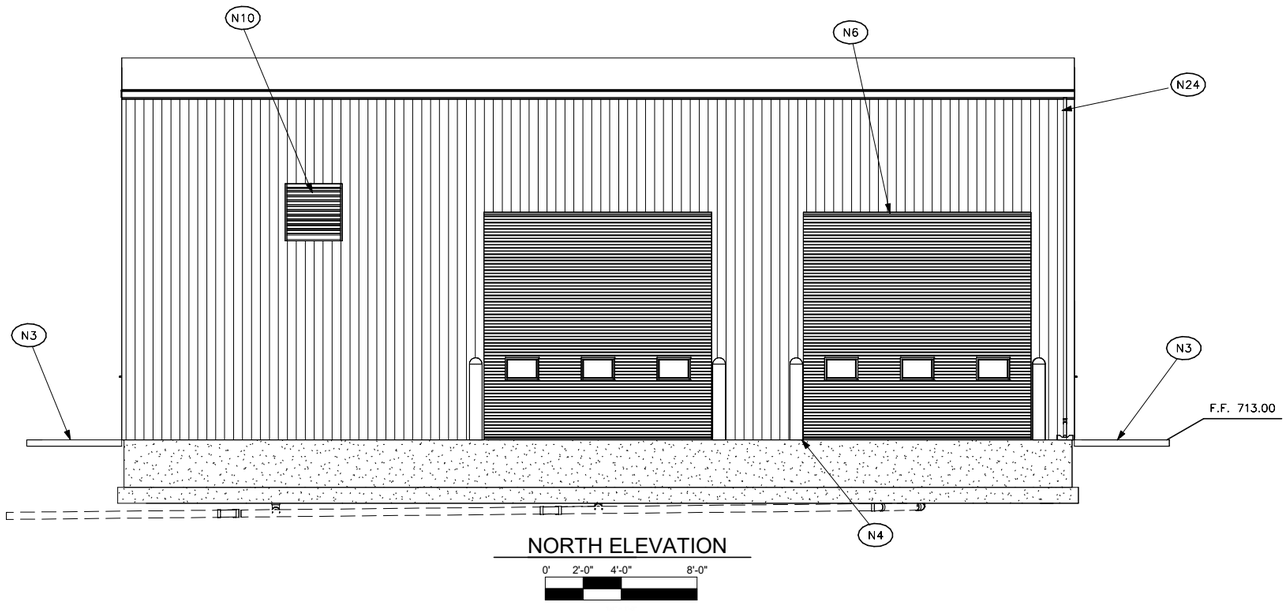
M12-2

SHEET 66 OF 179



WEST ELEVATION.

0' 2'-0" 4'-0" 8'-0"



NORTH ELEVATION

0' 2'-0" 4'-0" 8'-0"

NOTES

- (N3) 4" CEMENT CONCRETE SIDEWALK TYPICAL. SEE SHEET C-4.
- (N4) PROTECTIVE BOLLARD, TYPICAL. SEE DETAIL 1.5 ON SHEET GC-1.
- (N5) HOLLOW METAL DOOR AND FRAME. SEE SCHEDULE ON SHEET GA-1.
- (N6) 12' X 12' OVERHEAD DOOR AND ASSEMBLY. SEE SCHEDULE ON SHEET GA-1.
- (N10) INTAKE LOUVER, TYP. SEE SCHEDULE ON SHEET GM-1.
- (N24) INSTALL METAL GUTTERS WITH DOWNSPOUTS TO SPLASH PAD, SEE DETAIL 2.5 ON SHEET GC-2.

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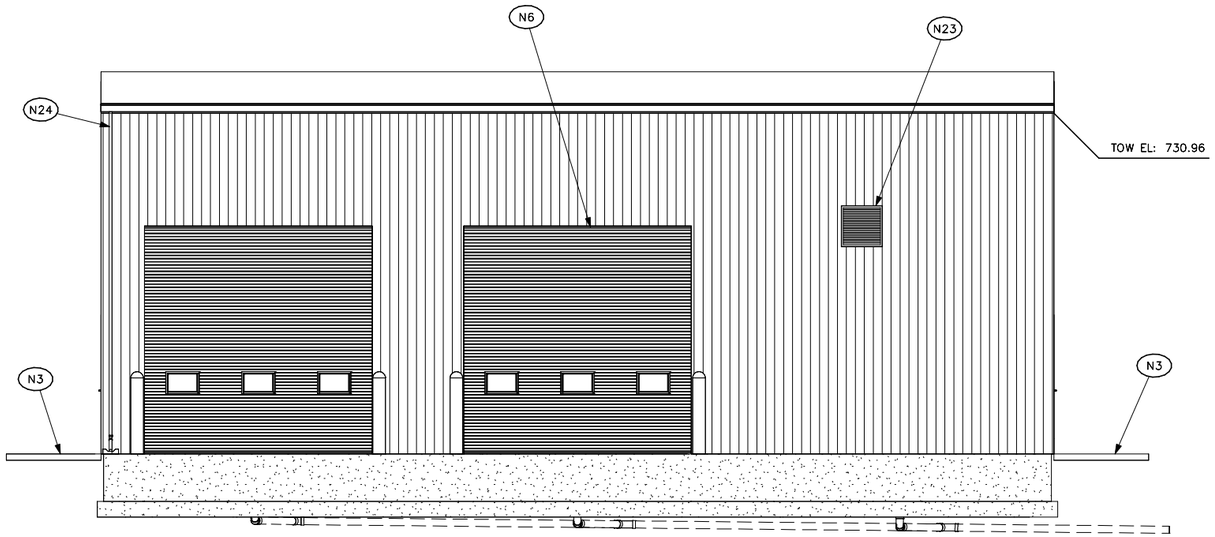
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STORAGE BUILDING ELEVATIONS WEST/NORTH

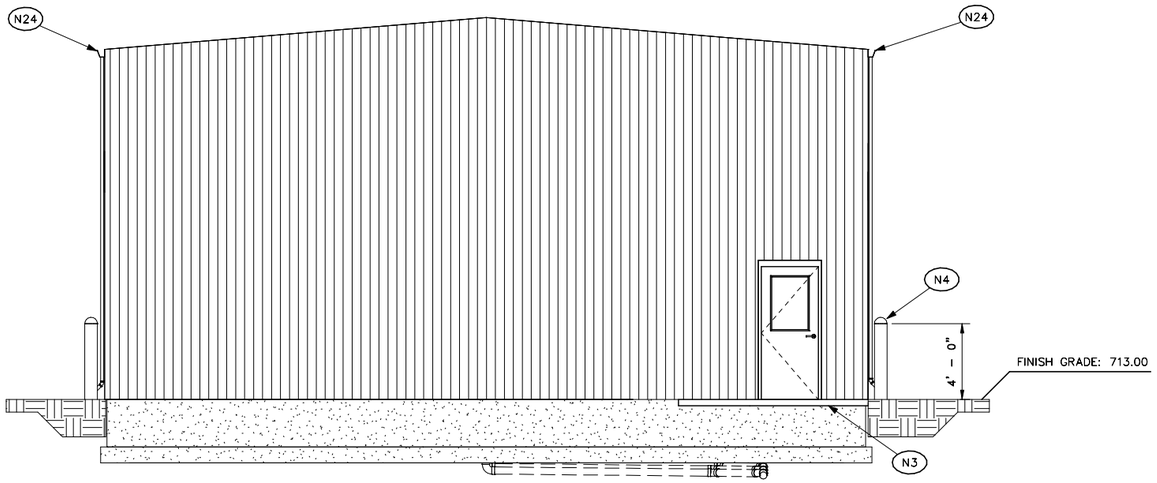
M12-3

SHEET 67 OF 179



SOUTH ELEVATION

0' 2'-0" 4'-0" 8'-0"



EAST ELEVATION

0' 2'-0" 4'-0" 8'-0"

NOTES

- (N3) 4" CEMENT CONCRETE SIDEWALK TYPICAL. SEE SHEET C-4.
- (N4) PROTECTIVE BOLLARD, TYPICAL. SEE DETAIL 1.5 ON SHEET GC-1.
- (N6) 12' X 12' OVERHEAD DOOR AND ASSEMBLY. SEE SCHEDULE ON SHEET GA-1.
- (N23) EXHAUST LOUVER, TYP. SEE SCHEDULE ON GM-1.
- (N24) INSTALL METAL GUTTERS WITH DOWNSPOUTS TO SPLASH PAD, SEE DETAIL 2.5 ON SHEET GC-2.

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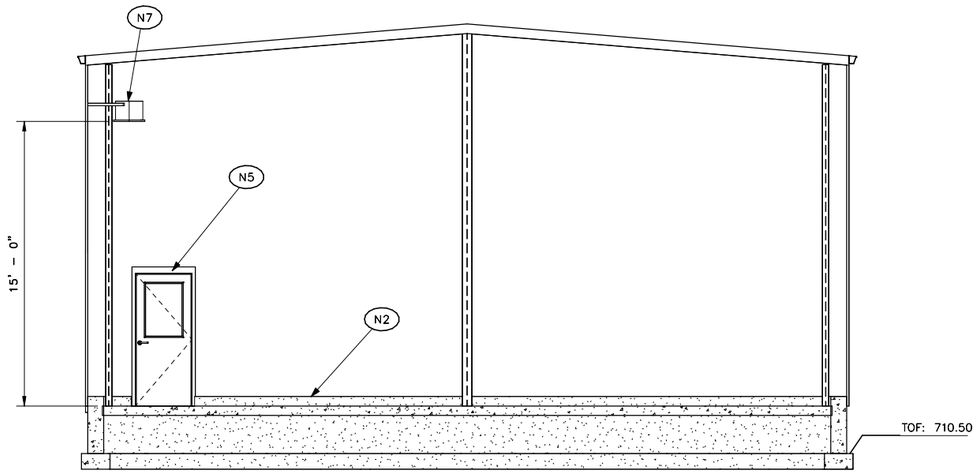
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DATE: 3/13/2026
FILE NAMES:
DRAWING: STORAGE BUILDING.rvt
PLAN: 23030E
DESIGNED BY: JWM
ENTERED BY: KRN

CITY OF GRANDVIEW
WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1

STORAGE BUILDING ELEVATIONS EAST/SOUTH

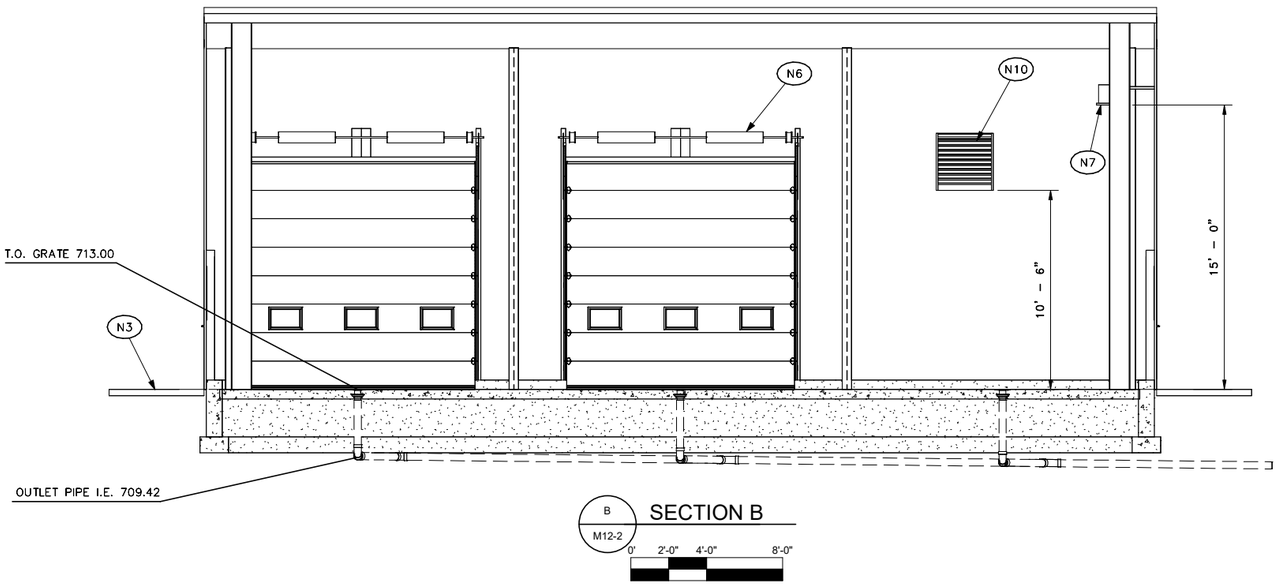
M12-4

SHEET 68 OF 179



A / M12-2 SECTION A

0' 2'-0" 4'-0" 8'-0"



B / M12-2 SECTION B

0' 2'-0" 4'-0" 8'-0"

NOTES

- N2 CONCRETE WALL/FOOTING/SLAB TYPICAL. SEE STRUCTURAL PLANS.
- N3 4" CEMENT CONCRETE SIDEWALK TYPICAL. SEE SHEET C-4.
- N5 HOLLOW METAL DOOR AND FRAME. SEE SCHEDULE ON SHEET GA-1.
- N6 12' X 12' OVERHEAD DOOR AND ASSEMBLY. SEE SCHEDULE ON SHEET GA-1.
- N7 UNIT HEATER, TYPICAL. SEE SCHEDULE ON SHEET GM-1.
- N10 INTAKE LOUVER, TYP. SEE SCHEDULE ON SHEET GM-1.

SCHEDULE B

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ROBERT J. SCOTT — STATE OF WASHINGTON — 46421 — REGISTERED PROFESSIONAL ENGINEER

REVISION	DATE

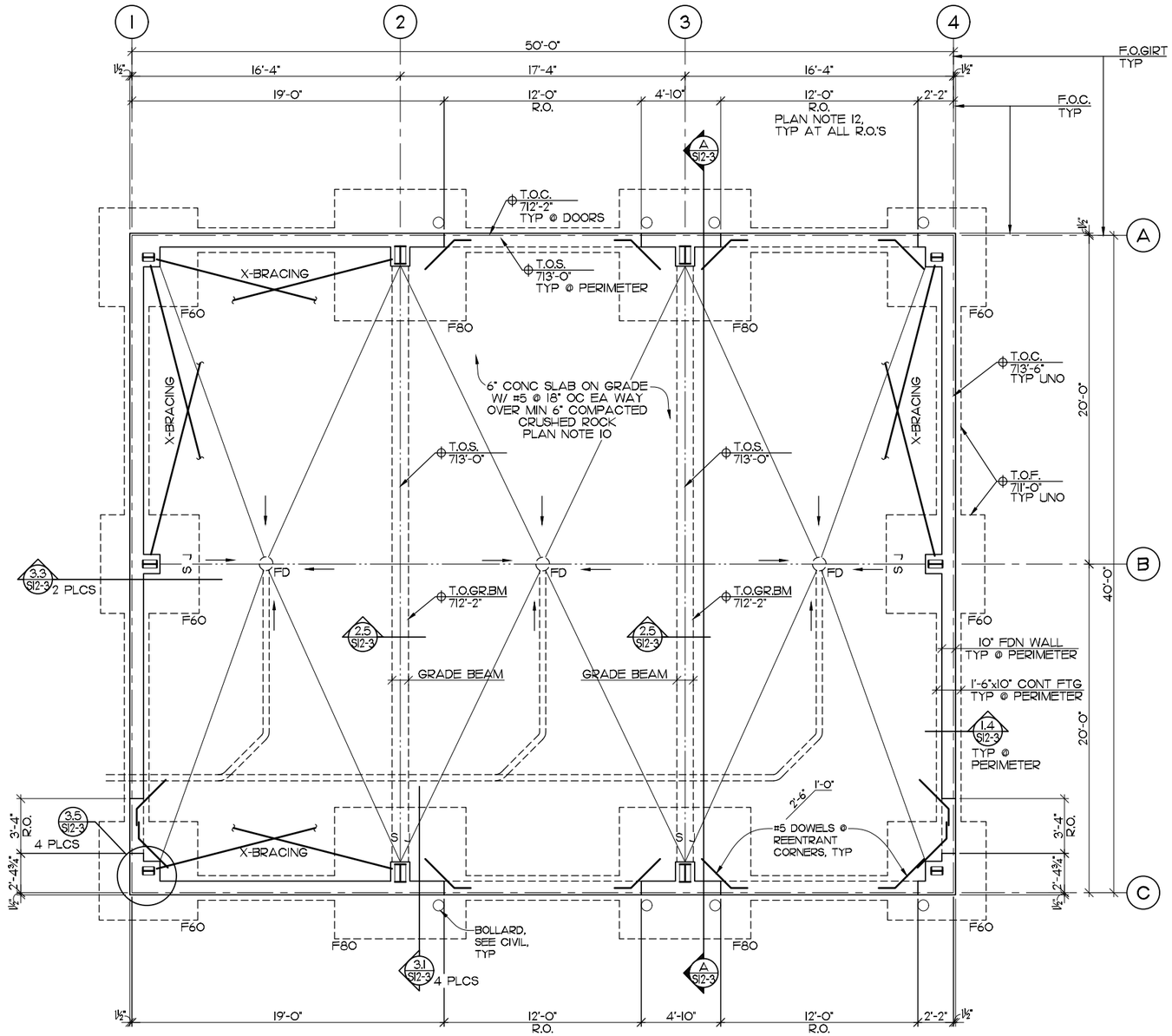
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CITY OF GRANDVIEW
WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1

STORAGE BUILDING SECTION VIEWS

M12-5

SHEET 69 OF 179



NORTH

STORAGE BLDG FLOOR/FOUNDATION PLAN

¼"=1'-0"

FLOOR/FOUNDATION PLAN NOTES

GENERAL

1. SEE GS-SERIES SHEETS FOR GENERAL STRUCTURAL NOTES, ABBREVIATIONS, LEGEND, & TYPICAL DETAILS.
2. COORDINATE & VERIFY ALL DIMENSIONS WITH M-12 DRAWINGS.
3. ALL DIMENSION LINES ARE ℄ COLUMN OR FACE OF CONCRETE, UNO.
4. LOCATE FOOTINGS ON ℄ WALLS, COLUMNS, ETC UNO.
5. SEE GENERAL STRUCTURAL NOTES AND TYPICAL DETAILS FOR JOINTING CRITERIA AT SLABS ON GRADE.
6. PIPES MAY PASS THROUGH STRUCTURAL CONCRETE IN SLEEVES BUT SHALL NOT BE EMBEDDED THEREIN - SEE TYPICAL DETAIL.
7. PROVIDE ¾" CHAMFER AT ALL EXPOSED CONCRETE CORNERS.
8. SEE M-12 DRAWINGS FOR EXTERIOR WALKS, CURBS, STAIRS, RAMPS, ETC.
9. REFER TO ALL M-12, ELECTRICAL & MECHANICAL PLANS FOR PROPER COORDINATION WITH ALL OTHER TRADES.
10. SEE GEOTECHNICAL EVALUATION REPORT FOR FOUNDATION BEARING REQUIREMENTS AND POSSIBLE SOIL IMPROVEMENTS.
11. CONTACT ARCHITECT & ENGINEER IF EXISTING CONDITIONS DIFFER FROM THOSE SHOWN IN PLANS AND DETAILS.
12. VERIFY AND COORDINATE ALL STEM WALL BLOCK-OUTS AT DOORS WITH DOOR ROUGH OPENINGS.

PRE-ENGINEERED METAL BUILDINGS (PEMB)

1. THE FOUNDATION DESIGN FOR THE METAL BUILDING IS BASED ON ESTIMATED FRAME AND COLUMN REACTIONS. THE METAL BUILDING MFR MUST SUBMIT ALL FINAL REACTIONS TO STRUCTURAL ENGINEER PRIOR TO THE SUBMISSION OF FOOTING REINFORCEMENT SHOP DRAWINGS FOR REVIEW AND POSSIBLE REVISIONS TO THE FOUNDATION DESIGN. ANCHOR BOLT QUANTITY, SIZE AND PLACEMENT MUST BE COORDINATED WITH THE ANCHOR BOLT SETTING PLAN PROVIDED BY THE METAL BUILDING MFR.
2. REFER TO GENERAL STRUCTURAL NOTES FOR PROVISIONS REGARDING METAL BUILDING SYSTEM (MBS) AND FOUNDATIONS SUPPORTING THAT SYSTEM.
3. CONTRACTOR TO VERIFY ALL MBS DIMENSIONS W/ SUPPLIER PRIOR TO FOUNDATION CONSTRUCTION. REPORT ALL DISCREPANCIES TO STRUCTURAL ENGINEER.
4. COLUMN BASES MAY BE INSTALLED DIRECTLY ON CONCRETE SURFACE THAT IS FINISHED FLAT, LEVEL, AND AT THE CORRECT ELEVATION. OTHERWISE, MIN 1" THICK NON-SHRINK GROUT PAD IS RECOMMENDED. CONTRACTOR TO COORDINATE.
5. WE REQUIRE A MINIMUM OF 4-¾"Φ ANCHOR RODS SPACED AT A MINIMUM OF 4" OC EACH WAY FOR COLUMN BASE ANCHORAGE TO CONCRETE, SEE SECTION AND DETAILS FOR ADDITIONAL GEOMETRIC REQUIREMENTS.

ISOLATED FOOTING SCHEDULE		
MARK	FOOTING SIZE	REINFORCEMENT
F60	6'-0" SQ x 15" DP	7-#5 EA WAY T&B
F80	8'-0" SQ x 24" DP	8-#7 EA WAY T&B

NOTES:
1. WHERE ISOLATED FOOTING INTERRUPTS CONTINUOUS FOOTING, EXTEND CONTINUOUS REINFORCEMENT THRU ISOLATED FOOTING.
2. WHERE CONTINUOUS FOOTING TERMINATES AT ISOLATED FOOTING, EXTEND CONTINUOUS REINFORCEMENT "Ld" MIN INTO ISOLATED FOOTING.

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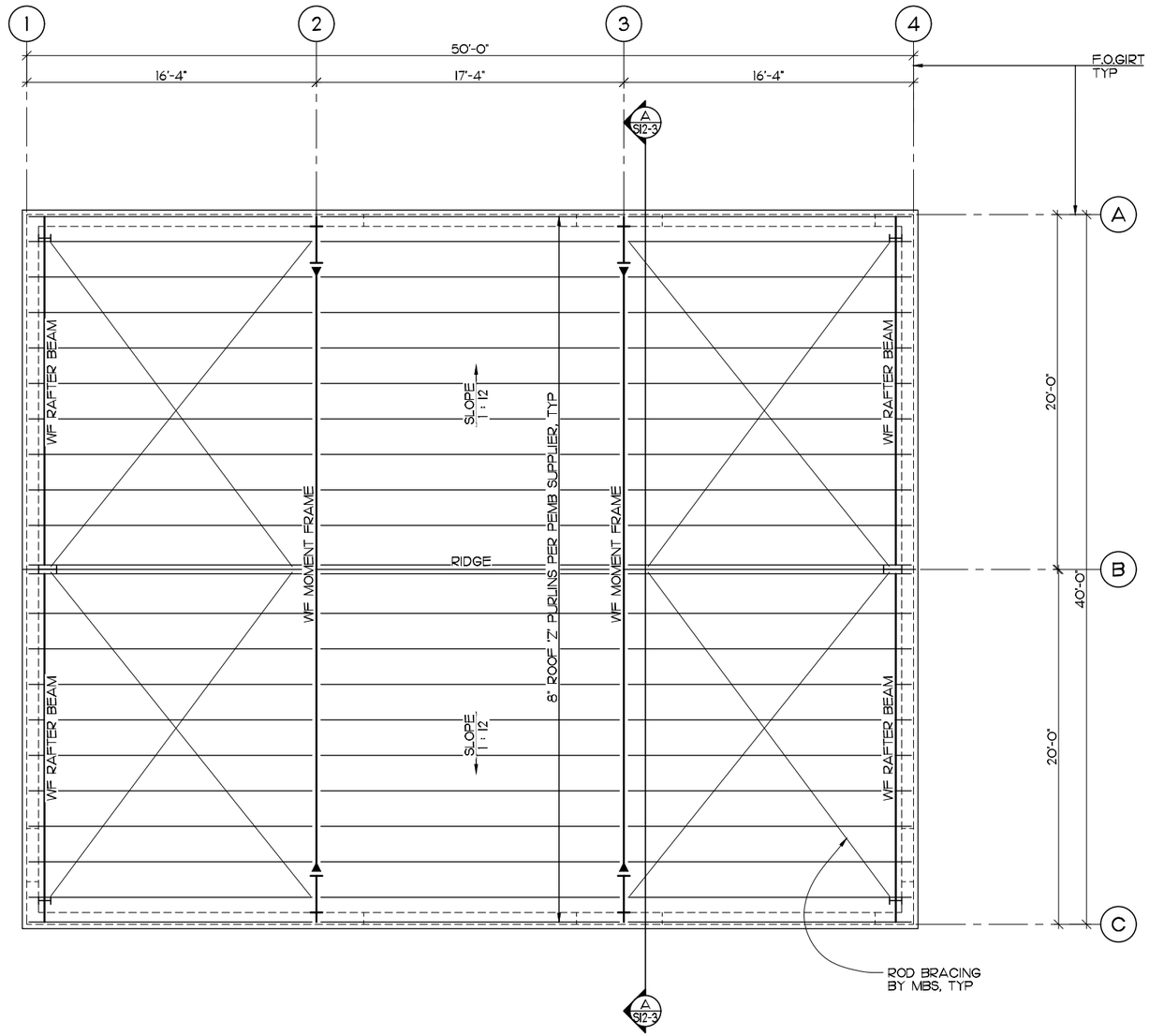
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JOB NUMBER: 23030 | DATE: 3/13/26
FILE NAMES:
DRAWING:
PLAN:
DESIGNED BY: JDS
ENTERED BY: JDS

CITY OF GRANDVIEW
WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1

STORAGE BLDG FLOOR/FOUNDATION PLAN

S12-1



NORTH

STORAGE BLDG ROOF FRAMING PLAN

1/4"=1'-0"

ROOF FRAMING PLAN NOTES

GENERAL

1. SEE GS-SERIES SHEETS FOR GENERAL STRUCTURAL NOTES, ABBREVIATIONS, LEGEND, & TYPICAL DETAILS.
2. COORDINATE AND VERIFY ALL DIMENSIONS WITH M-12 DRAWINGS.
3. REFER TO ALL M-12, ELECTRICAL & MECHANICAL PLANS FOR PROPER COORDINATION WITH ALL OTHER TRADES.
4. COORDINATE VENTING REQUIREMENTS WITH M-12 DRAWINGS.
5. COORDINATE ALL MECHANICAL UNIT LOCATIONS/SUPPORT WITH M-12 DRAWINGS.
6. UNLESS NOTED OTHERWISE, SEE M-12 DRAWINGS FOR REQUIREMENTS REGARDING SOLAR READINESS ON THE ROOF STRUCTURE. WHERE APPLICABLE, ASSOCIATED COLLATERAL DEAD LOAD IS SPECIFIED IN THE GENERAL STRUCTURAL NOTES.

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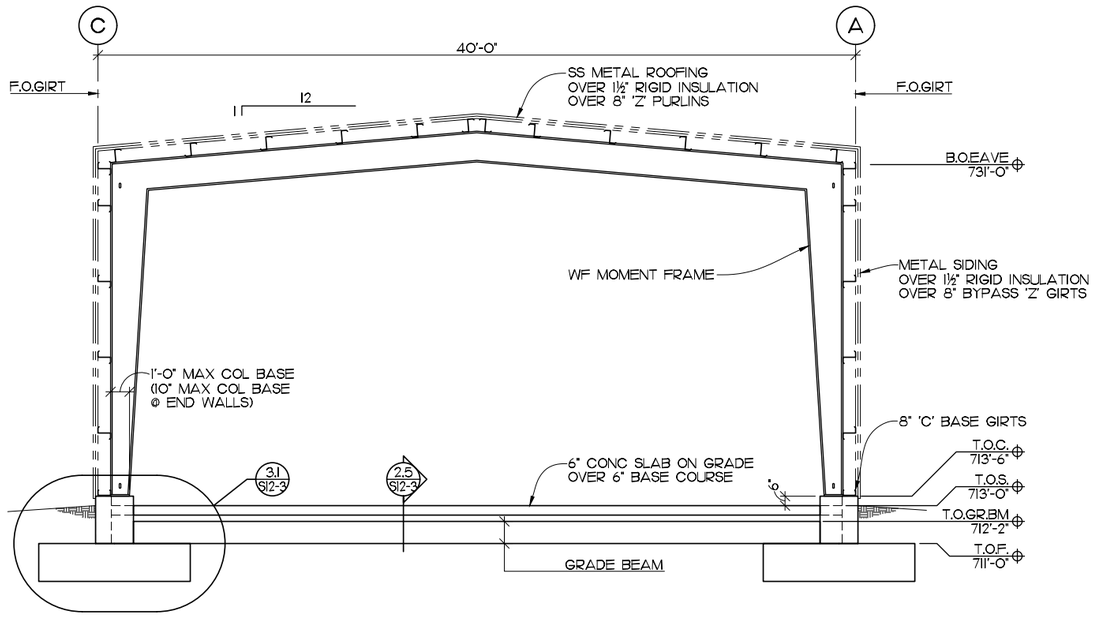
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DRAWING:
PLAN:

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WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1

STORAGE BLDG ROOF FRAMING PLAN

S12-2

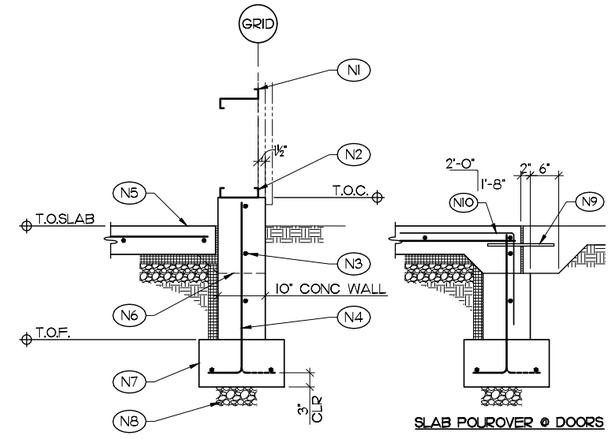


A STORAGE BLDG - TRANSVERSE SECTION LOOKING EAST

¼" = 1'-0"

NOTES: (FOR THIS DETAIL)

(N1) 8" BYPASS WALL 'Z' GIRTS PER MBS
(N2) 8" 'C' BASE GIRT PER MBS
(N3) 3-#4 CONT HORIZ @ 10" OC
(N4) #5 VERT @ 18" OC, ALTERNATE HOOKS
(N5) CONC SLAB
(N6) HOLD DOWN TOP OF WALL 10" BELOW T.O.S. @ DOOR OPENINGS & POUR SLAB OVER
(N7) CONC FOOTING CENTERED ON WALL W/ 2-#4 CONT, SEE PLAN FOR SIZE
(N8) SUBGRADE PREP PER GEOTECH REPORT
(N9) ⅝"Φx1'-2" SMOOTH ROD @ 16" OC, WRAP OR GREASE EXTERIOR SIDE TO PREVENT BOND
(N10) #4 SLAB DOWELS @ 16" OC

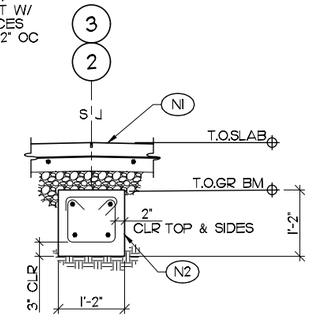


1.4 SLAB POUROVER @ DOORS

¾" = 1'-0"

NOTES: (FOR THIS DETAIL)

(N1) CONC SLAB
(N2) 1'-2"Wx1'-2"DP CONC GRADE BEAM W/ 4-#5 CONT W/ 36" LAP SPLICES & #3 TIES @ 12" OC

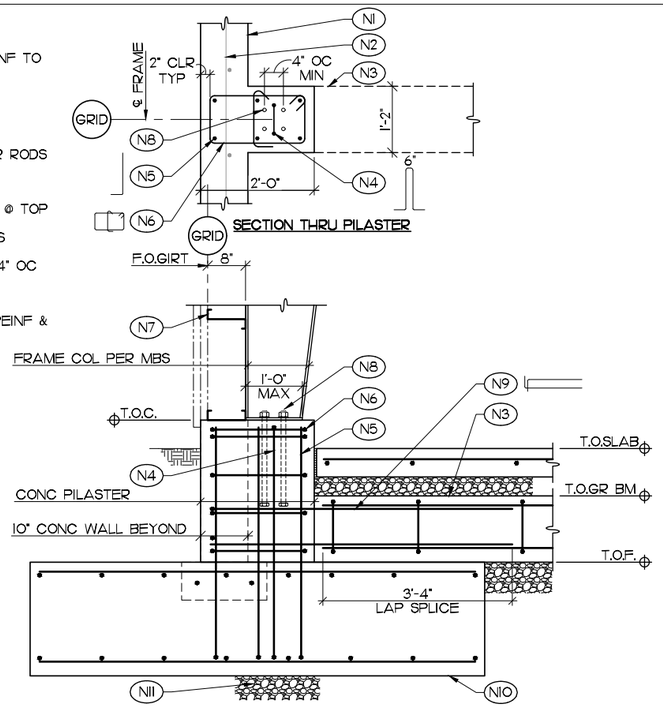


2.5

¾" = 1'-0"

NOTES: (FOR THIS DETAIL)

(N1) 10" CONC STEM WALL, HORIZ REINF TO BE CONT THRU PILASTER
(N2) TYPICAL WALL REINFORCEMENT
(N3) GRADE BM, SEE 2.5/S12-3
(N4) #5 CENTERED BETWEEN ANCHOR RODS
(N5) 6-#5 HOOKED INTO FOOTING
(N6) #4 TIE SETS 8" OC W/ 2 @ 2" OC @ TOP
(N7) TYPICAL 8" WALL GIRTS PER MBS
(N8) MIN 4-¾"Φ ANCHOR RODS @ MIN 4" OC W/ 18" EMBED (OR LARGER Φ PER MBS)
(N9) 4-#5 LAPPED W/ GRADE BEAM REINF & HOOKED INTO PILASTER
(N10) PAD FOOTING, SEE PLAN
(N11) SUBGRADE PREP PER GEOTECH REPORT

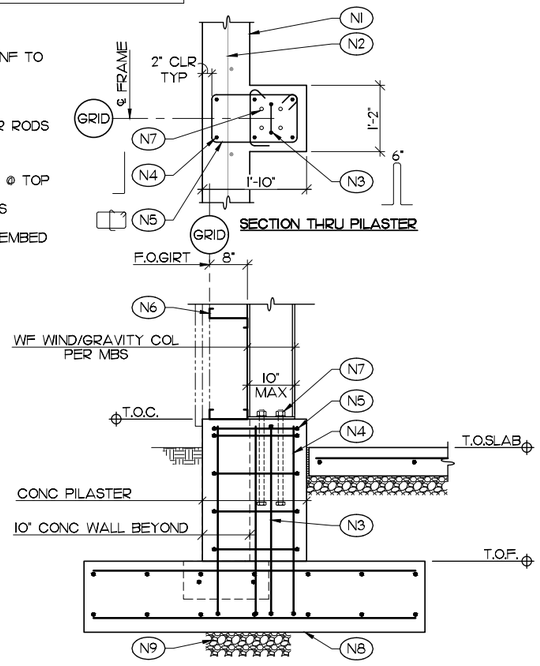


3.1

¾" = 1'-0"

NOTES: (FOR THIS DETAIL)

(N1) 10" CONC STEM WALL, HORIZ REINF TO BE CONT THRU PILASTER
(N2) TYPICAL WALL REINFORCEMENT
(N3) #5 CENTERED BETWEEN ANCHOR RODS
(N4) 6-#5 HOOKED INTO FOOTING
(N5) #4 TIE SETS 8" OC W/ 2 @ 2" OC @ TOP
(N6) TYPICAL 8" WALL GIRTS PER MBS
(N7) MIN 4-¾"Φ ANCHOR RODS W/ 18" EMBED (OR LARGER Φ PER MBS)
(N8) PAD FOOTING, SEE PLAN
(N9) SUBGRADE PREP PER GEOTECH REPORT

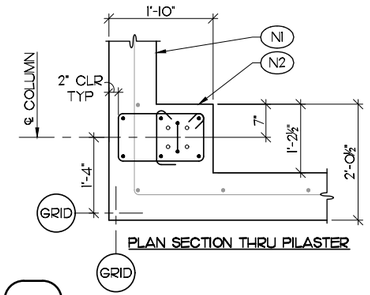


3.3

¾" = 1'-0"

NOTES: (FOR THIS DETAIL)

(N1) 10" CONC STEM WALL, HORIZ REINF TO BE CONT THRU PILASTER
(N2) CORNER PILASTER, SEE 3.3/S12-3 FOR REINF



3.5

¾" = 1'-0"

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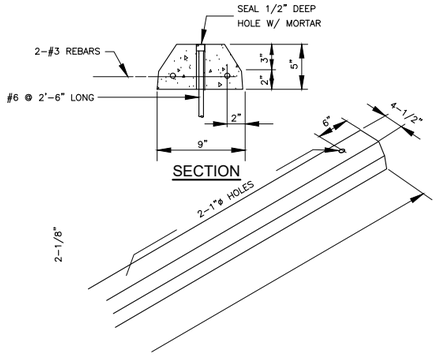
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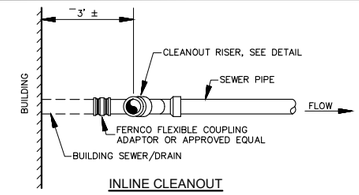
STORAGE BLDG STRUCTURAL SECTION & DETAILS

S12-3

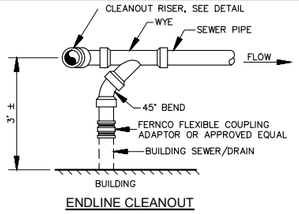
SHEET 72 OF 192



1.1 CURB STOP BUMPER
NOT TO SCALE

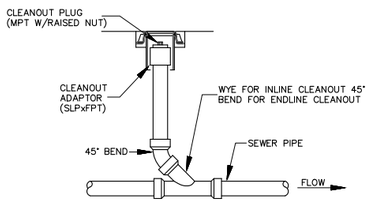


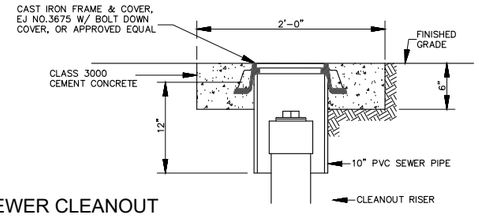
INLINE CLEANOUT



ENDLINE CLEANOUT

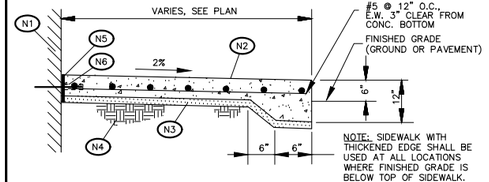
NOTE:
CLEANOUTS SHALL BE CONSTRUCTED OF THE SAME SIZE AND MATERIALS AS THE SEWER PIPE IN WHICH THEY ARE INSTALLED.





1.3 GRAVITY SEWER CLEANOUT
NOT TO SCALE

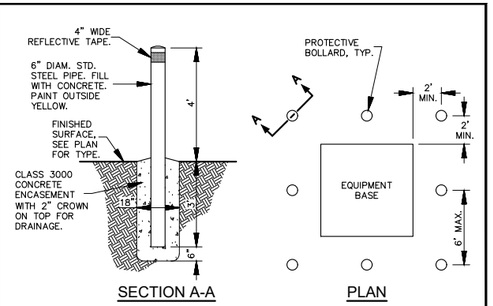
NOTES
- (N1) STRUCTURE WALL, TYP.
- (N2) 6" CEMENT CONCRETE.
- (N3) CRUSHED SURFACING TOP COURSE, 2" COMPACTED DEPTH.
- (N4) COMPACTED SUBGRADE.
- (N5) 3/8" EXPANSION JOINT MATERIAL.
- (N6) #4 x 18" LONG DOWELS @ 3'-0" O.C. IN GREASED SLEEVE. 18" O.C. AT DOORWAYS. CENTER IN SIDEWALK.



NOTE: SIDEWALK WITH THICKENED EDGE SHALL BE USED AT ALL LOCATIONS WHERE FINISHED GRADE IS BELOW TOP OF SIDEWALK.

6" SIDEWALK
WITH THICKENED EDGE

1.4 THICKENED EDGE SIDEWALK
NOT TO SCALE

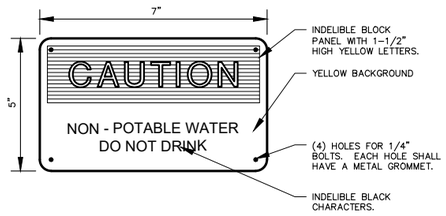


SECTION A-A

PLAN

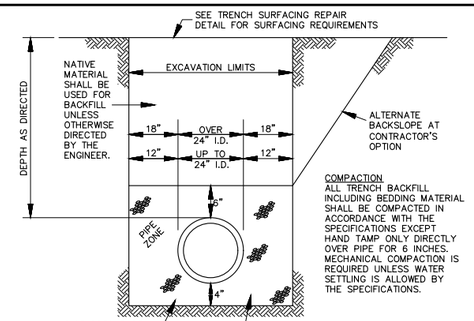
NOTES:
1. PROTECTIVE BOLLARDS SHALL BE PROVIDED AROUND ALL ABOVE GROUND ELECTRICAL EQUIPMENT, UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
2. BOLLARDS SHALL BE PLACED TO PROVIDE CLEARANCE FOR EQUIPMENT ACCESS DOORS.

1.5 PROTECTIVE BOLLARD
NOT TO SCALE



NOTES:
1. MATERIAL TO BE FIBERGLASS PER PROJECT SPECIFICATIONS.
2. COLORS AND SIZES TO BE PER OSHA STANDARDS FOR CAUTION SIGNS.
3. PROVIDE THE SIGN AT ALL HOSE BIBBS OR POST HYDRANT LOCATIONS WHERE WATER IS NON-POTABLE (UTILITY WATER).
4. MOUNT TO YARD HYDRANT RISER WITH U-BOLTS OR WALL WITH FASTENERS AS APPLICABLE.

2.2 NON-POTABLE WATER WARNING SIGN
NOT TO SCALE



NOTES:
1. FOR 4" AND 6" SIDE SEWERS, INSTALL IMPORTED PIPE BEDDING A MINIMUM OF 3" THICK ON ALL SIDES OF PIPE.
2. CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE O.S.H.A. AND W.I.S.H.A. SAFETY AND HEALTH REGULATIONS.

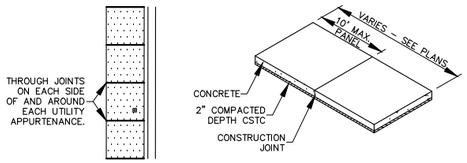
PIPE BEDDING
BEDDING MATERIAL SHALL BE AS FOLLOWS UNLESS OTHERWISE DIRECTED BY THE ENGINEER:

SANITARY SEWER & STORM DRAIN:
CRUSHED SURFACING TOP COURSE PER SECTION 9-03.9(3) OF THE STANDARD SPECIFICATIONS.

DOMESTIC WATERMAIN:
BEDDING MATERIAL SHALL MEET THE REQUIREMENTS OF SECTION 7-10.2 OF THE SPECIFICATIONS.

COMPACTION
ALL TRENCH BACKFILL INCLUDING BEDDING MATERIAL SHALL BE COMPACTED IN ACCORDANCE WITH THE SPECIFICATIONS EXCEPT HAND TAMP ONLY DIRECTLY OVER PIPE FOR 6 INCHES. MECHANICAL COMPACTION IS REQUIRED UNLESS WATER SETTLING IS ALLOWED BY THE SPECIFICATIONS.

2.3 TYPICAL TRENCH SECTION
NOT TO SCALE



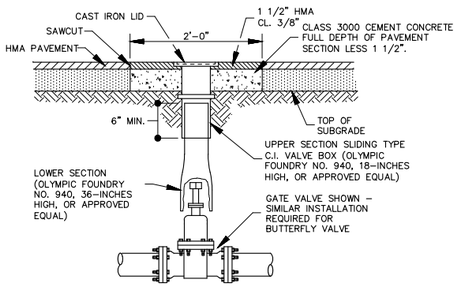
NOTES:
1. THROUGH JOINTS WITH 3/8" JOINT MATERIAL SHALL BE PLACED AT 20' INTERVALS.
2. 1 1/2" DEEP DUMMY JOINTS SHALL BE SCORED INTO THE CONCRETE AT ALTERNATING 10' INTERVALS.
3. "V" GROOVES SHALL BE PLACED AT 5' INTERVALS.
4. ALL JOINTS, "V" GROOVES, AND EDGES SHALL BE FINISHED WITH AN EDGER HAVING A 1/4" RADIUS.
5. SEE PLANS FOR WIDTH AND POSITION OF SIDEWALK.

CONC. SLAB JOINTING
NOT TO SCALE

- 4" THICK CONCRETE SLAB SECTION AT SIDEWALKS AND OTHER AREAS AS DIRECTED BY THE ENGINEER
- 6" THICK CONCRETE SLAB SECTION AT DRIVEWAYS AND OTHER AREAS AS DIRECTED BY THE ENGINEER.

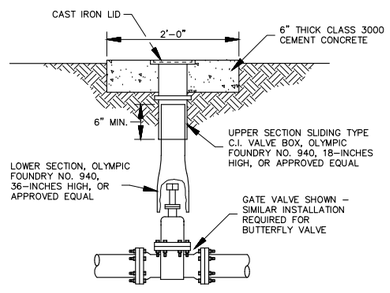
CONC. SLAB SECTIONS
NOT TO SCALE

2.5 SIDEWALK JOINTING DETAIL
NOT TO SCALE



NOTE:
PROVIDE EXTENSION PIECE WHERE REQUIRED FOR VALVE BOX. (OLYMPIC FOUNDRY NO. 940R 12, 12-INCHES HIGH, OR APPROVED EQUAL)

3.1 WATER VALVE BOX - IN PAVEMENT
NOT TO SCALE

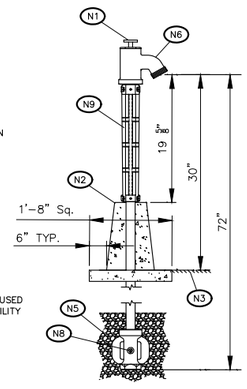


NOTE:
PROVIDE EXTENSION PIECE WHERE REQUIRED FOR VALVE BOX. (OLYMPIC FOUNDRY NO. 940, 12-INCHES HIGH) OR APPROVED EQUAL

3.2 WATER VALVE BOX
NOT TO SCALE

NOTES
- (N1) T HANDLE.
- (N2) CONCRETE PROTECTIVE BASE.
- (N3) FINISHED GRADE/PAVEMENT.
- (N4) VALVE HOUSING.
- (N5) APPROXIMATELY 2 CU. FT. DRAIN ROCK.
- (N6) NON-FREEZE HOSE BIBB, ZURN NO.Z-1390, WITH 2" HOSE CONNECTION, OR EQUAL.
- (N7) 3'-6" MINIMUM DEPTH OF BURIAL.
- (N8) 1" N.P.T. DRAIN PORT
- (N9) GRAVEL GAURD

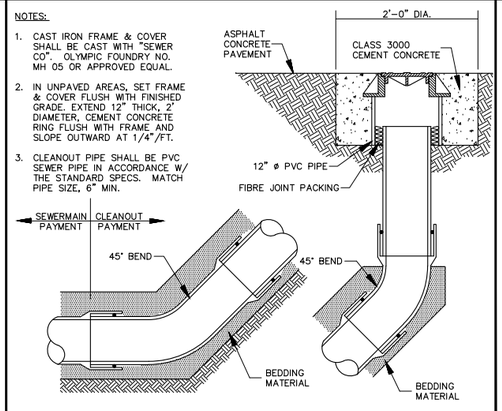
GENERAL NOTES
1. PROVIDE WARNING SIGN WHEN USED FOR NON-POTABLE WATER (UTILITY WATER).



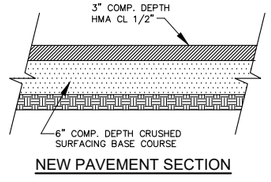
SURFACE MOUNTED
NON-FREEZE HOSE BIBB
NOT TO SCALE

3.3 SURFACE MOUNTED NON-FREEZE HOSE BIBB
NOT TO SCALE

NOTES:
1. CAST IRON FRAME & COVER SHALL BE CAST WITH "SEWER CO". OLYMPIC FOUNDRY NO. MH 05 OR APPROVED EQUAL.
2. IN UNPAVED AREAS, SET FRAME & COVER FLUSH WITH FINISHED GRADE. EXTEND 12" THICK, 2' DIAMETER, CEMENT CONCRETE RING FLUSH WITH FRAME AND SLOPE OUTWARD AT 1/4"/FT.
3. CLEANOUT PIPE SHALL BE PVC SEWER PIPE IN ACCORDANCE W/ THE STANDARD SPECS. MATCH PIPE SIZE, 6" MIN.



3.4 SANITARY SEWER CLEANOUT
NOT TO SCALE



NEW PAVEMENT SECTION

3.5 HMA PAVEMENT DETAIL
NOT TO SCALE

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ROBERT J. SCOTT — STATE OF WASHINGTON — 46421 — REGISTERED PROFESSIONAL ENGINEER

REVISION	DATE

JOB NUMBER: 23030 | DATE: 3/13/2026

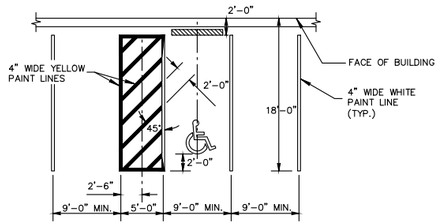
FILE NAMES:
DRAWING: SHEETS-GEN DET
PLAN: 23030.dwg

DESIGNED BY: RJS
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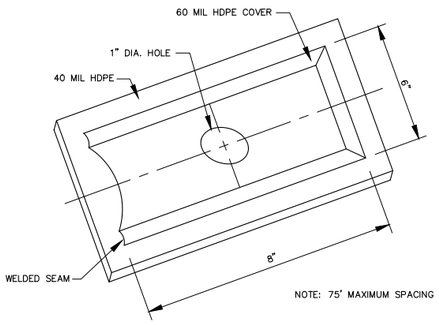
CITY OF GRANDVIEW
WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1
GENERAL SITE DETAILS

GC-1

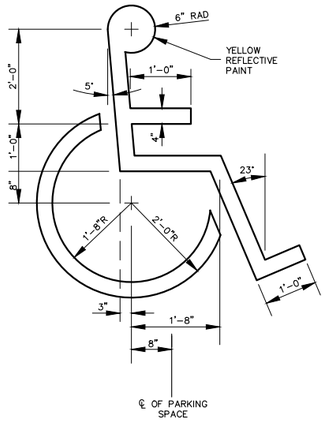
SHEET 73 OF 192



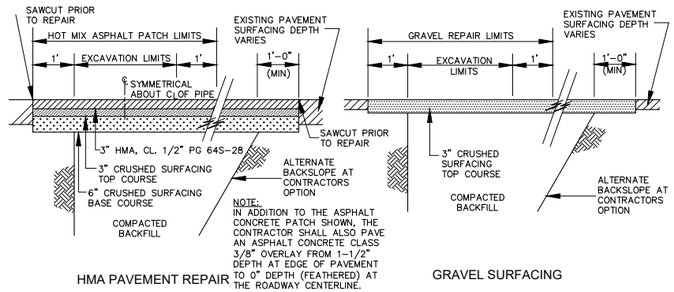
1.1 PARKING STALL DETAIL
NOT TO SCALE



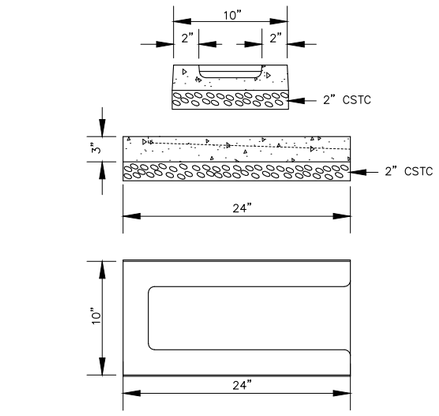
1.5 AIR VENT HOLE DETAIL
NOT TO SCALE



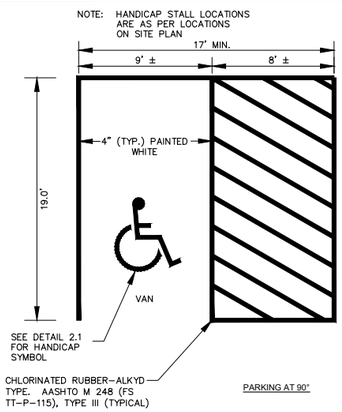
2.1 HANDICAP SYMBOL DETAIL
NOT TO SCALE STRIPE-4.DWG



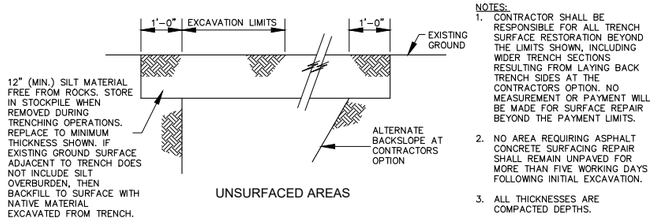
HMA PAVEMENT REPAIR GRAVEL SURFACING



2.5 DOWNSPOUT SPLASH PAD
NOT TO SCALE



3.1 TYPICAL 9' VAN HANDICAP STRIPING DETAIL
NOT TO SCALE



UNSURFACED AREAS

NOTES:
1. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TRENCH SURFACE RESTORATION BEYOND THE LIMITS SHOWN, INCLUDING WIDER TRENCH SECTIONS RESULTING FROM LAYING BACK TRENCH SIDES AT THE CONTRACTORS OPTION. NO MEASUREMENT OR PAYMENT WILL BE MADE FOR SURFACE REPAIR BEYOND THE PAYMENT LIMITS.
2. NO AREA REQUIRING ASPHALT CONCRETE SURFACING REPAIR SHALL REMAIN UNPAVED FOR MORE THAN FIVE WORKING DAYS FOLLOWING INITIAL EXCAVATION.
3. ALL THICKNESSES ARE COMPACTED DEPTHS.

NOTE:
ONLY THE LATEST DETAIL, AS APPROVED BY THE DIRECTOR OF PUBLIC WORKS, SHALL BE USED.

3.3 TRENCH SURFACING REPAIR
NOT TO SCALE

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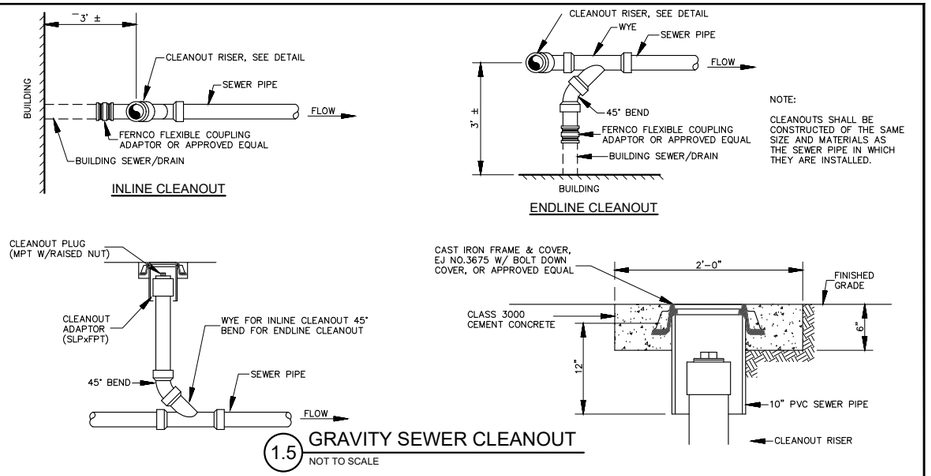
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REVISION	DATE

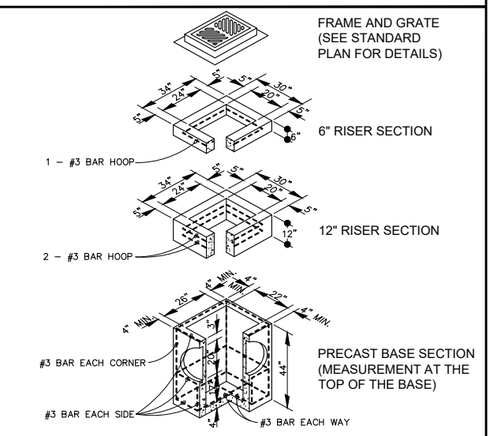
JOB NUMBER: 23030 DATE: 3/13/2026
FILE NAMES:
DRAWING: SHEETS-GEN DET
PLAN: 23030.dwg
DESIGNED BY: RJS
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CITY OF GRANDVIEW
WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1
GENERAL SITE DETAILS

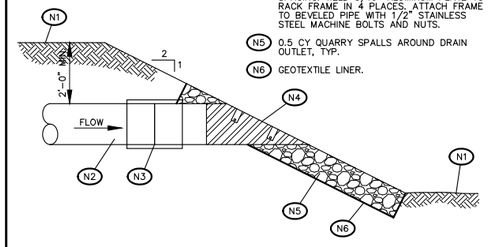
GC-2
SHEET 74 OF 192



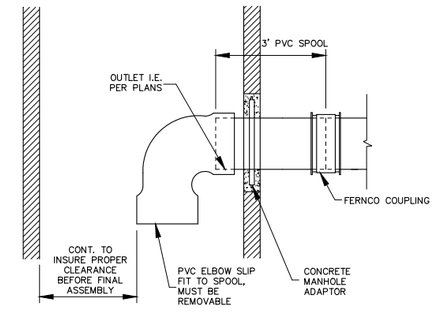
1.5 GRAVITY SEWER CLEANOUT
NOT TO SCALE



2.5 CATCH BASIN TYPE 1
NOT TO SCALE



3.4 BEVELED DRAIN OUTLET
NOT TO SCALE



3.5 CATCH BASIN OUTLET PIPE
NOT TO SCALE

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REVISION	DATE

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FILE NAMES:
DRAWING: SHEETS–GEN DET
PLAN: 23030.dwg

DESIGNED BY: RJS
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CITY OF GRANDVIEW
WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1
GENERAL SITE DETAILS

GC-3

SHEET 75 OF 192

HVAC SCHEDULE

DESIGNATION	MANUFACTURER	MODEL NO.	LOCATION	TYPE	SIZE/ CAPACITY	FAN SPEED	MOTOR SIZE/TYPE	ELECTRICAL V/PH	ACCESSORIES	NOTES
AC-1	MITSUBISHI ELECTRIC	PKA-AL18NL/ PUZ-AK18NL	INFLUENT PUMP STATION ELECTRICAL BUILDING NORTH WALL	HEAT PUMP	18,000 BtUh	–	–	208/230V, 1P	–	2
AC-2	MITSUBISHI ELECTRIC	PKA-AL18NL/ PUZ-AK18NL	UV BUILDING ELECTRICAL ROOM WEST WALL	HEAT PUMP	18,000 BtUh	–	–	208/230V, 1P	–	2
AC-3	MITSUBISHI ELECTRIC	PKA-AL18NL/ PUZ-AK18NL	DEWATERING BUILDING ELECTRICAL ROOM ABOVE EAST DOOR	HEAT PUMP	18,000 BtUh	–	–	208/230V, 1P	–	2
EL-1	GREENHECK	ESD-435	DEWATERING BUILDING BELT PRESS ROOM/ DEWATERING BUILDING POLYMER PUMP ROOM	EXHAUST LOUVER	12"W X 12"H/ 200 CFM	N/A	N/A	N/A	½" MESH BIRDSCREEN.	
EL-2	GREENHECK	ESD-435	STORAGE BUILDING SOUTH WALL	EXHAUST LOUVER	24"W X 24"H	N/A	N/A	N/A	½" MESH BIRDSCREEN.	4
SL-1	GREENHECK	ESD-435	STORAGE BUILDING NORTH WALL	SUPPLY LOUVER	36"W X 36"H/ 3,600 CFM	N/A	N/A	N/A	½" MESH BIRDSCREEN. MODEL VCD-23 MOTORIZED DAMPER WITH SLEEVE ASSEMBLY (9" MAX. LENGTH). INTERNAL ACTUATOR MOUNTING.	
EF-1	GREENHECK	SE1-18-429-VG	STORAGE BUILDING SOUTH WALL	EXHAUST FAN	3,600 CFM @ 0.25 in. WC	1,494 RPM	3/4 HP	230V/1P	MODEL WD-320 GRAVITY DAMPER, GALVANIZED STEEL SHORT WALL HOUSING, SS FASTENERS.	
UH-1	KING	KB4805-3MP-T-B2	STORAGE BUILDING	ELECTRIC HEAT	17,100 BtUh/ 5.0 kW	N/A	1/100 HP	480V/3P	INTERNAL THERMOSTAT, INTEGRAL POWER DISCONNECT, WALL MOUNTING BRACKET.	3

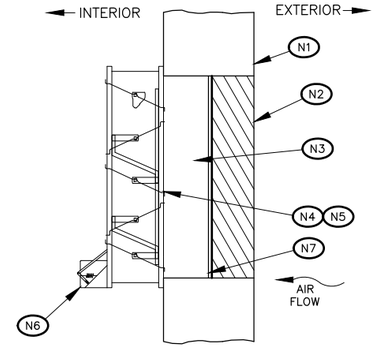
1. INSTALL THERMOSTAT AT LOCATION SHOWN ON THE PLANS. SEE ELECTRICAL DRAWINGS. INSTALLATION TO BE WASHINGTON STATE ENERGY CODE COMPLIANT.
2. THERMOSTAT SHALL CONTROL BOTH A/C UNITS AND PROVIDE AUTOMATIC LEAD/LAG CONTROL AND DUTY ROTATION. INSTALL THERMOSTAT AT LOCATION SHOWN ON PLANS. SEE ELECTRICAL DRAWINGS.
3. MOUNT HEATER AT 9'-0" ABOVE FINISH FLOOR, OR AT MANUFACTURER'S RECOMMENDED HEIGHT.
4. COORDINATE INSTALLATION WITH EXHAUST FAN. SEE DETAILS THIS SHEET.

NOTE: SCHEDULES ARE PROVIDED FOR THE CONVENIENCE OF THE CONTRACTOR. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE FROM PLANS, SECTIONS, DETAILS, AND SPECIFICATIONS, THE REQUIRED QUANTITY OF EQUIPMENT AND MATERIALS TO COMPLETE THE PROJECT.

2.1 HVAC SCHEDULE
NO SCALE

NOTES

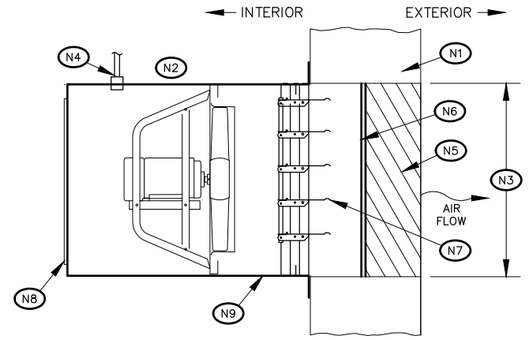
N1 BUILDING WALL, TYP.
N2 SPECIFIED LOUVER. INSTALL FLUSH WITH OUTSIDE OF WALL. EXTERIOR PERIMETER FLANGES SHALL NOT BE USED. CAULK PERIMETER WATERTIGHT WITH MATCHING COLOR CAULK.
N3 PROVIDE RECOMMENDED CLEARANCE BETWEEN DAMPER AND LOUVER.
N4 DAMPER AND WALL OPENING SHALL MATCH SIZE OF LOUVER.
N5 DAMPER SLEEVE, TYP.
N6 DAMPER MOTOR PACK WHERE REQUIRED.
N7 BIRD SCREEN.



1.5 INTAKE LOUVER AND DAMPER
NOT TO SCALE

NOTES

N1 BUILDING WALL, TYP.
N2 FAN, DAMPER AND LOUVER SHALL BE INSTALLED WITH MIN. MFGR. RECOMMENDED CLEARANCES IN ORDER TO MINIMIZE PROTRUSION INTO BUILDING. CONTRACTOR TO COORDINATE INSTALLATION WITH OVERHEAD PIPING, ETC.
N3 WALL COLLAR, HOUSING, DAMPER, LOUVER, AND WALL OPENING SHALL MATCH SIZE REQUIREMENTS FOR FAN.
N4 PROVIDE CEILING HUNG SUPPORT FOR FAN/DAMPER WHERE REQUIRED.
N5 SPECIFIED LOUVER. INSTALL FLUSH WITH OUTSIDE OF WALL, EXTERIOR PERIMETER FLANGES SHALL NOT BE USED. CAULK PERIMETER WATERTIGHT WITH MATCHING COLOR CAULK.
N6 BIRD SCREEN.
N7 GRAVITY DAMPER.
N8 INLET GUARD.
N9 EXHAUST FAN HOUSING



2.5 EXHAUST FAN (WALL MOUNT)
NOT TO SCALE

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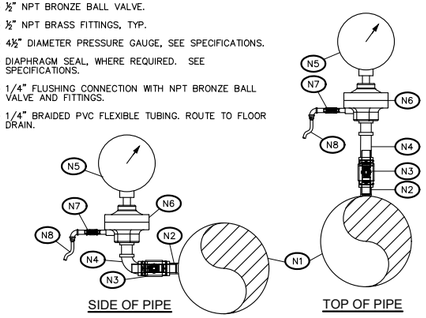
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FILE NAMES:
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PLAN: 23030.dwg
DESIGNED BY: JLB
ENTERED BY: AMW

CITY OF GRANDVIEW
WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1
HVAC SCHEDULE AND DETAILS

GM-1

NOTES

(N1) D.I. PIPE/FITTING, SEE PLAN FOR SIZE AND ORIENTATION.
(N2) ½" BRASS NIPPLE, TAP D.I. PIPE/FITTING AT LOCATION SHOWN ON PLANS.
(N3) ½" NPT BRONZE BALL VALVE.
(N4) ½" NPT BRASS FITTINGS, TYP.
(N5) 4½" DIAMETER PRESSURE GAUGE, SEE SPECIFICATIONS.
(N6) DIAPHRAGM SEAL, WHERE REQUIRED. SEE SPECIFICATIONS.
(N7) 1/4" FLUSHING CONNECTION WITH NPT BRONZE BALL VALVE AND FITTINGS.
(N8) 1/4" BRAIDED PVC FLEXIBLE TUBING. ROUTE TO FLOOR DRAIN.



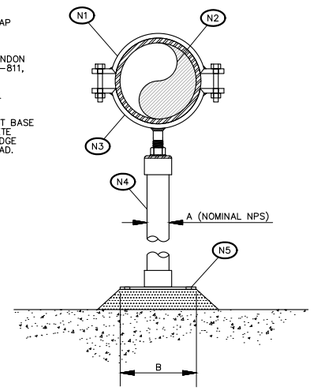
1.2 PRESSURE GAUGE ASSEMBLY
NOT TO SCALE

NOTES

(N1) CHANNEL ANVIL FIG. 45, OR EQUAL. LENGTH TO SUIT AT 5'–0" O.C. MAXIMUM SPACING UNLESS OTHERWISE SHOWN ON DRAWINGS. PIPES 6"ø AND LARGER SHALL BE SUPPORTED AT TWO LOCATIONS PER PIPE JOINT.
(N2) MAXIMUM DISTANCE BETWEEN RODS = 4'–0".
(N3) 5/8"ø HANGER ROD, TYPICAL.
(N4) PIPE "U" CLAMPED TO CHANNEL FRAMING, ANVIL FIG. 137, OR EQUAL, TYPICAL.
(N5) WHEN USED WITH PVC OR FIBERGLASS PIPE, PROVIDE STEEL SHIELD AROUND PIPE AT "U" BOLT WITH LOOSE FIT. WRAP COPPER TUBES WITH 2" STRIP OF RUBBER FABRIC. WHEN USED WITH STAINLESS STEEL AIR PIPING, PROVIDE STAINLESS STEEL ROLLER CHAIR, TRIPAC FIG. TP–275 WITH LOOSE FIT STAINLESS STEEL STRAP.
(N6) PIPE HANGER. SEE TYPICAL PIPE HANGER SUPPORT DETAIL. CONCRETE INSERT IS SHOWN HERE. USE PIPE HANGER CONNECTOR APPROPRIATE FOR THE SUPPORTING STRUCTURE.
(N7) PROVIDE MANUFACTURER RECOMMENDED FASTENER AT BOTTOM OF ROD.

NOTES

(N1) PROVIDE U–BOLT/PIPE STRAP
(N2) 4" THRU 36" PIPE.
(N3) PIPE SUPPORT SADDLE STANDON MODEL C92 TRIPAC FIG. TP–811, OR EQUAL.
(N4) SCH. 40 GALVANIZED STEEL STANCHION PIPE.
(N5) GALVANIZED STEEL SUPPORT BASE PLATE, ATTACH TO CONCRETE WITH 4 SST STUD TYPE WEDGE ANCHORS 1" MIN. GROUT PAD.



NOTES:

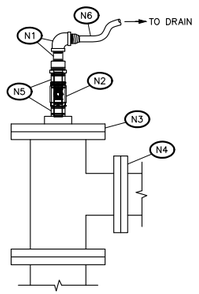
1. PROVIDE HALF ROUND RIGID INSULATION AND INSULATION PROTECTION SHIELD, SIMILAR TO ANVIL FIGURE 167, WHERE PIPING IS INSULATED.
2. PROVIDE TOP WITH STAINLESS STEEL ROLLER CHAIR, SIMILAR TO TRIPAC FIG. TP–275, AND STAINLESS STEEL LOOSE FIT STRAP AT STAINLESS STEEL AIR PIPING.
3. PROVIDE NEOPRENE ISOLATION PAD BETWEEN SADDLE SUPPORT AND PIPE WHERE DISSIMILAR METALS OR OTHER PIPE ISOLATION REQUIRES.
4. SEE TABLE BELOW FOR SUPPORT PIPE SIZE AND BASE DIMENSIONS.

DIMENSION TABLE		
PIPE SIZE	A	B
4"	3"	9"
5"	3"	9"
6"	3"	9"
8"	3"	9"
10"	3"	9"
12"	3"	9"
14"	4"	11"
16"	4"	11"
18"	4"	11"
20"	6"	13–1/2"
24"	6"	13–1/2"
26"	6"	13–1/2"
30"	6"	13–1/2"
32"	6"	13–1/2"
36"	8"	16"

1.4 PIPE SUPPORT DETAIL - TYPE 1
NOT TO SCALE

NOTES

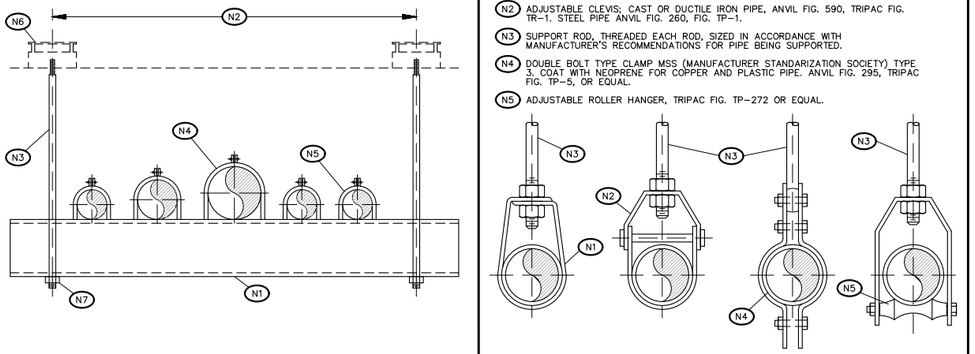
(N1) G.I. THREADED PIPE AND FITTINGS. PROVIDE UNION FOR DISCONNECTION OF OUTLET PIPING.
(N2) 3/4" NPT BRONZE BALL VALVE, TYP.
(N3) BLIND FLG WITH 2" THREADED TAP. PROVIDE BRASS BUSHING AS REQUIRED FOR VALVE SIZE. SEE PLAN FOR SIZE AND LOCATION.
(N4) D.I. FITTING, SEE PLAN FOR SIZE AND ORIENTATION.
(N5) BRASS NPT NIPPLES, TYP.
(N6) 1/2" BRAIDED PVC FLEXIBLE TUBING. ROUTE TO FLOOR DRAIN.



2.2 MANUAL AIR RELEASE ASSEMBLY
NOT TO SCALE

NOTES

(N1) ADJUSTABLE STEEL RING HANGER, ANVIL FIG. 69, TRIPAC FIG. TP–2, OR EQUAL. WHEN USED WITH PVC OR FIBERGLASS PIPE, PROVIDE STEEL SHIELD AROUND PIPE AT HANGER WITH LOOSE FIT . WRAP COPPER TUBES WITH 2" STRIP OF RUBBER FABRIC.
(N2) ADJUSTABLE CLEVIS; CAST OR DUCTILE IRON PIPE, ANVIL FIG. 590, TRIPAC FIG. TR–1. STEEL PIPE ANVIL FIG. 260, FIG. TP–1.
(N3) SUPPORT ROD, THREADED EACH ROD, SIZED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS FOR PIPE BEING SUPPORTED.
(N4) DOUBLE BOLT TYPE CLAMP MSS (MANUFACTURER STANDARIZATION SOCIETY) TYPE 3. COAT WITH NEOPRENE FOR COPPER AND PLASTIC PIPE. ANVIL FIG. 295, TRIPAC FIG. TP–5, OR EQUAL.
(N5) ADJUSTABLE ROLLER HANGER, TRIPAC FIG. TP–272 OR EQUAL.

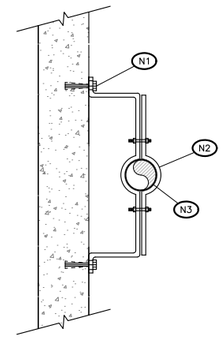


2.3 TRAPEZE PIPE HANGER
NOT TO SCALE

2.4 TYPICAL PIPE HANGER
NOT TO SCALE

NOTES

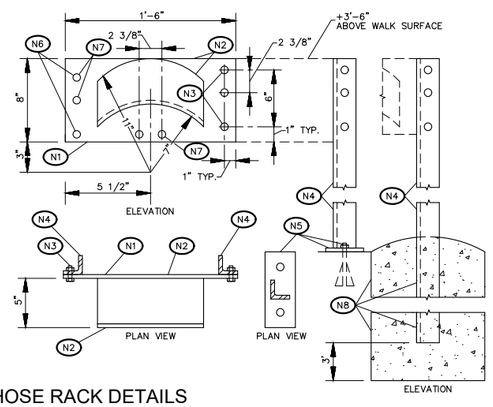
(N1) TYPE 316 STAINLESS STEEL EPOXY ANCHORS, TYP.
(N2) TYPE 316 STAINLESS STEEL ANVIL FIG. 175 OR 181, TRIPAC TP–75S, OR APPROVED EQUAL. PROVIDE PVC COATING OR EPDM LINER TO PROTECT PIPE.
(N3) PIPE, TYP. SEE PLANS FOR SIZE AND TYPE.



2.5 TYPICAL PIPE OFFSET SUPPORT
NOT TO SCALE

NOTES

(N1) TYPICAL HOSE RACK. HOT DIP GALVANIZE AFTER FABRICATION. ALL WELDS 3/16" FILLETS. BREAK ALL SHARP EDGES.
(N2) BACK, FRONT, AND RADIUS PLATE FROM 1/4" STEEL PLATE.
(N3) ALL HOLES 7/16"ø, BOLTS 3/8"ø, HOT DIP GALVANIZED.
(N4) (2) ANGLE 2 X 2 X 1/4 HOT DIP GALVANIZED AFTER FABRICATION.
(N5) FOR CONCRETE WALK OR FLOOR MOUNTING, ANGLE LEGS WITH BASE PLATE 8 X 4 X 3/8 EACH LEG. FASTEN TO CONCRETE WITH (2) 1/2"ø X 4" EXPANSION ANCHORS PER BASE PLATE.
(N6) FOR CONCRETE WALL MOUNTING, FASTEN IN (4) HOLES AT CORNERS OG PLATE WITH 3/8"ø X 4" EXPANSION ANCHORS.
(N7) FOR GUARDRAIL MOUNTING, FASTEN TO GUARDRAIL WITH (3) 3/8"ø X 2" HOT DIP GALVANIZED "U" BOLTS. FASTEN TO TOP RAIL USING TOP (2) HOLES EACH SIDE, AND STANCHION USING HOLES AT BOTTOM CENTER.
(N8) WHERE NO CONCRETE IS AVAILABLE, CAST ANGLE LEGS 1'–6" INTO 12"ø CONCRETE ENCASEMENT.



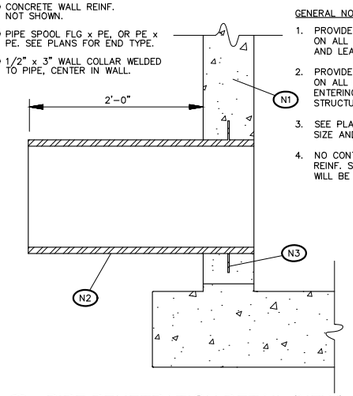
3.1 TYPICAL HOSE RACK DETAILS
NOT TO SCALE

NOTES

(N1) CONCRETE WALL REINF. NOT SHOWN.
(N2) PIPE SPOOL FLG x PE, OR PE x PE. SEE PLANS FOR END TYPE.
(N3) 1/2" x 3" WALL COLLAR WELDED TO PIPE, CENTER IN WALL.

GENERAL NOTES:

1. PROVIDE FLEX COUPLING ON ALL PE PIPES ENTERING AND LEAVING STRUCTURES.
2. PROVIDE FLGxMJ VALVES ON ALL FLG SPOOLS ENTERING AND LEAVING STRUCTURES
3. SEE PLANS FOR PIPE SIZE AND LOCATION.
4. NO CONTACT BETWEEN REINF. STEEL AND PIPE WILL BE PERMITTED.



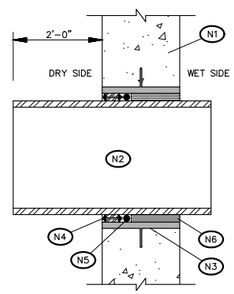
3.3 PIPE PENETRATION DETAIL (NEW) - TYPE B
NOT TO SCALE

NOTES

(N1) CONCRETE WALL REINF. NOT SHOWN.
(N2) PIPE SPOOL FLG x PE, OR PE x PE. SEE PLANS FOR END TYPE.
(N3) PVC OR HDPE WALL SLEEVE WITH CONTINOUS WATERSTOP RING.
(N4) LINK–SEAL, TYPICAL. VERIFY REQUIRED SLEEVE DIAMETER.
(N5) FOAM BACKER ROD, TYPICAL.
(N6) GROUT, TYPICAL.

GENERAL NOTES:

1. SET AND SECURE SLEEVE IN FORMWORK PRIOR TO CONCRETE POUR. VERIFY HOLE DIAMETER REQUIRED PRIOR TO POUR. INSTALL "LINK–SEAL", PER MANUFACTURER'S RECOMMENDATIONS.
2. PROVIDE FLEX COUPLING ON ALL PE PIPES ENTERING AND LEAVING STRUCTURES.
3. SEE PLANS FOR PIPE SIZE AND LOCATION.
4. FOR BETWEEN TANK CONNECTIONS, LOCATE LINK–SEAL IN CENTER AND INSTALL BACKER ROD AND GROUT ON BOTH SIDES.



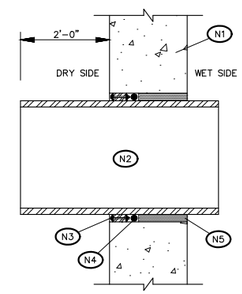
3.4 PIPE PENETRATION DETAIL (NEW) - TYPE A
NOT TO SCALE

NOTES

(N1) EXISTING CONCRETE WALL.
(N2) PIPE SPOOL THROUGH WALL SEE PLAN FOR SIZE, LENGTH, AND END CONFIGURATIONS.
(N3) LINK–SEAL, TYPICAL. VERIFY REQUIRED HOLE DIAMETER.
(N4) FOAM BACKER ROD, TYPICAL.
(N5) GROUT, TYPICAL.

GENERAL NOTES:

1. CUT HOLE IN EXISTING CONCRETE WALL WITH HOLE SAW. VERIFY HOLE DIAMETER REQUIRED PRIOR TO CUTTING. INSTALL "LINK–SEAL", PER MANUFACTURER'S RECOMMENDATIONS.
2. PROVIDE FLEX COUPLING ON ALL PE PIPES ENTERING AND LEAVING STRUCTURES.
3. SEE PLANS FOR PIPE SIZE AND LOCATION.
4. FOR BETWEEN TANK CONNECTIONS, LOCATE LINK–SEAL IN CENTER AND INSTALL BACKER ROD AND GROUT ON BOTH SIDES.



3.5 PIPE PENETRATION DETAIL (EXIST.)
NOT TO SCALE

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ROBERT J. SCOTT — STATE OF WASHINGTON — 46423 — REGISTERED PROFESSIONAL ENGINEER

REVISION	DATE

JOB NUMBER: 23030 DATE: 3/13/2026
FILE NAMES:
DRAWING: SHEETS–GEN DET
PLAN: 23030.dwg
DESIGNED BY: RJS
ENTERED BY: KWC

CITY OF GRANDVIEW
WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1
GENERAL PIPING DETAILS

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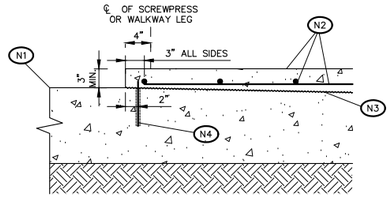
NOTES

(N1) EXISTING CONCRETE SLAB, TYP.

(N2) 3" THICK MIN. CONCRETE SCREWPRESS BASE/SUPPORT SLAB. REINFORCE WITH #5 DOWELS AT 12" O.C. EACH WAY, W/2" CLR.

(N3) ROUGHEN CONCRETE INTERFACE AND APPLY CONCRETE ADHESIVE.

(N4) #5 DOWELS @ 24" O.C. REINFORCE ALONG ENTIRE PERIMETER OF CONCRETE SLAB, 6" EMBED W/ EPOXY ADHESIVE.



1.2 CONCRETE PAD DETAIL

NOT TO SCALE

NOTES

(N1) D.I. PIPE/FITTING, SEE PLAN FOR SIZE AND ORIENTATION.

(N2) ½" BRASS NIPPLE, TAP D.I. PIPE/FITTING AT LOCATION SHOWN ON PLANS.

(N3) ½" NPT BRONZE BALL VALVE.

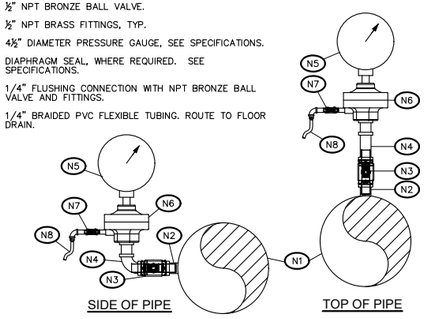
(N4) ½" NPT BRASS FITTINGS, TYP.

(N5) 4½" DIAMETER PRESSURE GAUGE, SEE SPECIFICATIONS.

(N6) DIAPHRAGM SEAL, WHERE REQUIRED. SEE SPECIFICATIONS.

(N7) 1/4" FLUSHING CONNECTION WITH NPT BRONZE BALL VALVE AND FITTINGS.

(N8) 1/4" BRAIDED PVC FLEXIBLE TUBING. ROUTE TO FLOOR DRAIN.



1.3 PRESSURE GAUGE ASSEMBLY

NOT TO SCALE

NOTES

(N1) 4" FLG GATE VALVE.

(N2) 4" D.I. FLG TEE.

(N3) 4" D.I. FLG ELBOW.

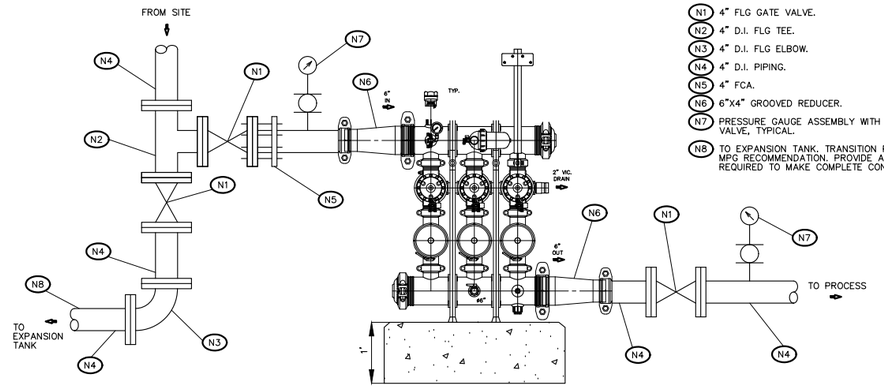
(N4) 4" D.I. PIPING.

(N5) 4" FCA.

(N6) 6"X4" GROOVED REDUCER.

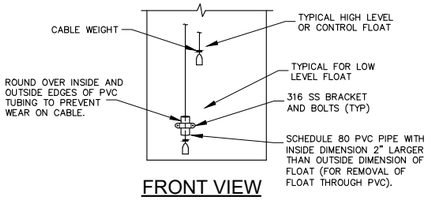
(N7) PRESSURE GAUGE ASSEMBLY WITH ISOLATION VALVE, TYPICAL.

(N8) TO EXPANSION TANK. TRANSITION PIPING SIZE PER MPG RECOMMENDATION. PROVIDE ALL FITTINGS REQUIRED TO MAKE COMPLETE CONNECTION.



1.5 NON-POTABLE WATER FILTER DETAIL

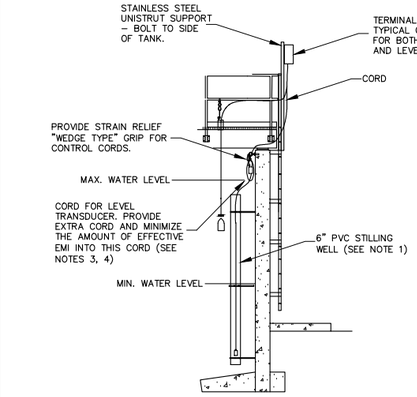
NOT TO SCALE



FRONT VIEW

2.2 TANK FLOATS DETAIL

(FOR LOW LEVEL FLOAT ONLY) NOT TO SCALE



NOTES

1. 6-INCH SCHEDULE 80 PVC STILLING WELL (CHOOSE SIZE FOR TRANSDUCER) – DRILL 1" HOLES AT 3" APART DOWN AND 90 DEGREES APART AROUND THE STILLING WELL FROM TOP TO BOTTOM.
2. LEVEL TRANSDUCER IS POSITIONED WITHIN THE STILLING WELL 6-INCHES ABOVE THE BOTTOM OF THE TANK, BASIN, OR WELL.
3. THE LEVEL TRANSDUCER IS SUSPENDED BY ITS OWN SIGNAL CORD INTO THE STILLING WELL. PROVIDE ONLY 18-INCHES OF EXTRA CORD.
4. KEEP THE SIGNAL CABLE AS FAR AWAY FROM OTHER CABLES AS POSSIBLE.

3.3 LEVEL XMTR / STILLING WELL DETAIL

NOT TO SCALE

NOTES

(N1) STAINLESS STEEL WEIR PLATE, TYPICAL

(N2) ADDITIONAL #5 REBAR.

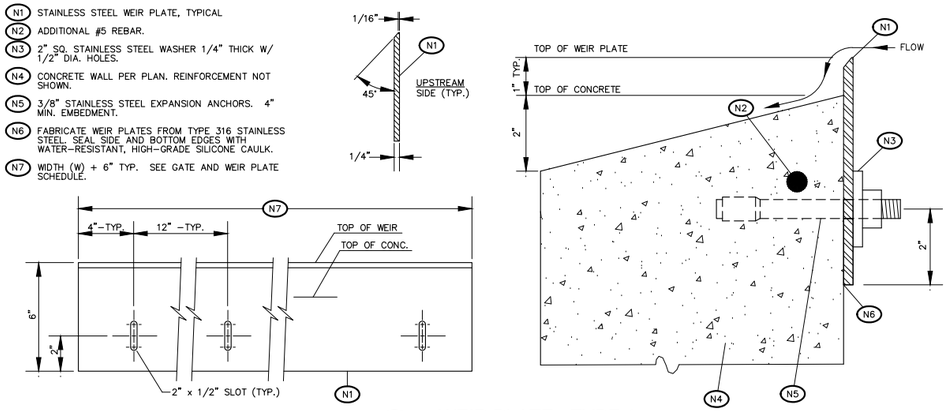
(N3) 2" SQ. STAINLESS STEEL WASHER 1/4" THICK W/ 1/2" DIA. HOLES.

(N4) CONCRETE WALL PER PLAN. REINFORCEMENT NOT SHOWN.

(N5) 3/8" STAINLESS STEEL EXPANSION ANCHORS. 4" MIN. EMBEDMENT.

(N6) FABRICATE WEIR PLATES FROM TYPE 316 STAINLESS STEEL SEAL SIDE AND BOTTOM EDGES WITH WATER-RESISTANT, HIGH-GRADE SILICONE CAULK.

(N7) WIDTH (W) + 6" TYP. SEE GATE AND WEIR PLATE SCHEDULE.



2.5 WEIR PLATE - TYPE 1

NOT TO SCALE

NOTES

(N1) G.I. THREADED PIPE AND FITTINGS. PROVIDE UNION FOR DISCONNECTION OF OUTLET PIPING. PIPE AIR RELEASE VALVE OUTLET TO 6" ABOVE FLOOR DRAIN.

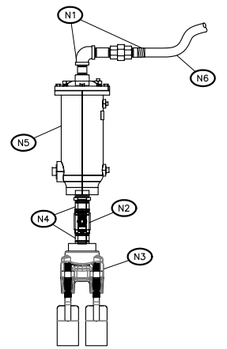
(N2) NPT BRONZE BALL VALVE, TYP.

(N3) ROMAC 202 SADDLE, OR EQUAL. PROVIDE BRASS BUSHING AS REQUIRED FOR AIR VALVE SIZE. SEE PLAN FOR SIZE AND LOCATION.

(N4) BRASS NPT NIPPLES, TYP.

(N5) AIR RELEASE VALVE, APCO SERIES 401, OR APPROVED EQUAL.

(N6) 1" BRAIDED PVC FLEXIBLE TUBING OR RIGID PIPING TO DRAIN. SEE PLAN FOR LOCATION.



3.4 AIR RELEASE VALVE ASSEMBLY - SEWER

NOT TO SCALE

NOTES

(N1) G.I. THREADED PIPE AND FITTINGS. PROVIDE UNION FOR DISCONNECTION OF OUTLET PIPING. PIPE AIR RELEASE VALVE OUTLET TO 6" ABOVE FLOOR DRAIN.

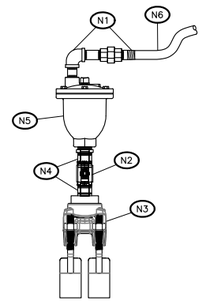
(N2) NPT BRONZE BALL VALVE, TYP.

(N3) ROMAC 202 SADDLE, OR EQUAL. PROVIDE BRASS BUSHING AS REQUIRED FOR AIR VALVE SIZE. SEE PLAN FOR SIZE AND LOCATION.

(N4) BRASS NPT NIPPLES, TYP.

(N5) AIR RELEASE VALVE, APCO SERIES 50, VAL-MATIC SERIES 22, OR APPROVED EQUAL.

(N6) 1" BRAIDED PVC FLEXIBLE TUBING OR RIGID PIPING TO DRAIN. SEE PLAN FOR LOCATION.



3.5 AIR RELEASE VALVE ASSEMBLY - WATER

NOT TO SCALE

NOTES

(N1) STAINLESS STEEL SLAB, 4" MIN. EMBED, 2" CLR. FROM CONCRETE FACE, MAX SPACING 1'-6" O.C.

(N2) CONCRETE FLOOR SLAB, REINFORCING NOT SHOWN.

(N3) HEIGHT AS REQUIRED FOR PIPING AND EQUIPMENT. COORDINATE WITH MFGS. APPROVED SHOP DRAWINGS.

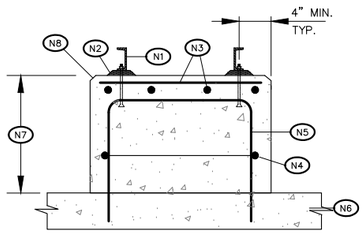
(N4) 1" CHAMFER, TYPICAL.

(N5) EQUIPMENT RAIL SHOWN FOR INFORMATION ONLY. COORDINATE WITH MFGS. APPROVED SHOP DRAWINGS.

(N6) 1" NON-SHRINK LEVELING GROUT UNDER EQUIPMENT RAIL/ MOUNTING PLATE, OR AS REQUIRED BY EQUIPMENT MANUFACTURER.

(N7) #5 HORIZONTALS @ 12" O.C., EACH WAY 2" CLR. OF TOP OF CONCRETE.

(N8) WHEN EQUIPMENT PAD HEIGHT EXCEEDS 1'-6", PROVIDE #4 TIES @ 6' O.C. MAX (2" CLEAR).



3.2 TYPICAL EQUIPMENT PAD/PEDESTAL

NOT TO SCALE

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ROBERT J. SCOTT — STATE OF WASHINGTON — 46421 — REGISTERED PROFESSIONAL ENGINEER

REVISION	DATE

JOB NUMBER: 23030 | DATE: 3/13/2026

FILE NAMES:
DRAWING: SHEETS-GEN DET
PLAN: 23030.dwg

DESIGNED BY: RJS
ENTERED BY: KWC

CITY OF GRANDVIEW
WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1

GENERAL PIPING DETAILS

GP-2

SHEET 78 OF 192

STORAGE BUILDING DOOR AND WINDOW SCHEDULE

DOOR NUMBER	DOORS							FRAME				HARDWARE GROUP	REMARKS
	SIZE			MATL.	TYPE	GLASS	SWING	MATL.	TYPE	DETAILS			
	WIDTH	HEIGHT	THICK.							JAMB	HEAD		
D-02	3'-0"	3'-0"	1-3/4"	H.M.	B	GL-1	LHR	H.M.	A	3.5/GA-1	3.5/GA-1	HW-1	-----
D-03	3'-0"	7'-0"	1-3/4"	H.M.	B	GL-1	LHR	H.M.	A	3.5/GA-1	3.5/GA-1	HW-2	-----
D-04	12'-0"	12'-0"	–	SEC.	C	–	–	STL.	–			–	MANUAL OPERATION
D-05	12'-0"	12'-0"	–	SEC.	C	–	–	STL.	–			–	MANUAL OPERATION
D-06	12'-0"	12'-0"	–	SEC.	C	–	–	STL.	–			–	MANUAL OPERATION
D-07	12'-0"	12'-0"	–	SEC.	C	–	–	STL.	–			–	MANUAL OPERATION

DEWATERING BUILDING DOOR AND WINDOW SCHEDULE

DOOR NUMBER	DOORS							FRAME				HARDWARE GROUP	REMARKS
	SIZE			MATL.	TYPE	GLASS	SWING	MATL.	TYPE	DETAILS			
	WIDTH	HEIGHT	THICK.							JAMB	HEAD		
D-01	12'-0"	14'-0"	–	SEC.	C	–	–	STL.	–	3.5/GA-1	3.5/GA-1	–	MOTOR DRIVEN OPERATION
D-08	6'-0"	7'-0"	1-3/4"	H.M.	B	GL-1	RHR	H.M.	B	3.5/GA-1	3.5/GA-1	HW-2	-----

NOTE:
SCHEDULES ARE PROVIDED FOR THE CONVENIENCE OF THE CONTRACTOR. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE FROM THE PLANS, SECTIONS, ISOMETRICS, DETAILS, AND SPECIFICATIONS, THE REQUIRED QUANTITY AND QUALITY OF EQUIPMENT AND MATERIALS TO COMPLETE THE PROJECT.

1.5 DOOR & WINDOW SCHEDULES
NOT TO SCALE

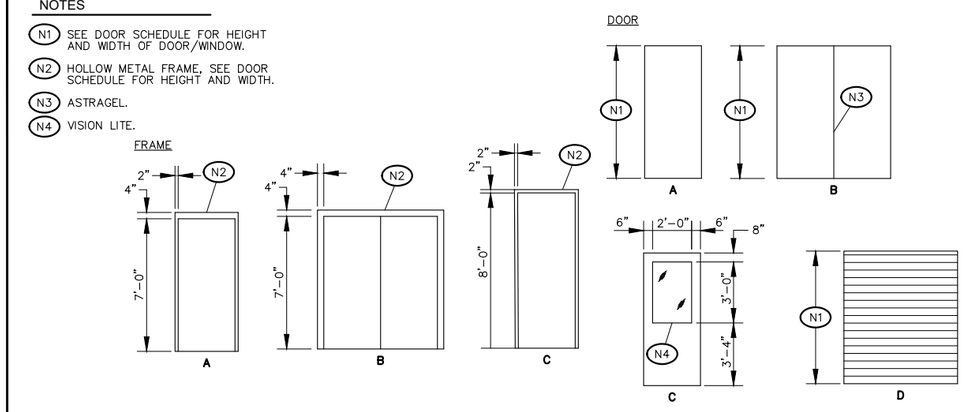
NOTES

N1 SEE DOOR SCHEDULE FOR HEIGHT AND WIDTH OF DOOR/WINDOW.

N2 HOLLOW METAL FRAME, SEE DOOR SCHEDULE FOR HEIGHT AND WIDTH.

N3 ASTRAGEL.

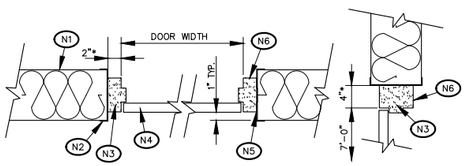
N4 VISION LITE.



2.5 DOOR & FRAME TYPES
NOT TO SCALE

NOTES

N1 8" FABRICATED METAL BUILDING WALL.
N2 METAL DOOR FRAME.
N3 GROUT DOOR FRAME SOLID, TYP.
N4 HOLLOW METAL DOOR, TYP.
N5 SEALANT, TYP.
N6 HOLLOW METAL DOOR FRAME.



JAMB

* TYPICAL DOOR FRAME DIMENSIONS, SEE DETAIL 1.5 THIS SHEET FOR HEAD AND JAMB DIMENSIONS OF EACH DOOR FRAME TYPE.

HEAD

NOTE:
CONTRACTOR TO VERIFY REQUIRED WALL OPENINGS FOR DOORS SUPPLIED FOR THIS PROJECT PRIOR TO START OF WORK.

SEE METAL FRAME BUILDING MANUFACTURER'S DRAWINGS FOR ADDITIONAL REQUIREMENTS

3.5 HEAD & JAMB, METAL BUILDING WALLS
NOT TO SCALE

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CITY OF GRANDVIEW
WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1
GENERAL ARCHITECTURE DETAILS

GA-1

SHEET 79 OF 192

GENERAL STRUCTURAL NOTES

GENERAL
The General Contractor shall verify all dimensions and site conditions before starting work. The Structural Engineer shall be notified of any discrepancy. Use details marked *"Typical"* wherever applicable. Changes, omissions or substitutions are not permitted without written approval of the Structural Engineer. Refer to specifications for further requirements. In the case of conflicts between plans and specifications, the more restrictive requirements shall apply.

All materials and workmanship shall conform to the 2021 edition of the International Building Code and the 2016 edition of *"Minimum Design Loads for Buildings and Other Structures"* by the American Society of Civil Engineers. Use the latest edition of Referenced Standards as noted in Chapter 35 of the IBC.

The Contractor shall coordinate the size and locations of all openings in roofs, floors and walls. Openings shall not penetrate any structural elements such as beams, columns, walls, slabs, etc. unless noted on the drawings or approved by the Structural Engineer.

The Contract structural drawings represent the finished structure. The Contractor is responsible for the means, methods and sequence of construction. The design, adequacy and safety of erection bracing, shoring, temporary supports, etc., is the sole responsibility of the Contractor, and has not been considered by the Structural Engineer. The Contractor is responsible for the stability of the structure prior to the completion of all shear walls, roof and floor diaphragms and finish materials. The Contractor shall provide the necessary bracing to provide stability to the structure prior to the installation of the permanent lateral force resisting system. Observation visits to the site by the Structural Engineer shall not include inspection of temporary bracing, shoring, etc.

EXISTING CONSTRUCTION
Existing structural dimensions and member sizes are for reference only.
The contractor shall field verify all dimensions, member sizes, and existing conditions prior to the commencement of new work and modifications to existing construction. Notify the Civil and Structural Engineer of any discrepancies and unsound conditions found.

DEFERRED SUBMITTALS
Items designed by a specialty structural engineer shall be submitted to the Structural Engineer for review and shall bear the seal and signature of an engineer registered in the state of Washington. Submittals shall include calculations, design drawings, product data and shop drawings. Design shall be based on information provided on the drawings for gravity, wind and seismic forces unless noted otherwise.

The contractor shall coordinate the seismic restraint of mechanical, plumbing and electrical equipment and the associated piping to the structure. Connections to the structure shall conform to SMACNA standards, be detailed on the contract drawings or be designed by an engineer registered in the state of Washington and submitted for Structural Engineer review prior to fabrication.

SHOP DRAWINGS
Shop drawings are to be checked and approved by the General Contractor prior to submitting for Structural Engineer review. General Contractor is responsible for verification and coordination of dimensions and details for each Subcontractor. Quantities and dimensions are not reviewed by the Structural Engineer and therefore must be verified by the General Contractor. No fabrication shall proceed until shop drawings have been approved. Review of the Specialty Structural Engineer's design submittals and shop drawings is for general compliance with design criteria and compatibility with the design of the primary structure and does not relieve the Specialty Structural Engineer of responsibility for that design.

DESIGN LOADS
Building Risk Category ---------- III

Snow Loading
- Minimum Roof Design Snow Load ---------- 30 PSF + Drifting
- Ground Snow Load, P_g ---------- 15 PSF
- Flat Roof Snow Load, P_f ---------- 20 PSF
- Snow Exposure Factor, C_e ---------- 1.0
- Thermal factor, C_t ---------- 1.2 (unheated)
- Snow Load Importance Factor, I_s ---------- 1.1

Floor Loading
- Walkways ---------- 60 PSF
- Stairs ---------- 100 PSF (300# concentrated)

Wind Loading
- Basic Wind Speed (3-second gust) ---------- 106 MPH (Ultimate)
- Wind Exposure ---------- C
- Enclosure Classification ---------- Enclosed

Seismic Loading - Equivalent Lateral Force Procedure
- Seismic Importance Factor, I_E ---------- 1.25
- Spectral Response Accelerations S_S = 0.444 S_1 = 0.173
- Site Class ---------- B
- Seismic Design Category ---------- B
- Site Coefficient F_a ---------- 0.90
- Site Coefficient F_v ---------- 0.80
- Spectral Response Coefficients S_{DS} = 0.266 S_{D1} = 0.092

Sludge Holding Tank
- Seismic Loading - ACI 350.3-06 "Seismic Design of Liquid Containing Concrete Structures and Commentary"
- Response Modification Factor, R_i ---------- 2.0
- Response Modification Factor, R_c ---------- 1.0

FOUNDATION
Based on Geotechnical Site Investigation Report by GN Northern, GNN Project No. 219-1757 dated August 6, 2024, the design allowable soil bearing pressure = 4000 PSF for footings bearing on structural fill and 10,000 psf for fottings bearing on rock. Bottom of all footings to bear on native, inorganic, undisturbed soil or structural fill 1'-6" minimum below the bottom of slab. Extend all exterior footings 2'-0" minimum below finished grade. No footing shall bear higher than a 1 vertical to 1.5 horizontal slope above any excavation, existing or planned. Contractor shall provide temporary shoring to prevent movement of walls if backfill is placed before floor system is in place. Site preparation, grading, backfilling, etc. shall be as recommended by the geotechnical report. There shall be 95% compaction (ASTM D1557 Modified Proctor Density) of all backfill soil under slabs on grade.

Lateral Earth Pressure

Active	35 pcf
At-Rest	56 pcf
Passive	525 pcf
Friction	.45 (concrete on soil)

CAST-IN-PLACE CONCRETE
Concrete mix proportions in accordance with ACI 301 to meet or exceed the requirements as listed below:

	Minimum 28 Day Compressive Strength	Maximum Air Entrainment	Maximum Size Aggregate	Maximum Water/Cement Ratio
Footings	3000 PSI	None	1-1/2"	
Walls, pilasters	3000 PSI	5%	3/4"	
Interior slab on grade	4000 PSI	None	3/4"	.50(*)
Exterior slab on grade	4500 PSI	6%	3/4"	.45
Tank walls	5000LS PSI	6%	3/4"	.40
Tank slabs	5000LS PSI	6%	1-1/2"	.40

(LS = low shrinkage)
Maximum Slump: 3" max for slabs and footings; 4" max for walls, columns and beams; 4" min, 8" max for tank walls, 4" min, 6" max in tank slabs. Slumps given are for un-plasticized concrete. Larger slumps may be allowed through the use of a super plasticizer.
Construction to be in accordance with the latest edition of ACI 318, "Part 6: Materials & Durability", "Part 8: Reinforcement" and "Part 9: Construction".
Location of construction or pour joints for walls, beams, columns, and structural slabs must be approved by the Structural Engineer if different from that shown on plans.
Shrinkage Testing: Concrete for fluid retaining structures, 5000 PSI Foundation Slab and Walls, require shrinkage testing. It is anticipated that Shrinkage Reducing Admixture will be required to comply with shrinkage test requirements.
- -The testing laboratory shall perform drying shrinkage tests for the trial batches as specified.
- -Fabricate, cure, dry, and measure specimens in accordance with ASTM C157.
- -28 day drying shrinkage shall be less than 0.035%.
- -Take compression test specimens from the same concrete used for preparing drying shrinkage specimens.

LEAK TESTING OF WATER-RETAINING CONCRETE STRUCTURES
Prior to backfilling, provide leak testing of all fluid-retaining structures in accordance with ACI 350. Leak test to comply with "other tanks" requirements of 0.05% maximum loss in 24 hours.

WATERSTOP (PVC) Unless Noted Otherwise
Waterstop to be flexible Polyvinyl Chloride (PVC) waterstop manufactured by Greenstreak (800-325-9504) as follows, or approved equal. Waterstop section shape to be 6" wide, ribbed with centerbulb, Greenstreak profile 703. Waterstop shall be installed in strict accordance with the manufacturer's published recommendations. Field-fabricated connections are to be minimized, and limited to straight butt-style splices. All other splice configurations, including Ells, Tees, and Crosses, in both vertical and flat styles, are to be fabricated by the waterstop manufacturer. Submit shop drawing showing locations and orientation of all plant fabricated joints for review by Structural Engineer prior to installation.

CONCRETE SLABS ON GRADE
The General Contractor shall control and monitor construction procedures and conditions as required to provide a high quality finished slab with minimal cracks, curling, and surface defects. Procedures and conditions under the control of the General Contractor include, but are not limited to: provisions for ambient weather conditions, curing methods selected, rate of placement, joint arrangement and installation, temperature control, subgrade preparation, and reinforcing placement (where indicated). (*) Use a maximum water/cement ratio of 0.45 for interior slabs on grade that could be subject to freeze/thaw cycling while saturated during the construction period.
Slab Joints: Joint spacing and arrangement is to be as shown on the drawings as part of slab installation procedure. The joint layout plan shall be submitted for Engineer approval prior to slab pour. In general, apply the following parameters:
- Maximum joint spacing: 24 feet unless noted otherwise, subject to factors above
- Maximum aspect ratio between joints: 1.5 to 1, avoid re-entrant corners

REINFORCING STEEL
Deformed Bars: ASTM A615, Grade 60.
Weldable Deformed Bars: ASTM A706, Grade 60.
Securely tie in place with double annealed 16 gauge iron wire or approved clips. Provide chairs, bolsters, etc. to place reinforcement in the proper positions as indicated on the drawings. Unless noted otherwise on these drawings, provide clear cover at reinforcing bars as follows:
Concrete cast against soil = 3".
Formed concrete against soil = 2".
Walls exposed to weather = 2".
Walls not exposed to weather = 1½".
Slab on grade = 2" top & sides; 3" bottom.
Tank Walls = 2".
Detailing of concrete reinforcement bars and accessories shall conform to the recommendations of ACI 315 *"Details and Detailing of Concrete Reinforcement"* and ACI SP-66 *"Detailing Manual"*. Placing of reinforcement shall conform to ACI 315R *"Manual of Engineering and Placing Drawings for Reinforced Concrete Structures"* and CRSI *"Manual of Standard Practice"*. Reinforcement bars shall not be tack welded, heated, or cut unless specifically detailed on the drawings or as approved by the Structural Engineer. The welding of reinforcing steel, metal inserts and connections in reinforced concrete shall conform to AWS D1.4 *"Structural Welding Code - Reinforcing Steel"* by AWS/WABO certified welders using E9018 or approved electrodes. Submit mill test report of material properties to determine carbon equivalent and minimum preheat temperatures. ASTM A706 reinforcement may be substituted for A615 reinforcement. Submit shop drawings of reinforcing steel for review by the Structural Engineer prior to fabrication. All wall reinforcement shop drawings shall be shown in elevation.

STRUCTURAL AND MISCELLANEOUS STEEL
C & L Shapes, plates and bars: ASTM A36, Fy = 36 KSI
Wide Flange & WT Shapes: ASTM A992, Fy = 50 KSI
Square & Rectangular HSS: ASTM A500, Grade C, Fy = 50 KSI
Bar Grating: ASTM A1011 rectangular bearing bars and ASTM A510 round cross bars, provide depth and type as indicated on drawings
Bolts: ASTM A307 machine bolts (MB).
High Strength Bolts: ASTM A325 high strength bolts (HSB),Type 1 with ASTM F436 hardened steel washers & ASTM A563 heavy hex nuts.
High strength bolts shall be installed to a *"snug tight"* condition where all plies of the joint are in firm contact.
Anchor Rods (AR): Headed or threaded rod with heavy hex nut, ASTM F1554, Fy = 36 KSI UNO with A563C (A563DH for galvanized) heavy hex nuts and F436-1 washers.
Anchor Bolts (AB): Headed A307, Grade A.
Threaded rod: ASTM A36, Fy = 36 KSI.
Threaded Anchor Stud (TAS): ASTM A29/A108, Fy = 49 KSI, end welded per manufacturer's recommendations.
Headed anchor stud (HAS): ASTM A29/A108 Type A, Fy = 49 KSI. Headed anchor studs shall be end welded per manufacturer's recommendations.
Welding electrodes or wires: AWS A5.1 or A5.5, E70XX; AWS A5.18, E70S-X; AWS A5.20, E7XT-X.
Repair of Galvanized Steel: Items that must be drilled or cut in the field shall be coated with galvanizing repair paint before installation. Field welded items shall be hot-stick galvanized after welding.
Non-shrink Grout: *"Masterflow 928"* as manufactured by BASF Building Systems or approved equal with a minimum compressive strength of 5000 PSI.
Erection and fabrication in accordance with *AISC 360 "Specification for Structural Steel Buildings", AISC 341 "Seismic Provisions for Structural Steel Buildings", and AISC 303 "Code of Standard Practice for Steel Buildings and Bridges"*. Welding shall conform to AWS D1.1 "Standard Welding Code - Steel". All welding shall be performed by AWS/WABO Certified Welders whose certification meets "AWS Standards" in an approved fabricator shop or where Special Inspection is provided. All columns and beams to be from unspliced lengths unless noted otherwise on the drawings. All members to have *"Standard"* size holes unless noted as short-slotted (SSL) or long-slotted (LSL). Enlargement of holes by burning is not permitted. Submit shop drawings showing sizes, dimensions and required connection details for review by the Structural Engineer prior to fabrication.

STEEL FINISHES
Hot-Dip Galvanized Finish: All completed fabrications, including fasteners, shall receive a galvanized finish in accordance with ASTM A123. Galvanizing vent holes shall only be placed at locations designated on these drawings or in other locations approved by the Project Engineer. After completion of galvanizing, re-assemble all fabrications to check for distortion; straighten and re-align as required. Grind and remove galvanizing at field weld locations and repair with hot stick galvanizing rod. Plug all exposed-to-view galvanizing vent holes with aluminum drive-in plugs as manufactured by Steel Supply Co, Inc.

ALUMINUM
Structural Aluminum shall be grade 6061-T6 unless noted otherwise.
Construction shall be in compliance with the "Specifications for Aluminum Structures" by the Aluminum Association. Aluminum welding shall be in accordance with AWS D1.2 "Structural Welding Code - Aluminum". Welding electrodes shall conform to AWS A5.3 or A5.10. All bolted connections shall have AISI Type 304 stainless steel bolts with washers.
All aluminum in contact with concrete or other metals shall receive an isolation coating in accordance with the specifications.

STRUCTURAL AND MISCELLANEOUS STAINLESS STEEL
Angles: Hot rolled, annealed ASTM A276 Type 304L, Fy = 30 KSI minimum
Tubing: Hot rolled, annealed ASTM A554 Type 304, Fy = 40 KSI minimum
Pipe: ASTM A312 Type 304, Fy = 30 KSI minimum
Plate: ASTM A240 Type 304L, Fy = 30 KSI minimum
Bolts: ASTM F593-13a Type 316
Nuts: ASTM F594 Type 316
Headed Anchor Stud (HAS): ASTM A276 or A493 Type A, Fy = 35 KSI as manufactured by Nelson Stud Welding. Studs shall be end welded per the manufacturer's recommendations and AWS D1.6.
Threaded Rod: ASTM A276 Type 304L, Fy = 30 KSI minimum
Welding Electrodes: AWS A5.4 E308L and AWS A5.9 ER308L
Welding Process: Welding shall conform to AWS D10.4-86 (R2000) *"Recommended Practices for welding Austenitic Chromium-Nickel Stainless Steel Piping and Tubing"*, AWS *"Welding Handbook"*, *Volume 4, 7th Edition*, and American Iron and Steel Institute *"Welding of Stainless Steel and Other Joining Methods"*.

PREFABRICATED METAL BUILDING SYSTEMS
Design Requirements:
- Dead Load ---------- Per Metal Building Supplier
- Solar Readines (collateral roof dead load) ---- 5.0 PSF
- Collateral Load ---------- 5.0 PSF
- Roof Snow Loading ---------- 30.0 PSF + Drifting
- Wind Loading
  - Basic Wind Speed (3-second gust) -------- 106 MPH (Enclosed/Partially Enclosed/Open)
  - Wind Exposure Category ---------- C
  - Wind Importance Factor, Iw ---------- 1.0
- Seismic Loading - Equivalent Lateral Force Procedure
- Risk Category ---------- III
- Seismic Importance Factor, Ie ---------- 1.25
- Mapped Spectral Response Accelerations ---- S_S = 0.444, S_1 = 0.173
- Spectral Response Coefficients ---------- S_{DS} = 0.266, S_{D1} = 0.092
- Seismic Design Category ---------- B

Response Modification Factor:
- Transverse Direction: Ordinary Steel Moment Frame, R = 3.5
- Longitudinal Direction: Ordinary Steel Concentrically Braced Frame R = 3.25

Design shall be governed solely by the adopted edition of the IBC.
All design shall be completed by a professional engineer registered in the state having jurisdiction.
Building Configuration: Provide structural members as required by design and consistent with locations and types shown on these drawings. Modifications of building configuration are not permitted except as approved by the Civil and Structural Engineer.

PREFABRICATED METAL BUILDING SYSTEMS (CONTINUED)
Columns: Provide sizes and depths as designated on the drawings. Columns shall be fabricated from hot-rolled AISC sections or welded hot-rolled plates; columns fabricated from cold-rolled sections are not allowed.
Minimum column flange thickness shall be 5⁄16"; minimum column web thickness shall be 3⁄16".
Foundation design assumes that all column base connections are pinned, unless noted otherwise.
Beams: Provide sizes, depths and configurations as designated on the drawings. Beams shall be fabricated from hot-rolled sections or welded hot-rolled plates; beams fabricated from cold-rolled sections are not allowed.
Minimum beam flange thickness shall be 5⁄16"; minimum beam web thickness shall be 3⁄16".
Lateral Bracing: Wall and roof bracing shall be fabricated from smooth steel rods with threaded ends; cable bracing is not allowed.
Deflection Limits
- Metal Roofing ---------- L/150 Total Load & L/180 Snow Load
- Purlins W/O ceiling ---------- L/120 Total Load & L/180 Snow Load
- Girts W/ flexible finish ---------- L/120 Wind Load
- Roof Rafter Beams & Rigid Frames ------ L/180 Total Load & L/240 Snow Load
- Wind & Seismic Drift - Frames ---------- H/100
- Wind & Seismic Drift-Longitudinal -------- H/100

Manufacturer Qualifications: IAS (International Accreditation Service) Certificate of Accreditation.
Roof curbs for mechanical equipment is to be supplied and installed by the Metal Building Contractor per dimensions supplied by the Mechanical Contractor.
Submittals: Submit design calculations and framing/erection plans for Design Team review prior to fabrication. As a minimum, the submittal shall include foundation reactions, anchor rod placement and sizes, column bearing area requirements, member sizes and spacing, and all connection details.

POST-INSTALLED ANCHORS
All post-installed anchors shall have current ICC ESR Reports indicating code-approved installation requirements. Contractor shall comply with all requirements of the ESR report; including but not limited to base material and adhesive allowable installation temperature ranges, base material strength, and waiting/curing period of anchor and base material prior to loading. Use scanning equipment or other means to locate and avoid cutting or damaging reinforcing bars; written approval from the Structural Engineer is required prior to cutting or damaging reinforcing bars. Substitution of post-installed anchors for anchor bolts, anchor rods, or rebar dowels is not allowed without written approval of the Structural Engineer. Special Inspection is required for all post-installed anchors. Special Inspection for Contractor-requested substitutions (if approved) shall be provided at no additional cost to the Owner. Adhesive anchors and dowels oriented horizontally, vertically, or upward inclined in concrete and supporting sustained tension loads shall be installed by an ACI/CRSI Certified Installer, or equivalent. Special Inspection is required for all post-installed anchors: see sheet GS-2.
Adhesive Anchors (AA) in Concrete: ASTM A307, Grade C threaded rod with Simpson SET-3G or AT-XP adhesive, Hilti "HAS-E" threaded rod or Grade C threaded rod with HIT-HY 200 or HIT-RE 500-V3 adhesive, or approved equal. Concrete to have aged a minimum of 21 days and attained specified 28-day compressive strength prior to installation.
Stainless Steel (AA) in Concrete: ASTM A193, Grade B8 threaded rod with Simpson SET-3G or AT-XP adhesives, ASTM F593, Class CW threaded rod with HIT-HY 200 or HIT-RE 500-V3 adhesives, ASTM A193, or approved equal. Concrete to have aged a minimum of 21 days and attained specified 28-day compressive strength prior to installation.
Adhesive Dowels (AD) in Concrete: ASTM A615 deformed bar with Simpson SET-3G or AT-XP adhesive, Hilti HIT-HY-200 or HIT-RE 500-V3 adhesive, or approved equal. Concrete to have aged a minimum of 21 days and attained specified 28-day compressive strength prior to installation.
Adhesive Anchors (AA) in Solid-Grouted Concrete Masonry: ASTM F1554, Grade 36 threaded rod with Simpson SET-3G or AT-XP adhesive, Hilti "HIS" threaded rod or Grade C threaded rod with HIT-HY 270 adhesive or approved equal.
Expansion Bolts (EB) in Concrete: Simpson Strong Bolt 2, Hilti Kwik Bolt TZ, or approved equal. Concrete to have attained specified 28-day compressive strength prior to installation.
Screw-In Anchors (SA) in Concrete: Simpson Titen HD or Hilti KWIK HUS-EZ or approved equal. Concrete to have attained specified 28-day compressive strength prior to installation.
Powder Actuated Fasteners (PAF)into Concrete: Hilti X-U(.157" dia) fasteners with a minimum embedment of ¾" (1" length) into concrete of a minimum 3" thickness. Concrete to have attained specified 28-day compressive strength prior to installation.
Powder Actuated Fasteners (PAF)into Steel: Hilti X-U 15 (.145" dia) fasteners into steel of a minimum 3/16" thickness.

SPECIAL STRUCTURAL INSPECTIONS
A qualified special inspector(s) shall be engaged by the Owner or Owner's representative to conduct continuous and periodic inspections as tabulated below. Construction activity shall be coordinated with required inspections and testing requirements by the Contractor. Construction deficiencies identified by the special inspection process shall be remedied by the Contractor at no cost to the Owner. See sheet GS-2 for Quality Assurance & Special Inspection requirements.

LEGEND

T.O.S.	TOP OF SLAB ELEVATION
T.O.C.	TOP OF CONC ELEVATION
T.O.F.	TOP OF FOOTING ELEVATION
T.O.B.	TOP OF BEAM ELEVATION
T.O.GR	TOP OF GRATING ELEVATION
S- -S	STEPPED FOOTING, SEE 2.4/GS-3
	STEPPED SLAB
S J	SLAB CONTROL JOINT
UNO	UNLESS NOTED OTHERWISE
	PIPE PENETRATION, SEE 1.3/GS-3 & 2.4/GS-3

3.1 GENERAL STRUCTURAL NOTES

3.5 LEGEND

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PRINTED: 03-06-2026

REVISION	DATE

JOB NUMBER: 23030 DATE: 3/13/26
FILE NAMES:
DRAWING:
PLAN:
DESIGNED BY: JDS
ENTERED BY: JDS

CITY OF GRANDVIEW
WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1
GENERAL STRUCTURAL NOTES & LEGEND

GS-1
SHEET 80 OF 192

SPECIAL INSPECTION, TESTING AND STRUCTURAL OBSERVATION

GENERAL
The Owner or the Owner's agent shall employ an approved agency to perform inspections and testing during construction in accordance with IBC sections 1704, 1705 and 1707 and the Statement of Special Inspections below. These inspections are in addition to the inspections required per IBC section 110.

Special Inspectors shall be qualified persons with experience in the types of construction being inspected. Special Inspectors shall provide written documentation of *WABO* or equivalent certification acceptable to the Agency Having Jurisdiction.

Off-site work and fabrications do not require special inspection if the fabricator is registered and approved to perform such work by the Agency Having Jurisdiction. Approval is based on the fabricator's written procedures and quality control programs.

CONTRACTOR RESPONSIBILITIES
The Contractor shall provide reasonable access to all work requiring special inspection and notify the Inspection Company in sufficient time to schedule such inspections. A copy of all Special Inspection reports shall be maintained at the job site and made available upon request to the Authority Having Jurisdiction and the project Engineer of Record.

STATEMENT OF SPECIAL INSPECTION
Special inspection to be provided per IBC 1705 for materials, systems, components and work performed are as follows:

Freq = Frequency
Req = Required
C = Continuous Special Inspection
P = Periodic Special Inspection

SOILS AND FOUNDATION
Provide Special Inspection for the following to determine compliance with the Geotechnical Report and the Construction Documents:

SOILS AND FOUNDATION				
	System or Material	Code Reference	Freq	Req
1.	Verify Footing Bearing Capacity	IBC 1705.6	P	X
2.	Verify Excavations are to proper depth and have reached proper material	IBC 1705.6	P	X
3.	Classification and Testing of Compacted Fill Materials	IBC 1705.6	P	X
4.	Prior to the placement of Compacted Fill, observe subgrade and verify the site has been prepared properly	IBC 1705.6	P	X
5.	Verify use of proper materials, densities and lift thicknesses during placement and compaction of fill	IBC 1705.6	C	X

CONCRETE				
	System or Material	Code Reference	Freq	Req
1.	Inspect reinforcing steel including prestressing tendons and verify placement	ACI 318 Chap 20, 25.2, 25.3, 26.6.1-26.6.3, IBC 1908.1	P	X
2.	Cast-in-Place anchors in concrete	ACI 318 26.13.3.3	P	X
3.	Verify use of required mix designs	ACI 318 19, 26.4.3 & 26.4.4 IBC 1904.1, 1904.2 & 1908.1	P	X
4.	Sampling of fresh concrete for strength tests, slump and air content tests and to determine temperature of the concrete	ACI 318 26.5 & 26.12 ASTM C172, C31 & C39 IBC 1908.1	C	X
5.	Inspect concrete placement for proper application techniques	ACI 318 26.5 & 26.13.3.2(a) IBC 1908.1	C	X
6.	Verify maintenance of specified curing temperature and techniques	ACI 318 26.5.3 -26.5.5 IBC 1908.1	P	X
7.	Inspect erection of precast concrete members	ACI 318 26.9 & 26.13.3.3	P	X
8.	Verification of in-situ concrete strength prior to removal of forms and shores from elevated beams and slabs	ACI 318 26.11.2	P	X
9.	Inspect formwork for shape, location and dimensions of the member being formed	ACI 318 26.11.1.2(b)	P	X
10.	**Welding Reinforcing Steel**			
a.	Verification of Weldability if other than ASTM A706	ACI 318 26.6.4, AWS D1.4	P	X
b.	Inspect single pass fillet welds, maximum 5/16"	ACI 318 26.6.4, AWS D1.4	P	X
c.	Inspect all other welds	ACI 318 26.6.4, AWS D1.4	C	X
11.	**Post-Installed Anchors in Hardened Concrete**			
a.	Adhesive anchors installed horizontally or upwardly inclined and resisting sustained tension loads	ACI 318 26.13.3.2, ICC Report	C	X
b.	Mechanical anchors and all other adhesive anchors	ACI 318 26.13.1.5, 26.13.1.6, 26.13.2.5 & ICC Report	P	X

STRUCTURAL STEEL				
	System or Material	Code Reference	Freq	Req
1.	Proprietary Moment Resisting Frame Connections	IBC 1705.1.1 & 2204	P	X
2.	Material Verification of Reinforcing Steel for Welding	ACI 318 26.6.1.2 & AWS D1.4	P	X
3.	**Fabrication**			
a.	Fabrication shop compliance with IBC 1704.2.5 including completeness and adequacy of quality control procedures unless the fabricator meets the approval requirements of IBC1704.2.5.1	AISC 360 Chapter M	P	X
b.	Fabrication of Structural Elements	IBC 1704.2.5, AISC 360 Chapter M	P	X
c.	Material Verification of Structural Steel	IBC 1705.2.1, AISC 360 A3.1a	P	X
d.	Material Verification of Cold Formed Steel Deck	IBC 1705.2.2, SDI QA/QC 2017	P	X
e.	Material Verification of High Strength Bolts, Nuts and Washers	AISC 360 A3.3	P	X
f.	Material Verification of Anchor Rods and Threaded Rods	AISC 360 A3.4	P	X
4.	**Welding**			
a.	Welding Procedure Specification and Consumables	AISC 360 A3.5 & N.5.4	P	X
b.	Welder Qualifications	AISC 360 N.5.4	P	X
c.	Single Pass Fillet Welds 5/16" and smaller	AISC 360 N.5.4, AWS D1.1 Section 6	P	X
d.	Groove welds including joint preparation, dimensions, backing, etc.	AISC 360 N5.4	P	X
e.	Multipass Fillet Welds and Single Pass Fillet Welds greater than 5/16", Plug and Slot Welds	AISC 360 N.5.4, AWS D1.1 Section 6	C	X
f.	Complete and Partial Penetration Groove Welds	AISC 360 N.5.4, AWS D1.1 Section 6	C	X
g.	Welding of Stair and Railing Systems	AWS D1.1 Section 6	P	X
5.	**High-Strength Bolting**			
a.	Pretensioned High Strength Bolts using direct tension indicator washers or twist-off heads	AISC 360 M2.5 & N5.6	P	X
b.	Pretensioned High Strength Bolts using calibrated wrench method or turn-of-nut method without match marking	AISC 360 Table N5.6-2	C	X

TESTING FOR SEISMIC RESISTANCE			
	System or Material	Code Reference	Req
1.	Structural steel in the seismic force resisting system of buildings and structures assigned to SDC B, C, D, E or F (not required if R=3 system)	IBC 1705.14.1.1	X
2.	Structural steel elements including struts, collectors and chords in the seismic force resisting system of buildings and structures assigned to SDC B, C, D, E or F (not required if R=3 system)	IBC 1705.14.1.2	X
3.	**Structural Steel**		
a.	Provide MT testing of the column k-area of the web where welding of doubler plates, continuity plates or stiffeners has been performed.	IBC 1705.14.1 AISC 341 Table J6.3	X
b.	Provide UT testing on 100% CJP groove welds in materials 5/16" and greater *(For Ordinary Moment Frames, only the demand critical welds need to be tested)*	IBC 1705.14.1 AISC 341 J6.2a	X
c.	Provide MT testing on 25% of all beam-to-column CJP groove welds in materials 5/16" and greater *(For Ordinary Moment Frames, only the demand critical welds need to be tested)*	IBC 1705.14.1 AISC 341 J6.2a	X
d.	Provide UT testing of base metal thicker than 1 ½" loaded in tension in tee and corner joint where the connected material is thicker than ¾"	IBC 1705.14.1 AISC 341 J6.2c	X
e.	Provide MT testing of thermally cut surfaces of beam copes and access holes in welded splices and connection when the flange thickness exceeds 1 ½" for rolled shapes or when the web thickness exceeds 1 ½" for built-up shapes	IBC 1705.14.1 AISC 341 J6.2d	X
f.	Provide MT testing of any weld and adjacent area of the reduced beam section (RBS) cut surface that has been repaired by welding or on the base metal of the RBS cut surface if a sharp notch has been removed by grinding	IBC 1705.14.1 AISC 341 J6.2e	X
g.	Provide MT testing at the end of welds where weld tabs have been removed	IBC 1705.14.1 AISC 341 J6.2f	X
4.	**High Strength Bolting**		
a.	Document all accepted and rejected connections of the seismic resisting system	IBC 1705.14.1 AISC 341 J7	X

SPECIAL INSPECTIONS FOR SEISMIC RESISTANCE				
	System or Material	Code Reference	Freq	Req
1.	**Structural Steel**			
a.	Structural steel of the Seismic Force Resisting Systems in structures assigned to SDC B, C, D, E or F (excluding steel structures in SDC B or C designed with R=3)	IBC 1705.13.1.1 AISC 341-16 Tables J6.1, J6.2 and J6.3	P	X
b.	Structural steel elements of the Seismic Force Resisting Systems including struts, collectors, chords in structures assigned to SDC B, C, D, E or F (excluding steel structures in SDC B or C designed with R=3)	IBC 1705.13.1.2 AISC 341-16 Tables J6.1, J6.2 and J6.3	P	X
c.	High Strength Bolt Installation of the Steel Seismic Force Resisting Systems in structures assigned to SDC C, D, E or F (excluding steel structures in SDC C designed with R=3)	AISC 341-16 Tables J7.1, J7.2 and J7.3	P	X
f.	Anchorage of storage racks 8' in height and greater in structures assigned to SDC D, E or F	IBC 1705.13.7 ASCE 7 Section 15.5.3	P	X
2.	**Architectural Components**			
a.	Erection and anchorage of exterior cladding, interior and exterior veneer weighing more than 5 psf in structures assigned to SDC D, E & F	IBC 1705.13.5	P	X
b.	Erection and anchorage of interior nonbearing walls weighing more than 15 psf in structures assigned to SDC D, E & F	IBC 1705.13.5	P	X
c.	Erection and anchorage of exterior cladding, interior and exterior nonbearing walls, and interior and exterior veneer exceeding 30' in height above grade in structures assigned to SDC D, E & F	IBC 1705.13.5	P	X
d.	Installation and anchorage of suspended ceiling systems	ASCE7 Section 13.5.6	P	X
e.	Installation, mounting and other seismic restraints for designated architectural systems and their components	ASCE7 Section 13.5.1	P	X
3.	**Electrical Components**			
a.	Anchorage of electrical equipment for emergency and standby power systems in structures assigned to SDC C, D, E & F	IBC 1705.13.6	P	X
b.	Anchorage of all electrical equipment in structures assigned to SDC E & F	IBC 1705.13.6	P	X
4.	**Mechanical Components**			
a.	Installation and anchorage of piping systems designed to carry hazardous materials and their associated mechanical units in structures assigned to SDC C, D, E & F	IBC 1705.13.6	P	X
b.	Installation and anchorage of ductwork designed to carry hazardous materials in structures assigned to SDC C, D, E & F	IBC 1705.13.6	P	X
c.	Installation and anchorage of vibration isolating systems in structures assigned to SDC C, D, E & F where the Construction Documents require a nominal clearance of ¼" or less between the equipment support frame and the restraint	IBC 1705.13.6	P	X
d.	Minimum installation clearance of components, including duct work, piping systems and their structural supports where automatic fire sprinkler systems without flexible hose fittings are installed in structures assigned to SDC C, D, E & F	IBC 1705.13.6.6	P	X

STRUCTURAL OBSERVATIONS
Visual observation of the structural system by the structural EOR for general conformance to the approved construction documents.

STRUCTURAL OBSERVATION FOR SEISMIC RESISTANCE				
	System or Material	Code Reference	Freq	Req
1.	Visual observation of the structural gravity and lateral load resisting systems	IBC 1704.6	P	X

ABBREVIATIONS

AA	ADHESIVE ANCHOR	L OR ∠	ANGLE
AB	ANCHOR BOLT	LBS	POUNDS
AD	ADHESIVE DOWEL	LL	LIVE LOAD
ADDL	ADDITIONAL	LLBB	LONG LEGS BACK TO BACK
AFF	ABOVE FINISH FLOOR	LLH	LONG LEG HORIZONTAL
ALT	ALTERNATE	LLV	LONG LEG VERTICAL
&	AND	LNTL	LINTEL
APPROX	APPROXIMATE	LONG	LONGITUDINAL
ARCH	ARCHITECT	LSL	LAMINATED STRAND LUMBER
ARCHL	ARCHITECTURAL	LVL	LAMINATED VENEER LUMBER
@	AT		
		MAS	MASONRY
BB	BEARING BAR	MAX	MAXIMUM
B.O.	BOTTOM OF	MB	MACHINE BOLT
BOT	BOTTOM	MBS	METAL BUILDING SUPPLIER
BLDG	BUILDING	MECH	MECHANICAL
BLKG	BLOCKING	MEZZ	MEZZANINE
BM	BEAM	MFR	MANUFACTURER
BO	BOTTOM OF	MIN	MINIMUM
BRG	BEARING	MISC	MISCELLANEOUS
BSMT	BASEMENT	ML	MICROLLAM
BTWN	BETWEEN	MO	MASONRY OPENING
		MTL	METAL
C	CHANNEL		
CB	CARRIAGE BOLT	# OR NO.	NUMBER
CDF	CONTROLLED DENSITY FILL	NIC	NOT IN CONTRACT
CL OR ℄	CENTERLINE	NOM	NOMINAL
CLG	CEILING	NS	NEAR SIDE
C-C	CENTER TO CENTER	NTS	NOT TO SCALE
CF	CUBIC FEET		
CIP	CAST-IN-PLACE	OC	ON CENTER
CJ	CONTROL JOINT	OD	OUTSIDE DIAMETER
CLR	CLEAR	OF.	OUTSIDE FACE
CMU	CONCRETE MASONRY UNIT	OH	OVERHEAD
CNTRD	CENTERED	O-O	OUT TO OUT
COL	COLUMN	OPNG	OPENING
CONC	CONCRETE	OPP	OPPOSITE
CONN	CONNECTION		
CONSTR	CONSTRUCTION	PAF	POWDER ACTUATED FASTENER
CONT	CONTINUOUS	PC	PRECAST
CONTR	CONTRACTOR	PL OR ▱	PLATE
CTSK	COUNTERSINK	PLF	POUNDS PER LINEAL FT
CTR	CENTER	PCF	POUNDS PER CUBIC FT
CY	CUBIC YARD	PLYWD	PLYWOOD
		PLCS	PLACES
DBA	DEFORMED BAR ANCHOR	PSF	POUNDS PER SQ FT
DBL	DOUBLE	PSI	POUNDS PER SQ IN
DEG	DEGREE	PSL	PARALLAM
DIAG	DIAGONAL	PT	PRESSURE TREATED
DIA	DIAMETER		
DIM	DIMENSION	RAD	RADIUS
DL	DEAD LOAD	(R)	RADIUSED
DN	DOWN	R	RISER
DP	DEEP	REINF	REINFORCEMENT
DTL	DETAIL	REF	REFERENCE
DWG	DRAWING	REQD	REQUIRED
DWL	DOWEL	REQMTS	REQUIREMENTS
		REV	REVISION
(E)	EXISTING	RO	ROUGH OPENING
EA	EACH	RM	ROOM
EB	EXPANSION BOLT		
EF	EACH FACE	SA	SCREW-IN ANCHOR
EJ	EXPANSION JOINT	SCHED	SCHEDULE
ELEV	ELEVATION	SF	SQUARE FEET
EMBED	EMBEDMENT	SHT	SHEET
EN	EDGE NAIL	SHTG	SHEATHING
ENGR	ENGINEER	SIM	SIMILAR
EQ	EQUAL	SPCS	SPACES
EW	EACH WAY	SPECS	SPECIFICATIONS
EXP	EXPANSION	SQ	SQUARE
EXIST	EXISTING	SSL	SHORT SLOTTED
EXTR	EXTERIOR	SJ	SLAB JOINT
		SS	STAINLESS STEEL
FD	FLOOR DRAIN	STD	STANDARD
FDN	FOUNDATION FIN FINISH	STIFF	STIFFENER
FLR	FLOOR FIN FIELD NAIL	STGRD	STAGGERED
FO	FACE OF	STL	STEEL
FOC	FACE OF CONCRETE	STRUC	STRUCTURAL
FRG	FRAMING	SYM	SYMMETRICAL
FS	FAR SIDE		
FT	FEET	TAS	THREADED ANCHOR STUD
FTG	FOOTING	TD	TRENCH DRAIN
GA	GAGE	T & B	TOP & BOTTOM
GALV	GALVANIZE	THK	THICK
GR	GRADE	THRD	THREADED
		TN	TOE NAIL
H	HORIZONTAL	T.O.	TOP OF
HAS	HEADED ANCHOR STUD	TRANS	TRANSVERSE
HDR	HEADER	TS	TUBE STEEL
HORIZ	HORIZONTAL	TYP	TYPICAL
HSB	HIGH STRENGTH BOLT		
HSS	HOLLOW STRUCTURAL SECTION	UA	UNDERCUT ANCHOR
		UNO	UNLESS NOTED OTHERWISE
HT	HEIGHT		
HWH	HEX WASHER HEAD	V	VERTICAL
		(V)	VERIFY
ID	INSIDE DIAMETER	VERT	VERTICAL
I.F.	INSIDE FACE		
IN	INCH(ES)		
INTR	INTERIOR	W/	WITH
		W/O	WITHOUT
JST	JOIST	WD	WOOD
JT	JOINT	WF	WIDE FLANGE
JB	JOIST BEARING	WP	WORK POINT
		WS	WATERSTOP
		WT	STRUCTURAL TEE SECTION
K	KIP	WT	WEIGHT
KSF	KIPS PER SQUARE FOOT	WWF	WELDED WIRE FABRIC
		x	TIMES OR BY

3.1 QUALITY ASSURANCE AND SPECIAL INSPECTION

3.4 ABBREVIATIONS

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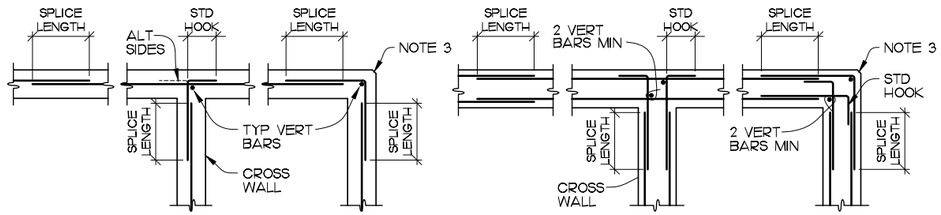
JOB NUMBER: 23030 | DATE: 3/13/26
FILE NAMES:
DRAWING:
PLAN:
DESIGNED BY: JDS
ENTERED BY: JDS

CITY OF GRANDVIEW
WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1

QUALITY ASSURANCE & SPECIAL INSPECTION, & ABBREVIATIONS

GS-2

SHEET 81 OF 192



PLAN - SINGLE CURTAIN

PLAN - DOUBLE CURTAIN

NOTES:
1. CORNER BARS SHALL MATCH SIZE & SPACING OF HORIZONTAL REINFORCEMENT, UNO. CORNER BARS AT INTERSECTING WALLS SHALL MATCH HORIZONTAL REINFORCEMENT OF CROSS WALL.
2. SPLICE LENGTH SHALL BE PER TYPICAL LAP-SPLICE SCHEDULE FOR TENSION REINFORCEMENT.
3. PROVIDE ¾" CHAMFER AT OUTSIDE WALL CORNERS NOT IN CONTACT WITH SOIL.

1.1 TYPICAL CONCRETE WALL REINFORCING @ INTERSECTION, CORNER, & BAR SPLICE

NTS

NOTES (FOR THIS DETAIL)

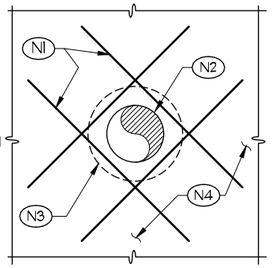
(N1) #5x4'-0" BARS @ 45°, (4) BARS EACH FACE. SEE GENERAL STRUCTURAL NOTES FOR REQUIRED COVER OF STEEL FROM FACE OF CONCRETE WALL

(N2) PIPE PENETRATING CONCRETE WALL OR FLOOR

(N3) PIPE SEEP RING OR SLEEVE. SEE DETAIL ELSEWHERE

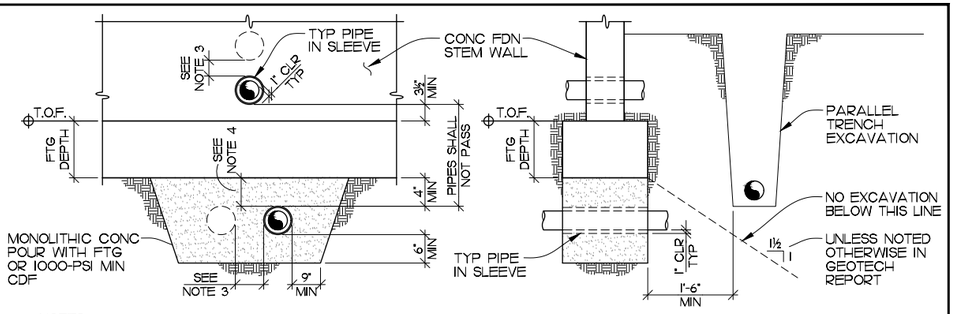
(N4) CONCRETE WALL OR FLOOR

NOTE:
SEEP RINGS NOT REQ'D AT PIPES PENETRATING CONCRETE SLAB ON GRADE, WRAP PIPES W/ EXPANSION JOINT MATERIAL PRIOR TO POURING CONCRETE & CAULK JOINTS AFTER CURING.



1.3 TYPICAL REINFORCEMENT AT PIPE PENETRATION

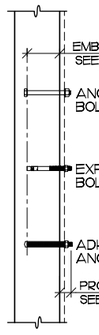
NTS



NOTES:
1. NO PIPES, CONDUIT, ETC. SHALL PASS THROUGH OR UNDER COLUMN PAD FOOTINGS.
2. FOR PIPES, CONDUIT, ETC. PASSING WITHIN THE FOOTING THICKNESS, STEP FOOTING DOWN AS REQ'D TO PASS THRU STEM WALL.
3. VERT & HORIZ SPACING BETWEEN ADJACENT PIPES SHALL BE 1½xLARGEST SLEEVE DIAMETER, BUT NOT LESS THAN 6".
4. FOR PIPES MORE THAN 3'-0" BELOW FOOTING, COMPACT BACKFILL OVER PIPE TO MINIMUM 90% AND OMIT THICKENED CONC SECTION.

1.4 TYPICAL PIPE AND/OR CONDUIT CLEARANCES AT ALL FOUNDATIONS (INTERIOR & EXTERIOR)

NTS



MINIMUM BOLT EMBEDMENT SCHEDULE			
BOLT SIZE	MIN AB EMBED	MIN EB EMBED	MIN AA EMBED
⅜"Φ	3"	2½"	3½"
½"Φ	4"	3"	4½"
⅝"Φ	4½"	4"	5"
¾"Φ	5"	5"	6⅝"
⅞"Φ	6"	6"	6⅝"
1"Φ	7"	6"	8¼"

NOTES:
1. PROVIDE MIN 12xDIA SPACING BETWEEN BOLTS AND MIN 6xDIA EDGE DISTANCE, UNO
2. AA'S REQUIRE SPECIAL INSPECTION
3. EMBEDMENTS SHOWN ARE A MINIMUM VALUE. SPECIFIC DETAILS MAY REQUIRE GREATER EMBEDMENTS.
4. CONTRACTOR SHALL DETERMINE REQ'D THREAD PROJECTION SUITABLE FOR THE THICKNESS OF MATERIAL BEING FASTENED.

2.1 TYPICAL MIN BOLT EMBEDMENT @ CONCRETE WALL

NTS

NOTES (FOR THIS DETAIL)

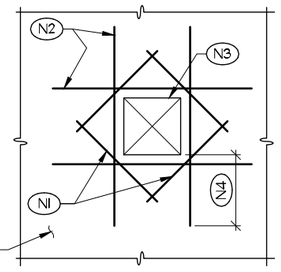
(N1) #5x4'-0" BARS @ 45°, (4) BARS EACH FACE. SEE GENERAL STRUCTURAL NOTES FOR REQUIRED COVER OF STEEL FROM FACE OF CONCRETE WALL

(N2) OPENING TRIM BARS, ALL SIDES OF OPENING, AND IN EACH FACE. BARS TO BE SAME SIZE AS WALL BARS, #5 MINIMUM.

(N3) OPENING IN CONCRETE WALL OR FLOOR

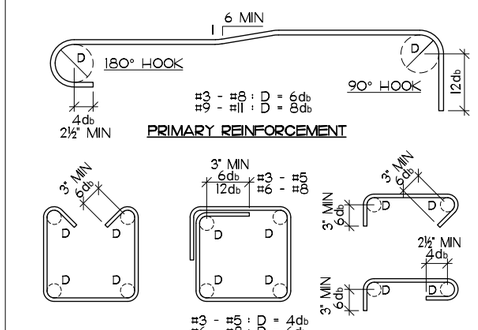
(N4) TYP LAP DIST, 3'-0" MIN

(N5) CONCRETE WALL



2.2 TYPICAL REINFORCEMENT AROUND OPENING IN CONCRETE WALL

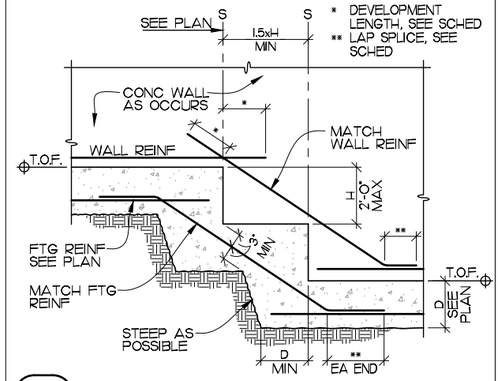
NTS



d_b = BAR DIAMETER
D = INSIDE BEND DIAMETER (INCLUDING SPRINGBACK)

2.3 TYPICAL REBAR BENDING DETAILS

NTS

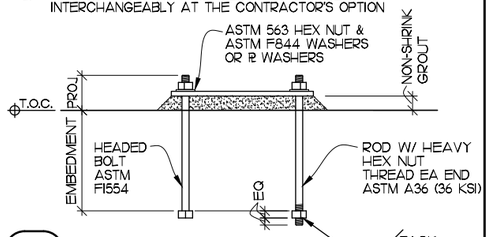


2.4 TYPICAL STEPPED FOOTING

NTS

ANCHOR ROD SCHEDULE			
ROD/BOLT SIZE	BASE PLATE HOLE SIZE	MIN EMBEDMENT UNO	WASHER
⅝"Φ	15/16"Φ	6"	ASTM F844
¾"Φ	1 1/16"Φ	8"	PL¼ x 2"
1"Φ	1⅛"Φ	9"	PL⅜ x 3"

NOTES:
1. ASTM A307 HEADED BOLTS SHOULD NOT BE USED WHERE ANCHOR RODS ARE SPECIFIED ON THE DRAWINGS
2. HEADED BOLTS OR THREADED RODS CAN BE USED INTERCHANGEABLY AT THE CONTRACTOR'S OPTION

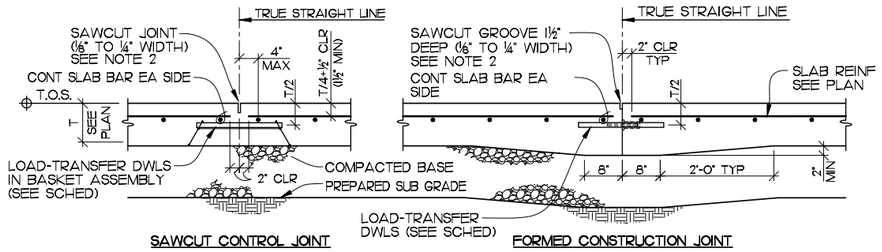


2.5 TYPICAL ANCHOR ROD

NTS

3.1

NTS



SAW TYPE	SAWCUT DEPTH
CONVENTIONAL WET-CUT	T/4
EARLY-ENTRY DRY-CUT	1" MIN @ T ≤ 8"
	1½" MIN @ T > 8"

NOTES:
1. SEE PLANS & GENERAL STRUCTURAL NOTES FOR SLAB JOINT LAYOUT REQUIREMENTS.
2. INSTALL JOINT FILLER AFTER SLAB HAS HAD TIME TO CURE & SHRINK. UNLESS NOTED OTHERWISE, FILL WITH SELF-LEVELING SEMI-RIGID EPOXY (SHORE A HARDNESS = 80). COORDINATE SAWCUT WIDTH WITH RECOMMENDATIONS FROM JOINT FILLER MFR.

3.3 TYPICAL INDUSTRIAL CONCRETE SLAB ON GRADE

NTS

SLAB DEPTH (T)	ROUND BAR		DIAMOND PLATE	
	SIZE	SPACING	SIZE	SPACING
4"< T ≤ 6"	¾"ΦxlO"	12" OC	¼x4½x4½	18" OC
6"< T ≤ 8"	1"ΦxlS"	12" OC	⅜x4½x4½	18" OC

EITHER ROUND-BAR OR DIAMOND-PLATE DOWELS MAY BE USED AT CONTRACTOR'S OPTION.

ROUND BAR NOTES:
1. PROVIDE SMOOTH STEEL DOWELS W/ SAWN & DEBURRED END EDGES. GREASE OR WRAP ONE END TO PREVENT BOND.
2. DOWELS SHALL BE SUPPORTED SO AS TO REMAIN LEVEL AND PERPENDICULAR TO JOINT LINE.
3. DOWELS SHALL BE PLACED NO CLOSER THAN 12" FROM JOINT INTERSECTIONS.

DIAMOND PLATE NOTES:
1. DIAMOND-DOWEL SYSTEM SHALL BE PROVIDED BY PNA CONSTRUCTION TECHNOLOGIES, OR APPROVED EQUIVALENT.
2. INSTALL DOWELS AS RECOMMENDED BY MANUFACTURER.

3.5 TYPICAL SCHEDULE FOR LOAD-TRANSFER DOWELS AT SLAB-ON-GRADE CONSTRUCTION JOINTS

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PRINTED: 03-06-2026

REVISION	DATE

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FILE NAMES:
DRAWING:
PLAN:
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CITY OF GRANDVIEW
WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1

TYPICAL STRUCTURAL DETAILS

GS-3

SHEET 82 OF 192

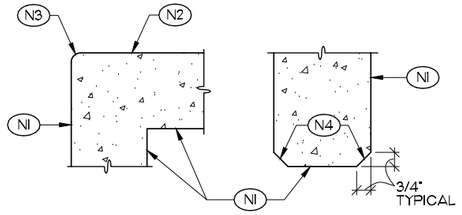
NOTES (FOR THIS DETAIL)

(N1) FORMED CONCRETE SURFACE

(N2) NON-FORMED (FINISHED) SURFACE WHERE OCCURS

(N3) HAND FINISH WITH ½" RADIUS TOOL

(N4) 3/4" CHAMFER



1.1 TYPICAL CONCRETE CORNER TREATMENT

NTS

NOTES (FOR THIS DETAIL)

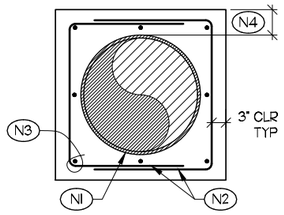
(N1) PIPE, SEE PLANS

(N2) #4 BARS @ 18" OC, 1'-6" MINIMUM LAP

(N3) #5 BARS @ 18" OC LONGITUDINAL, (2'-0" MIN LAP) TYP ALL SIDES (4-#5 BARS MINIMUM)

(N4) 6" MINIMUM, TYP ALL SIDES

SEE SPECIFICATIONS FOR TYPE OF CONCRETE



1.2 TYPICAL PIPE ENCASEMENT DETAIL

NTS

NOTES (FOR THIS DETAIL)

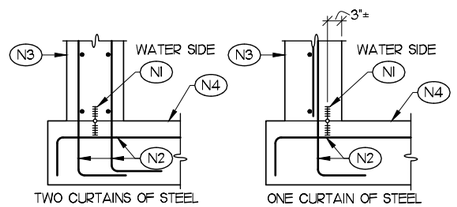
(N1) CONT PVC WATERSTOP

(N2) REINFORCING STEEL AS CALLED OUT ELSEWHERE

(N3) CONCRETE WALL

(N4) CONCRETE SLAB/FOOTING

NOTE:
THIS DETAIL IS TO BE APPLIED TO ALL STRUCTURES REQUIRED TO HOLD WATER IN OR OUT



1.3 TYP WALL / FOUNDATION SLAB JOINT IN WATER RETAINING STRUCTURES

NTS

NOTES (FOR THIS DETAIL)

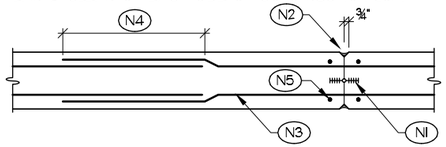
(N1) WATERSTOP, SEE SPECIFICATIONS

(N2) 3/4" DEEP REVEAL EACH FACE, SEALED WITH CAULK

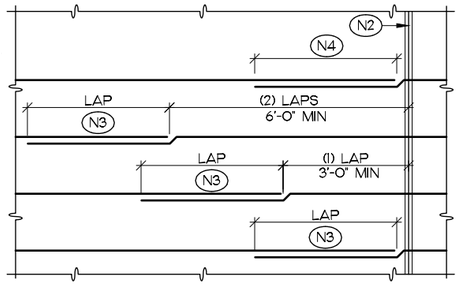
(N3) HORIZONTAL REINFORCEMENT IS TO RUN CONTINUOUSLY THROUGH JOINT. BARS ARE TO EXTEND BEYOND THE JOINT FOR A STAGGERED DISTANCE OF ONE LAP, TWO LAPS, AND 3 LAPS. REPEAT EXTENSION DISTANCES EVERY THREE BARS.

(N4) LAP REINFORCEMENT AS SHOWN ON MINIMUM BAR LAPS DETAIL (2'-0" MINIMUM)

(N5) TYPICAL DOWEL FROM FOOTING AND FULL-HEIGHT VERTICAL BAR 2" CLEAR OF EACH SIDE OF CONSTRUCTION JOINT



PLAN VIEW



ELEVATION VIEW

1.4 TYPICAL TANK WALL CONSTRUCTION JOINT

NTS

2.1 NOT USED

2.2 NOT USED

2.3 NOT USED

2.4 NOT USED

MINIMUM DEVELOPMENT LENGTH FOR WALLS & SLABS						
CONCRETE STRENGTH	BAR SIZE (GR 60)					
	#4	#5	#6	#7	#8	#9
3000 PSI	18"	18"	20"	29"	33"	41"
4000 PSI	18"	18"	18"	25"	29"	36"
5000 PSI	18"	18"	18"	24"	26"	32"

MINIMUM OF 2" CONCRETE COVER & MINIMUM BAR SPACING = 5" OC (MIN 6" OC FOR #9 BARS)

TOP BARS - MULTIPLY LAP SPLICE LENGTH BY 1.3
BARS W/ >12" FRESH CONCRETE CAST BELOW ARE TOP BARS

MINIMUM LAP SPLICE LENGTH FOR WALLS & SLABS						
CONCRETE STRENGTH	BAR SIZE (GR 60)					
	#4	#5	#6	#7	#8	#9
3000 PSI	18"	22"	26"	38"	43"	53"
4000 PSI	18"	19"	23"	33"	37"	46"
5000 PSI	18"	18"	20"	30"	34"	41"

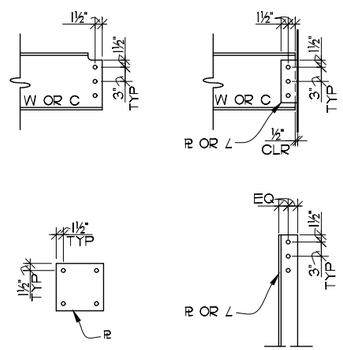
MINIMUM OF 2" CONCRETE COVER & MINIMUM BAR SPACING = 5" OC (MIN 6" OC FOR #9 BARS)

TOP BARS - MULTIPLY LAP SPLICE LENGTH BY 1.3
BARS W/ >12" FRESH CONCRETE CAST BELOW ARE TOP BARS

2.5 MINIMUM CONCRETE REINFORCEMENT DEVELOPMENT LENGTH & LAP SPLICE LENGTH FOR WALLS & SLABS UNO

3.1 NOT USED

3.2 NOT USED



3.3 TYPICAL BOLT SPACING & EDGE DISTANCE (UNO)

NTS

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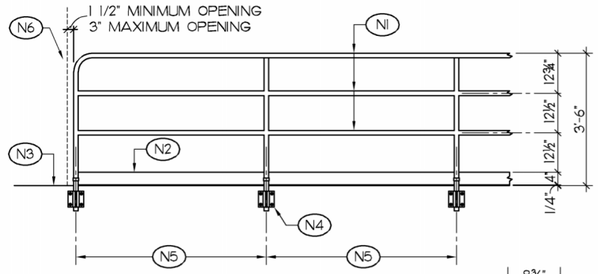
CITY OF GRANDVIEW
WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1

TYPICAL STRUCTURAL DETAILS

GS-4

NOTES (FOR THIS ELEVATION)

(N1) GUARDRAIL FROM 1 1/2"Φ ALUMINUM TUBING
(N2) 4" KICK PLATE, EXTRUDED STIFFENED SHAPE OR REINFORCED TO MAINTAIN STRAIGHT LINE
(N3) FINISHED FLOOR OR WALKING SURFACE
(N4) MOUNTING BRACKET, SEE DETAIL THIS SHEET
(N5) MAXIMUM SPACING 5'-0" BETWEEN VERTICAL SUPPORTS
(N6) EDGE OF WALL, RAIL OR EQUIPMENT



GUARDRAIL NOTES:

1. ALL HANDRAILS, GUARDRAILS, AND POSTS ARE TO BE ALUMINUM.
2. GUARDRAILS REQUIRED BY THE INTERNATIONAL BUILDING CODE, OR BY OCCUPATIONAL SAFETY AND HEALTH CODES ARE TO BE PROVIDED AND INSTALLED, WHETHER SHOWN ON THE DRAWINGS OR NOT.
3. PROVIDE SLIP JOINTS IN RAILINGS AT INTERVALS NOT TO EXCEED 50 FEET.
4. BENDS AND CORNERS IN RAILINGS ARE TO BE BENT ON A CURVE, NOT MITERED.
5. RAILS ARE TO BE FREE FROM SHARP CORNERS AND BURRS. GRIND ALL WELDS SMOOTH. RIVETS SHALL NOT HAVE ANY PROTRUDING SHARP EDGES.

1.1 TYPICAL GUARDRAIL ELEVATION AND NOTES

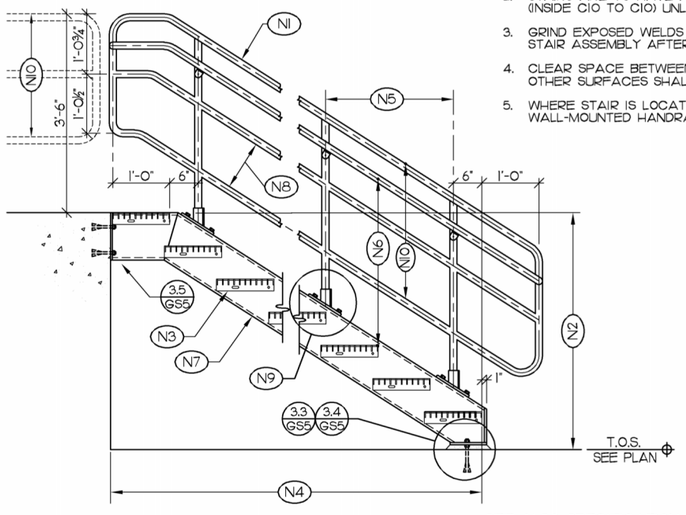
½" = 1'-0"

NOTES (FOR THIS PROFILE)

(N1) 1½"Φ ALUMINUM STEEL PIPE RAILING AND SUPPORTS
(N2) TOTAL RISE OF STAIR ASSEMBLY. MAXIMUM SINGLE RISER 7" UNLESS OTHERWISE NOTED ON PLANS
(N3) 1½" PRE-MANUFACTURED STEEL BAR GRATING STAIR TREAD. BOLT TO STAIR STRINGER PER MANUFACTURER'S RECOMMENDATIONS
(N4) TOTAL RUN OF STAIR TREADS, INDIVIDUAL TREADS ARE TO HAVE A RUN OF 11" UNLESS OTHERWISE NOTED ON PLANS
(N5) MAXIMUM SPACING BETWEEN VERTICAL SUPPORTS 5'-0"
(N6) TREAD NOSE TO TOP OF HANDRAIL TO BE 34"
(N7) C10x15.3 STAIR STRINGER (UNO), HOT DIP GALVANIZE AFTER FABRICATION
(N8) INTERMEDIATE RAILS MAY BE OMITTED WHERE NONE OF THE STAIR TREADS ARE MORE THAN 30" ABOVE AN ADJACENT SURFACE
(N9) SEE TYPICAL POST SUPPORT DETAILS, 2.4/GS-5
(N10) SEE RELATED DETAILS FOR GUARDRAIL REQUIREMENTS AT LANDINGS AND WALKWAYS

GENERAL STEEL STAIR NOTES

1. LANDINGS ARE TO HAVE A MINIMUM LENGTH OF 3'-4" UNLESS OTHERWISE SHOWN
2. STAIRS ARE TO HAVE A MINIMUM WIDTH OF 3'-0" (INSIDE C10 TO C10) UNLESS OTHERWISE SHOWN
3. GRIND EXPOSED WELDS SMOOTH, HOT-DIP GALVANIZE STAIR ASSEMBLY AFTER FABRICATION
4. CLEAR SPACE BETWEEN THE HANDRAIL AND WALL OR OTHER SURFACES SHALL BE A MINIMUM OF 2¼"
5. WHERE STAIR IS LOCATED NEXT TO CMU WALL USE WALL-MOUNTED HANDRAIL, GUARDRAIL NOT REQUIRED



SEE ALSO SPECIFICATION SECTION 05 52 11 ALUMINUM RAILINGS, AND SECTION 05 51 11 MISC METALS

3.1 TYPICAL STEEL STAIR, GUARDRAIL & HANDRAIL PROFILE

¾" = 1'-0"

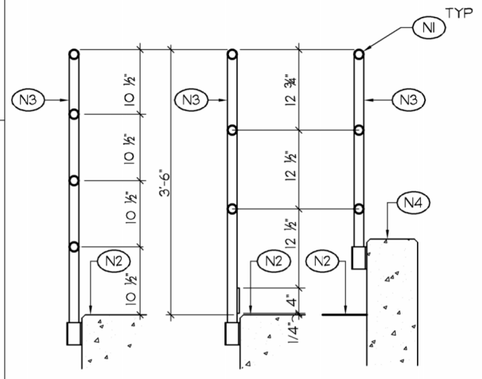
NOTES (FOR THIS DETAIL)

(N1) PIPE RAILINGS
(N2) WALKING SURFACE
(N3) POST UPRIGHTS, SEE OTHER DETAILS FOR MAXIMUM SPACING
(N4) TOP OF CONCRETE WALL AT TANK OR OTHER CHANGE OF ELEVATION OF 2'-6" OR MORE

USE PROFILE TYPE A WHERE NO TOEBOARD IS REQUIRED BY OSHA REGULATIONS.

USE PROFILE TYPE B UNLESS NOTED OTHERWISE WHERE A TOEBOARD IS REQUIRED BY OSHA REGULATIONS.

USE PROFILE TYPE C WHERE THE CONCRETE WALL FORMS THE "TOEBOARD", AND THE WALKING SURFACE IS LOWER THAN THE TOP OF THE WALL OF THE TANK OR OTHER CHANGE IN ELEVATION.



2.3 TYPICAL GUARDRAIL PROFILES

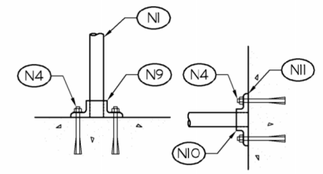
1" = 1'-0"

NOTES (FOR THIS DETAIL)

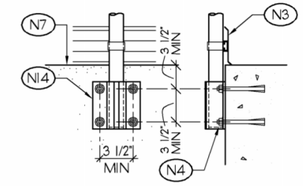
(N1) 1 1/2" ALUMINUM PIPE RAIL. TYPICAL
(N2) SIDE MOUNT FLANGE
(N3) TOE BOARD WITH CLAMPING ASSEMBLY
(N4) CONCRETE: ⅜"Φ x 5" SCREW-IN OR ADHESIVE ANCHORS (AA)
(N5) METAL: 3/8"Φ MACHINE BOLTS
(N6) CHANNEL STAIR STRINGER
(N7) TOP FLANGE OF STEEL CHANNEL OR TOP OF CONCRETE
(N8) TOP OF GRATING
(N9) HEAVY DUTY FLOOR FLANGE
(N10) WALL END FITTING
(N11) MANUFACTURED WALL BRACKET
(N12) STAIR STRINGER BASE
(N13) SET SCREW, TYPICAL
(N14) SIDE MOUNT FLANGE WITHOUT SET SCREWS AND ALUMINUM FIXED BOTTOM PLUG WITH WEEP HOLE. FIELD LOCATED AND DRILL THROUGH BOLT HOLE IN VERTICAL RAIL POST. RAIL SHALL FIT SNUG IN REMOVABLE BRACKET IN ORDER TO MINIMIZE RAIL MOVEMENT WHEN IN PLACE.

GENERAL NOTES:

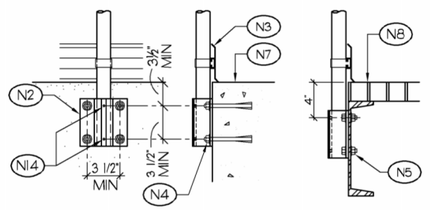
1. ALL BOLTS TO BE STAINLESS STEEL
2. RAILING ASSEMBLIES TO BE ALUMINUM, SEE SPECIFICATIONS
3. SHOP DRAWINGS OF ALL HANDRAILS AND GUARDRAILS ARE REQUIRED
4. WHERE CONNECTION BRACKET IS NOT CALLED OUT ON THE DRAWINGS, SELECT APPROPRIATE CONNECTION FROM THIS DETAIL. SHOW SELECTION ON SHOP DRAWINGS.



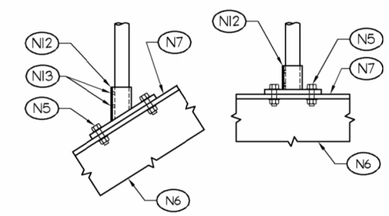
FLANGED CONNECTIONS



REMOVABLE RAIL SOCKET



SIDE MOUNT BRACKETS



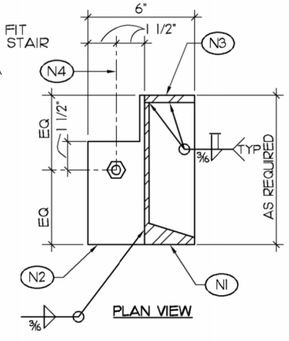
TOP FLANGE BRACKETS

2.4 TYPICAL ALUMINUM HANDRAIL & GUARDRAIL SUPPORT CONNECTIONS

1½" = 1'-0"

NOTES (FOR THIS DETAIL)

(N1) C10 OR C12 CHANNEL STRINGER
(N2) BASE PL⅜x6
(N3) END PL⅜x3, SIZE TO FIT SPACE AT END OF STAIR
(N4) 1-⅝"Φ x6" EB OR AA

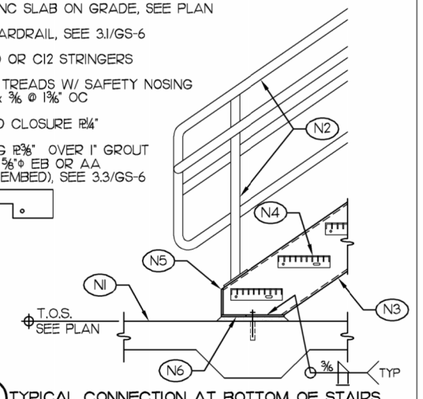


3.3 TYPICAL STRINGER BOTTOM BEARING PLATE DETAIL

3" = 1'-0"

NOTES (FOR THIS DETAIL)

(N1) CONC SLAB ON GRADE, SEE PLAN
(N2) GUARDRAIL, SEE 3.1/GS-6
(N3) C10 OR C12 STRINGERS
(N4) BB TREADS W/ SAFETY NOSING 1½ x ⅜ @ 1⅜" OC
(N5) END CLOSURE PL¼"
(N6) BRG PL⅜" OVER 1" GROUT W/ ⅝"Φ EB OR AA (4" EMBED), SEE 3.3/GS-6

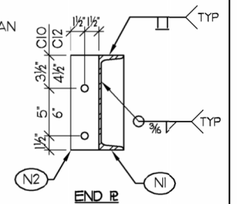


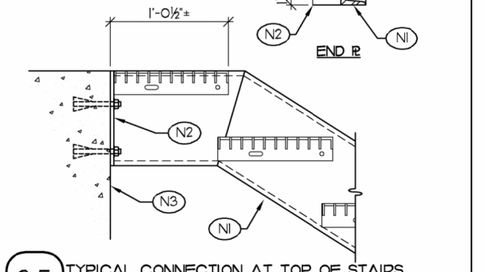
3.4 TYPICAL CONNECTION AT BOTTOM OF STAIRS

¾" = 1'-0"

NOTES (FOR THIS DETAIL)

(N1) C10 OR C12 STRINGER, SEE PLAN
(N2) END PL⅜" W/ 2-⅝"Φ EB OR AA TO CONC (5" EMBED)
(N3) CONC WALL, SEE PLAN





3.5 TYPICAL CONNECTION AT TOP OF STAIRS

1½" = 1'-0"

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PRINTED: 03-06-2026

REVISION	DATE

JOB NUMBER: 23030 | DATE: 3/13/26
FILE NAMES:
DRAWING:
PLAN:
DESIGNED BY: JDS
ENTERED BY: JDS

CITY OF GRANDVIEW
WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1
TYPICAL STRUCTURAL DETAILS

GS-5

SYMBOL SCHEDULE FOR ELECTRICAL PLAN DRAWINGS

SYMBOL	DESCRIPTION
	PANEL OR DEVICE WIRING
	FIELD WIRING-BY ELECTRICAL CONTRACTOR
	EQUIPMENT/DEVICE ENCLOSURE
	WIRING CONNECTED
	WIRING NOT CONNECTED
	DEVICE OR EQUIPMENT TERMINAL
	CONTROL PANEL TERMINAL
	MCC TERMINAL
	TRANSFORMER WINDING
	FUSE
	GROUND
	ARC SUPPRESSOR (METAL OXIDE VARISTOR)
	DIODE

CONTACT BLOCK OPERATORS

N.O. N.C.	PUSHBUTTON (1PB,2PB,ETC.)
	MUSHROOM HEAD PUSHBUTTON (1PB,2PB,ETC.)
"HAND OFF AUTO"	SELECTOR SWITCH (1SS,2SS,ETC.) "X" = CLOSED IN THIS POSITION
A1-1SS	

CONTACTS

N.O. N.C.	SINGLE BREAK CONTACTS
	DOUBLE BREAK CONTACTS (CONTACT BLOCKS)

RELAY CONTACTS

N.O. N.C. XXCR XXCR	INSTANTANEOUS CONTACT OF RELAY (1CR,2CR,ETC.)
XXTR XXTR	TIMED DELAY CONTACT OF RELAY (DELAY ON ENERGIZATION-ON DELAY) (1TR,2TR,ETC.)
XXTR XXTR	TIMED DELAY CONTACT OF RELAY (DELAY ON DE-ENERGIZATION-OFF DELAY) (1TR,2TR,ETC.)
X-OL X-OL	OVERLOAD RELAY (1OL,2OL,ETC.)

MAGNETIC COILS

XX XCR	CONTROL RELAY (1CR,2CR,ETC.)
XX XTR	TIMED DELAY RELAY (1CR,2CR,ETC.)
XX M	MAGNETIC MOTOR STARTER (1M,2M,ETC.)
XX XCON	MAGNETIC CONTRACTOR (1CON,2CON,ETC.)
XX XMTR	DEVICE MOTOR DRIVE
	SOLENOID (1SV,2SV,ETC.) (FOR VALVE UNLESS OTHERWISE NOTED)

WIRE TYPES

EXAMPLES:

1PR#18	ONE TWISTED PAIR OF UNSHIELDED #18 CONDUCTORS
2/C#18	TWO 18 AWG CONDUCTORS UNDER A COMMON SHEATH
2#18	TWO SEPARATE 18 AWG CONDUCTORS
UC5	UNSHIELDED CATEGORY 5 CONDUCTORS
UC5E	UNSHIELDED CATEGORY 5E CONDUCTORS
UC6	UNSHIELDED CATEGORY 6 CONDUCTORS

SYMBOL SCHEDULE FOR ELECTRICAL PLAN DRAWINGS

SYMBOL	DESCRIPTION
	DEVICE OR EQUIPMENT TERMINAL
	WIRING CONNECTED
	BUS
	WIRING
	EQUIPMENT/DEVICE ENCLOSURE
	PLUG-IN CONNECTION
	NON-AUTOMATIC BREAKER
	THERMAL MAGNETIC BREAKER
	MAGNETIC ONLY BREAKER
	SWITCH
	FUSE
	POWER TRANSFORMER
	CONTROL POWER TRANSFORMER
	THERMAL OVERLOAD
	CURRENT TRANSFORMER
	CONTACTOR
	CAPACITOR
	GROUND CONNECTION
	TRANSFER SWITCH
M	WATTHOUR METER (REVENUE METERING)
S N	SOLID NEUTRAL
10	MOTOR-NO. = HORSEPOWER
LS	LIMIT SWITCH
FS	FLOAT SWITCH
PS	PRESSURE SWITCH
	CONTROL STATION/PUSHBUTTON
	LOAD BREAK FUSE HOLDER AND FUSE

GENERAL WIRING SYMBOLS

J	JUNCTION BOX
J	JUNCTION BOX - WALL MOUNTED
	WIRING RUN EXPOSED ON BUILDING STRUCTURE UNLESS OTHERWISE NOTED ON DRAWINGS
	WIRING RUN CONCEALED UNDER SLAB OR BELOW GRADE UNLESS OTHERWISE NOTED ON DRAWINGS
G #10	INDICATES WIRE SIZE IF OTHER THAN #12AWG LINE OR PHASE CONDUCTOR NEUTRAL CONDUCTOR GROUNDING CONDUCTOR CROSSMARKS INDICATE QUANTITY AND USE OF CONDUCTORS
2 PPA	ARROWHEAD INDICATES HOMERUN TO EQUIPMENT/DEVICE NOTED AT END OF ARROWHEAD, NUMBER (WHERE NOTED) INDICATES CIRCUIT WITHIN EQUIPMENT/DEVICE NOTED.
	CONDUIT TURN UP FROM BELOW SLAB OR BELOW FLOOR LEVEL
	CONDUIT TURN DOWN FROM CEILING OR THROUGH ROOF

SYMBOL SCHEDULE FOR ELECTRICAL PLAN DRAWINGS

SYMBOL	DESCRIPTION

POWER DISTRIBUTION AND CONTROL

	DISTRIBUTION/CONTROL EQUIPMENT - FLOOR MOUNTED
	DISTRIBUTION/CONTROL EQUIPMENT - WALL MOUNTED
	PANELBOARD - WALL MOUNTED
	SWITCH (SAFETY OR DISCONNECT)
F	SWITCH (FUSIBLE)
	MOTOR STARTER WITH SWITCH OR BREAKER (COMBINATION MAGNETIC STARTER)

LIGHTING FIXTURES

A b	ROUND FIXTURE CEILING MOUNTED (RECESSED, SURFACE, OR PENDANT)
AA	FIXTURE POLE MOUNTED
C a	FIXTURE WALL MOUNTED (SURFACE OR ARM)
E a	LINEAR FIXTURE CEILING MOUNTED (RECESSED, SURFACE OR PENDANT)
X1	EXIT LIGHT FIXTURE (INDICATES FACE) (INDICATES ARROW DIRECTION) (INDICATES WALL MOUNTED FIXTURE)

DESIGNATIONS

A,B,C,ETC. ARE FIXTURE TYPE, REFER TO LIGHTING FIXTURE SCHEDULE

a,b,c,ETC. ARE ZONE SWITCHING CONTROL REFERENCE (a1,a2, ETC. ARE DAYLIGHT ZONE REFERENCES WITHIN THAT ZONE)

SWITCHING/CONTROL

$abc	LIGHTING SWITCH - WALL MOUNTED LOWER CASE LETTERS = SWITCH LEG DESIGNATIONS BLANK = 2-BUTTON (U.O.N. TYPICAL NON-OCCUPIED SPACE) D = 4-BUTTON (U.O.N. TYPICAL OFFICE)
J x	STANDARD CONDUIT FEED (INDICATES SWITCH ZONES)
RF x	ROOM FEED MWS STARTER CABLE (INDICATES SWITCH ZONES)
OS x	OCCUPANCY & DAYLIGHT SENSOR, CEILING MOUNTED (INDICATES SWITCH ZONES)

DESIGNATIONS

(XX-##) ARE CIRCUIT NUMBERS OF PANELBOARD TO WHICH FIXTURE IS TO BE CONNECTED, REFER TO CIRCUIT SCHEDULE

SWITCH ZONE DESIGNATION ENCOMPASSES ALL DAYLIGHT ZONES WITHIN THE SWITCH ZONE (I.E.: 'A' INCLUDES 'a1', 'a2', ETC.)

RECEPTACLE OUTLETS

2 WP	DUPLEX RECEPTACLE OUTLET - WALL MOUNTED (NEMA 5-20R UNLESS OTHERWISE SPECIFIED)
6	QUADRUPLEX RECEPTACLE OUTLET - WALL MOUNTED
6	OCCUPANCY CONTROLLED DUPLEX RECEPTACLE OUTLET - WALL MOUNTED (SEE DETAILS ON SHEET E1.20)
(H) 2	FLOORBOX - PLANS INDICATE COMBINATION OF SYSTEMS TO BE USED WITH FLOORBOX (i.e. POWER, COMMUNICATIONS, A/V)
	DUPLEX RECEPTACLE OUTLET- CEILING MOUNTED
4	SPECIAL PURPOSE RECEPTACLE OUTLET
6	SPECIAL PURPOSE RECEPTACLE OUTLET - WALL MOUNTED
2	DUPLEX RECEPTACLE OUTLET - MOUNTED 4" O.C. ABOVE BACKSPLASH OR COUNTER TOP IF NO BACKSPLASH (VERIFY HEIGHT WITH ARCHITECTURAL ELEVATIONS)
2	QUADRUPLEX RECEPTACLE OUTLET - MOUNTED 4" O.C. ABOVE BACKSPLASH OR COUNTER TOP IF NO BACKSPLASH (VERIFY HEIGHT WITH ARCHITECTURAL ELEVATIONS)

DESIGNATIONS

1,2,3,ETC. ARE CIRCUIT NUMBERS OF PANELBOARD TO WHICH OUTLET IS TO BE CONNECTED, REFER TO CIRCUIT SCHEDULE

H = HORIZONTAL
WP = WEATHERPROOF

SPECIAL PURPOSE CONNECTIONS

4	SPECIAL PURPOSE EQUIPMENT CONNECTION
6	SPECIAL PURPOSE EQUIPMENT CONNECTION - WALL MOUNTED
XX #-##	MECHANICAL EQUIPMENT TAG, (SEE EQUIPMENT SCHEDULE ON SAME SHEET)

ELECTRICAL DEVICES

(5)	MOTOR (NUMBER = HORSEPOWER)
$M	MOTOR RATED SNAP SWITCH
$T	SWITCH WITH TIMER

SYMBOL SCHEDULE FOR ELECTRICAL PLAN DRAWINGS

SYMBOL	DESCRIPTION

INTERCOM/CLOCK SYSTEM (SEE DETAIL 3/E1,63)

Z1	70V INTERCOM SPEAKER - CEILING MOUNTED (INDICATES ZONE, TYPICAL)
Z1 WP	70V INTERCOM SPEAKER - WALL MOUNTED (INDICATES EXTERIOR WEATHERPROOF)
LG	IP DIGITAL CLOCK/INTERCOM SPEAKER COMBINATION (INDICATES LARGE VERSION)
	DIGITAL CLOCK - CEILING MOUNTED DOUBLE FACE
	DIGITAL CLOCK - WALL MOUNTED
	EMERGENCY 3-LED LIGHT INDICATOR - CEILING MOUNTED
	EMERGENCY 3-LED LIGHT INDICATOR - WALL MOUNTED

TELECOMMUNICATIONS SYSTEM

	COMMUNICATIONS DEVICE BOX. W = WALL PHONE HANDSET ONE CATEGORY 6 8P8C (RJ-45) AND ONE CATEGORY 6 CABLE. # = NUMBER OF CATEGORY 6 8P8C (RJ-45) PORTS AND CATEGORY 6 CABLES
	COMMUNICATIONS DEVICE BOX - MOUNTED 4" O.C. ABOVE BACKSPLASH. (VERIFY HEIGHT WITH ARCHITECTURAL ELEVATIONS).
DS	DIGITAL SIGNAGE LOCATION, MOUNT WITH MONITOR
TV	TV LOCATION, MOUNT WITH MONITOR
AL	(SEE BELOW IN CLASSROOM A/V)
WAP	WIRELESS ACCESS POINT. #=NUMBER OF CATEGORY 6A 8P8C (RJ-45) PORTS AND CATEGORY 6A CABLES
CAM	COMMUNICATIONS BISCUIT JACK PROVIDE ONE CATEGORY 6 RJ-45 AND ONE CATEGORY 6 CABLE (UNLESS OTHERWISE NOTED) (CAM = COMMUNICATIONS BISCUIT JACK FOR SECURITY CAMERA)
BAS	(BAS = BUILDING AUTOMATION SYSTEM LOCATION)
AUX	(AUX = AUXILIARY, MISCELLANEOUS)
EXT CAM	(EXT CAM = COMMUNICATIONS BISCUIT JACK FOR EXTERIOR SECURITY CAMERA)
ACS	(ACS = ACCESS CONTROL SYSTEM WIRELESS GATEWAY)
WM	(WM = WIRELESS MANAGER)

ABBREVIATIONS

A	AMPERES
ACP	ACCESS CONTROL PANEL
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AHJ	AUTHORITY HAVING JURISDICTION
ATS	AUTOMATIC TRANSFER SWITCH
AWG	AMERICAN WIRE GAUGE
BKR	BREAKER
C	CONDUIT
ENCL	ENCLOSURE
EOL	END OF LINE RESISTOR
EXIST OR (E)	EXISTING
FATC	FIRE ALARM TERMINAL CABINET
FACP	FIRE ALARM CONTROL PANEL
FVNR	FULL VOLTAGE NON REVERSING
G	GROUNDING CONDUCTOR
HC	HORIZONTAL CROSSCONNECT
IC	INTERRUPTING CAPACITY
IP	INTERNET PROTOCOL
KA	KILOAMPERES
KVAR	KILO VOLT-AMPERES REACTIVE
KW	KILOWATTS
LSI	LONG-SHORT-INSTANTANEOUS TRIP
M	MAGNETIC CONTACTOR
MC	MAIN CROSSCONNECT
MHO	MAGNETIC HOLD OPEN
N	NEUTRAL CONDUCTOR
NAC	NOTIFICATION APPLIANCE CIRCUIT
NEMA	NATIONAL ELECTRIC MANUFACTURERS ASSOCIATION
OL	OVERLOAD
P	POLES
PV	PHOTOVOLTAIC
SP	SECURITY (INTRUSION) PANEL
SPD	SURGE PROTECTIVE DEVICE
SHL'D	SHIELDED
SUSE	SUITABLE FOR USE AS SERVICE ENTRANCE
TYP	TYPICAL
UON	UNLESS OTHERWISE NOTED
V	VOLTS
VFD	VARIABLE FREQUENCY DRIVE
WG	WIRE GUARD
XFMR	POWER TRANSFORMER

SYMBOL SCHEDULE FOR ELECTRICAL PLAN DRAWINGS

SYMBOL	DESCRIPTION

INTRUSION DETECTION/ACCESS CONTROL SYSTEM

	DOOR CONTACT
S CR	PROXIMITY CARD READER - WALL MOUNTED
S CRK	PROXIMITY CARD READER W/KEYPAD - WALL MOUNTED
S KP	INTRUSION SYSTEM KEYPAD ENTRY DEVICE - WALL MOUNTED
S M	MOTION SENSOR - CEILING MOUNTED
S MH	DOOR MAGNETIC HOLD OPEN (SECURITY RELEASED)
S EL	ELECTRIC RETRACTABLE LATCH CONNECTION (LATCH INCLUDED WITH DOOR HARDWARE)
S ES	ELECTRIC STRIKE CONNECTION (STRIKE INCLUDED WITH DOOR HARDWARE)
S HOC	HOLD OPEN CLOSER CONNECTION (CLOSER INCLUDED WITH DOOR HARDWARE)
S VD	VAPING DETECTOR - CEILING DETECTOR
S R	SECURITY RELAY
S RX	REQUEST TO EXIT (INCLUDED WITH DOOR HARDWARE, UNLESS OTHERWISE NOTED)
S EM	SECURITY PANIC BUTTON "LOCK DOWN"
S DR	SECURITY DOOR RELEASE BUTTON
S MAG	SECURITY MAGNETIC LOCK
S HT	HIGH TEMP ALARM
	DOOR 2-WAY INTERCOM AND CAMERA - WALL MOUNTED
	PUSH BUTTON
B	BLUE VISUAL ONLY ALARM - WALL MOUNTED
XXX	ACCESS CONTROL DOOR TAG - REFER TO ACCESS CONTROL SCHEDULE

VIDEO SURVEILLANCE SYSTEM

	FIXED DOME CAMERA - RECESSED MOUNTED (ARROW INDICATES DIRECTION OR FIELD-OF-VIEW)
	FIXED DOME CAMERA - POLE OR WALL MOUNTED W/BRACKET (ARROW INDICATES DIRECTION OR FIELD-OF-VIEW)
	ADJUSTABLE MULTI-LENS DOME CAMERA - SURFACE MOUNT (ARROWS INDICATES DIRECTION OR FIELD-OF-VIEW OF EACH LENS, A DOT IN THE CENTER INDICATES LENS POINTED STRAIGHT DOWN, ARM INDICATES, INCLUSION OF A POLE OR WALL MOUNT BRACKET)
	FISHEYE CAMERA (ARM INDICATES, INCLUSION OF A POLE OR WALL MOUNT)
XXXX	CAMERA EQUIPMENT TAG - REFER TO CAMERA SCHEDULE

FIRE DETECTION AND ALARM SYSTEM

F	AUDIBLE/VISUAL ALARM - WALL MOUNTED
F	VISUAL ONLY ALARM - WALL MOUNTED
F	AUDIBLE/VISUAL ALARM - CEILING MOUNTED
F SO	STROBE ONLY ALARM - CEILING MOUNTED
F	MANUAL PULL STATION - WALL MOUNTED
F C	MANUAL PULL STATION W/ANNUNCIATING COVER WALL MOUNTED
F D	DUCT SMOKE DETECTOR WITH SAMPLING TUBES
F F/S	FIRE SMOKE DAMPER - SEE DETAIL 8/M6.02
F RTS	REMOTE TEST SWITCH - WALL MOUNTED
F R	SHUTDOWN RELAY
F MH	DOOR MAGNETIC HOLD OPEN (FIRE AND SECURITY RELEASED)
S	SMOKE DETECTOR
H	FIXED TEMPERATURE AND RATE OF RISE HEAT DETECTOR
F T	TAMPER SWITCH
F F	FLOW SWITCH
F LP	LOW PRESSURE SWITCH

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03/12/2026

REVISION	DATE

JOB NUMBER: 23030 | DATE: 3/13/2026

FILE NAMES:
DRAWING: HLA-23030_E_R24.RVT
PLAN: 23030

DESIGNED BY: BBB
ENTERED BY: BAS

CITY OF GRANDVIEW
WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1
SYMBOL SCHEDULE

E0-01

SHEET 85 OF 192

ELECTRICAL GENERAL NOTES

G01
IN GENERAL, DEVICES SHOWN ON THE ELECTRICAL DRAWINGS IN BACKGROUND (GRAY OR SCREENED) REPRESENT ONE OF THE FOLLOWING UNLESS NOTED OTHERWISE ON AN INDIVIDUAL SHEET:

- STRUCTURAL OR ARCHITECTURAL BUILDING STRUCTURES SUCH AS WALLS, DOORS, STAIRS, ETC. AND STRUCTURAL FRAMING MEMBERS.
- MECHANICAL EQUIPMENT OR DEVICES SUCH AS HVAC UNITS AND PROCESS EQUIPMENT WHICH ARE SHOWN ON THE MECHANICAL DRAWINGS AND ARE SHOWN IN BACKGROUND (GRAY OR SCREENED) ON THE ELECTRICAL DRAWINGS TO ASSIST IN DETERMINING THE LOCATION OF THE EQUIPMENT, CONNECTIONS AND DEVICES.
- DISTRIBUTION EQUIPMENT SHOWN ON ELECTRICAL PLAN DRAWINGS (SUCH AS LIGHTING PLANS) IS SHOWN IN BACKGROUND (GRAY OR SCREENED) IN ORDER TO CLARIFY OTHER ELECTRICAL DEVICES AND CIRCUITS SHOWN ON THAT SHEET.
- EQUIPMENT OR DEVICES THAT ARE EXISTING TO REMAIN (AND TO BE PRESERVED AND PROTECTED) WHERE SHOWN ON REVISED/MODIFICATIONS ELECTRICAL SHEETS.

G02
THE EXISTING FUNCTIONS OF THE TREATMENT PLANT ARE TO REMAIN IN OPERATION AT ALL TIMES. IT IS THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE THE PRESERVATION OF EXISTING ELECTRICAL, INSTRUMENTATION, CONTROL, SIGNALING, COMMUNICATIONS AND ALARM EQUIPMENT, CIRCUITS AND DEVICES WITH ALL OTHER ASPECTS OF THE CONSTRUCTION PROCESS, TO ENSURE THAT ALL EXISTING EQUIPMENT, CIRCUITS AND DEVICES REMAIN IN OPERATION DURING THE COURSE OF CONSTRUCTION, FOR ITEMS THAT ARE SHOWN TO BE DEMOLISHED, THEY SHALL REMAIN IN OPERATION UNTIL NO LONGER REQUIRED FOR THE OPERATION OF THE PLANT.

G03
THE ELECTRICAL EQUIPMENT, MATERIALS, DEVICES AND CIRCUITS SHOWN ON THESE DRAWINGS ARE EXISTING TO REMAIN UNLESS OTHERWISE NOTED AS BEING DEMOLISHED OR MODIFIED, THE CONTRACTOR SHALL COORDINATE NEW CONDUIT AND CIRCUIT ROUTING AND ELEVATIONS WITH EXISTING EQUIPMENT, MATERIALS, DEVICES AND CIRCUITS PRIOR TO INSTALLATION. PROVIDE ALL MEANS NECESSARY TO PRESERVE, PROTECT AND KEEP EXISTING EQUIPMENT, MATERIALS, DEVICES AND ELECTRICAL CIRCUITS IN OPERATION DURING THE COURSE OF CONSTRUCTION INCLUDING PROVIDING TEMPORARY CIRCUITS TO ALLOW THEM TO REMAIN IN OPERATION AT ALL TIMES. THE INFORMATION SHOWN FOR EXISTING EQUIPMENT, MATERIALS AND UNDERGROUND OR CONCEALED ELECTRICAL CIRCUITS IS BASED ON AVAILABLE RECORD INFORMATION AND ON SITE SURVEY OF EXPOSED CIRCUITS, AND IS PROVIDED FOR INFORMATION ONLY. PRIOR TO COMMENCING NEW ELECTRICAL WORK OR TRENCHING, VERIFY LOCATIONS AND CONTENTS OF EXISTING EQUIPMENT, MATERIALS, DEVICES AND EXPOSED, CONCEALED OR UNDERGROUND CIRCUITS IN FIELD (BY TONING, X-RAY, EXCAVATION POTHOLING OR OTHER MEANS).

G04
THE DRAWINGS ARE NOT INTENDED TO SHOW ALL OF THE EXISTING CONDITIONS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VISIT THE SITE AND REVIEW EXISTING CONDITIONS PRIOR TO BIDDING. WHERE EXISTING CONDITIONS DIFFER FROM THOSE SHOWN TO THE EXTENT IT WILL IMPACT THE COST OF THE CONTRACTOR'S WORK, THE CONTRACTOR SHALL NOTIFY THE OWNER IN WRITING A MINIMUM OF 10 DAYS PRIOR TO BIDDING.

G05
THERE ARE EXISTING AND NEW PROCESS PIPING AND EQUIPMENT INSTALLED/TO BE INSTALLED ON THIS SITE. THE CONTRACTOR SHALL COORDINATE NEW CONDUIT AND CIRCUIT ROUTING AND ELEVATIONS WITH EXISTING EQUIPMENT, PIPING, AND OTHER CONSTRUCTION ACTIVITIES PRIOR TO INSTALLATION. LOCATE EXISTING UNDERGROUND FACILITIES, PRESERVE AND PROTECT THEM DURING CONSTRUCTION AND ROUTE NEW CONDUITS TO AVOID CONFLICTS BY INSTALLING AT DIFFERENT LEVELS OR WHEN APPROVED BY THE ENGINEER, DIFFERENT ROUTING.

G06
EXISTING EQUIPMENT, MATERIALS, DEVICES AND CIRCUITS DAMAGED DURING THE COURSE OF CONSTRUCTION SHALL BE IMMEDIATELY REPLACED WITH NEW EQUIPMENT, MATERIALS, DEVICES AND CIRCUITS OF LIKE MATERIALS AT NO ADDITIONAL COST TO THE OWNER.

G07
DEMOLISH EXISTING EQUIPMENT, MATERIALS AND DEVICES SHOWN CROSSHATCHED UNLESS OTHERWISE NOTED. REMOVE CONDUIT (EXCEPT CONCEALED OR UNDERGROUND CONDUIT AS NOTED BELOW), FITTINGS, HANGERS, CONDUCTORS, DEVICE/JUNCTION BOXES, AND SIMILAR ITEMS ASSOCIATED WITH ITEM NOTED, BACK TO NEXT DEVICE REMAINING ON THE CIRCUIT OR BACK TO THE PANEL/MCC UNIT FROM WHICH THE CIRCUIT ORIGINATES. WHERE DEVICE BEING REMOVED IS IN THE MIDDLE OF A CIRCUIT, REPLACE/REPAIR CIRCUIT AS REQUIRED TO KEEP REMAINING DEVICES ON CIRCUIT IN OPERATION. ABANDON-IN-PLACE UNUSED CONDUITS CONCEALED IN SLAB, OR UNDERGROUND BELOW SLAB OR BELOW GRADE. CUT EXPOSED PORTION FLUSH WITH SLAB, OR 12" BELOW GRADE, AND PLUG WITH NON-SHRINK GROUT. CUT, PATCH, REPAIR AND PAINT EXISTING WALLS/CEILINGS AS REQUIRED TO REMOVE EXISTING DEVICES/EQUIPMENT. LEGALLY DISPOSE OF MATERIAL/EQUIPMENT WHICH ARE REMOVED.

G08
SALVAGE EQUIPMENT, MATERIALS AND DEVICES TO OWNER PER REQUIREMENTS OF DIVISION 1, SECTION 01900 UNLESS OTHERWISE NOTED ON DRAWINGS.

G09
WIRING METHODS, MATERIALS AND EQUIPMENT IN THIS AREA SHALL BE IN ACCORDANCE WITH NATIONAL ELECTRICAL CODE FOR CLASS I, DIVISION 1 HAZARDOUS (CLASSIFIED) LOCATIONS. REFER TO THE HAZARDOUS AREA CLASSIFICATIONS LETTER IN THE SPECIFICATIONS APPENDIX FOR FURTHER INFORMATION.

G10
WIRING METHODS, MATERIALS AND EQUIPMENT IN THIS AREA SHALL BE IN ACCORDANCE WITH NATIONAL ELECTRICAL CODE FOR CLASS I, DIVISION 2 HAZARDOUS (CLASSIFIED) LOCATIONS. REFER TO THE HAZARDOUS AREA CLASSIFICATIONS LETTER IN THE SPECIFICATIONS APPENDIX FOR FURTHER INFORMATION.

G11
COORDINATE CONDUIT STUB UP LOCATIONS WITH APPROVED EQUIPMENT SHOP DRAWING SUBMITTALS PRIOR TO LOCATING CONDUIT STUB UPS IN THE SLAB. LOCATE CONDUIT STUB UPS PER EQUIPMENT MANUFACTURER'S RECOMMENDATIONS AND THE REQUIREMENTS OF THE DRAWINGS AND SPECIFICATIONS.

ELECTRICAL GENERAL NOTES FOR MCC, ELEMENTARY WIRING DIAGRAMS

W01
THE WIRING DIAGRAM FOR THE VARIABLE FREQUENCY DRIVE IS BASED ON ALLEN BRADLEY POWERFLEX 753. PROVIDE EQUIVALENT WIRING AS REQUIRED IF ANOTHER MANUFACTURER IS USED. NOTE THAT THE SPEED REFERENCE SHALL BE FROM THE POTENTIOMETER WHEN THE SELECTOR SWITCH IS IN "HAND". THE SPEED REFERENCE SHALL BE FROM THE FIELDBUS WHEN THE SELECTOR SWITCH IS IN "AUTO", NOTE THAT ALL INPUTS SHALL BE LEVEL TRIGGERED. EDGE TRIGGERED INPUTS ARE NOT ACCEPTABLE.

W02
THE WIRING DIAGRAM FOR THE NETWORKED ELECTRONIC OVERLOAD IS BASED ON AN ALLEN BRADLEY E300. PROVIDE EQUIVALENT WIRING AS REQUIRED IF ANOTHER MANUFACTURED IS USED.

W03
FIELDBUS SHALL BE CONNECTED VIA ETHERNET. (ETHERNET CABLING IN MOTOR CONTROL CENTERS SHALL HAVE INSULATION RATED FOR 600 VOLTS.)

W04
WIRING DIAGRAM SHALL BE EQUIVALENT TO THAT SHOWN ABOVE EXCEPT THE PLACEHOLDERS (DESIGNATED AS "XX" OR "X") IN REFERENCES AND LABELS SHALL BE UPDATED TO MATCH THE EQUIPMENT TAG ID, FOR EXAMPLE, THE LABEL "RWSCP-RPXN SHALL BE "RWSCP—RP1N" FOR EQUIPMENT TAG ID "03 RP 01" AND THE RUNG LABEL "XXMXRXX-1" SHALL BE "06MXR01-1" FOR EQUIPMENT TAG ID "06 MXR 01". FOR THIS PROJECT, WHERE WIRING DIAGRAMS REQUIRE MODIFICATIONS SO EQUIPMENT WHOSE BEHAVIOR DOES NOT EXACTLY MATCH THE WIRING DIAGRAMS AS SHOWN WILL HAVE EQUIVALENT FUNCTIONALITY. WIRING DIAGRAMS GROUPED UNDER A SINGLE REFERENCE (SUCH AS E,W.D. 1/E-17) SHALL BE IDENTICAL.

W05
FOR SPARE MOTOR CONTROL UNITS, THE LABELS AND WIRING DIAGRAMS SHALL BE UPDATED AS DESCRIBED ABOVE IN NOTE W04 EXCEPT PLACEHOLDERS SHALL BE UPDATED AS "SP" OR "S". ADDITIONALLY, NO FIELD EQUIPMENT (SELECTOR SWITCHES, POTENTIOMETERS, AUXILIARY CONTACTS, THERMAL DETECTORS, CONTROL PANELS, ETC.) SHALL BE SHOWN.

W06
SPLICE CONDUCTORS FOR MOTOR TEMPERATURE/SEAL LEAK CIRCUITS TO PUMP MANUFACTURER'S CABLE IN DISCONNECT SWITCH ENCLOSURE. (SHEET E-46) FOR THE AMPERE RATING AND ENCLOSURE TYPE.

ELECTRICAL GENERAL NOTES FOR MCC, SCHEDULES, AND ELEVATIONS

M01
PROVIDE THE MOTOR CONTROL CENTER AS SHOWN ON THE ELEVATION DRAWING AND AS DETAILED IN THE UNIT SCHEDULE. THE ARRANGEMENT AND ORDER OF THE UNITS WITHIN THE SECTIONS SHALL BE AS SHOWN. THE NUMBER OF SECTIONS SHALL BE AS SHOWN. INDIVIDUAL UNIT SIZES (SPACE FACTORS) MAY VARY.
NOTE THE FOLLOWING INFORMATION REGARDING THE UNIT SCHEDULE:
"UNIT ID", THE FOLLOWING APPLIES:
SEC
SECTION OF MOTOR CONTROL CENTER. THE LOWEST NUMBER IS TO THE LEFT WHEN FACING THE FRONT OF THE MCC.
UNIT
A LETTER DESIGNATING THE LOCATION OF THE TOP OF THE UNIT WITHIN THE MOTOR CONTROL CENTER SECTION. LETTERS ADVANCE IN ALPHABETIC ORDER FOR EACH INCREMENT OF THREE INCHES EXCEPTING THE LETTER "I" WHICH IS EXCUDED. THE LETTER A IS FOR THE HIGHEST LOCATION ACCEPTING UNITS.
FOR PLAN REFERENCES, THE UNIT ID IS CREATED WITH THE MOTOR CONTROL CENTER NAME, SECTION NAME, AND UNIT. FOR INSTANCE, "MCC EXAMPLE-3N". FOR SIDE BY SIDE CIRCUIT BREAKERS AN "L" (LEFT) OR "R" (RIGHT) IS APPENDED TO UNIT ID. FOR INSTANCE, "MCC EXAMPLE-3NR". THIS NOMENCLATURE IS USED FOR IDENTIFYING THE ORIGIN OF CONDUITS.
UNDER "TYPE", THE FOLLOWING APPLIES:
FVR
FULL VOLTAGE REVERSING STARTER
FVNR
FULL VOLTAGE NON-REVERSING STARTER
BRKR
CIRCUIT BREAKER
MLO
MAIN LUGS ONLY
LNR
LINE REACTOR
LDR
LOAD REACTOR OR DV/DT FILTER
SF
SINE FILTER
VFD (VT)
VARIABLE FREQUENCY DRIVE (VARIABLE TORQUE)
VFD (CT)
VARIABLE FREQUENCY DRIVE (CONSTANT TORQUE)
UNDER "SIZE", THE FOLLOWING APPLIES:
FVNR
NEMA SIZE OF CONTACTOR/STARTER
FVR
NEMA SIZE OF CONTACTOR/STARTER
VFD (VT)
HORSEPOWER RATING FOR VARIABLE TORQUE LOADS
VFD (CT)
HORSEPOWER RATING FOR CONSTAT TORQUE LOADS
BRKR
OVERCURRENT PROTECTION FRAME/TRIP RATING
MLO
PROVISIONS FOR CONNECTION UP TO THIS CURRENT
UNDER "OCP" (OVERCURRENT PROTECTOR), THE FOLLOWING APPLIES:
CB
THERMAL MAGNETIC MOLDED CASE CIRCUIT BREAKER
MCP
MOTOR CIRCUIT PROTECTOR - MAGNETIC ONLY CIRCUIT BREAKER
EWD REFERENCES THE ELEMENTARY WIRING DIAGRAM FOR THE UNIT.
OLD REFERENCES THE ONE LINE DIAGRAM FOR THE UNIT.
USE THE NAME OF THE UNIT AND THE EQUIPMENT TAG ID FOR THE NAMEPLATE.
FOR SPARE UNITS, SIZE ALL COMPONENTS TO MATCH THE SIZES USED FOR THE REFERENCED EQUIPMENT TAG ID.

ELECTRICAL GENERAL NOTES FOR MCC AND ONE LINE DIAGRAMS

L01
PROVIDE MOTOR STARTERS, CIRCUIT BREAKERS, AND OTHER EQUIPMENT/DEVICES AS INDICATED. KAIC AND VOLTAGE RATINGS SHALL BE AS NOTED ON THE MAIN POWER DISTRIBUTION ONE LINE DIAGRAMS ON SHEET E-11 THROUGH E-13 AND AS SHOWN ON THE MOTOR CONTROL CENTER UNIT SCHEDULES SHEETS E-15 THROUGH E-17. SIZE OVERLOAD RELAY, CONTACTOR, AND OVERCURRENT PROTECTOR PER THE ACTUAL MOTOR SIZE AND IN AGREEMENT WITH THE SPECIFICATIONS. ALL STARTER CONTACTORS SHALL BE NEMA RATED AND SHALL BE AT LEAST SIZE 1. CONTROL POWER TRANSFORMERS SHALL HAVE AT LEAST 50% OVERCAPACITY FOR FUTURE EXPANSION. SEE MCC UNIT SCHEDULE NOTES FOR ADDITIONAL REQUIREMENTS.

L02
SEE THE DISCONNECT SWITCH AND CONTROL STATION SCHEDULE (SHEET E-46) FOR THE AMPERE RATING, ENCLOSURE TYPE, AND CONTROL STATION DETAIL.

L03
NOT USED

L04
SEE THE MCC UNIT SCHEDULE FOR THE NOMINAL MOTOR HORSEPOWER.

L05
NOT USED

L06
SEE SECTION 1/E0-3 FOR ADDITIONAL DETAILS.

L07
NOT USED

L08
NOT USED

L09
PROVIDE LINE REACTORS OF AT LEAST 3% FOR THE VFDS.

L10
PROVIDE HARMONICALLY COMPENSATED LOAD REACTORS, DV/DT FILTER, OR SINE FILTER AS SHOWN EXCEPT IF THE SHOWN OPTION DOES NOT MATCH OR EXCEED THE MINIMUM RECOMMENDATIONS OF THE MANUFACTURER OF THE VFD OR THE MOTOR, PROVIDE A FILTER MATCHING OR EXCEEDING THOSE MINIMUM RECOMMENDATIONS.

L11
SPLICE CONDUCTORS FOR MOTOR TEMPERATURE/SEAL LEAK CIRCUITS TO PUMP MANUFACTURER'S CABLE IN DISCONNECT SWITCH ENCLOSURE.

L12
SIZE CONDUIT FOR ACTUAL MANUFACTURER'S CABLE FURNISHED WITH PUMP, 2" MINIMUM SIZE CONDUIT.

L13
INSTALL CONDUIT FROM THE JUNCTION BOX TO THE WET WELL WALL. PROVIDE A BUSHING AT THE END OF THE CONDUIT. THE BUSHING SHALL BE A CORD GRIP BUSHING UNLESS CABLE SUPPORT SHOWN IS BEING PROVIDED BY OTHER MEANS. SEE DETAILS ON PLAN SHEETS (WHERE AVAILABLE) FOR FURTHER INFORMATION.

L14
SEE POWER DISTRIBUTION SYSTEM ONE UNE DIAGRAMS SHEETS E-11 THROUGH E-13 FOR CONDUCTOR, CONDUIT INFORMATION, AND CONTINUATION OF THE CIRCUIT.

L15
SPLICE CONDUCTORS FOR MOTOR TEMPERATURE/SEAL LEAK CIRCUITS TO PUMP MANUFACTURER'S CABLE IN JUNCTION BOX.

L16
FIELDBUS SHALL BE CONNECTED VIA ETHERNET. (ETHERNET CABLING IN MOTOR CONTROL CENTERS SHALL HAVE INSULATION RATED FOR 600 VOLTS.)

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BRADLEY R. BAILEY — STATE OF WASHINGTON — 23059 — REGISTERED PROFESSIONAL ENGINEER
03/12/2026

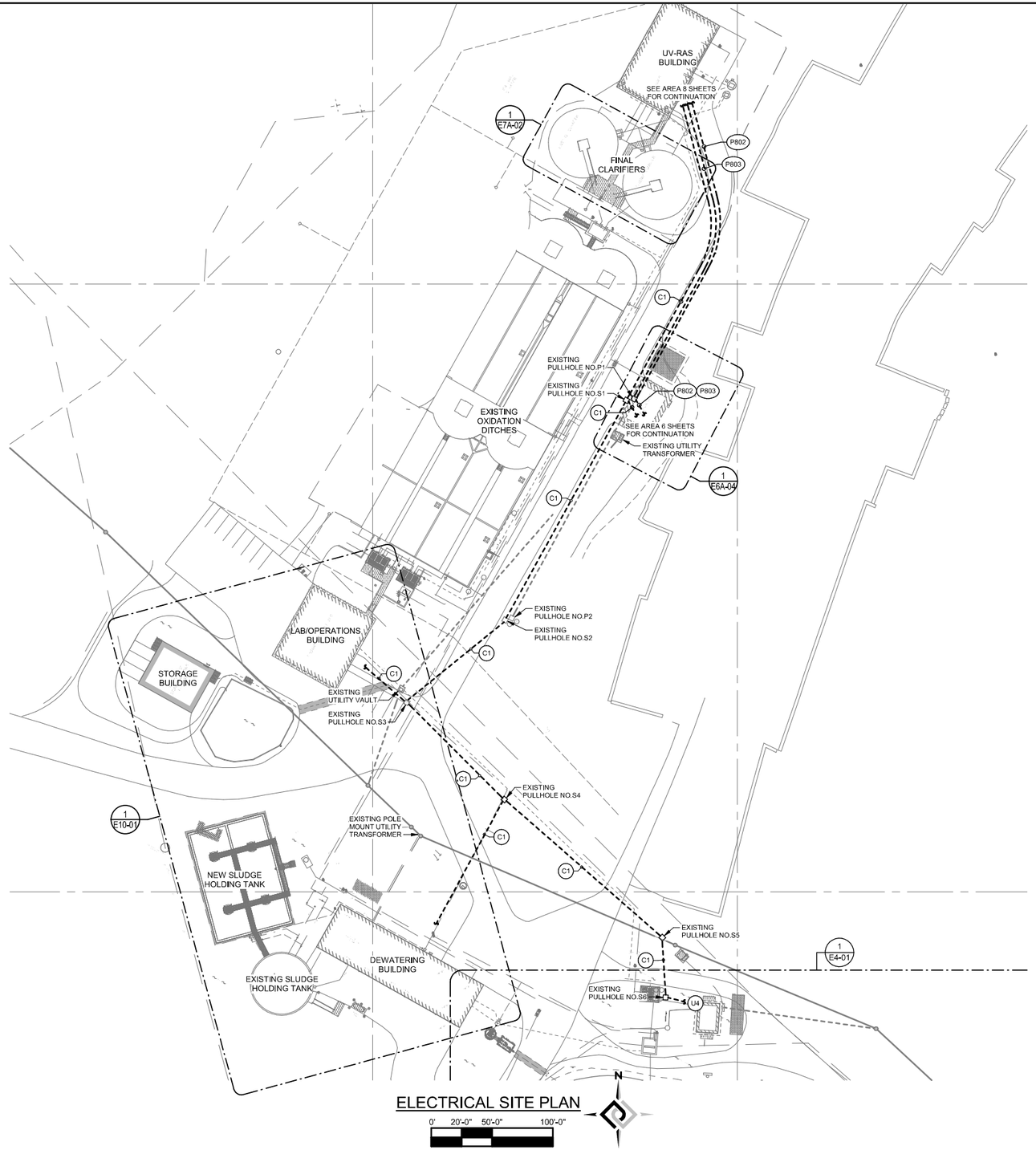
REVISION	DATE

JOB NUMBER: 23030 | DATE: 3/13/2026
FILE NAMES:
DRAWING: HLA-23030_E_R24.RVT
PLAN: 23030
DESIGNED BY: BBB
ENTERED BY: BAS

CITY OF GRANDVIEW
WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1
GENERAL NOTES

E0-02

SHEET 86 OF 192



ELECTRICAL SITE PLAN

KEY NOTES

C1 SEE COMMUNICATIONS SYSTEM BLOCK DIAGRAMS ON SHEET E0-09 FOR CIRCUIT AND EQUIPMENT INFORMATION.

P802 SEE ONE LINE DIAGRAM FOR CIRCUIT AND EQUIPMENT INFORMATION AS REFERENCED BY THE MOTOR CONTROL CENTER "08 MCC A" SCHEDULE SHOWN ON SHEETS E8-05.

P803 SEE ONE LINE DIAGRAM FOR CIRCUIT AND EQUIPMENT INFORMATION AS REFERENCED BY THE MOTOR CONTROL CENTER "08 MCC B" SCHEDULE SHOWN ON SHEETS E8-05.

U4 SEE E4 SERIES SHEETS FOR FURTHER INFORMATION.

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DRAWING: HLA-23030_E_R24.RVT
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CITY OF GRANDVIEW
WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1
OVERALL SITE PLAN

E0-03

LTG-LIGHTING FIXTURE SCHEDULE

Type Mark	Description	Manufacturer	Catalog Number	Lumens	Lamp Type	Input Watts	Remarks
Interior Fixtures							
B4	LED, COMMERCIAL, 3" X 4' SURFACE MOUNT / PENDANT CABLE SUSPENDED, WIDE FROSTED LINEAR LENS, STEEL HOUSING, BAKED WHITE ACRYLIC MATTE, UNIVERSAL VOLTAGE, 5 YEAR WARRANTY	COOPER LIGHTING	4SNX-41SL-LW-UNV-L840-CD1-U	3,848	LED 4000K	26.32 VA	FIXTURES WITH "EM" DESIGNATION ARE BATTERY BACKED
B8	LED, COMMERCIAL, 3" X 8' SURFACE MOUNT / PENDANT CABLE SUSPENDED, WIDE FROSTED LINEAR LENS, STEEL HOUSING, BAKED WHITE ACRYLIC MATTE, UNIVERSAL VOLTAGE, 5 YEAR WARRANTY	COOPER LIGHTING	8TSNX-82SL-LW-UNV-L840-CD1-U	7,697	LED 4000K	52.64 VA	FIXTURES WITH "EM" DESIGNATION ARE BATTERY BACKED
G4	LED, 4' LONG, SURFACE MOUNT OR CHAIN HUNG, ENCLOSED AND GASKETED, ONE PIECE HOUSING, MOLDED FIBERGLASS REINFORCED POLYESTER BODY, END ENTRY HUBS, IMPACT RESISTANT POLYCARBONATE DIFFUSER, STAINLESS STEEL LATCHES, FUSING, WET LABEL, 80 CRI, 120 VOLT, 5 YEAR WARRANTY	COOPER LIGHTING	4APVTLD-SL3C3	4,620	LED 4000K	32 VA	FIXTURES WITH "EM" DESIGNATION ARE BATTERY BACKED
G8	LED, 8' LONG, SURFACE MOUNT OR CHAIN HUNG, ENCLOSED AND GASKETED, ONE PIECE HOUSING, MOLDED FIBERGLASS REINFORCED POLYESTER BODY, END ENTRY HUBS, IMPACT RESISTANT POLYCARBONATE DIFFUSER, STAINLESS STEEL LATCHES, FUSING, WET LABEL, 80 CRI, 120 VOLT, 5 YEAR WARRANTY	COOPER LIGHTING	8APVTLD-SL3C3	10,321	LED 4000K	78 VA	FIXTURES WITH "EM" DESIGNATION ARE BATTERY BACKED
G8EM	LED, 8' LONG, SURFACE MOUNT OR CHAIN HUNG, ENCLOSED AND GASKETED, ONE PIECE HOUSING, MOLDED FIBERGLASS REINFORCED POLYESTER BODY, END ENTRY HUBS, IMPACT RESISTANT POLYCARBONATE DIFFUSER, STAINLESS STEEL LATCHES, FUSING, WET LABEL, 80 CRI, 120 VOLT, 5 YEAR WARRANTY, EMERGENCY BATTERY	LITHONIA	CSVT-L96-8000LM-MVOLT-40K-80CRI-STSL-E10W	8326	LED 4000K	68 VA	
H	LED, PENDANT MOUNT, LOW BAY, 12" ROUND, WIDE DISTRIBUTION, ALUMINUM HOUSING, WET LABEL, WHITE POLYESTER POWDERCOAT FINISH, PROVIDE PENDANT LENGTH AS NECESSARY TO MOUNT AT HEIGHT INDICATED, UNIVERSAL VOLTAGE, FIVE YEAR WARRANTY	COOPER LIGHTING	UHBS2-1218-MV-L8C5-U	18607	LED 4000K	119.1 VA	FIXTURES WITH "EM" DESIGNATION ARE BATTERY BACKED
Exterior Fixtures							
AA	LED, BRONZE, OUTDOOR AREA LIGHT, SQUARE, DIE-FORMED ALUMINUM HOUSING, 80 CRI, TYPE IV WIDE DISTRIBUTION, FUSING, DARK BRONZE ANODIZED FINISH, 277 VOLT	COOPER LIGHTING	GALN-SB-2-A-840-U-T4W-BZ	9472	LED 4000K	68,8 VA	POLE P1
DD	LED, EXTERIOR, WALL MOUNTED, TRAPEZOIDAL SCOUNCE, FULL CUT OFF, DIE-CAST ALUMINUM HOUSING, TYPE III DISTRIBUTION, 120 VOLT, 5 YEAR WARRANTY	COOPER LIGHTING	GKO-PB1E-740-U-T3-BZ	5,151	LED 4000K	38 VA	
FF	LED, BRONZE, OUTDOOR AREA LIGHT, SQUARE, DIE-FORMED ALUMINUM HOUSING, 80 CRI, TYPE IV WIDE DISTRIBUTION, FUSING, DARK BRONZE ANODIZED FINISH, 120 VOLT	COOPER LIGHTING	GALN-SB-2-A-840-U-T4W-BZ	9472	LED 4000K	68.8 VA	POLE P1
FR	LED, 6" ROUND, RETROFIT (INSTALL FROM BELOW), EXTERIOR, 120 VOLT, MEDIUM WIDE DISTRIBUTION, WHITE TRIM, BLACK FLANGE, 5 YEAR WARRANTY	COOPER LIGHTING	HC6R45D010-HM6R4560840-62RMDWBF	4,688	LED 4000K	45.9 VA	PROVIDE GOOF RING AS NECESSARY

FEEDER SCHEDULE

	Copper Conductors (THHN/THWN)					Aluminum Conductors (THHN/THWN)				
	Quantity of	Raceway	Conductors			Quantity of	Raceway	Conductors		
Circuit Tag	sets	Size	Phase	Neutral	Ground	sets	Size	Phase	Neutral	Ground
30	1	1"	10		10					
30N	1	1"	10	10	10					
30NT	1	1"	10	10	8					
40	1	1"	8		10					
40N	1	1"	8	8	10					
50	1	1"	6		10					
50N	1	1"	6	6	10					
50NT	1	1"	6	6	8					
60	1	1 1/4"	4		10	1	1-1/4"	3		8
60N	1	1 1/4"	4	4	10	1	1-1/4"	3	3	8
60NT	1	1 1/4"	4	4	8	1	1-1/4"	3	3	6
70	1	1 1/4"	4		8	1	1-1/4"	2		8
70N	1	1 1/4"	4	4	8	1	1-1/4"	2	2	8
80	1	1 1/4"	3		8	1	1-1/2"	1		6
80N	1	1 1/4"	3	3	8	1	1-1/2"	1	1	6
90	1	1 1/4"	2		8	1	2"	1/0		6
90N	1	1 1/4"	2	2	8	1	2"	1/0	1/0	6
100	1	1 1/2"	1		8	1	2"	1/0		6
100N	1	1 1/2"	1	1	8	1	2"	1/0	1/0	6
100NT	1	1 1/2"	1	1	6	1	2"	1/0	1/0	6
110	1	1 1/2"	1		6	1	2"	1/0		6
110N	1	1 1/2"	1	1	6	1	2"	1/0	1/0	6
125	1	2"	1/0		6	1	2"	2/0		4
125N	1	2"	1/0	1/0	6	1	2"	2/0	2/0	4
125NT	1	2"	1/0	1/0	6	1	2"	2/0	2/0	4
150	1	2"	1/0		6	1	2"	3/0		4
150N	1	2"	1/0	1/0	6	1	2"	3/0	3/0	4
175	1	2"	2/0		6	1	2-1/2"	4/0		4
175N	1	2"	2/0	2/0	6	1	2-1/2"	4/0	4/0	4
200	1	2 1/2"	3/0		6	1	3"	250		4
200N	1	2 1/2"	3/0	3/0	6	1	3"	250	250	4
200NT	1	2 1/2"	3/0	3/0	4	1	3"	250	250	2
225	1	2 1/2"	4/0		4	1	3"	300		2
225N	1	2 1/2"	4/0	4/0	4	1	3"	300	300	2
225NT	1	2 1/2"	4/0	4/0	2	1	3"	300	300	1/0
250	1	2 1/2"	250		4	1	3"	350		2
250N	1	2 1/2"	250	250	4	1	3"	350	350	2
300	1	3"	350		4	2	2-1/2"	3/0		2
300N	1	3"	350	350	4	2	2-1/2"	3/0	3/0	2
300NT	1	3"	350	350	2	2	2-1/2"	3/0	3/0	1/0
350	2	2"	2/0		3	2	2-1/2"	4/0		1
350N	2	2"	2/0	2/0	3	2	2-1/2"	4/0	4/0	1
400	2	2"	3/0		3	2	2-1/2"	250		1
400N	2	2"	3/0	3/0	3	2	2-1/2"	250	250	1
400NT	2	2"	3/0	3/0	2	2	3"	250	250	1/0
450	2	2 1/2"	4/0		2	2	3"	300		1/0
450N	2	2 1/2"	4/0	4/0	2	2	3"	300	300	1/0
500	2	2 1/2"	250		2	2	3"	350		1/0
500N	2	2 1/2"	250	250	2	2	3"	350	350	1/0
500NT	2	2 1/2"	250	250	1/0	2	3"	350	350	3/0
600	2	3"	350		1	2	3-1/2"	500		2/0
600N	2	3"	350	350	1	2	3-1/2"	500	500	2/0
600NT	2	3"	350	350	2/0	2	3-1/2"	500	500	4/0
700	2	3 1/2"	500		1/0	3	3"	350		3/0
700N	2	3 1/2"	500	500	1/0	3	3"	350	350	3/0
800	3	3"	300		1/0	3	3-1/2"	400		3/0
800N	3	3"	300	300	1/0	3	3-1/2"	400	400	3/0
800NT	3	3"	300	300	2/0	3	3-1/2"	400	400	250
1000	3	3 1/2"	400		2/0	4	3"	350		4/0
1000N	3	3 1/2"	400	400	2/0	4	3"	350	350	4/0
1200	4	3"	350		3/0	4	3-1/2"	500		250
1200N	4	3"	350	350	3/0	4	3-1/2"	500	500	250
1600	4	4"	600		4/0	6	3-1/2"	400		350
1600N	4	4"	600	600	4/0	6	3-1/2"	400	400	350
2000	5	4"	600		250	6	3-1/2"	300		400
2000N	5	4"	600	600	250	6	3-1/2"	300	300	400

Provide 3 phase conductors for all 3 phase feeders at 208V or 480V.
Provide 2 phase conductors for all single phase feeders at 208V, 240V, or 480V.
Provide 1 phase conductor for all single phase feeders 120V or 277V.

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BRADLEY R. BALL
STATE OF WASHINGTON
25570
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03/12/2026

REVISION	DATE

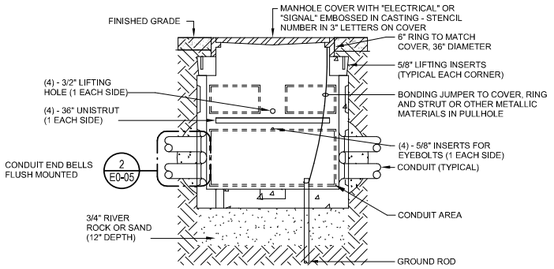
JOB NUMBER: 23030 | DATE: 3/13/2026

FILE NAMES:
DRAWING: HLA-23030_E_R24.RVT
PLAN: 23030

DESIGNED BY: BBB
ENTERED BY: BAS

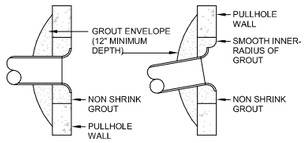
CITY OF GRANDVIEW
WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1
LIGHTING FIXTURE AND FEEDER SCHEDULES

E0-04



DETAIL 1/E0-05
4'x4' POWER OR SIGNAL PULLHOLE

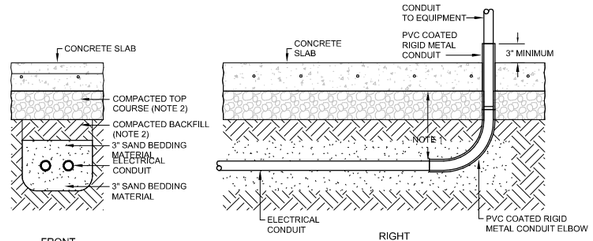
SCALE: 1/2" = 1'-0"



NOT CALLED OUT, TYPICAL CONDUIT INSTALLATION

DETAIL 2/E0-05
MAINTENANCE HOLE CONDUIT PENETRATIONS

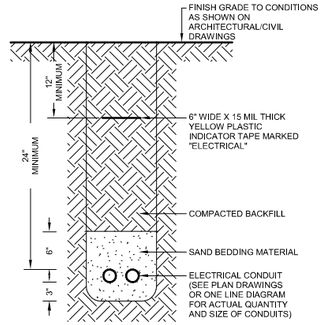
SCALE: 1/2" = 1'-0"



1. TOP-OF-CONDUIT BURIAL DEPTH TO THE BOTTOM OF CONCRETE SLAB SHALL BE AT LEAST TWELVE INCHES BUT MAY BE ADJUSTED TO BE DEEPER DEPENDING ON THE RADIUS OF THE ELBOW. IT IS ACCEPTABLE TO INSTALL THE STRAIGHT (VERTICAL) PORTION OF THE ELBOW THROUGH THE CONCRETE SLAB, BUT IT IS NOT ACCEPTABLE TO INSTALL THE CURVED PORTION OF THE ELBOW IN THE CONCRETE SLAB.
2. PROVIDE COMPACTED BACKFILL & TOP COURSE PER STRUCTURAL REQUIREMENTS.
3. CONDUITS CROSSING FOOTINGS OR STEMWALLS SHALL ROUTE UNDER INTERIOR AND EXTERIOR BUILDING FOOTINGS. IT IS NOT ACCEPTABLE TO ROUTE CONDUITS THROUGH FOOTING OR STEMWALLS OR ROUTE INSLAB. INCREASE TRENCH DEPTH IN THESE AREAS AS REQUIRED TO PASS UNDER FOOTINGS AND STEMWALLS.

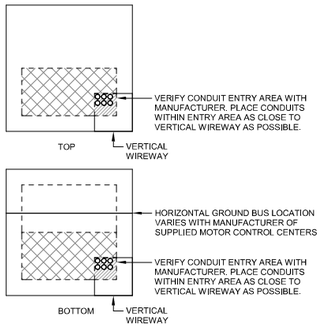
DETAIL 3/E0-05
TRENCHING FOR UNDERSLAB ELECTRICAL CONDUITS SECONDARY POWER OR SIGNAL CIRCUITS

SCALE: 1" = 1'-0"



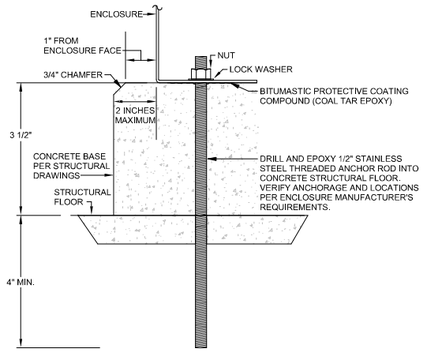
DETAIL 4/E0-05
TRENCH FOR ELECTRICAL CIRCUITS SECONDARY POWER OR SIGNAL CIRCUITS

SCALE: 1" = 1'-0"



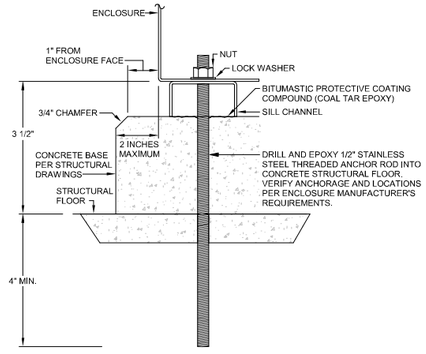
DETAIL 5/E0-05
TYPICAL MOTOR CONTROL CENTER CONDUIT ENTRANCE AREAS

SCALE: NONE



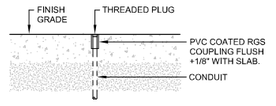
DETAIL 6/E0-05
FLOOR MOUNTED ENCLOSURE MOUNTING

SCALE: 6" = 1'-0"



DETAIL 7/E0-05
FLOOR MOUNTED ENCLOSURE MOUNTING WITH CHANNEL

SCALE: 6" = 1'-0"



DETAIL 8/E0-05
FLUSH COUPLING

SCALE: NONE

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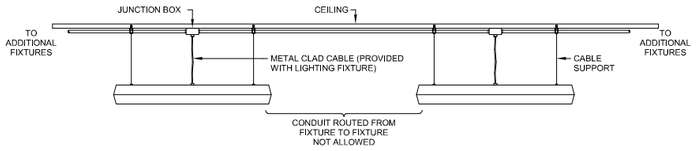
BRADLEY R. BALES — STATE OF WASHINGTON — 24007 — REGISTERED PROFESSIONAL ENGINEER
03/12/2026

REVISION	DATE

JOB NUMBER: 23030 | DATE: 3/13/2026
FILE NAMES:
DRAWING: HLA-23030_E_R24.RVT
PLAN: 23030
DESIGNED BY: BBB
ENTERED BY: BAS

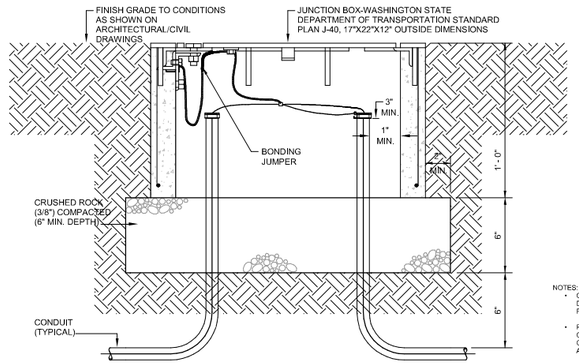
CITY OF GRANDVIEW
WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1
ELECTRICAL SITE DETAILS

E0-05

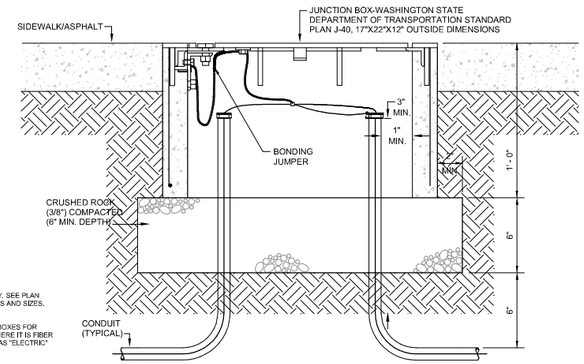


DETAIL 1/E0-06
PENDANT MOUNTING

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



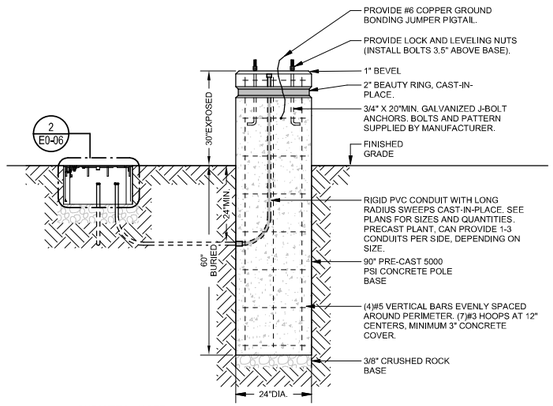
OR



NOTES:
- CONDUITS ARE SHOWN DIAGRAMMATICALLY. SEE PLAN DRAWING FOR ACTUAL CONDUIT QUANTITIES AND SIZES. PROVIDE CUSTOMER WITH KEY FOR LID.
- PROVIDE AND LABEL SEPARATE JUNCTION BOXES FOR COMMUNICATIONS/ELECTRICAL EXCEPT WHERE IT IS FIBER ONLY FOR COMMUNICATIONS, THEN LABEL AS "ELECTRIC" AND SINGLE BOX IS ACCEPTABLE.

DETAIL 2/E0-06
JUNCTION BOX

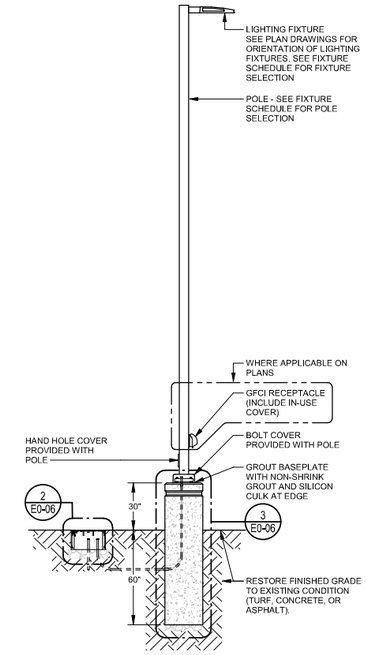
SCALE: 1 : 6



SUBMITTAL NOTE
CONTRACTOR IS RESPONSIBLE FOR COORDINATING CORRECT BASE FOR (SIZE AND LOCATION), CONDUIT (QUANTITIES AND THEIR ORIENTATION), AND BOLT PATTERNS WITH THE PRECAST MANUFACTURER FOR EACH INDIVIDUAL POLE BASE PRIOR TO SUBMITTALS. A SUBMITTAL SHEET SHALL BE SUBMITTED FOR EACH TYPE, WITH AN INDEX OF SITE LOCATIONS.

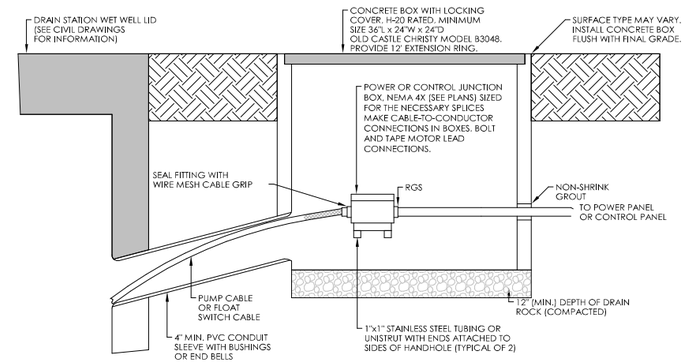
DETAIL 3/E0-06
EXPOSED PRE-CAST BASE

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



DETAIL 4/E0-06
AREA LIGHT

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



DETAIL 5/E0-06
HANDHOLE ELEVATION

SCALE: 12" = 1'-0"

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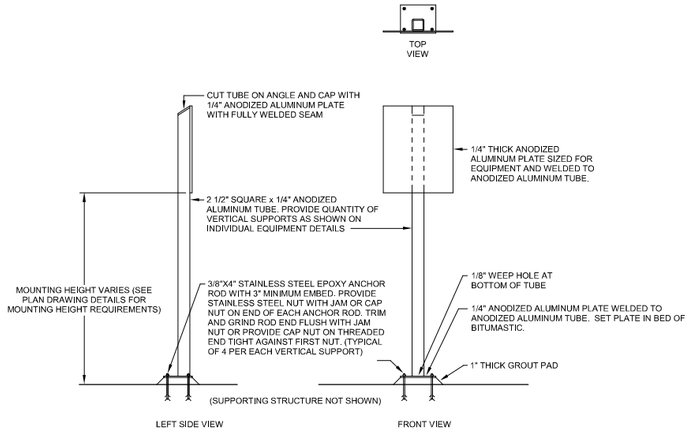
BRADLEY R. BAILEY — STATE OF WASHINGTON — 23578 — REGISTERED PROFESSIONAL ENGINEER
03/12/2026

REVISION	DATE

JOB NUMBER: 23030 | DATE: 3/13/2026
FILE NAMES:
DRAWING: HLA-23030_E_R24.RVT
PLAN: 23030
DESIGNED BY: BBB
ENTERED BY: BAS

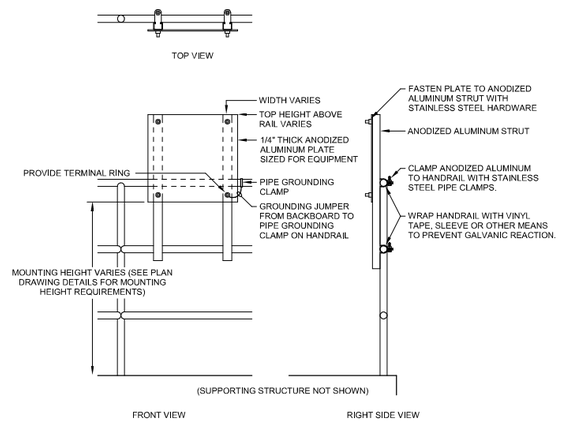
CITY OF GRANDVIEW
WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1
ELECTRICAL SITE DETAILS

E0-06



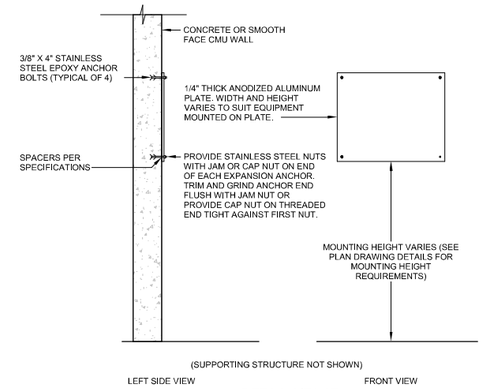
DETAIL 1/E0-07
MOUNTING ON STANCHION

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



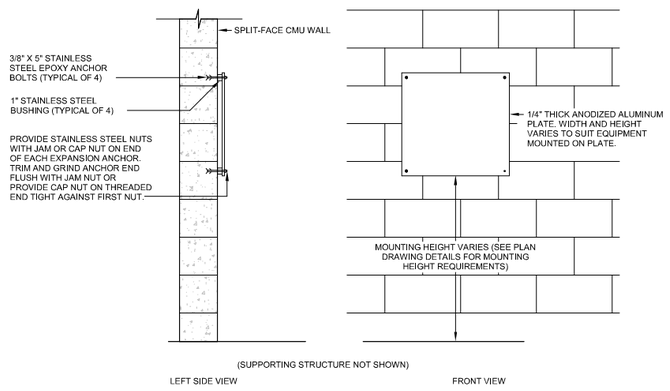
DETAIL 2/E0-07
MOUNTING ON RAILING

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



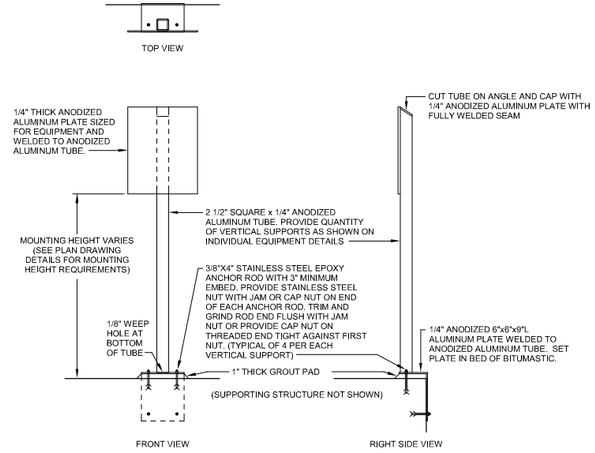
DETAIL 3/E0-07
MOUNTING ON CONCRETE OR SMOOTH FACE CMU WALL

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



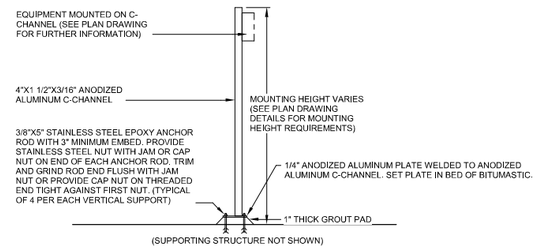
DETAIL 4/E0-07
MOUNTING ON SPLIT FACE CMU WALL

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



DETAIL 5/E0-07
MOUNTING ON STANCHION ON EQUIPMENT OR VAULT

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



DETAIL 6/E0-07
MOUNTING ON C-CHANNEL

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

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03/12/2026

REVISION	DATE

JOB NUMBER: 23030 | DATE: 3/13/2026

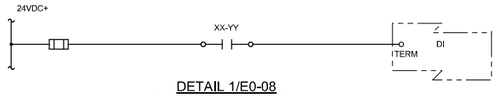
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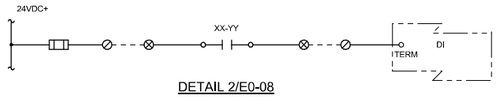
CITY OF GRANDVIEW
WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1
ELECTRICAL MOUNTING DETAILS

E0-07

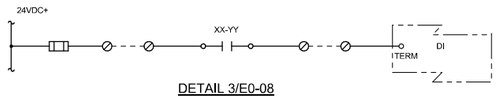
SHEET 91 OF 192



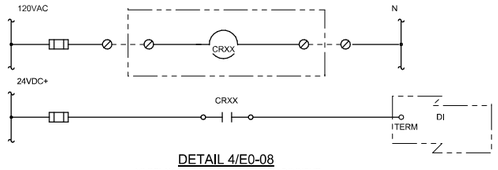
DETAIL 1/E0-08
RELAY CONTACT FROM RELAY WITHIN PLC PANEL OR REMOTE I/O PANEL



DETAIL 2/E0-08
DRY CONTACT WIRED FROM A MOTOR CONTROL CENTER UNIT



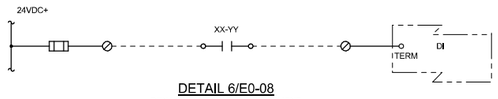
DETAIL 3/E0-08
DRY CONTACT IN A CONTROL PANEL IN THE FIELD



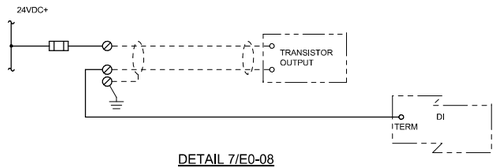
DETAIL 4/E0-08
AC RELAY ON FIELD EQUIPMENT TO DC INPUT



DETAIL 5/E0-08
SPARE INPUT



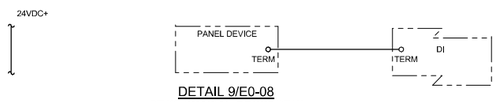
DETAIL 6/E0-08
DRY CONTACT ON FIELD EQUIPMENT



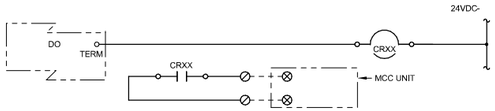
DETAIL 7/E0-08
TRANSISTOR OUTPUT ON FIELD EQUIPMENT SUCH AS MAGNETIC FLOW METERS



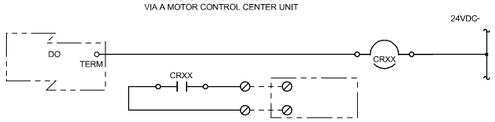
DETAIL 8/E0-08
SPARE INPUT



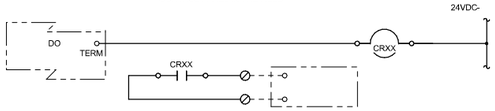
DETAIL 9/E0-08
REMOTELY SOURCED SIGNAL WITHIN PLC PANEL OR REMOTE I/O PANEL



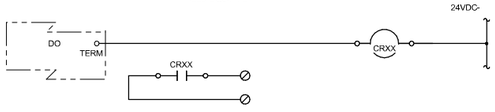
DETAIL 10/E0-08
DISCRETE OUTPUT WIRED TO OR VIA A MOTOR CONTROL CENTER UNIT



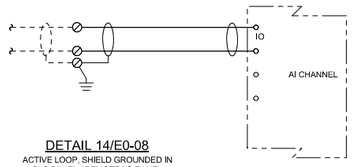
DETAIL 11/E0-08
DISCRETE OUTPUT WIRED TO A CONTROL PANEL IN THE FIELD



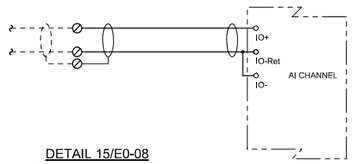
DETAIL 12/E0-08
DISCRETE OUTPUT WIRED TO FIELD EQUIPMENT



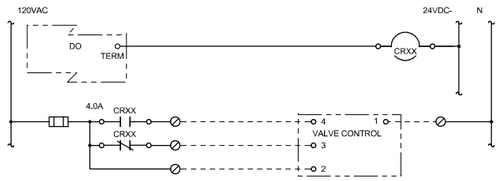
DETAIL 13/E0-08
SPARE DISCRETE OUTPUT



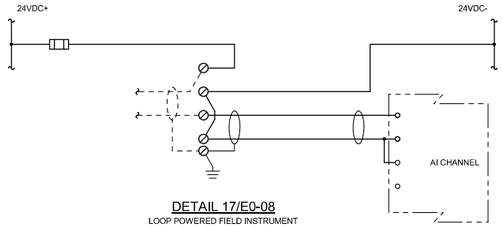
DETAIL 14/E0-08
ACTIVE LOOP, SHIELD GROUNDED IN PLC PANEL / REMOTE I/O PANEL



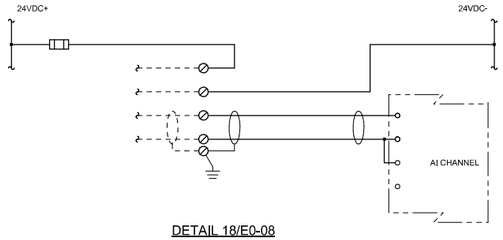
DETAIL 15/E0-08
ACTIVE LOOP, SHIELD GROUNDED IN THE FIELD



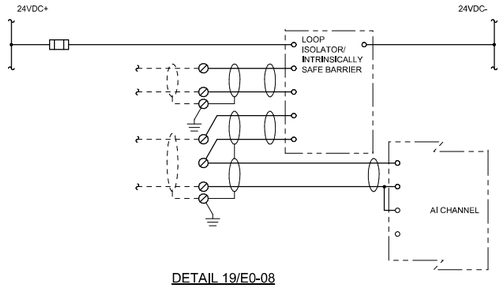
DETAIL 16/E0-08
MOTOR OPERATED VALVE



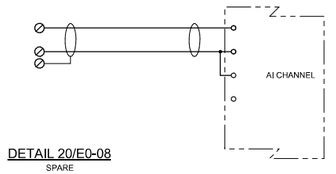
DETAIL 17/E0-08
LOOP POWERED FIELD INSTRUMENT



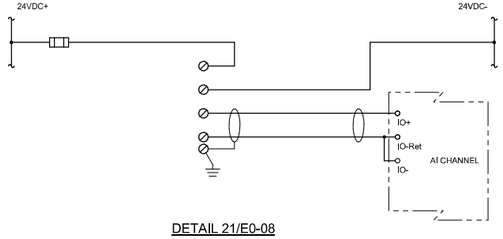
DETAIL 18/E0-08
ACTIVE LOOP, 24 VDC INSTRUMENT POWERED FROM THE PLC PANEL / REMOTE I/O PANEL



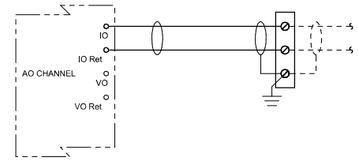
DETAIL 19/E0-08
ACTIVE LOOP, WITH LOOP ISOLATOR IN THE PLC PANEL / REMOTE I/O PANEL



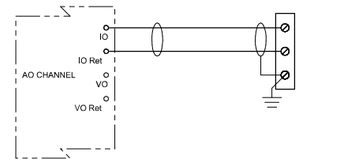
DETAIL 20/E0-08
SPARE



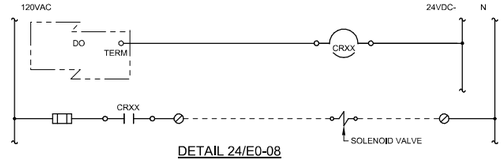
DETAIL 21/E0-08
SPARE



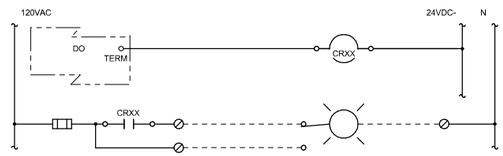
DETAIL 22/E0-08
PACING / SETPOINT REFERENCE FOR REMOTE EQUIPMENT



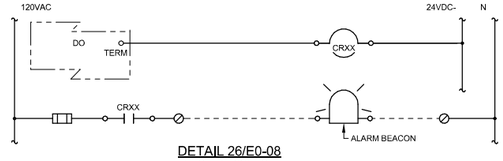
DETAIL 23/E0-08
SPARE



DETAIL 24/E0-08
SOLENOID VALVE



DETAIL 25/E0-08
REMOTE PILOT LIGHT WITH PUSH-TO-TEST



DETAIL 26/E0-08
REMOTE BEACON LIGHT

NOTES:

1. PROVIDE ONE FUSE PER FUSE GROUP (SHOWN ON THE I/O SCHEDULES). LAND FIELD CONNECTIONS TO TERMINALS. DO NOT LAND FIELD CONNECTIONS TO FUSES.

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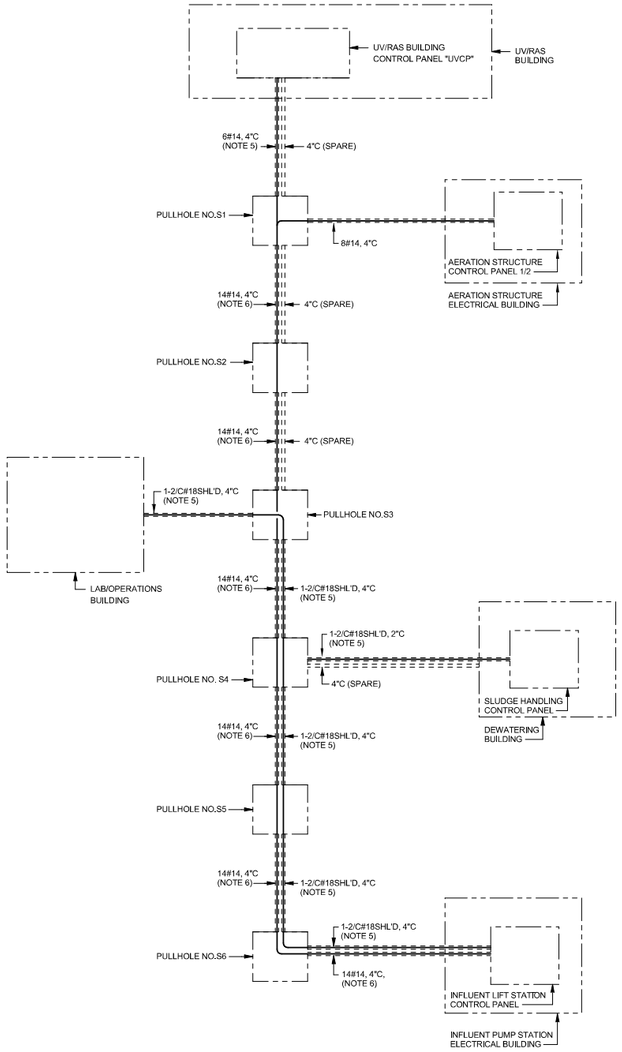
REVISION	DATE

JOB NUMBER: 23030 | DATE: 3/13/2026
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WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1
CONTROL PANEL I/O WIRING DETAILS

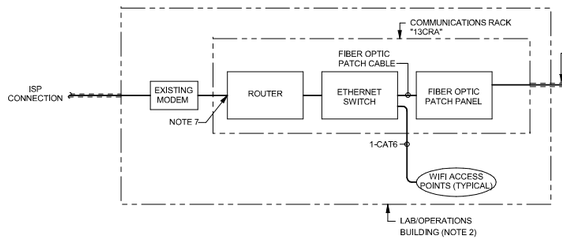
E0-08

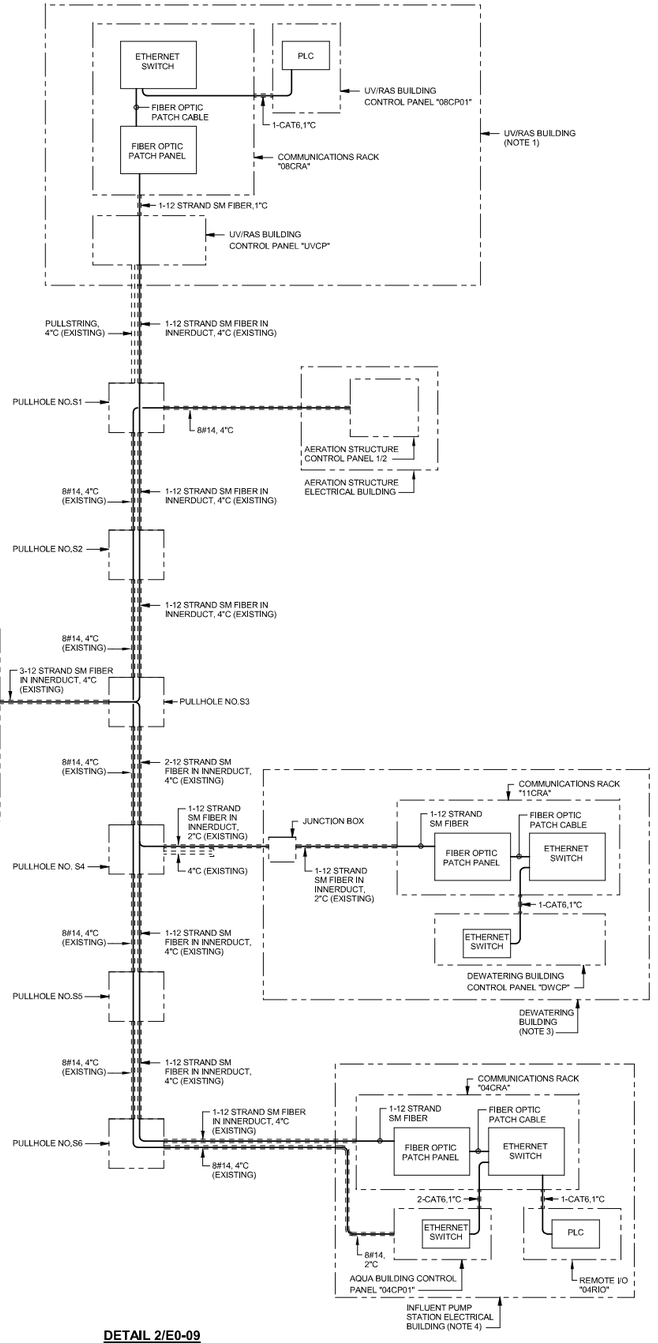
SHEET 92 OF 192



DETAIL 1/E0-09
COMMUNICATIONS SYSTEM BLOCK DIAGRAM - EXISTING

SCALE: NONE





DETAIL 2/E0-09
COMMUNICATIONS SYSTEM BLOCK DIAGRAM - PHASE 1

SCALE: NONE

GENERAL NOTES

A. BLOCK DIAGRAM IS INTENDED TO PROVIDE COMMUNICATIONS SYSTEM OVERVIEW AND TO DEPICT INTERCONNECTION BETWEEN AREAS/BUILDINGS VIA FIBER ETHERNET NETWORK. NOT ALL REQUIRED WORK IS SHOWN. SEE INDIVIDUAL AREA AND BUILDING DRAWINGS FOR FURTHER DETAILS.

B. COORDINATE SCHEDULING AND SEQUENCING OF COMMUNICATIONS WORK SHOWN WITH OTHER TRADES AND PROJECT SEQUENCING.

SHEET NOTES

1. SEE AREA 8 SHEETS FOR FURTHER INFORMATION AND WORK IN THIS AREA.
2. SEE AREA 13 SHEETS FOR FURTHER INFORMATION AND WORK IN THIS AREA.
3. SEE AREA 11 SHEETS FOR FURTHER INFORMATION AND WORK IN THIS AREA.
4. SEE AREA 4 SHEETS FOR FURTHER INFORMATION AND WORK IN THIS AREA.
5. DEMOLISH CONDUCTORS. PRESERVE AND PROTECT RACEWAY FOR REUSE.
6. PRESERVE EXISTING 8#14 CONDUCTORS BACK TO AERATION STRUCTURE CONTROL PANEL NO.1 (ASCP1). DEMOLISH ALL OTHER CONDUCTORS. PRESERVE AND PROTECT RACEWAY FOR REUSE.
7. CONNECT OWNER'S EXISTING INTERNET SERVICE PROVIDER MODEM TO NEW ROUTER WAN PORT.

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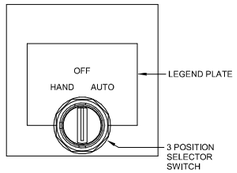
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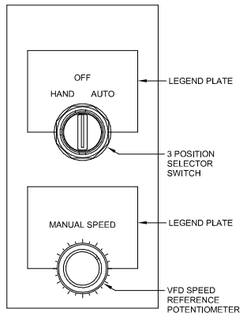
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CITY OF GRANDVIEW
WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1
BLOCK DIAGRAMS – COMMUNICATION SYSTEMS

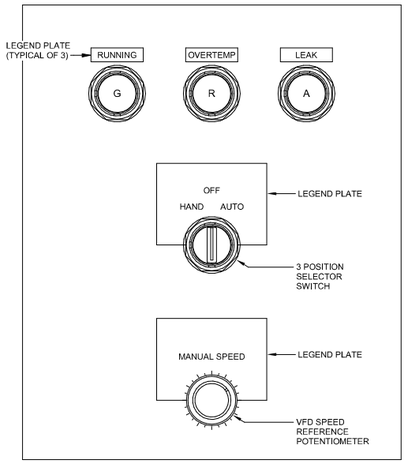
E0-09



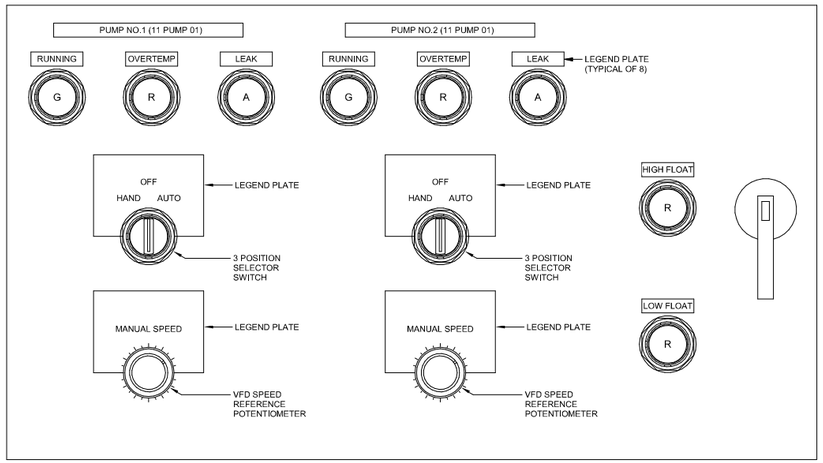
DETAIL 1/E0-10
HAND-OFF-AUTO CONTROL STATION
SCALE: 6" = 1'-0"



DETAIL 2/E0-10
HAND-OFF-AUTO WITH SPEED POT CONTROL STATION
SCALE: 6" = 1'-0"



DETAIL 3/E0-10
HAND-OFF-AUTO WITH SPEED POT AND THREE LIGHTS
SCALE: 6" = 1'-0"
(NOTE 3)



DETAIL 4/E0-10
DRAIN CONTROL STATION
SCALE: 6" = 1'-0"
(NOTE 3)

CONTROL STATION AND DISCONNECT SWITCH SCHEDULE PHASE 1 (NOTE 1)

EQUIPMENT TAG	NAMEPLATE	PLAN	OLD	EWD	DETAIL	ENCLOSURE TYPE	RATING	AUX	FUSE	ELEVATION	NOTES
	PRIMARY CLARIFIER NO.2 SPARE		E2-03	1/E2-07							
	DRAIN STATION PUMP NO.1 (11 PMP 01) VFD (SPARE)	2/E11-18	3/E11-06	1/E11-08	4/E0-10	3R	3P-30A	1	NONE	2/E11-19	
	SLUDGE MIXER NO.3 (10 MXR 03) VFD (SPARE)	1/E10-04	2/E11-06	1/E11-07	2/E0-10	4X	3P-30A	1	NONE	2/E10-04	
	SLUDGE MIXER NO.2 (10 MXR 02) VFD (SPARE)	1/E10-03	2/E11-06	1/E11-07	1/E0-10	4X	3P-30A	1	NONE	2/E10-04	
	SLUDGE MIXER NO.4 (10 MXR 04) VFD (SPARE)	1/E10-04	2/E11-06	1/E11-07	1/E0-10	4X	3P-30A	1	NONE	2/E10-04	
	DRAIN STATION PUMP VFD (SPARE)	2/E11-18	3/E11-06	1/E11-08	4/E0-10	3R	3P-30A	1	NONE	2/E11-19	
	INFLUENT PUMP ELECTRICAL BUILDING HVAC UNIT #2	1/E4-23	–	–	–	3R	2P-30A	–	NOTE 2	–	
	INFLUENT PUMP ELECTRICAL BUILDING HVAC UNIT #1	1/E4-23	–	–	–	3R	2P-30A	–	NOTE 2	–	
	DEWATERING ELECTRICAL ROOM HVAC UNIT #2	1/E11-16	–	–	–	3R	2P-30A	–	NOTE 2	–	
	DEWATERING ELECTRICAL ROOM HVAC UNIT #1	1/E11-16	–	–	–	3R	2P-30A	–	NOTE 2	–	
04 PMP 01	INFLUENT PUMP NO.1 (04 PMP 01)	1/E4-23	5/E4-09	1/E4-09	3/E0-10	4X	3P-30A	1	NONE	3/E0-10	
04 PMP 02	INFLUENT PUMP NO.2 (04 PMP 02)	1/E4-23	5/E4-09	1/E4-09	3/E0-10	4X	3P-30A	1	NONE	3/E0-10	
04 PMP 03	INFLUENT PUMP NO.3 (04 PMP 03)	1/E4-23	5/E4-09	1/E4-09	3/E0-10	4X	3P-30A	1	NONE	3/E0-10	
04 PMP 04	INFLUENT PUMP NO.4 (04 PMP 04) (FUTURE)	1/E4-23	5/E4-09	1/E4-09	3/E0-10	4X	3P-30A	1	NONE	3/E0-10	
07 CLR 01	FINAL CLARIFIER NO.1	E7-02	E8-04	–	–	4X	3P-30A	1	NONE	–	
07 CLR 02	FINAL CLARIFIER NO.2	E7-02	E8-04	–	–	4X	3P-30A	1	NONE	–	
08 HP 01	HEAT PUMP HP-1	E8-21	–	–	–	3R	2P-60A	–	NOTE 2	–	
08 HP 02	HEAT PUMP HP-2	E8-21	–	–	–	3R	2P-60A	–	NOTE 2	–	
10 MXR 01	SLUDGE MIXER NO.1 (10 MXR 01) VFD	1/E10-03	1/E11-06	1/E11-07	1/E0-10	4X	3P-30A	1	NONE	2/E10-03	
10 MXR 02	SLUDGE MIXER NO.2 (10 MXR 02) VFD	1/E10-03	1/E11-06	1/E11-07	1/E0-10	4X	3P-30A	1	NONE	2/E10-03	
10 MXR 03	SLUDGE MIXER NO.3 (10 MXR 03) VFD	1/E10-04	2/E11-06	1/E11-07	2/E0-10	4X	3P-30A	1	NONE	2/E10-03	
10 MXR 04	SLUDGE MIXER NO.4 (10 MXR 04) VFD	1/E10-04	2/E11-06	1/E11-07	1/E0-10	4X	3P-30A	1	NONE	2/E10-03	
10 MXR 05	SLUDGE MIXER NO.5 (10 MXR 05) VFD	1/E10-04	2/E11-06	1/E11-07	2/E0-10	4X	3P-30A	1	NONE	2/E10-03	
10 MXR 06	SLUDGE MIXER NO.6 (10 MXR 06) VFD	1/E10-04	2/E11-06	1/E11-07	1/E0-10	4X	3P-30A	1	NONE	2/E10-03	
11 PMP 01	DRAIN STATION PUMP NO.1 (11 PMP 01) VFD	1/E11-18	3/E11-06	1/E11-08	4/E0-10	4X	3P-30A	1	NONE	2/E11-19	
11 PMP 02	DRAIN STATION PUMP NO.2 (11 PMP 02) VFD	1/E11-18	3/E11-06	1/E11-08	4/E0-10	4X	3P-30A	1	NONE	2/E11-19	
11 PMP 03	WELL PUMP		5/E11-06	5/E11-07							

SHEET NOTES

1. NOTE THE FOLLOWING INFORMATION REGARDING THE COLUMNS IN THE CONTROL STATION AND DISCONNECT SWITCH SCHEDULE:
   - OLD — REFERENCE TO THE ONE LINE DIAGRAM FOR THE ITEM
   - EWD — REFERENCE TO THE ELEMENTARY WIRING DIAGRAM FOR THE ITEM (IF APPLICABLE)
   - DETAIL — REFERENCE TO THE DETAIL OF THE DISCONNECT AND/OR THE CONTROL STATION (IF APPLICABLE)
   - ENCL TYPE — NEMA RATING FOR THE DISCONNECT SWITCH AND CONTROL STATION (4X ENCLOSURES SHALL BE STAINLESS STEEL)
   - DISC. SWITCH — HEAVY DUTY SINGLE THROW SAFETY DISCONNECT RATED AT 480 VAC UNLESS OTHERWISE NOTED.
   - RATING — CURRENT RATING AND NUMBER OF POLES
   - FUSE — CURRENT RATING FOR FUSE. IF "NONE", PROVIDE A NON-FUSIBLE DISCONNECT SWITCH.
   - AUX — QUANTITY OF AUXILIARY CONTACTS
   - CS/CP — REFERENCE TO A CONTROL STATION OR TO THE SHEET WITH THE ELEVATION OF A CONTROL PANEL. FOR CONTROL STATIONS, SEE THE ONE LINE DIAGRAM AND THE ELEMENTARY WIRING DIAGRAM FOR ADDITIONAL DETAILS. FOR CONTROL PANELS, SEE THE ELEMENTARY WIRING DIAGRAM FOR ADDITIONAL DETAILS.
2. SIZE FUSES PER HVAC EQUIPMENT MANUFACTURER'S RECOMMENDATIONS FOR ACTUAL HVAC EQUIPMENT PROVIDED ON SITE.
3. SIZE ENCLOSURE AS NECESSARY TO ACCOMMODATE CONTROL DEVICES SHOWN FOR EQUIPMENT.

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CITY OF GRANDVIEW
WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1

CONTROL STATION AND DISCONNECT SWITCH SCHEDULE AND DETAILS

E0-10

SHEET NOTES

C1 SEE COMMUNICATIONS SYSTEM BLOCK DIAGRAMS ON SHEET E0-09 FOR CIRCUIT AND EQUIPMENT INFORMATION.

P400 SEE ONE LINE DIAGRAM SHEET E4-04 FOR CIRCUIT / FEEDER, OR EQUIPMENT INFORMATION.



INFLUENT PUMP STATION - ELECTRICAL SITE PLAN

0' 20'-0" 40'-0" 80'-0"

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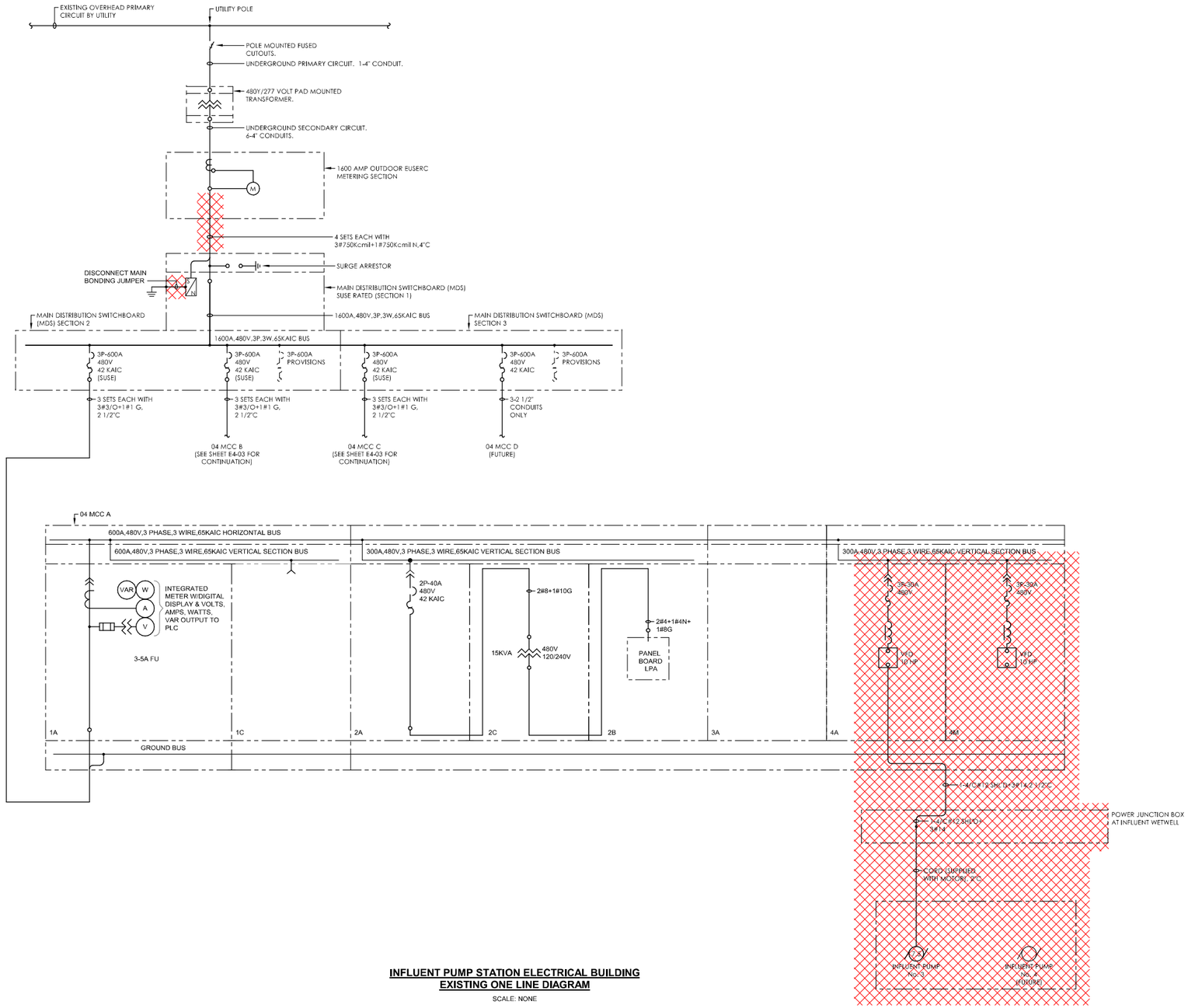
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WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1

INFLUENT PUMP STATION ELECTRICAL BUILDING – ELECTRICAL SITE PLAN

E4-01

GENERAL NOTES

A. ALL DEVICES MAY NOT BE SHOWN. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DISCOVER ALL DEVICES TO REMOVE. CONTRACTOR TO BRING UP ANY DEVICES, PANELS, ETC. THAT ARE IN QUESTION PRIOR TO DEMO WORK



INFLUENT PUMP STATION ELECTRICAL BUILDING
EXISTING ONE LINE DIAGRAM

SCALE: NONE

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WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1

INFLUENT PUMP STATION ELECTRICAL BUILDING – EXISTING ONE LINE DIAGRAM

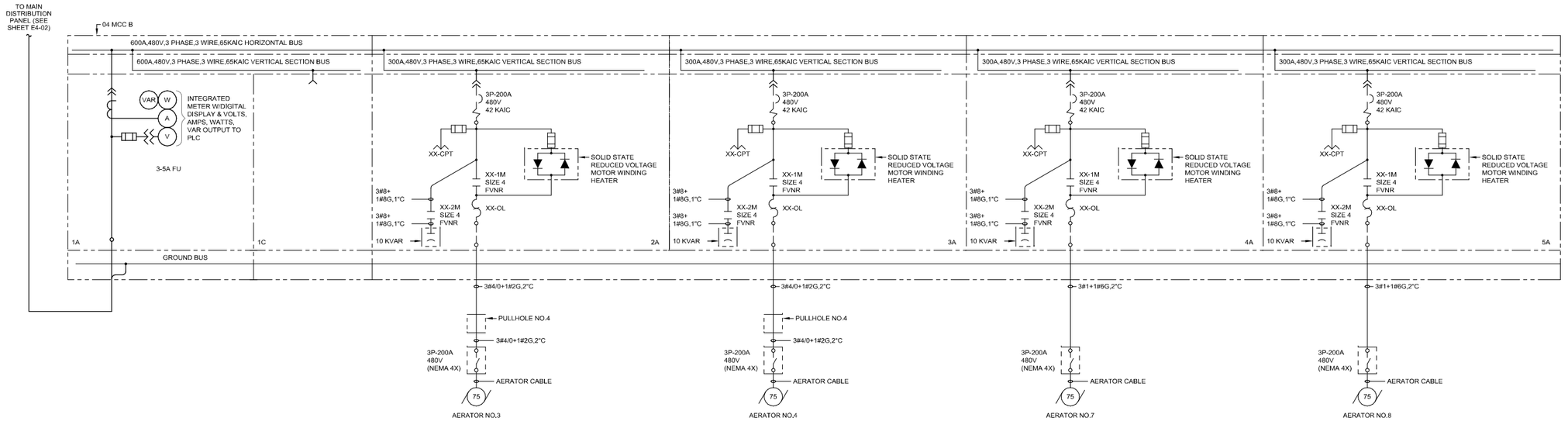
E4-02

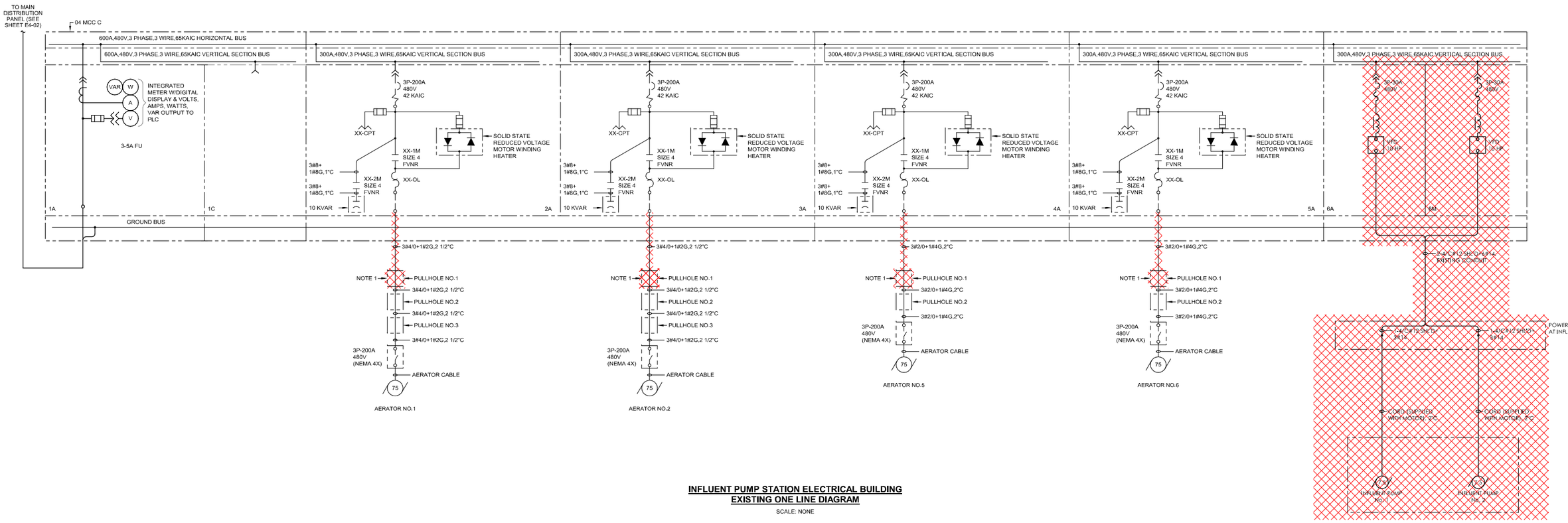
GENERAL NOTES

A. ALL DEVICES MAY NOT BE SHOWN. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DISCOVER ALL DEVICES TO REMOVE. CONTRACTOR TO BRING UP ANY DEVICES, PANELS, ETC. THAT ARE IN QUESTION PRIOR TO DEMO WORK

SHEET NOTES

1. PULL EXISTING CONDUCTORS BACK TO EXISTING PULLHOLE NO. 2 DURING DEMOLITION OF PULLHOLE NO.1. AFTER DEMOLITION IS COMPLETE, EXTEND CONDUCTORS FROM PULLHOLE NO.2 TO NEW PULLHOLE NO. P4A.





INFLUENT PUMP STATION ELECTRICAL BUILDING
EXISTING ONE LINE DIAGRAM

SCALE: NONE

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INFLUENT PUMP STATION ELECTRICAL BUILDING – EXISTING ONE LINE DIAGRAM

E4-03

SHEET 97 OF 192

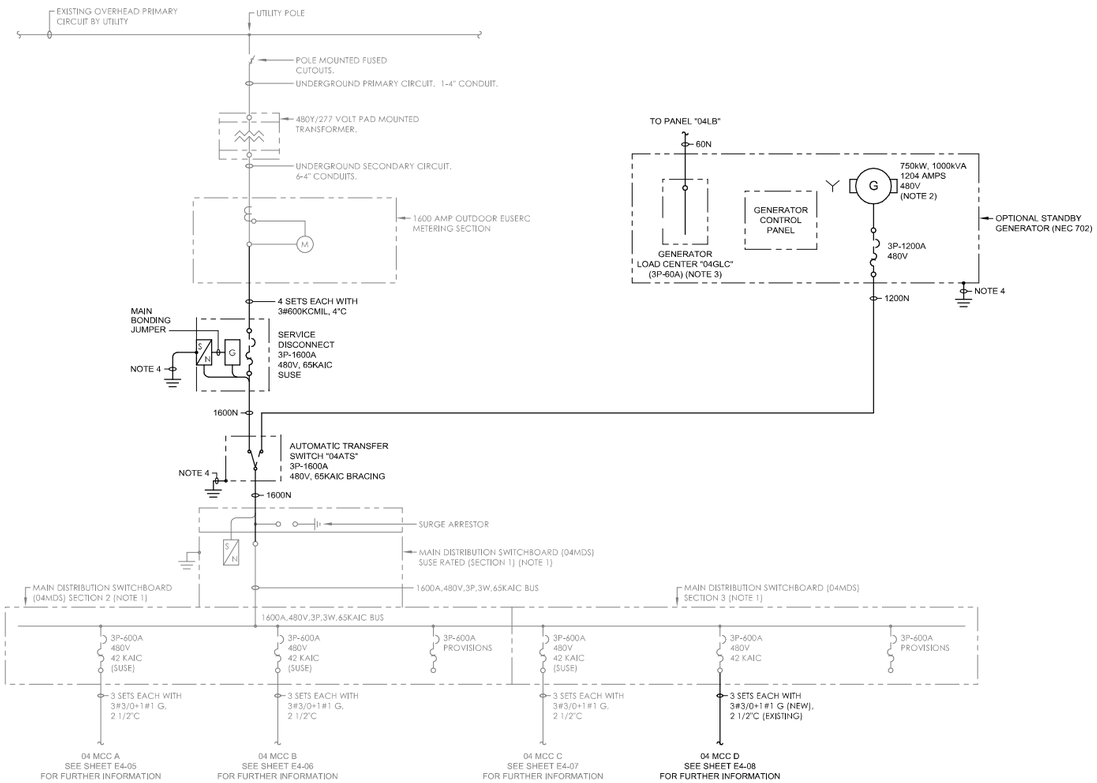
GENERAL NOTES

A. IN GENERAL, DEVICES SHOWN ON THE ELECTRICAL DRAWINGS IN BACKGROUND (GRAY OR SCREENED) REPRESENT EQUIPMENT OR DEVICES THAT ARE EXISTING TO REMAIN (AND TO BE PRESERVED AND PROTECTED) WHERE SHOWN ON REVISED/MODIFIED ELECTRICAL UNLESS OTHERWISE NOTED.

B. SEE SHEET E0-04 FOR FEEDER TAG SCHEDULE.

SHEET NOTES

1. SEE PANEL SCHEDULES ON SHEET E4-14 FOR BRANCH CIRCUIT INFORMATION
2. DO NOT BOND NEUTRAL AT GENERATOR.
3. PROVIDE GENERATOR WITH INTERNAL PANEL BOARD TO SERVE LOCAL CONVENIENCE RECEPTACLE, BLOCK HEATER(S), AND MAINTENANCE LIGHTING LOADS.
4. SEE SHEET E4-22 FOR GROUNDING PLAN.



INFLUENT LIFT STATION ELECTRICAL BUILDING
MODIFIED ONE LINE DIAGRAM

SCALE: NONE

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INFLUENT PUMP STATION ELECTRICAL BUILDING – MODIFIED ONE LINE DIAGRAM

E4-04

GENERAL NOTES

A. SEE SHEET E0-02 FOR GENERAL NOTE M01.

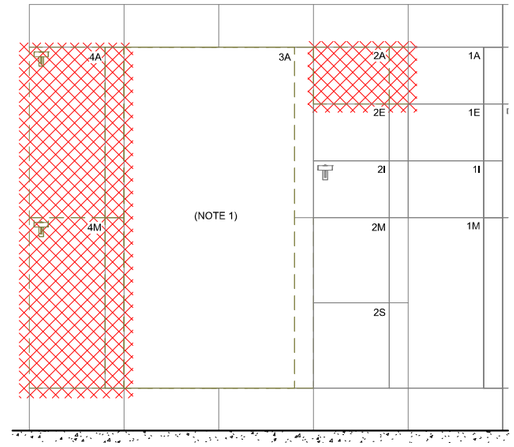
B. SUGGESTED SEQUENCE OF CONSTRUCTION FOR NEW INFLUENT PUMPS:
   a. INSTALL NEW MCC D WITH VFDS FOR INFLUENT PUMP NO.1 AND NO.2 AND CONNECT THEM TO NEW ASSOCIATED PUMPS IN NEW WETWELL.
   b. DEMOLISH EQUIPMENT FOR INFLUENT PUMPS NO.3 AND NO.4 IN MCC A.
   c. INSTALL AND CONNECT NEW EQUIPMENT FOR NEW INFLUENT PUMP NO.3 IN MCC A.
   d. CHANGE FLOW FROM OLD WETWELL TO NEW WETWELL.
   e. DEMOLISH ELECTRICAL EQUIPMENT FOR EXISTING INFLUENT PUMPS NO.1 AND NO.2 IN MCC C.
   f. INSTALL NEW EQUIPMENT FOR FUTURE INFLUENT PUMP NO.4 IN MCC C.

SHEET NOTES

1. INTERNAL PLC AND CONTROLS TO BE REMOVED AND REPLACED. ENCLOSURE TO REMAIN. SEE SHEET E4-19 FOR FURTHER INFORMATION.

MCC SCHEDULE - 04 MCC A - EXISTING

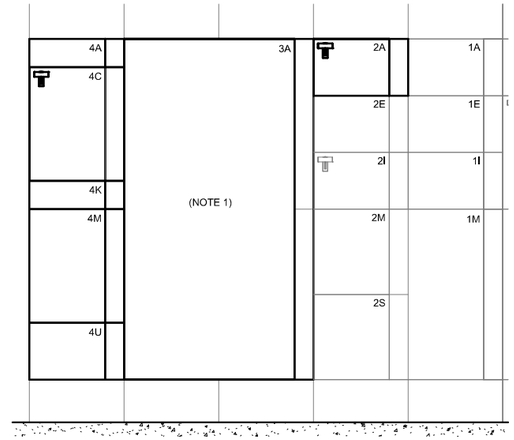
SECTION	UNIT	HEIGHT	NAMEPLATE	TYPE	RATING / SIZE	OCP	LOAD	OLD	EWD	NOTES	EQUIPMENT TAG
1	A	12"	04 MCC A CUSTOMER METERING					1/E4-09			
1	E	12"	SPACE								
1	I	12"	SPACE								
1	M	36"	04 MCC A MAIN LUGS	MLO	600A						
2	A	12"	SPACE								
2	E	12"	SPACE								
2	I	12"	TRANSFORMER "T-04LA" MAIN BREAKER / PANEL "04LA" MAIN BREAKER	BRKR	40A / 70A	CB		3/E4-09			
2	M	18"	PANEL "04LA"					3/E4-09			
2	S	18"	TRANSFORMER "T-04LA"					3/E4-09			
3	A	72"	PLC								
4	A	36"	INFLUENT PUMP NO.3 (EXISTING)								
4	M	36"	INFLUENT PUMP NO.4 (EXISTING)								



DETAIL 1/E4-05
04 MCC A - EXISTING
SCALE: 3/4" = 1'-0"

MCC SCHEDULE - 04 MCC A - MODIFIED

SECTION	UNIT	HEIGHT	NAMEPLATE	TYPE	RATING / SIZE	OCP	LOAD	OLD	EWD	NOTES	EQUIPMENT TAG
1	A	12"	04 MCC A CUSTOMER METERING					1/E4-09			
1	E	12"	SPACE								
1	I	12"	SPACE								
1	M	36"	04 MCC A MAIN LUGS	MLO	600A						
2	A	12"	TRANSFORMER "T-04LB" MAIN BREAKER	BRKR	70A	CB	6240 VA	4/E4-09			
2	E	12"	SPACE								
2	I	12"	TRANSFORMER "T-04LA" MAIN BREAKER / PANEL "04LA" MAIN BREAKER	BRKR	40A / 70A	CB		3/E4-09			
2	M	18"	PANEL "04LA"					3/E4-09			
2	S	18"	TRANSFORMER "T-04LA"					3/E4-09			
3	A	72"	REMOTE I/O								
4	A	6"	INFLUENT PUMP NO.3 (04 PMP 03) LINE REACTOR								
4	C	24"	INFLUENT PUMP NO.3 (04 PMP 03)	VFD (VT)	15 HP	CB	16732 VA	5/E4-09	1/E4-09		04 PMP 03
4	K	6"	SPACE								
4	M	24"	SPACE								
4	U	12"	SPACE								



DETAIL 2/E4-05
04 MCC A - REVISED
SCALE: 3/4" = 1'-0"

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BRIAN A. SNYDER STATE OF WASHINGTON 23031793 REGISTERED PROFESSIONAL ENGINEER
03/12/2026

REVISION	DATE

JOB NUMBER: 23030 | DATE: 3/13/2026
FILE NAMES:
DRAWING: HLA-23030_E_R24.RVT
PLAN: 23030
DESIGNED BY: BAS
ENTERED BY: BAS

CITY OF GRANDVIEW
WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1

INFLUENT PUMP STATION ELECTRICAL BUILDING – 04 MCC A ELEVATIONS

E4-05

GENERAL NOTES

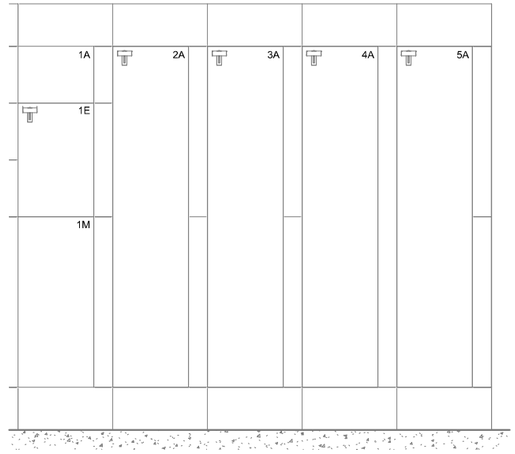
A. SEE SHEET E0-02 FOR GENERAL NOTE M01.

B. SUGGESTED SEQUENCE OF CONSTRUCTION FOR NEW INFLUENT PUMPS:
   a. INSTALL NEW MCC D WITH VFDS FOR INFLUENT PUMP NO.1 AND NO.2 AND CONNECT THEM TO NEW ASSOCIATED PUMPS IN NEW WETWELL.
   b. DEMOLISH EQUIPMENT FOR INFLUENT PUMPS NO.3 AND NO.4 IN MCC A.
   c. INSTALL AND CONNECT NEW EQUIPMENT FOR NEW INFLUENT PUMP NO.3 IN MCC A.
   d. CHANGE FLOW FROM OLD WETWELL TO NEW WETWELL.
   e. DEMOLISH ELECTRICAL EQUIPMENT FOR EXISTING INFLUENT PUMPS NO.1 AND NO.2 IN MCC C.
   f. INSTALL NEW EQUIPMENT FOR FUTURE INFLUENT PUMP NO.4 IN MCC C.

SHEET NOTES

MCC SCHEDULE - 04 MCC B - EXISTING

SECTION	UNIT	HEIGHT	NAMEPLATE	TYPE	RATING / SIZE	OCP	LOAD	OLD	EWD	NOTES	EQUIPMENT TAG
1	A	12"	04 MCC B CUSTOMER METERING					1/E4-09			
1	E	24"	04 MCC B TVSS					2/E4-09			
1	M	36"	04 MCC B MAIN LUGS	MLO	600A						
2	A	72"	AERATOR NO.3 (03 MXR 03)	FVNR	SIZE 4	MCP	79813 VA	2/E4-10	1/E4-12		03 MXR 03
3	A	72"	AERATOR NO.4 (03 MXR 04)	FVNR	SIZE 4	MCP	79813 VA	2/E4-10	2/E4-12		03 MXR 04
4	A	72"	AERATOR NO.7 (03 MXR 07)	FVNR	SIZE 4	MCP	79813 VA	4/E4-10	2/E4-13		03 MXR 07
5	A	72"	AERATOR NO.8 (03 MXR 08)	FVNR	SIZE 4	MCP	79813 VA	4/E4-10	3/E4-13		03 MXR 08



DETAIL 1/E4-06
04 MCC B - EXISTING
SCALE: 3/4" = 1'-0"

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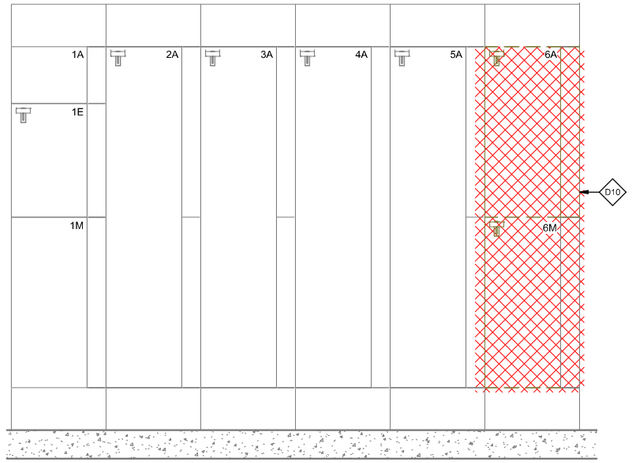
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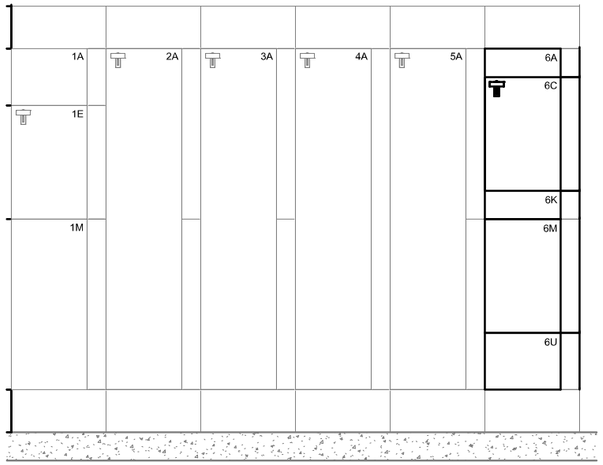
E4-06

MCC SCHEDULE - 04 MCC C - EXISTING											
SECTION	UNIT	HEIGHT	NAMEPLATE	TYPE	RATING / SIZE	OCP	LOAD	OLD	EWD	NOTES	EQUIPMENT TAG
1	A	12"	04 MCC C CUSTOMER METERING					1/E4-09			
1	E	24"	04 MCC C TVSS					2/E4-09			
1	M	36"	04 MCC C MAIN LUGS	MLO	600A						
2	A	72"	AERATOR NO.1 (03 MXR 01)	FVNR	SIZE 4	MCP	79813 VA	1/E4-10	2/E4-11		03 MXR 01
3	A	72"	AERATOR NO.2 (03 MXR 02)	FVNR	SIZE 4	MCP	79813 VA	1/E4-10	3/E4-11		03 MXR 02
4	A	72"	AERATOR NO.5 (03 MXR 05)	FVNR	SIZE 4	MCP	79813 VA	3/E4-10	3/E4-12		03 MXR 05
5	A	72"	AERATOR NO.6 (03 MXR 06)	FVNR	SIZE 4	MCP	79813 VA	3/E4-10	1/E4-13		03 MXR 06
6	A	36"	EXISTING INFLUENT PUMP NO.1	VFD (VT)	10 HP	CB					(EX) 04 PMP 01
6	M	36"	EXISTING INFLUENT PUMP NO.2	VFD (VT)	10 HP	CB					(EX) 04 PMP 02



DETAIL 1/E4-07
04 MCC C - EXISTING
SCALE: 3/4" = 1'-0"

MCC SCHEDULE - 04 MCC C - REVISED										
SECTION	UNIT	HEIGHT	NAMEPLATE	TYPE	RATING / SIZE	OCP	LOAD	OLD	EWD	NOTES	EQUIPMENT TAG
1	A	12"	04 MCC C CUSTOMER METERING					1/E4-09			
1	E	24"	04 MCC C TVSS					2/E4-09			
1	M	36"	04 MCC C MAIN LUGS	MLO	600A						
2	A	72"	AERATOR NO.1 (03 MXR 01)	FVNR	SIZE 4	MCP	79813 VA	1/E4-10	2/E4-11		03 MXR 01
3	A	72"	AERATOR NO.2 (03 MXR 02)	FVNR	SIZE 4	MCP	79813 VA	1/E4-10	3/E4-11		03 MXR 02
4	A	72"	AERATOR NO.5 (03 MXR 05)	FVNR	SIZE 4	MCP	79813 VA	3/E4-10	3/E4-12		03 MXR 05
5	A	72"	AERATOR NO.6 (03 MXR 06)	FVNR	SIZE 4	MCP	79813 VA	3/E4-10	1/E4-13		03 MXR 06
6	A	6"	INFLUENT PUMP NO.4 (04 PMP 04) LINE REACTOR								
6	C	24"	INFLUENT PUMP NO.4 (04 PMP 04) (FUTURE)	VFD (VT)	15 HP	CB	11639 VA	5/E4-09	1/E4-09		04 PMP 04
6	K	6"	SPACE								
6	M	24"	SPACE								
6	U	12"	SPACE								



DETAIL 2/E4-07
04 MCC C - REVISED
SCALE: 3/4" = 1'-0"

GENERAL NOTES

A. SEE SHEET E0-02 FOR GENERAL NOTE M01.

B. SUGGESTED SEQUENCE OF CONSTRUCTION FOR NEW INFLUENT PUMPS:
   a. INSTALL NEW MCC D WITH VFDS FOR INFLUENT PUMP NO.1 AND NO.2 AND CONNECT THEM TO NEW ASSOCIATED PUMPS IN NEW WETWELL.
   b. DEMOLISH EQUIPMENT FOR INFLUENT PUMPS NO.3 AND NO.4 IN MCC A.
   c. INSTALL AND CONNECT NEW EQUIPMENT FOR NEW INFLUENT PUMP NO.3 IN MCC A.
   d. CHANGE FLOW FROM OLD WETWELL TO NEW WETWELL.
   e. DEMOLISH ELECTRICAL EQUIPMENT FOR EXISTING INFLUENT PUMPS NO.1 AND NO.2 IN MCC C.
   f. INSTALL NEW EQUIPMENT FOR FUTURE INFLUENT PUMP NO.4 IN MCC C.

SHEET NOTES

D10 EXISTING INFLUENT PUMPS TO REMAIN IN OPERATION UNTIL NEW WETWELL AND ASSOCIATED INSTRUMENTATION, CONTROLS, AND PUMPS ARE COMMISSIONED AND ONLINE.

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CITY OF GRANDVIEW
WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1

INFLUENT PUMP STATION ELECTRICAL BUILDING – 04 MCC C ELEVATIONS

E4-07

GENERAL NOTES

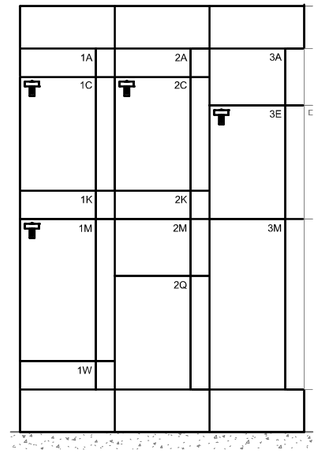
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   a. INSTALL NEW MCC D WITH VFDS FOR INFLUENT PUMP NO.1 AND NO.2 AND CONNECT THEM TO NEW ASSOCIATED PUMPS IN NEW WETWELL.
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   e. DEMOLISH ELECTRICAL EQUIPMENT FOR EXISTING INFLUENT PUMPS NO.1 AND NO.2 IN MCC C.
   f. INSTALL NEW EQUIPMENT FOR FUTURE INFLUENT PUMP NO.4 IN MCC C.

SHEET NOTES

MCC SCHEDULE - 04 MCC D

SECTION	UNIT	HEIGHT	NAMEPLATE	TYPE	RATING / SIZE	OCP	LOAD	OLD	EWD	NOTES	EQUIPMENT TAG
1	A	6"	INFLUENT PUMP NO.1 (04 PMP 01) LINE REACTOR								
1	C	24"	INFLUENT PUMP NO.1 (04 PMP 01)	VFD (VT)	15 HP	CB	16732 VA	5/E4-09	1/E4-09		04 PMP 01
1	K	6"	INFLUENT PUMP LINE REACTOR (SPARE)								
1	M	30"	INFLUENT PUMP (SPARE)	VFD (VT)	15 HP	CB		5/E4-09	1/E4-09		
1	W	6"	SPACE								
2	A	6"	INFLUENT PUMP NO.2 (04 PMP 02) LINE REACTOR								
2	C	24"	INFLUENT PUMP NO.2 (04 PMP 02)	VFD (VT)	15 HP	CB	16732 VA	5/E4-09	1/E4-09		04 PMP 02
2	K	6"	SPACE								
2	M	12"	SPACE								
2	Q	24"	04 MCC D ETHERNET SWITCH					7/E4-09			
3	A	12"	04 MCC D CUSTOMER METERING					6/E4-09			
3	E	24"	04 MCC D TVSS					2/E4-09			
3	M	36"	04 MCC D MAIN LUGS	MLO	600A						



DETAIL 1/E4-08
04 MCC D - NEW
SCALE: 3/4" = 1'-0"

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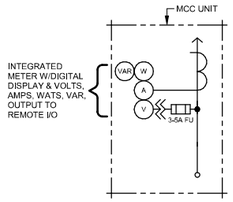
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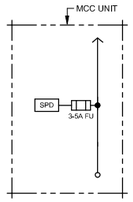
E4-08



OLD 1/E4-09
EXISTING CUSTOMER METERING

SCALE: NONE

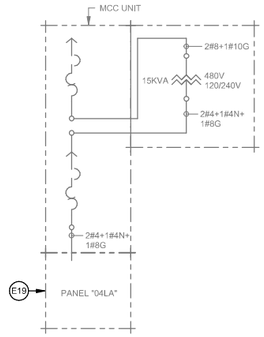
04 MCC A CUSTOMER METERING
04 MCC B CUSTOMER METERING
04 MCC C CUSTOMER METERING



OLD 2/E4-09
TVSS

SCALE: NONE

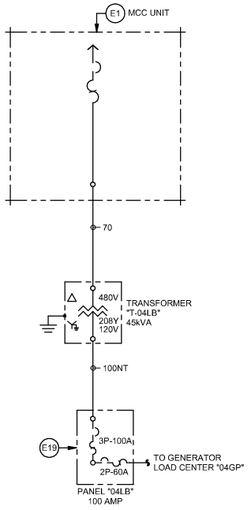
04 MCC B TVSS
04 MCC C TVSS
04 MCC D TVSS



OLD 3/E4-09
PANEL 04LA

SCALE: NONE

PANEL "04LA"
TRANSFORMER "T-04LA"
TRANSFORMER "T-04LA" MAIN BREAKER / PANEL "04LA" MAIN BREAKER



OLD 4/E4-09
PANEL 04LB

SCALE: NONE

TRANSFORMER "T-04LB" MAIN BREAKER

SHEET NOTES

E1 PROVIDE MOTOR STARTERS, CIRCUIT BREAKERS, AND OTHER EQUIPMENT/DEVICES AS INDICATED. KAIC AND VOLTAGE RATINGS SHALL BE AS NOTED ON THE MAIN POWER DISTRIBUTION ONE LINE DIAGRAMS AND AS SHOWN ON THE MOTOR CONTROL CENTER UNIT. SIZE OVERLOAD RELAY, CONTACTOR, AND OVERCURRENT PROTECTOR PER THE ACTUAL MOTOR SIZE AND IN AGREEMENT WITH THE SPECIFICATIONS. ALL STARTER CONTACTORS SHALL BE NEMA RATED AND SHALL BE AT LEAST SIZE 1. CONTROL POWER TRANSFORMERS SHALL HAVE AT LEAST 50% OVERCAPACITY FOR FUTURE EXPANSION. SEE MCC UNIT SCHEDULE NOTES FOR ADDITIONAL REQUIREMENTS.

E2 SEE THE DISCONNECT SWITCH AND CONTROL STATION SCHEDULE (SHEET E-10) FOR THE AMPERE RATING, ENCLOSURE TYPE, AND CONTROL STATION DETAIL.

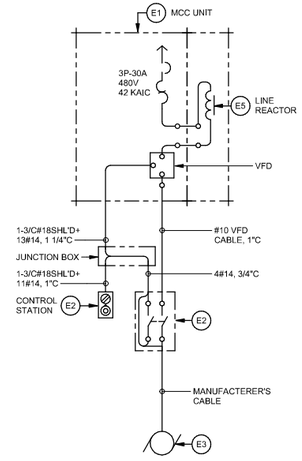
E3 SEE THE MCC UNIT SCHEDULE FOR THE NOMINAL MOTOR HORSEPOWER.

E5 PROVIDE LINE REACTORS OF AT LEAST 3% FOR THE VFDS. SIZE AS NECESSARY TO MEET IEE 519 (2022)HARMONIC REQUIREMENTS.

E19 SEE SHEET E4-14 FOR PANELBOARD CIRCUIT SCHEDULE AND ADDITIONAL INFORMATION.

E23 CONNECTED TO ETHERNET DEVICES IN THIS MCC LINE-UP AS REQUIRED.

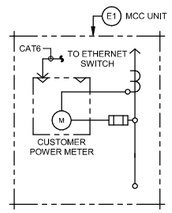
E24 PHOENIX CONTACT FL SWITCH 2116 INDUSTRIAL ETHERNET SWITCH.



OLD 5/E4-09
INFLUENT LIFT PUMP

SCALE: NONE

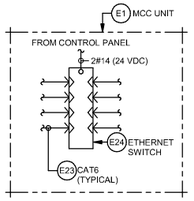
INFLUENT PUMP (SPARE)	
INFLUENT PUMP NO.1 (04 PMP 01)	04 PMP 01
INFLUENT PUMP NO.2 (04 PMP 02)	04 PMP 02
INFLUENT PUMP NO.3 (04 PMP 03)	04 PMP 03
INFLUENT PUMP NO.4 (04 PMP 04) (FUTURE)	04 PMP 04



OLD 6/E4-09
NEW CUSTOMER METERING

SCALE: NONE

04 MCC D CUSTOMER METERING



OLD 7/E4-09
MCC ETHERNET SWITCH

SCALE: NONE

04 MCC D ETHERNET SWITCH

EWD 1/E4-09
INFLUENT LIFT PUMP VFD

SCALE: NONE

INFLUENT PUMP (SPARE)	
INFLUENT PUMP NO.1 (04 PMP 01)	04 PMP 01
INFLUENT PUMP NO.2 (04 PMP 02)	04 PMP 02
INFLUENT PUMP NO.3 (04 PMP 03)	04 PMP 03
INFLUENT PUMP NO.4 (04 PMP 04) (FUTURE)	04 PMP 04

WIRING DIAGRAM NOTES

1. AUXILIARY CONTACT ON DISCONNECT SWITCH LOCATED ADJACENT TO MOTOR.
2. PROVIDE AUXILIARY 24VDC POWER SUPPLY AS NECESSARY TO POWER FIELD SIGNAL CONNECTIONS.
3. PROGRAM VFD FOR THE FOLLOWING INTENDED OPERATION:
   - 3.1. WITH HOA IN HAND - THE VFD SHALL RUN THE PUMP AS LONG AS ENABLE INTERLOCKS ARE ON, AT THE SPEED DETERMINED BY THE SPEED POTENTIOMETER.
   - 3.2. WITH HOA IN OFF - THE VFD SHALL DISABLE THE PUMP AND NOT RUN.
   - 3.3. WITH HOA IN AUTO - THE VFD SHALL CONTROL THE PUMP BASED ON PLC CONTROL OVER THE ETHERNET/IP BUS.

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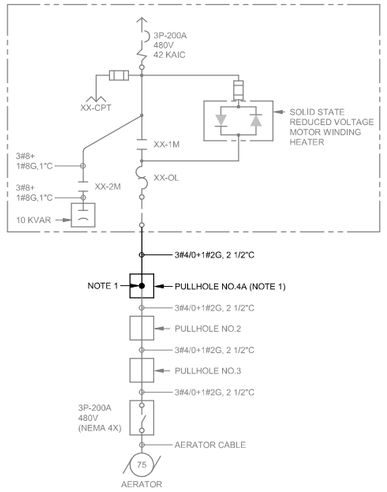
INFLUENT PUMP STATION ELECTRICAL BUILDING – INDIVIDUAL ONE LINE DIAGRAMS AND WIRING DIAGRAMS

E4-09

SHEET 103 OF 192

SHEET NOTES

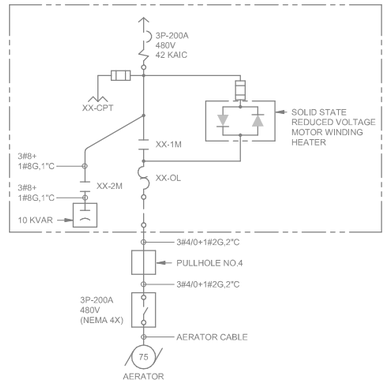
1. INTERCEPT EXISTING CONDUIT AND EXTEND TO PULLHOLE NO.P4A. SEE SHEET E4-26 FOR FURTHER INFORMATION.



OLD 1/E4-10
EXISTING AERATORS NO.1 AND NO.2

SCALE: NONE

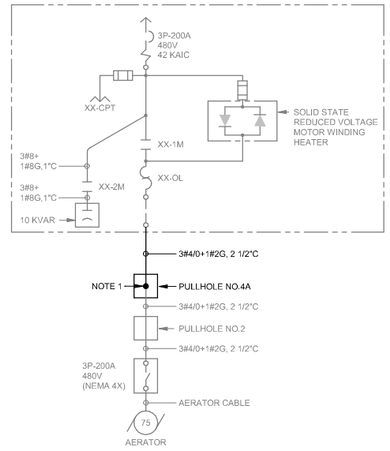
AERATOR NO.1 (03 MXR 01) 03 MXR 01
AERATOR NO.2 (03 MXR 02) 03 MXR 02



OLD 2/E4-10
EXISTING AERATORS NO.3 AND NO.4

SCALE: NONE

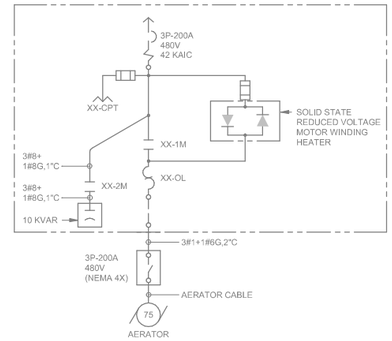
AERATOR NO.3 (03 MXR 03) 03 MXR 03
AERATOR NO.4 (03 MXR 04) 03 MXR 04



OLD 3/E4-10
EXISTING AERATORS NO.5 AND NO.6

SCALE: NONE

AERATOR NO.5 (03 MXR 05) 03 MXR 05
AERATOR NO.6 (03 MXR 06) 03 MXR 06



OLD 4/E4-10
EXISTING AERATORS NO.7 AND NO.8

SCALE: NONE

AERATOR NO.7 (03 MXR 07) 03 MXR 07
AERATOR NO.8 (03 MXR 08) 03 MXR 08

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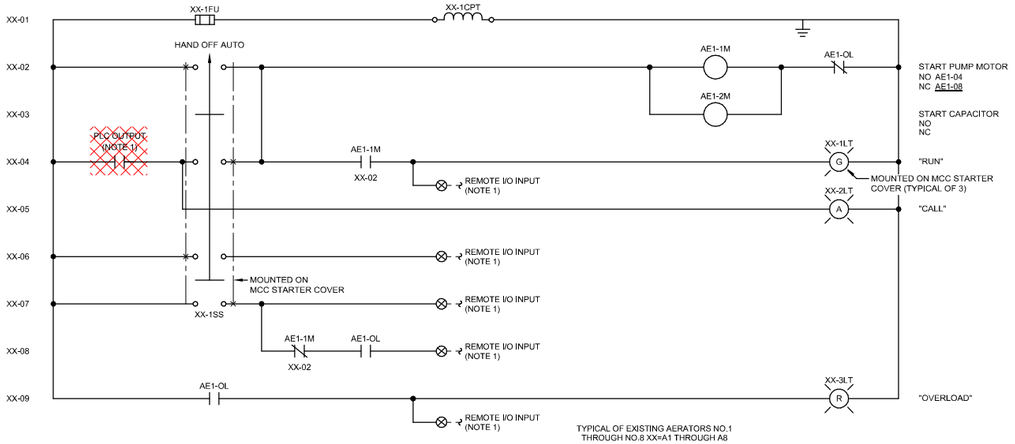
CITY OF GRANDVIEW
WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1

INFLUENT PUMP STATION ELECTRICAL BUILDING – AERATOR ONE LINE DIAGRAMS

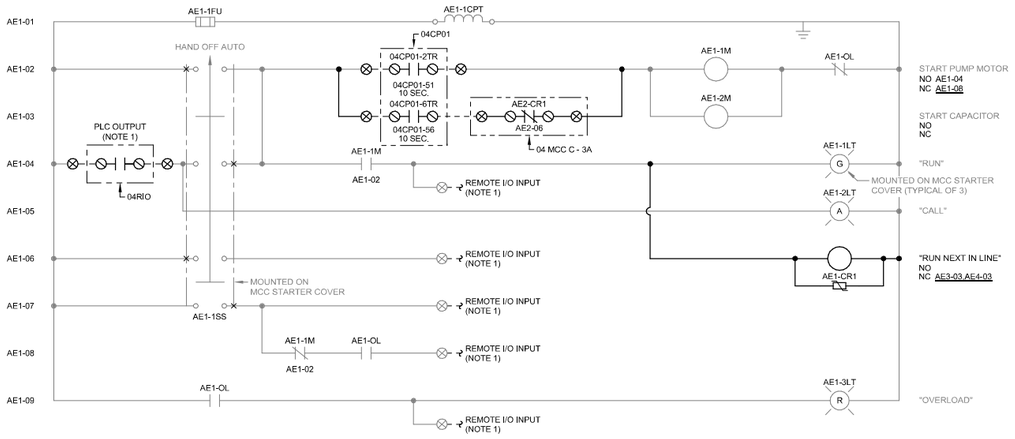
E4-10

SHEET NOTES

1. SEE INPUT/OUTPUT SCHEDULES ON SHEETS E4-18 AND E4-20 FOR FURTHER INFORMATION.

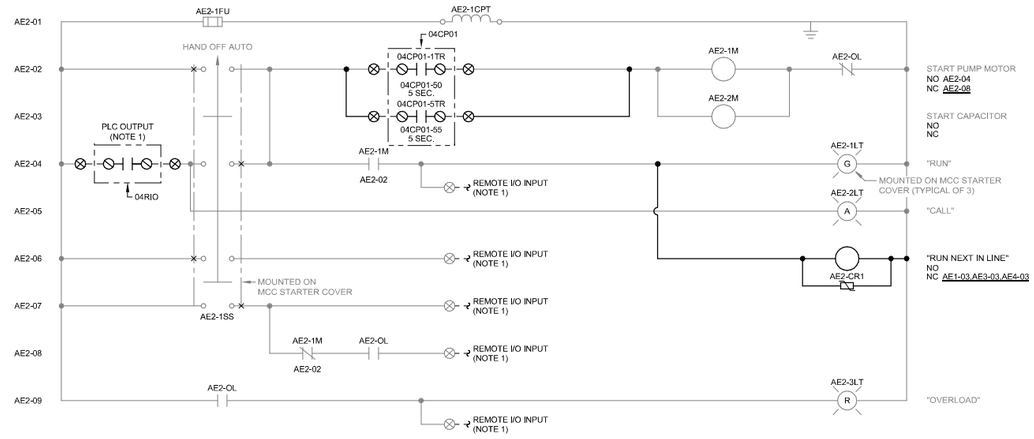


EWD 1/E4-11
EXISTING AERATORS (TYPICAL)
SCALE: NONE



EWD 2/E4-11
AERATOR #1
SCALE: NONE

AERATOR NO.1 (03 MXR 01) 03 MXR 01



EWD 3/E4-11
AERATOR #2
SCALE: NONE

AERATOR NO.2 (03 MXR 02) 03 MXR 02

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03/12/2026

REVISION	DATE

JOB NUMBER: 23030 | DATE: 3/13/2026

FILE NAMES:
DRAWING: HLA-23030_E_R24.RVT
PLAN: 23030

DESIGNED BY: BAS
ENTERED BY: BAS

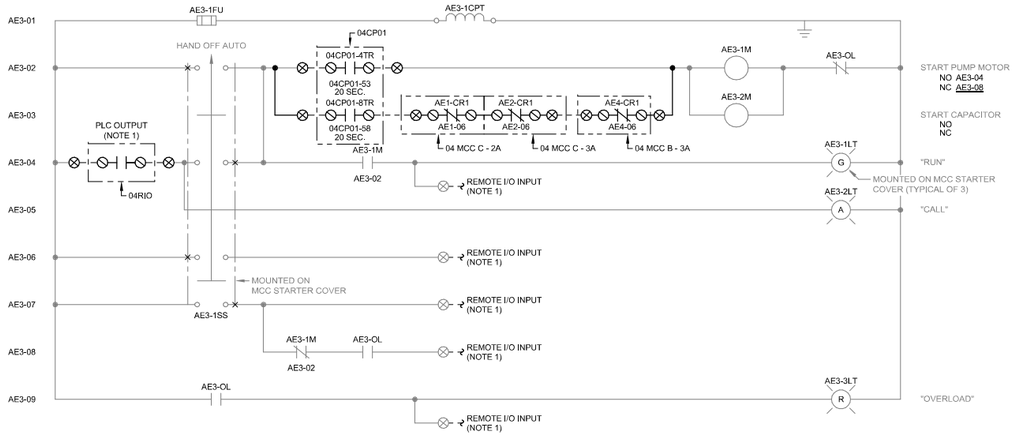
CITY OF GRANDVIEW
WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1

INFLUENT PUMP STATION ELECTRICAL BUILDING – AERATOR EWDS

E4-11

SHEET NOTES

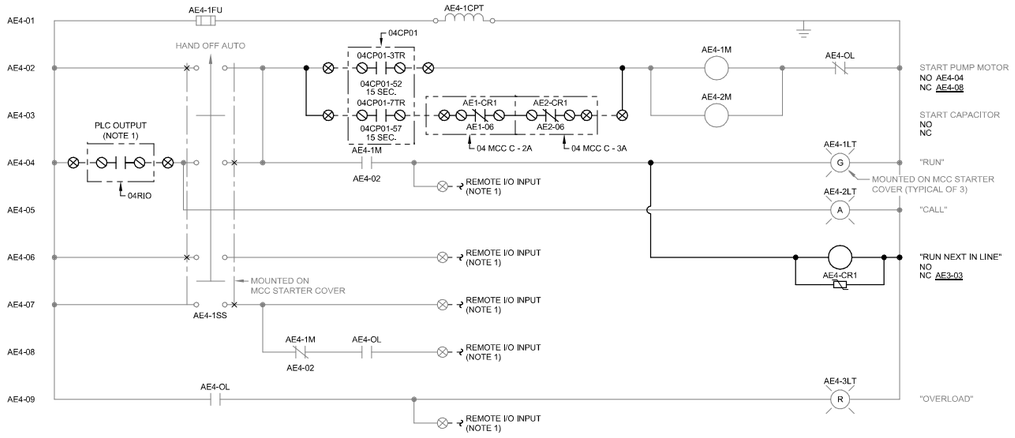
1. SEE INPUT/OUTPUT SCHEDULES ON SHEETS E4-18 AND E4-20 FOR FURTHER INFORMATION.



EWD 1/E4-12
AERATOR #3

SCALE: NONE

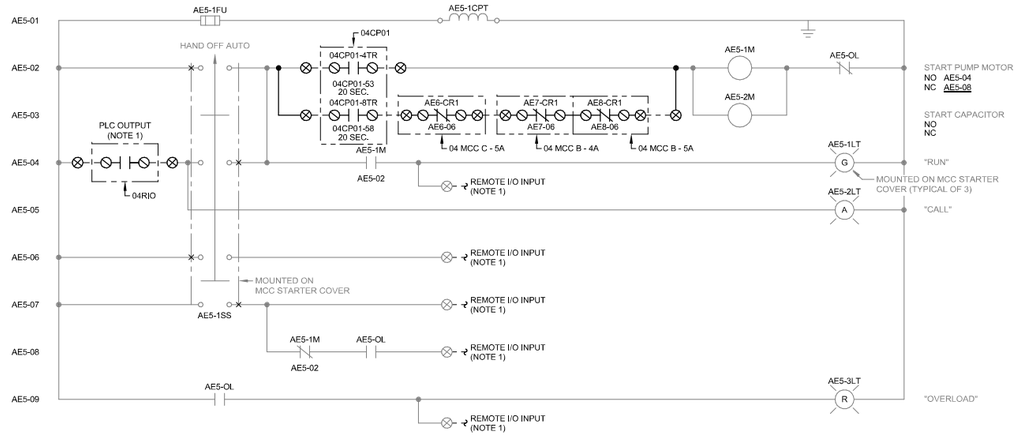
AERATOR NO.3 (03 MXR 03) 03 MXR 03



EWD 2/E4-12
AERATOR #4

SCALE: NONE

AERATOR NO.4 (03 MXR 04) 03 MXR 04



EWD 3/E4-12
AERATOR #5

SCALE: NONE

AERATOR NO.5 (03 MXR 05) 03 MXR 05

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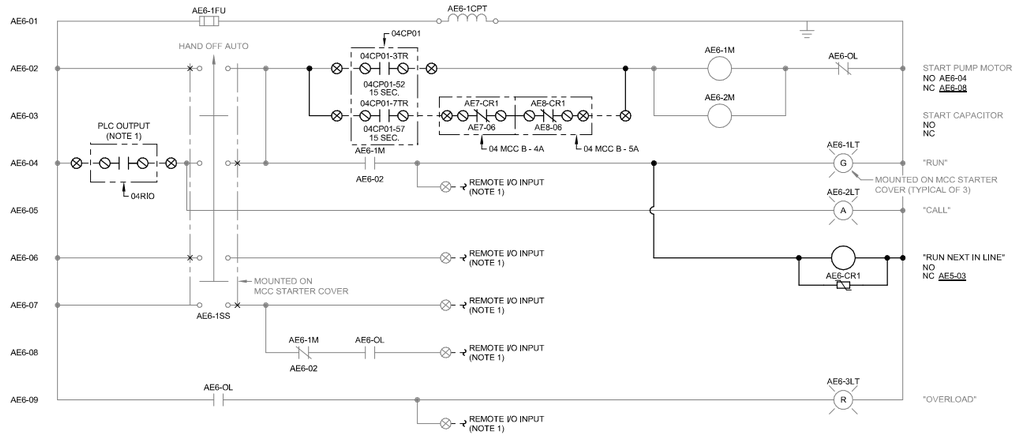
CITY OF GRANDVIEW
WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1

INFLUENT PUMP STATION ELECTRICAL BUILDING – AERATOR EWDS

E4-12

SHEET NOTES

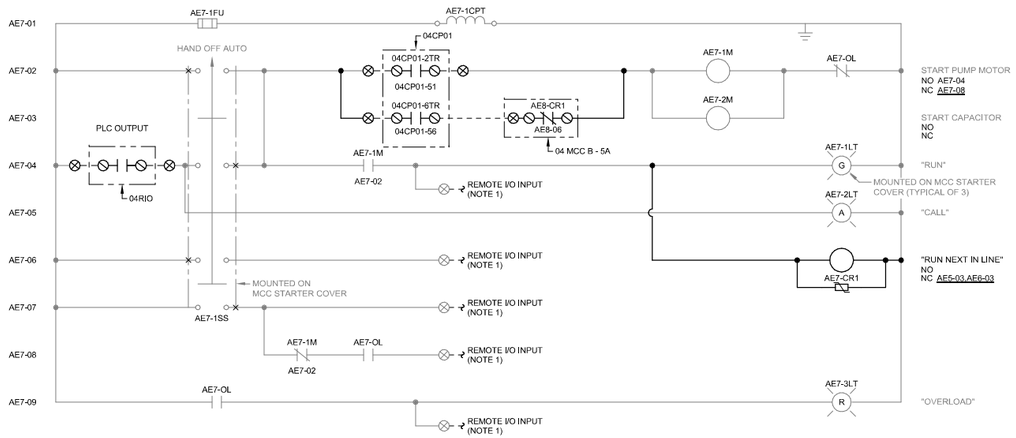
1. SEE INPUT/OUTPUT SCHEDULES ON SHEETS E4-18 AND E4-20 FOR FURTHER INFORMATION.



EWD 1/E4-13
AERATOR #6

SCALE: NONE

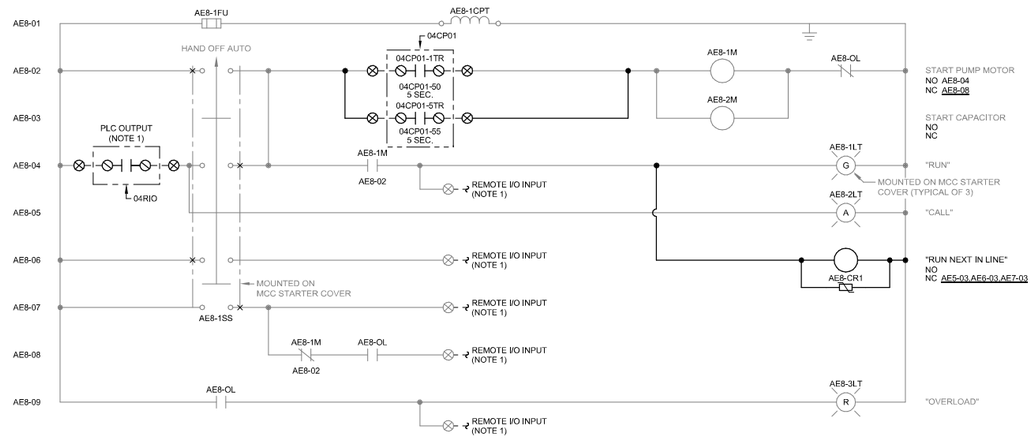
AERATOR NO.6 (03 MXR 06) 03 MXR 06



EWD 2/E4-13
AERATOR #7

SCALE: NONE

AERATOR NO.7 (03 MXR 07) 03 MXR 07



EWD 3/E4-13
AERATOR #8

SCALE: NONE

AERATOR NO.8 (03 MXR 08) 03 MXR 08

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CITY OF GRANDVIEW
WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1

INFLUENT PUMP STATION ELECTRICAL BUILDING – AERATOR EWDS

E4-13

Switchboard: 04 MDS

Location: AQUA BUILDING
Supply From:
Mounting:
Enclosure:

Volts: 480/ 277
Phases: 3
Wires: 4

A.I.C. Rating: 14,000
Mains Type: MCB
Mains Rating: 1,600
MCB Rating: 1600

CKT	Load Name	# Poles	Trip	Load	Comments
1	04 MCC A	3	600 A	25297 VA	
2	04 MCC B	3	600 A	319252 VA	
3	04 MCC C	3	600 A	330891 VA	
4	04 MCC D	3	600 A	33463 VA	
5					
6					
7					
8					
9					
10					
				708902 VA	
				852.68 A	

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
HVAC	4000 VA	100.00%	4000 VA		
Lighting	285 VA	125.00%	356 VA	**Total Conn. Load:**	708902 VA
Motor	700337 VA	102.85%	720291 VA	**Total Est. Demand:**	728927 VA
Receptacle	1800 VA	100.00%	1800 VA	**Total Conn.:**	852.68 A
Misc Non- Continuous	2480 VA	100.00%	2480 VA	**Total Est. Demand:**	876.76 A

Notes:

Branch Panel: 04LA (EXISTING)

Location: 04 MCC A
Supply From: T-04LA (E)
Mounting: Surface
Enclosure: Type 1

Volts: 120/ 240 Single
Phases: 1
Wires: 3

A.I.C. Rating:
Mains Type: MLO
Mains Rating: 70
MCB Rating: MLO

CKT	Demand Type	Circuit Description	Trip	P	A	B	P	Trip	Circuit Description	Demand Type	CKT
1	Receptacle	Receptacle	20 A	1	180 VA / 209 VA		1	20 A	Lighting	Lighting	2
3	Misc Non-Continuous	REMOTE I/O	20 A	1		240 VA / 76 VA	1	20 A	Lighting	Lighting	4
5	Receptacle	AERATORS 3 AND 4 GFI RECEPTACLE	20 A	1	180 VA / 180 VA		1	20 A	AERATORS 7 AND 8 GFI RECEPTACLE	Receptacle	6
7	Receptacle	AERATORS 1 AND 2 GFI RECEPTACLE, AERATORS 5 AND 6,..	20 A	1		360 VA / 360 VA	1	20 A	COMMUNICATIONS RACK "04CRA"	Receptacle	8
9	Receptacle	Receptacle	20 A	1	180 VA / 180 VA		1	20 A	COMMUNICATIONS RACK "04CRA"	Receptacle	10
11	Receptacle	SOUTH A/C	20 A	1		180 VA / 0 VA	1	20 A	Spare	–	12
					Total Load :	1109 VA	1216 VA				
					Total Amps Per Phase :	9.24 A	10.13 A				
					Total Amps :	9.69 A					

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Lighting	285 VA	125.00%	356 VA		
Misc Non- Continuous	240 VA	100.00%	240 VA	**Total Conn. Load:**	2325 VA
Receptacle	1800 VA	100.00%	1800 VA	**Total Est. Demand:**	2396 VA
				Total Conn.:	9.69 A
				Total Est. Demand:	9.98 A

Notes:

Branch Panel: PANEL '04LB'

Location: AQUA BUILDING
Supply From: T-04LB
Mounting: Surface
Enclosure: Type 1

Volts: 208/ 120
Phases: 3
Wires: 4

A.I.C. Rating:
Mains Type: MCB
Mains Rating: 100
MCB Rating: 100

CKT	Demand Type	Circuit Description	Trip	P	A	B	C	P	Trip	Circuit Description	Demand Type	CKT
1	HVAC	OUTDOOR HVAC UNIT	20 A	2	1000 VA / 1000 VA			2	60 A	GENERATOR LOAD CENTER "04GLC"	Misc Non-Continuous	2
3						1000 VA / 1000 VA						4
5	HVAC	OUTDOOR HVAC UNIT	20 A	2			1000 VA / 240 VA	1	20 A	04CP01	Misc Non-Continuous	6
7					1000 VA / 0 VA							8
9												10
11												12
13												14
15												16
17												18
19												20
21												22
23												24
25												26
27												28
29												30
					Total Load :	3000 VA	2000 VA	1240 VA				
					Total Amps Per Phase :	25.97 A	17.64 A	10.33 A				
					Total Amps :		17.32 A					

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
HVAC	4000 VA	100.00%	4000 VA		
Misc Non- Continuous	2240 VA	100.00%	2240 VA	**Total Conn. Load:**	6240 VA
				Total Est. Demand:	6240 VA
				Total Conn.:	17.32 A
				Total Est. Demand:	17.32 A

Notes:

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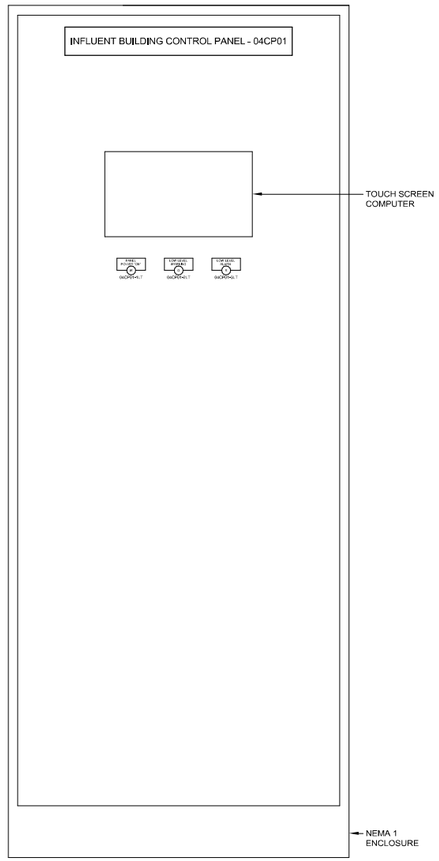
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PLAN: 23030

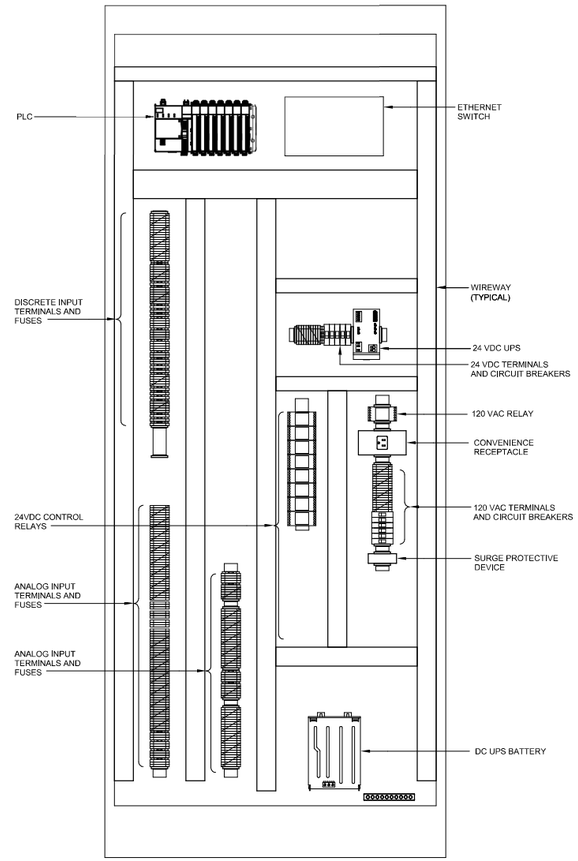
DESIGNED BY: BAS
ENTERED BY: BAS

CITY OF GRANDVIEW
WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1

INFLUENT PUMP STATION ELECTRICAL BUILDING – PANEL SCHEDULES

E4-14





DETAIL 1/E4-15
CONTROL PANEL 04CP01 ELEVATIONS
SCALE: 1 1/2" = 1'-0"

CONTROL PANEL AND REMOTE IO ELEVATIONS ARE REPRESENTATIVE OF THE GENERAL INTENT. CONTROL PANEL AND REMOTE IO PHYSICAL LAYOUT AND DESIGN SHALL BE COMPLETED BY THE SYSTEM INTEGRATOR AND REVIEWED BY ENGINEER. MODEL NUMBERS FOR THE PLC, IO CARDS, AND CONTROL PANEL POWER DISTRIBUTION REQUIRED ARE INDICATED ON THE CONTROL PANEL ELEMENTARY WIRING DIAGRAM, IN THE SPECIFICATON, AND ON THE I/O SCHEDULES.

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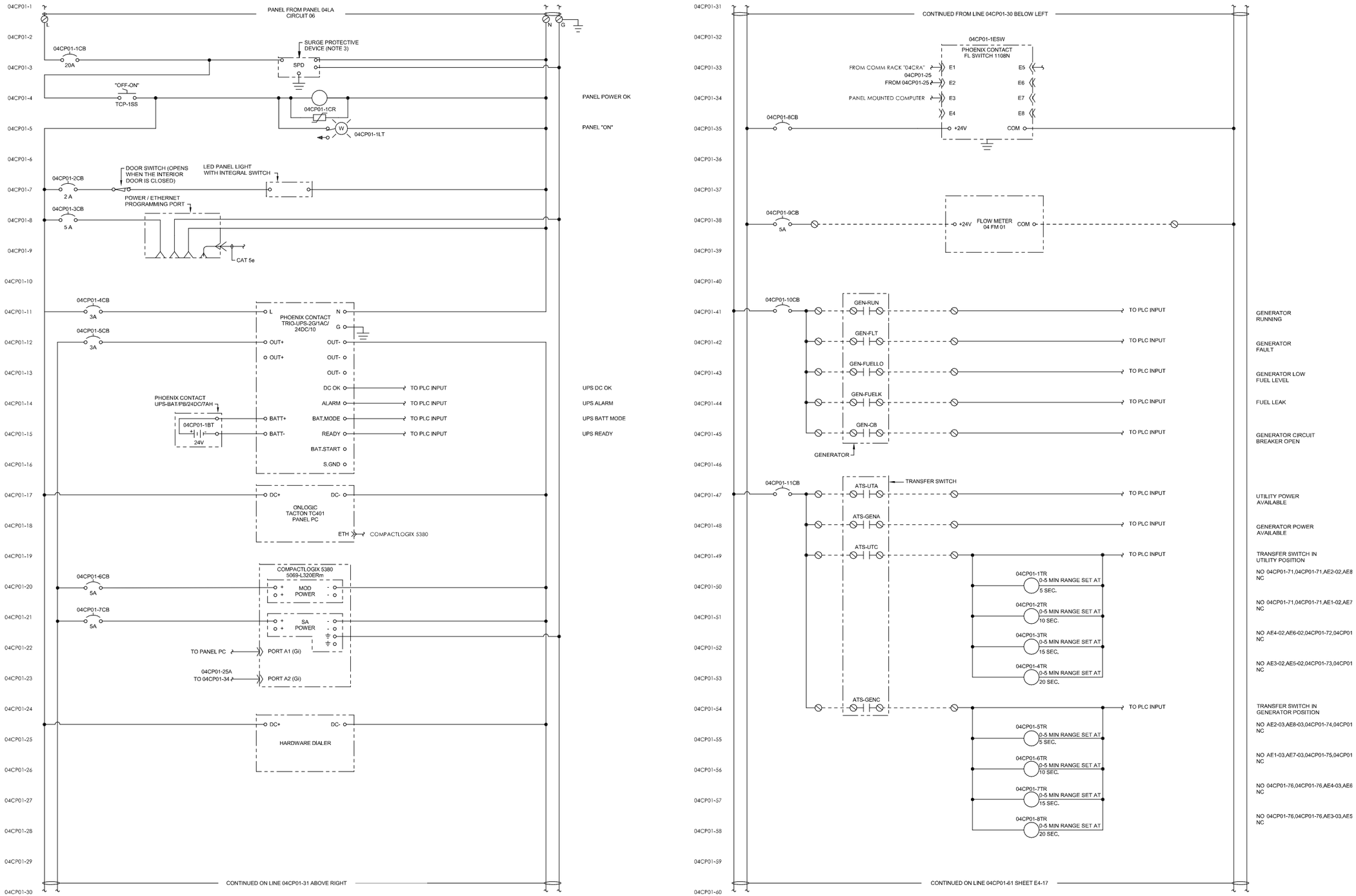
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CITY OF GRANDVIEW
WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1
INFLUENT PUMP STATION ELECTRICAL BUILDING – 04CP01 PANEL ELEVATIONS

E4-15



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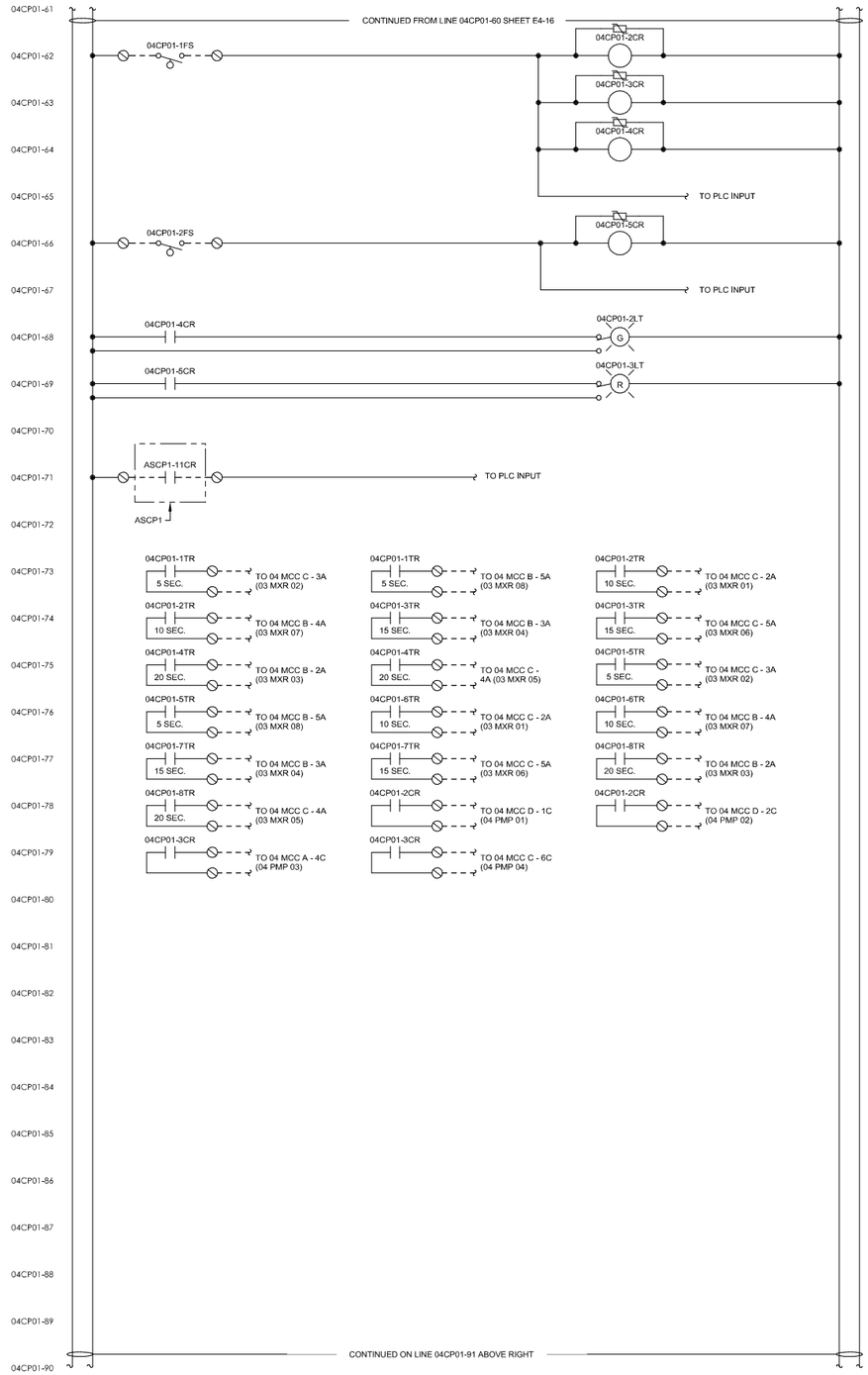
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PLAN: 23030

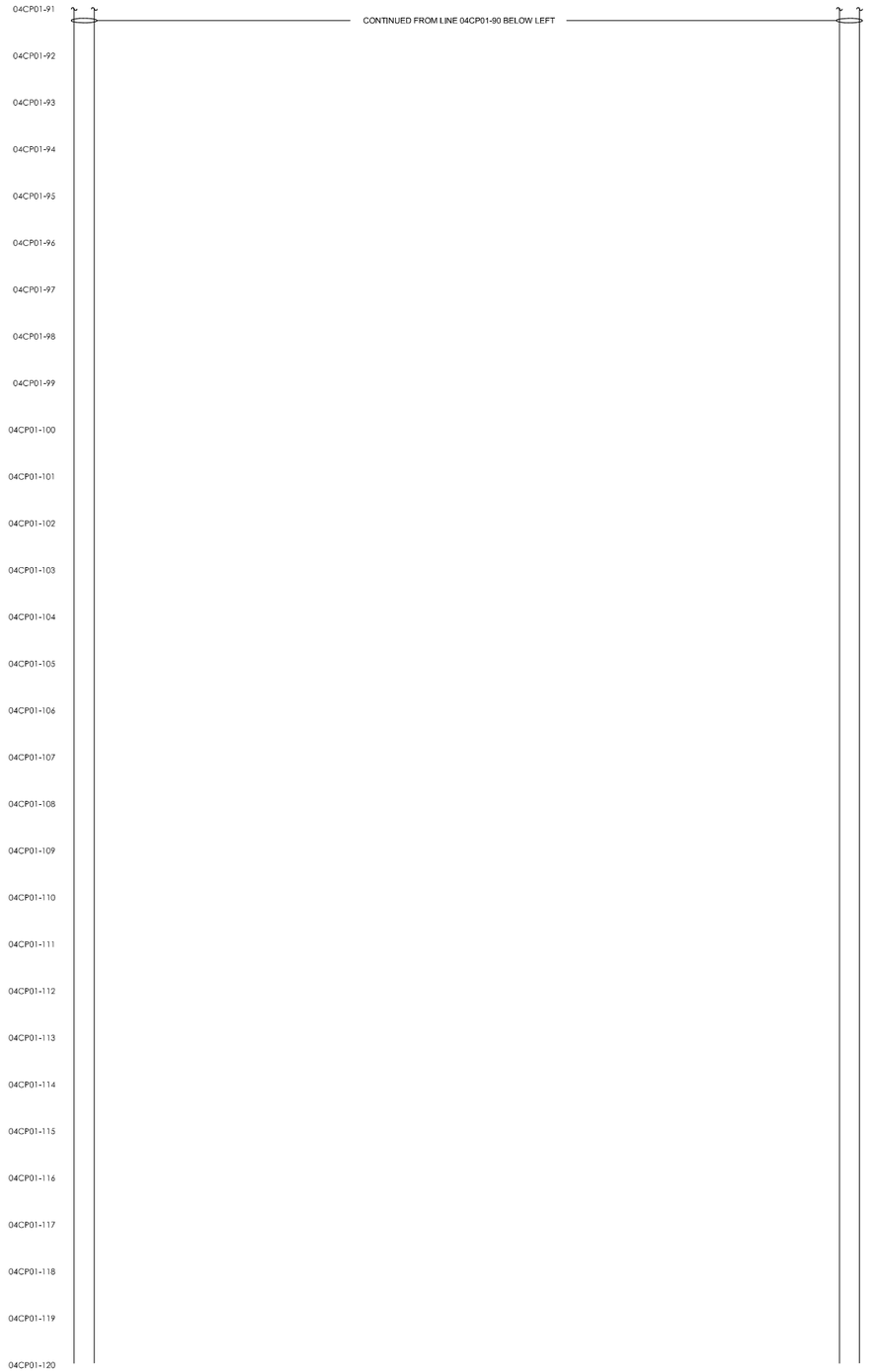
DESIGNED BY: BAS
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CITY OF GRANDVIEW
WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1

INFLUENT PUMP STATION ELECTRICAL BUILDING – 04CP01 EWD

E4-16





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PLAN: 23030

DESIGNED BY: BAS
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WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1

INFLUENT PUMP STATION ELECTRICAL BUILDING – 04CP01 EWD

E4-17

SHEET 111 OF 192

AQUA BUILDING (04CP01)

RACK	I	24 VDC DISCRETE INPUTS			
SLOT	CH	DESCRIPTION	FUSE GROUP	DETAIL	TAG ID
1	0	GENERATOR RUNNING	FU1	3/E0-08	
	1	GENERATOR FAULT	FU1	3/E0-08	
	2	GENERATOR LOW FUEL LEVEL	FU1	3/E0-08	
	3	GENERATOR FUEL LEAK	FU1	3/E0-08	
	4	GENERATOR BREAKER OFF	FU1	3/E0-08	
	5	WETWELL LOW FLOAT SWITCH	FU2	3/E0-08	**04 FS 01**
	6	WETWELL EMERGENCY LOW FLOAT SWITCH	FU2	3/E0-08	**04 FS 02**
	7	AERATION BASIN ALARM	FU2	3/E0-08	
	8	04ATS UTILITY POWER AVAILABLE	FU3	3/E0-08	
	9	04ATS GENERATOR POWER AVAILABLE	FU3	3/E0-08	
	10	04ATS UTILITY CONNECTED POWER	FU3	3/E0-08	
	11	04ATS GENERATOR CONNECTED POWER	FU3	3/E0-08	
	12	FLOWMETER PULSE/FREQUENCY	FU4	3/E0-08	**04 FM 01**
	13	SPARE	FU4	5/E0-08	
	14	SPARE	FU5	5/E0-08	
	15	SPARE	FU5	5/E0-08	

5069-IB16

AQUA BUILDING (04CP01)

RACK	I	ANALOG INPUTS			
SLOT	CH	DESCRIPTION	FUSE GROUP	DETAIL	TAG ID
2	0	SUBMERSIBLE LEVEL TRANSDUCERS	FU6	17/E0-08	**04 LT 01**
	1	FLOW METER FLOW	FU6	18/E0-08	**04 FM 01**
	2	SPARE	FU8	5/E0-08	
	3	SPARE	FU8	5/E0-08	
	4	SPARE	FU9	5/E0-08	
	5	SPARE	FU9	5/E0-08	
	6	SPARE	FU10	5/E0-08	
	7	SPARE	FU10	5/E0-08	

5069-IF8

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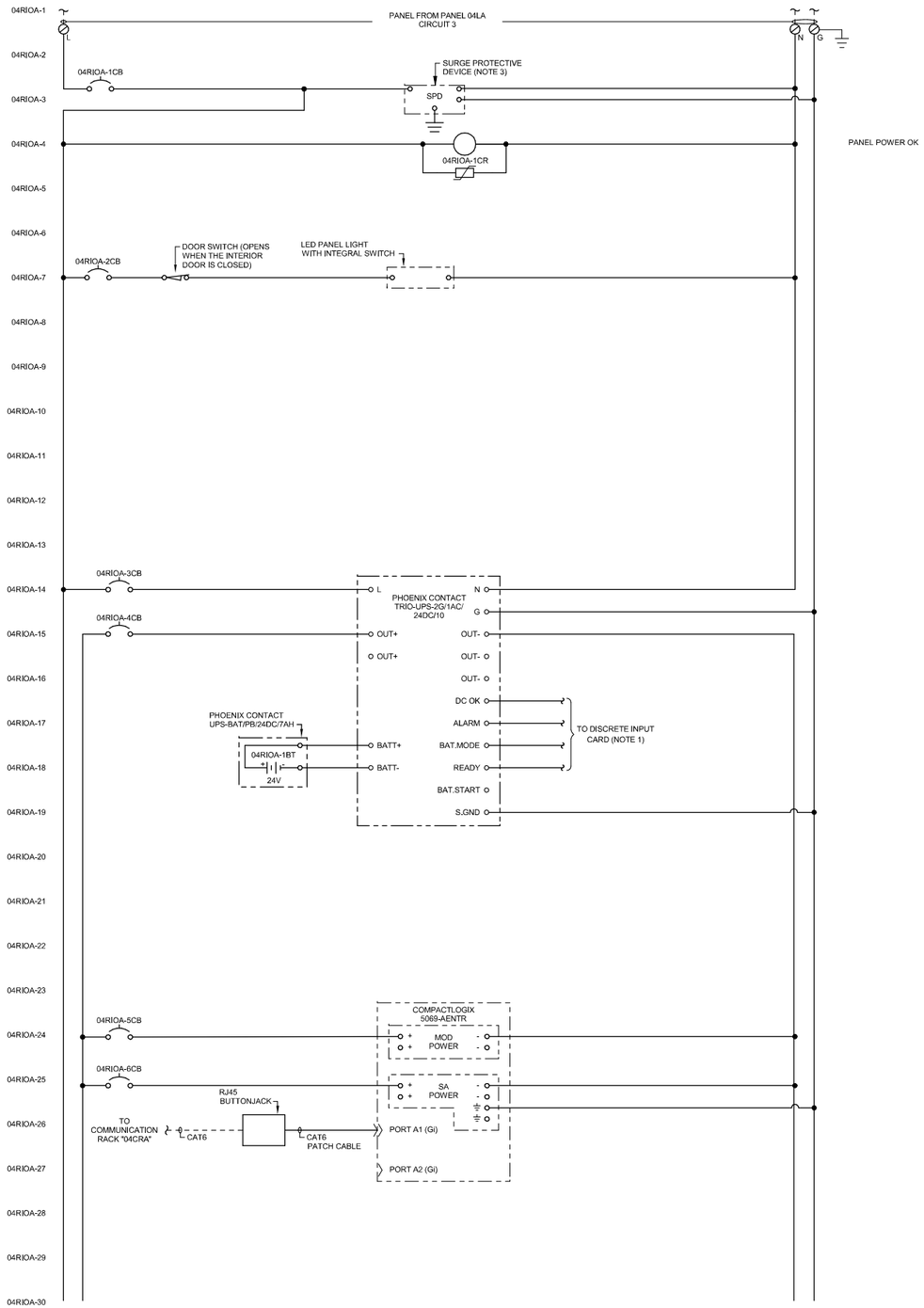
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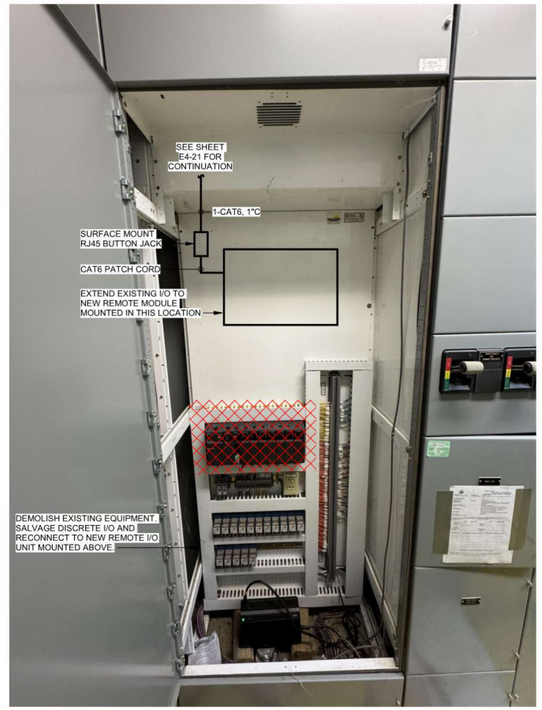
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WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1

INFLUENT PUMP STATION ELECTRICAL BUILDING – INPUT/OUTPUT TABLES





DETAIL 2/E4-19
REMOTE I/O ELEVATION
SCALE: NONE

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WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1
INFLUENT PUMP STATION ELECTRICAL BUILDING – REMOTE I/O EWD

E4-19

REMOTE I/O (04RIO) 5069-AENTR

RACK	I	24 VDC DISCRETE INPUTS			
SLOT	CH	DESCRIPTION	FUSE GROUP	DETAIL	TAG ID
1 (5069-IA16)	0	AERATOR #1 - RUN	FU1	3/E0-08	**03 MXR 01**
	1	AERATOR #1 - HAND	FU1	3/E0-08	**03 MXR 01**
	2	AERATOR #1 - AUTO	FU1	3/E0-08	**03 MXR 01**
	3	AERATOR #1 - READY	FU1	3/E0-08	**03 MXR 01**
	4	AERATOR #1 - OVERLOAD	FU1	3/E0-08	**03 MXR 01**
	5	AERATOR #2 - RUN	FU2	3/E0-08	**03 MXR 02**
	6	AERATOR #2 - HAND	FU2	3/E0-08	**03 MXR 02**
	7	AERATOR #2 - AUTO	FU2	3/E0-08	**03 MXR 02**
	8	AERATOR #2 - READY	FU2	3/E0-08	**03 MXR 02**
	9	AERATOR #2 - OVERLOAD	FU2	3/E0-08	**03 MXR 02**
	10	AERATOR #3 - RUN	FU3	3/E0-08	**03 MXR 03**
	11	AERATOR #3 - HAND	FU3	3/E0-08	**03 MXR 03**
	12	AERATOR #3 - AUTO	FU3	3/E0-08	**03 MXR 03**
	13	AERATOR #3 - READY	FU3	3/E0-08	**03 MXR 03**
	14	AERATOR #3 - OVERLOAD	FU3	3/E0-08	**03 MXR 03**
	15	SPARE	FU4	5/E0-08	
2 (5069-IA16)	0	AERATOR #4 - RUN	FU5	3/E0-08	**03 MXR 04**
	1	AERATOR #4 - HAND	FU5	3/E0-08	**03 MXR 04**
	2	AERATOR #4 - AUTO	FU5	3/E0-08	**03 MXR 04**
	3	AERATOR #4 - READY	FU5	3/E0-08	**03 MXR 04**
	4	AERATOR #4 - OVERLOAD	FU5	3/E0-08	**03 MXR 04**
	5	AERATOR #5 - RUN	FU6	3/E0-08	**03 MXR 05**
	6	AERATOR #5 - HAND	FU6	3/E0-08	**03 MXR 05**
	7	AERATOR #5 - AUTO	FU6	3/E0-08	**03 MXR 05**
	8	AERATOR #5 - READY	FU6	3/E0-08	**03 MXR 05**
	9	AERATOR #5 - OVERLOAD	FU6	3/E0-08	**03 MXR 05**
	10	AERATOR #6 - RUN	FU7	3/E0-08	**03 MXR 06**
	11	AERATOR #6 - HAND	FU7	3/E0-08	**03 MXR 06**
	12	AERATOR #6 - AUTO	FU7	3/E0-08	**03 MXR 06**
	13	AERATOR #6 - READY	FU7	3/E0-08	**03 MXR 06**
	14	AERATOR #6 - OVERLOAD	FU7	3/E0-08	**03 MXR 06**
	15	SPARE	FU8	5/E0-08	
3 (5069-IA16)	0	AERATOR #7 - RUN	FU9	3/E0-08	**03 MXR 07**
	1	AERATOR #7 - HAND	FU9	3/E0-08	**03 MXR 07**
	2	AERATOR #7 - AUTO	FU9	3/E0-08	**03 MXR 07**
	3	AERATOR #7 - READY	FU9	3/E0-08	**03 MXR 07**
	4	AERATOR #7 - OVERLOAD	FU9	3/E0-08	**03 MXR 07**
	5	AERATOR #8 - RUN	FU10	3/E0-08	**03 MXR 08**
	6	AERATOR #8 - HAND	FU10	3/E0-08	**03 MXR 08**
	7	AERATOR #8 - AUTO	FU10	3/E0-08	**03 MXR 08**
	8	AERATOR #8 - READY	FU10	3/E0-08	**03 MXR 08**
	9	AERATOR #8 - OVERLOAD	FU10	3/E0-08	**03 MXR 08**
	10	SPARE	FU11	5/E0-08	
	11	SPARE	FU12	5/E0-08	
	12	SPARE	FU13	5/E0-08	
	13	SPARE	FU14	5/E0-08	
	14	SPARE	FU15	5/E0-08	
	15	SPARE	FU16	5/E0-08	

REMOTE I/O (04RIO) 5069-AENTR

RACK	I	24 VDC ANALOG INPUTS			
SLOT	CH	DESCRIPTION	FUSE GROUP	DETAIL	TAG ID
4 (5069-IF8)	0	MCC A - VOLTS PHASE C	FU17	14/E0-08	**04 MCC A**
	1	MCC A - VOLTS PHASE B	FU17	14/E0-08	**04 MCC A**
	2	MCC A - VOLTS PHASE A	FU17	14/E0-08	**04 MCC A**
	3	MCC A - AMPS PHASE A	FU17	14/E0-08	**04 MCC A**
	4	MCC A - AMPS PHASE B	FU18	14/E0-08	**04 MCC A**
	5	MCC A - AMPS PHASE C	FU18	14/E0-08	**04 MCC A**
	6	MCC A - WATTS	FU18	14/E0-08	**04 MCC A**
	7	MCC A - VARS	FU18	14/E0-08	**04 MCC A**
5 (5069-IF8)	0	MCC B - VOLTS PHASE A	FU19	14/E0-08	**04 MCC B**
	1	MCC B - VOLTS PHASE B	FU19	14/E0-08	**04 MCC B**
	2	MCC B - VOLTS PHASE C	FU19	14/E0-08	**04 MCC B**
	3	MCC B - AMPS PHASE A	FU15	14/E0-08	**04 MCC B**
	4	MCC B - AMPS PHASE B	FU20	14/E0-08	**04 MCC B**
	5	MCC B - AMPS PHASE C	FU20	14/E0-08	**04 MCC B**
	6	MCC B - WATTS	FU20	14/E0-08	**04 MCC B**
	7	MCC B - VARS	FU20	14/E0-08	**04 MCC B**
6 (5069-IF8)	0	MCC C - VOLTS PHASE A	FU21	14/E0-08	**04 MCC C**
	1	MCC C - VOLTS PHASE B	FU21	14/E0-08	**04 MCC C**
	2	MCC C - VOLTS PHASE C	FU21	14/E0-08	**04 MCC C**
	3	MCC C - AMPS PHASE A	FU21	14/E0-08	**04 MCC C**
	4	MCC C - AMPS PHASE B	FU22	14/E0-08	**04 MCC C**
	5	MCC C - AMPS PHASE C	FU22	14/E0-08	**04 MCC C**
	6	MCC C - WATTS	FU22	14/E0-08	**04 MCC C**
	7	MCC C - VARS	FU22	14/E0-08	**04 MCC C**

REMOTE I/O (04RIO) 5069-AENTR

RACK	I	24 VDC DISCRETE OUTPUTS			
SLOT	CH	DESCRIPTION	CONTROL RELAY	DETAIL	TAG ID
7 (5069-OA16)	0	AERATOR #1 - START	CR1	10/E0-08	**03 MXR 01**
	1	AERATOR #2 - START	CR2	10/E0-08	**03 MXR 02**
	2	AERATOR #3 - START	CR3	10/E0-08	**03 MXR 03**
	3	AERATOR #4 - START	CR4	10/E0-08	**03 MXR 04**
	4	AERATOR #5 - START	CR5	10/E0-08	**03 MXR 05**
	5	AERATOR #6 - START	CR6	10/E0-08	**03 MXR 06**
	6	AERATOR #7 - START	CR7	10/E0-08	**03 MXR 07**
	7	AERATOR #8 - START	CR8	10/E0-08	**03 MXR 08**
	0	AERATOR #9 - START	CR9	10/E0-08	**03 MXR 09**
	1	AERATOR #10 - START	CR10	10/E0-08	**03 MXR 10**
	2	AERATOR #11 - START	CR11	10/E0-08	**03 MXR 11**
	3	AERATOR #12 - START	CR12	10/E0-08	**03 MXR 12**
	4	SPARE	CR13	13/E0-08	
	5	SPARE	CR14	13/E0-08	
	6	SPARE	CR15	13/E0-08	
	7	SPARE	CR16	13/E0-08	

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03/12/2026

REVISION	DATE

JOB NUMBER: 23030 | DATE: 3/13/2026
FILE NAMES:
DRAWING: HLA-23030_E_R24.RVT
PLAN: 23030
DESIGNED BY: BAS
ENTERED BY: BAS

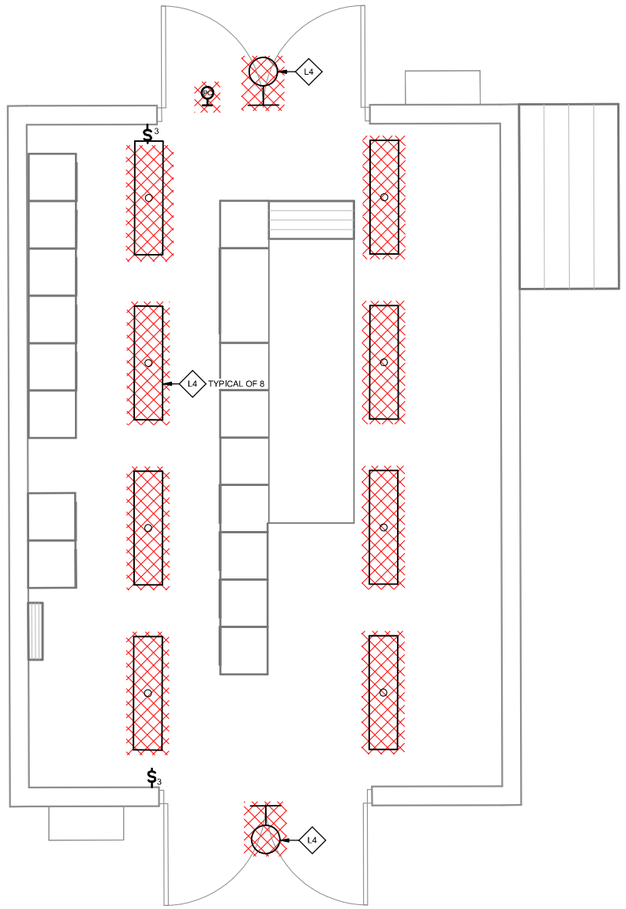
CITY OF GRANDVIEW
WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1

INFLUENT PUMP STATION ELECTRICAL BUILDING – REMOTE I/O INPUT/OUTPUT TABLES

E4-20

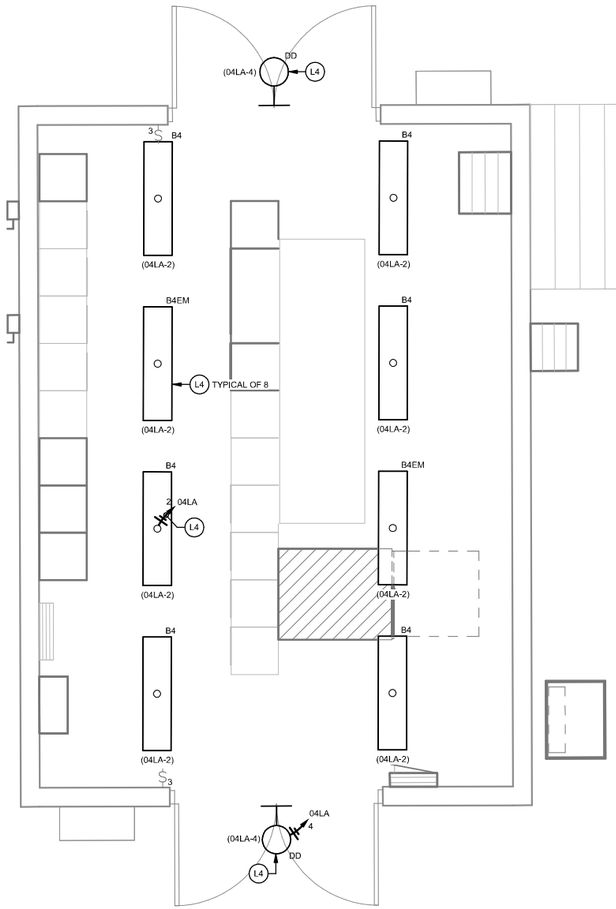
SHEET NOTES

L4 REPLACE EXISTING LIGHTING FIXTURE. RECONNECT NEW FIXTURE TO EXISTING CIRCUIT TO EXISTING SWITCH LEG. PROVIDE ADDITIONAL CONDUCTORS FROM LOCAL LIGHTING PANEL AS NECESSARY TO SERVE EMERGENCY FIXTURES.



INFLUENT PUMP STATION ELECTRICAL BUILDING - EXISTING/DEMO LIGHTING PLAN

0' 1'-4" 2'-8" 5'-4"



INFLUENT PUMP STATION ELECTRICAL BUILDING - MODIFIED LIGHTING PLAN

0' 1'-4" 2'-8" 5'-4"

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INFLUENT PUMP STATION ELECTRICAL BUILDING – LIGHTING PLANS

E4-21

SHEET 115 OF 192

SHEET NOTES

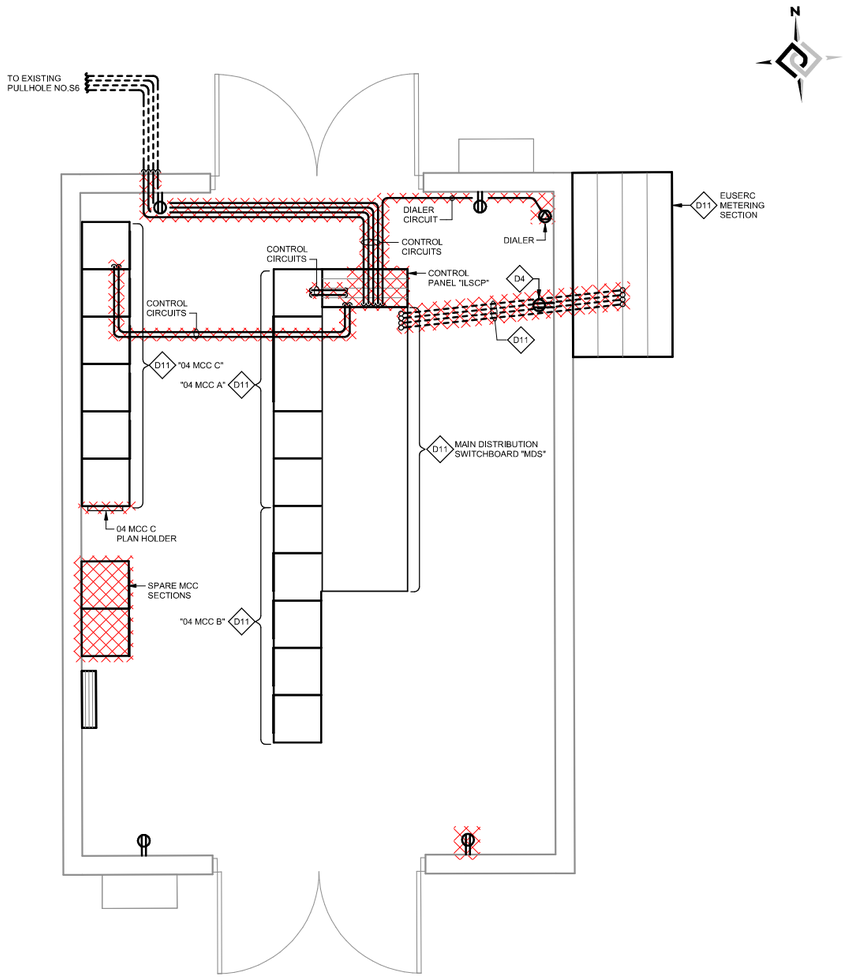
1. CONNECT NEW EQUIPMENT TO EXISTING GROUNDING SYSTEM. PROVIDE COPPER GROUNDING CONDUCTOR CONNECTION TO EQUIPMENT AS FOLLOWS:

A.	04 SERVICE DISCONNECT	#3/0
B.	AUTOMATIC TRANSFER SWITCH "04ATS"	#3/0
C.	GENERATOR	#3/0
D.	04 MCC D (EXISTING CONDUIT)	#1
E.	TRANSFORMER "T-04LB"	#6

   EXOTHERMICALLY WELD ALL CONNECTIONS. ALL EXPOSED ABOVE GRADE CONDUCTORS SHALL BE IN RMC CONDUIT.

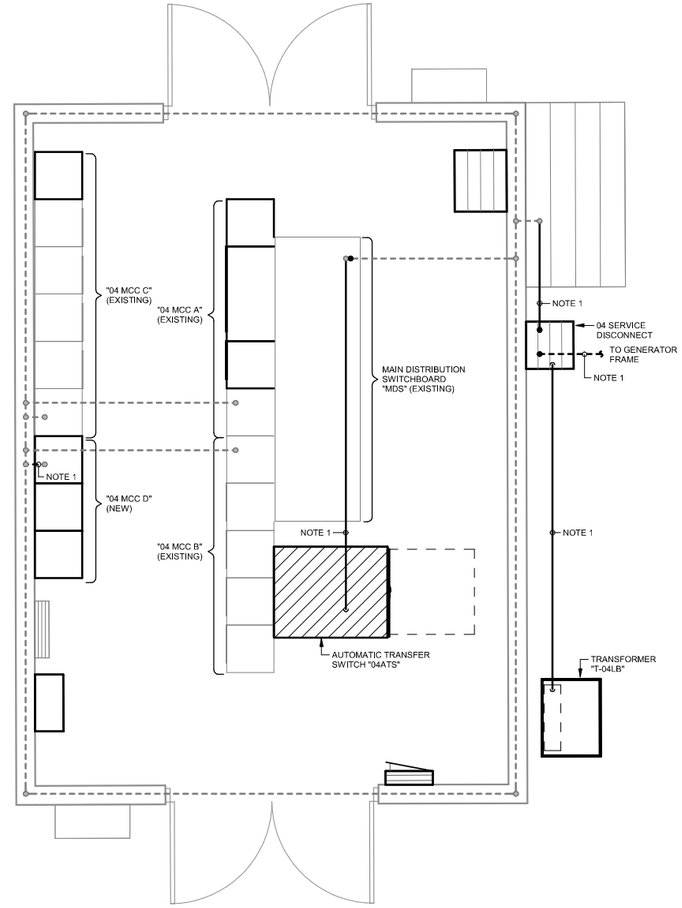
D4 DEMOLISH EXISTING DEVICE AND CONDUCTORS. PRESERVE EXISTING CONDUIT PATHWAY FOR REUSE.

D11 SEE EXISTING/DEMOLITION ONE LINE DIAGRAMS ON SHEETS E4-02 AND E4-03 FOR FURTHER INFORMATION.



INFLUENT PUMP STATION ELECTRICAL BUILDING - EXISTING/DEMO PLAN

0' 1'-4" 2'-8" 5'-4"



INFLUENT PUMP STATION ELECTRICAL BUILDING - MODIFIED GROUNDING PLAN

0' 1'-4" 2'-8" 5'-4"

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WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1

INFLUENT PUMP STATION ELECTRICAL BUILDING – DEMO AND GROUNDING PLANS

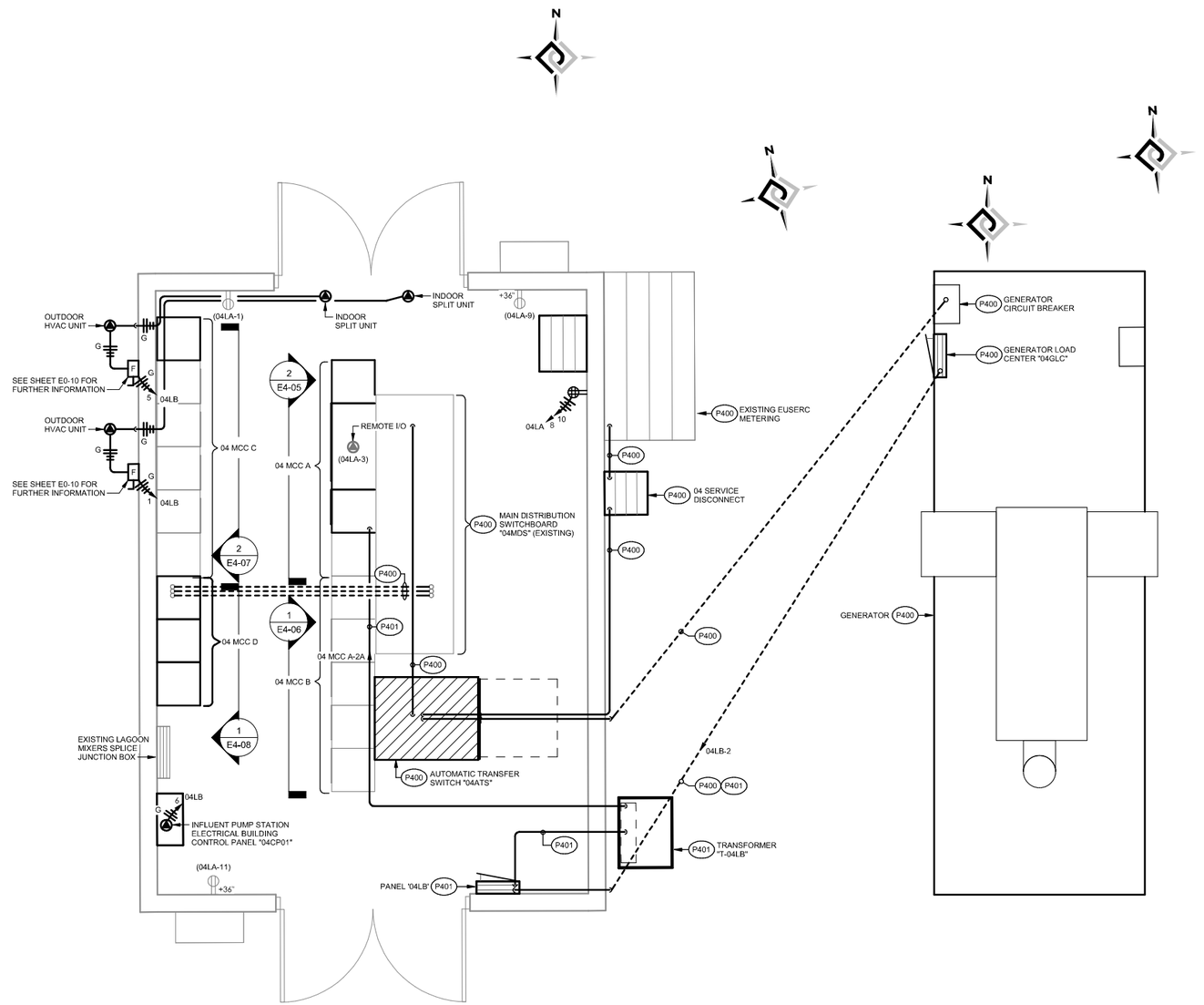
E4-22

SHEET 116 OF 192

SHEET NOTES

P400 SEE ONE LINE DIAGRAM SHEET E4-04 FOR CIRCUIT / FEEDER, OR EQUIPMENT INFORMATION.

P401 SEE MOTOR CONTROL CENTER ONE LINE DIAGRAM FOR CIRCUIT AND EQUIPMENT INFORMATION AS REFERENCED BY THE MOTOR CONTROL CENTER "04 MCC A" SCHEDULE SHOWN ON SHEET E4-05.



INFLUENT PUMP STATION ELECTRICAL BUILDING - MODIFIED POWER PLAN

0' 1'-4" 2'-8" 5'-4"

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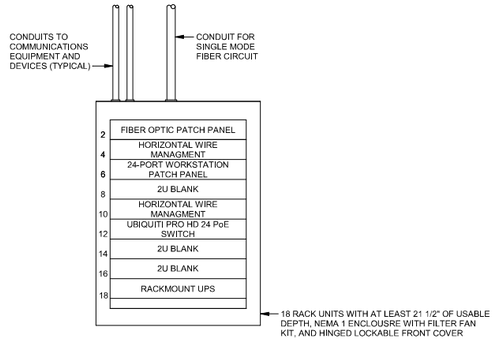
FILE NAMES:
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PLAN: 23030

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WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1

INFLUENT PUMP STATION ELECTRICAL BUILDING – POWER PLAN

E4-23



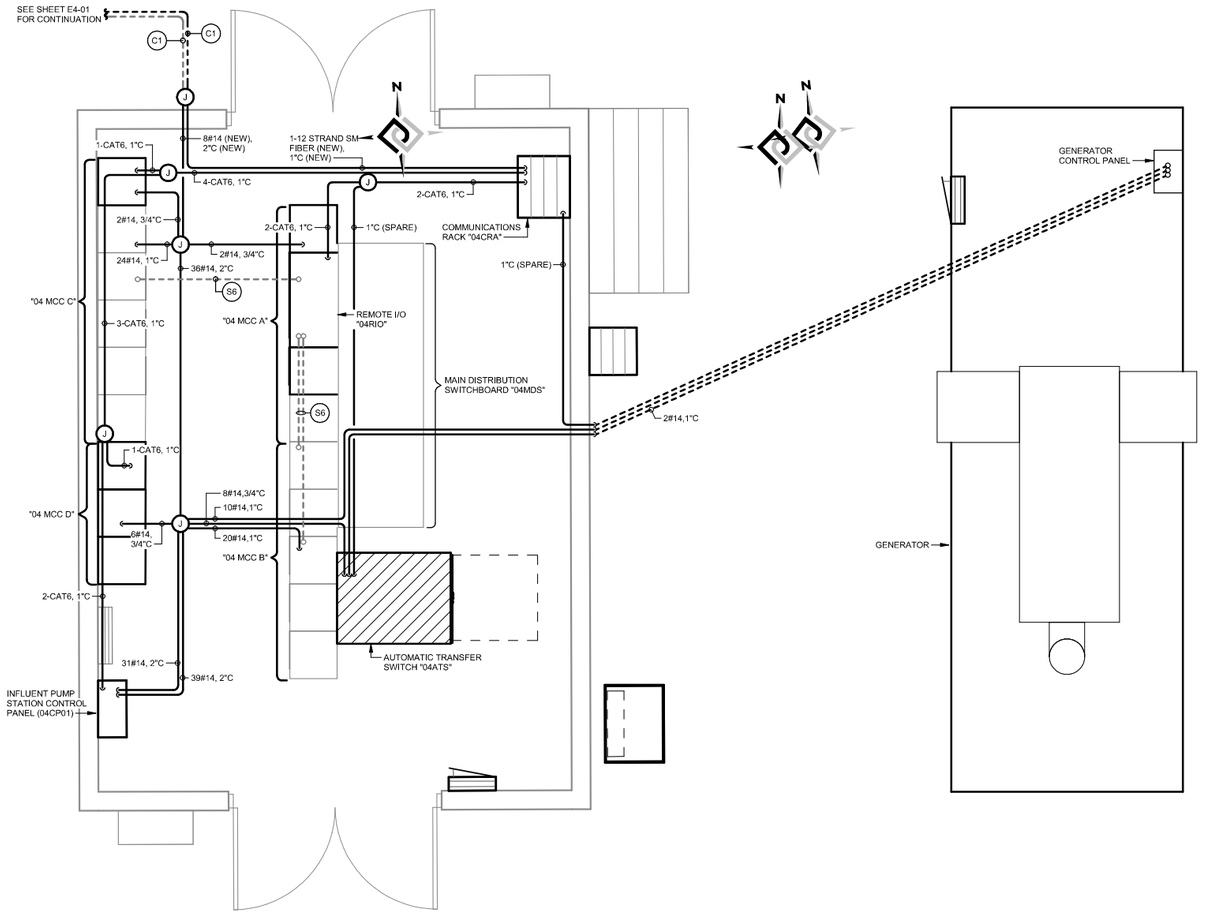
04CRA	PRODUCT DESCRIPTION	
	RACK 1	1-18RU, 26"Wx28"D, FRONT & REAR DOORS, BLACK, CABINET
		2U FIBER OPTIC PATCH PANEL
		2U HORIZONTAL WIRE MANAGEMENT
		2U 24-PORT WORKSTATION PATCH PANEL
		2U HORIZONTAL WIRE MANAGEMENT
		2U UBIQUITI PRO HD 24 PoE SWITCH
		2U RACKMOUNT UPS

DETAIL 1/E4-24
COMMUNICATIONS RACK "04CRA"

SCALE: 1" = 1'-0"

INFLUENT PUMP STATION
ELECTRICAL BUILDING PATCHING SCHEDULE

SWITCH	SWITCH PORT	EQUIPMENT DESCRIPTION
04CRA SWITCH 1	1	INFLUENT PUMP STATION CONTROL PANEL 04 CP 01
	2	MOTOR CONTROL CENTER 04 MCC D
	3	
	4	
	5	
	6	
	7	
	8	
	9	
	10	
	11	
	12	
	13	
	14	
	15	
	16	
	17	
	18	
	19	
	20	INFLUENT PUMP NO.4 FREQUENCY DRIVE
	21	INFLUENT PUMP NO.3 FREQUENCY DRIVE
	22	
	23	REMOTE I/O PLC IN 04 MCC A
	24	
	SFP 01	FIBER TO RACK 13CRA
	SFP 02	
	SFP 03	
	SFP 04	



INFLUENT PUMP STATION ELECTRICAL BUILDING - MODIFIED PROCESS AND INSTRUMENTATION PLAN

0' 1'-4" 2'-8" 5'-4"

SHEET NOTES

C1 SEE COMMUNICATIONS SYSTEM BLOCK DIAGRAMS ON SHEET E0-09 FOR CIRCUIT AND EQUIPMENT INFORMATION.

S6 EXISTING PLC I/O TO BE EXTENDED TO NEW REMOTE I/O. SEE DETAIL 2/E4-19 FOR FURTHER INFORMATION.

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REVISION	DATE

JOB NUMBER: 23030 DATE: 3/13/2026
FILE NAMES:
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PLAN: 23030
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INFLUENT PUMP STATION ELECTRICAL BUILDING – INSTRUMENTATION PLAN

E4-24

SHEET NOTES

D1 DEMOLISH CONDUCTORS. PRESERVE AND PROTECT RACEWAY FOR REUSE.

D4 DEMOLISH EXISTING DEVICE AND CONDUCTORS. PRESERVE EXISTING CONDUIT PATHWAY FOR REUSE.

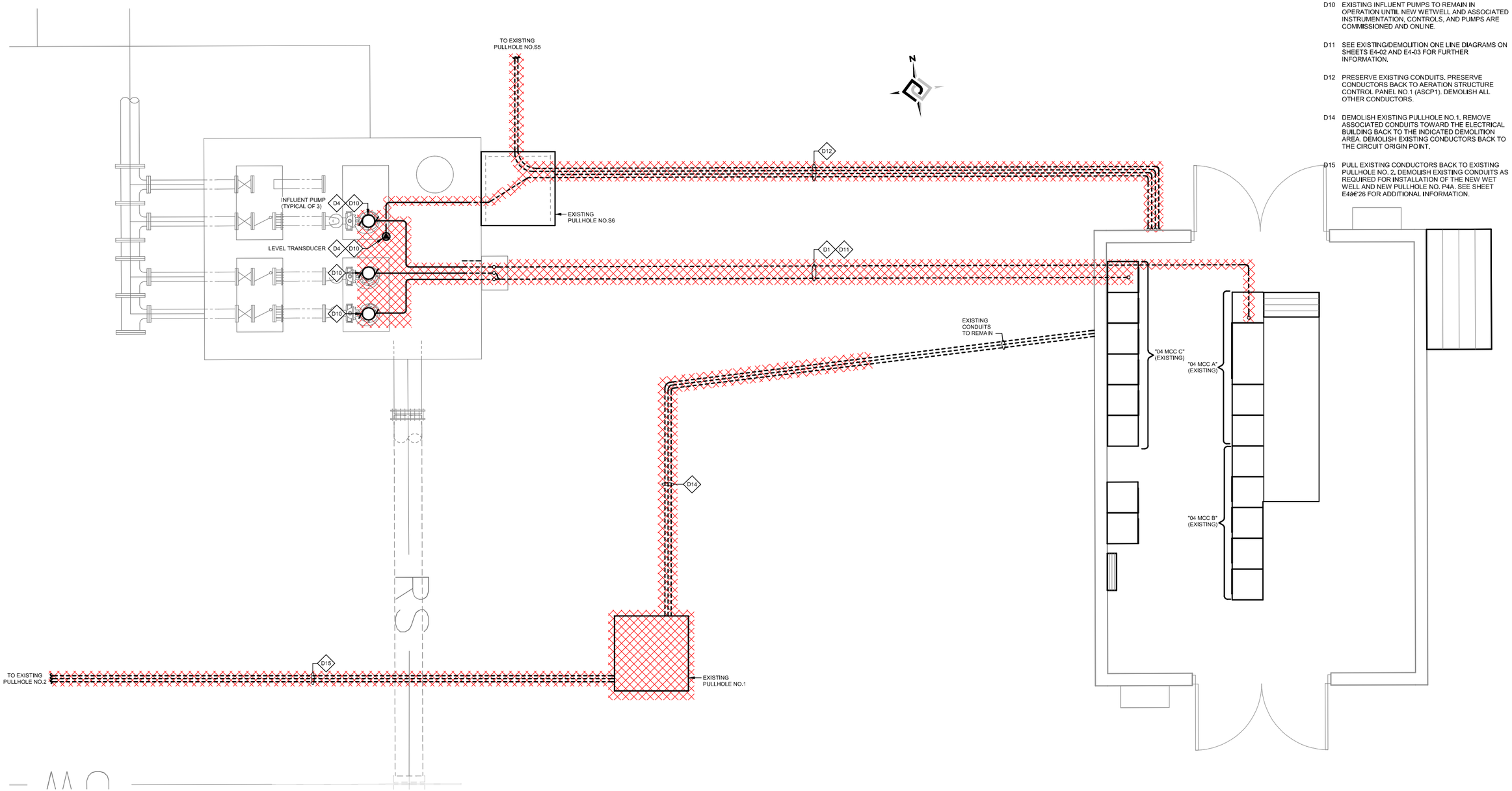
D10 EXISTING INFLUENT PUMPS TO REMAIN IN OPERATION UNTIL NEW WETWELL AND ASSOCIATED INSTRUMENTATION, CONTROLS, AND PUMPS ARE COMMISSIONED AND ONLINE.

D11 SEE EXISTING/DEMOLITION ONE LINE DIAGRAMS ON SHEETS E4-02 AND E4-03 FOR FURTHER INFORMATION.

D12 PRESERVE EXISTING CONDUITS. PRESERVE CONDUCTORS BACK TO AERATION STRUCTURE CONTROL PANEL NO.1 (ASCP1). DEMOLISH ALL OTHER CONDUCTORS.

D14 DEMOLISH EXISTING PULLHOLE NO.1. REMOVE ASSOCIATED CONDUITS TOWARD THE ELECTRICAL BUILDING BACK TO THE INDICATED DEMOLITION AREA. DEMOLISH EXISTING CONDUCTORS BACK TO THE CIRCUIT ORIGIN POINT.

D15 PULL EXISTING CONDUCTORS BACK TO EXISTING PULLHOLE NO. 2. DEMOLISH EXISTING CONDUITS AS REQUIRED FOR INSTALLATION OF THE NEW WET WELL AND NEW PULLHOLE NO. P4A. SEE SHEET E4â€26 FOR ADDITIONAL INFORMATION.



INFLUENT PUMP STATION - EXISTING/DEMO PLAN

0' 1'-4" 2'-8" 5'-4"

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REVISION	DATE

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WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1

INFLUENT PUMP STATION – EXISTING/DEMO PLAN

E4-25

SHEET 119 OF 192

SHEET NOTES

C1 SEE COMMUNICATIONS SYSTEM BLOCK DIAGRAMS ON SHEET E0-09 FOR CIRCUIT AND EQUIPMENT INFORMATION.

P012 PROVIDE EMPTY CONDUITS STUBBED UP 6" ABOVE FINISHED GRADE FOR FUTURE USE. CONDUITS SHALL BE CAPPED. COORDINATE LOCATIONS WITH ENGINEER.

P401 SEE MOTOR CONTROL CENTER ONE LINE DIAGRAM FOR CIRCUIT AND EQUIPMENT INFORMATION AS REFERENCED BY THE MOTOR CONTROL CENTER "04 MCC A" SCHEDULE SHOWN ON SHEET E4-05.

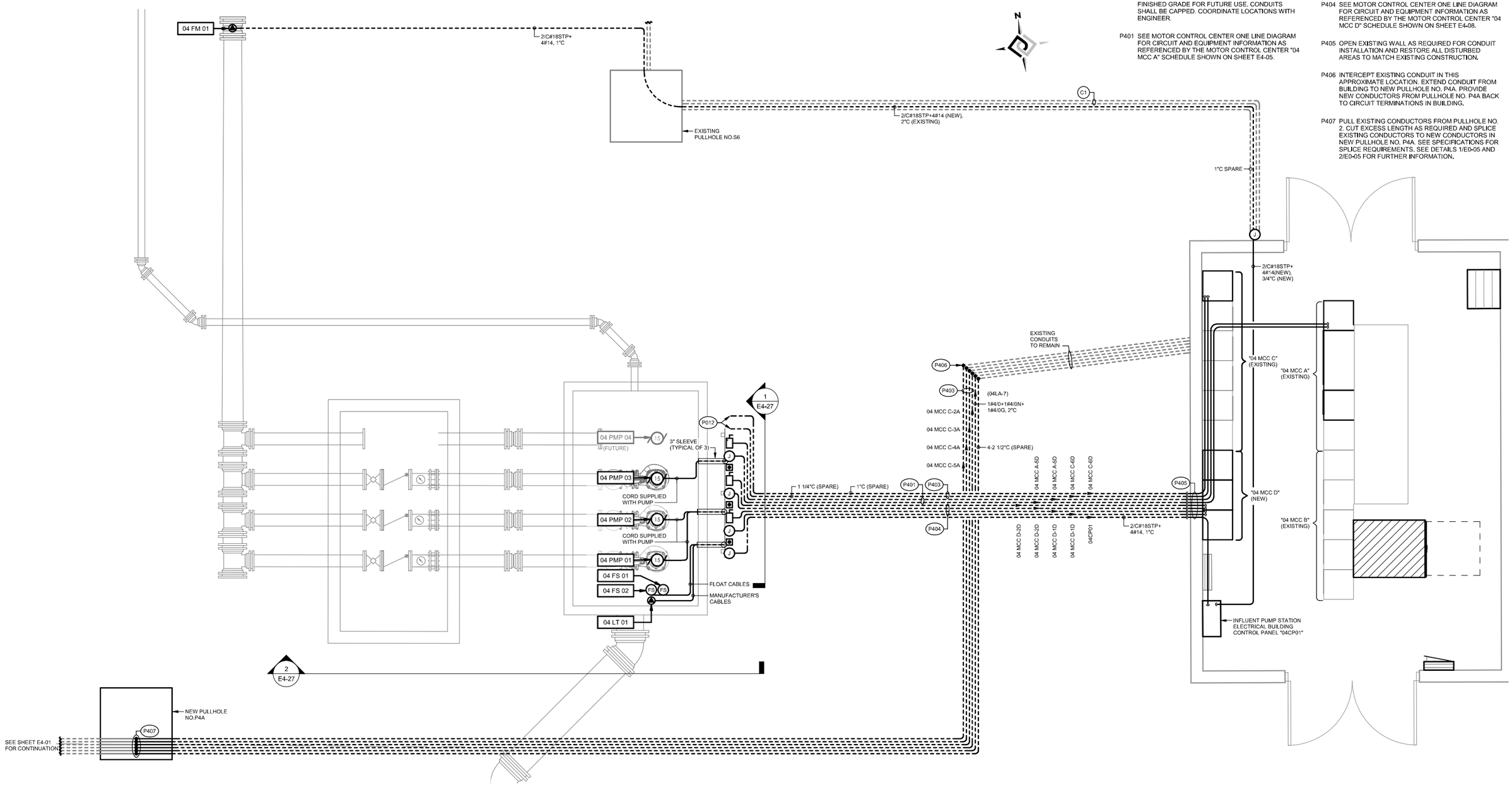
P403 SEE MOTOR CONTROL CENTER ONE LINE DIAGRAM FOR CIRCUIT AND EQUIPMENT INFORMATION AS REFERENCED BY THE MOTOR CONTROL CENTER "04 MCC C" SCHEDULE SHOWN ON SHEET E4-07.

P404 SEE MOTOR CONTROL CENTER ONE LINE DIAGRAM FOR CIRCUIT AND EQUIPMENT INFORMATION AS REFERENCED BY THE MOTOR CONTROL CENTER "04 MCC D" SCHEDULE SHOWN ON SHEET E4-08.

P405 OPEN EXISTING WALL AS REQUIRED FOR CONDUIT INSTALLATION AND RESTORE ALL DISTURBED AREAS TO MATCH EXISTING CONSTRUCTION.

P406 INTERCEPT EXISTING CONDUIT IN THIS APPROXIMATE LOCATION. EXTEND CONDUIT FROM BUILDING TO NEW PULLHOLE NO. P4A. PROVIDE NEW CONDUCTORS FROM PULLHOLE NO. P4A BACK TO CIRCUIT TERMINATIONS IN BUILDING.

P407 PULL EXISTING CONDUCTORS FROM PULLHOLE NO. 2. CUT EXCESS LENGTH AS REQUIRED AND SPLICE EXISTING CONDUCTORS TO NEW CONDUCTORS IN NEW PULLHOLE NO. P4A. SEE SPECIFICATIONS FOR SPLICE REQUIREMENTS. SEE DETAILS 1/E0-05 AND 2/E0-05 FOR FURTHER INFORMATION.



MODIFIED PROCESS POWER PLAN

0' 1'-4" 2'-8" 5'-4"

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PLAN: 23030

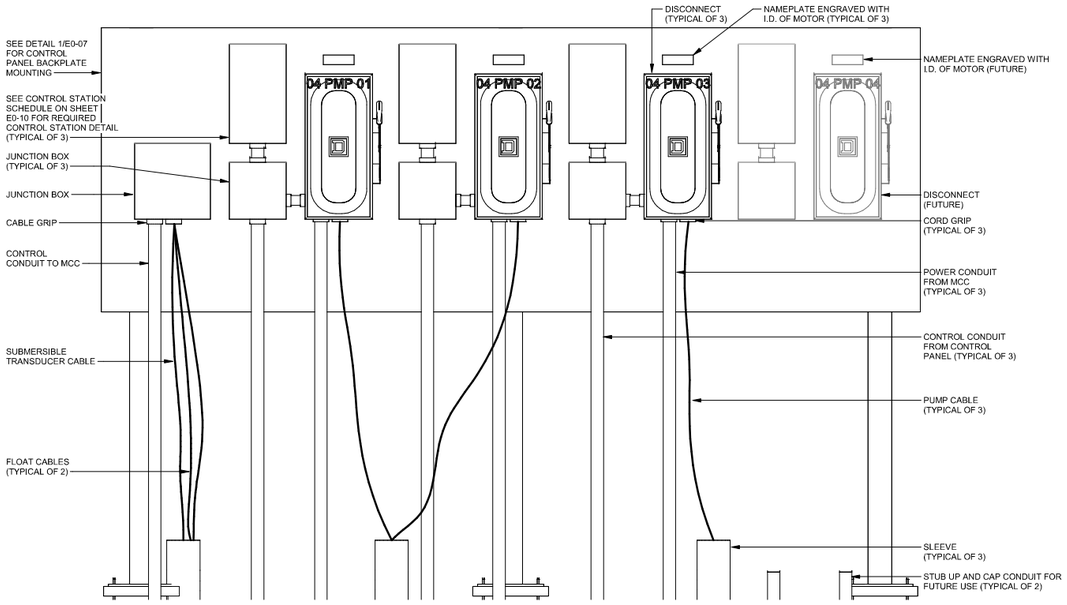
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WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1

INFLUENT PUMP STATION – MODIFIED PROCESS POWER PLAN

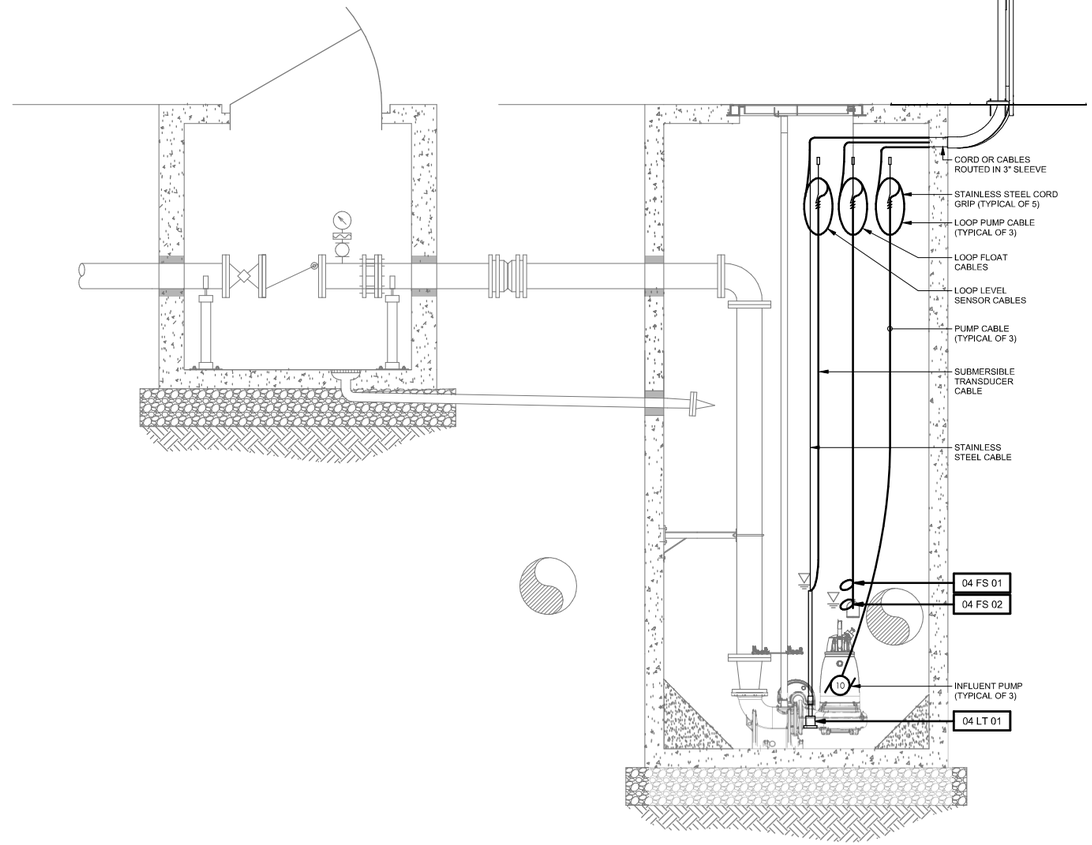
E4-26

SHEET NOTES



1 E4-27 INFLUENT PUMP STATION ELECTRICAL EQUIPMENT

0' 0'-4" 0'-8" 1'-4"



2 E4-27 INFLUENT LIFT STATION

0' 1'-0" 2'-0" 4'-0"

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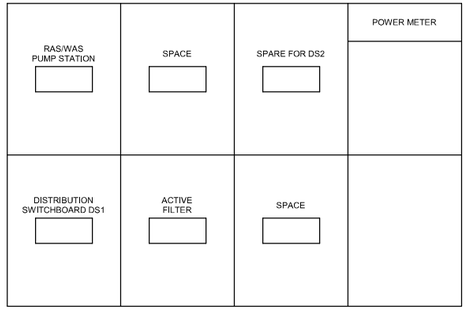
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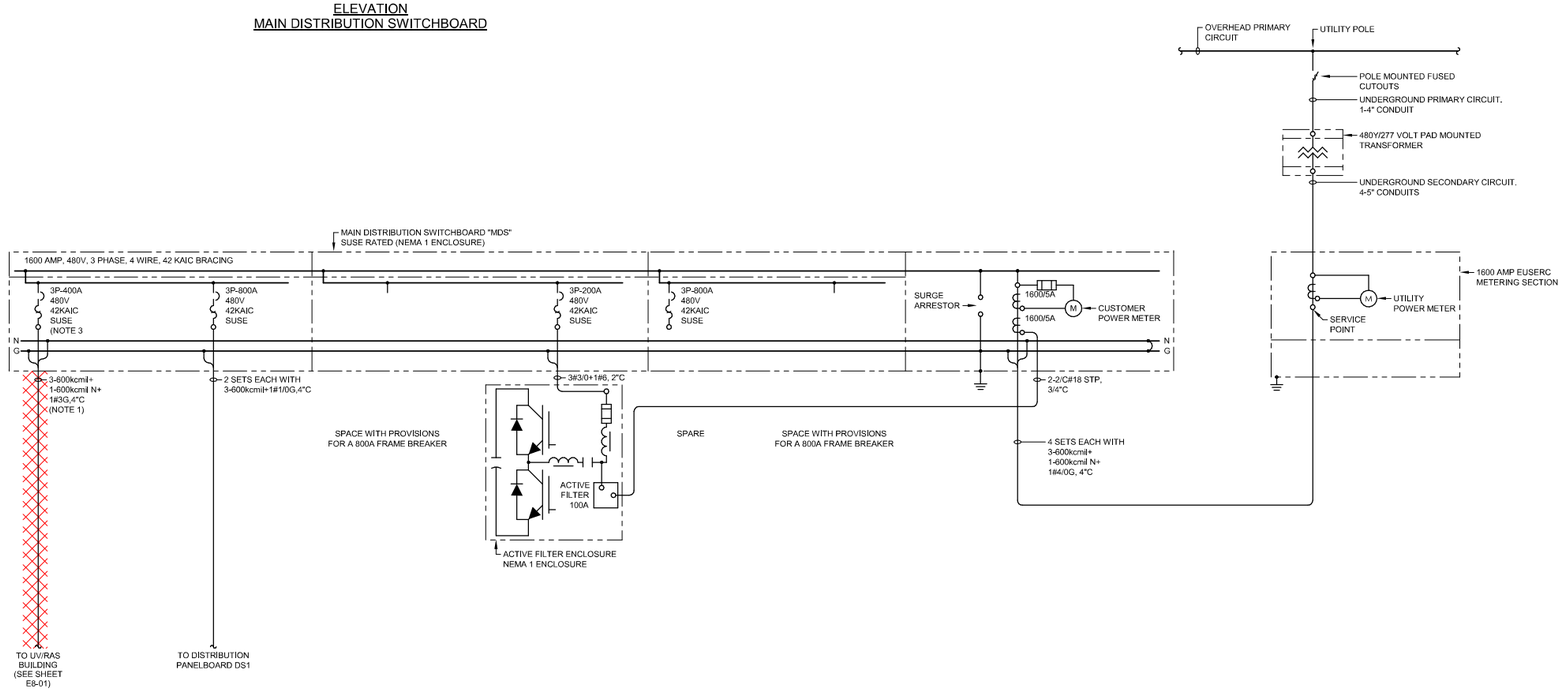
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WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1
INFLUENT PUMP STATION – ELEVATIONS

E4-27



ELEVATION
MAIN DISTRIBUTION SWITCHBOARD



EXISTING/DEMOLITION ONE LINE DIAGRAM
MAIN DISTRIBUTION SWITCHBOARD
SCALE: NONE

SHEET NOTES

1. DEMOLISH CONDUCTORS. PRESERVE CONDUIT FOR REUSE.
2. PLANT MUST MAINTAIN DISINFECTION OF EFFLUENT FLOW THROUGHOUT ENTIRETY OF CONSTRUCTION. CONTRACTOR MUST COORDINATE TEMPORARY POWER TO UV SYSTEM(S) TO COMPLETE MCC DEMOLITION. PORTABLE GENERATOR OR UTILITY TEMPORARY ARE ACCEPTABLE SOLUTIONS. PROVIDE DETAILED PLAN TO ENGINEER FOR APPROVAL PRIOR TO COMMENCING WORK. APPROVAL OF TEMPORARY POWER PLAN REQUIRED TO BEGIN DEMOLITION. COORDINATE WITH OTHER TRADES.
3. BREAKER TO BE RELOCATED. SEE MODIFIED ONE LINE DIAGRAM SHEET E6-02 FOR FURTHER INFORMATION.

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STATE OF WASHINGTON
21837
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03/12/2026

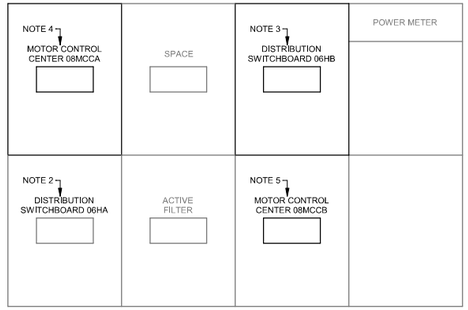
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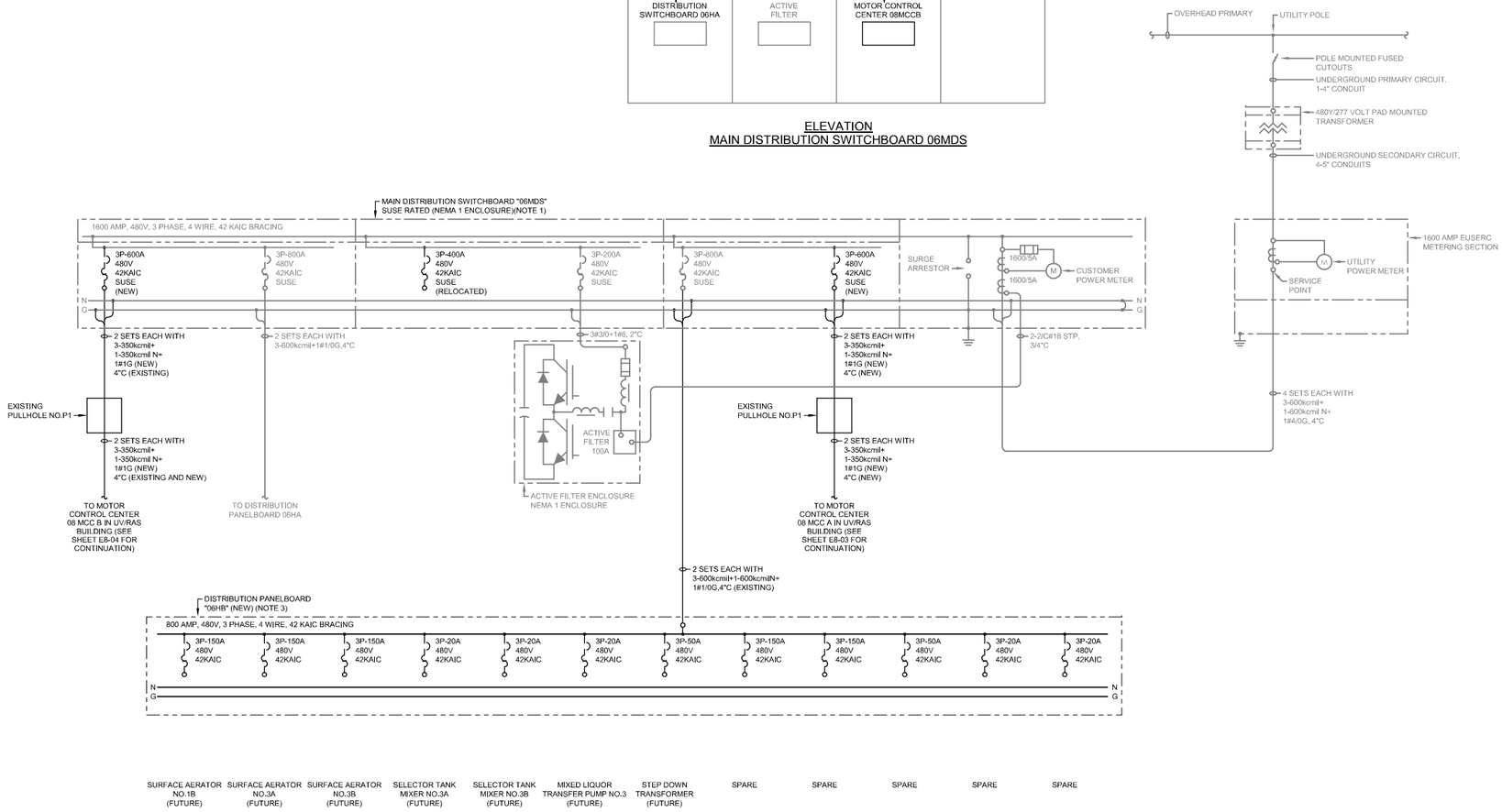
CITY OF GRANDVIEW
WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1
AERATION BUILDING – EXISTING ONE LINE DIAGRAM

E6-01

SHEET
122 OF 192



ELEVATION
MAIN DISTRIBUTION SWITCHBOARD 06MDS



MODIFIED ONE LINE DIAGRAM
MAIN DISTRIBUTION SWITCHBOARD 06MDS
SCALE: NONE

NOTES

1. ADD PHENOLIC NAMEPLATE THAT READS "MAIN DISTRIBUTION SWITCHBOARD 06MDS". UPDATE ALL ASSOCIATED PANEL SCHEDULES TO REFLECT THE SAME CHANGE. SEE SHEET E6-03 FOR BRANCH CIRCUIT INFORMATION.
2. REPLACE THE EXISTING NAMEPLATE ON THE BREAKER WITH PHENOLIC NAMEPLATE THAT READS "DISTRIBUTION SWITCHBOARD 06HA". UPDATE ALL ASSOCIATED PANEL SCHEDULES TO REFLECT THE SAME CHANGE.
3. REPLACE THE EXISTING NAMEPLATE ON THE BREAKER WITH PHENOLIC NAMEPLATE THAT READS "DISTRIBUTION PANELBOARD 06HB". UPDATE ALL ASSOCIATED PANEL SCHEDULES TO REFLECT THE SAME CHANGE. SEE SHEET E6-03 FOR BRANCH CIRCUIT INFORMATION.
4. REPLACE THE EXISTING NAMEPLATE ON THE BREAKER WITH PHENOLIC NAMEPLATE THAT READS "MOTOR CONTROL CENTER 08 MCC A".
5. PROVIDE PHENOLIC NAMEPLATE THAT READS "MOTOR CONTROL CENTER 08 MCC B".

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MATTHEW L. OBERG — STATE OF WASHINGTON — 26371 — REGISTERED PROFESSIONAL ENGINEER
03/12/2026

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WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1
AERATION BUILDING – MODIFIED ONE LINE DIAGRAM

E6-02

SHEET 123 OF 192

Switchboard: 06MDS (PHASE 1)

Location: AERATION BUILDING
Supply From: 06 UTILITY
Mounting: FLOOR
Enclosure: NEMA 1

Volts: 480/ 277
Phases: 3
Wires: 4

A.I.C. Rating: 42,000
Mains Type: MCB
Mains Rating: 1,600
MCB Rating: 1600

CKT	Load Name	# Poles	Trip	Load	Comments
1	06HA	3	800 A	402377 VA	
2	06HB (PHASE 1)	3	800 A	120207 VA	
3	08 MCC A	3	400 A	310932 VA	
4	ACTIVE FILTER	3	200 A	0 VA	
5	Space	3	–	--	
6	Space	1	–	--	
7					
8					
9					
10					
				833516 VA	
				1002.56 A	

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Misc Non- Continuous	833516 VA	100.00%	833516 VA		
				Total Conn. Load:	833516 VA
				Total Est. Demand:	833516 VA
				Total Conn.:	1002.56 A
				Total Est. Demand:	1002.56 A

Notes:

Branch Panel: 06HB (PHASE 1)

Location: AERATION BUILDING
Supply From: 06MDS (PHASE 1)
Mounting: FLOOR
Enclosure: NEMA 1

Volts: 480/ 277
Phases: 3
Wires: 4

A.I.C. Rating: 42,000
Mains Type: MCB
Mains Rating: 800
MCB Rating: 800

CKT	Demand Type	Circuit Description	Trip	P	A	B	C	P	Trip	Circuit Description	Demand Type	CKT
1					0 VA / 0 VA							2
3	--	Spare	150 A	3		0 VA / 0 VA		3	20 A	Spare	–	4
5							0 VA / 0 VA					6
7					0 VA / 0 VA							8
9	--	Spare	150 A	3		0 VA / 0 VA		3	50 A	Spare	–	10
11							0 VA / 0 VA					12
13					0 VA / 0 VA							14
15	--	Spare	150 A	3		0 VA / 0 VA		3	20 A	Spare	–	16
17							0 VA / 0 VA					18
19					0 VA / 0 VA							20
21	--	Spare	150 A	3		0 VA / 0 VA		3	20 A	Spare	–	22
23							0 VA / 0 VA					24
25					0 VA / 0 VA							26
27	--	Spare	20 A	3		0 VA / 0 VA		3	150 A	Spare	–	28
29							0 VA / 0 VA					30
31					0 VA / 40069 VA							32
33	--	Spare	20 A	3		0 VA / 40069 VA		3	400 A	08 MCC B	Misc Non-Continuous	34
35							0 VA / 40069 VA					36
37					0 VA / 0 VA							38
39	--	Spare	50 A	3		0 VA / 0 VA						40
41							0 VA / 0 VA					42
43												44
45												46
47												48
					Total Load :	40069 VA	40069 VA					
					Total Amps Per Phase :	144.65 A	144.65 A					
					Total Amps :	144.59 A						

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Misc Non- Continuous	120207 VA	100.00%	120207 VA		
				Total Conn. Load:	120207 VA
				Total Est. Demand:	120207 VA
				Total Conn.:	144.59 A
				Total Est. Demand:	144.59 A

Notes:

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03/12/2026

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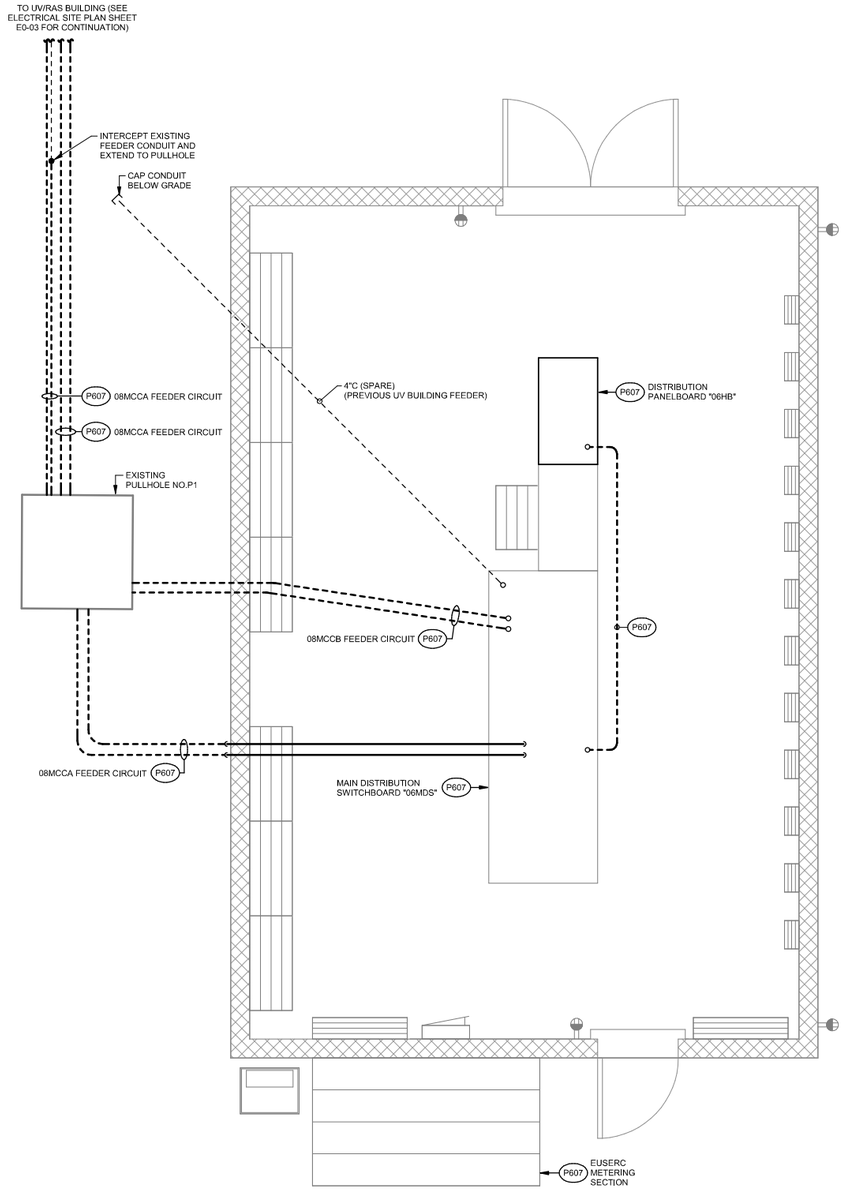
JOB NUMBER: 23030
DATE: 3/13/2026
FILE NAMES:
DRAWING: HLA-23030_E_R24.RVT
PLAN: 23030
DESIGNED BY: BAS
ENTERED BY: BAS

CITY OF GRANDVIEW
WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1
AERATION BUILDING – PANEL SCHEDULES

E6-03

SHEET NOTES

P607 SEE ONE LINE DIAGRAM SHEET E6-02 FOR CIRCUIT/FEEDER, OR EQUIPMENT INFORMATION.



AERATION BUILDING - ELECTRICAL PLAN

0' 1'-4" 2'-8" 5'-4"

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CITY OF GRANDVIEW
WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1
AERATION BUILDING – ELECTRICAL PLAN

E6-04

SHEET NOTES

D1 DEMOLISH CONDUCTORS, PRESERVE AND PROTECT RACEWAY FOR REUSE.

P700 SEE EXISTING/DEMOLITION ONE LINE DIAGRAM UV/RAS BUILDING SHEETS E8-01 AND E8-02 FOR CIRCUIT AND EQUIPMENT INFORMATION.

FROM MOTOR CONTROL CENTER "MCC UV" IN UV/RAS BUILDING.

FROM UV/RAS BUILDING CONTROL PANEL IN UV/RAS BUILDING.

FROM PANEL "UV/RAS" IN UV/RAS BUILDING

2#14,3/4"C

FLOAT CORD,1"C

J

P

FLOAT SWITCH

2#14,3/4"C

FLOAT CORD,1"C

J

P

FLOAT SWITCH

D1 P700

P700 D1

CLARIFIER NO.4 DRIVE

3 TORQUE SWITCHES

P700 D1

MOUNTED ON SIDE OF TANK

P700 D1

JUNCTION BOX

UV/RAS-9
UV/RAS-28

G

AVP

GFCI

D1 P700

P700 D1

CLARIFIER NO.1 DRIVE

3 TORQUE SWITCHES

D1 P700

D1 P700

MOUNTED ON SIDE OF TANK

D1 P700

N

EXISTING/DEMOLITION ELECTRICAL PLAN

0' 2'-0" 4'-0" 8'-0"

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56311
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3/12/2026

REVISION	DATE

JOB NUMBER: 23030
DATE: 3/13/2026
FILE NAMES:
DRAWING: HLA-23030_E_R24.RVT
PLAN: 23030
DESIGNED BY: MLO
ENTERED BY: ACF

CITY OF GRANDVIEW
WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1

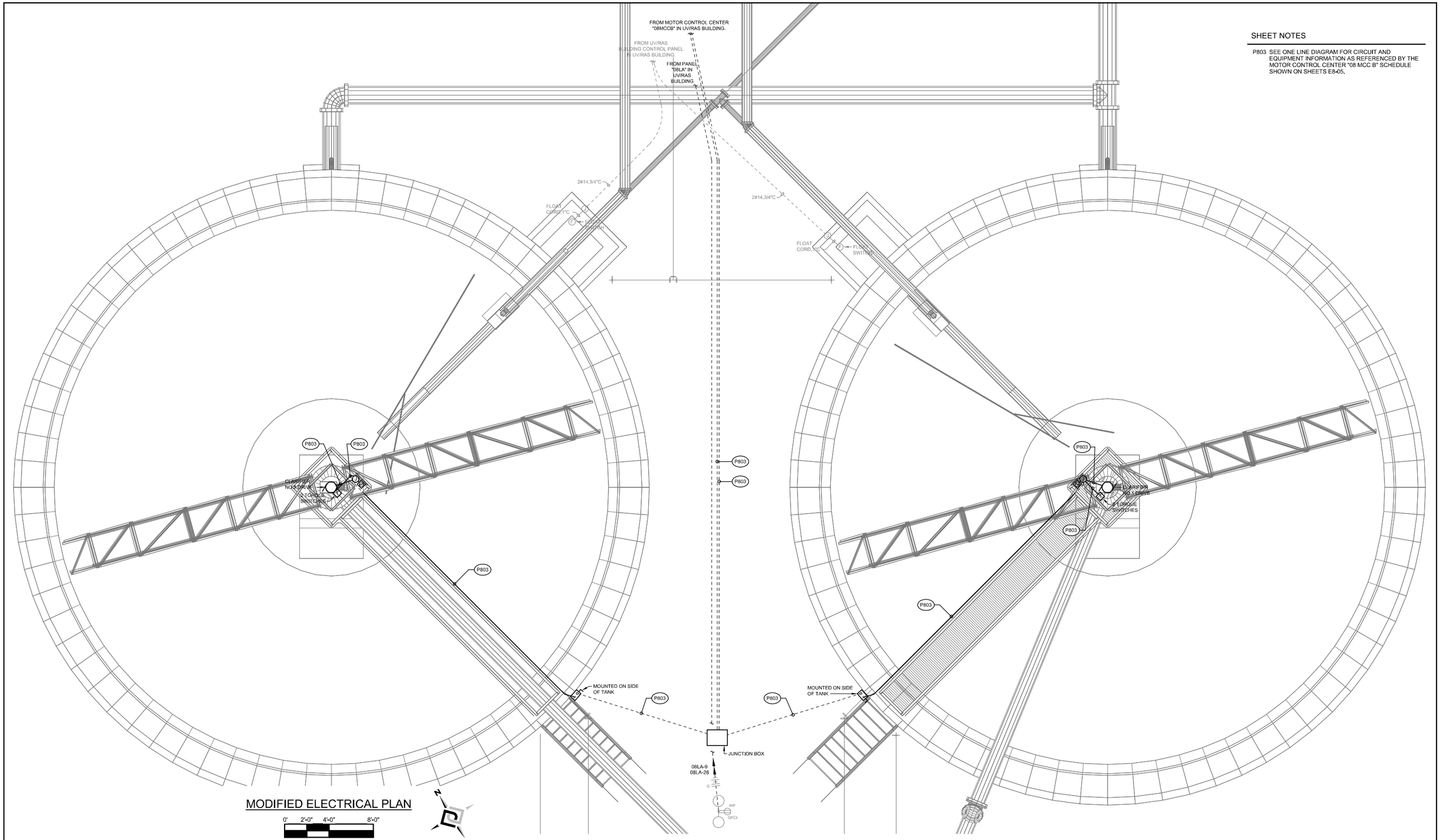
FINAL CLARIFIERS – EXISTING/DEMOLITION ELECTRICAL PLAN

E7-01

SHEET 126 OF 192

SHEET NOTES

P803 SEE ONE LINE DIAGRAM FOR CIRCUIT AND EQUIPMENT INFORMATION AS REFERENCED BY THE MOTOR CONTROL CENTER "08 MCC B" SCHEDULE SHOWN ON SHEETS E8-05.



MODIFIED ELECTRICAL PLAN

0' 2'-0" 4'-0" 8'-0"

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WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1

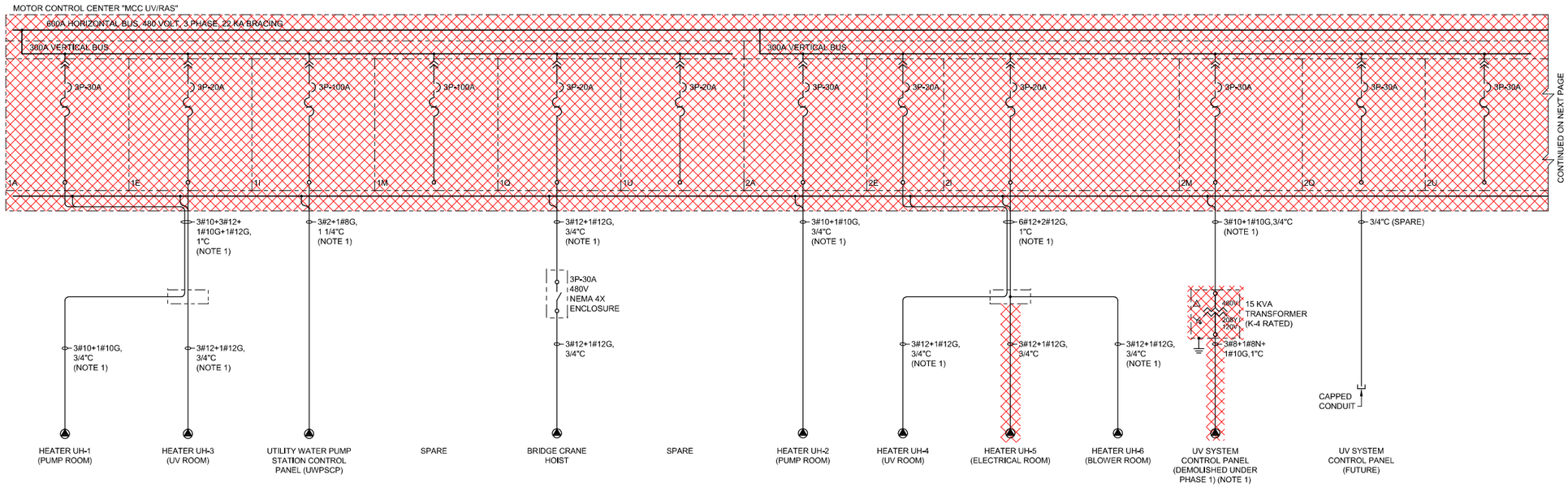
FINAL CLARIFIERS – MODIFIED ELECTRICAL PLAN

E7-02

SHEET 127 OF 192

SHEET NOTES

1. DEMOLISH CONDUCTORS. PRESERVE CONDUIT FOR REUSE.
2. PLANT MUST MAINTAIN DISINFECTION OF EFFLUENT FLOW THROUGHOUT ENTIRETY OF CONSTRUCTION. CONTRACTOR MUST COORDINATE TEMPORARY POWER TO UV SYSTEM(S) TO COMPLETE MCC DEMOLITION. PORTABLE GENERATOR OR UTILITY TEMPORARY ARE ACCEPTABLE SOLUTIONS. PROVIDE DETAILED PLAN TO ENGINEER FOR APPROVAL PRIOR TO COMMENCING WORK. APPROVAL OF TEMPORARY POWER PLAN REQUIRED TO BEGIN DEMOLITION. COORDINATE WITH OTHER TRADES.



EXISTING/DEMOLITION ONE LINE DIAGRAM
MOTOR CONTROL CENTER "MCC UV/RAS"
SCALE: NONE

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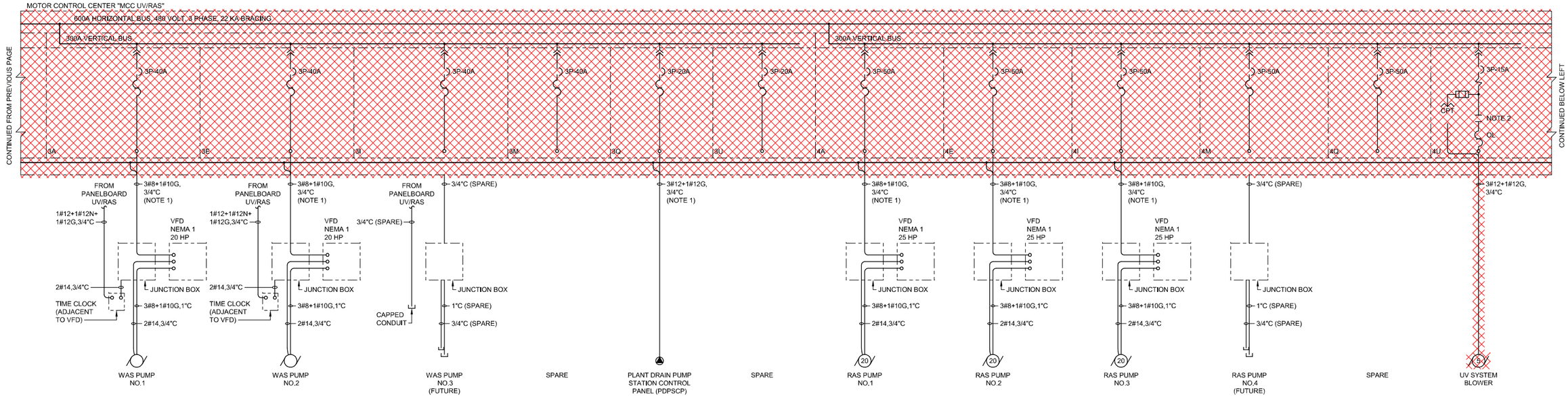
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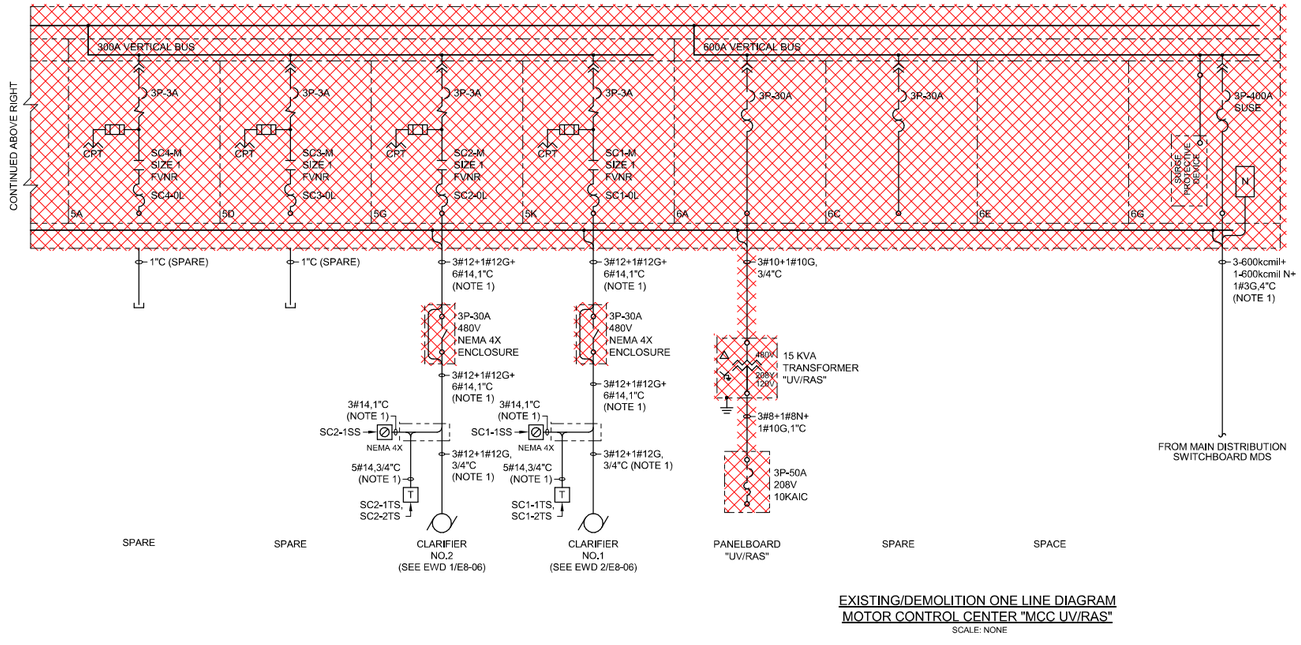
DESIGNED BY: MLO
ENTERED BY: ACF,MLO

CITY OF GRANDVIEW
WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1

UV/RAS BUILDING – EXISTING/DEMOLITION ONE LINE DIAGRAM

E8-01





EXISTING/DEMOLITION ONE LINE DIAGRAM
MOTOR CONTROL CENTER "MCC UV/RAS"
SCALE: NONE

SHEET NOTES

1. DEMOLISH CONDUCTORS. PRESERVE CONDUIT FOR REUSE.
2. PLANT MUST MAINTAIN DISINFECTION OF EFFLUENT FLOW THROUGHOUT ENTIRETY OF CONSTRUCTION. CONTRACTOR MUST COORDINATE TEMPORARY POWER TO UV SYSTEM(S) TO COMPLETE MCC DEMOLITION. PORTABLE GENERATOR OR UTILITY TEMPORARY ARE ACCEPTABLE SOLUTIONS. PROVIDE DETAILED PLAN TO ENGINEER FOR APPROVAL PRIOR TO COMMENCING WORK. APPROVAL OF TEMPORARY POWER PLAN REQUIRED TO BEGIN DEMOLITION. COORDINATE WITH OTHER TRADES.

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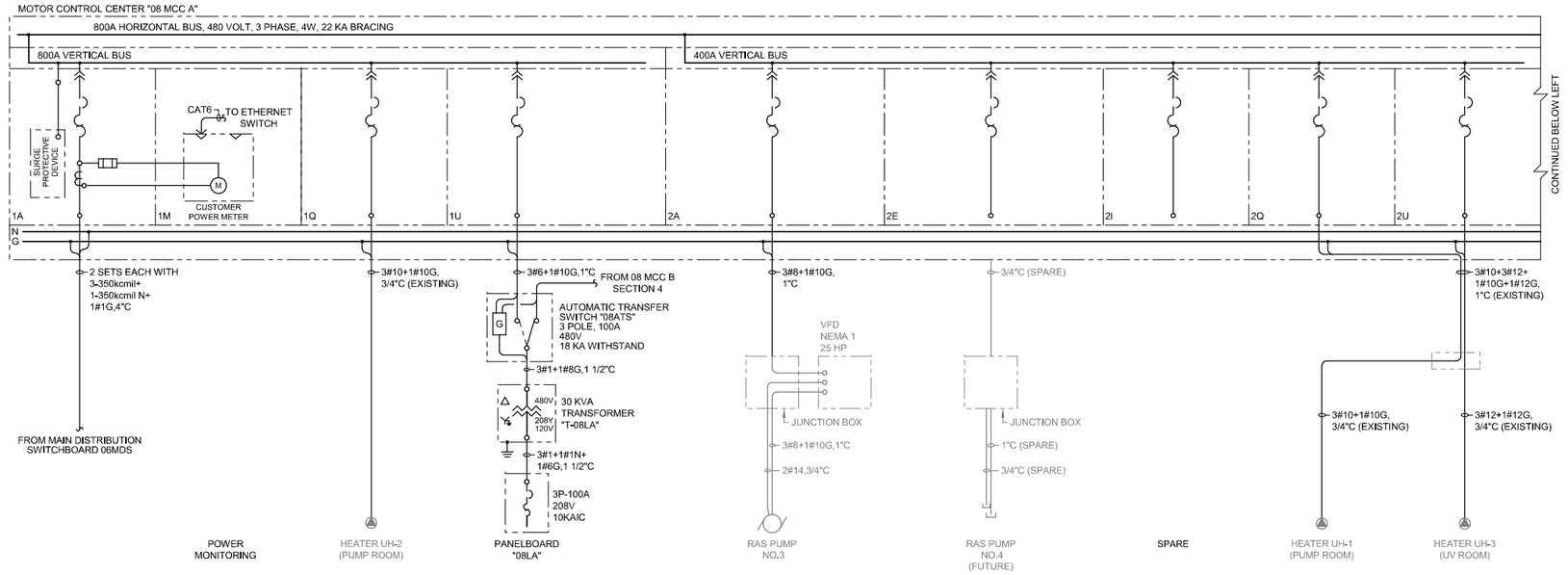
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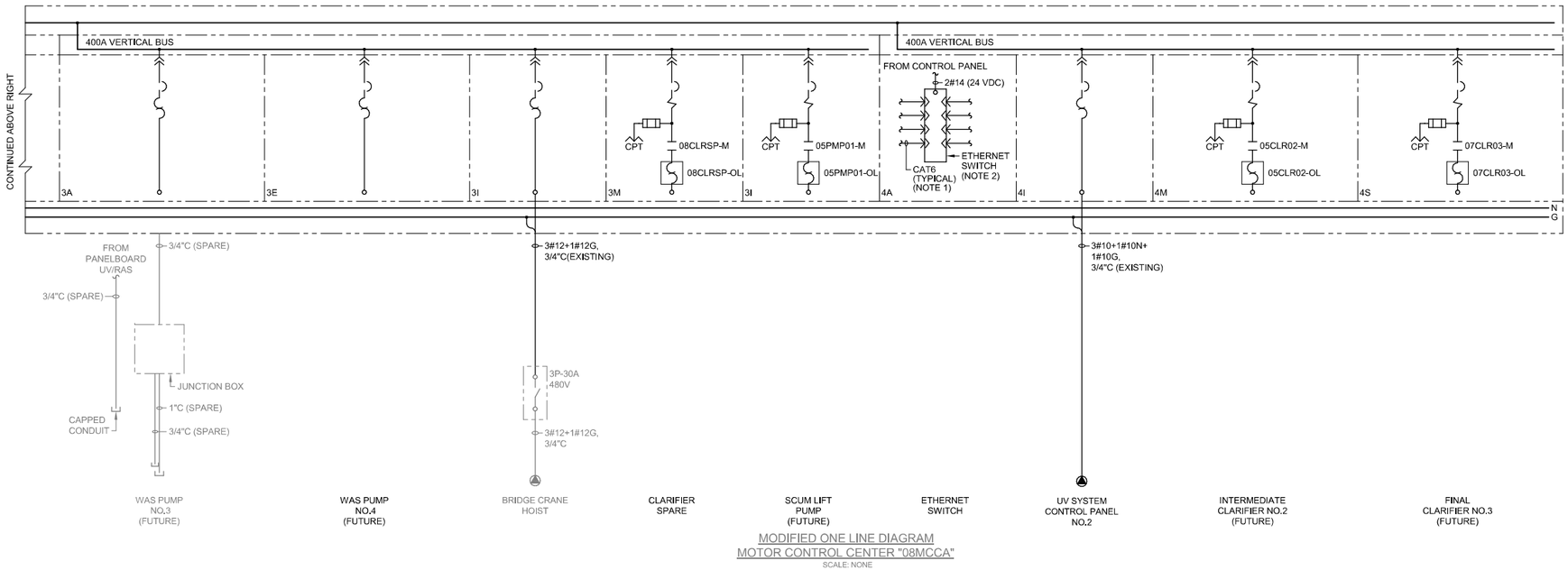
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PLAN: 23030
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CITY OF GRANDVIEW
WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1
UV/RAS BUILDING – EXISTING/DEMOLITION ONE LINE DIAGRAM

E8-02

SHEET 129 OF 192





MODIFIED ONE LINE DIAGRAM
MOTOR CONTROL CENTER "08MCCA"
SCALE: NONE

SHEET NOTES

1. CONNECTED TO ETHERNET DEVICES IN THIS MCC LINE-UP AS REQUIRED.
2. PROVIDE INDUSTRIAL ETHERNET SWITCH. PHOENIX CONTACT MODEL FL SWITCH 2116 OR APPROVED EQUAL.
3. SEE THE DISCONNECT SWITCH AND CONTROL STATION SCHEDULE (SHEET E-10) FOR THE AMPERE RATING, ENCLOSURE TYPE, AND CONTROL STATION DETAIL.

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PLAN: 23030

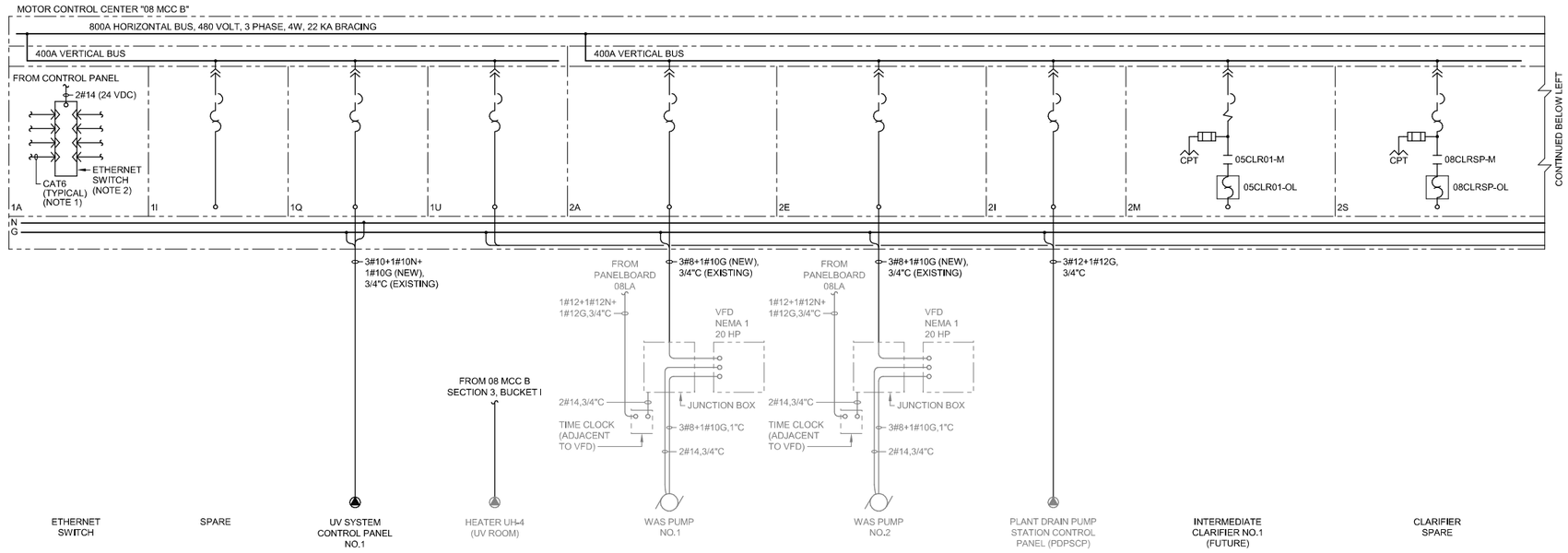
DESIGNED BY: MLO
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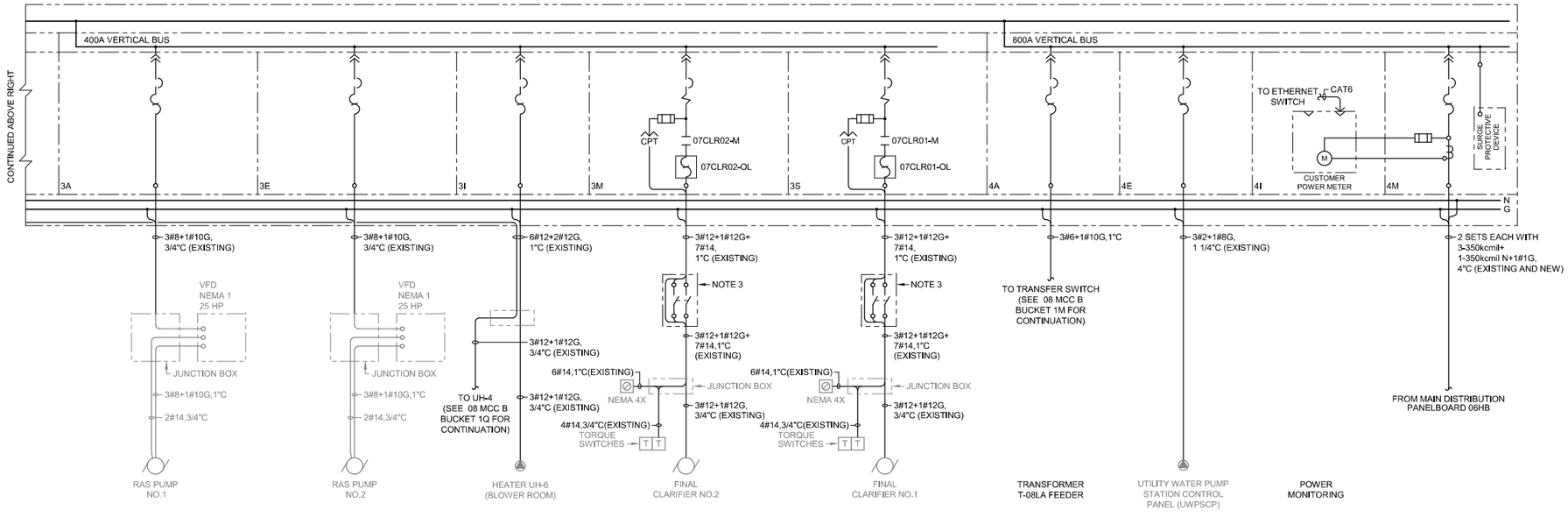
CITY OF GRANDVIEW
WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1

UV/RAS BUILDING – MODIFIED ONE LINE DIAGRAM

E8-03

SHEET 130 OF 192





MODIFIED ONE LINE DIAGRAM
MOTOR CONTROL CENTER "08MCCB"
SCALE: NONE

SHEET NOTES

1. CONNECTED TO ETHERNET DEVICES IN THIS MCC LINE-UP AS REQUIRED.
2. PROVIDE INDUSTRIAL ETHERNET SWITCH. PHOENIX CONTACT MODEL FL SWITCH 2116 OR APPROVED EQUAL.
3. SEE THE DISCONNECT SWITCH AND CONTROL STATION SCHEDULE (SHEET E-10) FOR THE AMPERE RATING, ENCLOSURE TYPE, AND CONTROL STATION DETAIL.

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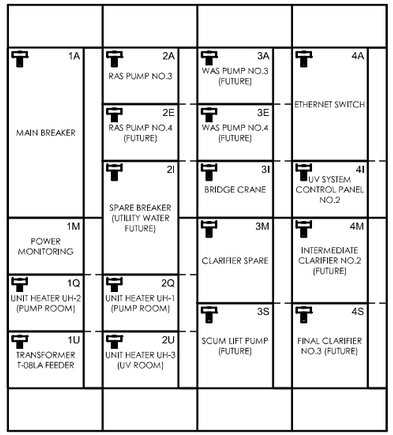
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PLAN: 23030

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CITY OF GRANDVIEW
WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1
UV/RAS BUILDING – MODIFIED ONE LINE DIAGRAM

E8-04

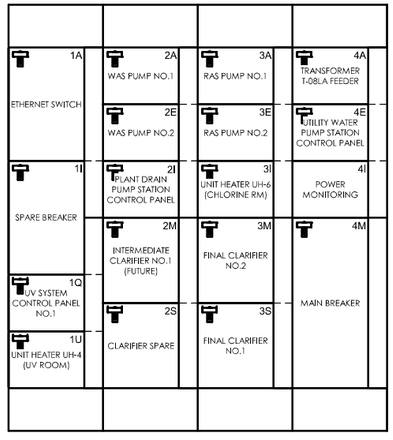
SHEET 131 OF 192



DETAIL 1/E8-5
MOTOR CONTROL CENTER 08 MCC A

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

MCC SCHEDULE - 08 MCC A PHASE 1										
SECTION	UNIT	HEIGHT	NAMEPLATE	TYPE	RATING / SIZE	OCP	LOAD	OLD	EWD	NOTES	EQUIPMENT TAG
1	A	36"	MAIN BREAKER	BREAKER	600 AMP	CB		E8-03			
1	M	12"	POWER MONITORING					E8-03			
1	Q	12"	UNIT HEATER UH-2 (PUMP ROOM)	BREAKER	30 AMP	CB	15000 VA	E8-04			
1	U	12"	TRANSFORMER T-08LA FEEDER	BREAKER	50 AMP	CB		E8-03			
2	A	12"	RAS PUMP NO.3	BREAKER	50 AMP	CB	21512 VA	E8-03			08 RP 03
2	E	12"	RAS PUMP NO.4 (FUTURE)	BREAKER	50 AMP	CB		E8-03			08 RP 04
2	I	24"	SPARE BREAKER (UTILITY WATER FUTURE)	BREAKER	200 AMP	CB		E8-03			
2	Q	12"	UNIT HEATER UH-1 (PUMP ROOM)	BREAKER	30 AMP	CB	15000 VA	E8-03			
2	U	12"	UNIT HEATER UH-3 (UV ROOM)	BREAKER	20 AMP	CB	10000 VA	E8-03			
3	A	12"	WAS PUMP NO.3 (FUTURE)	BREAKER	40 AMP	CB		E8-03			08 WP 03
3	E	12"	WAS PUMP NO.4 (FUTURE)	BREAKER	40 AMP	CB		E8-03			08 WP 04
3	I	12"	BRIDGE CRANE	BREAKER	20 AMP	CB	1673 VA	E8-03			08 BC 01
3	M	18"	CLARIFIER SPARE	FVNR	SIZE 1	MCP		E8-03	2/E8-07		
3	S	18"	SCUM LIFT PUMP (FUTURE)	FVNR	SIZE 1	MCP	3265 VA	E8-03	1/E8-09		05 SCP 01
4	A	24"	ETHERNET SWITCH					E8-03			
4	I	12"	UV SYSTEM CONTROL PANEL NO.2	BREAKER	30 AMP	CB	18000 VA	E8-03			08 UV 02
4	M	18"	INTERMEDIATE CLARIFIER NO.2 (FUTURE)	FVNR	SIZE 1	MCP	1673 VA	E8-03	2/E8-08		05 CLR 02
4	S	18"	FINAL CLARIFIER NO.3 (FUTURE)	FVNR	SIZE 1	MCP	1673 VA	E8-03	1/E8-07		07 FCM 03



DETAIL 2/E8-5
MOTOR CONTROL CENTER 08 MCC B

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

MCC SCHEDULE - 08 MCC B PHASE 1										
SECTION	UNIT	HEIGHT	NAMEPLATE	TYPE	RATING / SIZE	OCP	LOAD	OLD	EWD	NOTES	EQUIPMENT TAG
1	A	24"	ETHERNET SWITCH					E8-04			
1	I	24"	SPARE BREAKER	BREAKER	300 AMP	CB		E8-04			
1	Q	12"	UV SYSTEM CONTROL PANEL NO.1	BREAKER	30 AMP	CB	18000 VA	E8-04			08 UV 01
1	U	12"	UNIT HEATER UH-4 (UV ROOM)	BREAKER	20 AMP	CB	10000 VA	E8-04			
2	A	12"	WAS PUMP NO.1	BREAKER	40 AMP	CB	16732 VA	E8-04			08 WP 01
2	E	12"	WAS PUMP NO.2	BREAKER	40 AMP	CB	16732 VA	E8-04			08 WP 02
2	I	12"	PLANT DRAIN PUMP STATION CONTROL PANEL	BREAKER	20 AMP	CB	7700 VA	E8-04			
2	M	18"	INTERMEDIATE CLARIFIER NO.1 (FUTURE)	FVNR	SIZE 1	MCP	1673 VA	E8-04	1/E8-08		05 CLR 01
2	S	18"	CLARIFIER SPARE	FVNR	SIZE 1	MCP		E8-04	2/E8-07		
3	A	12"	RAS PUMP NO.1	BREAKER	50 AMP	CB	21512 VA	E8-04			08 RP 01
3	E	12"	RAS PUMP NO.2	BREAKER	50 AMP	CB	21512 VA	E8-04			08 RP 02
3	I	12"	UNIT HEATER UH-6 (CHLORINE RM)	BREAKER	20 AMP	CB	3000 VA	E8-03			
3	M	18"	FINAL CLARIFIER NO.2	FVNR	SIZE 1	MCP	1673 VA	E8-04	4/E8-06		07 CLR 02
3	S	18"	FINAL CLARIFIER NO.1	FVNR	SIZE 1	MCP	1673 VA	E8-04	3/E8-06		07 CLR 01
4	A	12"	TRANSFORMER T-08LA FEEDER	BREAKER	50 AMP	CB	20253 VA	E8-04			
4	E	12"	UTILITY WATER PUMP STATION CONTROL PANEL	BREAKER	100 AMP	CB	50195 VA	E8-04			
4	I	12"	POWER MONITORING					E8-04			
4	M	36"	MAIN BREAKER	BREAKER	600 AMP	CB		E8-04			

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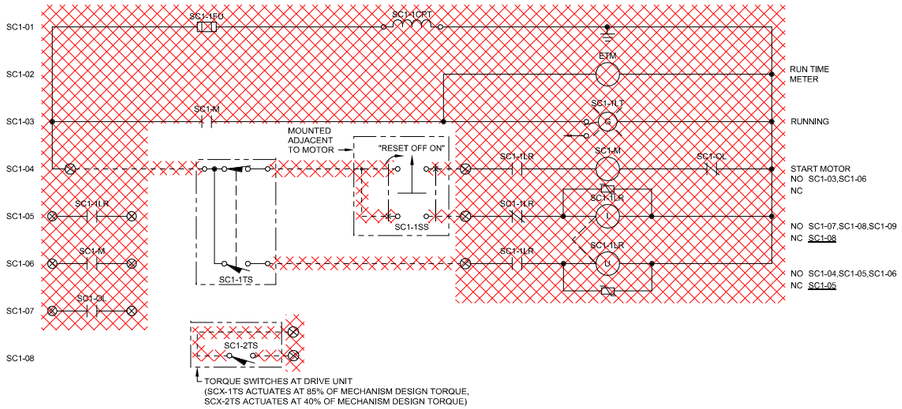
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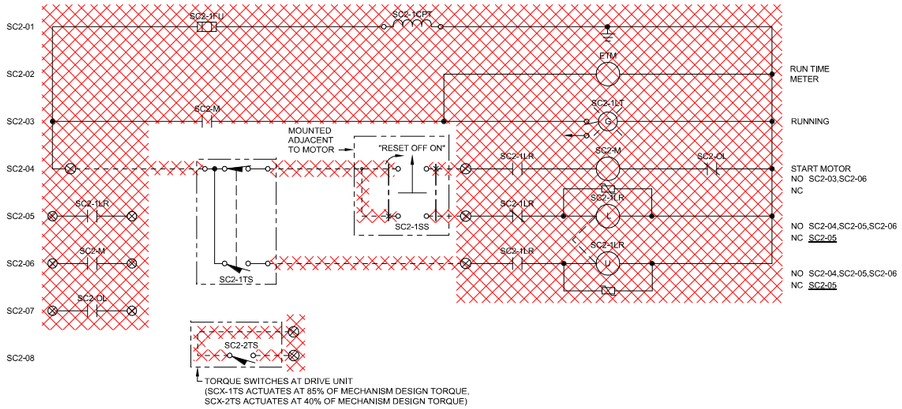
CITY OF GRANDVIEW
WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1
UV/RAS BUILDING – MCC SCHEDULES

E8-05



EWD 1/E8-6
EXISTING/DEMOLITION SECONDARY CLARIFIER 1

SCALE: NONE

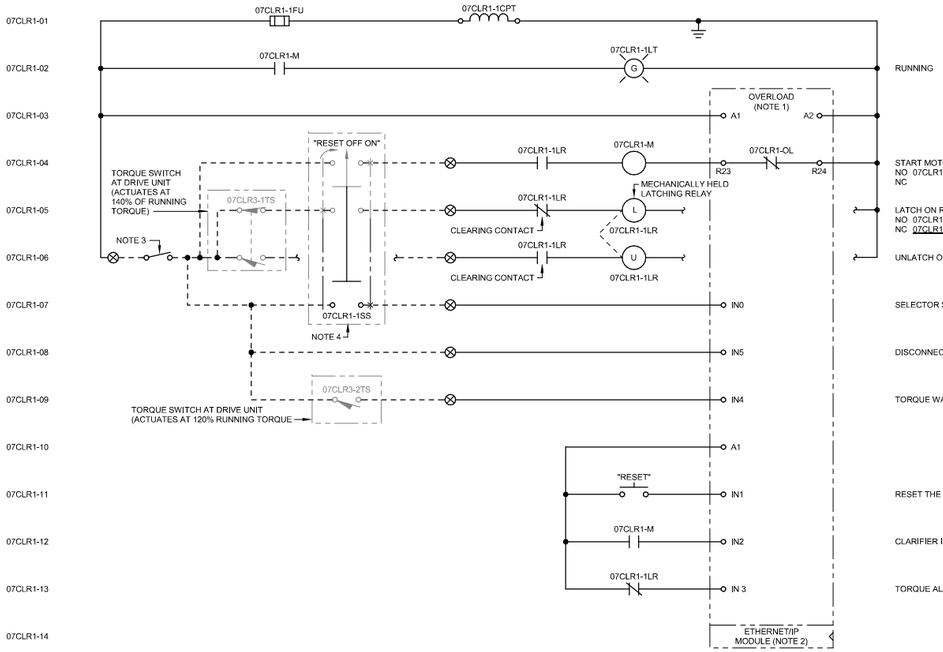


EWD 2/E8-6
EXISTING/DEMOLITION SECONDARY CLARIFIER 2

SCALE: NONE

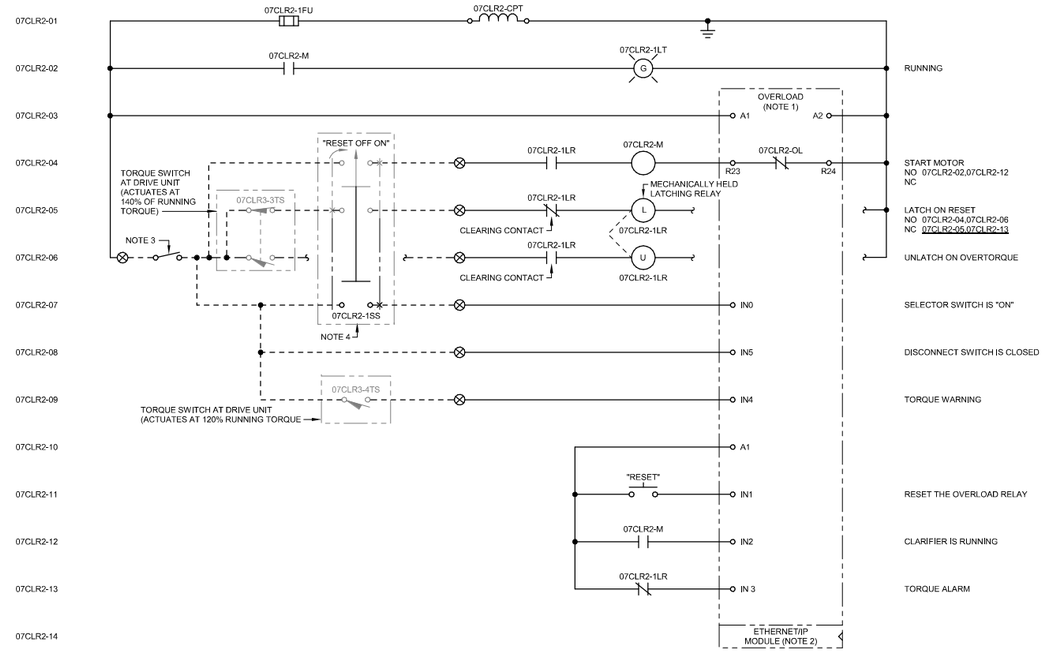
SHEET NOTES

1. THE WIRING DIAGRAM FOR THE NETWORKED ELECTRONIC OVERLOAD IS BASED ON THE ALLEN BRADLEY E300. PROVIDE EQUIVALENT WIRING AS REQUIRED IF ANOTHER MODEL IS USED.
2. FIELDBUS SHALL BE CONNECTED VIA ETHERNET. (ETHERNET CABLING IN MOTOR CONTROL CENTER SHALL HAVE INSULATION RATED FOR 600 VOLTS.
3. AUXILIARY CONTACTS ON DISCONNECT SWITCH LOCATED ADJACENT TO MOTOR.
4. PROVIDE ADDITIONAL SWITCH CONTACTS FOR EXISTING SWITCH.



EWD 3/E8-6
MODIFIED FINAL CLARIFIER 1

SCALE: NONE



EWD 4/E8-6
MODIFIED FINAL CLARIFIER 2

SCALE: NONE

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DRAWING: HLA-23030_E_R24.RVT
PLAN: 23030

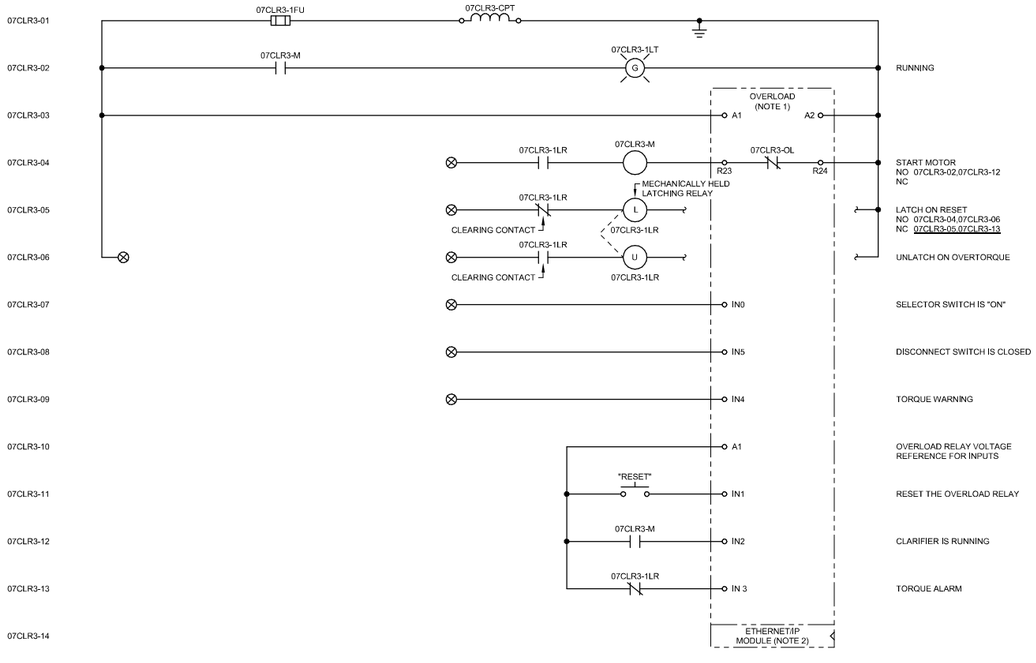
DESIGNED BY: MLO
ENTERED BY: CJD

CITY OF GRANDVIEW
WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1

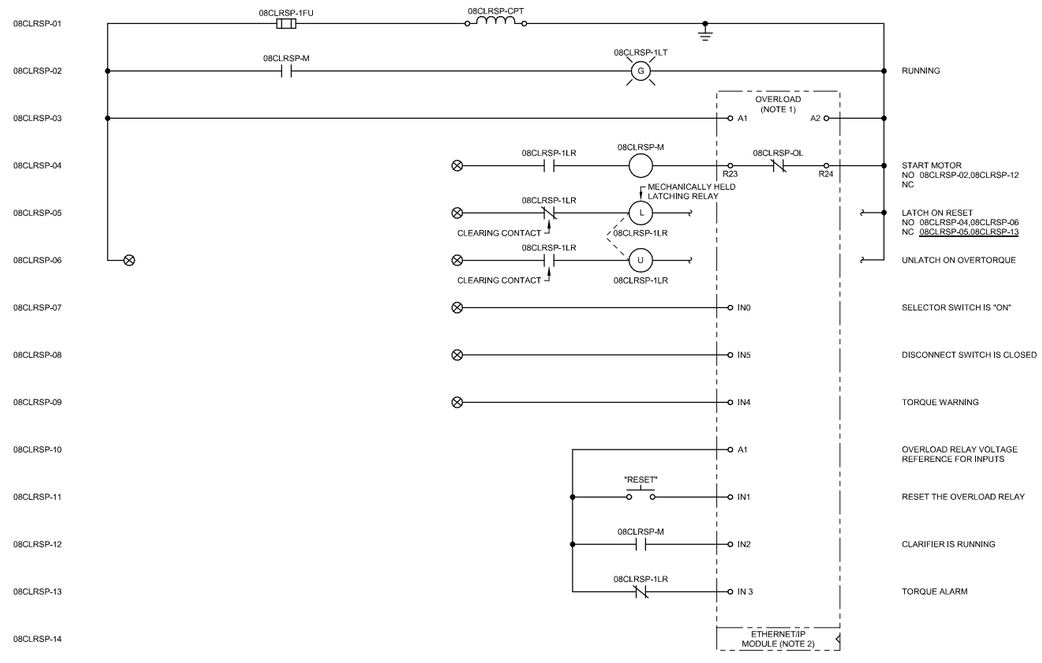
UV/RAS BUILDING – FINAL CLARIFIERS 1 AND 2 EWDS

E8-06

SHEET 133 OF 192



EWD 1/E8-07
FINAL CLARIFIER 3 (FUTURE)
SCALE: NONE



EWD 2/E8-07
CLARIFIER SPARE
SCALE: NONE

SHEET NOTES

1. THE WIRING DIAGRAM FOR THE NETWORKED ELECTRONIC OVERLOAD IS BASED ON THE ALLEN BRADLEY E300. PROVIDE EQUIVALENT WIRING AS REQUIRED IF ANOTHER MODEL IS USED.
2. FIELDBUS SHALL BE CONNECTED VIA ETHERNET. (ETHERNET CABLING IN MOTOR CONTROL CENTER SHALL HAVE INSULATION RATED FOR 600 VOLTS.
3. AUXILIARY CONTACTS ON DISCONNECT SWITCH LOCATED ADJACENT TO MOTOR.

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26378
REGISTERED
PROFESSIONAL ENGINEER
03/12/2026

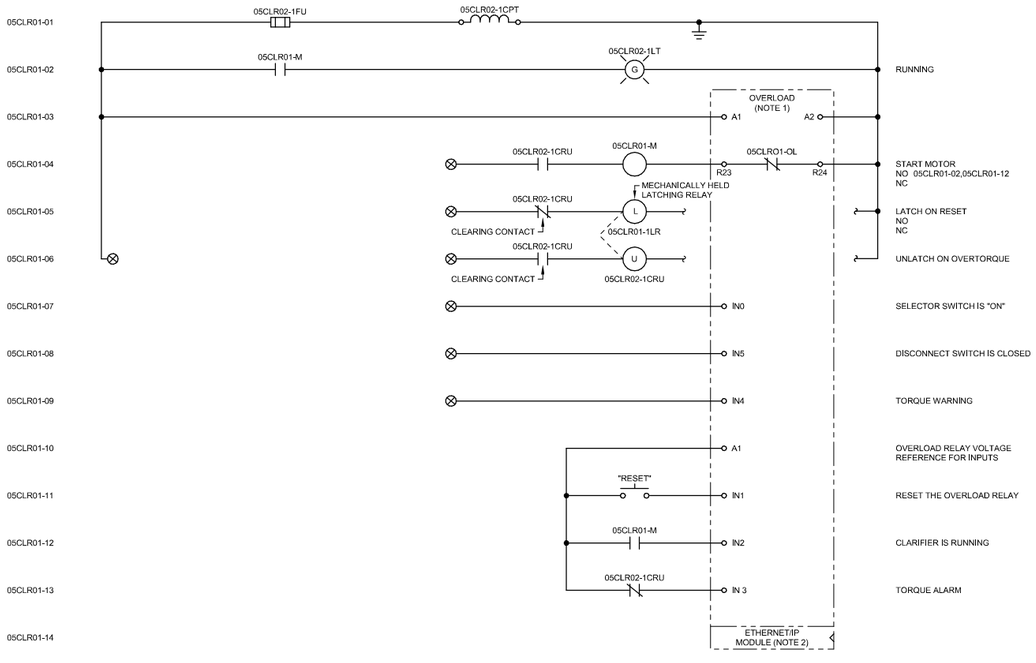
REVISION	DATE

JOB NUMBER: 23030
DATE: 3/13/2026
FILE NAMES:
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PLAN: 23030
DESIGNED BY: MLO
ENTERED BY: CJD

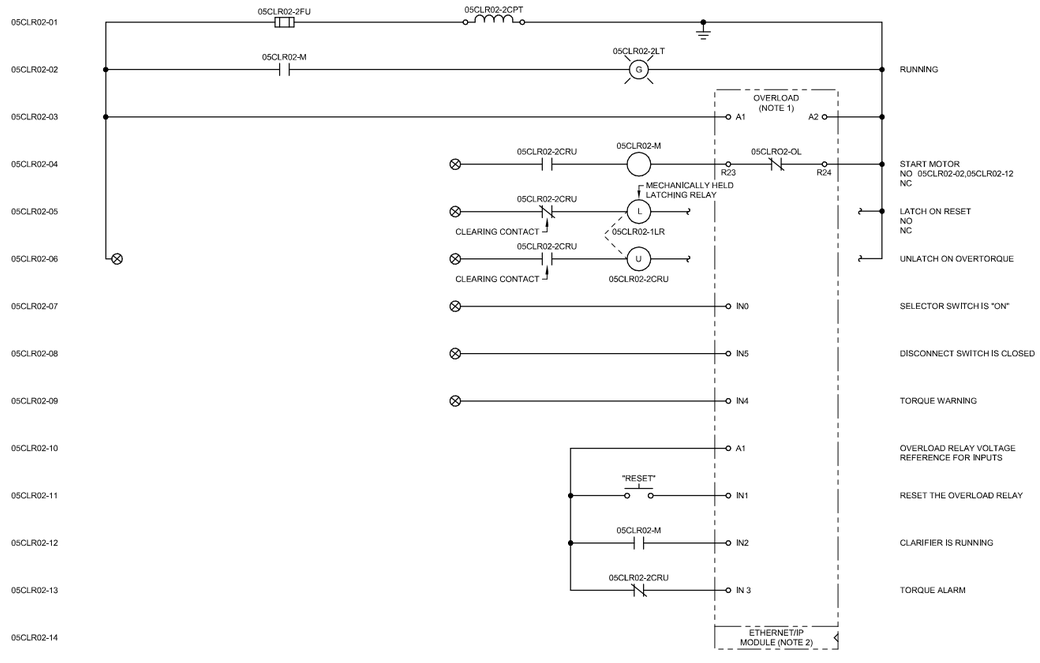
CITY OF GRANDVIEW
WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1
UV/RAS BUILDING –FINAL CLARIFIER 3 EWD

E8-07

SHEET
134 OF 192



EWD 1/E8-08
INTERMEDIATE CLARIFIER 1
SCALE: NONE



EWD 2/E8-08
INTERMEDIATE CLARIFIER 2
SCALE: NONE

SHEET NOTES

1. THE WIRING DIAGRAM FOR THE NETWORKED ELECTRONIC OVERLOAD IS BASED ON THE ALLEN BRADLEY E300. PROVIDE EQUIVALENT WIRING AS REQUIRED IF ANOTHER MODEL IS USED.
2. FIELDBUS SHALL BE CONNECTED VIA ETHERNET. (ETHERNET CABLING IN MOTOR CONTROL CENTER SHALL HAVE INSULATION RATED FOR 600 VOLTS.
3. AUXILIARY CONTACTS ON DISCONNECT SWITCH LOCATED ADJACENT TO MOTOR.

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03/12/2026

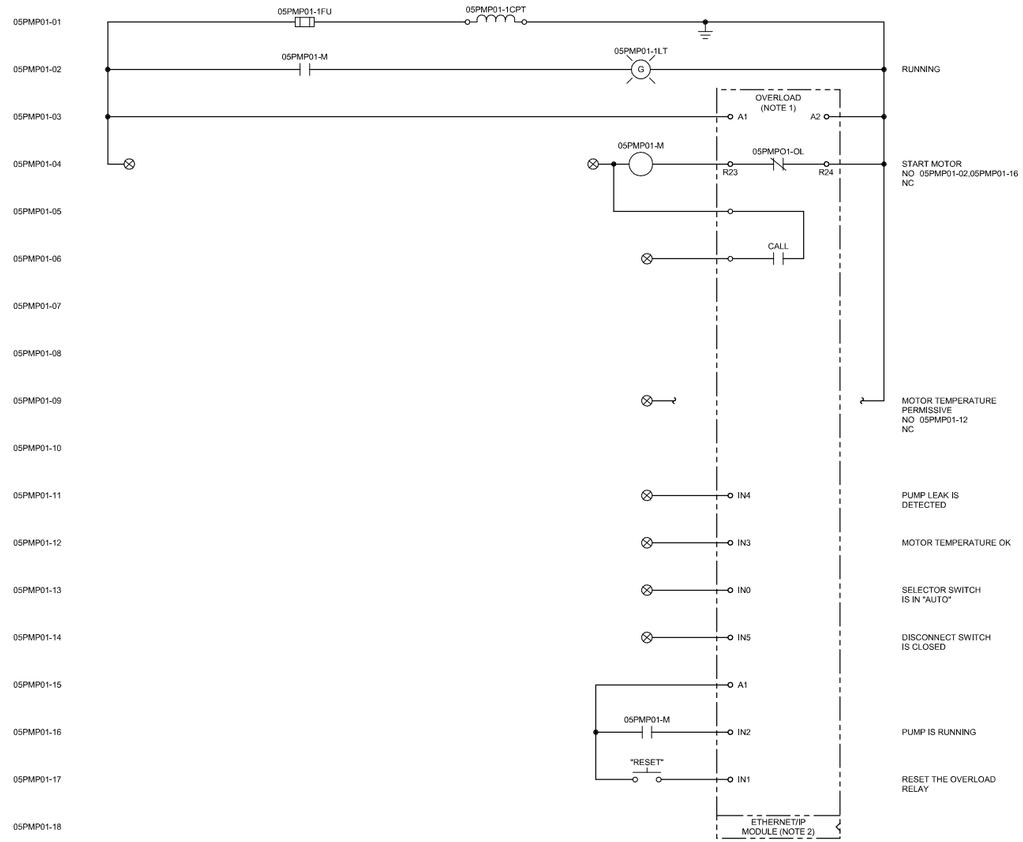
REVISION	DATE

JOB NUMBER: 23030
DATE: 3/13/2026
FILE NAMES:
DRAWING: HLA-23030_E_R24.RVT
PLAN: 23030
DESIGNED BY: MLO
ENTERED BY: CJD

CITY OF GRANDVIEW
WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1
UV/RAS BUILDING – INTERMEDIATE CLARIFIERS 1 AND 2 EWDS

E8-08

SHEET
135 OF 192



EWD 1/E8-09
SCUM LIFT PUMP

SCALE: NONE

SHEET NOTES

1. THE WIRING DIAGRAM FOR THE NETWORKED ELECTRONIC OVERLOAD IS BASED ON THE ALLEN BRADLEY E300. PROVIDE EQUIVALENT WIRING AS REQUIRED IF ANOTHER MODEL IS USED.
2. FIELDBUS SHALL BE CONNECTED VIA ETHERNET. (ETHERNET CABLING IN MOTOR CONTROL CENTER SHALL HAVE INSULATION RATED FOR 600 VOLTS.
3. AUXILIARY CONTACTS ON DISCONNECT SWITCH LOCATED ADJACENT TO MOTOR.

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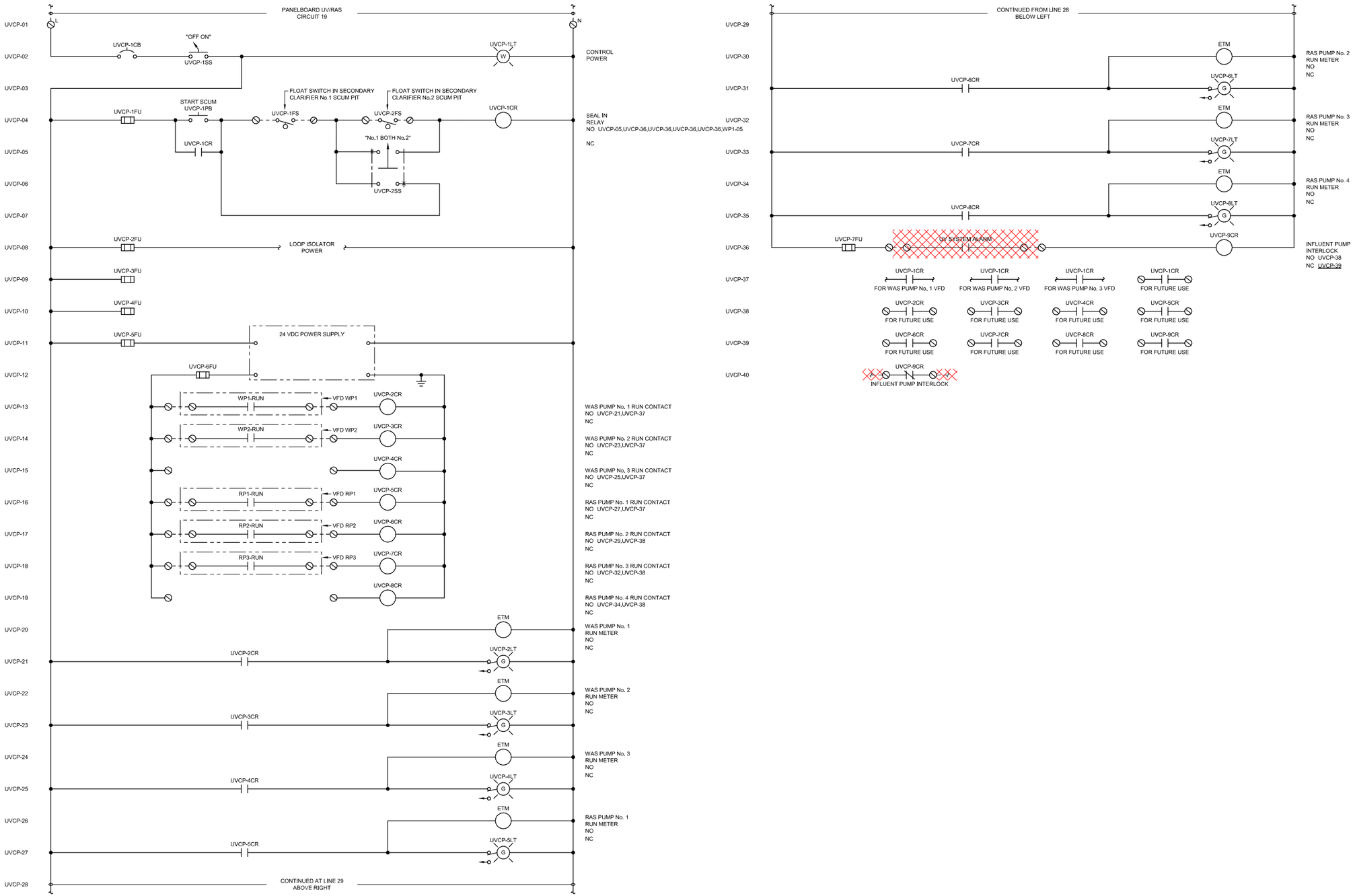
MATTHEW L. OBERG
STATE OF WASHINGTON
56371
REGISTERED
PROFESSIONAL ENGINEER
03/12/2026

REVISION	DATE

JOB NUMBER: 23030
DATE: 3/13/2026
FILE NAMES:
DRAWING: HLA-23030_E_R24.RVT
PLAN: 23030
DESIGNED BY: MLO
ENTERED BY: CJD

CITY OF GRANDVIEW
WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1
UV/RAS BUILDING – SCUM PUMP EWD

E8-09



EWD 1/E8-10
EXISTING/DEMOLITION CONTROL PANEL UVCP

SCALE: NONE

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03/12/2026

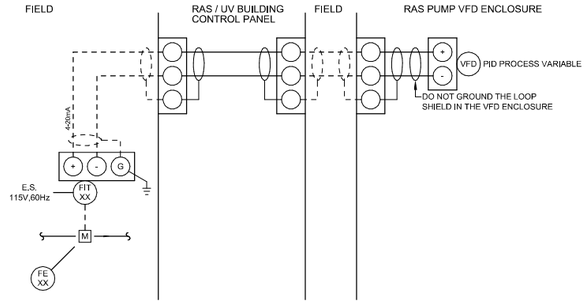
REVISION	DATE

JOB NUMBER: 23030
DATE: 3/13/2026
FILE NAMES:
DRAWING: HLA-23030_E_R24.RVT
PLAN: 23030
DESIGNED BY: MLO
ENTERED BY: CJD

CITY OF GRANDVIEW
WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1

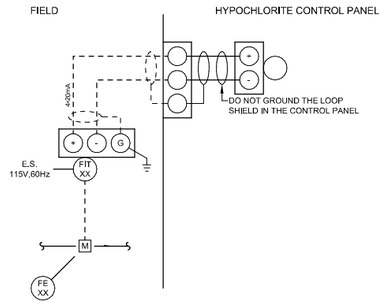
UV/RAS BUILDING – CONTROL PANEL UVCP EXISTING/DEMOLITION EWD

E8-10



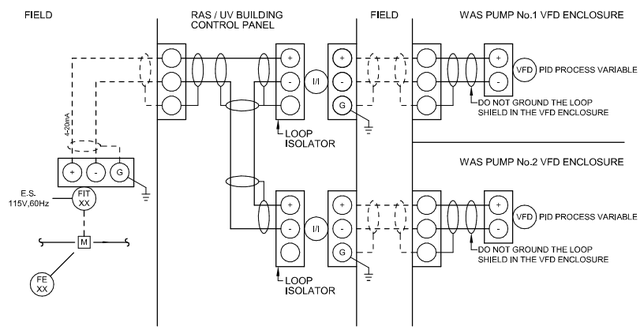
EWD 1/E8-11
EXISTING RAS FLOW ANALOG

SCALE: NONE



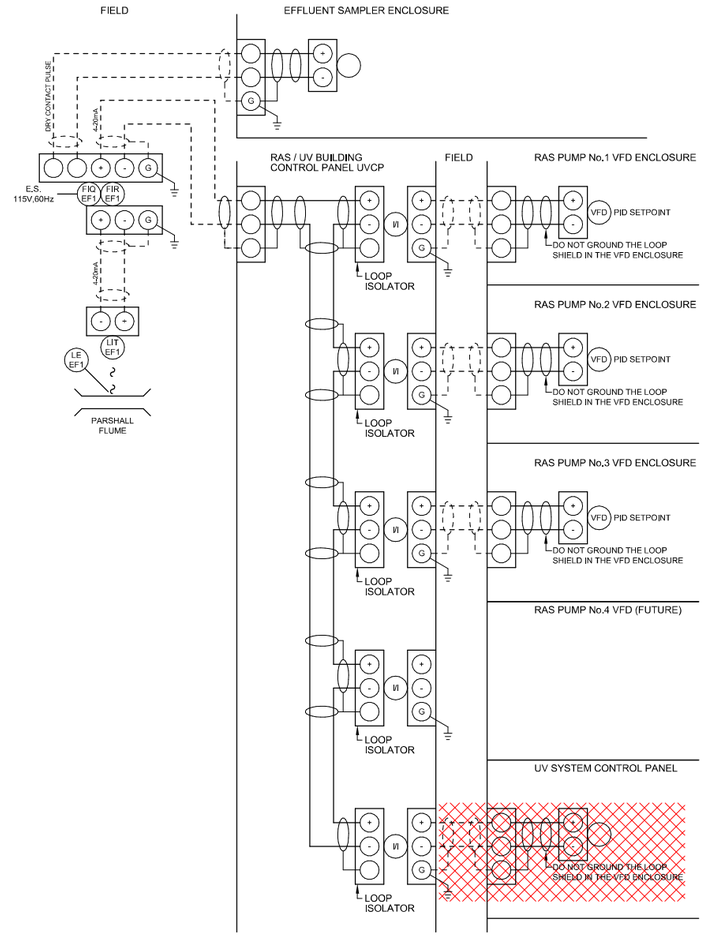
EWD 2/E8-11
EXISTING UTILITY WATER FLOW ANALOG

SCALE: NONE



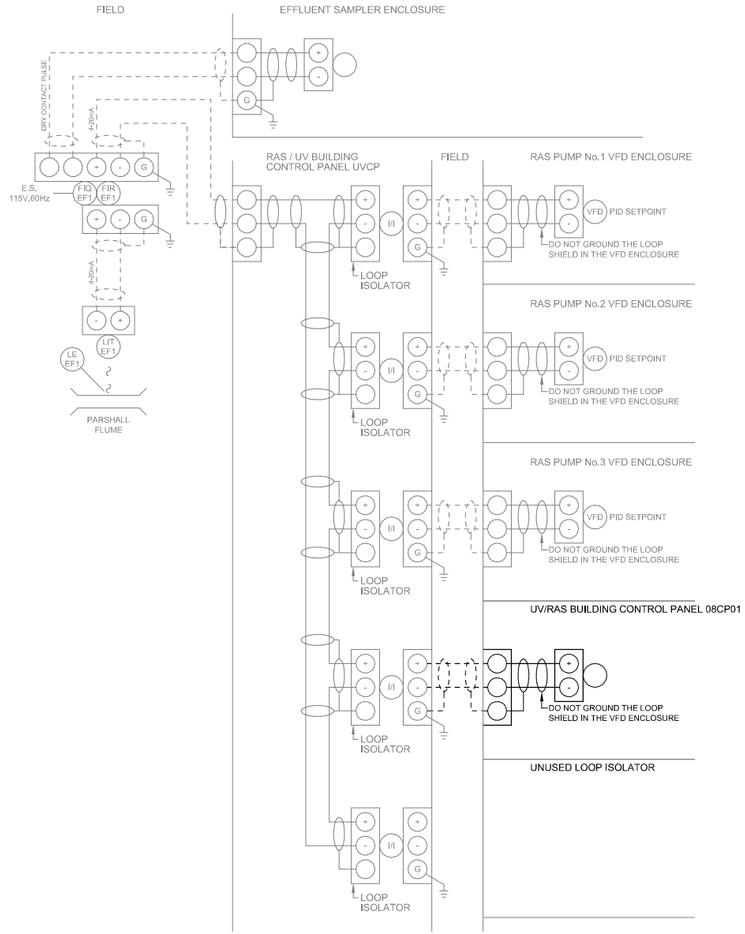
EWD 3/E8-11
EXISTING WAS FLOW ANALOG

SCALE: NONE



EWD 4/E8-11
EXISTING/DEMOLITION EFFLUENT FLOW ANALOG

SCALE: NONE



EWD 5/E8-11
MODIFIED EFFLUENT FLOW ANALOG

SCALE: NONE

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MATTHEW L. OBERG — STATE OF WASHINGTON — 56371 — REGISTERED PROFESSIONAL ENGINEER
03/12/2026

REVISION	DATE

JOB NUMBER: 23030 | DATE: 3/13/2026

FILE NAMES:
DRAWING: HLA-23030_E_R24.RVT
PLAN: 23030

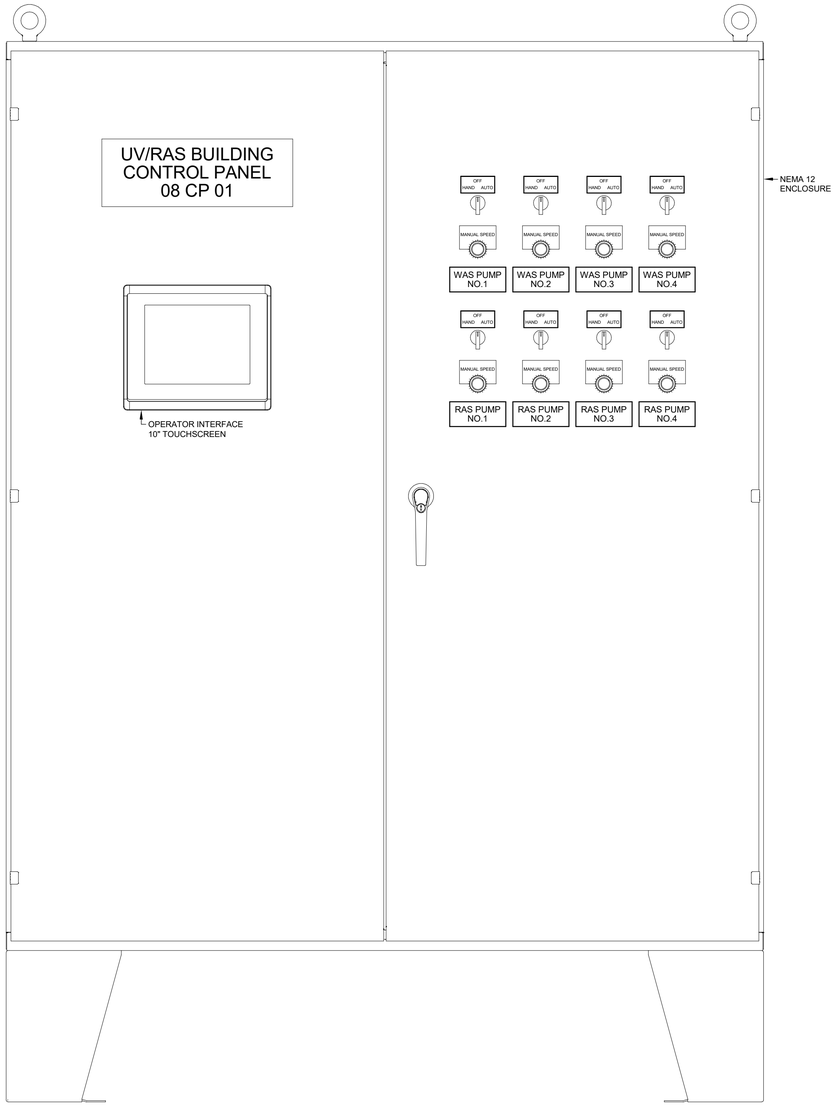
DESIGNED BY: MLO
ENTERED BY: ACF,CJD

CITY OF GRANDVIEW
WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1

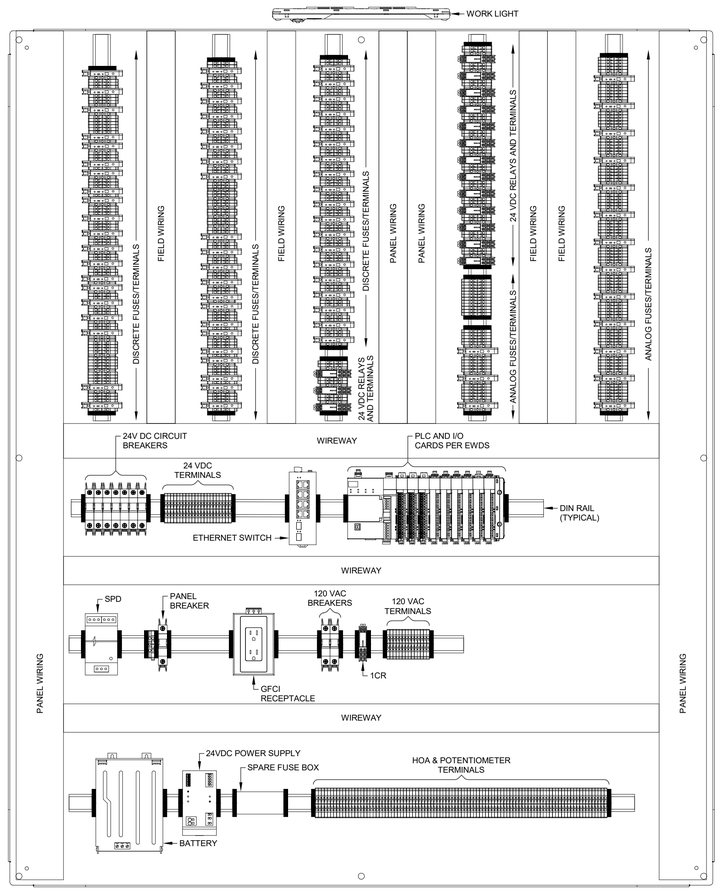
UV/RAS BUILDING – EXISTING CONTROL PANEL UVCP ANALOG DIAGRAMS

E8-11

SHEET 138 OF 192



EXTERIOR



INTERIOR

CONTROL PANEL AND REMOTE IO ELEVATIONS ARE REPRESENTATIVE OF THE GENERAL INTENT. CONTROL PANEL AND REMOTE IO PHYSICAL LAYOUT AND DESIGN SHALL BE COMPLETED BY THE SYSTEM INTEGRATOR AND REVIEWED BY ENGINEER. MODEL NUMBERS FOR THE PLC, IO CARDS, AND CONTROL PANEL POWER DISTRIBUTION REQUIRED ARE INDICATED ON THE CONTROL PANEL ELEMENTARY WIRING DIAGRAM, IN THE SPECIFICATON, AND ON THE I/O SCHEDULES.

0' 1" 2" 4"

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3/12/2026

REVISION	DATE

JOB NUMBER: 23030 | DATE: 3/13/2026

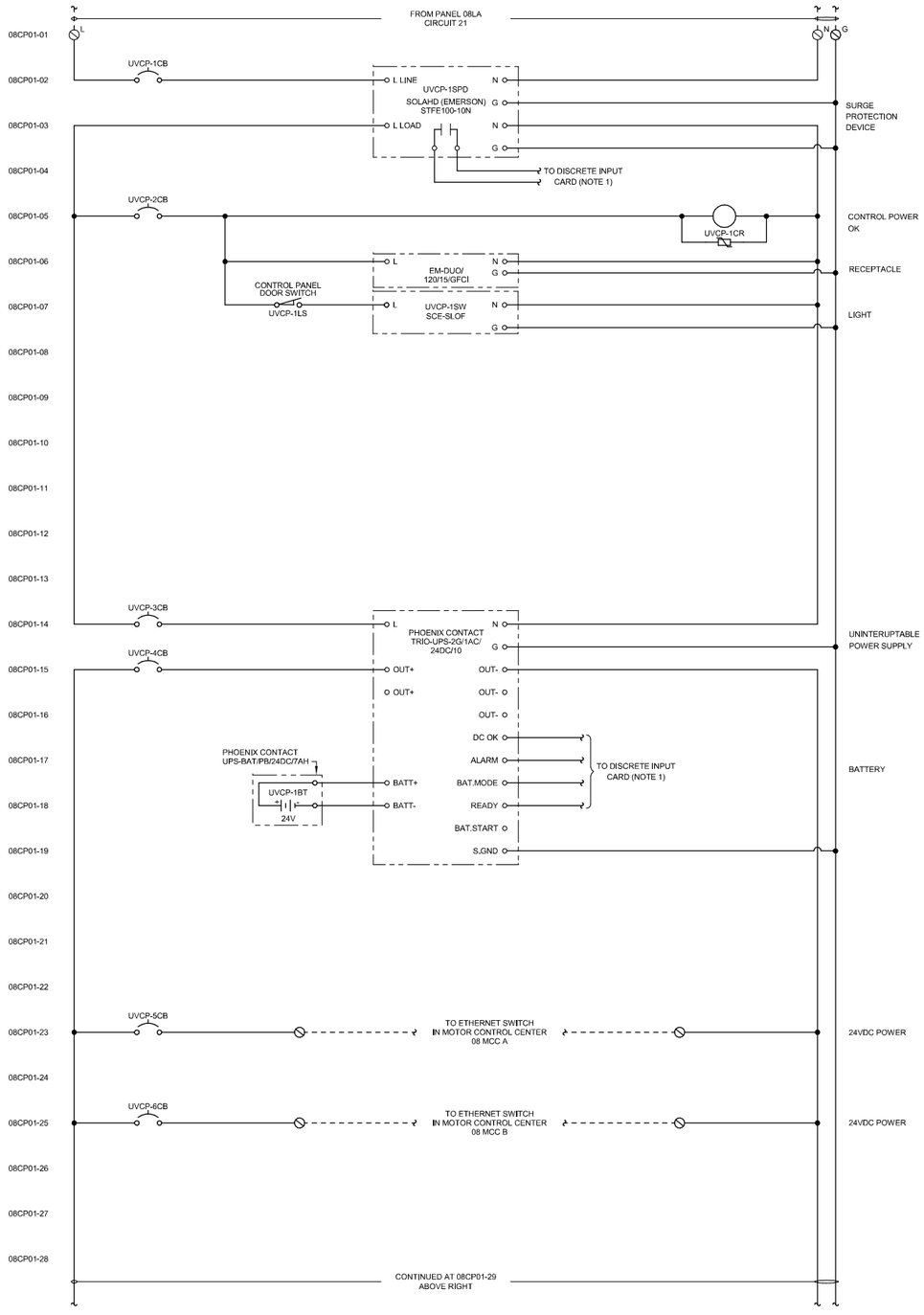
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PLAN: 23030

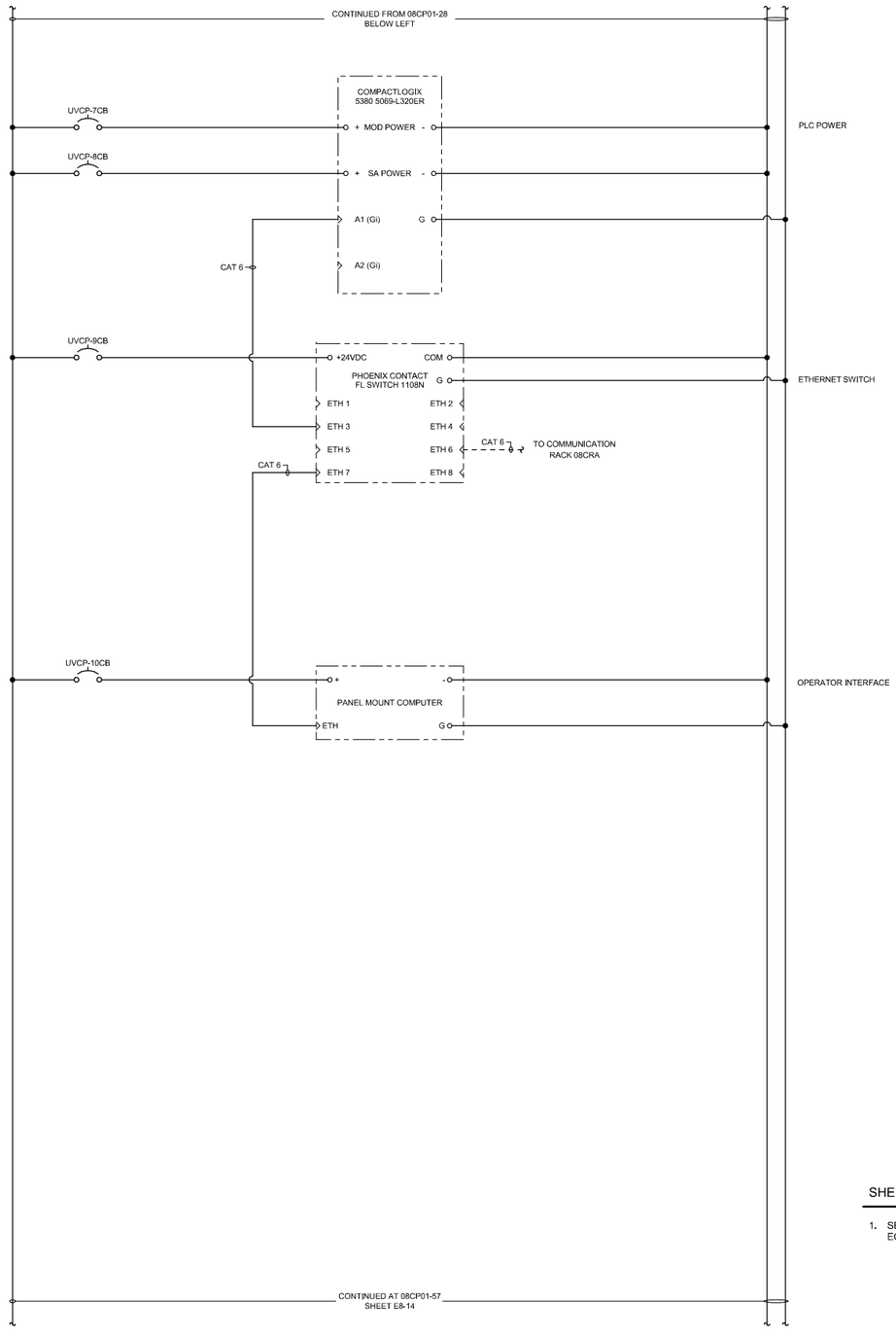
DESIGNED BY: MLO
ENTERED BY: MLO

CITY OF GRANDVIEW
WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1

UV/RAS BUILDING – NEW CONTROL PANEL 08 CP 01 ELEVATIONS

E8-12





SHEET NOTES

1. SEE PLC I/O SCHEDULE SHEET E8-15 FOR WIRING AND EQUIPMENT INFORMATION.

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05/12/2026

REVISION	DATE

JOB NUMBER: 23030
DATE: 3/13/2026
FILE NAMES:
DRAWING: HLA-23030_E_R24.RVT
PLAN: 23030
DESIGNED BY: MLO
ENTERED BY: CJD,MLO

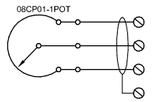
CITY OF GRANDVIEW
WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1
UV/RAS BUILDING – NEW CONTROL PANEL 08CP01 EWD

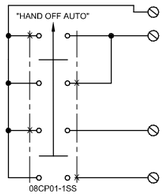
E8-13

SHEET 140 OF 192

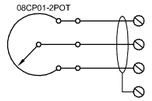
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SHEET E8-13

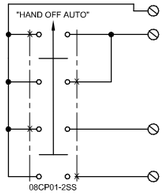
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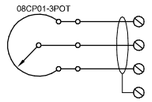


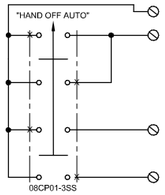
RAS PUMP NO.1 CONTROLS



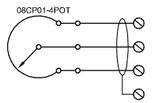


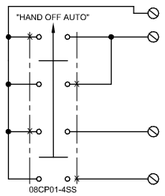
RAS PUMP NO.2 CONTROLS



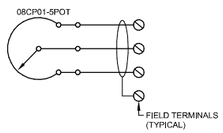


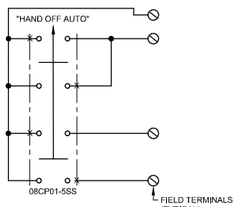
RAS PUMP NO.3 CONTROLS





RAS PUMP NO.4 CONTROLS



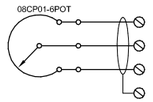


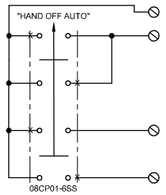
WAS PUMP NO.1 CONTROLS

CONTINUE AT 08CP01-85
ABOVE RIGHT

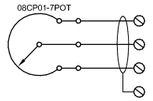
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BELOW LEFT

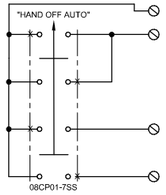
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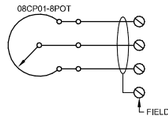


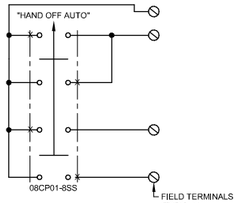
WAS PUMP NO.2 CONTROLS





WAS PUMP NO.3 CONTROLS





WAS PUMP NO.4 CONTROLS

CONTINUED TO ADDITIONAL
I/O CARDS (SEE I/O TABLES
SHEET E8-15 FOR FURTHER INFORMATION)

SHEET NOTES

1. SEE PLC I/O SCHEDULE SHEET E8-15 FOR WIRING AND EQUIPMENT INFORMATION.

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PROFESSIONAL ENGINEER
03/12/2026

REVISION	DATE

JOB NUMBER: 23030
DATE: 3/13/2026
FILE NAMES:
DRAWING: HLA-23030_E_R24.RVT
PLAN: 23030
DESIGNED BY: MLO
ENTERED BY: ACF,MLO

CITY OF GRANDVIEW
WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1
UV/RAS BUILDING – NEW CONTROL PANEL 08CP01 EWD

E8-14

SHEET 141 OF 192

UV/RAS BUILDING PLC (08CP01)

RACK	I	24 VDC DISCRETE INPUTS			
SLOT	CH	DESCRIPTION	FUSE GROUP	DETAIL	TAG ID
5030-IB16	1	0	TRANSFER SWITHCH 08ATS MCC A POWER AVAILABLE	FU17	4/E0-08	
		1	TRANSFER SWITHCH 08ATS MCC B POWER AVAILABLE	FU17	4/E0-08	
		2	TRANSFER SWITHCH 08ATS MCC A POWER CONNECTED	FU17	4/E0-08	
		3	TRANSFER SWITHCH 08ATS MCC B POWER CONNECTED	FU17	4/E0-08	
		4	SPARE	FU18	5/E0-08	
		5	SPARE	FU19	5/E0-08	
		6	UPS DC OK	FU20	9/E0-08	
		7	UPS ALARM	FU20	9/E0-08	
		8	UPS BATT MODE	FU20	9/E0-08	
		9	UPS READY	FU20	9/E0-08	
		10	SPARE	FU21	5/E0-08	
		11	08 CP 01 SURGE PROTECTOR TROUBLE	FU22	1/E0-08	
		12	08 MCC A SURGE PROTECTOR TROUBLE	FU23	2/E0-08	
		13	08 MCC B SURGE PROTECTOR TROUBLE	FU24	2/E0-08	
		14	SPARE	FU25	5/E0-08	
		15	SPARE	FU26	5/E0-08	
5060-IB16	2	0	FINAL CLARIFIER NO.1 SCUM PIT FLOAT SWITCH	FU27	4/E0-08	**07 FS 01**
		1	FINAL CLARIFIER NO.2 SCUM PIT FLOAT SWITCH	FU28	4/E0-08	**07 FS 02**
		2	SPARE	FU29	5/E0-08	
		3	SPARE	FU30	5/E0-08	
		4	RACK 08CRA UPS DC OK	FU31	4/E0-08	
		5	RACK 08CRA UPS ALARM	FU31	4/E0-08	
		6	RACK 08CRA UPS BATT MODE	FU31	4/E0-08	
		7	RACK 08CRA UPS READY	FU31	4/E0-08	
		8	WAS FLOW PULSE	FU32	4/E0-08	**07 FM 05**
		9	SPARE	FU33	5/E0-08	
		10	SPARE	FU34	5/E0-08	
		11	SPARE	FU36	5/E0-08	
		12	SPARE	FU35	5/E0-08	
		13	SPARE	FU36	5/E0-08	
		14	UV SYSTEM NO.1 CRITICAL ALARM	FU37	3/E0-08	**08 UV 01**
		15	UV SYSTEM NO.1 RUNNING	FU37	3/E0-08	**08 UV 01**
	3	0	UV SYSTEM NO.2 CRITICAL ALARM	FU38	3/E0-08	**08 UV 02**
		1	UV SYSTEM NO.2 RUNNING	FU38	3/E0-08	**08 UV 02**
		2	SPARE	FU39	5/E0-08	
		3	SPARE	FU40	5/E0-08	
		4	SPARE	FU41	5/E0-08	
		5	SPARE	FU42	5/E0-08	
		6	SPARE	FU43	5/E0-08	
		7	SPARE	FU44	5/E0-08	
		8	PLANT DRAIN PUMP STATION LOW LEVEL ALARM	FU45	3/E0-08	
		9	PLANT DRAIN PUMP STATION LIGH LEVEL ALARM	FU45	3/E0-08	
		10	PLANT DRAIN PUMP STATION PUMP 1 LEAK	FU45	3/E0-08	
		11	PLANT DRAIN PUMP STATION PUMP 2 LEAK	FU45	3/E0-08	
		12	PLANT DRAIN PUMP STATION PUMP 1 OVERTEMP	FU45	3/E0-08	
		13	PLANT DRAIN PUMP STATION PUMP 2 OVERTEMP	FU45	3/E0-08	
		14	SPARE	FU46	5/E0-08	
		15	SPARE	FU47	5/E0-08	
	4	0	SPARE	FU48	5/E0-08	
		1	SPARE	FU48	5/E0-08	
		2	SPARE	FU48	5/E0-08	
		3	SPARE	FU48	5/E0-08	
		4	SPARE	FU48	5/E0-08	
		5	SPARE	FU48	5/E0-08	
		6	SPARE	FU48	5/E0-08	
		7	SPARE	FU48	5/E0-08	
		8	SPARE	FU48	5/E0-08	
		9	SPARE	FU48	5/E0-08	
		10	SPARE	FU48	5/E0-08	
		11	SPARE	FU48	5/E0-08	
		12	SPARE	FU48	5/E0-08	
		13	SPARE	FU48	5/E0-08	
		14	SPARE	FU49	5/E0-08	
		15	SPARE	FU50	5/E0-08	

UV/RAS BUILDING PLC (08CP01)

RACK	I	24 VDC DISCRETE OUTPUTS			
SLOT	CH	DESCRIPTION	CONTROL RELAY	DETAIL	TAG ID
5069-OB16	5	0	SPARE	CR01	13/E0-08	
		1	SPARE	CR02	13/E0-08	
		2	SPARE	CR03	13/E0-08	
		3	SPARE	CR04	13/E0-08	
		4	SPARE	CR05	13/E0-08	
		5	SPARE	CR06	13/E0-08	
		6	SPARE	CR07	13/E0-08	
		7	SPARE	CR08	13/E0-08	
		8	SPARE	CR09	13/E0-08	
		9	SPARE	CR10	13/E0-08	
		10	SPARE	CR11	13/E0-08	
		11	SPARE	CR12	13/E0-08	
		12	SPARE	CR13	13/E0-08	
		13	SPARE	CR14	13/E0-08	
		14	SPARE	CR15	13/E0-08	
		15	SPARE	CR16	13/E0-08	

UV/RAS BUILDING PLC (08CP01)

RACK	I	ANALOG INPUTS			
SLOT	CH	DESCRIPTION	FUSE GROUP	DETAIL	TAG ID
5069-IF8	6	0	SPARE	FU01	21/E0-08	
		1	SPARE	FU02	21/E0-08	
		2	SPARE	FU03	21/E0-08	
		3	SPARE	FU04	21/E0-08	
		4	SPARE	FU05	21/E0-08	
		5	SPARE	FU06	21/E0-08	
		6	SPARE	FU07	21/E0-08	
		7	SPARE	FU08	21/E0-08	
5069-IF8	7	0	SPARE	FU09	21/E0-08	
		1	SPARE	FU10	21/E0-08	
		2	SPARE	FU11	21/E0-08	
		3	SPARE	FU12	21/E0-08	
		4	EFFLUENT FLOW	FU13	5/E8-11	**07 ULS 01**
		5	SPARE	FU14	21/E0-08	
		6	SPARE	FU15	21/E0-08	
		7	SPARE	FU16	21/E0-08	

UV/RAS BUILDING PLC (08CP01)

RACK	I	ANALOG OUTPUTS			
SLOT	CH	DESCRIPTION	FUSE GROUP	DETAIL	TAG ID
5069-OF4	8	1	SPARE		23/E0-08	
		2	SPARE		23/E0-08	
		3	SPARE		23/E0-08	
		4	SPARE		23/E0-08	

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03/12/2026

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PLAN: 23030
DESIGNED BY: MLO
ENTERED BY: MLO

CITY OF GRANDVIEW
WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1

UV/RAS BUILDING – NEW CONTROL PANEL UVCP1 PLC I/O TABLES

E8-15

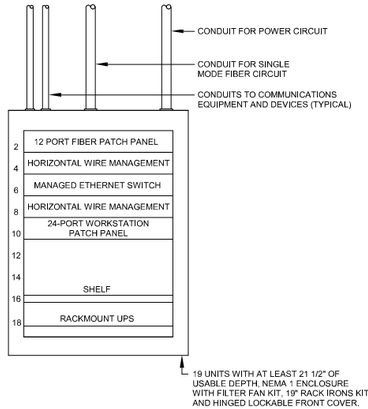
Branch Panel: 08LA

Location:		**Volts:**	208/ 120	**A.I.C. Rating:**	
Supply From:	T-08LA	**Phases:**	3	**Mains Type:**	MCB
Mounting:	Surface	**Wires:**	4	**Mains Rating:**	100
Enclosure:	Type 1			**MCB Rating:**	100

CKT	Demand Type	Circuit Description	Trip	P	A	B	C	P	Trip	Circuit Description	Demand Type	CKT
1	Lighting	ELECTRICAL ROOM AND CHLORINATION ROOLM LIGHTING	20 A	1	313 VA / 540 VA			1	20 A	INTERIOR RECEPTACLES	Receptacle	2
3	Lighting	UV ROOM WEST LIGHTING	20 A	1		390 VA / 360 VA		1	20 A	INTERIOR RECEPTACLES	Receptacle	4
5	Lighting	UV ROOM EAST LIGHTING	20 A	1			386 VA / 540 VA	1	20 A	INTERIOR RECEPTACLES	Receptacle	6
7	Lighting	RAS PUMP ROOM LIGHTING	20 A	1	471 VA / 1200 VA			1	20 A	EXHAUST FANS	Motor	8
9	Lighting	CLARIFIER POLE LIGHT	20 A	1		32 VA / 0 VA		1	20 A	Spare	–	10
11	Lighting	EXTERIOR BUILDING LIGHTING	20 A	1			459 VA / 0 VA	1	20 A	Spare	–	12
13	Misc Non-Continuous	HYPOCHLORITE SYSTEM	20 A	1	1800 VA / 120 VA			1	20 A	RAS PUMP NO.1 FLOW METER	Misc Non-Continuous	14
15	Misc Non-Continuous	EFFLUENT FLOW METER	20 A	1		600 VA / 120 VA		1	20 A	RAS PUMP NO.2 FLOW METER	Misc Non-Continuous	16
17	Receptacle	EFFLUENT SAMPLER	20 A	1			180 VA / 120 VA	1	20 A	RAS PUMP NO.3 FLOW METER	Misc Non-Continuous	18
19	Receptacle	CONTROL PANEL UVCP	0 A	1	180 VA / 0 VA			1	20 A	Spare	–	20
21	Receptacle	UV/RAS BUILDING CONTROL PANEL UVCP1	0 A	1		750 VA / 120 VA		1	20 A	WAS FLOW METER	Misc Non-Continuous	22
23	--	Spare	20 A	1			0 VA / 0 VA	1	20 A	Spare	–	24
25	--	Spare	20 A	1	0 VA / 0 VA			1	20 A	Spare	–	26
27	--	Spare	20 A	1		0 VA / 180 VA		1	20 A	CLARIFIER POLE RECEPTACLE	Receptacle	28
29	--	Spare	20 A	1			0 VA / 0 VA	3	20 A	Spare	–	30
31	Receptacle	COMMUNICATIONS RACK RECEPTACLE	20 A	1	360 VA / 0 VA							32
33	Receptacle	COMMUNICATIONS RACK RECEPTACLE	20 A	1		360 VA / 0 VA						34
35	Receptacle	EXTERIOR LIGHTING CONTROL PANEL	0 A	1			125 VA / 0 VA	1	--	Space	–	36
37	--	Spare	20 A	1	0 VA / 0 VA			1	--	Space	–	38
39	HVAC	HEAT PUMP HP-2	40 A	2		2637 VA / 2637 VA		2	40 A	HEAT PUMP HP-1	HVAC	40
41							2637 VA / 2637 VA					42
		Total Load :			4983 VA	8186 VA	7084 VA					
		Total Amps Per Phase ;			41,53 A	70,91 A	61,73 A					
		Total Amps :				56.22 A						

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
HVAC	10548 VA	100.00%	10548 VA		
Lighting	2050 VA	125.00%	2563 VA	**Total Conn. Load:**	20253 VA
Misc Non- Continuous	2880 VA	100.00%	2880 VA	**Total Est. Demand:**	20841 VA
Motor	1200 VA	106.25%	1275 VA	**Total Conn.:**	56.22 A
Receptacle	3575 VA	100.00%	3575 VA	**Total Est. Demand:**	57.85 A

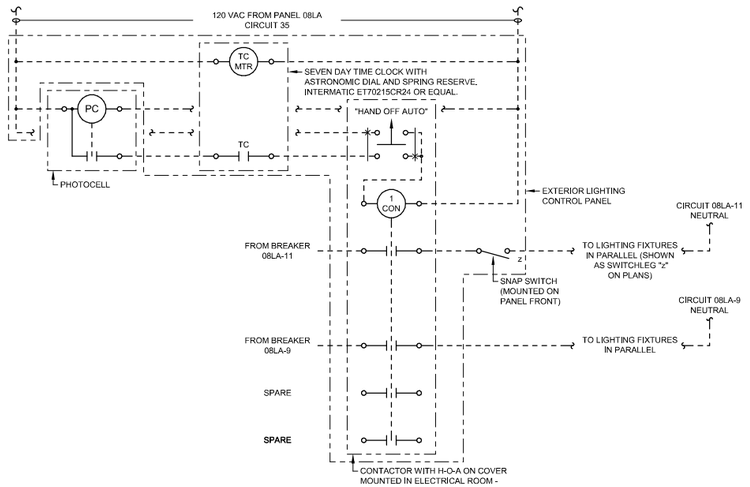
Notes:



UV/RAS BUILDING		PRODUCT DESCRIPTION
	RACK 1	1-18RU, 26"Wx28"D, FRONT & REAR DOORS, BLACK, CABINET
		2U FIBER OPTIC PATCH PANEL
		2U HORIZONTAL WIRE MANAGEMENT
		2U MANAGED ETHERNET SWITCH
		2U HORIZONTAL WIRE MANAGEMENT
		2U SHELF
		RACKMOUNT UPS

DETAIL 1/E8A-16
COMMUNICATIONS RACK "08CRA"

SCALE: NONE



EWD 2/E8-15
EXTERIOR LIGHTING CONTROL PANEL

SCALE: NONE

UV/RAS BUILDING PATCHING SCHEDULE

SWITCH	SWITCH PORT	EQUIPMENT DESCRIPTION
08CRA SWITCH 1	1	UV/RAS BUILDING CONTROL PANEL 08 CP 01
	2	
	3	
	4	
	5	UV SYSTEM CONTROL PANEL 08 UV 01
	6	UV SYSTEM CONTROL PANEL 08 UV 02
	7	
	8	
	9	
	10	MOTOR CONTROL CENTER 08 MCC A
	11	MOTOR CONTROL CENTER 08 MCC B
	12	
	13	
	14	
	15	
	16	
	17	
	18	
	19	
	20	
	21	
	22	
	23	
	24	
	SFP 01	FIBER TO RACK 13CRA
	SFP 02	
	SFP 03	
	SFP 04	

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CITY OF GRANDVIEW
WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1

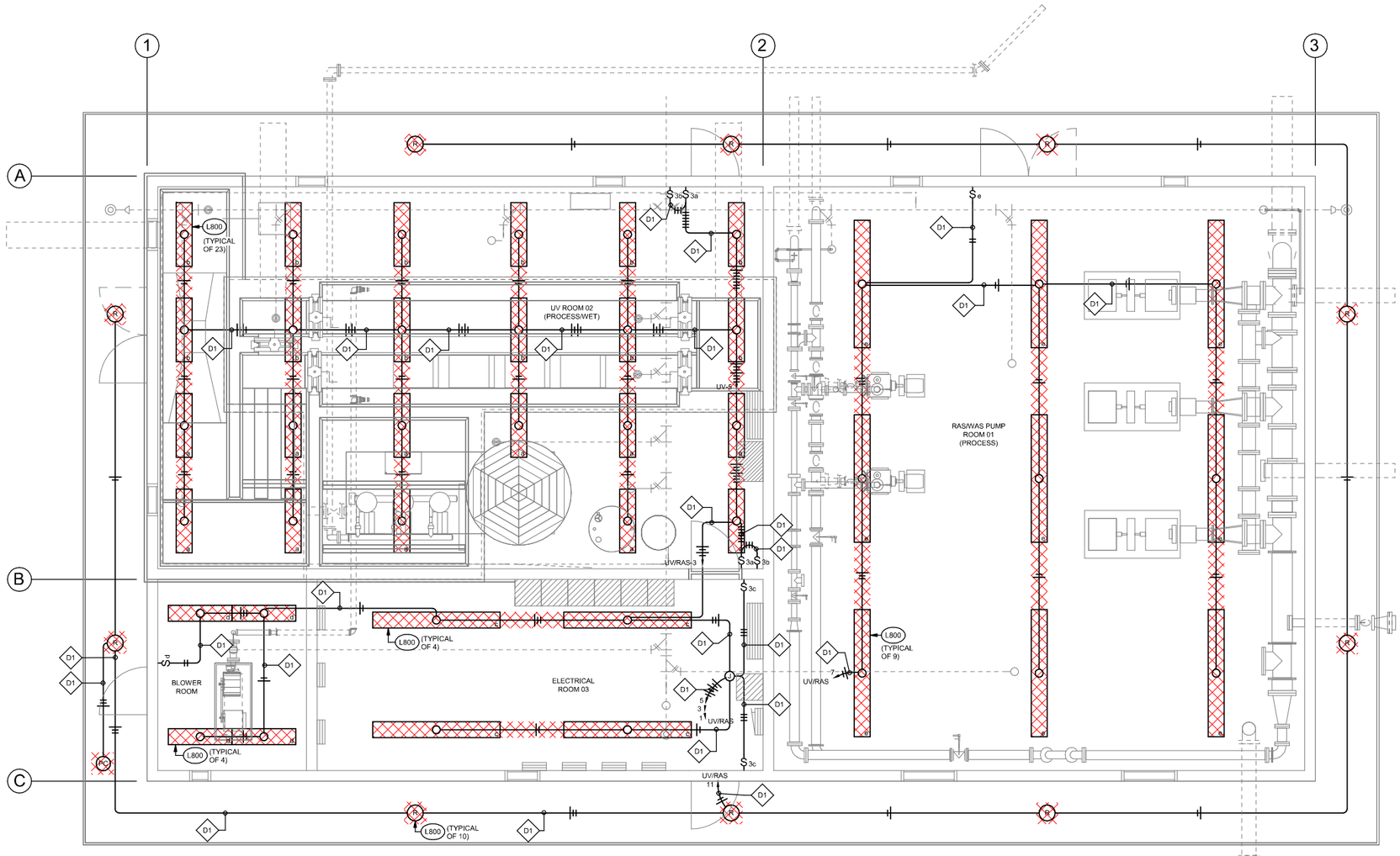
UV/RAS BUILDING – PANEL SCHEDULE AND DETAILS

E8-16

SHEET NOTES

D1 DEMOLISH CONDUCTORS. PRESERVE AND PROTECT RACEWAY FOR REUSE.

L800 DEMOLISH EXISTING LIGHT FIXTURES. DEMOLISH CONDUCTORS WHERE INDICATED. PRESERVE AND PROTECT CONDUIT REUSE.



EXISTING/DEMOLITION LIGHTING PLAN

0' 2'-0" 4'-0" 8'-0"

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WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1

UV/RAS BUILDING – EXISTING/DEMOLITION LIGHTING PLAN

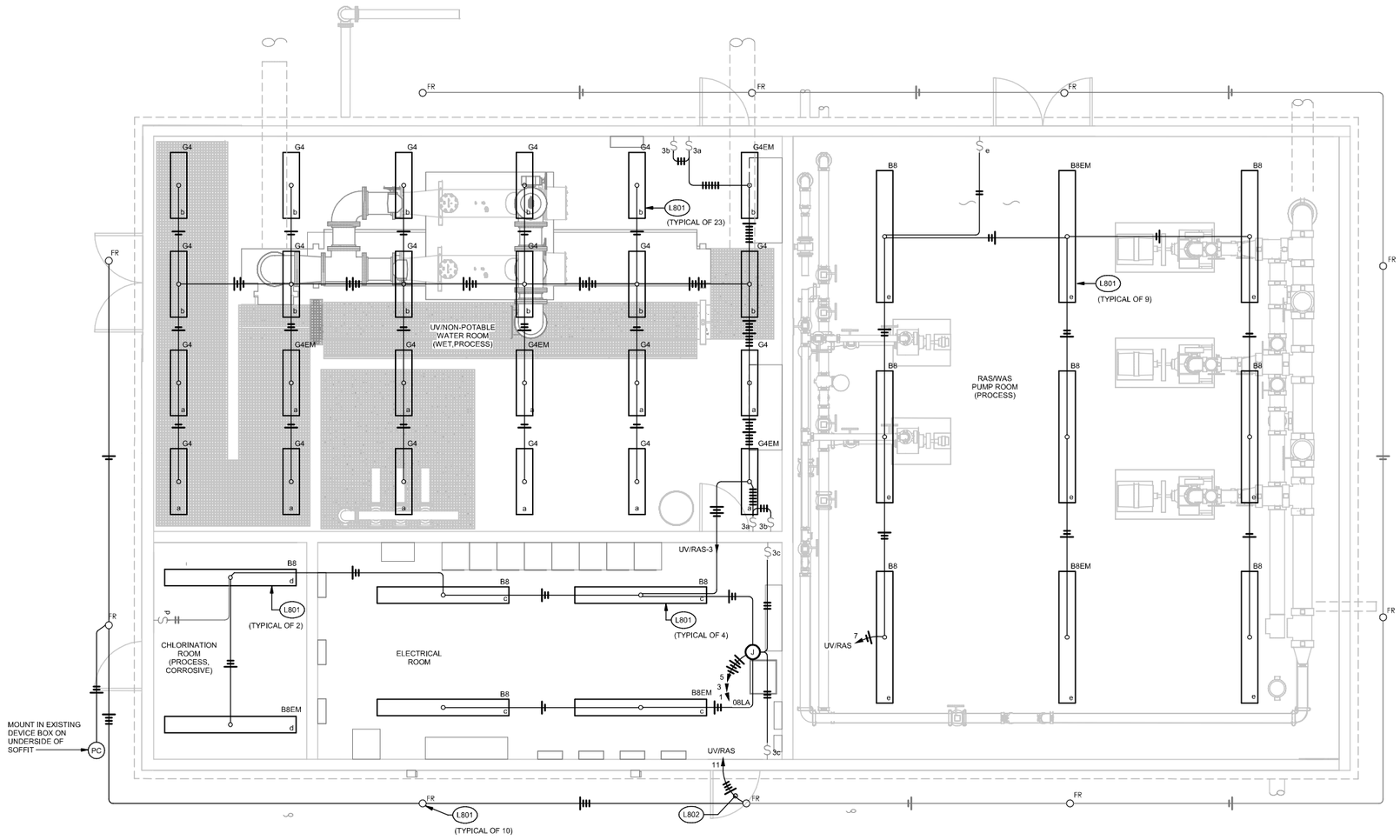
E8-17

SHEET 144 OF 192

SHEET NOTES

L801 REPLACE EXISTING LIGHTING FIXTURE AT SAME LOCATION WITH NEW LIGHTING FIXTURE OF THE TYPE INDICATED. CONNECT NEW FIXTURE TO EXISTING AND NEW BRANCH CIRCUIT CONDUCTORS.

L802 HOMRUN VIA EXTERIOR LIGHTING CONTROL PANEL. SEE EWD 2/E8-15 FOR CONNECTION INFORMATION.



MODIFIED LIGHTING PLAN

0' 2'-0" 4'-0" 8'-0"

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WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1

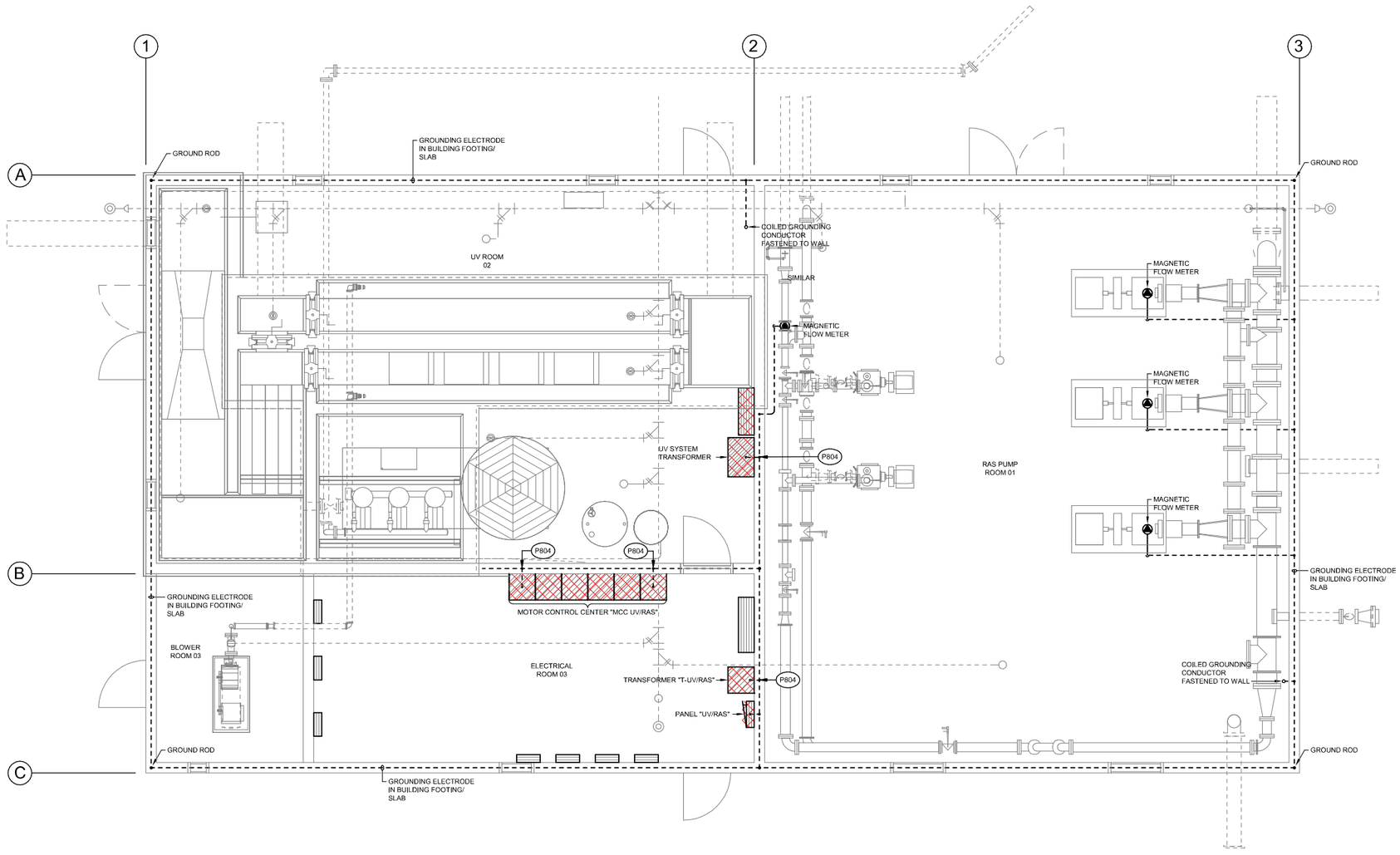
UV/RAS BUILDING – MODIFIED LIGHTING PLAN

E8-18

SHEET 145 OF 192

SHEET NOTES

P804 PRESERVE AND PROTECT GROUNDING ELECTRODE CONDUCTOR FOR REUSE.



EXISTING/DEMOLITION GROUNDING PLAN

0' 2'-0" 4'-0" 8'-0"

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WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1

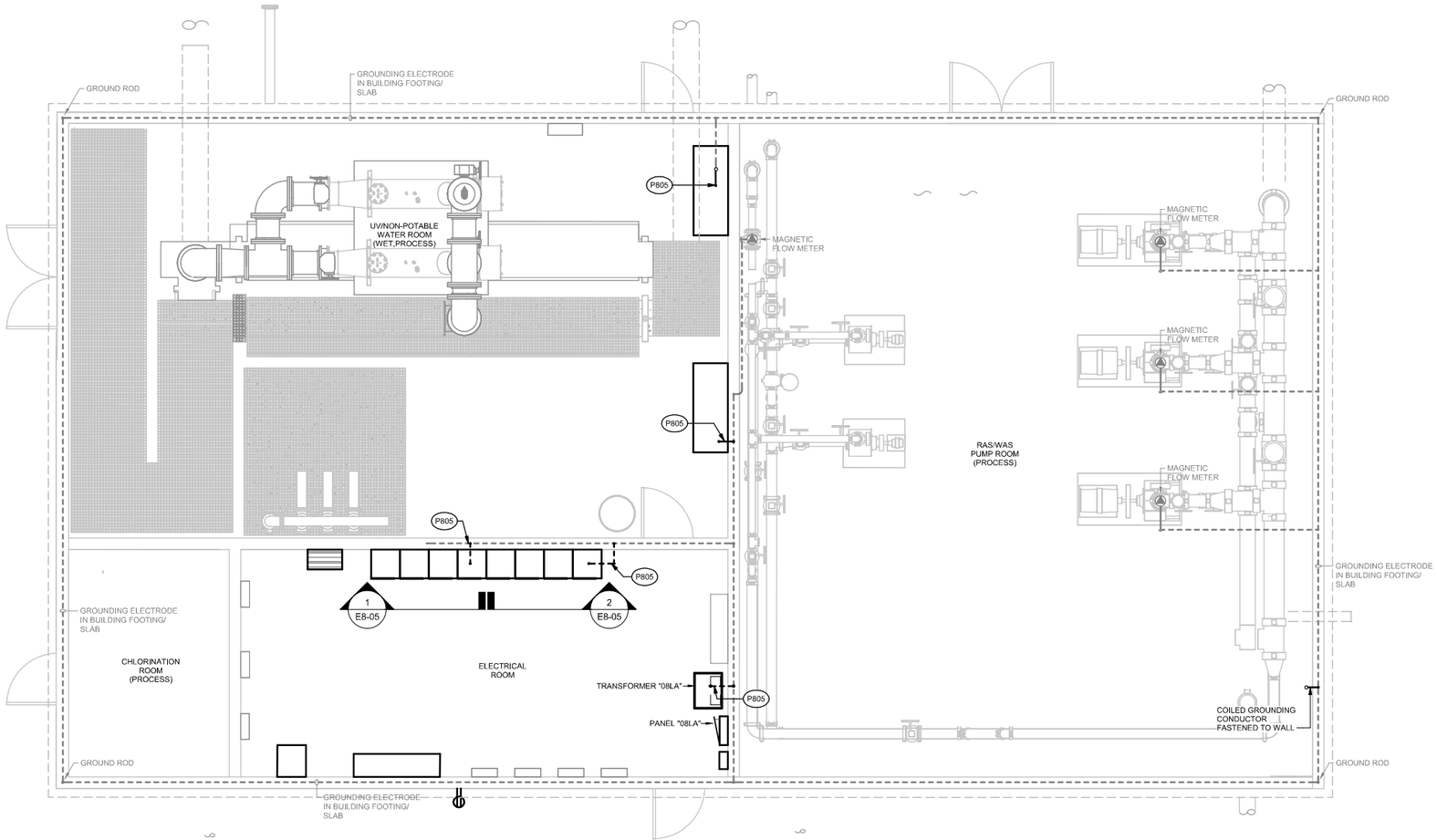
UV/RAS BUILDING – EXISTING/DEMOLITION GROUNDING PLAN

E8-19

SHEET 146 OF 192

SHEET NOTES

P805 EXTEND GROUNDING ELECTRODE CONDUCTOR TO NEW EQUIPMENT. PROVIDE BARE COPPER CONDUCTOR THE SAME AWG AS THE EXISTING GROUNDING ELECTRODE CONDUCTOR. PROVIDE EXOTHERMIC WELD TO CONNECT THE EXISTING AND NEW GROUNDING ELECTRODE CONDUCTOR.



MODFIED GROUNDING PLAN

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CITY OF GRANDVIEW
WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1
UV/RAS BUILDING – MODIFIED GROUNDING PLAN

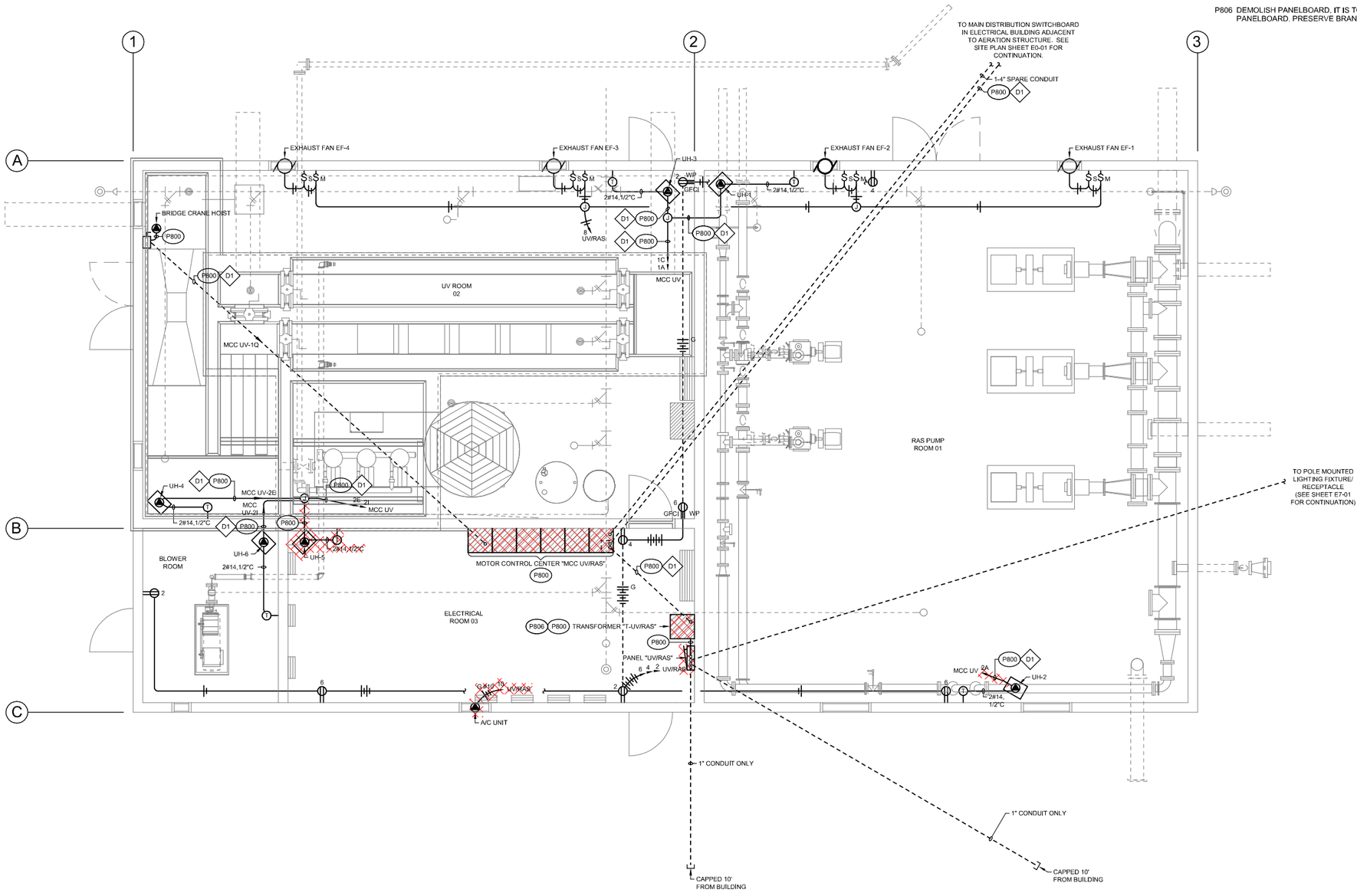
E8-20

SHEET NOTES

D1 DEMOLISH CONDUCTORS. PRESERVE AND PROTECT RACEWAY FOR REUSE.

P800 SEE EXISTING/DEMOLITION ONE LINE DIAGRAM UV/RAS BUILDING SHEETS E8-01 AND E8-02 FOR CIRCUIT AND EQUIPMENT INFORMATION.

P806 DEMOLISH PANELBOARD. IT IS TO BE REPLACED WITH A NEW PANELBOARD. PRESERVE BRANCH CIRCUIT CONDUCTORS FOR REUSE.



EXISTING/DEMOLITION POWER PLAN

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CITY OF GRANDVIEW
WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1

UV/RAS BUILDING – EXISTING/DEMOLITION POWER PLAN

E8-21

SHEET 148 OF 192

SHEET NOTES

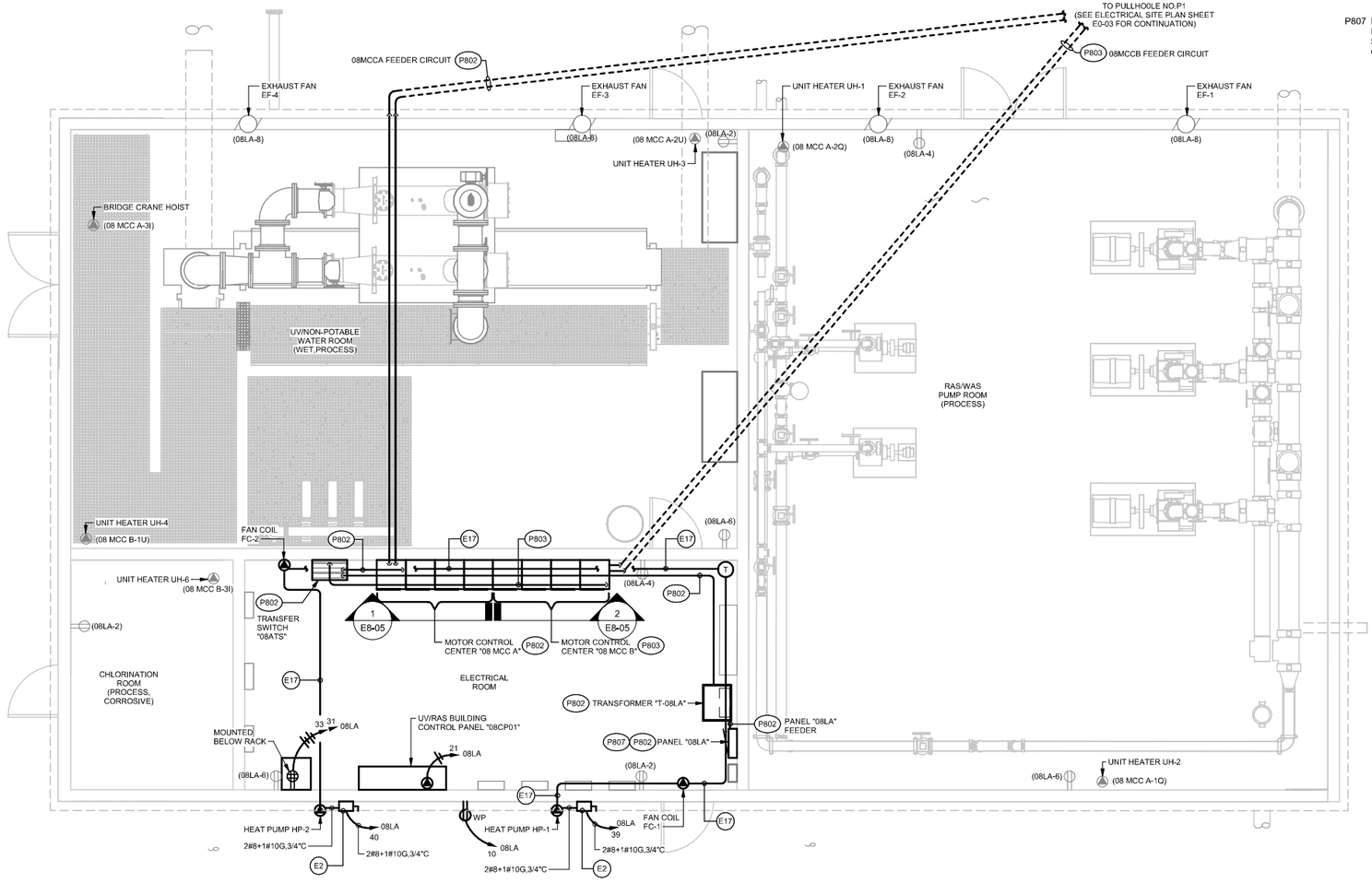
E2 SEE THE DISCONNECT SWITCH AND CONTROL STATION SCHEDULE (SHEET E-10) FOR THE AMPERE RATING, ENCLOSURE TYPE, AND CONTROL STATION DETAIL.

E17 PROVIDE MANUFACTURER'S RECOMMENDED CONDUCTORS/CABLE IN 3/4" MINIMUM CONDUIT.

P802 SEE ONE LINE DIAGRAM FOR CIRCUIT AND EQUIPMENT INFORMATION AS REFERENCED BY THE MOTOR CONTROL CENTER "08 MCC A" SCHEDULE SHOWN ON SHEETS E8-05.

P803 SEE ONE LINE DIAGRAM FOR CIRCUIT AND EQUIPMENT INFORMATION AS REFERENCED BY THE MOTOR CONTROL CENTER "08 MCC B" SCHEDULE SHOWN ON SHEETS E8-05.

P807 EXTEND/TRIM EXISTING CONDUITS TO FASTEN TO NEW PANELBOARD ENCLOSURE. CONNECT EXISTING BRANCH CIRCUIT CONDUCTORS TO SAME CIRCUIT NUMBER THAT THE EXISTING CONDUCTORS WERE ORIGINALLY CONNECTED TO.



MODIFIED POWER PLAN

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WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1

UV/RAS BUILDING – MODIFIED POWER PLAN

E8-22

SHEET 149 OF 192

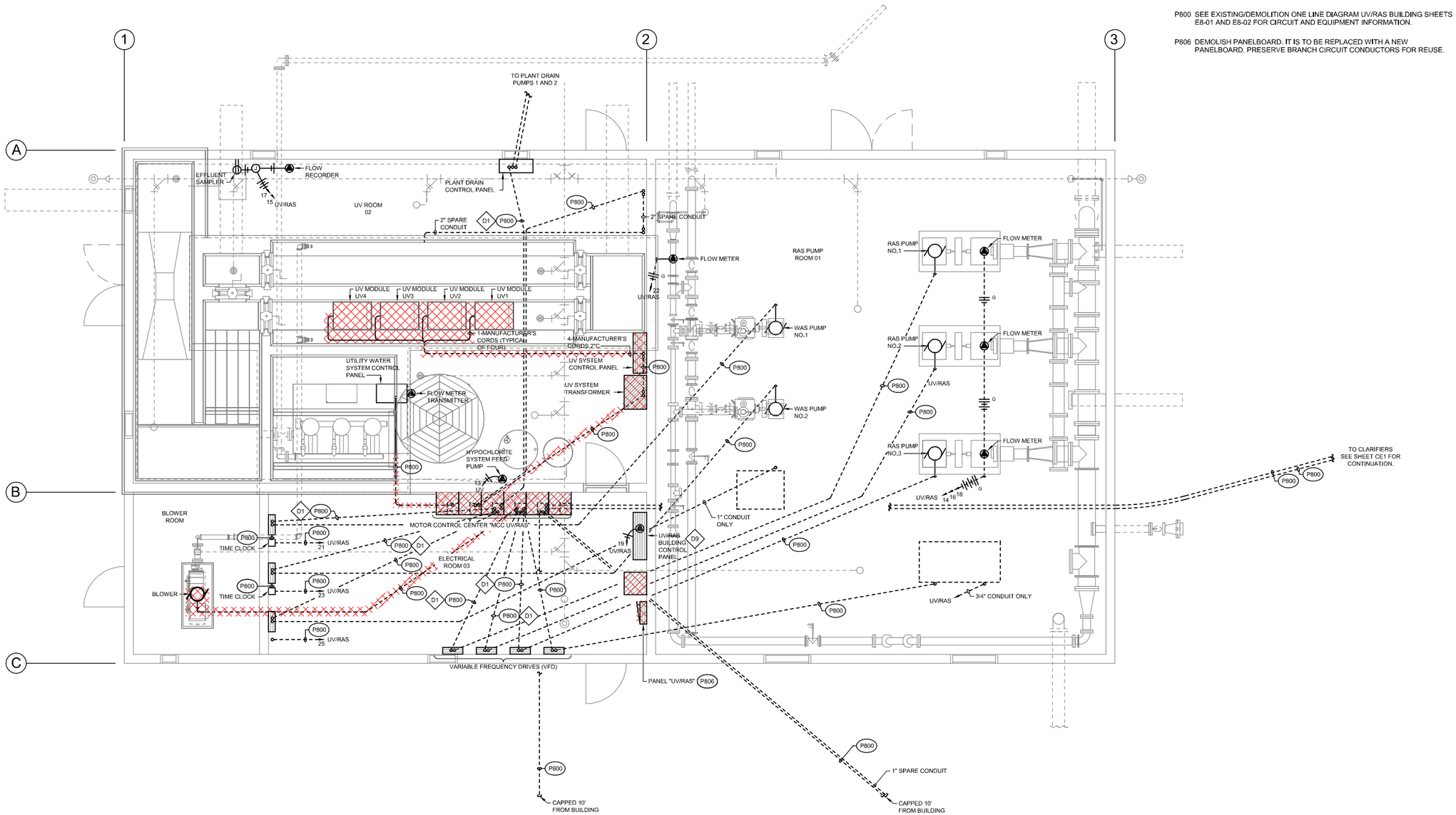
SHEET NOTES

D1 DEMOLISH CONDUCTORS. PRESERVE AND PROTECT RACEWAY FOR REUSE.

D9 DEVICE OR EQUIPMENT TO REMAIN. PRESERVE AND PROTECT DURING CONSTRUCTION.

P800 SEE EXISTING/DEMOLITION ONE LINE DIAGRAM UV/RAS BUILDING SHEETS E8-01 AND E8-02 FOR CIRCUIT AND EQUIPMENT INFORMATION.

P806 DEMOLISH PANELBOARD. IT IS TO BE REPLACED WITH A NEW PANELBOARD. PRESERVE BRANCH CIRCUIT CONDUCTORS FOR REUSE.



EXISTING/DEMOLITION PROCESS POWER PLAN

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UV/RAS BUILDING – EXISTING/DEMOLITION PROCESS POWER PLAN

E8-23

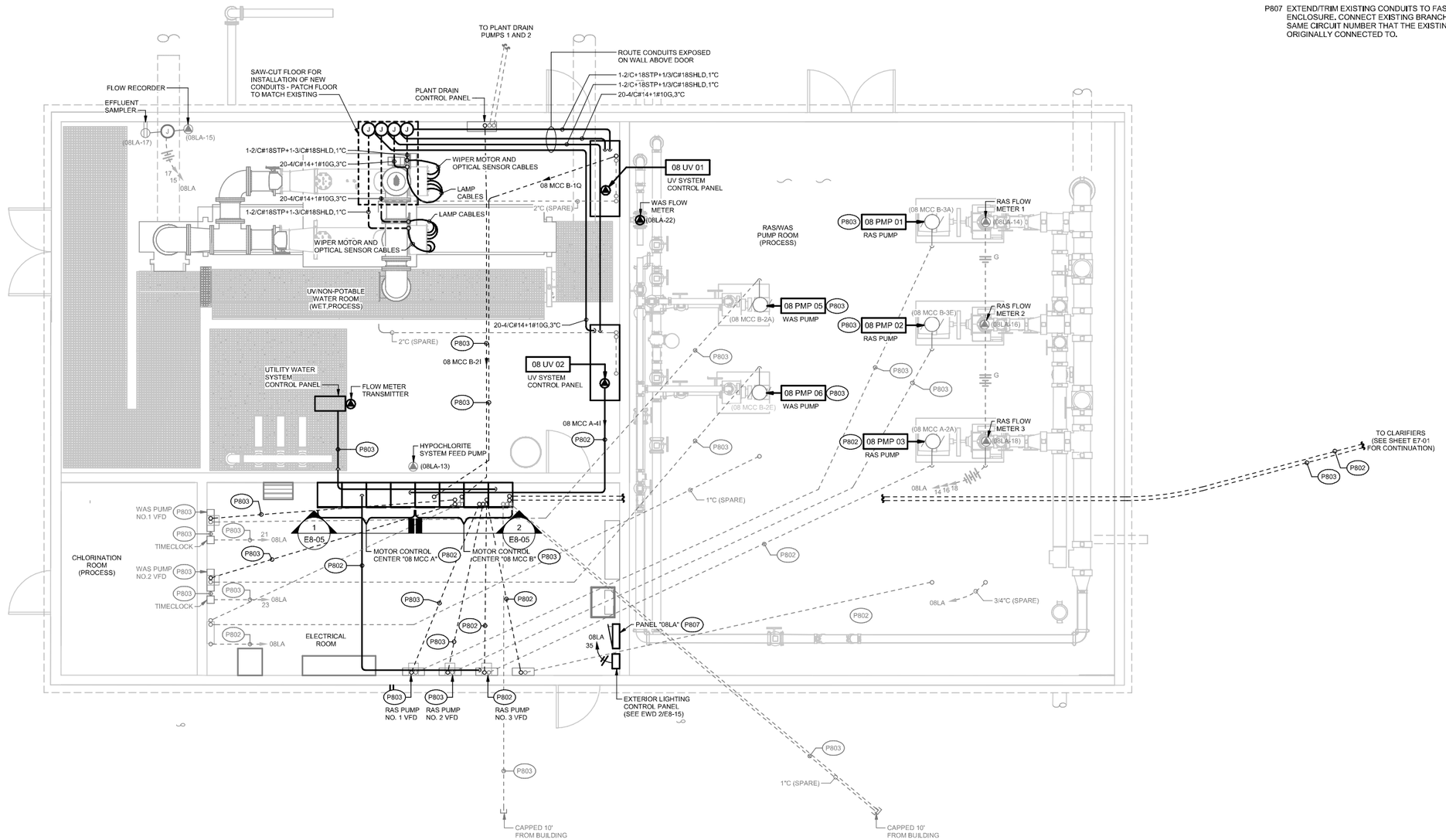
SHEET 150 OF 192

SHEET NOTES

P802 SEE ONE LINE DIAGRAM FOR CIRCUIT AND EQUIPMENT INFORMATION AS REFERENCED BY THE MOTOR CONTROL CENTER "08 MCC A" SCHEDULE SHOWN ON SHEETS E8-05.

P803 SEE ONE LINE DIAGRAM FOR CIRCUIT AND EQUIPMENT INFORMATION AS REFERENCED BY THE MOTOR CONTROL CENTER "08 MCC B" SCHEDULE SHOWN ON SHEETS E8-05.

P807 EXTEND/TRIM EXISTING CONDUITS TO FASTEN TO NEW PANELBOARD ENCLOSURE. CONNECT EXISTING BRANCH CIRCUIT CONDUCTORS TO SAME CIRCUIT NUMBER THAT THE EXISTING CONDUCTORS WERE ORIGINALLY CONNECTED TO.



MODIFIED PROCESS POWER PLAN

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MATTHEW L. OBERG — STATE OF WASHINGTON — 26371 — REGISTERED PROFESSIONAL ENGINEER
03/12/2026

REVISION	DATE

JOB NUMBER: 23030 | DATE: 3/13/2026

FILE NAMES:
DRAWING: HLA-23030_E_R24.RVT
PLAN: 23030

DESIGNED BY: MLO
ENTERED BY: ACF

CITY OF GRANDVIEW
WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1

UV/RAS BUILDING – MODIFIED PROCESS POWER PLAN

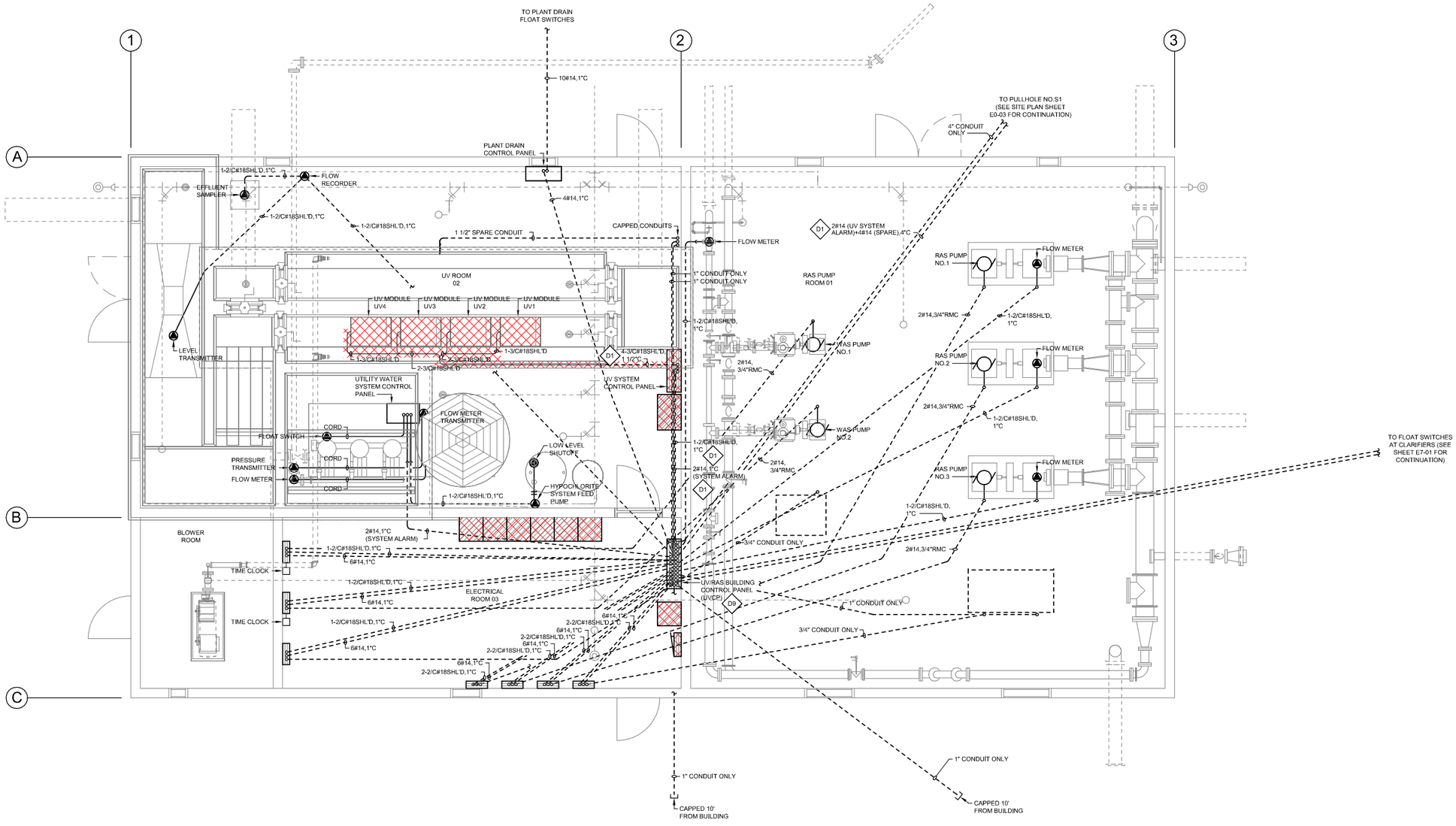
E8-24

SHEET 151 OF 192

SHEET NOTES

D1 DEMOLISH CONDUCTORS. PRESERVE AND PROTECT RACEWAY FOR REUSE.

D9 DEVICE OR EQUIPMENT TO REMAIN. PRESERVE AND PROTECT DURING CONSTRUCTION.



EXISTING/DEMOLITION PROCESS INSTRUMENTATION PLAN

0' 2'-0" 4'-0" 8'-0"

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MATTHEW L. OBERG — STATE OF WASHINGTON — 26371 — REGISTERED PROFESSIONAL ENGINEER
03/12/2026

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JOB NUMBER: 23030 | DATE: 3/13/2026

FILE NAMES:
DRAWING: HLA-23030_E_R24.RVT
PLAN: 23030

DESIGNED BY: MLO
ENTERED BY: ACF,CJD

CITY OF GRANDVIEW
WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1

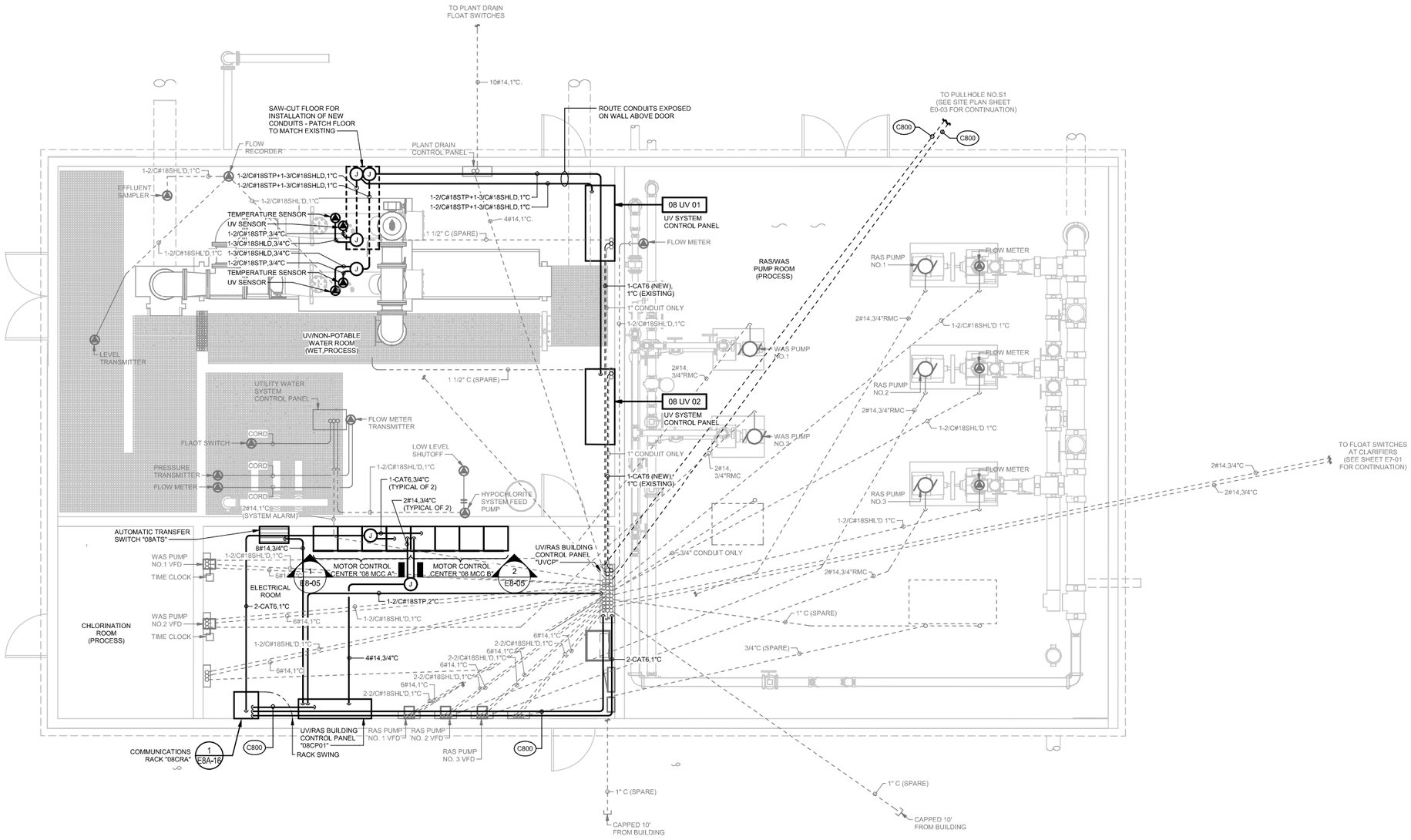
UV/RAS BUILDING – EXISTING/DEMOLITION PROCESS INSTRUMENTATION PLAN

E8-25

SHEET 152 OF 192

SHEET NOTES

C800 SEE COMMUNICATIONS SYSTEM BLOCK DIAGRAMS ON SHEET E0-09 FOR CIRCUIT AND EQUIPMENT INFORMATION.



MODFIED PROCESS INSTRUMENTATION PLAN

0' 2'-0" 4'-0" 8'-0"

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MATTHEW L. OBERG — STATE OF WASHINGTON — 56371 — REGISTERED PROFESSIONAL ENGINEER
03/12/2026

REVISION	DATE

JOB NUMBER:	DATE:
23030	3/13/2026

FILE NAMES:
DRAWING: HLA-23030_E_R24.RVT
PLAN: 23030

DESIGNED BY: MLO
ENTERED BY: ACF

CITY OF GRANDVIEW
WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1

UV/RAS BUILDING – MODIFIED PROCESS INSTRUMENTATION PLAN

E8-26

SHEET 153 OF 192

SHEET NOTES

P101 THIS LINE IS REPRESENTATIVE OF MULTIPLE CIRCUITS.

P102 SEE SHEET E10-03 FOR CONTINUATION.

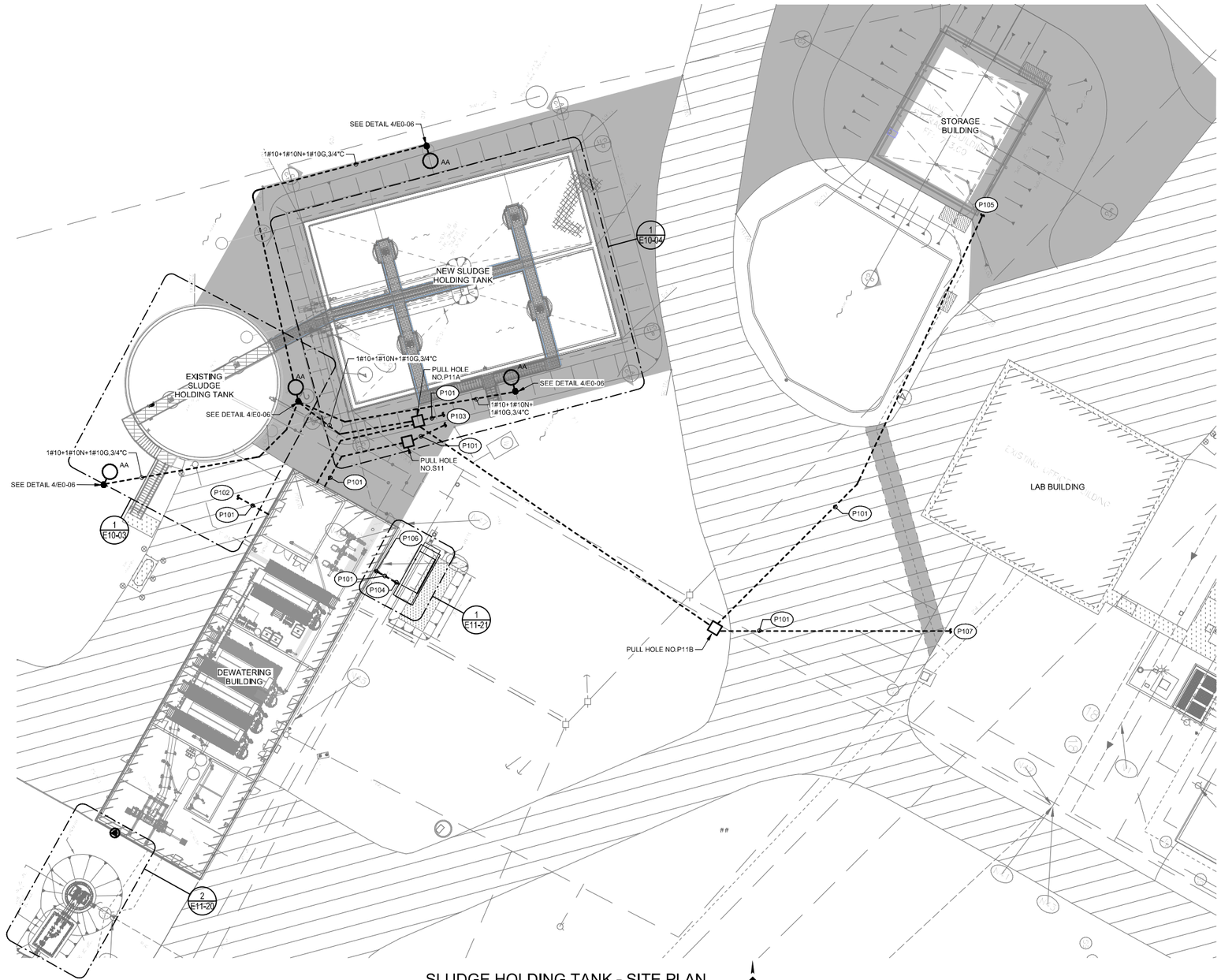
P103 SEE SHEET E10-04 FOR CONTINUATION.

P104 SEE SHEET E11-21 FOR CONTINUATION.

P105 SEE E12 SERIES SHEETS FOR CONTINUATION.

P106 SEE SHEETS E11-16 & E11-17 FOR CONTINUATION.

P107 SEE SHEET E13-02 FOR CONTINUATION.



SLUDGE HOLDING TANK - SITE PLAN

0' 10'-0" 20'-0" 40'-0"

N

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EDWARD JORDAN GODOY STATE OF WASHINGTON 23036574 REGISTERED PROFESSIONAL ENGINEER
03/12/2026

REVISION	DATE

JOB NUMBER: 23030 | DATE: 3/13/2026

FILE NAMES:
DRAWING: HLA-23030_E_R24.RVT
PLAN: 23030

DESIGNED BY: EJG
ENTERED BY: EJG

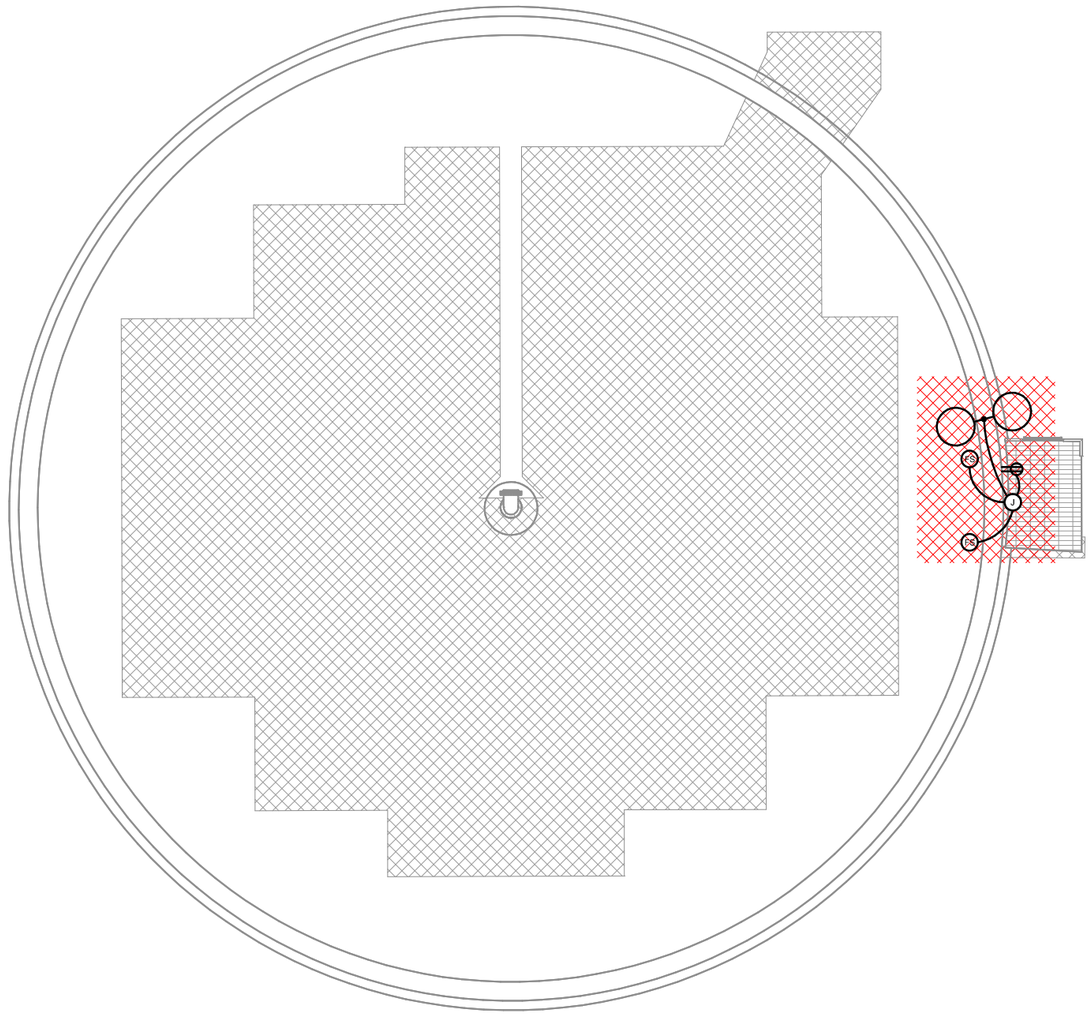
CITY OF GRANDVIEW
WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1

SLUDGE HOLDING TANK – SITE PLAN

E10-01

GENERAL NOTES

SEE SHEET E0-02 FOR NOTES G01, G02, G03, G04, G05, G06, G07, AND G08.



EXISTING SLUDGE HOLDING TANK - DEMO PLAN

0' 2'-0" 4'-0" 8'-0"

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EDWARD JORDAN GODOY
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REGISTERED PROFESSIONAL ENGINEER
03/12/2026

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PLAN: 23030

DESIGNED BY: EJG
ENTERED BY: EJG

CITY OF GRANDVIEW
WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1

EXISTING SLUDGE HOLDING TANK – DEMO PLAN

E10-02

SHEET 155 OF 192

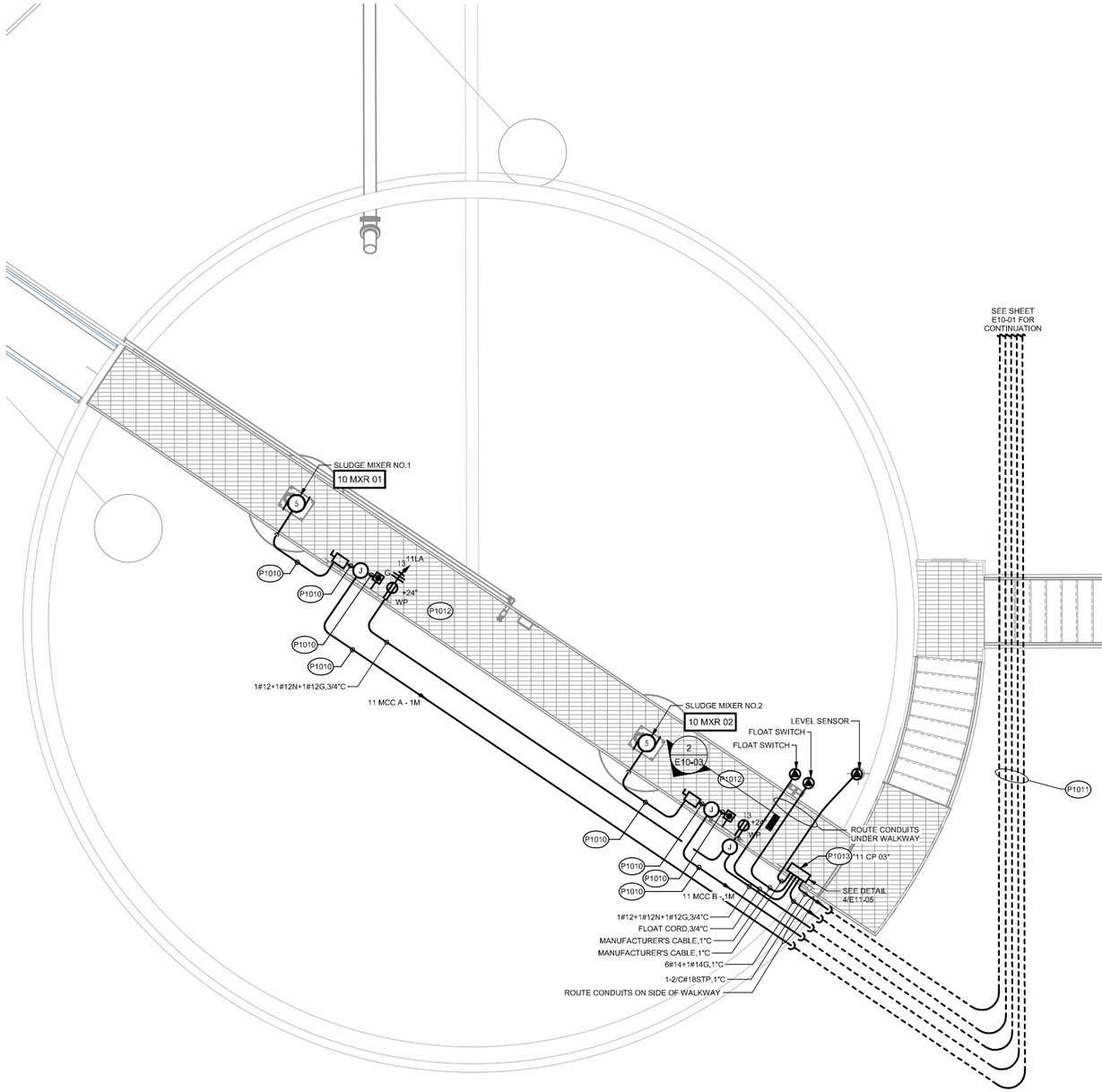
SHEET NOTES

P1010 SEE ONE LINE DIAGRAM 2/E11-06 FOR FURTHER INFORMATION.

P1011 ROUTE CONDUIT UNDER WALKWAY ALONG SIDE OF STRUCTURE AND THEN DOWN TO GRADE AT APPROXIMATE POINT SHOWN. DO NOT ROUTE CONDUITS UNDERGROUND UNDERNEATH WALKWAY.

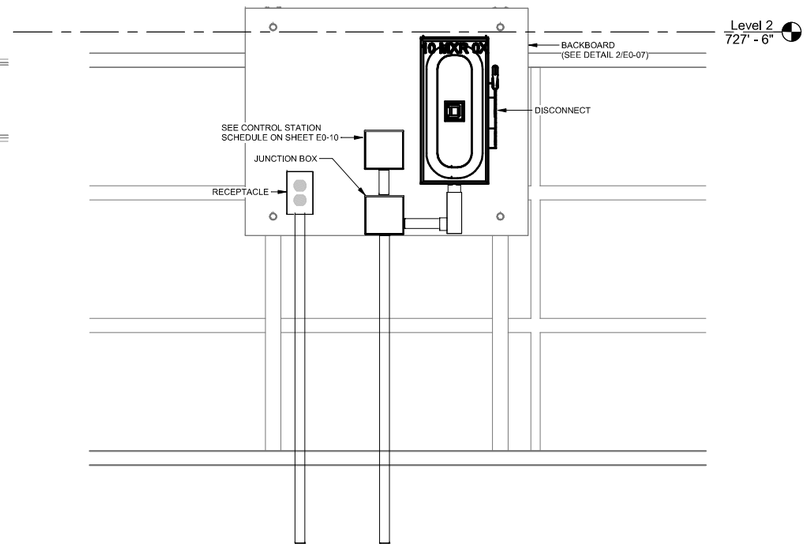
P1012 WIRING METHODS, MATERIALS, AND EQUIPMENT IN THIS AREA SHALL BE IN ACCORDANCE WITH NATIONAL ELECTRICAL CODE FOR CLASS I, DIVISION 2 HAZARDOUS (CLASSIFIED) LOCATIONS. REFER TO THE HAZARDOUS AREA CLASSIFICATIONS LETTER IN THE SPECIFICATIONS APPENDIX FOR FURTHER INFORMATION.

P1013 SEE EWD 2/E11-06 FOR FURTHER INFORMATION.



EXISTING SLUDGE HOLDING TANK - MODIFIED
POWER & INSTRUMENTATION PLAN

0' 2'-0" 4'-0" 8'-0"



2 E10-03 **SLUDGE MIXER CONTROL STATION ELEVATION**

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

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EDWARD JORDAN GODOY
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03/12/2026

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JOB NUMBER: 23030 | DATE: 3/13/2026

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PLAN: 23030

DESIGNED BY: EJG
ENTERED BY: EJG

CITY OF GRANDVIEW
WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1

EXISTING SLUDGE HOLDING TANK – MODIFIED POWER PLAN

E10-03

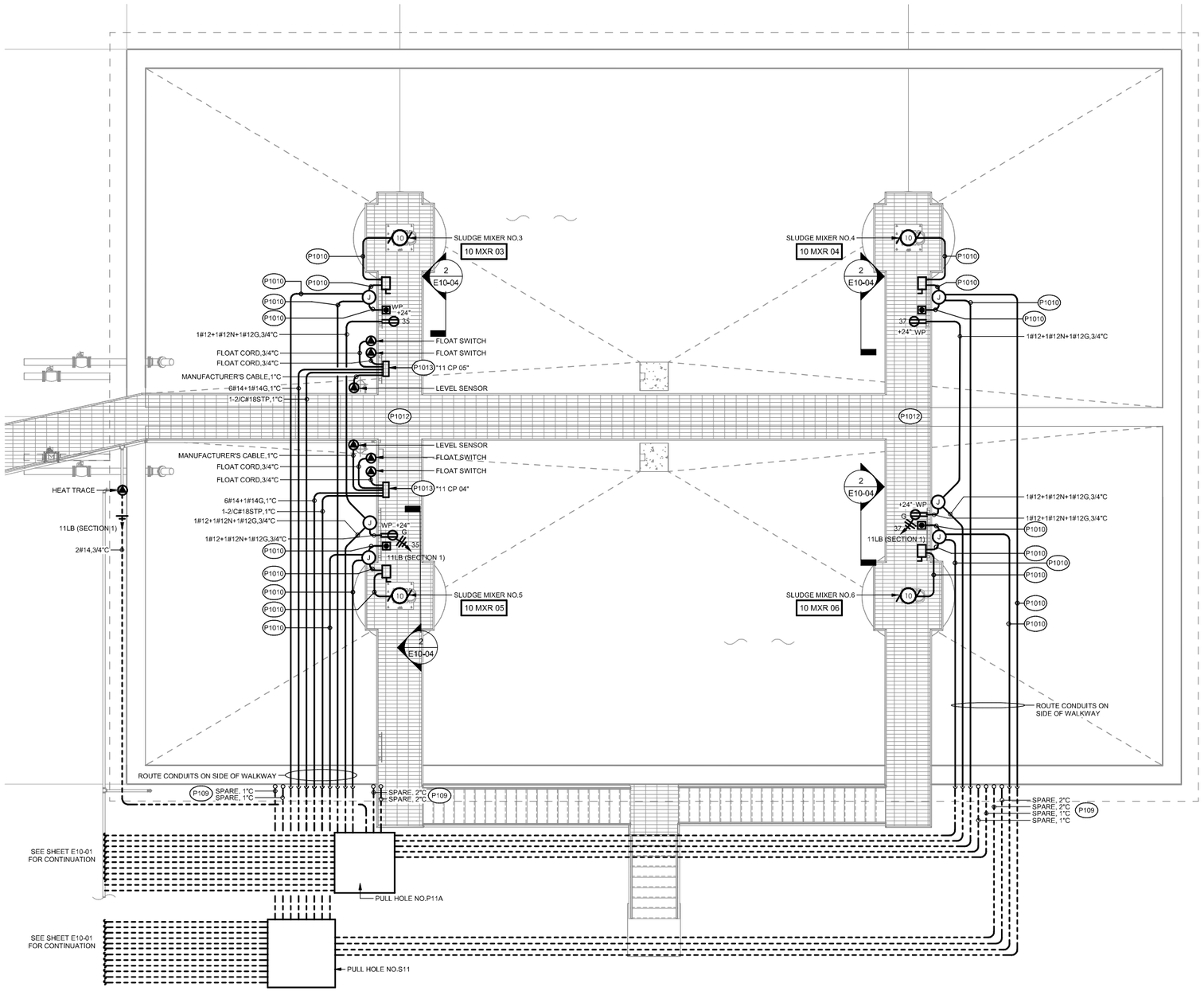
SHEET NOTES

P109 CAP SPARE CONDUITS.

P1010 SEE ONE LINE DIAGRAM 2/E11-06 FOR FURTHER INFORMATION.

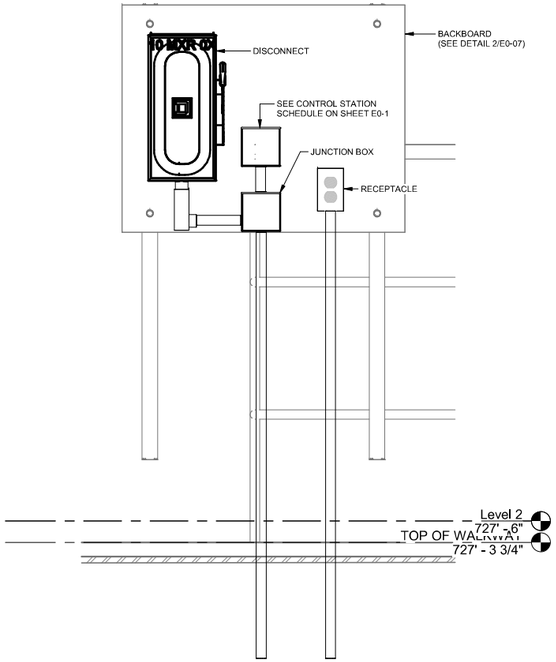
P1012 WIRING METHODS, MATERIALS, AND EQUIPMENT IN THIS AREA SHALL BE IN ACCORDANCE WITH NATIONAL ELECTRICAL CODE FOR CLASS I, DIVISION 2 HAZARDOUS (CLASSIFIED) LOCATIONS. REFER TO THE HAZARDOUS AREA CLASSIFICATIONS LETTER IN THE SPECIFICATIONS APPENDIX FOR FURTHER INFORMATION.

P1013 SEE EWD 2/E11-06 FOR FURTHER INFORMATION.



NEW SLUDGE HOLDING TANK - POWER & INSTRUMENTATION PLAN

0' 2'-8" 5'-4" 10'-8"



SLUDGE MIXER CONTROL STATION ELEVATION1

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EDWARD JORDAN GODOY — STATE OF WASHINGTON — 23036574 — REGISTERED PROFESSIONAL ENGINEER — 03/12/2026

REVISION	DATE

JOB NUMBER: 23030 | DATE: 3/13/2026

FILE NAMES:
DRAWING: HLA-23030_E_R24.RVT
PLAN: 23030

DESIGNED BY: EJG
ENTERED BY: EJG

CITY OF GRANDVIEW
WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1
NEW SLUDGE HOLDING TANK – POWER PLAN

E10-04

SHEET 157 OF 192

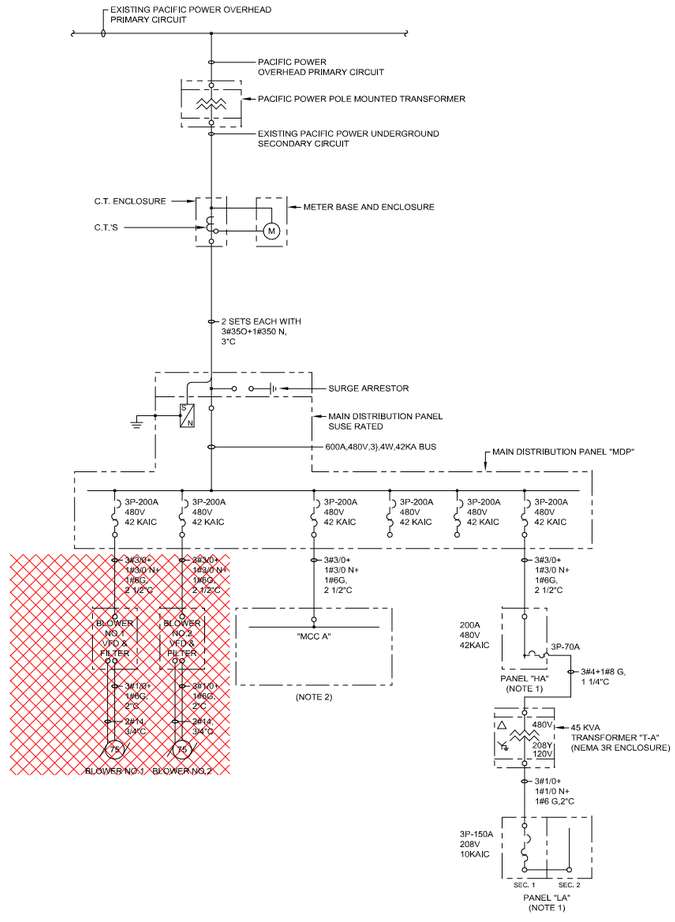
GENERAL NOTES

A. IN GENERAL, DEVICES SHOWN ON THE ELECTRICAL DRAWINGS IN BACKGROUND (GRAY OR SCREENED) REPRESENT EQUIPMENT OR DEVICES THAT ARE EXISTING TO REMAIN (AND TO BE PRESERVED AND PROTECTED) WHERE SHOWN ON REVISED/MODIFIED ELECTRICAL UNLESS OTHERWISE NOTED.

B. SEE SHEET E0-04 FOR FEEDER TAG SCHEDULE.

SHEET NOTES

1. SEE PANEL BOARD CIRCUIT SCHEDULE SHEETS E11-09 AND E11-08 FOR BRANCH CIRCUIT INFORMATION.
2. SEE SHEET E11-13 FOR MCC SCHEDULE.



DEWATERING BUILDING
EXISTING ONE LINE DIAGRAM

SCALE: NONE

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03/12/2026

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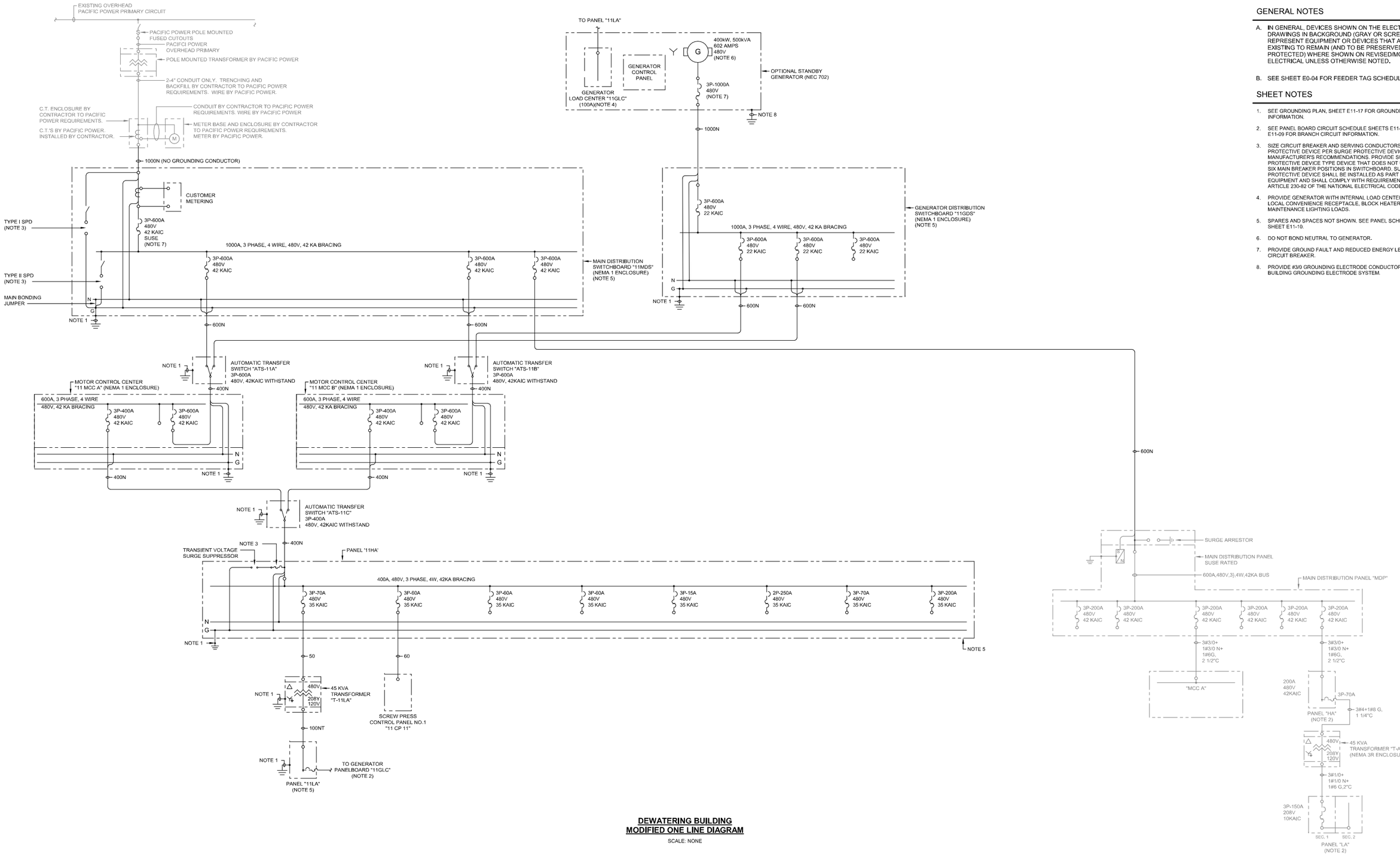
FILE NAMES:
DRAWING: HLA-23030_E_R24.RVT
PLAN: 23030

DESIGNED BY: EJG
ENTERED BY: EJG

CITY OF GRANDVIEW
WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1

DEWATERING BUILDING – EXISTING OLD PHASE A

E11-01



DEWATERING BUILDING
MODIFIED ONE LINE DIAGRAM

SCALE: NONE

GENERAL NOTES

A. IN GENERAL, DEVICES SHOWN ON THE ELECTRICAL DRAWINGS IN BACKGROUND (GRAY OR SCREENED) REPRESENT EQUIPMENT OR DEVICES THAT ARE EXISTING TO REMAIN (AND TO BE PRESERVED AND PROTECTED) WHERE SHOWN ON REVISED/MODIFIED ELECTRICAL UNLESS OTHERWISE NOTED.

B. SEE SHEET E0-04 FOR FEEDER TAG SCHEDULE.

SHEET NOTES

1. SEE GROUNDING PLAN, SHEET E11-17 FOR GROUNDING INFORMATION.
2. SEE PANEL BOARD CIRCUIT SCHEDULE SHEETS E11-09 AND E11-09 FOR BRANCH CIRCUIT INFORMATION.
3. SIZE CIRCUIT BREAKER AND SERVING CONDUCTORS FOR SURGE PROTECTIVE DEVICE PER SURGE PROTECTIVE DEVICE MANUFACTURER'S RECOMMENDATIONS. PROVIDE SURGE PROTECTIVE DEVICE TYPE DEVICE THAT DOES NOT USE ONE OF SIX MAIN BREAKER POSITIONS IN SWITCHBOARD. SURGE PROTECTIVE DEVICE SHALL BE INSTALLED AS PART OF LISTED EQUIPMENT AND SHALL COMPLY WITH REQUIREMENTS OF ARTICLE 230-82 OF THE NATIONAL ELECTRICAL CODE.
4. PROVIDE GENERATOR WITH INTERNAL LOAD CENTER TO SERVE LOCAL CONVENIENCE RECEPTACLE, BLOCK HEATERS, AND MAINTENANCE LIGHTING LOADS.
5. SPARES AND SPACES NOT SHOWN. SEE PANEL SCHEDULE SHEET E11-10.
6. DO NOT BOND NEUTRAL TO GENERATOR.
7. PROVIDE GROUND FAULT AND REDUCED ENERGY LET THROUGH CIRCUIT BREAKER.
8. PROVIDE #3/0 GROUNDING ELECTRODE CONDUCTOR TO BUILDING GROUNDING ELECTRODE SYSTEM.

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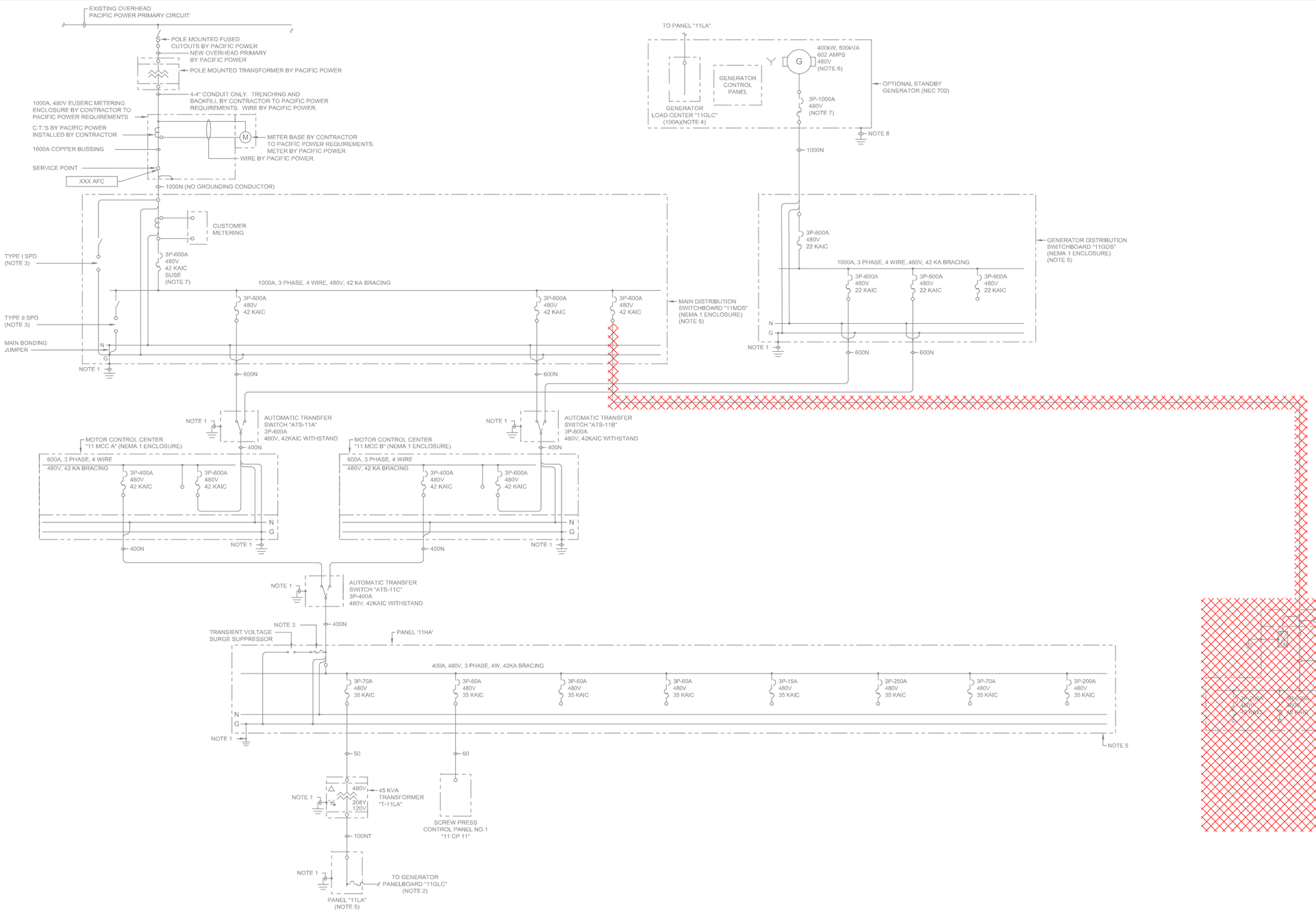
EDWARD JORDAN GODOY
STATE OF WASHINGTON
21036574
REGISTERED
PROFESSIONAL ENGINEER
03/12/2026

REVISION	DATE

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CITY OF GRANDVIEW
WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1
DEWATERING BUILDING – MODIFIED OLD PHASE A

E11-02



GENERAL NOTES

A. IN GENERAL, DEVICES SHOWN ON THE ELECTRICAL DRAWINGS IN BACKGROUND (GRAY OR SCREENED) REPRESENT EQUIPMENT OR DEVICES THAT ARE EXISTING TO REMAIN (AND TO BE PRESERVED AND PROTECTED) WHERE SHOWN ON REVISED/MODIFIED ELECTRICAL UNLESS OTHERWISE NOTED.

B. SEE SHEET E0-04 FOR FEEDER TAG SCHEDULE.

SHEET NOTES

1. SEE GROUNDING PLAN, SHEET E11-17 FOR GROUNDING INFORMATION.
2. SEE PANEL BOARD CIRCUIT SCHEDULE SHEETS E11-09 AND E11-09 FOR BRANCH CIRCUIT INFORMATION.
3. SIZE CIRCUIT BREAKER AND SERVING CONDUCTORS FOR SURGE PROTECTIVE DEVICE PER SURGE PROTECTIVE DEVICE MANUFACTURER'S RECOMMENDATIONS. PROVIDE SURGE PROTECTIVE DEVICE TYPE DEVICE THAT DOES NOT USE ONE OF SIX MAIN BREAKER POSITIONS IN SWITCHBOARD. SURGE PROTECTIVE DEVICE SHALL BE INSTALLED AS PART OF LISTED EQUIPMENT AND SHALL COMPLY WITH REQUIREMENTS OF ARTICLE 230-82 OF THE NATIONAL ELECTRICAL CODE.
4. PROVIDE GENERATOR WITH INTERNAL LOAD CENTER TO SERVE LOCAL CONVENIENCE RECEPTACLE, BLOCK HEATERS, AND MAINTENANCE LIGHTING LOADS.
5. SPARES AND SPACES NOT SHOWN. SEE PANEL SCHEDULE SHEET E11-10.
6. DO NOT BOND NEUTRAL TO GENERATOR.
7. PROVIDE GROUND FAULT AND REDUCED ENERGY LET THROUGH CIRCUIT BREAKER.
8. PROVIDE #3/0 GROUNDING ELECTRODE CONDUCTOR TO BUILDING GROUNDING ELECTRODE SYSTEM.

E11-03
DEWATERING BUILDING DEMO ONELINE PHASE B
SCALE: NONE

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EDWARD JORDAN GODOY
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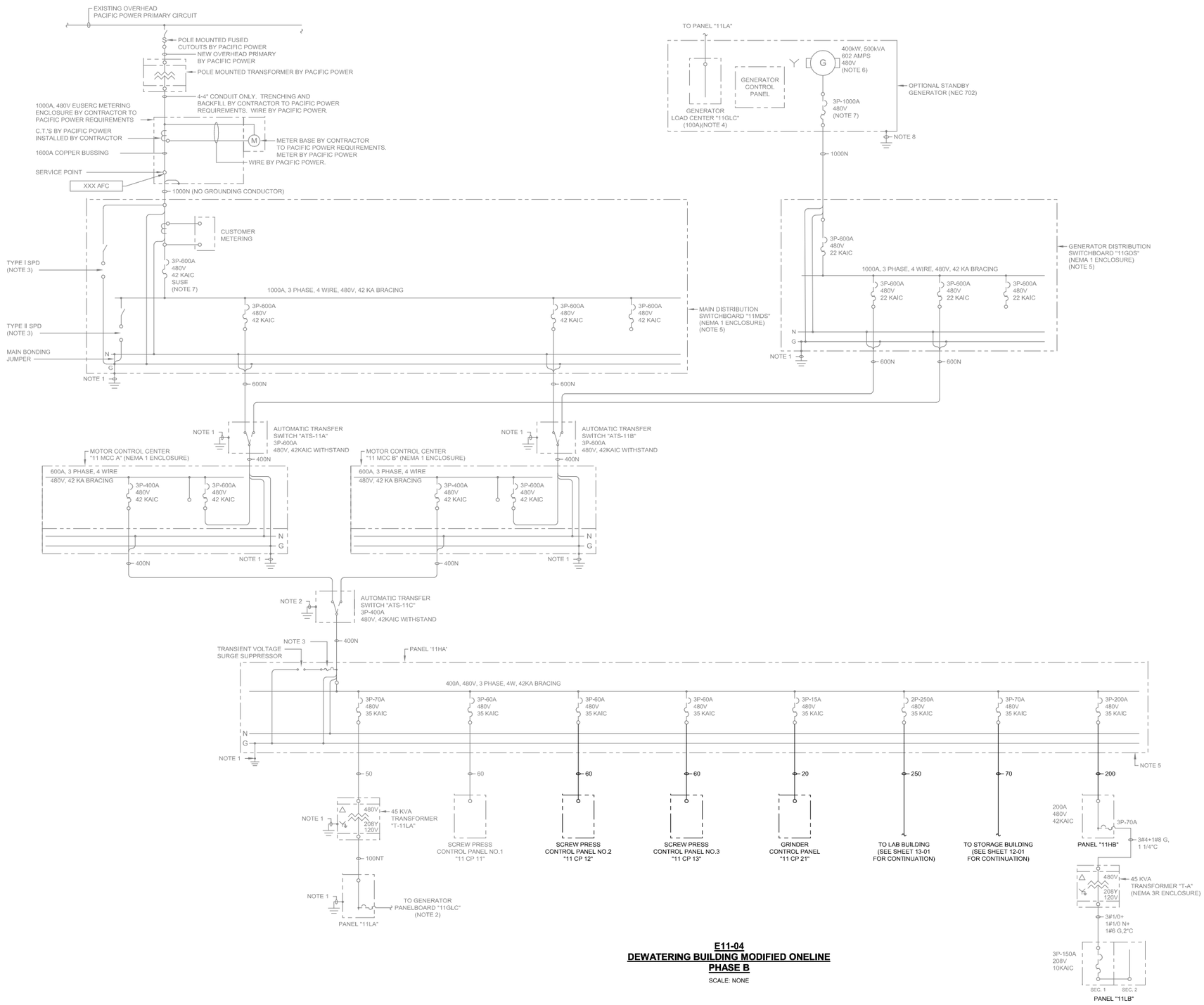
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PLAN: 23030
DESIGNED BY: EJG
ENTERED BY: EJG

CITY OF GRANDVIEW
WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1
DEWATERING BUILDING – DEMO OLD PHASE B

E11-03

SHEET 160 OF 192



E11-04
DEWATERING BUILDING MODIFIED ONELINE
PHASE B

SCALE: NONE

GENERAL NOTES

A. IN GENERAL, DEVICES SHOWN ON THE ELECTRICAL DRAWINGS IN BACKGROUND (GRAY OR SCREENED) REPRESENT EQUIPMENT OR DEVICES THAT ARE EXISTING TO REMAIN (AND TO BE PRESERVED AND PROTECTED) WHERE SHOWN ON REVISED/MODIFIED ELECTRICAL UNLESS OTHERWISE NOTED.

B. SEE SHEET E0-04 FOR FEEDER TAG SCHEDULE.

SHEET NOTES

1. SEE GROUNDING PLAN, SHEET E11-17 FOR GROUNDING INFORMATION.
2. SEE PANEL BOARD CIRCUIT SCHEDULE SHEETS E11-09 AND E11-10 FOR BRANCH CIRCUIT INFORMATION.
3. SIZE CIRCUIT BREAKER AND SERVING CONDUCTORS FOR SURGE PROTECTIVE DEVICE PER SURGE PROTECTIVE DEVICE MANUFACTURER'S RECOMMENDATIONS. PROVIDE SURGE PROTECTIVE DEVICE TYPE DEVICE THAT DOES NOT USE ONE OF SIX MAIN BREAKER POSITIONS IN SWITCHBOARD. SURGE PROTECTIVE DEVICE SHALL BE INSTALLED AS PART OF LISTED EQUIPMENT AND SHALL COMPLY WITH REQUIREMENTS OF ARTICLE 230-82 OF THE NATIONAL ELECTRICAL CODE.
4. PROVIDE GENERATOR WITH INTERNAL LOAD CENTER TO SERVE LOCAL CONVENIENCE RECEPTACLE, BLOCK HEATERS, AND MAINTENANCE LIGHTING LOADS.
5. SPARES AND SPACES NOT SHOWN. SEE PANEL SCHEDULE SHEET E11-10.
6. DO NOT BOND NEUTRAL TO GENERATOR.
7. PROVIDE GROUND FAULT AND REDUCED ENERGY LET THROUGH CIRCUIT BREAKER.
8. PROVIDE #3/0 GROUNDING ELECTRODE CONDUCTOR TO BUILDING GROUNDING ELECTRODE SYSTEM.

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03/12/2026

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FILE NAMES:
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PLAN: 23030

DESIGNED BY: EJG
ENTERED BY: EJG

CITY OF GRANDVIEW
WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1

DEWATERING BUILDING – MODIFIED OLD PHASE B

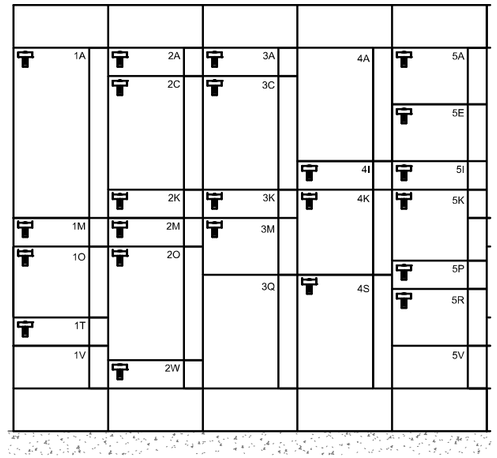
E11-04

SHEET NOTES

1. WHEN DESIGNATED AS "SPARE," PROVIDE ONLY THE COMPONENTS AND INFORMATION DEPICTED WITHIN THE DEFINED BUCKET FOR ONE-LINE DIAGRAMS AND ELEMENTARY WIRING DIAGRAMS, DISREGARD ALL ITEMS SHOWN OUTSIDE OF THE BUCKET.

MCC SCHEDULE - 11 MCC A

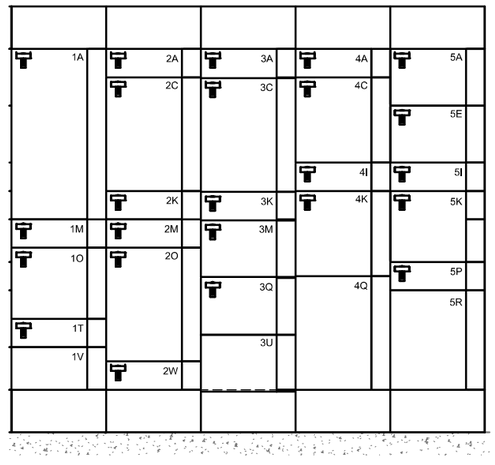
SECTION	UNIT	HEIGHT	NAMEPLATE	TYPE	RATING / SIZE	OCP	LOAD	OLD	EWD	NOTES	EQUIPMENT TAG
1	A	36"	MAIN BREAKER	BRKR	600 A	CB					
1	M	6"	SLUDGE MIXER NO.1 (10 MXR 01) LINE REACTOR								
1	O	15"	SLUDGE MIXER NO.1 (10 MXR 01) VFD	VFD (VT)	5 HP	CB	6316 VA	1/E11-06	1/E11-07		10 MXR 01
1	T	6"	SLUDGE MIXER NO.1 (10 MXR 01) OUTPUT FILTER								
1	V	9"	SPACE								
2	A	6"	SLUDGE MIXER NO.3 (10 MXR 03) LINE REACTOR								
2	C	24"	SLUDGE MIXER NO.3 (10 MXR 03) VFD	VFD (VT)	10 HP	CB	11634 VA	2/E11-06	1/E11-07		10 MXR 03
2	K	6"	SLUDGE MIXER NO.3 (10 MXR 03) OUTPUT FILTER								
2	M	6"	SLUDGE MIXER NO.3 (10 MXR 03) LINE REACTOR (SPARE)								
2	O	24"	SLUDGE MIXER NO.3 (10 MXR 03) VFD (SPARE)	VFD (VT)	10 HP	CB		2/E11-06	1/E11-07	NOTE 1	
2	W	6"	SLUDGE MIXER NO.3 (10 MXR 03) OUTPUT FILTER (SPARE)								
3	A	6"	SLUDGE MIXER NO.5 (10 MXR 05) LINE REACTOR								
3	C	24"	SLUDGE MIXER NO.5 (10 MXR 05) VFD	VFD (VT)	10 HP	CB	11634 VA	2/E11-06	1/E11-07		10 MXR 05
3	K	6"	SLUDGE MIXER NO.5 (10 MXR 05) OUTPUT FILTER								
3	M	12"	SLUDGE CONVEYOR CONTROL PANEL			MCP	180 VA	4/E11-06	4/E11-07		11 CP 03
3	Q	24"	SPACE								
4	A	24"	ETHERNET SWITCH					7/E11-06			
4	I	6"	DRAIN STATION PUMP NO.1 (11 PMP 01) LINE REACTOR								
4	K	18"	DRAIN STATION PUMP NO.1 (11 PMP 01) VFD	VFD (VT)	5 HP	CB	180 VA	3/E11-06	1/E11-08		11 PMP 01
4	S	24"	DRAIN STATION PUMP NO.1 (11 PMP 01) VFD (SPARE)	VFD (VT)	5 HP	CB		3/E11-06	1/E11-08	NOTE 1	
5	A	12"	"ATS-11C" BREAKER	BRKR	400 A	CB	292056 VA	6/E11-06			"ATS-11C" BREAKER
5	E	12"	"ATS-11C" BREAKER (SPARE)	BRKR	400 A	CB		6/E11-06		NOTE 1	
5	I	6"	SLUDGE MIXER NO.1 (10 MXR 01) LINE REACTOR (SPARE)								
5	K	15"	SLUDGE MIXER NO.1 (10 MXR 01) VFD (SPARE)	VFD (VT)	5 HP	CB		2/E11-06	1/E11-07	NOTE 1	
5	P	6"	SLUDGE MIXER NO.1 (10 MXR 01) OUTPUT FILTER (SPARE)								
5	R	12"	SLUDGE CONVEYOR CONTROL PANEL (SPARE)			MCP		4/E11-06	4/E11-07	NOTE 1	
5	V	9"	SPACE								



DETAIL 1/E11-05
11 MCC A
SCALE: 3/4" = 1'-0"

MCC SCHEDULE - 11 MCC B

SECTION	UNIT	HEIGHT	NAMEPLATE	TYPE	RATING / SIZE	OCP	LOAD	OLD	EWD	NOTES	EQUIPMENT TAG
1	A	36"	MAIN BREAKER	BRKR	600 A	CB					
1	M	6"	SLUDGE MIXER NO.2 (10 MXR 02) LINE REACTOR								
1	O	15"	SLUDGE MIXER NO.2 (10 MXR 02) VFD	VFD (VT)	5 HP	CB	6316 VA	1/E11-06	1/E11-07		10 MXR 02
1	T	6"	SLUDGE MIXER NO.2 (10 MXR 02) OUTPUT FILTER								
1	V	9"	SPACE								
2	A	6"	SLUDGE MIXER NO.4 (10 MXR 04) LINE REACTOR								
2	C	24"	SLUDGE MIXER NO.4 (10 MXR 04) VFD	VFD (VT)	10 HP	CB	11634 VA	2/E11-06	1/E11-07		10 MXR 04
2	K	6"	SLUDGE MIXER NO.4 (10 MXR 04) OUTPUT FILTER								
2	M	6"	SLUDGE MIXER NO.4 (10 MXR 04) LINE REACTOR (SPARE)								
2	O	24"	SLUDGE MIXER NO.4 (10 MXR 04) VFD (SPARE)	VFD (VT)	10 HP	CB		2/E11-06	1/E11-07	NOTE 1	
2	W	6"	SLUDGE MIXER NO.4 (10 MXR 04) OUTPUT FILTER (SPARE)								
3	A	6"	SLUDGE MIXER NO.6 (10 MXR 06) LINE REACTOR								
3	C	24"	SLUDGE MIXER NO.6 (10 MXR 06) VFD	VFD (VT)	10 HP	CB	11634 VA	2/E11-06	1/E11-07		10 MXR 06
3	K	6"	SLUDGE MIXER NO.6 (10 MXR 06) OUTPUT FILTER								
3	M	12"	WELL PUMP	FVNR	5 HP	MCP		5/E11-06	5/E11-07		11 PMP 03
3	Q	12"	WELL PUMP (SPARE)	FVNR	5 HP	MCP		5/E11-06	5/E11-07	NOTE 1	
3	U	12"	SPACE								
4	A	6"	DRAIN STATION PUMP NO.2 (11 PMP 02) LINE REACTOR								
4	C	18"	DRAIN STATION PUMP NO.2 (11 PMP 02) VFD	VFD (VT)	5 HP	CB	180 VA	3/E11-06	1/E11-08		11 PMP 02
4	I	6"	DRAIN STATION PUMP LINE REACTOR (SPARE)								
4	K	18"	DRAIN STATION PUMP VFD (SPARE)	VFD (VT)	5 HP	CB		3/E11-06	1/E11-08	NOTE 1	
4	Q	24"	ETHERNET SWITCH					7/E11-06			
5	A	12"	"ATS-11C" BREAKER	BRKR	400 A	CB		6/E11-06			"ATS-11C" BREAKER
5	E	12"	"ATS-11C" BREAKER (SPARE)	BRKR	400 A	CB		6/E11-06		NOTE 1	
5	I	6"	SLUDGE MIXER NO.2 (10 MXR 02) LINE REACTOR (SPARE)								
5	K	15"	SLUDGE MIXER NO.2 (10 MXR 02) VFD (SPARE)	VFD (VT)	5 HP	CB		2/E11-06	1/E11-07	NOTE 1	
5	P	6"	SLUDGE MIXER NO.2 (10 MXR 02) OUTPUT FILTER (SPARE)								
5	R	21"	SPACE								



DETAIL 2/E11-05
11 MCC B
SCALE: 3/4" = 1'-0"

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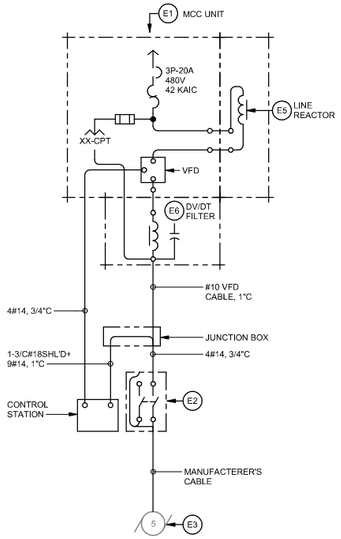
EDWARD JORDAN GODDY
STATE OF WASHINGTON
23034574
REGISTERED PROFESSIONAL ENGINEER
03/12/2026

REVISION	DATE

JOB NUMBER: 23030
DATE: 3/13/2026
FILE NAMES:
DRAWING: HLA-23030_E_R24.RVT
PLAN: 23030
DESIGNED BY: EJG
ENTERED BY: EJG

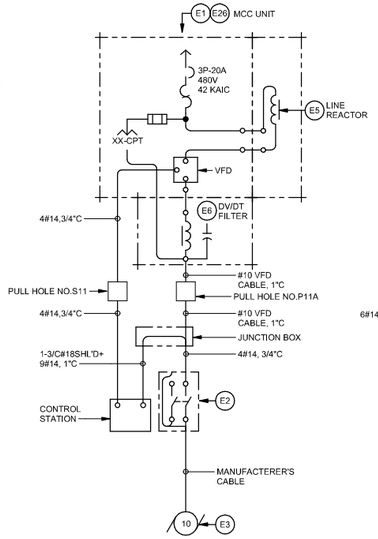
CITY OF GRANDVIEW
WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1
DEWATERING BUILDING – MCC ELEVATIONS

E11-05



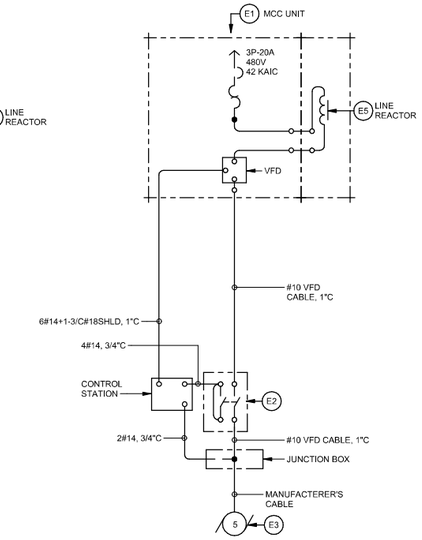
OLD 1/E11-06
SLUDGE TANK MIXER 5HP

SCALE: NONE



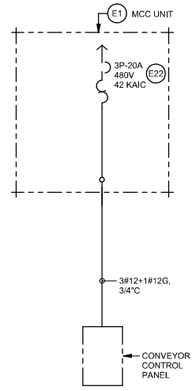
OLD 2/E11-06
SLUDGE TANK MIXER 10 HP

SCALE: NONE



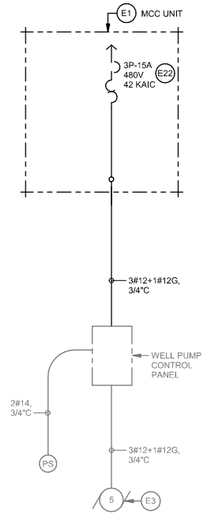
OLD 3/E11-06
DRAIN STATION PUMP

SCALE: NONE



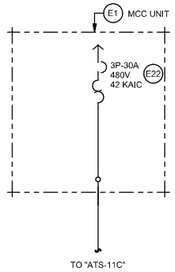
OLD 4/E11-06
SLUDGE CONVEYOR

SCALE: NONE



OLD 5/E11-06
WELL PUMP CONTROL PANEL

SCALE: NONE



OLD 6/E11-06
ATS-11C BREAKER

SCALE: NONE

SHEET NOTES

E1 PROVIDE MOTOR STARTERS, CIRCUIT BREAKERS, AND OTHER EQUIPMENT/DEVICES AS INDICATED. KAIC AND VOLTAGE RATINGS SHALL BE AS NOTED ON THE MAIN POWER DISTRIBUTION ONE LINE DIAGRAMS AND AS SHOWN ON THE MOTOR CONTROL CENTER UNIT. SIZE OVERLOAD RELAY, CONTACTOR, AND OVERCURRENT PROTECTOR PER THE ACTUAL MOTOR SIZE AND IN AGREEMENT WITH THE SPECIFICATIONS. ALL STARTER CONTACTORS SHALL BE NEMA RATED AND SHALL BE AT LEAST SIZE 1. CONTROL POWER TRANSFORMERS SHALL HAVE AT LEAST 50% OVERCAPACITY FOR FUTURE EXPANSION. SEE MCC UNIT SCHEDULE NOTES FOR ADDITIONAL REQUIREMENTS.

E2 SEE THE DISCONNECT SWITCH AND CONTROL STATION SCHEDULE (SHEET E-10) FOR THE AMPERE RATING, ENCLOSURE TYPE, AND CONTROL STATION DETAIL.

E3 SEE THE MCC UNIT SCHEDULE FOR THE NOMINAL MOTOR HORSEPOWER.

E5 PROVIDE LINE REACTORS OF AT LEAST 3% FOR THE VFDS, SIZE AS NECESSARY TO MEET IEE 519 (2022)HARMONIC REQUIREMENTS.

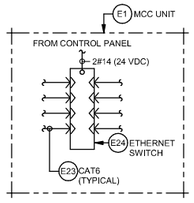
E6 PROVIDE HARMONICALLY COMPENSATED LOAD REACTORS, DV/DT FILTER, OR SINE FILTER AS SHOWN EXCEPT IF THE SHOWN OPTION DOES NOT MATCH OR EXCEED THE MINIMUM RECOMMENDATIONS OF THE MANUFACTURER OF THE VFD OR THE MOTOR, PROVIDE A FILTER MATCHING OR EXCEEDING THOSE MINIMUM RECOMMENDATIONS.

E22 COORDINATE SIZE OF MOTOR CIRCUIT PROTECTION (MCP) WITH ACTUAL MOTOR FURNISHED AND ACTUAL MCP MANUFACTURER'S RECOMMENDATIONS.

E23 CONNECTED TO ETHERNET DEVICES IN THIS MCC LINE-UP AS REQUIRED.

E24 PHOENIX CONTACT FL SWITCH 2116 INDUSTRIAL ETHERNET SWITCH.

E26 PROVIDE TEMPORARY SERVICE EQUIPMENT FOR SLUDGE MIXER IN LOCATION SHOWN ON SHEET E11-13 UNTIL FINAL DISTRIBUTION EQUIPMENT IS INSTALLED.



OLD 7/E11-06
ETHERNET SWITCH

SCALE: NONE

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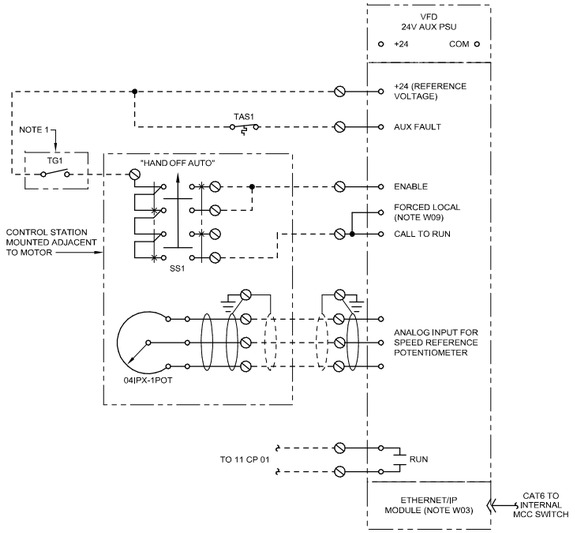
EDWARD JORDAN GODDY
STATE OF WASHINGTON
23034674
REGISTERED PROFESSIONAL ENGINEER
03/12/2026

REVISION	DATE

JOB NUMBER: 23030 | DATE: 3/13/2026
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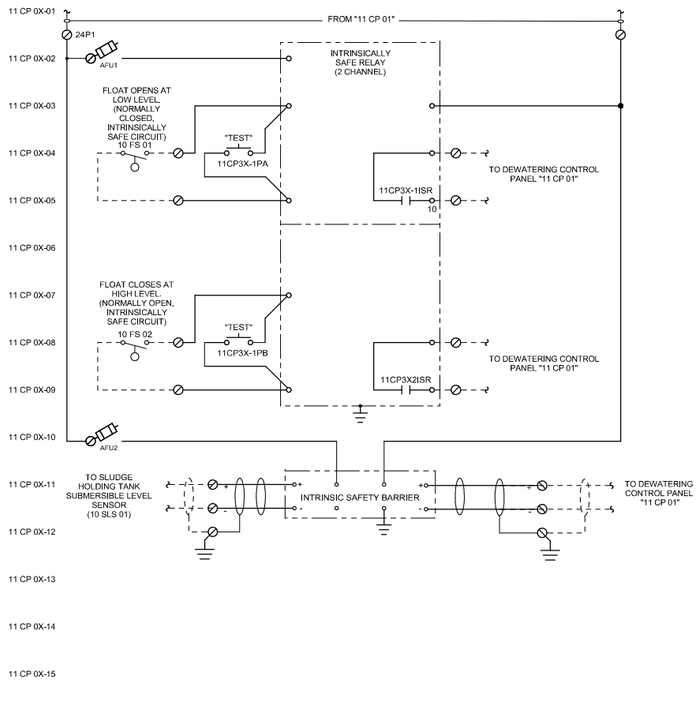
CITY OF GRANDVIEW
WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1
DEWATERING BUILDING – MCC ONELINES

E11-06



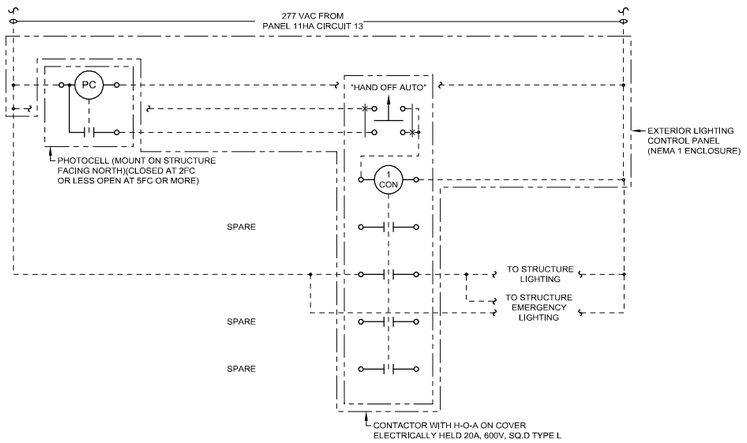
EWD 1/E11-07
SLUDGE TANK MIXER

SCALE: NONE



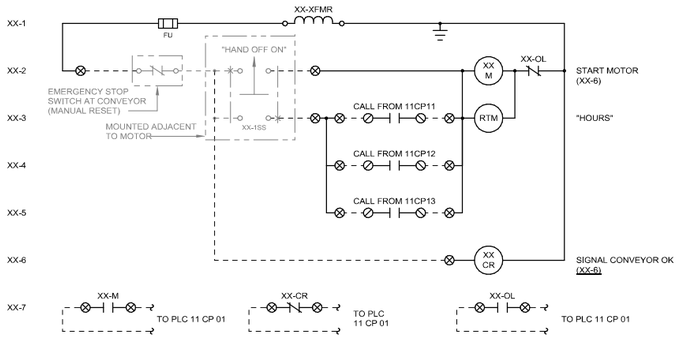
EWD 2/E11-07
SLUDGE TANK BARRIER PANEL

SCALE: NONE



EWD 3/E11-07
LIGHTING CONTROL PANEL

SCALE: NONE



EWD 4/E11-07
SLUDGE CONVEYOR

SCALE: NONE

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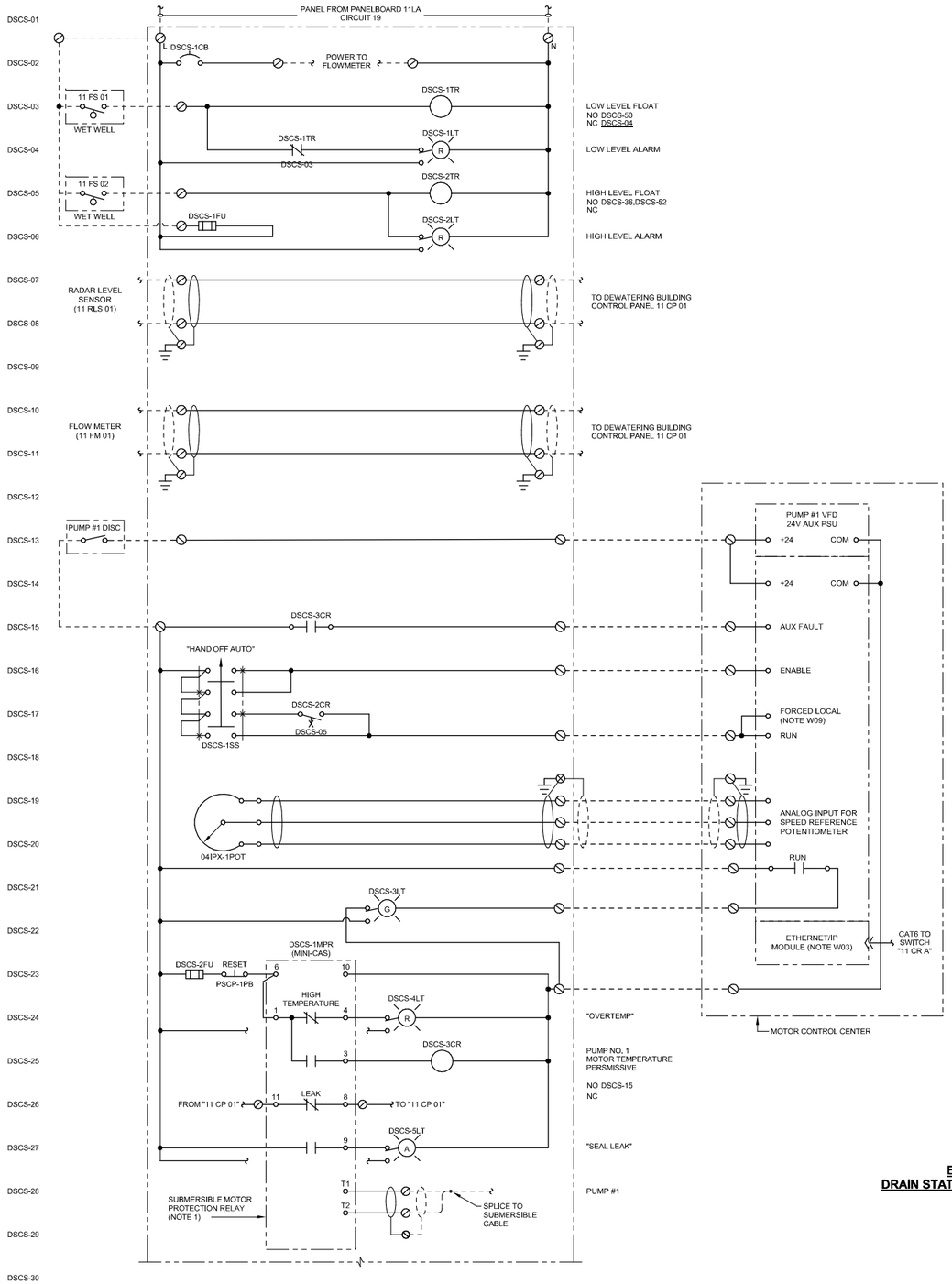
REVISION	DATE

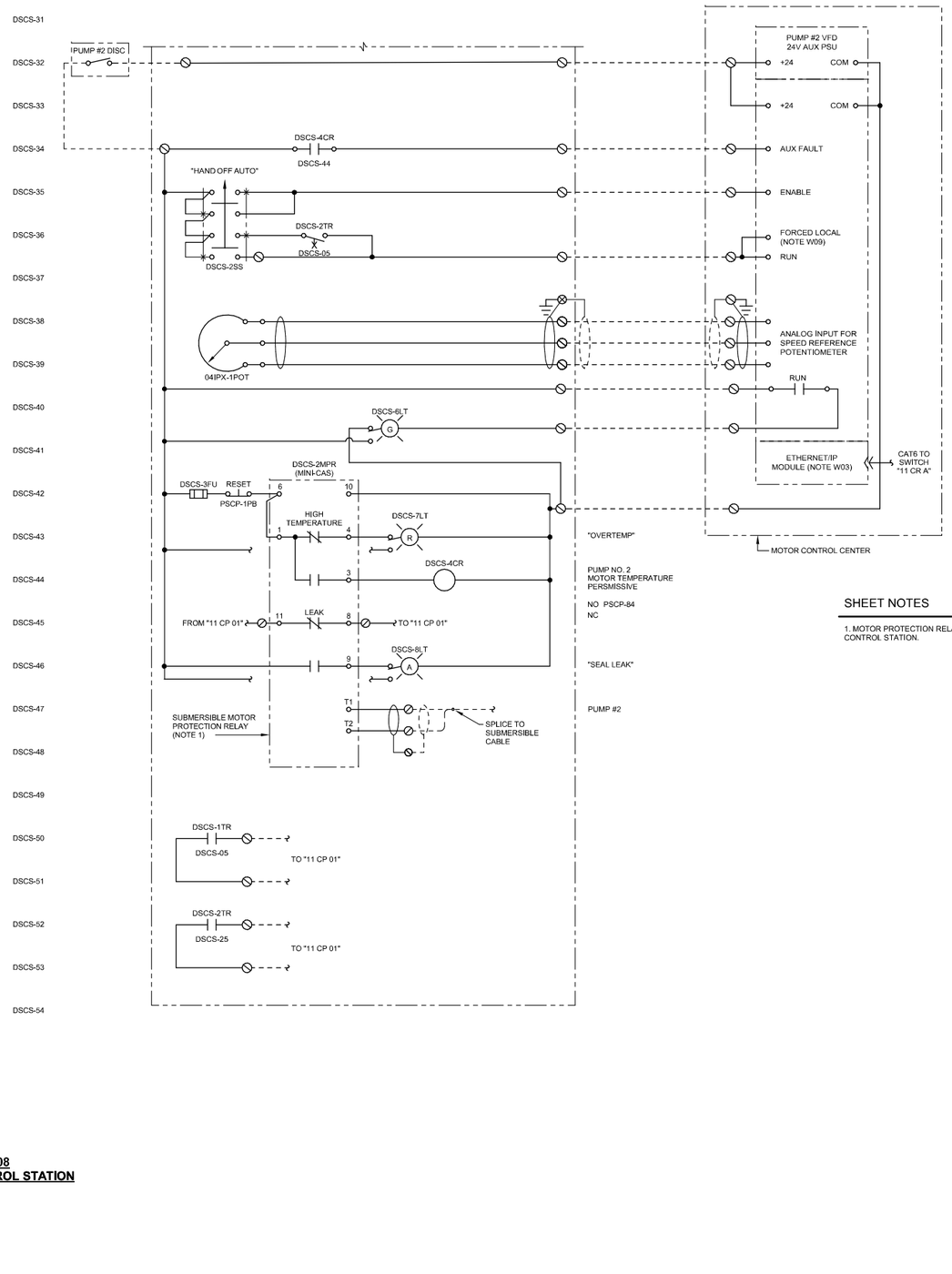
JOB NUMBER: 23030 | DATE: 3/13/2026
FILE NAMES:
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PLAN: 23030
DESIGNED BY: EJG
ENTERED BY: EJG

CITY OF GRANDVIEW
WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1
DEWATERING BUILDING – MCC EWD

E11-07

SHEET 164 OF 192





SHEET NOTES

1. MOTOR PROTECTION RELAY FURNISHED WITH PUMP. INSTALL IN CONTROL STATION.

EWD 1/E11-08
DRAIN STATION CONTROL STATION
SCALE: NONE

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03/12/2026

REVISION	DATE

JOB NUMBER: 23030 | DATE: 3/13/2026

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PLAN: 23030

DESIGNED BY: EJG
ENTERED BY: EJG

CITY OF GRANDVIEW
WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1
DEWATERING BUILDING – MCC EWD

E11-08

Branch Panel: 11HA(E)

Location:		**Volts:**	480/ 277			**A.I.C. Rating:**	42,000
Supply From:		**Phases:**	3			**Mains Type:**	MLO
Mounting:	Surface	**Wires:**	4			**Mains Rating:**	100
Enclosure:	Type 1					**MCB Rating:**	MLO

CKT	Demand Type	Circuit Description	Trip	P	A	B	C	P	Trip	Circuit Description	Demand Type	CKT
1	Lighting	POLYMER/PUMP/MCC 01/ LIGHTING	20 A	1	2880 VA / 0 VA			1	20 A	Spare	--	2
3	Lighting	BELT FILTER PRESS 03 LIGHTING	20 A	1		2400 VA / 0 VA		1	20 A	Spare	--	4
5	Lighting	LOADING 04, OPER. 05, TOILET LIGHTING	20 A	1			2880 VA / 5000 VA	2	30 A	WATER HEATER	Misc Non-Continuous	6
7	Lighting - Exterior	EXTERIOR LIGHTING	20 A	1	2880 VA / 5000 VA							8
9	--	Spare	20 A	1		0 VA / 0 VA		2	30 A	Spare	--	10
11	--	Spare	20 A	1			0 VA / 0 VA					12
13	--	Spare	20 A	1	0 VA / 0 VA			2	20 A	Spare	--	14
15	--	Spare	20 A	1		0 VA / 0 VA						16
17	--	Spare	20 A	1			0 VA / 0 VA	1	--	Space	--	18
19	--	Space	--	1	0 VA / 0 VA			1	--	Space	--	20
21	--	Space	--	1		0 VA / 0 VA		1	--	Space	--	22
23	--	Space	--	1			0 VA / 0 VA	1	--	Space	--	24
25	--	Spare	30 A	3	0 VA / 7970 VA			3	50 A	TRANSFORMER "T-A" (E)	HVAC; Motor; Receptacle; Spare; Lighting; Misc.;	26
27						0 VA / 7870 VA						28
29							0 VA / 5130 VA					30
			Total Load :		18730 VA	10270 VA	13010 VA					
			Total Amps Per Phase :		69.14 A	37.08 A	48.49 A					
			Total Amps :			50.53 A						

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
HVAC	1980 VA	100.00%	1980 VA		
Lighting	8280 VA	125.00%	10350 VA	**Total Conn. Load:**	42010 VA
Misc Continuous	120 VA	125.00%	150 VA	**Total Est. Demand:**	45125 VA
Misc Non- Continuous	16820 VA	100.00%	16820 VA	**Total Conn.:**	50.53 A
Motor	9770 VA	103.02%	10065 VA	**Total Est. Demand:**	54.28 A
Receptacle	2160 VA	100.00%	2160 VA		
Lighting - Exterior	2880 VA	125.00%	3600 VA		

Notes:

Branch Panel: 11LA(E)(SECTION 1)

Location:		**Volts:**	208/ 120			**A.I.C. Rating:**	10,000
Supply From:	TRANSFORMER "T-A" (E)	**Phases:**	3			**Mains Type:**	MLO
Mounting:	Surface	**Wires:**	4			**Mains Rating:**	100
Enclosure:	Type 1					**MCB Rating:**	MLO

CKT	Demand Type	Circuit Description	Trip	P	A	B	C	P	Trip	Circuit Description	Demand Type	CKT
1	Motor	BLOWER 02 EXHAUST FAN	20 A	1	860 VA / 180 VA			1	20 A	UTILITY WATER SUPPLY PUMP RECEPTACLE	Receptacle	2
3	Motor	POLYMER/PUMP/MCC-01 EXHAUST FAN	20 A	1		860 VA / 360 VA		1	20 A	POLYMER/PUMP/MCC 01 RECEPTACLES	Receptacle	4
5	Motor	BELT FILTER PRESS 03 EXHAUST FAN	20 A	1			860 VA / 360 VA	1	20 A	POLYMER/PUMP/MCC 01 RECEPTACLES	Receptacle	6
7	Motor	BELT FILTER PRESS 03 EXHAUST FAN	20 A	1	860 VA / 180 VA			1	20 A	BELT FILTER PRESS 03 RECEPTACLES	Receptacle	8
9	Motor	BELT FILTER PRESS 03 SUPPLY FAN	20 A	1		860 VA / 180 VA		1	20 A	EXTERIOR RECEPTACLES	Receptacle	10
11	Motor	BELT FILTER PRESS 03 SUPPLY FAN	20 A	1			860 VA / 180 VA	1	20 A	BELT FILTER PRESS 03 RECEPTACLES	Receptacle	12
13	Motor	LOADING 04 EXHAUST FAN	20 A	1	860 VA / 180 VA			1	20 A	OPERATOR 05 RECEPTACLES	Receptacle	14
15	Motor	LOADING 04 EXHAUST FAN	20 A	1		860 VA / 180 VA		1	20 A	OPERATOR 05 RECEPTACLES	Receptacle	16
17	HVAC	POLYMER/PUMP/MCC 01 INFRA-RED HEATER	20 A	1			120 VA / 180 VA	1	20 A	LOADING 04 RECEPTACLES	Receptacle	18
19	HVAC	POLYMER/PUMP/MCC 01 INFRA-RED HEATER	20 A	1	120 VA / 180 VA			1	20 A	SLUDGE HOLDING TANK RECEPTACLE	Receptacle	20
21	HVAC	BELT FILTER PRESS 03 INFRA-RED HEATER	20 A	1		120 VA / 1200 VA		1	20 A	LOADING 04 BATTERY CHARGER	Misc Non-Continuous	22
23	HVAC	LOADING 04 INFRA-RED HEATER	20 A	1			120 VA / 1200 VA	1	20 A	LOADING 04 BLOCK HEATER	Misc Non-Continuous	24
25	HVAC	OPERATOR 05 WALL HEATER	20 A	1	750 VA / 120 VA			1	20 A	CONTACTOR AND PHOTOCELL	Misc Continuous	26
27	HVAC	TOILET 06 WALL HEATER	20 A	1		750 VA / 0 VA		1	20 A	Spare	--	28
29	Motor	TOILET 06 EXHAUST FAN	20 A	1			530 VA / 0 VA	1	20 A	Spare	--	30
31	Motor	LOADING 04 DOOR OPERATOR	20 A	1	1180 VA / 120 VA			1	20 A	SLUDGE HOLDING TANK LIGHTING	Lighting	32
33	Motor	LOADING 04 DOOR OPERATOR	20 A	1		1180 VA / 0 VA		1	20 A	Spare	--	34
35	--	Spare	20 A	1			0 VA / 0 VA	1	20 A	Spare	--	36
37	--	Spare	20 A	1	0 VA / 0 VA			1	20 A	Spare	--	38
39	--	Spare	20 A	1		0 VA / 0 VA		1	20 A	Spare	--	40
41	--	Spare	20 A	1			0 VA / 0 VA	1	20 A	Spare	--	42
			Total Load :		7970 VA	7870 VA	5130 VA					
			Total Amps Per Phase :		69.93 A	69.1 A	42.75 A					
			Total Amps :			58.21 A						

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
HVAC	1980 VA	100.00%	1980 VA		
Lighting	120 VA	125.00%	150 VA	**Total Conn. Load:**	20970 VA
Misc Continuous	120 VA	125.00%	150 VA	**Total Est. Demand:**	21325 VA
Misc Non- Continuous	6820 VA	100.00%	6820 VA	**Total Conn.:**	58.21 A
Motor	9770 VA	103.02%	10065 VA	**Total Est. Demand:**	59.19 A
Receptacle	2160 VA	100.00%	2160 VA		

Notes:

Branch Panel: 11LA(E)(SECTION 2)

Location:		**Volts:**	208/ 120			**A.I.C. Rating:**	10,000
Supply From:	11LA(E)(SECTION 1)	**Phases:**	3			**Mains Type:**	MLO
Mounting:	Surface	**Wires:**	4			**Mains Rating:**	100
Enclosure:	Type 1					**MCB Rating:**	MLO

CKT	Demand Type	Circuit Description	Trip	P	A	B	C	P	Trip	Circuit Description	Demand Type	CKT
43	Misc Non-Continuous	PNEUMATIC CONTROL PANEL	20 A	1	600 VA / 1180 VA			1	20 A	HYPERCHLORITE PUMP	Misc Non-Continuous	44
45	Misc Non-Continuous	PNEUMATIC CONTROL PANEL	20 A	1		600 VA / 120 VA		1	20 A	MAGNETIC FLOW METER	Misc Non-Continuous	46
47	Misc Non-Continuous	POLYMER MAKE-UP CONTROL PANEL	20 A	1			600 VA / 120 VA	1	20 A	MAGNETIC FLOW METER	Misc Non-Continuous	48
49	Misc Non-Continuous	POLYMER METERING PUMP #1 CONTROL PANEL	20 A	1	600 VA / 0 VA			1	20 A	SLUDGE HANDLING CONTROL PANEL (SCHP)	Misc Non-Continuous	50
51	Misc Non-Continuous	POLYMER METERING PUMP #2 CONTROL PANEL	20 A	1		600 VA / 0 VA		1	20 A	Spare	--	52
53	--	Spare	20 A	1			0 VA / 0 VA	1	20 A	Spare	--	54
55	--	Spare	20 A	1	0 VA / 0 VA			1	20 A	Spare	--	56
57	--	Spare	20 A	1		0 VA / 0 VA		1	20 A	Spare	--	58
59	--	Spare	20 A	1			0 VA / 0 VA	1	20 A	Spare	--	60
61	--	Spare	20 A	1	0 VA / 0 VA			1	20 A	Spare	--	62
63	--	Space	--	1		0 VA / 0 VA		1	--	Space	--	64
65	--	Space	--	1			0 VA / 0 VA	1	--	Space	--	66
67	--	Space	--	1	0 VA / 0 VA			1	--	Space	--	68
69	--	Space	--	1		0 VA / 0 VA		1	--	Space	--	70
71	--	Space	--	1			0 VA / 0 VA	1	--	Space	--	72
73	--	Space	--	1	0 VA / 0 VA			1	--	Space	--	74
75	--	Space	--	1		0 VA / 0 VA		1	--	Space	--	76
77	--	Space	--	1			0 VA / 0 VA	1	--	Space	--	78
79	--	Space	--	1	0 VA / 0 VA			1	--	Space	--	80
81	--	Space	--	1		0 VA / 0 VA		1	--	Space	--	82
83	--	Space	--	1			0 VA / 0 VA	1	--	Space	--	84
			Total Load :		2380 VA	1320 VA	720 VA					
			Total Amps Per Phase :		20.6 A	11.77 A	6 A					
			Total Amps :			12.27 A						

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Misc Non- Continuous	4420 VA	100.00%	4420 VA		
				Total Conn. Load:	4420 VA
				Total Est. Demand:	4420 VA
				Total Conn.:	12.27 A
				Total Est. Demand:	12.27 A

Notes:

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EDWARD JORDAN GODDY — STATE OF WASHINGTON — 23034574 — REGISTERED PROFESSIONAL ENGINEER — 03/12/2026

REVISION	DATE

JOB NUMBER: 23030 | DATE: 3/13/2026

FILE NAMES:
DRAWING: HLA-23030_E_R24.RVT
PLAN: 23030

DESIGNED BY: EJG
ENTERED BY: EJG

CITY OF GRANDVIEW
WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1

DEWATERING BUILDING – EXISTING PANEL SCHEDULES

E11-09

Switchboard: 11MDS

Location: | **Volts:** 480/ 277 | **A.I.C. Rating:** 42,000
Supply From: 11 UTILITY | **Phases:** 3 | **Mains Type:** MCB
Mounting: Surface | **Wires:** 4 | **Mains Rating:** 1,000
Enclosure: TYPE 1 | **MCB Rating:** 600

CKT	Load Name	# Poles	Trip	Load	Comments
1	ATS-11B	3	600 A	23448 VA	
2	ATS-11A	3	600 A	614056 VA	
3	Spare	1	600 A	0 VA	
4					
5					
6					
7					
8					
9					
10					
				345448 VA	
				415.51 A	

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
HVAC	5980 VA	100.00%	5980 VA		
Lighting	4945 VA	125.00%	6182 VA	**Total Conn. Load:**	345448 VA
Motor	66982 VA	104.34%	69890 VA	**Total Est. Demand:**	349623 VA
Other	0 VA	0.00%	0 VA	**Total Conn.:**	415.51 A
Receptacle	5760 VA	100.00%	5760 VA	**Total Est. Demand:**	420.53 A
Misc Continuous	120 VA	125.00%	150 VA		
Misc Non- Continuous	233191 VA	100.00%	233191 VA		
Heating	20150 VA	100.00%	20150 VA		
Misc Non-Continuous	8320 VA	100.00%	8320 VA		

Notes:

Switchboard: 11GDS

Location: | **Volts:** 480/ 277 | **A.I.C. Rating:** 42,000
Supply From: | **Phases:** 3 | **Mains Type:** MCB
Mounting: Surface | **Wires:** 4 | **Mains Rating:** 1,000
Enclosure: TYPE 1 | **MCB Rating:** 600

CKT	Load Name	# Poles	Trip	Load	Comments
1	ATS-11B	3	600 A	23448 VA	
2	ATS-11A	3	600 A	614056 VA	
3	Spare	3	600 A	0 VA	
4					
5					
6					
7					
8					
9					
10					
				345448 VA	
				415.51 A	

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
HVAC	5980 VA	100.00%	5980 VA		
Lighting	4945 VA	125.00%	6182 VA	**Total Conn. Load:**	345448 VA
Motor	66982 VA	104.34%	69890 VA	**Total Est. Demand:**	349623 VA
Other	0 VA	0.00%	0 VA	**Total Conn.:**	415.51 A
Receptacle	5760 VA	100.00%	5760 VA	**Total Est. Demand:**	420.53 A
Misc Continuous	120 VA	125.00%	150 VA		
Misc Non- Continuous	233191 VA	100.00%	233191 VA		
Heating	20150 VA	100.00%	20150 VA		
Misc Non-Continuous	8320 VA	100.00%	8320 VA		

Notes:

Branch Panel: 11HA

Location: | **Volts:** 480/ 277 | **A.I.C. Rating:** 42,000
Supply From: ATS-11C | **Phases:** 3 | **Mains Type:** MLO
Mounting: Surface | **Wires:** 4 | **Mains Rating:** 400
Enclosure: TYPE 1 | **MCB Rating:** MLO

CKT	Demand Type	Circuit Description	Trip	P	A	B	C	P	Trip	Circuit Description	Demand Type	CKT
1	HVAC; Motor; Receptacle; Spare; Lighting; Misc...	11HB	100 A	3	14683 VA / 13536 VA			3	60 A	SCREW PRESS NO. 2 CONTROL PANEL	Misc Non-Continuous	2
3						8936 VA / 13536 VA						4
5							11405 VA / 13536 VA					6
7	Misc Non-Continuous	SCREW PRESS NO. 1 CONTROL PANEL	60 A	3	13536 VA / 13536 VA			3	60 A	SCREW PRESS NO. 3 CONTROL PANEL	Misc Non-Continuous	8
9						13536 VA / 13536 VA						10
11							13536 VA / 13536 VA					12
13	Lighting	11 CP 03	100 A	1	275 VA / 0 VA							14
15	Misc Non-Continuous	GRINDER CONTROL PANEL	15 A	3		2105 VA / 0 VA		3	50 A	Spare	--	16
17							2105 VA / 0 VA					18
19					2105 VA / 0 VA							20
21	--	Space	--	1		0 VA / 0 VA		3	30 A	Spare	--	22
23	--	Space	--	1			0 VA / 0 VA					24
25	--	Spare	20 A	3	0 VA / 0 VA							26
27						0 VA / 0 VA		3	20 A	Spare	--	28
29							0 VA / 0 VA					30
31	--	Spare	20 A	3	0 VA / 0 VA			1	--	Space	--	32
33						0 VA / 14441 VA					Motor; Receptacle; Spare; Lighting; Heating; Misc...	34
35							0 VA / 12699 VA	3	70 A	T-12LA		36
37	HVAC; Receptacle; Spare; Misc Non-Continuous	T-11LA	70 A	3	2960 VA / 8707 VA							38
39						2440 VA / 40000 VA					Misc Non-Continuous	40
41							7376 VA / 40000 VA	2	300 A	T-13LAB		42
					Total Load :	69337 VA	108529 VA	114191 VA				
					Total Amps Per Phase :	250.31 A	413.61 A	434.05 A				
					Total Amps :		351.29 A					

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
HVAC	5980 VA	100.00%	5980 VA		
Lighting	4945 VA	125.00%	6182 VA	**Total Conn. Load:**	292056 VA
Misc Continuous	120 VA	125.00%	150 VA	**Total Est. Demand:**	293618 VA
Misc Non- Continuous	233011 VA	100.00%	233011 VA	**Total Conn.:**	351.29 A
Motor	13770 VA	102.14%	14065 VA	**Total Est. Demand:**	353.17 A
Receptacle	5760 VA	100.00%	5760 VA		
Heating	20150 VA	100.00%	20150 VA		
Misc Non-Continuous	8320 VA	100.00%	8320 VA		

Notes:

Branch Panel: 11LA

Location: | **Volts:** 208/ 120 | **A.I.C. Rating:** 42,000
Supply From: T-11LA | **Phases:** 3 | **Mains Type:** MLO
Mounting: Surface | **Wires:** 4 | **Mains Rating:** 100
Enclosure: Type 1 | **MCB Rating:** MLO

CKT	Demand Type	Circuit Description	Trip	P	A	B	C	P	Trip	Circuit Description	Demand Type	CKT
1	Receptacle	Receptacle	20 A	1	360 VA / 60 VA							2
3	Misc Non-Continuous	Dewatering Building Control Panel "11 CP 01"	20 A	1		1200 VA / 60 VA		3	20 A	GENERATOR LOAD CENTER "11GLC"	Misc Non-Continuous	4
5	HVAC	11 AC 01	20 A	2			1000 VA / 60 VA					6
7					1000 VA / 1000 VA							8
9	Misc Non-Continuous	FILTER	20 A	1		180 VA / 1000 VA		2	20 A	11 AC 02	HVAC	10
11							0 VA / 6316 VA	1	15 A	GO NO-GO CONTROL PANEL	Misc Non-Continuous	12
13	Receptacle	SLUDGE TANK RECEPTACLES	20 A	1	360 VA / 0 VA							14
15	--	Spare	20 A	1		0 VA / 0 VA		1	20 A	Spare	--	16
17	--	Spare	20 A	1			0 VA / 0 VA	1	20 A	Spare	--	18
19	Misc Non-Continuous	DRAIN STATION CONTROL STATION	20 A	1	180 VA / 0 VA			1	20 A	Spare	--	20
21	--	Spare	20 A	1		0 VA / 0 VA		1	20 A	Spare	--	22
23	--	Spare	20 A	1			0 VA / 0 VA	1	20 A	Spare	--	24
25	--	Spare	20 A	1	0 VA / 0 VA			1	20 A	Spare	--	26
27	--	Spare	20 A	1		0 VA / 0 VA		1	20 A	Spare	--	28
29	--	Spare	20 A	1			0 VA / 0 VA	1	20 A	Spare	--	30
31	--	Spare	20 A	1	0 VA / 0 VA			1	20 A	Spare	--	32
33	--	Space	--	1		0 VA / 0 VA		1	--	Space	--	34
35	--	Space	--	1			0 VA / 0 VA	1	--	Space	--	36
37	--	Space	--	1	0 VA / 0 VA			1	--	Space	--	38
39	--	Space	--	1		0 VA / 0 VA		1	--	Space	--	40
41	--	Space	--	1			0 VA / 0 VA	1	--	Space	--	42
					Total Load :	2960 VA	2440 VA	7376 VA				
					Total Amps Per Phase :	25.33 A	20.33 A	62.13 A				
					Total Amps :		35.46 A					

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
HVAC	4000 VA	100.00%	4000 VA		
Misc Non- Continuous	8056 VA	100.00%	8056 VA	**Total Conn. Load:**	12776 VA
Receptacle	720 VA	100.00%	720 VA	**Total Est. Demand:**	12776 VA
				Total Conn.:	35.46 A
				Total Est. Demand:	35.46 A

Notes:

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EDWARD JORDAN GUDOY — STATE OF WASHINGTON — 23036574 — REGISTERED PROFESSIONAL ENGINEER — 03/12/2026

REVISION	DATE

JOB NUMBER: 23030 | DATE: 3/13/2026
FILE NAMES:
DRAWING: HLA-23030_E_R24.RVT
PLAN: 23030
DESIGNED BY: EJG
ENTERED BY: EJG

CITY OF GRANDVIEW
WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1
DEWATERING BUILDING – PANEL SCHEDULES

E11-10

Branch Panel: 11HB

Location:		**Volts:**	480/ 277	**A.I.C. Rating:**	42,000
Supply From:	11HA	**Phases:**	3	**Mains Type:**	MLO
Mounting:	Surface	**Wires:**	4	**Mains Rating:**	100
Enclosure:	Type 1			**MCB Rating:**	MLO

CKT	Demand Type	Circuit Description	Trip	P	A	B	C	P	Trip	Circuit Description	Demand Type	CKT
1	Lighting	Lighting	20 A	1	1049 VA / 0 VA			1	20 A	Spare	--	2
3	Lighting	Lighting	20 A	1		916 VA / 0 VA		1	20 A	Spare	--	4
5	Lighting	Lighting	20 A	1			915 VA / 5000 VA	2	30 A	WATER HEATER	Misc Non-Continuous	6
7	Lighting	Lighting	20 A	1	304 VA / 5000 VA							8
9	--	Spare	20 A	1		0 VA / 0 VA		2	30 A	Spare	--	10
11	--	Spare	20 A	1			0 VA / 0 VA					12
13	--	Spare	20 A	1	0 VA / 0 VA			2	20 A	Spare	--	14
15	--	Spare	20 A	1		0 VA / 0 VA						16
17	--	Spare	20 A	1			0 VA / 0 VA	1	--	Space	--	18
19	--	Space	--	1	0 VA / 0 VA			1	--	Space	--	20
21	--	Space	--	1		0 VA / 0 VA		1	--	Space	--	22
23	--	Space	--	1			0 VA / 0 VA	1	--	Space	--	24
25	--	Spare	30 A	3	0 VA / 8330 VA			3	50 A	TRANSFORMER "T-A"	HVAC; Motor; Receptacle; Spare; Lighting; Misc...	26
27						0 VA / 8020 VA						28
29							0 VA / 5490 VA					30
			Total Load :		14683 VA	8936 VA	11405 VA					
			Total Amps Per Phase :		54.38 A	32.26 A	42.55 A					
			Total Amps :			42.13 A						

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
HVAC	1980 VA	100.00%	1980 VA		
Lighting	3304 VA	125.00%	4130 VA	**Total Conn. Load:**	35024 VA
Misc Continuous	120 VA	125.00%	150 VA	**Total Est. Demand:**	36175 VA
Misc Non- Continuous	16820 VA	100.00%	16820 VA	**Total Conn.:**	42.13 A
Motor	9770 VA	103.02%	10065 VA	**Total Est. Demand:**	43.51 A
Receptacle	2880 VA	100.00%	2880 VA		
Heating	150 VA	100.00%	150 VA		

Notes:

Branch Panel: 11LB (SECTION 1)

Location:		**Volts:**	208/ 120	**A.I.C. Rating:**	10,000
Supply From:	TRANSFORMER "T-A"	**Phases:**	3	**Mains Type:**	MLO
Mounting:	Surface	**Wires:**	4	**Mains Rating:**	200
Enclosure:	Type 1			**MCB Rating:**	MLO

CKT	Demand Type	Circuit Description	Trip	P	A	B	C	P	Trip	Circuit Description	Demand Type	CKT
1	Motor	BLOWER 02 EXHAUST FAN	20 A	1	860 VA / 180 VA			1	20 A	UTILITY WATER SUPPLY PUMP RECEPTACLE	Receptacle	2
3	Motor	POLYMER/PUMP/MCC-01 EXHAUST FAN	20 A	1		860 VA / 360 VA		1	20 A	POLYMER/PUMP/MCC 01 RECEPTACLES	Receptacle	4
5	Motor	BELT FILTER PRESS 03 EXHAUST FAN	20 A	1			860 VA / 360 VA	1	20 A	POLYMER/PUMP/MCC 01 RECEPTACLES	Receptacle	6
7	Motor	BELT FILTER PRESS 03 EXHAUST FAN	20 A	1	860 VA / 180 VA			1	20 A	BELT FILTER PRESS 03 RECEPTACLES	Receptacle	8
9	Motor	BELT FILTER PRESS 03 SUPPLY FAN	20 A	1		860 VA / 180 VA		1	20 A	EXTERIOR RECEPTACLES	Receptacle	10
11	Motor	BELT FILTER PRESS 03 SUPPLY FAN	20 A	1			860 VA / 180 VA	1	20 A	BELT FILTER PRESS 03 RECEPTACLES	Receptacle	12
13	Motor	LOADING 04 EXHAUST FAN	20 A	1	860 VA / 180 VA			1	20 A	OPERATOR 05 RECEPTACLES	Receptacle	14
15	Motor	LOADING 04 EXHAUST FAN	20 A	1		860 VA / 180 VA		1	20 A	OPERATOR 05 RECEPTACLES	Receptacle	16
17	HVAC	POLYMER/PUMP/MCC 01 INFRA-RED HEATER	20 A	1			120 VA / 180 VA	1	20 A	LOADING 04 RECEPTACLES	Receptacle	18
19	HVAC	POLYMER/PUMP/MCC 01 INFRA-RED HEATER	20 A	1	120 VA / 180 VA			1	20 A	SLUDGE HOLDING TANK RECEPTACLE	Receptacle	20
21	HVAC	BELT FILTER PRESS 03 INFRA-RED HEATER	20 A	1		120 VA / 1200 VA		1	20 A	LOADING 04 BATTERY CHARGER	Misc Non-Continuous	22
23	HVAC	LOADING 04 INFRA-RED HEATER	20 A	1			120 VA / 1200 VA	1	20 A	LOADING 04 BLOCK HEATER	Misc Non-Continuous	24
25	HVAC	OPERATOR 05 WALL HEATER	20 A	1	750 VA / 120 VA			1	20 A	CONTACTOR AND PHOTOCELL	Misc Continuous	26
27	HVAC	TOILET 06 WALL HEATER	20 A	1		750 VA / 0 VA		1	20 A	Spare	--	28
29	Motor	TOILET 06 EXHAUST FAN	20 A	1			530 VA / 0 VA	1	20 A	Spare	--	30
31	Motor	LOADING 04 DOOR OPERATOR	20 A	1	1180 VA / 120 VA			1	20 A	SLUDGE HOLDING TANK LIGHTING	Lighting	32
33	Motor	LOADING 04 DOOR OPERATOR	20 A	1		1180 VA / 0 VA		1	20 A	Spare	--	34
35	Receptacle	SLUDGE TANK RECEPTACLES	20 A	1			360 VA / 0 VA	1	20 A	Spare	--	36
37	Receptacle	SLUDGE TANK RECEPTACLES	20 A	1	360 VA / 0 VA			1	20 A	Spare	--	38
39	Heating	HEAT TRACE	20 A	1		150 VA / 0 VA		1	20 A	Spare	--	40
41	--	Spare	20 A	1			0 VA / 0 VA	1	20 A	Spare	--	42
			Total Load :		8330 VA	8020 VA	5490 VA					
			Total Amps Per Phase :		72,66 A	70,08 A	45,75 A					
			Total Amps :			60.62 A						

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
HVAC	1980 VA	100.00%	1980 VA		
Lighting	120 VA	125.00%	150 VA	**Total Conn. Load:**	21840 VA
Misc Continuous	120 VA	125.00%	150 VA	**Total Est. Demand:**	22195 VA
Misc Non- Continuous	6820 VA	100.00%	6820 VA	**Total Conn.:**	60.62 A
Motor	9770 VA	103.02%	10065 VA	**Total Est. Demand:**	61.61 A
Receptacle	2880 VA	100.00%	2880 VA		
Heating	150 VA	100.00%	150 VA		

Notes:

Branch Panel: 11LB (SECTION 2)

Location:		**Volts:**	208/ 120	**A.I.C. Rating:**	10,000
Supply From:	11LB (SECTION 1)	**Phases:**	3	**Mains Type:**	MLO
Mounting:	Surface	**Wires:**	4	**Mains Rating:**	200
Enclosure:	Type 1			**MCB Rating:**	MLO

CKT	Demand Type	Circuit Description	Trip	P	A	B	C	P	Trip	Circuit Description	Demand Type	CKT
43	Misc Non-Continuous	PNEUMATIC CONTROL PANEL	20 A	1	600 VA / 1180 VA			1	20 A	HYPERCHLORITE PUMP	Misc Non-Continuous	44
45	Misc Non-Continuous	PNEUMATIC CONTROL PANEL	20 A	1		600 VA / 120 VA		1	20 A	MAGNETIC FLOW METER	Misc Non-Continuous	46
47	Misc Non-Continuous	POLYMER MAKE-UP CONTROL PANEL	20 A	1			600 VA / 120 VA	1	20 A	MAGNETIC FLOW METER	Misc Non-Continuous	48
49	Misc Non-Continuous	POLYMER METERING PUMP #1 CONTROL PANEL	20 A	1	600 VA / 0 VA			1	20 A	SLUDGE HANDLING CONTROL PANEL (SCHP)	Misc Non-Continuous	50
51	Misc Non-Continuous	POLYMER METERING PUMP #2 CONTROL PANEL	20 A	1		600 VA / 0 VA		1	20 A	Spare	--	52
53	–	Spare	20 A	1			0 VA / 0 VA	1	20 A	Spare	--	54
55	–	Spare	20 A	1	0 VA / 0 VA			1	20 A	Spare	--	56
57	–	Spare	20 A	1		0 VA / 0 VA		1	20 A	Spare	--	58
59	–	Spare	20 A	1			0 VA / 0 VA	1	20 A	Spare	--	60
61	–	Spare	20 A	1	0 VA / 0 VA			1	20 A	Spare	--	62
63	–	Space	--	1		0 VA / 0 VA		1	–	Space	--	64
65	–	Space	--	1			0 VA / 0 VA	1	–	Space	--	66
67	–	Space	--	1	0 VA / 0 VA			1	–	Space	--	68
69	–	Space	--	1		0 VA / 0 VA		1	–	Space	--	70
71	–	Space	--	1			0 VA / 0 VA	1	–	Space	--	72
73	–	Space	--	1	0 VA / 0 VA			1	–	Space	--	74
75	–	Space	--	1		0 VA / 0 VA		1	–	Space	--	76
77	–	Space	--	1			0 VA / 0 VA	1	–	Space	--	78
79	–	Space	--	1	0 VA / 0 VA			1	–	Space	--	80
81	–	Space	--	1		0 VA / 0 VA		1	–	Space	--	82
83	–	Space	--	1			0 VA / 0 VA	1	–	Space	--	84
			Total Load :		2380 VA	1320 VA	720 VA					
			Total Amps Per Phase :		20,6 A	11,77 A	6 A					
			Total Amps :			12.27 A						

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Misc Non- Continuous	4420 VA	100.00%	4420 VA		
				Total Conn. Load:	4420 VA
				Total Est. Demand:	4420 VA
				Total Conn.:	12.27 A
				Total Est. Demand:	12.27 A

Notes:

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EDWARD JORDAN GODDY — STATE OF WASHINGTON — 23034574 — REGISTERED PROFESSIONAL ENGINEER
03/12/2026

REVISION	DATE

JOB NUMBER: 23030 | DATE: 3/13/2026
FILE NAMES:
DRAWING: HLA-23030_E_R24.RVT
PLAN: 23030
DESIGNED BY: EJG
ENTERED BY: EJG

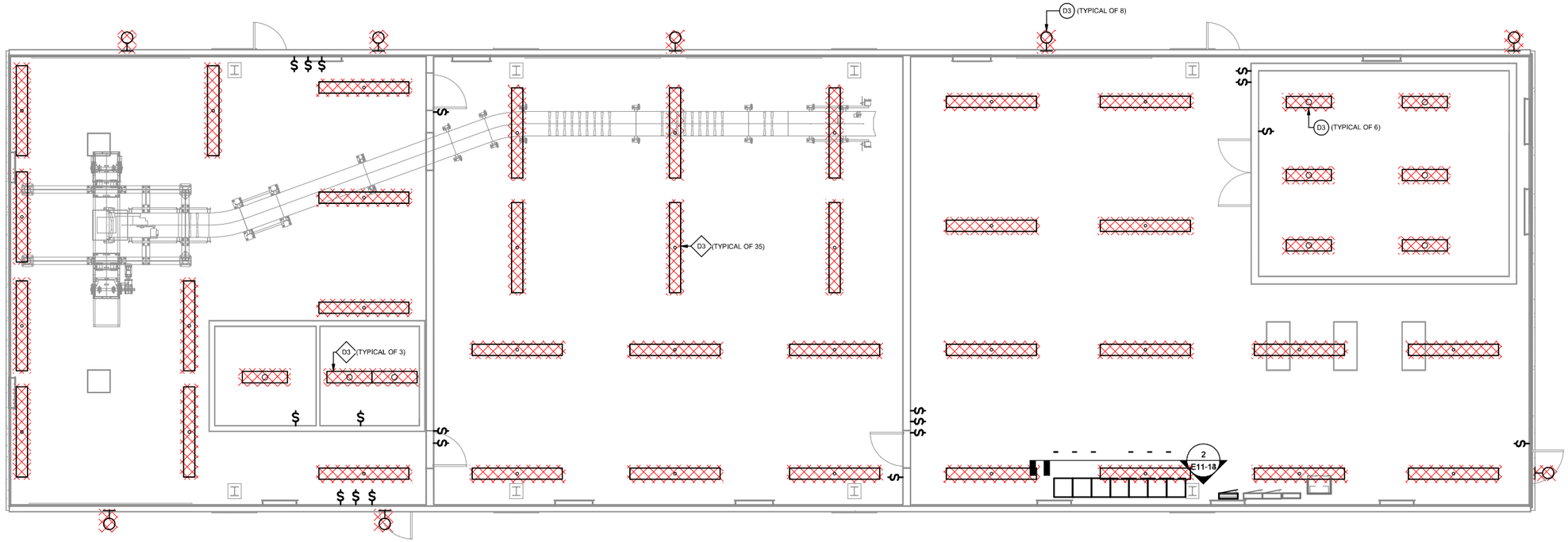
CITY OF GRANDVIEW
WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1

DEWATERING BUILDING – PANEL SCHEDULES

E11-11

SHEET NOTES

D3 DEMOLISH EXISTING LIGHT FIXTURES AND PRESERVE EXISTING BRANCH CIRCUIT FOR NEW FIXTURE.



DEWATERING BUILDING - DEMO LIGHTING PLAN

0' 2'-8" 5'-4" 10'-8"

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EDWARD JORDAN GADOT
STATE OF WASHINGTON
23036574
REGISTERED
PROFESSIONAL ENGINEER
03/12/2026

REVISION	DATE

JOB NUMBER: 23030 | DATE: 3/13/2026

FILE NAMES:
DRAWING: HLA-23030_E_R24.RVT
PLAN: 23030

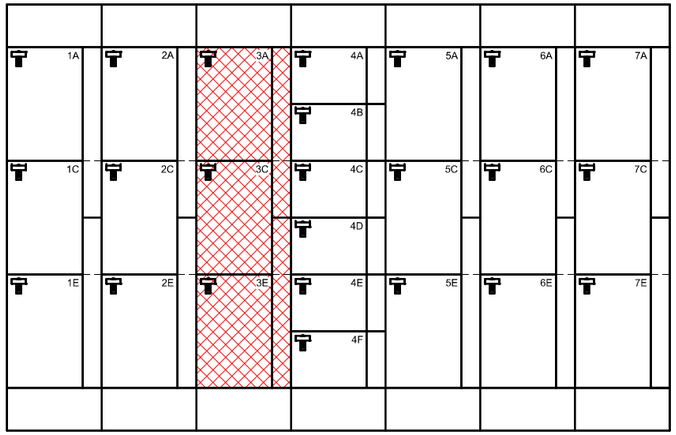
DESIGNED BY: EJG
ENTERED BY: EJG

CITY OF GRANDVIEW
WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1

DEWATERING BUILDING – DEMO LIGHTING PLAN

E11-12

MCC SCHEDULE - MCC A (EXISTING)				
SECTION	UNIT	HEIGHT	NAMEPLATE	NOTES
1	C	24"	SPARE	
1	E	24"	MAIN LUGS	
2	A	24"	SLUDGE FEED PUMP NO.1	PRESERVE LOAD AND RECONNECT TO NEW MCC. SEE SHEETS E11-14 AND E11-16 FOR FUTHER INFORMATION.
2	C	24"	SLUDGE FEED PUMP NO.2	PRESERVE LOAD AND RECONNECT TO NEW MCC. SEE SHEETS E11-14 AND E11-16 FOR FUTHER INFORMATION.
2	E	24"	SLUDGE FEED PUMP NO.3	PRESERVE LOAD AND RECONNECT TO NEW MCC. SEE SHEETS E11-14 AND E11-16 FOR FUTHER INFORMATION.
3	A	24"	POLYMER MAKE-UP SYSTEM	
3	C	24"	POLYMER METERING PUMP NO.1	
3	E	24"	POLYMER METERING PUMP NO.2	
4	A	12"	WELL PUMP	PRESERVE LOAD AND RECONNECT TO NEW MCC. SEE SHEETS E11-14 AND E11-16 FOR FUTHER INFORMATION.
4	B	12"	UTILITY WATER SUPPLY PUMP	
4	C	12"	UTILITY WATER MIXER	
4	D	12"	SPARE	
4	E	12"	SPARE	
4	F	12"	SPARE	
5	A	24"	BELT FILTER PRESS #1 CONTROL PANEL	
5	C	24"	PNEUMATIC CONTROL PANEL NO.1	
5	E	24"	WASHWATER BOOSTER PUMP NO.1	
6	A	24"	BELTER FILTER PRESS #2 CONTROL PANEL	
6	C	24"	PNEUMATIC CONTROL PANEL NO.2	
6	E	24"	WASHWATER BOOSTER PUMP NO.2	
7	A	24"	SLUDGE CONVEYOR	PRESERVE LOAD AND RECONNECT TO NEW MCC. SEE SHEETS E11-14 AND E11-16 FOR FUTHER INFORMATION.
7	C	24"	UTILITY WATER BOOSTER PUMP	
7	E	24"	SPARE	

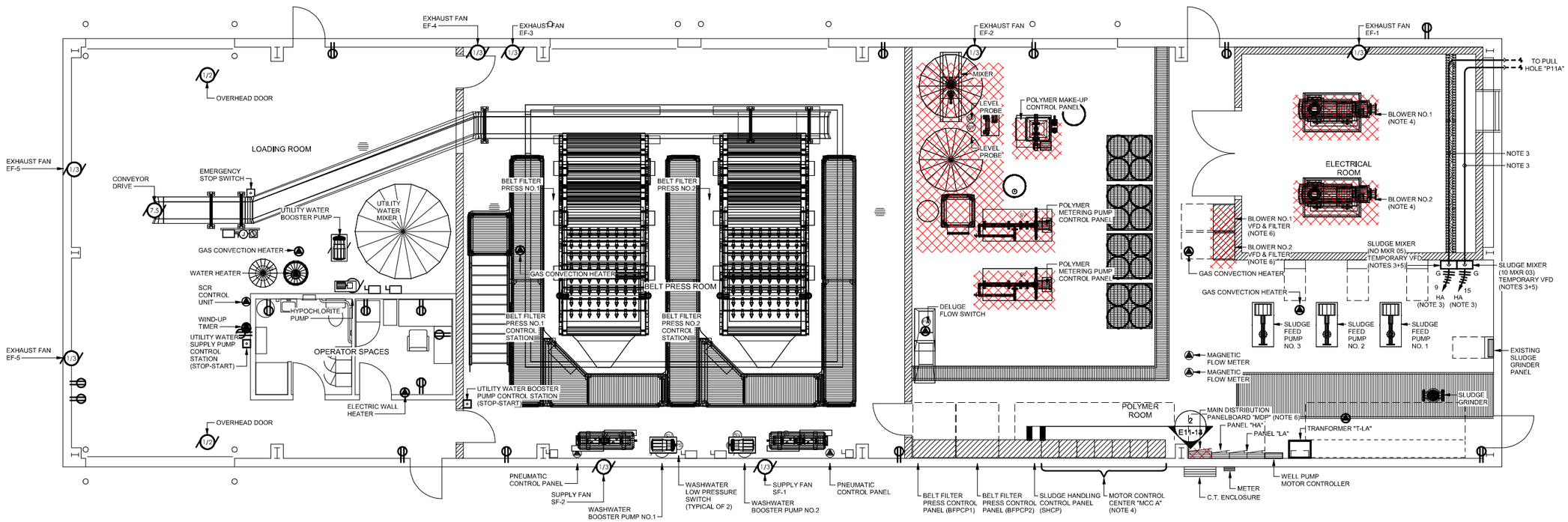


MCC A (EXISTING) PHASE A

0' 2'-0" 4'-0" 8'-0"

SHEET NOTES

1. DEMOLISH EXISTING EQUIPMENT, MATERIALS AND DEVICES SHOWN CROSSHATCHED UNLESS OTHERWISE NOTED, REMOVE CONDUIT (EXCEPT CONCEALED OR UNDERGROUND CONDUIT AS NOTED BELOW), FITTINGS, HANGERS, CONDUCTORS, DEVICE/JUNCTION BOXES, AND SIMILAR ITEMS ASSOCIATED WITH ITEM NOTED, BACK TO NEXT DEVICE REMAINING ON THE CIRCUIT OR BACK TO THE PANEL/MCC UNIT FROM WHICH THE CIRCUIT ORIGINATES. WHERE DEVICE BEING REMOVED IS IN THE MIDDLE OF A CIRCUIT, REPLACE/REPAIR CIRCUIT AS REQUIRED TO KEEP REMAINING DEVICES ON CIRCUIT IN OPERATION. ABANDON-IN-PLACE UNUSED CONDUITS CONCEALED IN SLAB, OR UNDERGROUND BELOW SLAB OR BELOW GRADE. CUT EXPOSED PORTION FLUSH WITH SLAB, OR 12" BELOW GRADE, AND PLUG WITH NON-SHRINK GROUT. CUT, PATCH, REPAIR AND PAINT EXISTING WALLS/CEILINGS AS REQUIRED TO REMOVE EXISTING DEVICES/EQUIPMENT. LEGALLY DISPOSE OF MATERIAL/EQUIPMENT WHICH ARE REMOVED.
2. SUGGESTED SEQUENCE OF CONSTRUCTION:
   A. INSTALL 2 NEW TEMPORARY 10 HP VFD'S TO RUN 2 NEW MIXERS IN NEW SLUDGE HOLDING TANK.
   B. DEMOLISH BOTH BLOWERS.
   C. DEMOLISH BOTH BLOWER VFD'S.
3. 10 HP TEMPORARY VFD'S. SEE NOTE 2 FOR SUGGESTED SEQUENCE OF CONSTRUCTION.
4. SEE ONE LINE DIAGRAM E11-01 FOR FURTHER INFORMATION.
5. SEE MIXER ONE LINE DIAGRAM OLD 2/E11-06 FOR CIRCUIT INFORMATION.
6. SEE ONE LINE DIAGRAM E11-03 FOR FURTHER INFORMATION.



DEWATERING BUILDING - DEMO PROCESS PLAN

(NOTES 1&2)

0' 2'-8" 5'-4" 10'-8"

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EDWARD JORDAN GODBY — STATE OF WASHINGTON — 23036574 — REGISTERED PROFESSIONAL ENGINEER — 03/12/2026

REVISION	DATE

JOB NUMBER: 23030 | DATE: 3/13/2026

FILE NAMES:

DRAWING: HLA-23030_E_R24.RVT

PLAN: 23030

DESIGNED BY: EJG

ENTERED BY: EJG

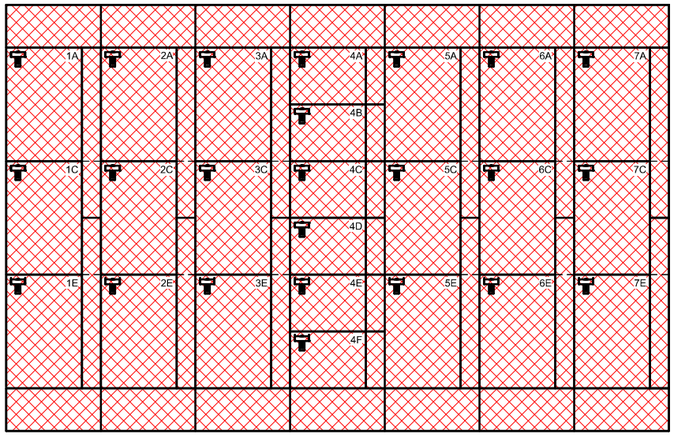
CITY OF GRANDVIEW
WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1

DEWATERING BUILDING – DEMO PROCESS PLAN

E11-13

SHEET 170 OF 192

MCC SCHEDULE - MCC A (EXISTING)				
SECTION	UNIT	HEIGHT	NAMEPLATE	NOTES
1	C	24"	SPARE	
1	E	24"	MAIN LUGS	
2	A	24"	SLUDGE FEED PUMP NO.1	PRESERVE LOAD AND RECONNECT TO NEW MCC. SEE SHEETS E11-14 AND E11-16 FOR FUTHER INFORMATION.
2	C	24"	SLUDGE FEED PUMP NO.2	PRESERVE LOAD AND RECONNECT TO NEW MCC. SEE SHEETS E11-14 AND E11-16 FOR FUTHER INFORMATION.
2	E	24"	SLUDGE FEED PUMP NO.3	PRESERVE LOAD AND RECONNECT TO NEW MCC. SEE SHEETS E11-14 AND E11-16 FOR FUTHER INFORMATION.
3	A	24"	POLYMER MAKE-UP SYSTEM	
3	C	24"	POLYMER METERING PUMP NO.1	
3	E	24"	POLYMER METERING PUMP NO.2	
4	A	12"	WELL PUMP	PRESERVE LOAD AND RECONNECT TO NEW MCC. SEE SHEETS E11-14 AND E11-16 FOR FUTHER INFORMATION.
4	B	12"	UTILITY WATER SUPPLY PUMP	
4	C	12"	UTILITY WATER MIXER	
4	D	12"	SPARE	
4	E	12"	SPARE	
4	F	12"	SPARE	
5	A	24"	BELT FILTER PRESS #1 CONTROL PANEL	
5	C	24"	PNEUMATIC CONTROL PANEL NO.1	
5	E	24"	WASHWATER BOOSTER PUMP NO.1	
6	A	24"	BELTER FILTER PRESS #2 CONTROL PANEL	
6	C	24"	PNEUMATIC CONTROL PANEL NO.2	
6	E	24"	WASHWATER BOOSTER PUMP NO.2	
7	A	24"	SLUDGE CONVEYOR	PRESERVE LOAD AND RECONNECT TO NEW MCC. SEE SHEETS E11-14 AND E11-16 FOR FUTHER INFORMATION.
7	C	24"	UTILITY WATER BOOSTER PUMP	
7	E	24"	SPARE	

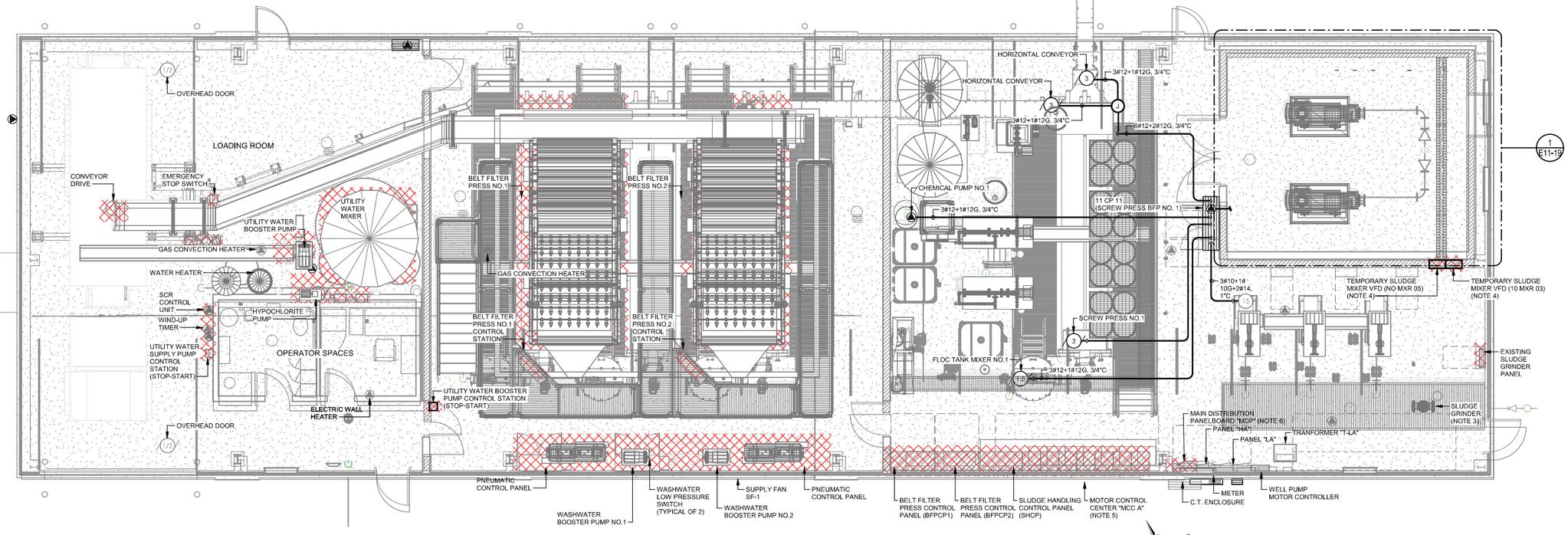


MCC A (EXISTING) PHASE B

0' 2'-0" 4'-0" 8'-0"

SHEET NOTES

1. DEMOLISH EXISTING EQUIPMENT, MATERIALS AND DEVICES SHOWN CROSSHATCHED UNLESS OTHERWISE NOTED. REMOVE CONDUIT (EXCEPT CONCEALED OR UNDERGROUND CONDUIT AS NOTED BELOW), FITTINGS, HANGERS, CONDUCTORS, DEVICE/JUNCTION BOXES, AND SIMILAR ITEMS ASSOCIATED WITH ITEM NOTED, BACK TO NEXT DEVICE REMAINING ON THE CIRCUIT OR BACK TO THE PANEL/MCC UNIT FROM WHICH THE CIRCUIT ORIGINATES. WHERE DEVICE BEING REMOVED IS IN THE MIDDLE OF A CIRCUIT, REPLACE/REPAIR CIRCUIT AS REQUIRED TO KEEP REMAINING DEVICES ON CIRCUIT IN OPERATION. ABANDON-IN-PLACE UNUSED CONDUITS CONCEALED IN SLAB, OR UNDERGROUND BELOW SLAB OR BELOW GRADE. CUT EXPOSED PORTION FLUSH WITH SLAB, OR 12" BELOW GRADE, AND PLUG WITH NON-SHRINK GROUT. CUT, PATCH, REPAIR AND PAINT EXISTING WALLS/CEILINGS AS REQUIRED TO REMOVE EXISTING DEVICES/EQUIPMENT. LEGALLY DISPOSE OF MATERIAL/EQUIPMENT WHICH ARE REMOVED.
2. SUGGESTED SEQUENCE OF CONSTRUCTION:
   A. INSTALL ALL NEW ELECTRICAL EQUIPMENT.
   B. DEMOLISH EXISTING MAIN DISTRIBUTION PANEL.
   C. CONNECT NEW ELECTRICAL EQUIPMENT
   D. MOVE LOADS TO REMAIN FROM EXISTING MCC TO NEW MCC'S.
   E. DEMOLISH EXISTING MCC.
   F. DEMOLISH BOTH POLYMER METERING PUMP CONTROL PANELS.
   G. DEMOLISH OPLYMER MAKE-UP CONTROL PANEL.
   H. INSTALL NEW SCREW PRESS NO.1
   I. CONNECTED TO NEW ELECTRICAL EQUIPMENT.
   J. DEMOLISH EXISTING BELT FILTER PRESS NO.1.
   K. INSTALL NEW SCREW PRESS NO.2
   L. DEMOLISH EXISTING BELT FILTER PRESS NO.2.
   M. INSTALL NEW SCREW PRESS NO.3
   N. DEMOLISH PNEUMATIC CONTROL PANELS AND WASHWATER BOOSTER PUMP AND LOW PRESSURE SWITCH.
3. PRESERVE AND PROTECT CONDUITS BACK TO EXISTING GRINDER CONTROL PANEL FOR RECONNECTION TO NEW GRINDER CONTROL PANEL.
4. DEMO TEMPORARY VFD AFTER 10 MXR 04 AND 10 MXR 06 ARE ALREADY COMMISSIONED FROM NEW MOTOR CONTROLS. SEE SHEET E11-16 FOR FURTHER INFORMATION.
5. SEE ONE LINE DIAGRAM E11-01 FOR FURTHER INFORMATION.



DEWATERING BUILDING - DEMO PROCESS PLAN PHASE 2

(NOTES 1&2)

0' 2'-8" 5'-4" 10'-8"

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EDWARD JORDAN WOODY
STATE OF WASHINGTON
23036574
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03/12/2026

REVISION	DATE

JOB NUMBER: 23030 | DATE: 3/13/2026

FILE NAMES:
DRAWING: HLA-23030_E_R24.RVT
PLAN: 23030

DESIGNED BY: EJG
ENTERED BY: EJG

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WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1

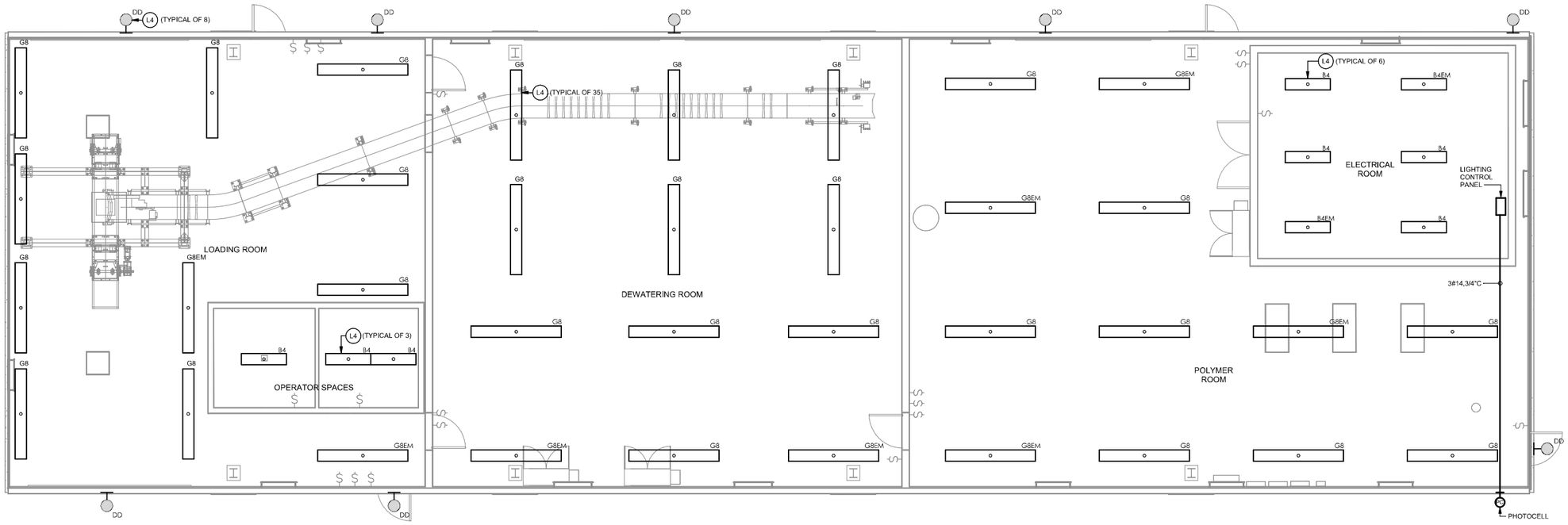
DEWATERING BUILDING – DEMO PROCESS PLAN PHASE 2

E11-14

SHEET 171 OF 192

SHEET NOTES

L4 REPLACE EXISTING LIGHTING FIXTURE. RECONNECT NEW FIXTURE TO EXISTING CIRCUIT TO EXISTING SWITCH LEG. PROVIDE ADDITIONAL CONDUCTORS FROM LOCAL LIGHTING PANEL AS NECESSARY TO SERVE EMERGENCY FIXTURES.



DEWATERING BUILDING - LIGHTING PLAN

0' 2'-8" 5'-4" 10'-8"

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DEWATERING BUILDING – LIGHTING PLAN

E11-15

SHEET 172 OF 192

SHEET NOTES

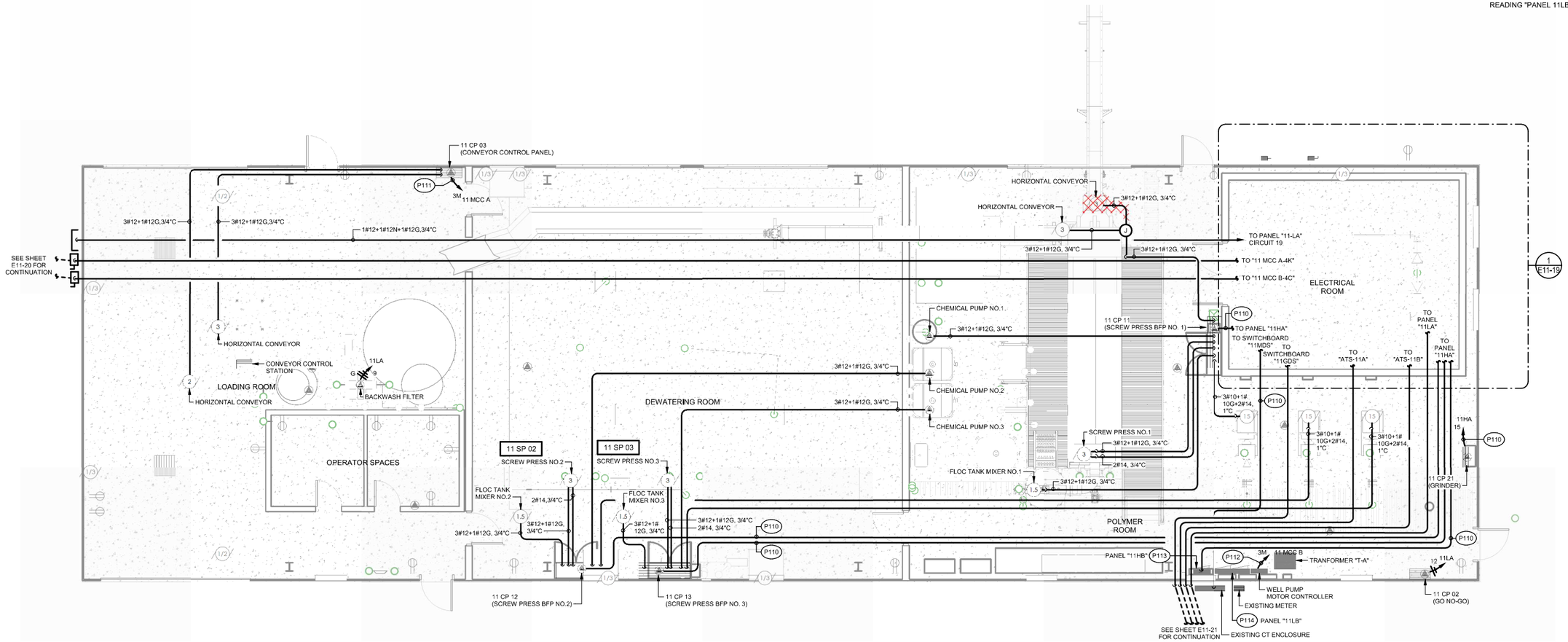
P110 SEE ONE LINE DIAGRAM SHEET E11-04 FOR CIRCUIT / FEEDER, OR EQUIPMENT INFORMATION.

P111 SEE MOTOR CONTROL CENTER "11 MCC A" SCHEDULE SHOWN ON SHEET E11-05 FOR CIRCUIT INFORMATION.

P112 SEE MOTOR CONTROL CENTER "11 MCC B" SCHEDULE SHOWN ON SHEET E11-05 FOR CIRCUIT INFORMATION.

P113 REPLACE EXISTING FENOLIC NAMEPLATE READING "PANEL HA" WITH NEW FENOLIC NAMEPLATE READING "PANEL 11HB".

P114 REPLACE EXISTING FENOLIC NAMEPLATE READING "PANEL LA" WITH NEW FENOLIC NAMEPLATE READING "PANEL 11LB".



DEWATERING BUILDING - POWER PLAN

0' 2'-8" 5'-4" 10'-8"

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WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1

DEWATERING BUILDING – POWER PLAN

E11-16

SHEET NOTES

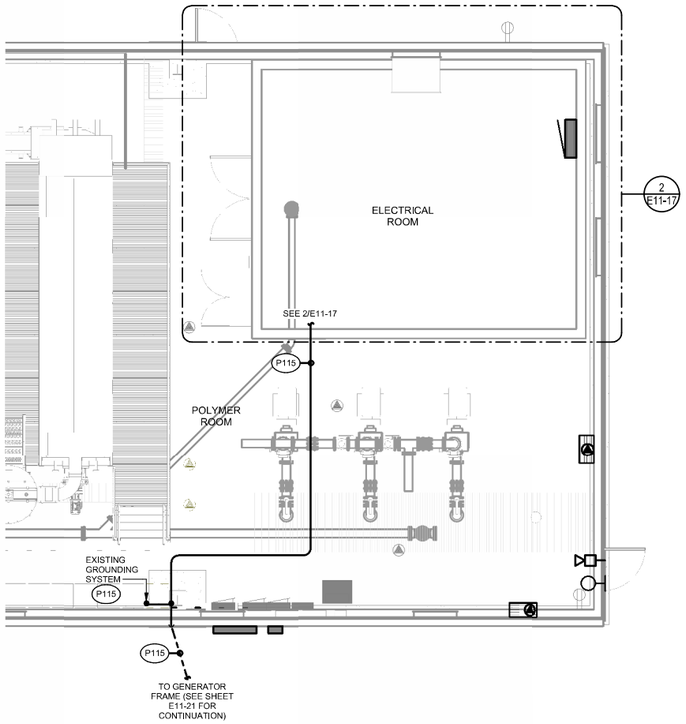
P115 PROVIDE #3/0 BARE COPPER GROUNDING ELECTRODE IN BUILDING FOOTING. PROVIDE FOUR 3/4"X10' COPPER CLAD GROUND RODS CONNECTED TO GROUNDING ELECTRODE AS SHOWN. PROVIDE GROUNDING ELECTRODE CONDUCTORS FROM GROUNDING ELECTRODE TO THE FOLLOWING:

A. MAIN DISTRIBUTION SWITCHBOARD "11MDS"	#3/0
B. GENERATOR DISTRIBUTION SWITCHBOARD "11GDS"	#3/0
C. AUTOMATIC TRANSFER SWITCH "11A"	#2/0
D. AUTOMATIC TRANSFER SWITCH "11B"	#2/0
E. AUTOMATIC TRANSFER SWITCH "11C"	#1/0
F. 11 MCC A	#2/0
G. 11 MCC B	#2/0
H. PANEL "11HA"	#1/0
I. GENERATOR FRAME	#3/0
J. TRANSFORMER "T-LA"	#8

CONNECT NEW GROUNDING ELECTRODE SYSTEM TO EXISTING BUILDING GROUNDING ELECTRODE SYSTEM AS SHOWN. PROVIDE GROUNDING ELECTRODE CONDUCTOR. SEE GROUNDING ELECTRODE CONDUCTOR SCHEDULE THIS SHEET FOR CONDUTOR SIZE. EXOTHERMICALLLY WELD ALL CONNECTIONS. ALL EXPOSED ABOVE GRADE CONDUCTORS SHALL BE IN RMC CONDUIT.

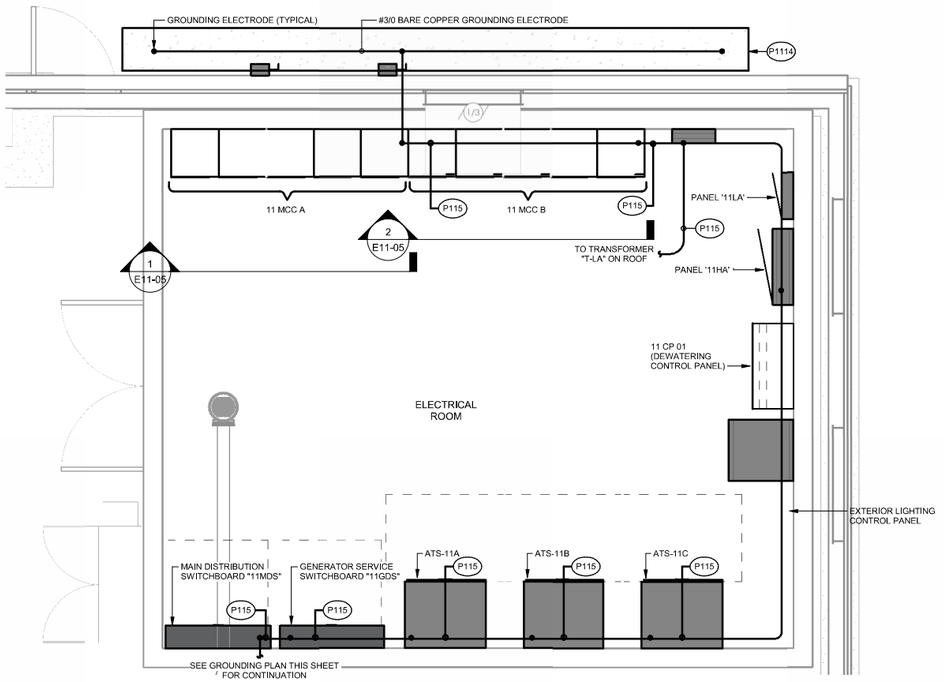
P115 USED FOR GROUNDING NOTE.

P1114 PROVIDE CONCRETE FOOTING FOR UFER GROUND (22"L MIN. x 6"D x 12"W) (BURIED 30" TO TOP). PROVIDE #3/0 BARE COPPER GROUNDING ELECTRODE IN CONCRETE FOOTING. PROVIDE TWO 3/4"x10' COPPER CLAD GROUND RODS CONNECTED TO GROUNDING ELECTRODE AS SHOWN. PROVIDE #3/0 GROUNDING ELECTRODE CONDUCTOR TO CONNECT TO EXISTING BUILDING GROUNDING SYSTEM.



DEWATERING BUILDING - GROUNDING PLAN

0' 2'-8" 5'-4" 10'-8"



DEWATERING BUILDING - ENLARGED ELECTRICAL ROOM GROUNDING PLAN

0' 1'-4" 2'-8" 5'-4"

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PLAN: 23030

DESIGNED BY: EJG
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CITY OF GRANDVIEW
WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1

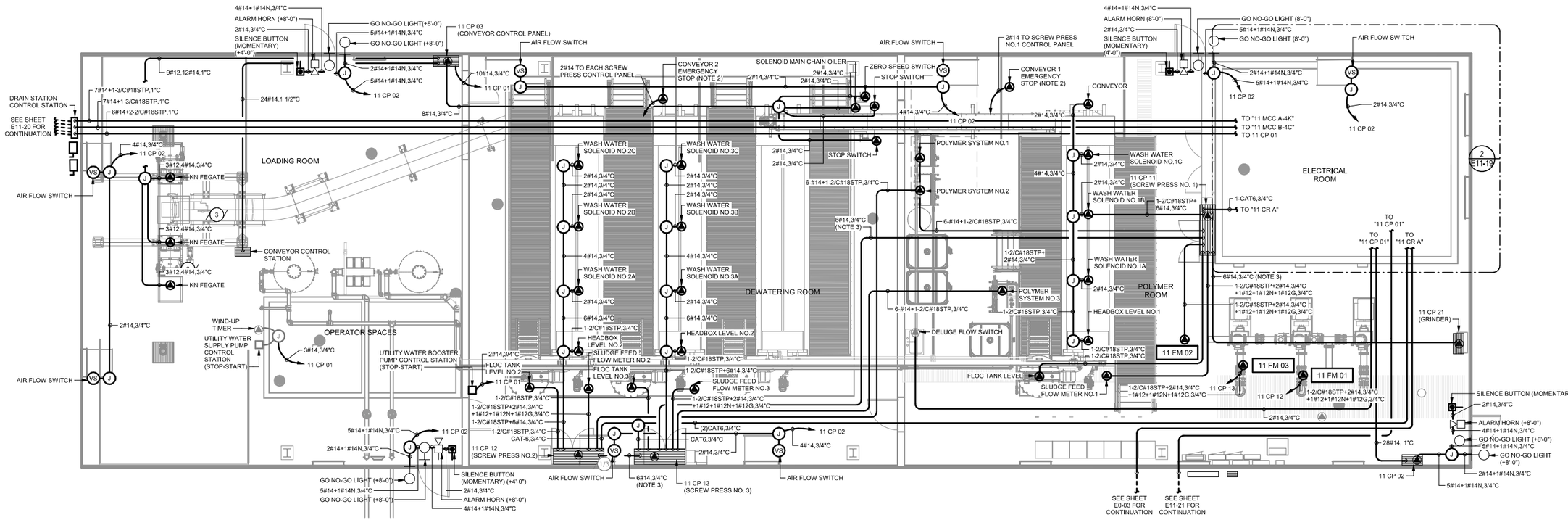
DEWATERING BUILDING – GROUNDING PLAN

E11-17

SHEET 174 OF 192

SHEET NOTES

1. SEE NOTE 2 ON SHEET E11-12 FOR SEQUENCE OF OPERATIONS.
2. CONVEYOR EMERGENCY STOP. COORDINATE LOCATION WITH EQUIPMENT MANUFACTURER.
3. SIGNALS USED TO COORDINATE RUN/STATUS BETWEEN GRINDER CONTROL PANEL AND SCREW PRESS CONTROL PANELS.



DEWATERING BUILDING - PROCESS AND INSTRUMENTATION PLAN

(NOTE __)

0' 2'-8" 5'-4" 10'-8"

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CITY OF GRANDVIEW
WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1

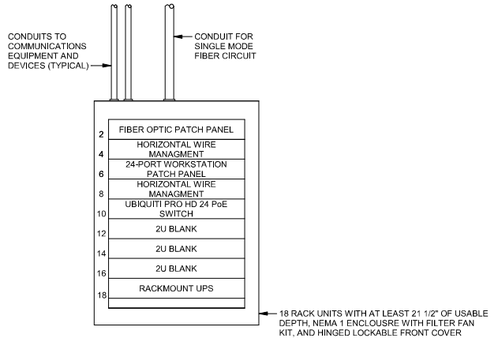
DEWATERING BUILDING – PROCESS AND INSTRUMENTATION PLAN

E11-18

SHEET 175 OF 192

DEWATERING BUILDING PATCHING SCHEDULE

SWITCH	SWITCH PORT	EQUIPMENT DESCRIPTION
11CRA SWITCH 1	1	DEWATERING BUILDING CONTROL PANEL 11 CP 01
	2	MOTOR CONTROL CENTER 11 MCC A
	3	
	4	
	5	
	6	SCREW PRESS NO.2 CONTROL PANEL 11 CP 11
	7	SCREW PRESS NO.2 CONTROL PANEL 11 CP 12
	8	SCREW PRESS NO.3 CONTROL PANEL 11 CP 13
	9	
	10	
	11	
	12	
	13	
	14	
	15	
	16	
	17	
	18	
	19	
	20	
	21	
	22	
	23	
	24	
	SFP 01	FIBER TO RACK 13CRA
	SFP 02	
	SFP 03	
	SFP 04	



DEWATERING BUILDING	PRODUCT DESCRIPTION
RACK 1	1-18RU, 26"Wx28"D, FRONT & REAR DOORS, BLACK, CABINET
	2U FIBER OPTIC PATCH PANEL
	2U HORIZONTAL WIRE MANAGEMENT
	2U 24-PORT WORKSTATION PATCH PANEL
	2U HORIZONTAL WIRE MANAGEMENT
	2U UBIQUITI PRO HD 24 PoE SWITCH
	RACKMOUNT UPS

DETAIL 3/E11-19
COMMUNICATIONS RACK "11CRA"
SCALE: NONE

SHEET NOTES

C1 SEE COMMUNICATIONS SYSTEM BLOCK DIAGRAMS ON SHEET E0-09 FOR CIRCUIT AND EQUIPMENT INFORMATION.

C111 SEE COMMUNICATIONS RACK ELEVATION 3/E11-13.

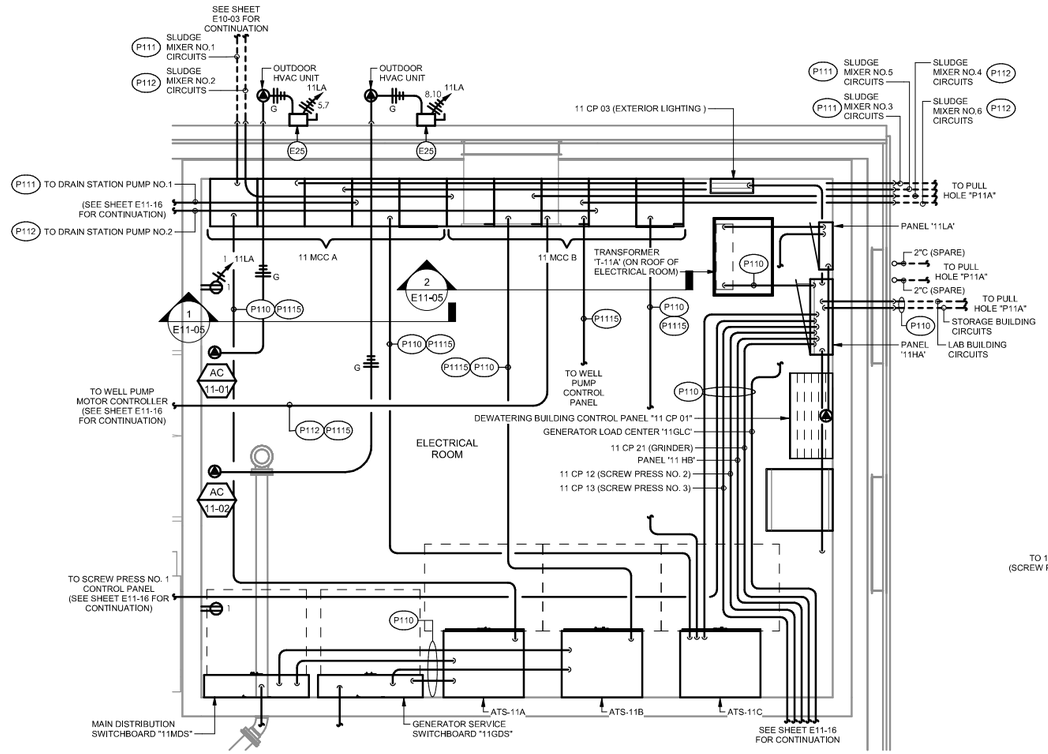
E25 SEE SHEET E0-10 FOR DISCONNECT INFORMATION.

P110 SEE ONE LINE DIAGRAM SHEET E11-04 FOR CIRCUIT / FEEDER, OR EQUIPMENT INFORMATION.

P111 SEE MOTOR CONTROL CENTER "11 MCC A" SCHEDULE SHOWN ON SHEET E11-05 FOR CIRCUIT INFORMATION.

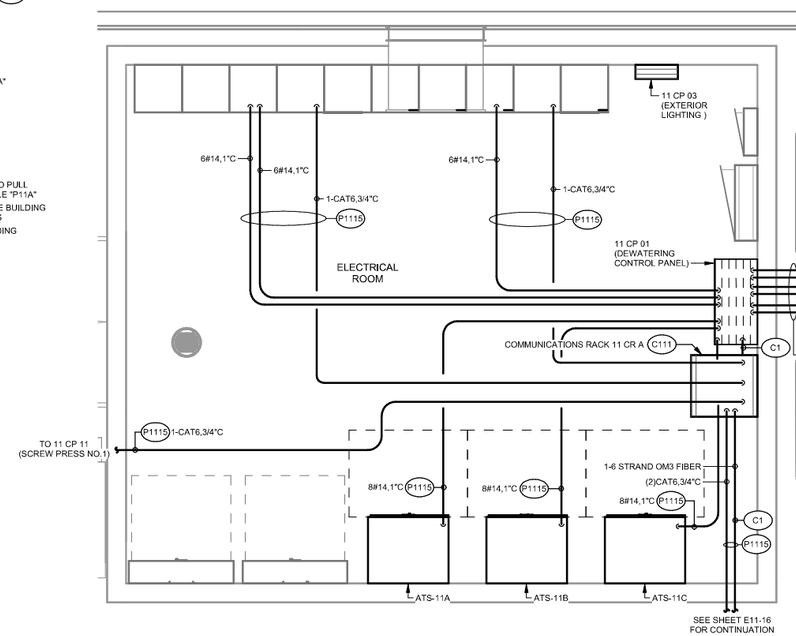
P112 SEE MOTOR CONTROL CENTER "11 MCC B" SCHEDULE SHOWN ON SHEET E11-05 FOR CIRCUIT INFORMATION.

P1115 ROUTE CONDUIT ABOVE CEILING.



DEWATERING BUILDING - ENLARGED ELECTRICAL ROOM POWER PLAN

0' 1'-4" 2'-8" 5'-4"



DEWATERING BUILDING - ENLARGED ELECTRICAL ROOM INSTRUMENTATION PLAN

0' 1'-4" 2'-8" 5'-4"

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EDWARD JORDAN GODOT STATE OF WASHINGTON 23036574 REGISTERED PROFESSIONAL ENGINEER
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CITY OF GRANDVIEW
WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1

DEWATERING BUILDING – ENLARGED ELECTRICAL PLANS

E11-19

SHEET NOTES

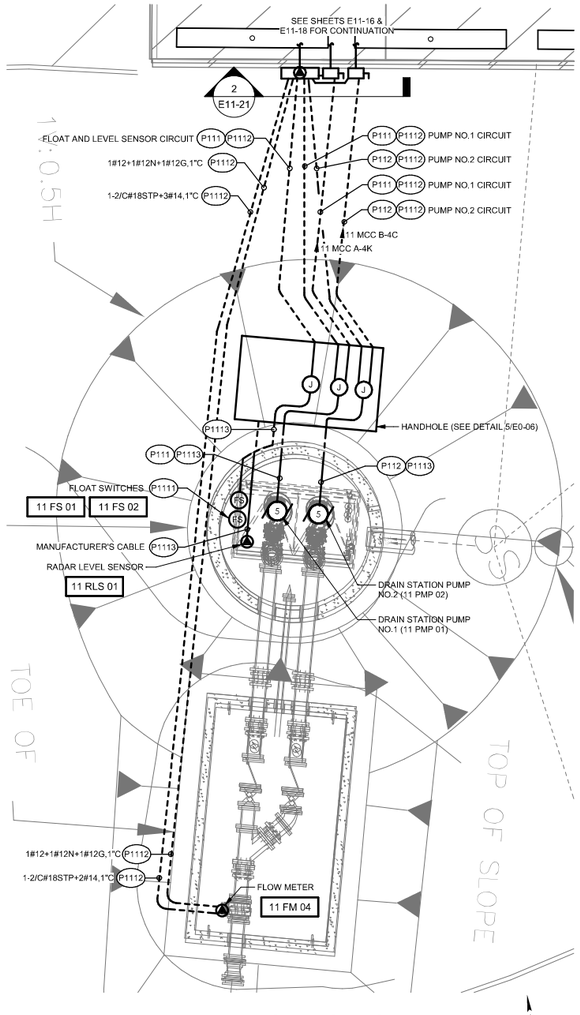
P111 SEE MOTOR CONTROL CENTER "11 MCC A" SCHEDULE SHOWN ON SHEET E11-05 FOR CIRCUIT INFORMATION.

P112 SEE MOTOR CONTROL CENTER "11 MCC B" SCHEDULE SHOWN ON SHEET E11-05 FOR CIRCUIT INFORMATION.

P1111 INSTALL FLOATS AT ELEVATION GIVEN ON CIVIL SHEETS: TEST PUMP STATION OPERATION AND ADJUST FLOAT SETTINGS (ELEVATION) ALONG CABLE AS REQUIRED BY ENGINEER. RECORD FINAL FLOAT SETTINGS ON RECORD DRAWINGS.

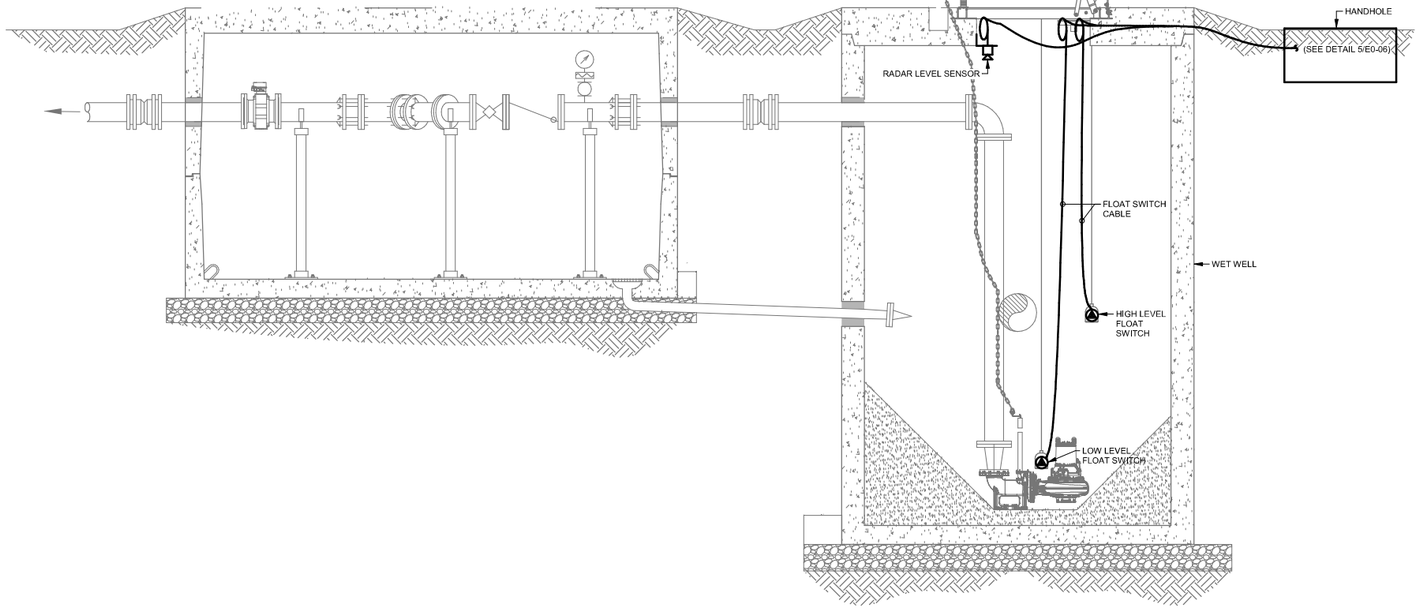
P1112 SEE DETAIL 4/E0-05 FOR TRENCHING INFORMATION.

P1113 PROVIDE 8'-0" MINIMUM OF EXTRA CABLE FOR MAINTENANCE WORK. LOOP THE CABLE AT THE SAFETY HOOKS AND SUPPORT CABLE WITH A TIE WRAP.



DRAIN PUMP STATION - SITE PLAN

0' 2'-0" 4'-0" 8'-0"



DRAIN PUMP STATION ELEVATION

0' 1'-0" 2'-0" 4'-0"

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WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1
DEWATERING BUILDING – DRAIN STATION PLANS

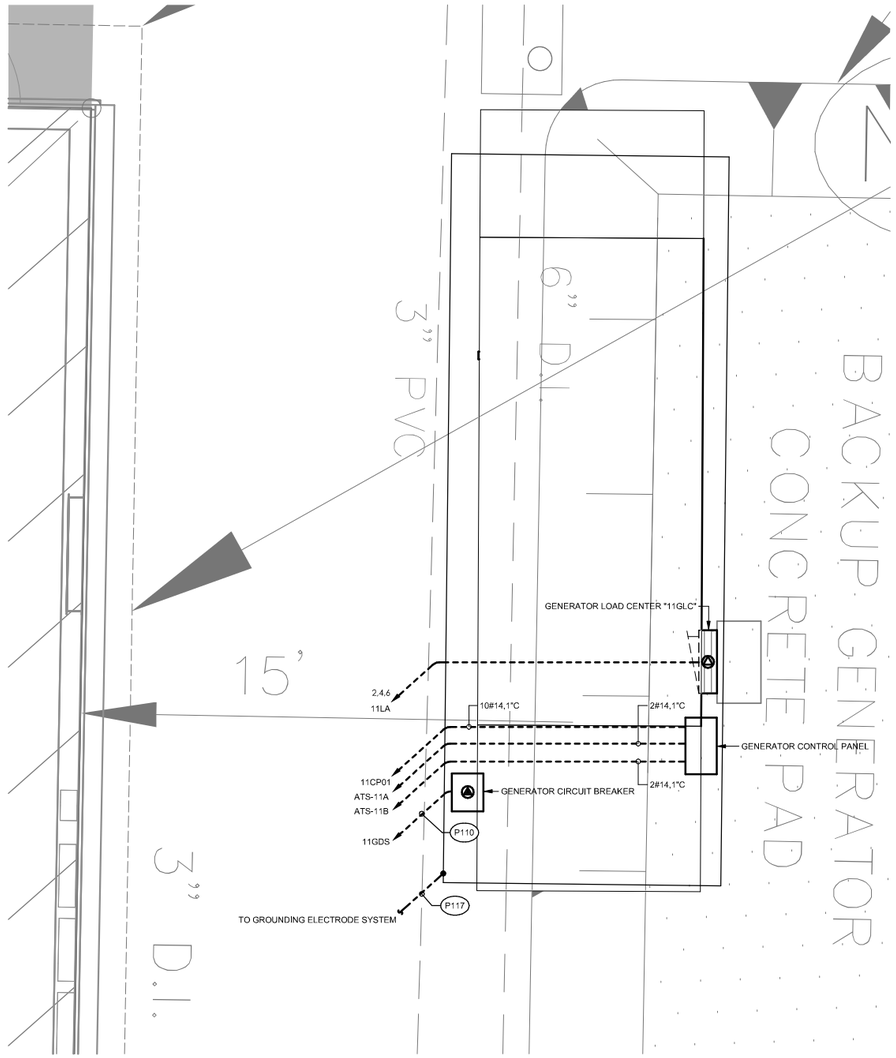
E11-20

SHEET 177 OF 192

SHEET NOTES

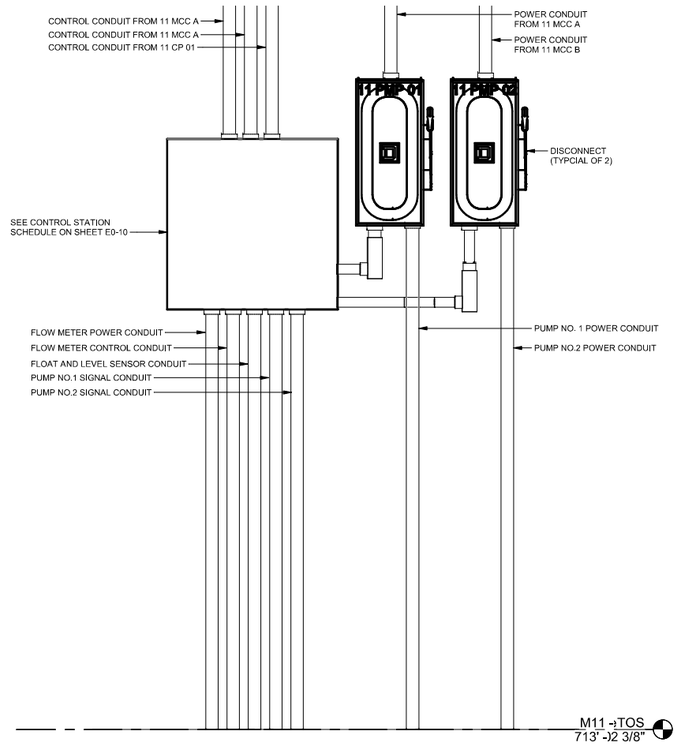
P110 SEE ONE LINE DIAGRAM SHEET E11-04 FOR CIRCUIT / FEEDER, OR EQUIPMENT INFORMATION.

P117 SEE SHEET E11-17 FOR GROUNDING PLAN.



DEWATERING BUILDING - GENERATOR PLAN

0' 1'-0" 2'-0" 4'-0"



DRAIN CONTROL STATION ELEVATION

0' 0'-4" 0'-8" 1'-4"

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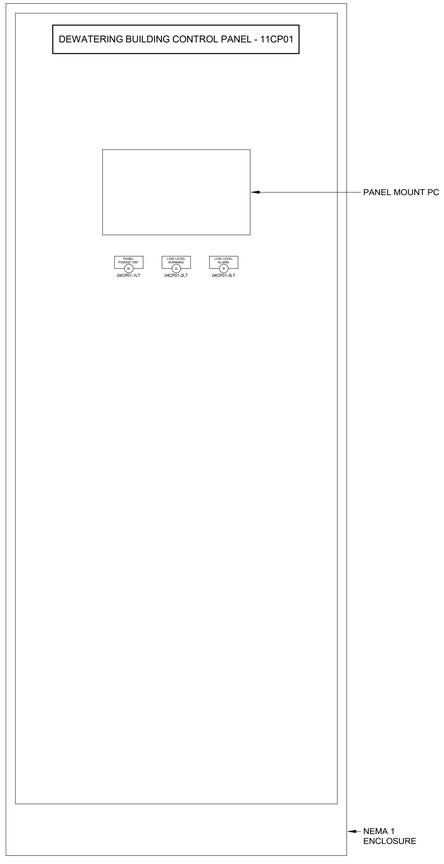
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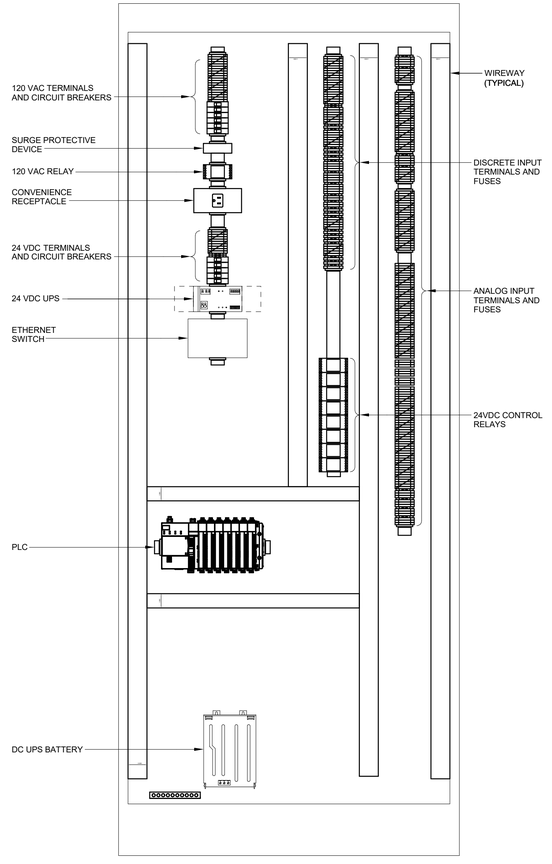
CITY OF GRANDVIEW
WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1

DEWATERING BUILDING – ENLARGED SITE PLANS

E11-21

SHEET 178 OF 192





DEWATERING BUILDING CONTROL PANEL 11 CP 01 ELEVATION

0' 0'-4" 0'-8" 1'-4"

CONTROL PANEL AND REMOTE IO ELEVATIONS ARE REPRESENTATIVE OF THE GENERAL INTENT. CONTROL PANEL AND REMOTE IO PHYSICAL LAYOUT AND DESIGN SHALL BE COMPLETED BY THE SYSTEM INTEGRATOR AND REVIEWED BY ENGINEER. MODEL NUMBERS FOR THE PLC, IO CARDS, AND CONTROL PANEL POWER DISTRIBUTION REQUIRED ARE INDICATED ON THE CONTROL PANEL ELEMENTARY WIRING DIAGRAM, IN THE SPECIFICATON, AND ON THE I/O SCHEDULES.

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REVISION	DATE

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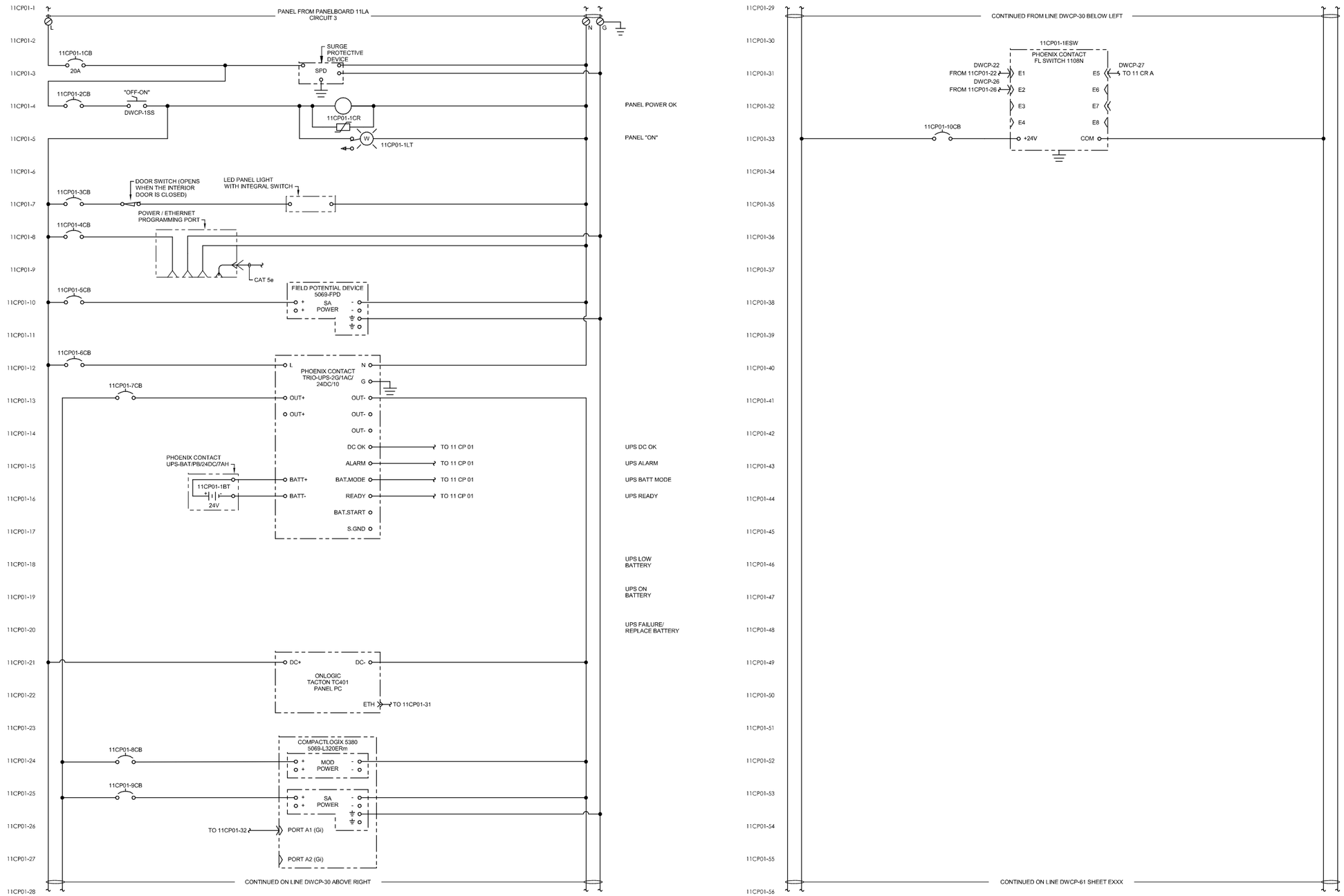
FILE NAMES:
DRAWING: HLA-23030_E_R24.RVT
PLAN: 23030

DESIGNED BY: EJG
ENTERED BY: EJG

CITY OF GRANDVIEW
WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1

DEWATERING BUILDING – 11 CP 01 ELEVATION

E11-22



EWD 1/E11-23
MODIFIED DEWATERING BUILDING CONTROL PANEL - 01

SCALE: NONE

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REVISION	DATE

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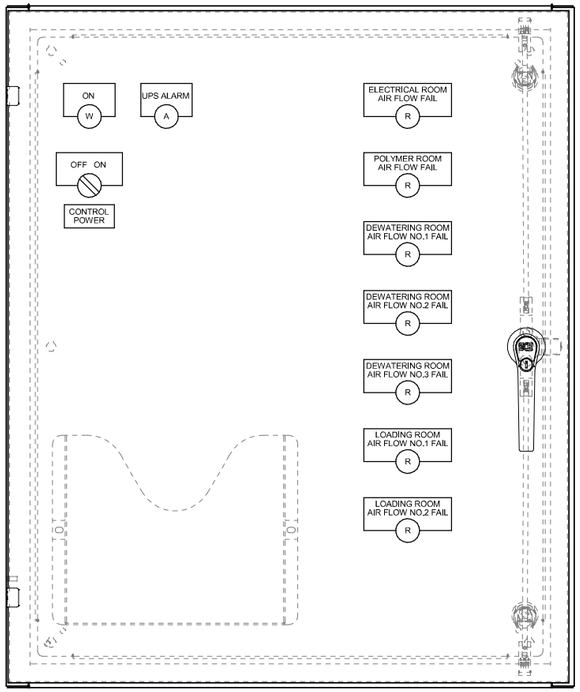
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CITY OF GRANDVIEW
WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1
DEWATERING BUILDING – 11 CP 01 EWD

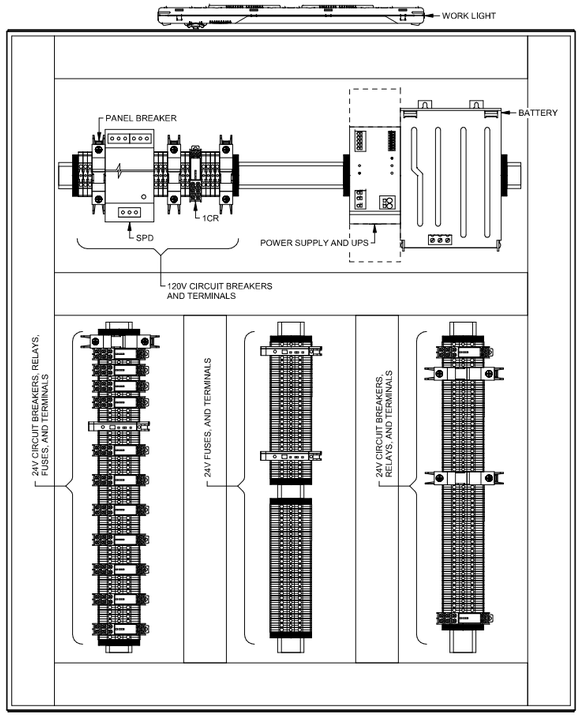
E11-23

SHEET 180 OF 192



11 CP 02 GO/NO-GO PANEL EXTERIOR ELEVATION

0' 1 1/2" 3" 6"



11 CP 02 GO/NO-GO PANEL INTERIOR ELEVATION

0' 1 1/2" 3" 6"

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03/12/2026

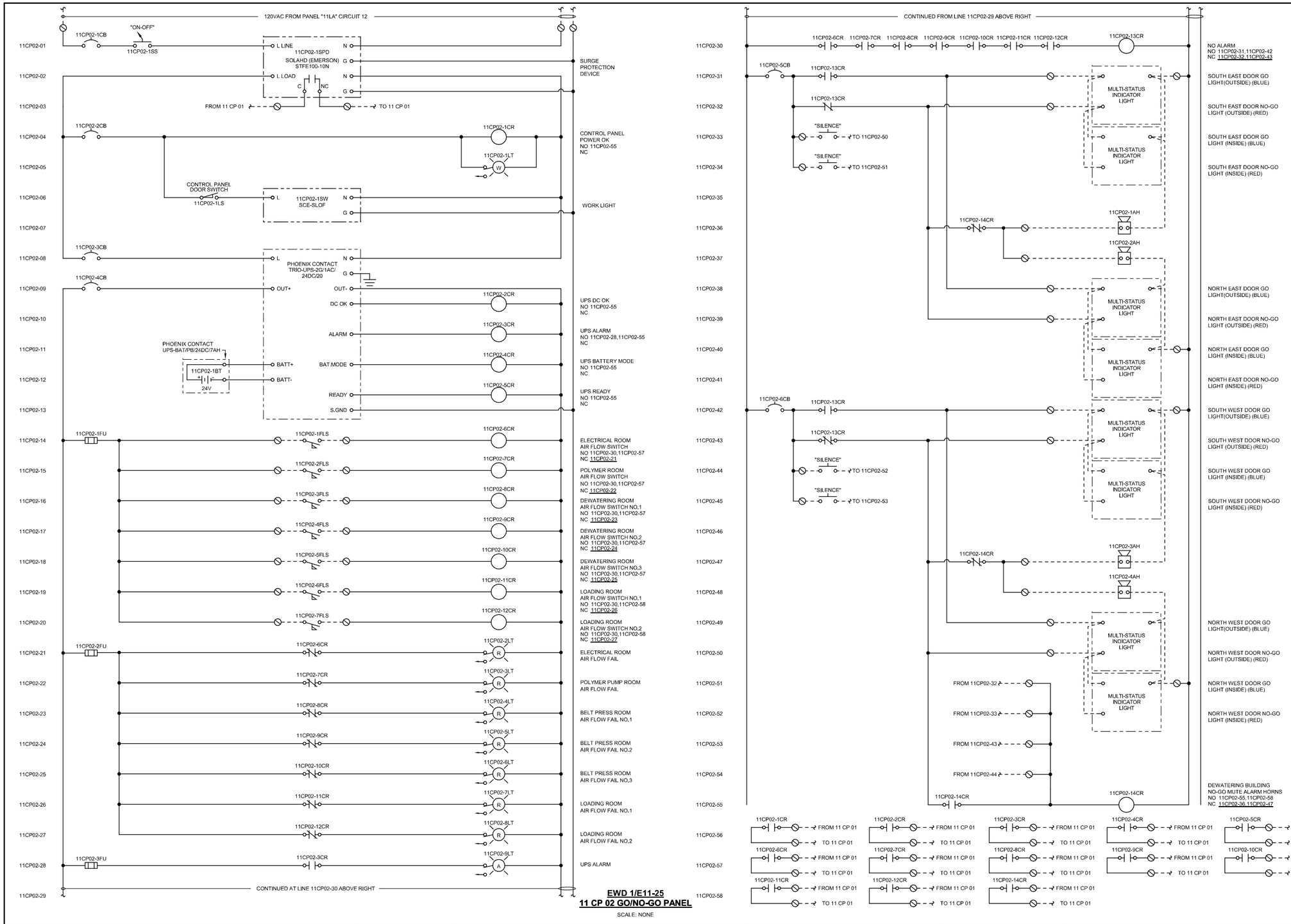
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CITY OF GRANDVIEW
WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1

DEWATERING BUILDING – 11 CP 02 ELEVATION

E11-24



NOTES

1. SEE PLC I/O SCHEDULE SHEET E11-23 FOR WIRING AND EQUIPMENT INFORMATION.

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FILE NAMES:
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PLAN: 23030

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CITY OF GRANDVIEW
WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1
DEWATERING BUILDING – 11 CP 02 EWD

E11-25

SHEET 182 OF 192

SHEET NOTES

1. HIGH FLOAT SHALL DRIVE A TIME DELWAY RELAY. TOMER ON FUNCTION SET AT 3 SECONDS.
2. LOW FLOAT SHALL DRIVE A TIME DELAY RELAY. TIMER OFF FUNCTION SET AT 1 SECOND.

DEWATERING BUILDING PLC (11CP01)

RACK	I	24 VDC DISCRETE INPUTS			
SLOT	CH	DESCRIPTION	FUSE GROUP	DETAIL	TAG ID
5069-IB16 1	0	DEWATERING CONTROL PANEL POWER OK	FU1	1/E0-08	11 CP 01
	1	24V DC UPS LOW BATTERY	FU1	1/E0-08	
	2	24V DC UPS ON BATTERY	FU1	1/E0-08	
	3	24V DC UPS ALARM	FU1	1/E0-08	
	4	ATS -11A UTILITY POWER AVAILABLE	FU2	2/E0-08	
	5	ATS-11A GENERATOR POWER AVAILABLE	FU2	2/E0-08	
	6	ATS-11A UTILITY CONNECTED POWER	FU2	2/E0-08	
	7	ATS -11B UTILITY POWER AVAILABLE	FU2	2/E0-08	
	8	ATS-11B GENERATOR POWER AVAILABLE	FU2	2/E0-08	
	9	ATS-11B UTILITY CONNECTED POWER	FU2	2/E0-08	
	10	ATS -11C UTILITY POWER AVAILABLE	FU2	2/E0-08	
	11	ATS-11C GENERATOR POWER AVAILABLE	FU2	2/E0-08	
	12	ATS-11C UTILITY CONNECTED POWER	FU2	2/E0-08	
	13	CONVEYOR CONTROL PANEL POWER OK	FU3	3/E0-08	11 CP 03
	14	CONVEYOR CONTROL PANEL ENABLE	FU3	3/E0-08	11 CP 03
	15	CONVEYOR CONTROL PANEL RUN	FU3	3/E0-08	11 CP 03
5069-IB16 2	0	CONVEYOR CONTROL PANEL EMERGENCY STOP	FU3	3/E0-08	11 CP 03
	1	CONVEYOR CONTROL PANEL FAULT	FU3	3/E0-08	11 CP 03
	2	CONVEYOR CONTROL PANEL AUTO MODE	FU3	3/E0-08	11 CP 03
	3	GENERATOR RUNNING	FU4	3/E0-08	
	4	GENERATOR FAULT	FU4	3/E0-08	
	5	GENERATOR LOW FUEL LEVEL	FU4	3/E0-08	
	6	GENERATOR FUEL LEAK	FU4	3/E0-08	
	7	GENERATOR BREAKER OFF	FU4	3/E0-08	
	8	DS WET WELL LOW LEVEL FLOAT	FU5	3/E0-08	11 FS 01
	9	DS WET WELL HIGH LEVEL FLOAT	FU5	3/E0-08	11 FS 02
	10	DS PUMP 1 LEAK	FU12	2/E0-08	11 PMP 01
	11	DS PUMP 2 LEAK	FU12	2/E0-08	11 PMP 02
	12				
	13				
	14				
	15				
5069-IB16 3	0	11 CP 02 SPD FAULT	FU13	3/E0-08	
	1	11 CP 02 CONTROL PANEL POWER OK	FU13	3/E0-08	
	2	11 CP 02 UPS DC OK	FU13	3/E0-08	
	3	11 CP 02 UPS ALARM	FU13	3/E0-08	
	4	11 CP 02 UPS BAT. MODE	FU14	3/E0-08	
	5	11 CP 02 UPS READY	FU14	3/E0-08	
	6	11 CP 02 UPS READY	FU14	3/E0-08	
	7				
	8	ELECTRICAL ROOM FLOW SWITCH	FU15	3/E0-08	
	9	POLYMER PUMP ROOM FLOW SWITCH	FU15	3/E0-08	
	10	DEWATERING ROOM FLOW SWITCH NO.1	FU15	3/E0-08	
	11	DEWATERING ROOM FLOW SWITCH NO.2	FU15	3/E0-08	
	12	DEWATERING ROOM FLOW SWITCH NO.3	FU16	3/E0-08	
	13	LOADING ROOM FLOW SWITCH NO.1	FU16	3/E0-08	
	14	LOADING ROOM FLOW SWITCH NO.2	FU16	3/E0-08	
	15	GO/NO-GO SILENCE PUSHED	FU16	3/E-08	
5069-IB16 4	0	SLUDGE TANK 1 LOW LEVEL FLOAT	FU17	2/E0-08	10 FS 01
	1	SLUDGE TANK 1 HIGH LEVEL FLOAT	FU17	2/E0-08	10 FS 02
	2	SLUDGE TANK 2 LOW LEVEL FLOAT	FU18	2/E0-08	10 FS 03
	3	SLUDGE TANK 2 HIGH LEVEL FLOAT	FU18	2/E0-08	10 FS 04
	4	SLUDGE TANK 3 LOW LEVEL FLOAT	FU19	2/E0-08	10 FS 05
	5	SLUDGE TANK 3 HIGH LEVEL FLOAT	FU19	2/E0-08	10 FS 06
	6				
	7				
	8				
	9				
	10				
	11				
	12				
	13				
	14				
	15				

DEWATERING BUILDING PLC (11CP01)

RACK	I	24 VDC DISCRETE OUTPUTS			
SLOT	CH	DESCRIPTION	FUSE GROUP	DETAIL	TAG ID
5069-QB16 5	0				
	1				
	2				
	3				
	4				
	5				
	6				
	7				
	8				
	9				
	10				
	11				
	12				
	13				
	14				
	15				

DEWATERING BUILDING PLC (11CP01)

RACK	I	ANALOG INPUTS			
SLOT	CH	DESCRIPTION	FUSE GROUP	DETAIL	TAG ID
5069-IF8 6	0	DS WET WELL LEVEL	FU20	2/E0-07	11 RLS 01
	1	SLUDGE TANK 1 LEVEL (PRESSURE)	FU21	2/E0-07	
	2	SLUDGE TANK 2 LEVEL (PRESSURE)	FU22	2/E0-07	
	3	SLUDGE TANK 3 LEVEL (PRESSURE)	FU23	2/E0-07	
	4	SLUDGE TANK 3 LEVEL (PRESSURE)	FU23	2/E0-07	
	5	DS FLOW METER			11 FM 01
	6				
	7				

DEWATERING BUILDING PLC (11CP01)

RACK	I	ANALOG OUTPUTS			
SLOT	CH	DESCRIPTION	FUSE GROUP	DETAIL	TAG ID
5069-OF4 7	0				
	1				
	2				
	3				

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EDWARD JORDAN GODOY — STATE OF WASHINGTON — 23036574 — REGISTERED PROFESSIONAL ENGINEER — 03/12/2026

REVISION	DATE

JOB NUMBER: 23030 | DATE: 3/13/2026

FILE NAMES:
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PLAN: 23030

DESIGNED BY: EJG
ENTERED BY: EJG

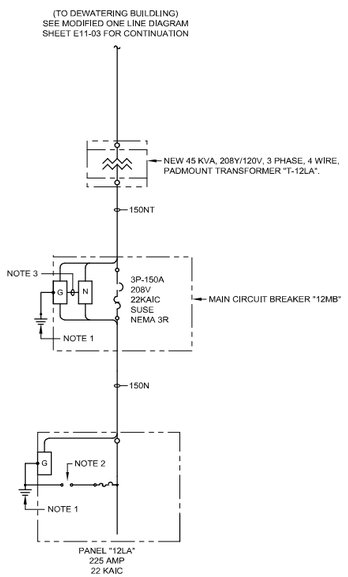
CITY OF GRANDVIEW
WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1

DEWATERING BUILDING – 11 CP 01 INPUT OUTPUT TABLES

E11-26

SHEET NOTES

1. REFER TO PARTIAL PLAN 2/E12-03 FOR FURTHER INFORMATION REGARDING GROUNDING.
2. SIZE CIRCUIT BREAKER AND SERVING CONDUCTORS FOR SPD PER SPD MANUFACTURER'S RECOMMENDATIONS.
3. BOND GROUND TO NEUTRAL PER NEC REQUIREMENTS.



ONE LINE DIAGRAM
STORAGE BUILDING

Branch Panel: 12LA

Location:	STORAGE 14			**Volts:**	208/ 120			**A.I.C. Rating:**					
Supply From:	T-12LA			**Phases:**	3			**Mains Type:**	MLO				
Mounting:	Surface			**Wires:**	4			**Mains Rating:**	100				
Enclosure:	Type 1							**MCB Rating:**	MLO				

CKT	Demand Type	Circuit Description	Trip	P	A	B	C	P	Trip	Circuit Description	Demand Type	CKT
1	Lighting	INTERIOR LIGHTING	20 A	1	715 VA / 0 VA			1	20 A	Spare	--	2
3	Lighting	Lighting	20 A	1		152 VA / 0 VA		1	20 A	Spare	--	4
5	Lighting	Exterior Lighting Control Panel	20 A	1			500 VA / 0 VA	1	20 A	Spare	--	6
7	Receptacle	Receptacle	20 A	1	540 VA / 360 VA			1	20 A	Receptacle	Receptacle	8
9	Receptacle	Receptacle	20 A	1		180 VA / 360 VA		1	20 A	Receptacle	Receptacle	10
11	Receptacle	Receptacle	20 A	1			180 VA / 360 VA	1	20 A	Receptacle	Receptacle	12
13	Motor	Overhead Garage Door Operator	20 A	1	1000 VA / 0 VA			1	20 A		Receptacle	14
15	Motor	Overhead Garage Door Operator	20 A	1		1000 VA / 0 VA		1	20 A		Receptacle	16
17	Motor	Overhead Garage Door Operator	20 A	1			1000 VA / 0 VA	1	20 A		Receptacle	18
19	Motor	Overhead Garage Door Operator	20 A	1	1000 VA / 4160 VA			2	50 A	Welder Outlet	Misc Non-Continuous	20
21	Receptacle	Receptacle	20 A	1		180 VA / 4160 VA						22
23	Heating	Unit Heater	40 A	3			3333 VA / 3333 VA	3	40 A	Unit Heater	Heating	24
25					3333 VA / 3333 VA							26
27						3333 VA / 3333 VA						28
29												30
31	--	Spare	20 A	1	0 VA / 0 VA			1	20 A	Spare	--	32
33	--	Spare	20 A	1		0 VA / 0 VA		1	20 A	Spare	--	34
35	--	Spare	20 A	1			0 VA / 0 VA	1	20 A	Spare	--	36
37	--	Spare	20 A	1	0 VA / 0 VA			1	20 A	Spare	--	38
39	--	Spare	20 A	1		0 VA / 0 VA		1	20 A	Spare	--	40
41	--	Spare	20 A	1			0 VA / 0 VA	1	20 A	Spare	--	42
				Total Load :	14441 VA	12699 VA	8707 VA					
				Total Amps Per Phase :	125,46 A	110,94 A	72,56 A					
				Total Amps :		99.5 A						

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Lighting	1367 VA	125.00%	1708 VA		
Motor	4000 VA	106.25%	4250 VA	**Total Conn. Load:**	35847 VA
Receptacle	2160 VA	100.00%	2160 VA	**Total Est. Demand:**	36438 VA
Heating	20000 VA	100.00%	20000 VA	**Total Conn.:**	99.5 A
Misc Non-Continuous	8320 VA	100.00%	8320 VA	**Total Est. Demand:**	101.14 A

Notes:

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ROBERT R. BLEAM — REGISTERED PROFESSIONAL ENGINEER — 45477 — 03/12/2026

REVISION	DATE

JOB NUMBER: 23030 | DATE: 3/13/2026

FILE NAMES:
DRAWING: HLA-23030_E_R24.RVT
PLAN: 23030

DESIGNED BY: BRB
ENTERED BY: BRB

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WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1

STORAGE BUILDING – ONE LINE AND PANEL SCHED

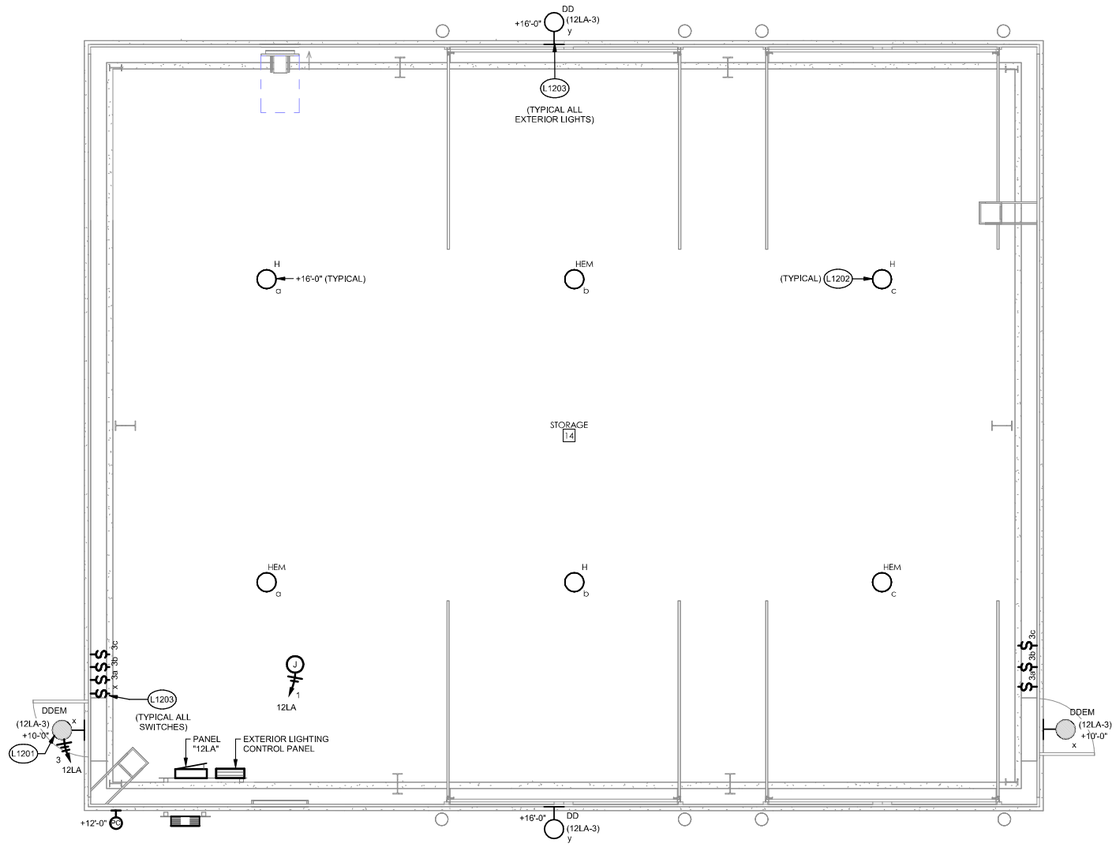
E12-01

SHEET NOTES

L1201 HOMERUN EXTERIOR LIGHTING CIRCUIT VIA EXTERIOR LIGHTING CONTROL PANEL. SEE EWD 2/E12-02 ON THIS SHEET FOR LIGHTING CONTROL PANEL INFORMATION.

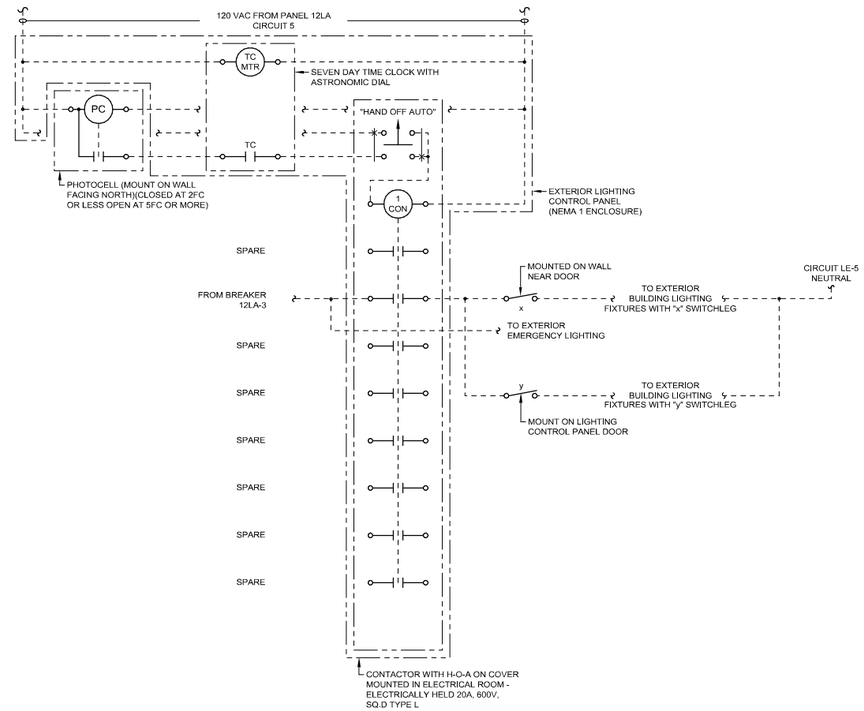
L1202 MOUNT INTERIOR LIGHTS FROM Z PURLINS. AT THE CONTRACTOR'S OPTION, LIGHTING FIXTURES MAY BE CHAIN HUNG, CABLE HUNG OR PENDANT MOUNTED. PROVIDE RECEPTACLE THAT MATCHES LIGHTING FIXTURE CORD AND PLUG. MOUNT RECEPTACLE ON UNDERSIDE OF Z PURLINS.

L1203 PROVIDE STRUCTURAL BACKING SUCH AS UNISTRUT FOR ALL SWITCHES AND WALL MOUNTED LIGHTING FIXTURES TO SUPPORT DEVICES ON BUILDING STRUCTURE WALLS.



STORAGE BUILDING - LIGHTING PLAN

0' 2'-0" 4'-0" 8'-0"



EWD 2/E12-02
STORAGE BUILDING - EXTERIOR LIGHTING EWD

SCALE: NONE

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03/12/2026

REVISION	DATE

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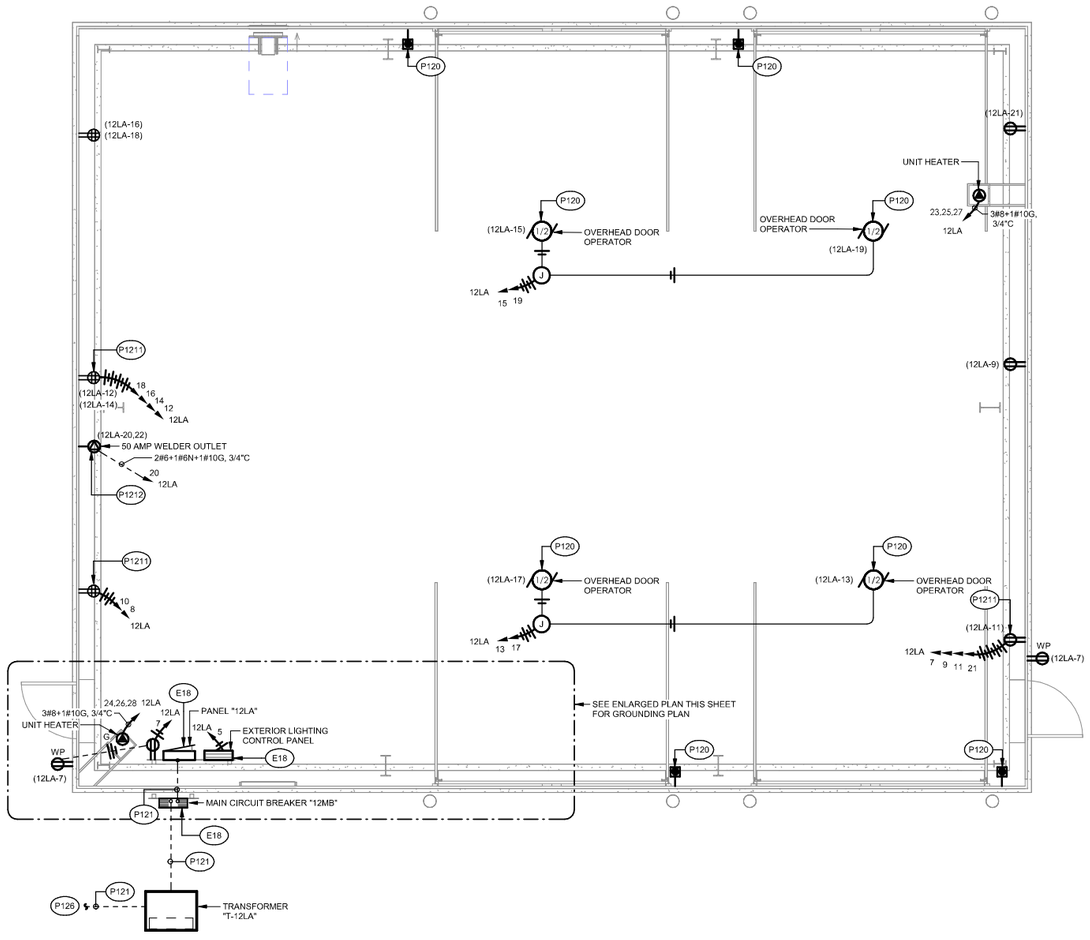
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CITY OF GRANDVIEW
WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1

STORAGE BUILDING – LIGHTING PLAN

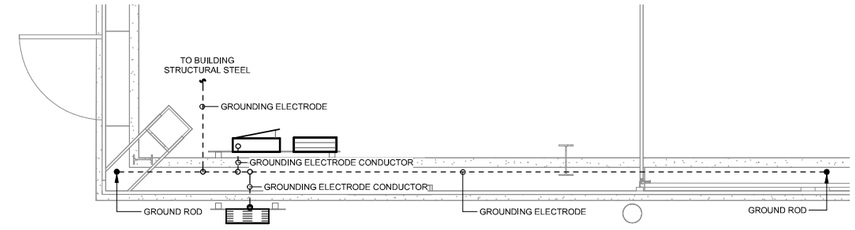
E12-02

SHEET 185 OF 192



STORAGE BUILDING - POWER PLAN

0' 2'-0" 4'-0" 8'-0"



STORAGE BUILDING - GROUNDING PLAN

0' 1'-4" 2'-8" 5'-4"

SHEET NOTES

E18 SEE DETAIL 1/E0-07 FOR BACKBOARD MOUNTING REQUIREMENTS.

P120 INSTALL ELECTRICAL COMPONENTS OF MOTORIZED SERVICE DOOR PER DOOR MANUFACTURER'S REQUIREMENTS. PROVIDE ALL INTERCONNECTING WIRING AND CONNECT TO DEVICES AND EQUIPMENT INCLUDING PERIMETER SEAL, OPEN/CLOSE PUSHBUTTONS AND SAFETY EDGE. PROVIDE ALL INTERCONNECTING WIRING FOR A COMPLETE AND OPERABLE SYSTEM. VERIFY EXACT LOCATION OF DOOR SWITCHES AND OPERATOR WITH EQUIPMENT SHOP DRAWINGS PRIOR TO DEVICE ROUGH IN.

P121 SEE STORAGE BUILDING ONE LINE DIAGRAM SHEET E12-01 FOR CIRCUIT AND EQUIPMENT INFORMATION.

P126 SEE SHEET E10-01 FOR CONTINUATION.

P1211 ROUTE HOMERUN CIRCUITS AND CONDUIT UNDERSLAB FROM SERVING PANELBOARD TO FIRST CONVENIENCE RECEPTACLE. FROM THAT POINT ROUTE CONDUITS UNDERSLAB TO ADDITIONAL RECEPTACLES SHOWN. PROVIDE ADDITIONAL BACKING AND SUPPORTS FOR RECEPTACLES MOUNTED ON STRUCTURE WALLS.

P1212 COORDINATE ACTUAL CIRCUIT REQUIREMENTS WITH WELDER PROVIDED BY OWNER.

GROUNDING NOTES

1. PROVIDE #4 BARE COPPER GROUNDING ELECTRODE IN BUILDING FOOTING AS SHOWN ON THE PLAN. PROVIDE TWO 3/4" X 10' COPPER CLAD GROUND RODS CONNECTED TO ELECTRODE AS SHOWN ON PLAN. PROVIDE COPPER GROUNDING ELECTRODE CONDUCTOR CONNECTIONS TO EQUIPMENT AS FOLLOWS:

PANEL "12LA"	#4
MAIN BREAKER	#4
BUILDING STRUCTURAL STEEL	#4

EXOTHERMICALLY WELD ALL CONNECTIONS. ALL CONDUCTORS NOT CONCEALED SHALL BE RUN IN RMC. BOND CONDUIT ENDS PER CODE.

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ROBERT R. BLEDSAET REGISTERED PROFESSIONAL ENGINEER 55177 REGISTERED PROFESSIONAL ENGINEER 06/12/2026

REVISION	DATE

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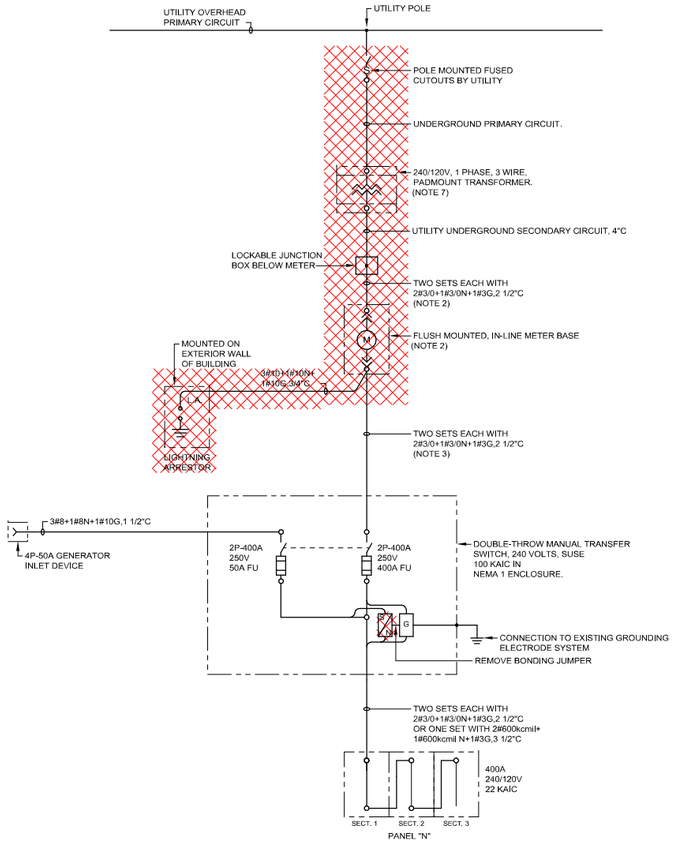
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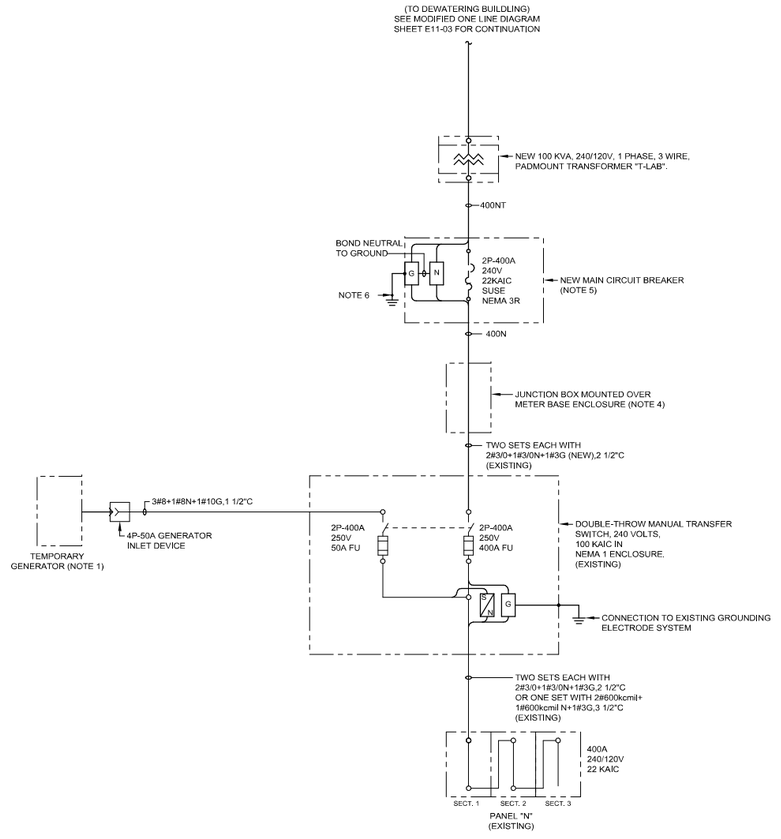
CITY OF GRANDVIEW
WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1
STORAGE BUILDING – ELECTRICAL PLANS

E12-03

SHEET 186 OF 192



EXISTING ONE LINE DIAGRAM
LAB BUILDING
(NOTE 1)



MODIFIED ONE LINE DIAGRAM
LAB BUILDING

GENERAL NOTES

THE FOLLOWING IS A SUGGESTED SEQUENCE OF CONSTRUCTION FOR THE REPLACEMENT OF THE EXISTING PACIFIC POWER SERVICE WITH A NEW SERVICE FROM THE DEWATERING BUILDING. NOTE THAT DURING THE SERVICE CHANGEOVER, THE CONTRACTOR SHALL WORK 24/7 UNTIL THE NEW SERVICE IS INSTALLED AND OPERATIONAL:

1. INSTALL THE NEW TRANSFORMER. INSTALL THE NEW FEEDER CIRCUIT FROM THE DEWATERING BUILDING TO THE NEW TRANSFORMER.

2. INSTALL THE NEW MAIN CIRCUIT BREAKER ON THE BUILDING AND CONNECT THE MAIN CIRCUIT BREAKER TO THE EXISTING GROUNDING ELECTRODE CONDUCTOR.

3. INSTALL NEW CONDUITS AND CONDUCTORS FROM THE NEW TRANSFORMER AND CONNECT TO THE NEW MAIN CIRCUIT BREAKER.

4. ENERGIZE AND TEST THE MAIN CIRCUIT BREAKER,THE SERVICE REPLACEMENT SHALL NOT OCCUR UNTIL THE NEW SERVICE IS INSTALLED AND OPERATIONAL.

5. IN COOPERATION WITH PACIFIC POWER, DISCONNECT THE EXISTING SERVICE, CONNECT THE EXISTING BUILDING TRANSFER SWITCH/GENERATOR INLET DEVICE TO A TEMPORARY GENERATOR AND ENERGIZE.

6. DEMOLISH THE EXISTING METER BASE (PRESERVE THE ENCLOSURE) AND DEMOLISH THE EXISTING CONDUCTORS FROM THE METER BASE TO THE TRANSFER SWITCH.

7. INSTALL A NEW NEMA 3R JUNCTION BOX OVER THE METER BASE ENCLOSURE FOR USE WITH NEW CONDUCTORS. CONNECT THE MAIN BREAKER TO THE JUNCTION BOX. PROVIDE NEW CONDUCTORS FROM THE MAIN BREAKER AND CONNECT TO THE EXISTING TRANSFER SWITCH VIA THE EXISTING CONDUIT SYSTEM,TEST AND ENERGIZE.

8. WHEN THE NEW SYSTEM IS TESTED AND OPERATIONAL,THE EXISTING PACIFIC POWER SERVICE CAN BE REMOVED IN ITS ENTIRETY.

SHEET NOTES

1. PROVIDE A TEMPORARY GENERATOR TO POWER THE BUILDING WHILE THE EXISTING ELECTRICAL SERVICE IS BEING REPLACED.

2. DEMOLISH EXISTING METER BASE. PRESERVE EXISTING METER BASE FLUSH MOUNTED ENCLOSURE FOR USE WITH NEW SERVICE.

3. DEMOLISH EXISTING CONDUCTORS. PRESERVE EXISTING CONDUIT FROM ENCLOSURE TO TRANSFER SWITCH FOR USE WITH NEW CONDUCTORS.

4. INSTALL NEW JUNCTION BOX OVER METER BASE ENCLOSURE FOR USE WITH NEW CONDUCTORS.

5. INSTALL NEW MAIN CIRCUIT BREAKER AND CONNECT TO NEW JUNCTION BOX MOUNTED OVER TOP OF METERING ENCLOSURE.

6. EXTEND EXISTING GROUNDING ELECTRODE CONDUCTOR STUBBED OUT OF BUILDING AND CONNECT TO NEW MAIN CIRCUIT BREAKER. CONDUCTORS ROUTED ABOVE GRADE SHALL BE INSTALLED IN CONDUIT.

7. PRESERVE EXISTING UTILITY VAULT AND WHEN EXISTING TRANSFORMER IS REMOVED, PROVIDE NEW VAULT COVER PER PACIFIC POWER STANDARDS.

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ROBERT R. BLEDSAET REGISTERED PROFESSIONAL ENGINEER 19477 — 03/12/2026

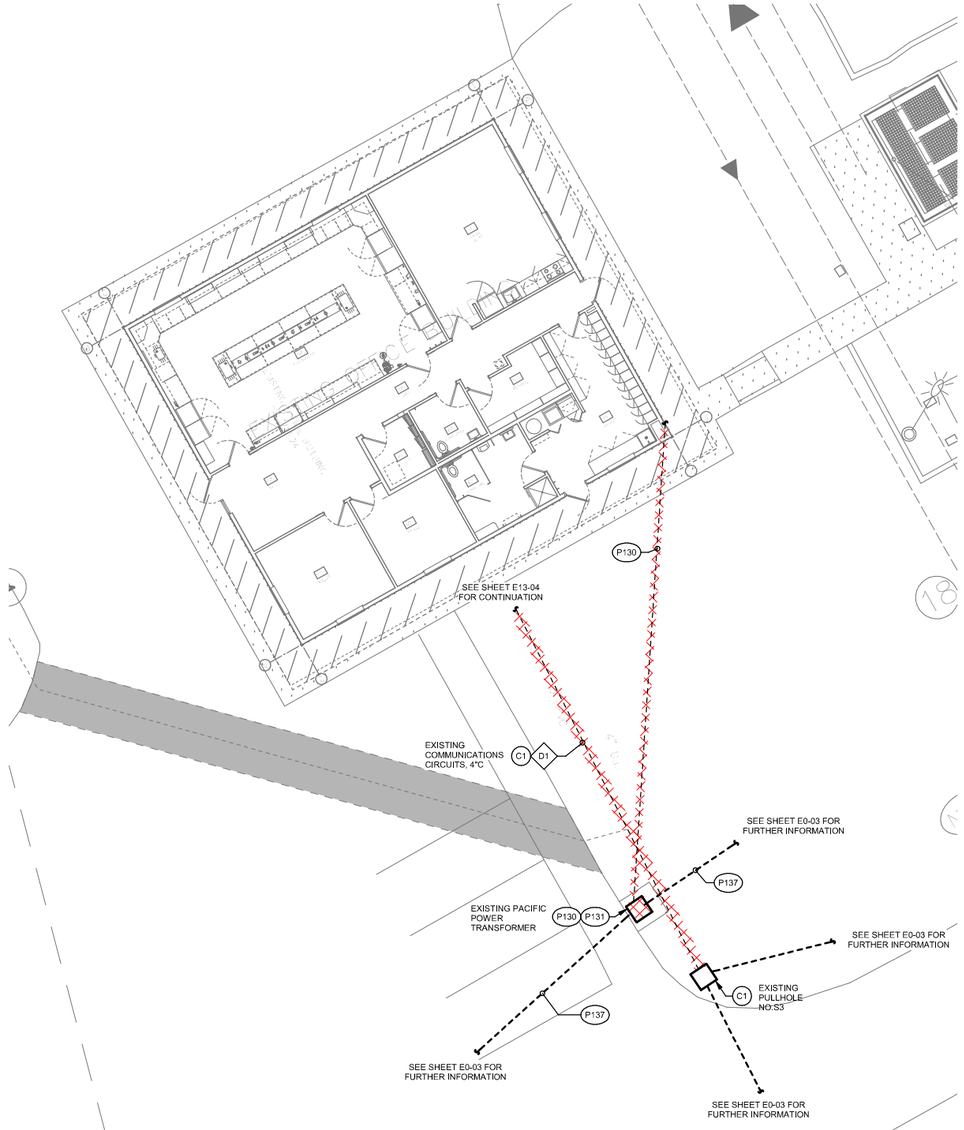
REVISION	DATE

JOB NUMBER: 23030	DATE: 3/13/2026
FILE NAMES:	
DRAWING: HLA-23030_E_R24.RVT	
PLAN: 23030	
DESIGNED BY: BRB	
ENTERED BY: BRB	

CITY OF GRANDVIEW
WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1
LAB BUILDING – ONE LINE DIAGRAMS

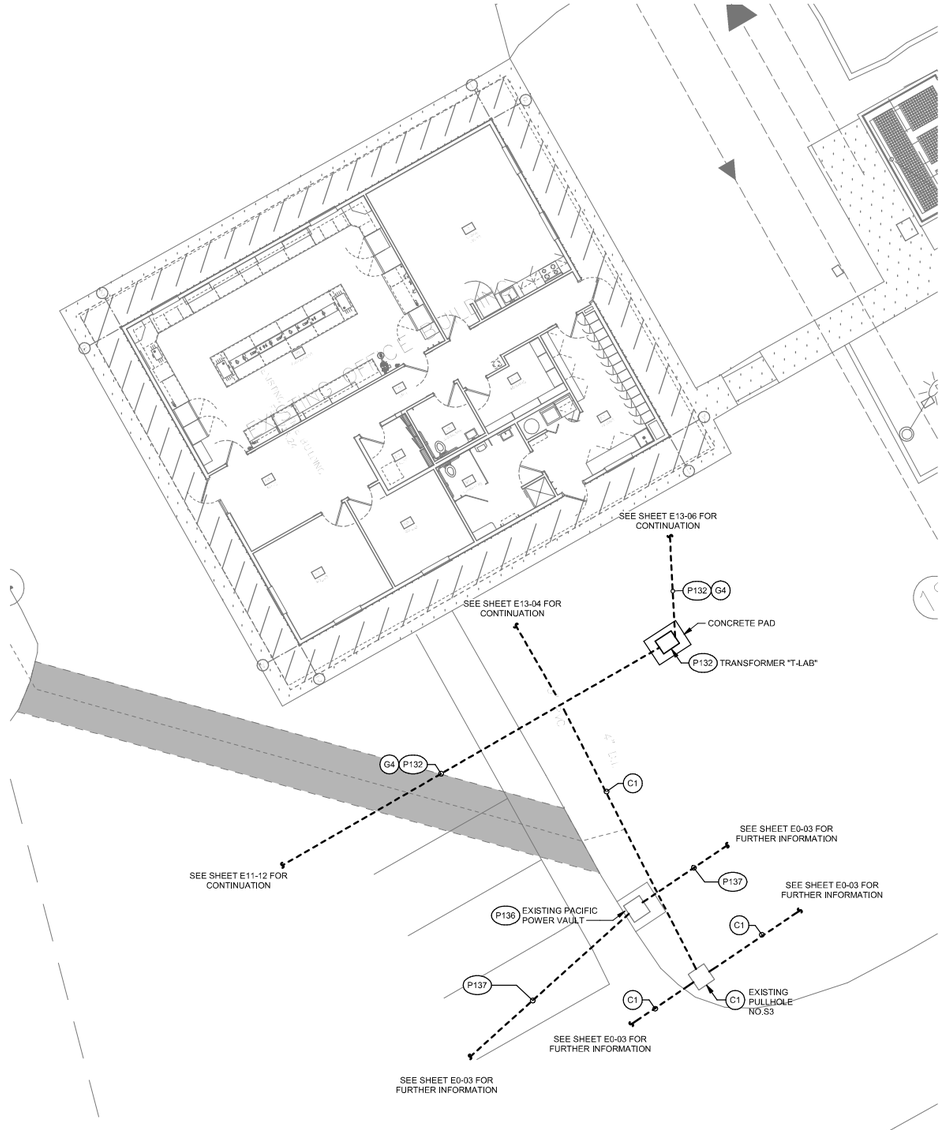
E13-01

SHEET 187 OF 192



LAB BUILDING - EXISTING/DEMOLITION ELECTRICAL SITE PLAN

0' 5'-0" 10'-0" 20'-0"



LAB BUILDING - MODIFIED ELECTRICAL SITE PLAN

0' 5'-0" 10'-0" 20'-0"

SHEET NOTES

C1 SEE COMMUNICATIONS SYSTEM BLOCK DIAGRAMS ON SHEET E0-09 FOR CIRCUIT AND EQUIPMENT INFORMATION.

D1 DEMOLISH CONDUCTORS. PRESERVE AND PROTECT RACEWAY FOR REUSE.

G4 SEE DETAILS 3 AND 4 SHEET E0-05 WHERE APPLICABLE FOR TRENCHING INFORMATION.

P130 EXISTING ELECTRICAL SERVICE TO BE DEMOLISHED. PRESERVE EXISTING VAULT WHICH CONTAINS EXISTING PACIFIC POWER CIRCUITS TO REMAIN. SEE EXISTING ONE LINE DIAGRAM LAB BUILDING SHEET E13-01 FOR FURTHER INFORMATION.

P131 SEE SUGGESTED SEQUENCE OF CONSTRUCTION ON SHEET E13-01 FOR SERVICE CHANGEOVER RECOMMENDATIONS.

P132 SEE LAB BUILDING MODIFIED ONE LINE DIAGRAM SHEET E13-01 FOR FURTHER INFORMATION.

P136 EXISTING VAULT TO REMAIN. PROVIDE NEW VAULT COVER ON VAULT PER PACIFIC POWER REQUIREMENTS.

P137 EXISTING PACIFIC POWER CIRCUITS. PRESERVE AND PROTECT DURING THE COURSE OF CONSTRUCTION.

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ROBERT R. BLEART — 45477 — REGISTERED PROFESSIONAL ENGINEER — STATE OF WASHINGTON
03/12/2026

REVISION	DATE

JOB NUMBER: 23030 | DATE: 3/13/2026

FILE NAMES:
DRAWING: HLA-23030_E_R24.RVT
PLAN: 23030

DESIGNED BY: BRB
ENTERED BY: BRB

CITY OF GRANDVIEW
WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1
LAB BUILDING – SITE PLANS

E13-02

SHEET 188 OF 192

Branch Panel: 13N(1)(E)

Location:		**Volts:**	120/ 240 Single	**A.I.C. Rating:**	22,000
Supply From:		**Phases:**	1	**Mains Type:**	MLO
Mounting:	Surface	**Wires:**	3	**Mains Rating:**	400
Enclosure:	Type 1			**MCB Rating:**	MLO

CKT	Demand Type	Circuit Description	Trip	P	A	B	P	Trip	Circuit Description	Demand Type	CKT
1	Lighting	OFFICES 104 & 105, UTILITY 106 LIGHTING	20 A	1	660 VA / 990 VA		1	20 A	LUNCH ROOM 101, HALL 102, ENTRY 103 LIGHTING	Lighting	2
3	Lighting	RESTROOMS 107 & 108, LOCKER 109, STORAGE 110 LIGHTING	20 A	1		540 VA / 1050 VA	1	20 A	LABORATORY 100 LIGHTING	Lighting	4
5	Lighting	EXTERIOR LIGHTING	20 A	1	470 VA / 540 VA		1	20 A	LUNCH ROOM 101 RECEPTACLES	Receptacle	6
7	Receptacle	EXTERIOR, UTILITY 107, RESTROOM 108 RECEPTACLES	20 A	1		720 VA / 540 VA	1	20 A	LUNCH ROOM 101 RECEPTACLES	Receptacle	8
9	Receptacle	HALL 102, RESTROOM 107, LOCLER 109, STORAGE 110 RECEPTACLES	20 A	1	720 VA / 180 VA		1	20 A	REFRIGERATOR RECEPTACLE	Receptacle	10
11	Receptacle	EXTERIOR, ENTRY 103, RESTROOM 108, LOCKER 109 RECEPTACLES	20 A	1		720 VA / 180 VA	1	20 A	LUNCH ROOM 101 COUNTERTOP RECEPTACLE	Receptacle	12
13	Receptacle	WATER COOLER RECEPTACLE	20 A	1	180 VA / 180 VA		1	20 A	DISPOSER RECEPTACLE	Receptacle	14
15	Receptacle	WASHER RECEPTACLE	20 A	1		180 VA / 180 VA	1	20 A	DISHWASHER RECEPTACLE	Receptacle	16
17	Misc Non-Continuous	DRYER RECEPTACLE	30 A	2	2400 VA / 180 VA		1	20 A	MICRO/HOOD COMBINATION RECEPTACLE	Receptacle	18
19						2400 VA / 4500 VA	2	50 A	RANGE RECEPTACLE	Misc Non-Continuous	20
21	Receptacle	UTILITY 106 RECEPTACLE	20 A	1	180 VA / 4500 VA						22
23	Receptacle	UTILITY 106 RECEPTACLE	20 A	1		180 VA / 180 VA	1	20 A	LUNCH ROOM 101 COUNTERTOP RECEPTACLE	Receptacle	24
25	Receptacle	UTILITY 106 RECEPTACLE	20 A	1	180 VA / 0 VA		1	20 A	Spare	--	26
27	Receptacle	OFFICES 104 & 105 RECEPTACLE	20 A	1		540 VA / 0 VA	1	20 A	Spare	--	28
29	Receptacle	OFFICES 104 & 105 RECEPTACLES	20 A	1	540 VA / 360 VA		1	20 A	LAB CONVENIENCE RECEPTACLES	Receptacle	30
31	Receptacle	OFFICES 104 & 105 RECEPTACLES	20 A	1		540 VA / 1200 VA	2	20 A	LAB SPECIAL RECEPTACLE	Misc Non-Continuous	32
33	Receptacle	ENTRY 103 COPIER RECEPTACLE	20 A	1	180 VA / 1200 VA						34
35	Receptacle	ENTRY 103 FAX MACHINE RECEPTACLE	20 A	1		180 VA / 1200 VA	2	20 A	LAB SPECIAL RECEPTACLE	Misc Non-Continuous	36
37	--	Spare	20 A	1	0 VA / 1200 VA						38
39	--	Spare	20 A	1		0 VA / 0 VA	1	20 A	Spare	--	40
41	--	Spare	20 A	1	0 VA / 0 VA		1	20 A	Spare	--	42
				Total Load :	53245 VA	52325 VA					
				Total Amps Per Phase :	443.71 A	436.04 A					
				Total Amps :	439.88 A						

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
HVAC	33570 VA	100.00%	33570 VA		
Lighting	4310 VA	125.00%	5388 VA	**Total Conn. Load:**	105570 VA
Misc Continuous	1800 VA	125.00%	2250 VA	**Total Est. Demand:**	100860 VA
Misc Non- Continuous	41880 VA	100.00%	41880 VA	**Total Conn.:**	439.88 A
Motor	1270 VA	110.43%	1403 VA	**Total Est. Demand:**	420.25 A
Receptacle	**22740 VA**	**71.99%**	**16370 VA**		

Notes:

Branch Panel: 13N(2)(E)

Location:		**Volts:**	120/ 240 Single	**A.I.C. Rating:**	22,000
Supply From:	13N(1)(E)	**Phases:**	1	**Mains Type:**	MLO
Mounting:	Surface	**Wires:**	3	**Mains Rating:**	400
Enclosure:	Type 1			**MCB Rating:**	MLO

CKT	Demand Type	Circuit Description	Trip	P	A	B	P	Trip	Circuit Description	Demand Type	CKT
43	Receptacle	LAB CONVENIENCE RECEPTACLE	20 A	1	180 VA / 360 VA		1	20 A	LAB CONVENIENCE RECEPTACLES	Receptacle	44
45	Misc Non-Continuous	REFRIGERATOR ITEM 25	20 A	1		600 VA / 600 VA	1	20 A	REFRIGERATOR ITEM 37	Misc Non-Continuous	46
47	Receptacle	HOOD CONVENIENCE RECEPTACLE	20 A	1	180 VA / 600 VA		1	20 A	INCUBATOR ITEM 26	Misc Non-Continuous	48
49	Misc Non-Continuous	HOOD LIGHTING AND ALARM	20 A	1		600 VA / 180 VA	1	20 A	LAB RECEPTACLE	Misc Non-Continuous	50
51	Receptacle	HOOD 220 VOLT RECEPTACLE	20 A	2	1440 VA / 180 VA		1	20 A	LAB RECEPTACLE	Misc Non-Continuous	52
53						1440 VA / 720 VA	2	15 A	GLASS WASHER ITEM 17	Misc Non-Continuous	54
55	Misc Non-Continuous	INCUBATOR ITEM 27	20 A	1	600 VA / 720 VA						56
57	Misc Non-Continuous	REFRIGERATOR ITEM 24	20 A	1		600 VA / 360 VA	1	20 A	LAB CONVENIENCE RECEPTACLES	Receptacle	58
59	Receptacle	LAB CONVENIENCE RECEPTACLES	20 A	1	360 VA / 360 VA		1	20 A	LAB CONVENIENCE RECEPTACLES	Receptacle	60
61	Receptacle	LAB CONVENIENCE RECEPTACLES	20 A	1		360 VA / 360 VA	1	20 A	LAB CONVENIENCE RECEPTACLES	Receptacle	62
63	Receptacle	LAB CONVENIENCE RECEPTACLES	20 A	1	360 VA / 180 VA		1	20 A	LAB CONVENIENCE RECEPTACLE	Receptacle	64
65	Receptacle	LAB RECEPTACLE	20 A	1		360 VA / 120 VA	2	20 A	LAB SPECIAL RECEPTACLE	Receptacle	66
67	Receptacle	LAB RECEPTACLE	20 A	1	180 VA / 120 VA						68
69	Receptacle	LAB SPECIAL RECEPTACLE	20 A	2		1200 VA / 360 VA	1	20 A	LAB CONVENIENCE RECEPTACLES	Receptacle	70
71					1200 VA / 530 VA		1	20 A	FUME HOOD EXHAUST FAN EF-4	Motor	72
73	Receptacle	LAB RECEPTACLE	20 A	1		360 VA / 380 VA	1	20 A	LAB AND LUNCH ROOM EXHAUST FANS EF-3 AND EF-2	Motor	74
75	Receptacle	LAB SPECIAL RECEPTACLE	20 A	1	180 VA / 360 VA		1	20 A	LOCKER AND RESTROOM EXHAUST FANS EF-2 AND FL-1	Motor	76
77	Receptacle	LAB SPECIAL RECEPTACLE	20 A	2		1200 VA / 0 VA	2	20 A	Spare	--	78
79					1200 VA / 0 VA						80
81	Misc Non-Continuous	WATER HEATER	30 A	2		2250 VA / 0 VA	1	20 A	Spare	--	82
83					2250 VA / 0 VA		1	20 A	Spare	--	84
				Total Load :	38405 VA	37295 VA					
				Total Amps Per Phase :	320.04 A	310.79 A					
				Total Amps :	315.42 A						

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
HVAC	33570 VA	100.00%	33570 VA		
Lighting	600 VA	125.00%	750 VA	**Total Conn. Load:**	75700 VA
Misc Continuous	1800 VA	125.00%	2250 VA	**Total Est. Demand:**	73843 VA
Misc Non- Continuous	23280 VA	100.00%	23280 VA	**Total Conn.:**	315.42 A
Motor	1270 VA	110.43%	1403 VA	**Total Est. Demand:**	307.68 A
Receptacle	**15180 VA**	**82.94%**	**12590 VA**		

Notes:

Branch Panel: 13N(3)(E)

Location:		**Volts:**	120/ 240 Single	**A.I.C. Rating:**	22,000
Supply From:	13N(2)(E)	**Phases:**	1	**Mains Type:**	MLO
Mounting:	Surface	**Wires:**	3	**Mains Rating:**	400
Enclosure:	Type 1			**MCB Rating:**	MLO

CKT	Demand Type	Circuit Description	Trip	P	A	B	P	Trip	Circuit Description	Demand Type	CKT
85	Misc Non-Continuous	ISLAND VACUUM PUMP ITEM 10	20 A	1	600 VA / 600 VA		1	20 A	ISLAND VACUUM PUMP ITEM 10	Misc Non-Continuous	86
87	Receptacle	ISLAND CONVENIENCE RECEPTACLES	20 A	1		360 VA / 360 VA	1	20 A	ISLAND CONVENIENCE RECEPTACLES	Receptacle	88
89	Receptacle	ISLAND CONVENIENCE RECEPTACLES	20 A	1	360 VA / 360 VA		1	20 A	ISLAND CONVENIENCE RECEPTACLES	Receptacle	90
91	Misc Non-Continuous	LABORATORY 100 ISLAND SPECIAL RECEPTACLE	20 A	2		1200 VA / 1200 VA	2	20 A	LABORATORY 100 ISLAND SPECIAL RECEPTACLE	Misc Non-Continuous	92
93					1200 VA / 1200 VA						94
95	Misc Non-Continuous	LABORATORY 100 ISLAND SPECIAL RECEPTACLE	20 A	2		1200 VA / 1200 VA	2	20 A	LABORATORY 100 ISLAND SPECIAL RECEPTACLE	Misc Non-Continuous	96
97					1200 VA / 1200 VA						98
99	Misc Non-Continuous	FUME HOOD SPECIAL RECEPTACLE	20 A	2		1200 VA / 360 VA	1	20 A	LABORATORY 100 ISLAND CONVENEINCE RECEPTACLES	Receptacle	100
101					1200 VA / 360 VA		1	20 A	LABORATORY 100 ISLAND CONVENEINCE RECEPTACLES	Receptacle	102
103	Misc Non-Continuous	FUME HOOD RECEPTACLE	20 A	1		180 VA / 1285 VA	2	20 A	HEAT PUMP HP-1	HVAC	104
105	Misc Continuous	MECHANICAL TIME CLOCK	20 A	1	600 VA / 1285 VA						106
107	Receptacle	LIGHTING POLE GFCI RECEPTACLE	20 A	1		600 VA / 2040 VA	2	30 A	HEAT PUMP HP-2	HVAC	108
109	Lighting	EXTERIOR POLE MOUNTED LIGHTING	20 A	1	600 VA / 2040 VA						110
111	Misc Continuous	INFLUENT FLOW METER	20 A	1		600 VA / 4260 VA	2	45 A	HEAT PUMP HP-3	HVAC	112
113	Misc Continuous	INFLUENT SAMPLER	20 A	1	600 VA / 4260 VA						114
115	--	Spare	20 A	1		0 VA / 0 VA	1	20 A	Spare	--	116
117	--	Spare	20 A	1	0 VA / 0 VA		1	20 A	Spare	--	118
119	--	Space	--	1		0 VA / 0 VA	1	--	Space	--	120
121	--	Space	--	1	0 VA / 0 VA		1	--	Space	--	122
123	--	Space	--	1		0 VA / 9200 VA	2	100 A	HEAT PUMP HP-1 AUXILIARY HEAT	HVAC	124
125	--	Space	--	1	0 VA / 9200 VA						126
				Total Load :	26865 VA	25245 VA					
				Total Amps Per Phase :	223.88 A	210.38 A					
				Total Amps :	217.13 A						

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
HVAC	33570 VA	100.00%	33570 VA		
Lighting	600 VA	125.00%	750 VA	**Total Conn. Load:**	52110 VA
Misc Continuous	1800 VA	125.00%	2250 VA	**Total Est. Demand:**	52710 VA
Misc Non- Continuous	13380 VA	100.00%	13380 VA	**Total Conn.:**	217.13 A
Receptacle	2760 VA	100.00%	2760 VA	**Total Est. Demand:**	219.63 A

Notes:

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ROBERT R. BLEDAR — STATE OF WASHINGTON — 43477 — REGISTERED PROFESSIONAL ENGINEER
03/12/2026

REVISION	DATE

JOB NUMBER: 23030 | DATE: 3/13/2026

FILE NAMES:
DRAWING: HLA-23030_E_R24.RVT
PLAN: 23030

DESIGNED BY: BRB
ENTERED BY: BRB

CITY OF GRANDVIEW
WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1

LAB BUILDING – EXISTING PANEL SCHEDULES

E13-03

SHEET 189 OF 192

Branch Panel: 13N(1)

Location:		**Volts:** 120/ 240 Single	**A.I.C. Rating:** 22,000
Supply From:		**Phases:** 1	**Mains Type:** MLO
Mounting:	Surface	**Wires:** 3	**Mains Rating:** 400
Enclosure:	Type 1		**MCB Rating:** MLO

CKT	Demand Type	Circuit Description	Trip	P	A	B	P	Trip	Circuit Description	Demand Type	CKT
1	Lighting	OFFICES 104 & 105, UTILITY 106 LIGHTING	20 A	1	660 VA / 990 VA		1	20 A	LUNCH ROOM 101, HALL 102, ENTRY 103 LIGHTING	Lighting	2
3	Lighting	RESTROOMS 107 & 108, LOCKER 109, STORAGE 110 LIGHTING	20 A	1		540 VA / 1050 VA	1	20 A	LABORATORY 100 LIGHTING	Lighting	4
5	Lighting	EXTERIOR LIGHTING	20 A	1	470 VA / 540 VA		1	20 A	LUNCH ROOM 101 RECEPTACLES	Receptacle	6
7	Receptacle	EXTERIOR, UTILITY 107, RESTROOM 108 RECEPTACLES	20 A	1		720 VA / 540 VA	1	20 A	LUNCH ROOM 101 RECEPTACLES	Receptacle	8
9	Receptacle	HALL 102, RESTROOM 107, LOCLER 109, STORAGE 110 RECEPTACLES	20 A	1	720 VA / 180 VA		1	20 A	REFRIGERATOR RECEPTACLE	Receptacle	10
11	Receptacle	EXTERIOR, ENTRY 103, RESTROOM 108, LOCKER 109 RECEPTACLES	20 A	1		720 VA / 180 VA	1	20 A	LUNCH ROOM 101 COUNTERTOP RECEPTACLE	Receptacle	12
13	Receptacle	WATER COOLER RECEPTACLE	20 A	1	180 VA / 180 VA		1	20 A	DISPOSER RECEPTACLE	Receptacle	14
15	Receptacle	WASHER RECEPTACLE	20 A	1		180 VA / 180 VA	1	20 A	DISHWASHER RECEPTACLE	Receptacle	16
17	Misc Non-Continuous	DRYER RECEPTACLE	30 A	2	2400 VA / 180 VA		1	20 A	MICRO/HOOD COMBINATION RECEPTACLE	Receptacle	18
19						2400 VA / 4500 VA	2	50 A	RANGE RECEPTACLE	Misc Non-Continuous	20
21	Receptacle	UTILITY 106 RECEPTACLE	20 A	1	180 VA / 4500 VA						22
23	Receptacle	UTILITY 106 RECEPTACLE	20 A	1		180 VA / 180 VA	1	20 A	LUNCH ROOM 101 COUNTERTOP RECEPTACLE	Receptacle	24
25	Receptacle	UTILITY 106 RECEPTACLE	20 A	1	180 VA / 0 VA		1	20 A	Spare	--	26
27	Receptacle	OFFICES 104 & 105 RECEPTACLE	20 A	1		540 VA / 0 VA	1	20 A	Spare	--	28
29	Receptacle	OFFICES 104 & 105 RECEPTACLES	20 A	1	540 VA / 360 VA		1	20 A	LAB CONVENIENCE RECEPTACLES	Receptacle	30
31	Receptacle	OFFICES 104 & 105 RECEPTACLES	20 A	1		540 VA / 1200 VA	2	20 A	LAB SPECIAL RECEPTACLE	Misc Non-Continuous	32
33	Receptacle	ENTRY 103 COPIER RECEPTACLE	20 A	1	180 VA / 1200 VA						34
35	Receptacle	ENTRY 103 FAX MACHINE RECEPTACLE	20 A	1		180 VA / 1200 VA	2	20 A	LAB SPECIAL RECEPTACLE	Misc Non-Continuous	36
37	--	Spare	20 A	1	0 VA / 1200 VA						38
39	--	Spare	20 A	1		0 VA / 0 VA	1	20 A	Spare	--	40
41	--	Spare	20 A	1	0 VA / 0 VA		1	20 A	Spare	--	42
		Total Load :			53245 VA	52325 VA					
		Total Amps Per Phase ;			443,71 A	436,04 A					
		Total Amps :			439,88 A						

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
HVAC	33570 VA	100.00%	33570 VA		
Lighting	4310 VA	125.00%	5388 VA	**Total Conn. Load:**	105570 VA
Misc Continuous	1800 VA	125.00%	2250 VA	**Total Est. Demand:**	100860 VA
Misc Non- Continuous	41880 VA	100.00%	41880 VA	**Total Conn.:**	439.88 A
Motor	1270 VA	110.43%	1403 VA	**Total Est. Demand:**	420.25 A
Receptacle	**22740 VA**	**71.99%**	**16370 VA**		

Notes:

Branch Panel: 13N(2)

Location:		**Volts:** 120/ 240 Single	**A.I.C. Rating:** 22,000
Supply From:	13N(1)	**Phases:** 1	**Mains Type:** MLO
Mounting:	Surface	**Wires:** 3	**Mains Rating:** 400
Enclosure:	Type 1		**MCB Rating:** MLO

CKT	Demand Type	Circuit Description	Trip	P	A	B	P	Trip	Circuit Description	Demand Type	CKT
43	Receptacle	LAB CONVENIENCE RECEPTACLE	20 A	1	180 VA / 360 VA		1	20 A	LAB CONVENIENCE RECEPTACLES	Receptacle	44
45	Misc Non-Continuous	REFRIGERATOR ITEM 25	20 A	1		600 VA / 600 VA	1	20 A	REFRIGERATOR ITEM 37	Misc Non-Continuous	46
47	Receptacle	HOOD CONVENIENCE RECEPTACLE	20 A	1	180 VA / 600 VA		1	20 A	INCUBATOR ITEM 26	Misc Non-Continuous	48
49	Misc Non-Continuous	HOOD LIGHTING AND ALARM	20 A	1		600 VA / 180 VA	1	20 A	LAB RECEPTACLE	Misc Non-Continuous	50
51	Receptacle	HOOD 220 VOLT RECEPTACLE	20 A	2	1440 VA / 180 VA		1	20 A	LAB RECEPTACLE	Misc Non-Continuous	52
53						1440 VA / 720 VA	2	15 A	GLASS WASHER ITEM 17	Misc Non-Continuous	54
55	Misc Non-Continuous	INCUBATOR ITEM 27	20 A	1	600 VA / 720 VA						56
57	Misc Non-Continuous	REFRIGERATOR ITEM 24	20 A	1		600 VA / 360 VA	1	20 A	LAB CONVENIENCE RECEPTACLES	Receptacle	58
59	Receptacle	LAB CONVENIENCE RECEPTACLES	20 A	1	360 VA / 360 VA		1	20 A	LAB CONVENIENCE RECEPTACLES	Receptacle	60
61	Receptacle	LAB CONVENIENCE RECEPTACLES	20 A	1		360 VA / 360 VA	1	20 A	LAB CONVENIENCE RECEPTACLES	Receptacle	62
63	Receptacle	LAB CONVENIENCE RECEPTACLES	20 A	1	360 VA / 180 VA		1	20 A	LAB CONVENIENCE RECEPTACLE	Receptacle	64
65	Receptacle	LAB RECEPTACLE	20 A	1		360 VA / 120 VA	2	20 A	LAB SPECIAL RECEPTACLE	Receptacle	66
67	Receptacle	LAB RECEPTACLE	20 A	1	180 VA / 120 VA						68
69	Receptacle	LAB SPECIAL RECEPTACLE	20 A	2		1200 VA / 360 VA	1	20 A	LAB CONVENIENCE RECEPTACLES	Receptacle	70
71					1200 VA / 530 VA		1	20 A	FUME HOOD EXHAUST FAN EF-4	Motor	72
73	Receptacle	LAB RECEPTACLE	20 A	1		360 VA / 380 VA	1	20 A	LAB AND LUNCH ROOM EXHAUST FANS EF-3 AND EF-2	Motor	74
75	Receptacle	LAB SPECIAL RECEPTACLE	20 A	1	180 VA / 360 VA		1	20 A	LOCKER AND RESTROOM EXHAUST FANS EF-2 AND FL-1	Motor	76
77	Receptacle	LAB SPECIAL RECEPTACLE	20 A	2		1200 VA / 0 VA	2	20 A	Spare	--	78
79					1200 VA / 0 VA						80
81	Misc Non-Continuous	WATER HEATER	30 A	2		2250 VA / 0 VA	1	20 A	Spare	--	82
83					2250 VA / 0 VA		1	20 A	Spare	--	84
		Total Load :			38405 VA	37295 VA					
		Total Amps Per Phase ;			320.04 A	310.79 A					
		Total Amps :			315,42 A						

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
HVAC	33570 VA	100.00%	33570 VA		
Lighting	600 VA	125,00%	750 VA	**Total Conn. Load:**	75700 VA
Misc Continuous	1800 VA	125,00%	2250 VA	**Total Est. Demand:**	73843 VA
Misc Non- Continuous	23280 VA	100,00%	23280 VA	**Total Conn.:**	315,42 A
Motor	1270 VA	110,43%	1403 VA	**Total Est. Demand:**	307,68 A
Receptacle	**15180 VA**	**82.94%**	**12590 VA**		

Notes:

Branch Panel: 13N(3)

Location:		**Volts:** 120/ 240 Single	**A.I.C. Rating:** 22,000
Supply From:	13N(2)	**Phases:** 1	**Mains Type:** MLO
Mounting:	Surface	**Wires:** 3	**Mains Rating:** 400
Enclosure:	Type 1		**MCB Rating:** MLO

CKT	Demand Type	Circuit Description	Trip	P	A	B	P	Trip	Circuit Description	Demand Type	CKT
85	Misc Non-Continuous	ISLAND VACUUM PUMP ITEM 10	20 A	1	600 VA / 600 VA		1	20 A	ISLAND VACUUM PUMP ITEM 10	Misc Non-Continuous	86
87	Receptacle	ISLAND CONVENIENCE RECEPTACLES	20 A	1		360 VA / 360 VA	1	20 A	ISLAND CONVENIENCE RECEPTACLES	Receptacle	88
89	Receptacle	ISLAND CONVENIENCE RECEPTACLES	20 A	1	360 VA / 360 VA		1	20 A	ISLAND CONVENIENCE RECEPTACLES	Receptacle	90
91	Misc Non-Continuous	LABORATORY 100 ISLAND SPECIAL RECEPTACLE	20 A	2		1200 VA / 1200 VA	2	20 A	LABORATORY 100 ISLAND SPECIAL RECEPTACLE	Misc Non-Continuous	92
93					1200 VA / 1200 VA						94
95	Misc Non-Continuous	LABORATORY 100 ISLAND SPECIAL RECEPTACLE	20 A	2		1200 VA / 1200 VA	2	20 A	LABORATORY 100 ISLAND SPECIAL RECEPTACLE	Misc Non-Continuous	96
97					1200 VA / 1200 VA						98
99	Misc Non-Continuous	FUME HOOD SPECIAL RECEPTACLE	20 A	2		1200 VA / 360 VA	1	20 A	LABORATORY 100 ISLAND CONVENEINCE RECEPTACLES	Receptacle	100
101					1200 VA / 360 VA		1	20 A	LABORATORY 100 ISLAND CONVENEINCE RECEPTACLES	Receptacle	102
103	Misc Non-Continuous	FUME HOOD RECEPTACLE	20 A	1		180 VA / 1285 VA	2	20 A	HEAT PUMP HP-1	HVAC	104
105	Misc Continuous	MECHANICAL TIME CLOCK	20 A	1	600 VA / 1285 VA						106
107	Receptacle	LIGHTING POLE GFCI RECEPTACLE	20 A	1		600 VA / 2040 VA	2	30 A	HEAT PUMP HP-2	HVAC	108
109	Lighting	EXTERIOR POLE MOUNTED LIGHTING	20 A	1	600 VA / 2040 VA						110
111	Misc Continuous	INFLUENT FLOW METER	20 A	1		600 VA / 4260 VA	2	45 A	HEAT PUMP HP-3	HVAC	112
113	Misc Continuous	INFLUENT SAMPLER	20 A	1	600 VA / 4260 VA						114
115	--	Spare	20 A	1		0 VA / 0 VA	1	20 A	Spare	--	116
117	--	Spare	20 A	1	0 VA / 0 VA		1	20 A	Spare	--	118
119	--	Space	--	1		0 VA / 0 VA	1	--	Space	--	120
121	--	Space	--	1	0 VA / 0 VA		1	--	Space	--	122
123	--	Space	--	1		0 VA / 9200 VA	2	100 A	HEAT PUMP HP-1 AUXILIARY HEAT	HVAC	124
125	--	Space	--	1	0 VA / 9200 VA						126
		Total Load :			26865 VA	25245 VA					
		Total Amps Per Phase ;			223.88 A	210.38 A					
		Total Amps :			217,13 A						

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
HVAC	33570 VA	100.00%	33570 VA		
Lighting	600 VA	125,00%	750 VA	**Total Conn. Load:**	52110 VA
Misc Continuous	1800 VA	125,00%	2250 VA	**Total Est. Demand:**	52710 VA
Misc Non- Continuous	13380 VA	100,00%	13380 VA	**Total Conn.:**	217,13 A
Receptacle	2760 VA	100,00%	2760 VA	**Total Est. Demand:**	219,63 A

Notes:

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ROBERT R. BLEAM — EXPIRES: 03/12/2026

REVISION	DATE

JOB NUMBER: 23030 — DATE: 3/13/2026

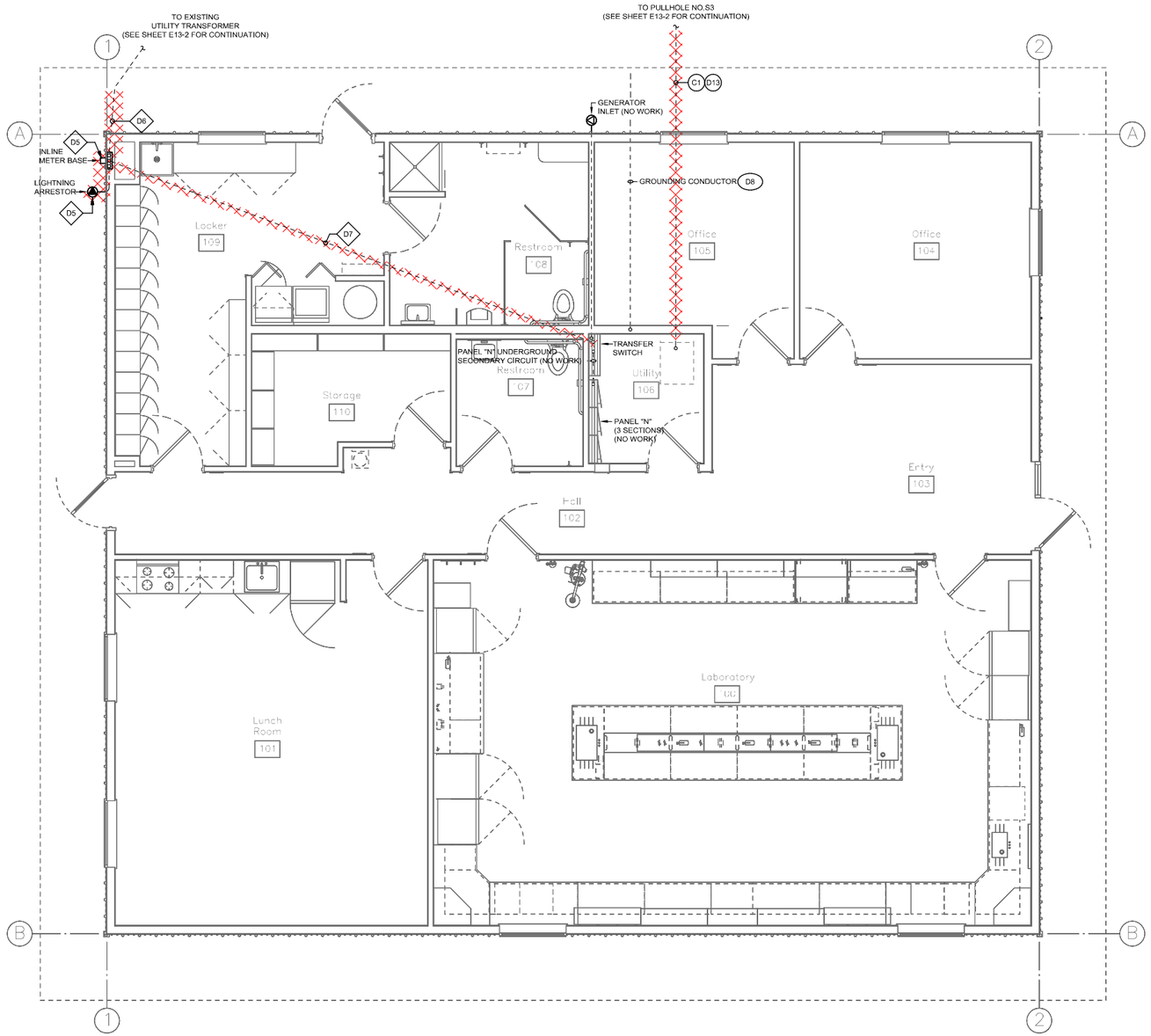
FILE NAMES:
DRAWING: HLA-23030_E_R24.RVT
PLAN: 23030

DESIGNED BY: BRB
ENTERED BY: BRB

CITY OF GRANDVIEW
WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1
LAB BUILDING – PANEL SCHEDULES

E13-04

SHEET 190 OF 192



LAB BUILDING - EXISTING POWER PLAN

0' 2'-0" 4'-0" 8'-0"

SHEET NOTES

C1 SEE COMMUNICATIONS SYSTEM BLOCK DIAGRAMS ON SHEET E0-09 FOR CIRCUIT AND EQUIPMENT INFORMATION.

D5 DEMOLISH INLINE METER BASE AND PRESERVE ENCLOSURE. DEMOLISH EXISTING LIGHTNING ARRESTOR, SEE EXISTING ONE LINE DIAGRAM SHEET E13-01 FOR FURTHER INFORMATION.

D6 DEMOLISH EXISTING PACIFIC POWER ELECTRICAL SERVICE. SEE EXISTING ONE LINE DIAGRAM SHEET E13-01 FOR FURTHER INFORMATION.

D7 DEMOLISH EXISTING CONDUCTORS. PRESERVE EXISTING CONDUIT SYSTEM FOR REUSE. SEE EXISTING ONE LINE DIAGRAM SHEET E13-01 FOR FURTHER INFORMATION.

D8 EXISTING GROUNDING ELECTRODE IS STUBBED OUT OF BUILDING. LOCATE AND EXTEND EXISTING GROUNDING ELECTRODE CONDUCTOR TO NEW BUILDING MAIN CIRCUIT BREAKER AS SHOW ON SHEET E13-06.

D13 DEMO EXISTING CABLES AND PRESERVE EXISTING CONDUIT PATH FOR FUTURE FIBER CABLES.

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ROBERT R. BIGART
STATE OF WASHINGTON
21471
REGISTERED
PROFESSIONAL ENGINEER
03/12/2026

REVISION	DATE

JOB NUMBER: 23030 | DATE: 3/13/2026

FILE NAMES:
DRAWING: HLA-23030_E_R24.RVT
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CITY OF GRANDVIEW
WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1

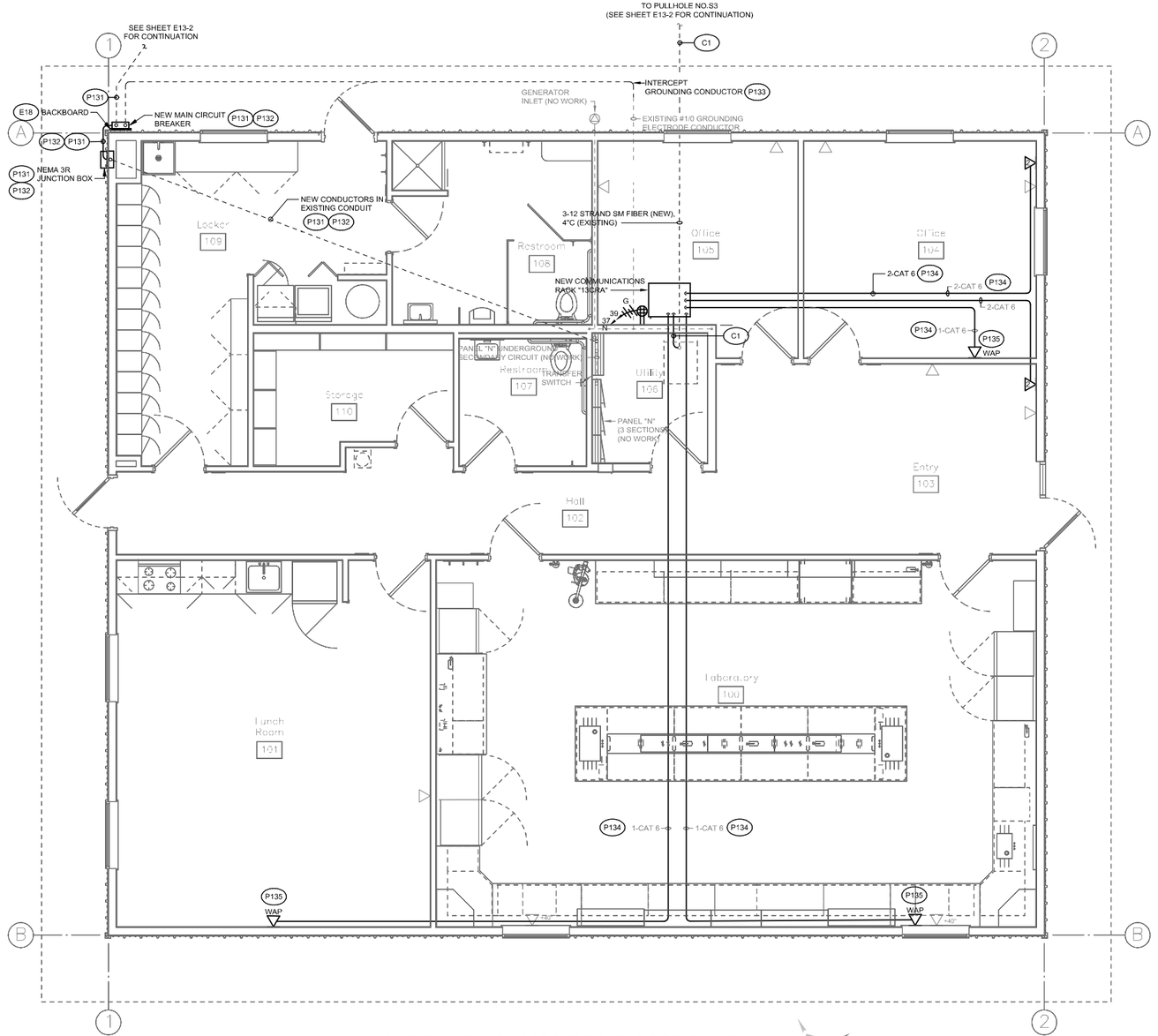
LAB BUILDING – EXISTING/DEMO ELECTRICAL PLAN

E13-05

SHEET 191 OF 192

LAB/OPERATIONS BUILDING PATCHING SCHEDULE

SWITCH	SWITCH PORT	EQUIPMENT DESCRIPTION
13CRA SWITCH 1	1	LABORATORY 100 WIRELES ACCESS POINT
	2	LUNCH ROOM 101 WIRELES ACCESS POINT
	3	OFFICE 104 WIRELES ACCESS POINT
	4	OFFICE 104 WORKSTATION PORT
	5	OFFICE 104 WORKSTATION PORT
	6	
	7	
	8	
	9	
	10	
	11	
	12	
	13	
	14	
	15	
	16	
	17	
	18	
	19	
	20	
	21	
	22	
	23	ISP ROUTER
	24	SWITCH 2 IN 13CRA
	SFP 01	FIBER TO RACK 08CRA
	SFP 02	FIBER TO RACK 11CRA
	SFP 03	FIBER TO RACK 04CRA
	SFP 04	
13CRA SWITCH 2	1	
	2	
	3	
	4	
	5	
	6	
	7	
	8	
	9	
	10	
	11	
	12	
	13	
	14	
	15	
	16	
	17	
	18	
	19	
	20	
	21	
	22	
	23	
	24	SWITCH 1 IN 13CRA
	SFP 01	
	SFP 02	
	SFP 03	
	SFP 04	



LAB BUILDING - MODIFIED ELECTRICAL PLAN

0' 2'-0" 4'-0" 8'-0"

SHEET NOTES

C1 SEE COMMUNICATIONS SYSTEM BLOCK DIAGRAMS ON SHEET E0-09 FOR CIRCUIT AND EQUIPMENT INFORMATION.

E18 SEE DETAIL 1/E0-07 FOR BACKBOARD MOUNTING REQUIREMENTS.

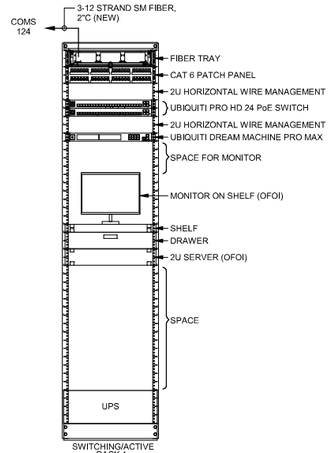
P131 SEE SUGGESTED SEQUENCE OF CONSTRUCTION ON SHEET E13-01 FOR SERVICE CHANGEOVER RECOMMENDATIONS.

P132 SEE LAB BUILDING MODIFIED ONE LINE DIAGRAM SHEET E13-01 FOR FURTHER INFORMATION.

P133 LOCATE AND INTERCEPT EXISTING GROUNDING ELECTRODE CONDUCTOR NEAR THIS LOCATION AND EXTEND TO LOCATION OF NEW MAIN CIRCUIT BREAKER.

P134 FOR DATA DEVICES, INSTALL SURFACE MOUNTED WIREMOLD DEVICE BOX TO HOUSE DATA JACKS AND ROUTE CABLES IN SURFACE METAL RACEWAY FROM DEVICE BOX TO ABOVE DROPPED CEILING. AT THE CONTRACTOR'S OPTION IT IS ACCEPTABLE TO INSTALL A CUT-IN BOX IN EXISTING WALL FOR DATA JACKS AND ROUTE CABLES CONCEALED IN WALL IN FLEXIBLE METAL CONDUIT TO ABOVE CEILING TO A CEILING MOUNTED JUNCTION BOX. FROM THAT POINT, ROUTE CABLES ABOVE DROPPED CEILING USING J-HOOKS OR D-RINGS TO ABOVE COMMUNICATIONS RACK. TRANSITION TO 3/4" CONDUIT ABOVE DROPPED CEILING AND ROUTE DOWN TO NEW COMMUNICATIONS RACK, PROVIDE NLYON TERMINATION BUSHING ON CONDUIT END.

P135 MOUNT WIRELESS ACCESS POINTS 6 INCHES BELOW CEILING.



LAB/OPS BUILDING		PRODUCT DESCRIPTION
	RACK 1	1-45RU, 31.5"Wx43.3"D, FRONT & REAR DOORS, BLACK, CABINET
		1-20A PDU WITH MOUNTING BRACKETS
		2U FIBER TRAY
		2U 48-PORT CAT 6 PATCH PANEL
		2U HORIZONTAL MANAGEMENT PANEL
		2U UBIQUITI PRO HD 24 PoE SWITCH
		2U HORIZONTAL MANAGEMENT PANEL
		1U UBIQUITI DREAM MACHINE PRO MAX
		MONITOR (OFOI)
		SHELF
		2U DRAWER
		2U SERVER (OFOI)
		UPS

DETAIL 2/E13-06
COMMUNICATIONS RACK "13CRA"

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

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ROBERT B. BERARD — PROFESSIONAL ENGINEER — STATE OF WASHINGTON — 45471 — REGISTERED PROFESSIONAL ENGINEER — 03/12/2026

REVISION	DATE

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CITY OF GRANDVIEW
WASTEWATER TREATMENT PLANT IMPROVEMENTS PHASE 1

LAB BUILDING – MODIFIED ELECTRICAL PLAN

E13-06

SHEET 192 OF 192