

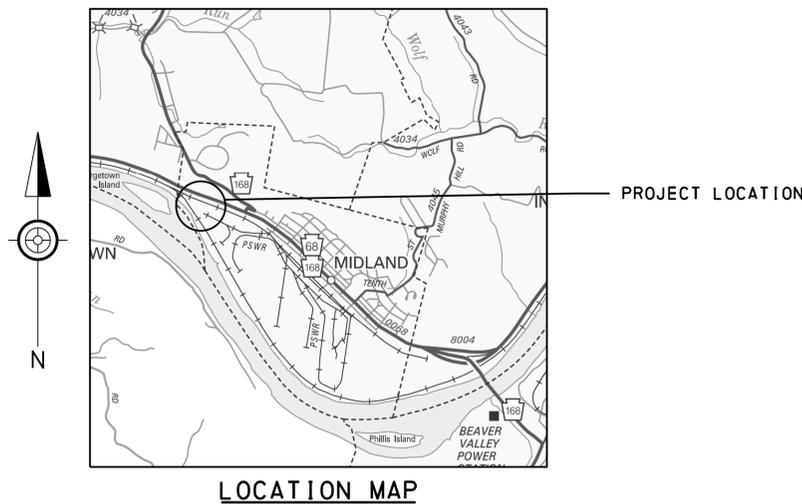
# MUNICIPAL AUTHORITY OF THE BOROUGH OF MIDLAND

946 RAILROAD AVENUE  
MIDLAND, PA 15059

## FINAL PLANS

MIDLAND WASTEWATER TREATMENT PLANT IMPROVEMENTS  
CONTRACT 2024 - 1: GENERAL CONSTRUCTION

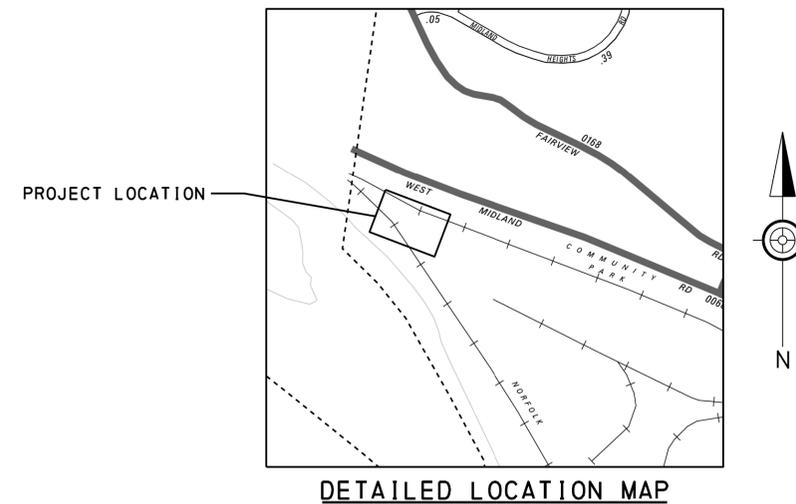
MAY 2024



DRAWING INDEX - GENERAL/MECHANICAL	
SHEET	TITLE
1 OF 12	COVER SHEET
2 OF 12	INDEX MAP
3 OF 12	HEADWORKS PLAN
4 OF 12	PRIMARY CLARIFIERS REHABILITATION PLAN
5 OF 12	PRIMARY CLARIFIERS REHABILITATION SECTIONS
6 OF 12	ADMINISTRATION BUILDING
7 OF 12	GARAGE
8 OF 12	OXIDATION TOWER
9 OF 12	DIGESTERS AND CONTROL HOUSE
10 OF 12	PUMP HOUSE
11 OF 12	DETAILS
12 OF 12	DETAILS - SCREENINGS AND REMOVAL GRINDER AND AUGER

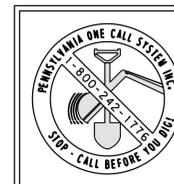
DRAWING INDEX - ELECTRICAL	
E1	REFER TO ELECTRICAL CONSTRUCTION COVER SHEET FOR DRAWING LIST

DRAWING INDEX - EROSION AND SEDIMENT CONTROL	
ES 1	EROSION AND SEDIMENT CONTROL PLAN
ES 2&3	EROSION AND SEDIMENT CONTROL NOTES
ES 4	EROSION AND SEDIMENT CONTROL DETAILS

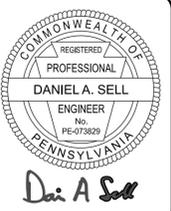


APPROVAL: \_\_\_\_\_  
AUTHORITY BOARD CHAIRMAN, MUNICIPAL AUTHORITY OF THE BOROUGH OF MIDLAND

ATTEST: \_\_\_\_\_



**CALL BEFORE YOU DIG!**  
PENNSYLVANIA LAW REQUIRES NOT LESS THAN 10 NOR MORE THAN 90 BUSINESS DAYS NOTICE BEFORE FINAL DESIGN APPROVAL, AND REQUIRES NOT LESS THAN 3 NOR MORE THAN 10 BUSINESS DAYS NOTICE BEFORE EARTH DISTURBANCE DURING THE CONSTRUCTION PHASE.  
1-800-242-1776  
PENNSYLVANIA ONE CALL SYSTEM, INC



DATE	REVISIONS TYPE	BY	CHK

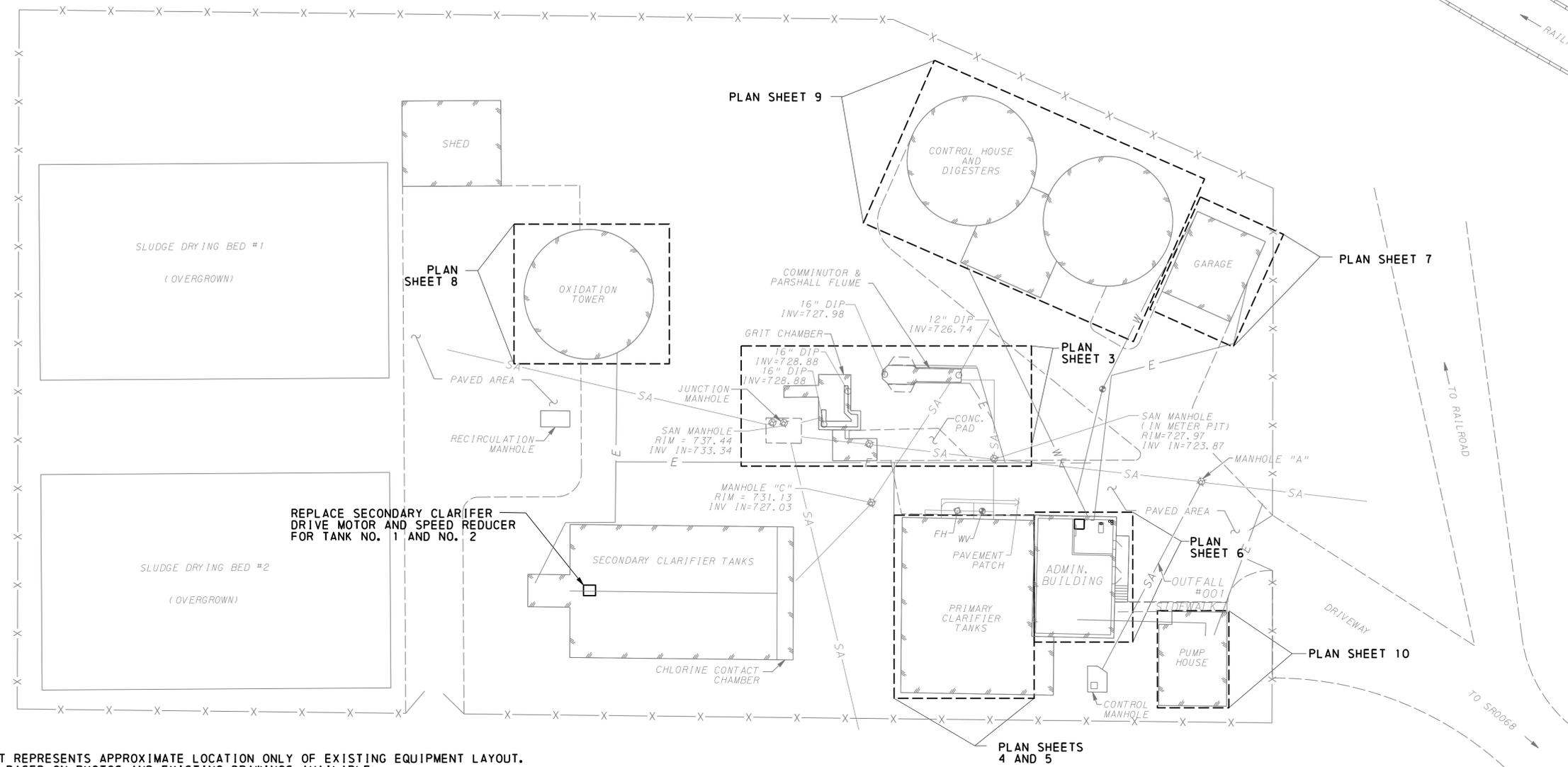


COVER SHEET  
PREPARED FOR:  
MUNICIPAL AUTHORITY OF MIDLAND  
946 RAILROAD AVE  
MIDLAND, PA 15059  
SITUAITE IN:  
BOROUGH OF MIDLAND  
BEAVER COUNTY, PENNSYLVANIA

PROJECT #:	22126
FIELD BOOK #:	###
DRAWN:	JSM
CHECKED:	DAS
DATE:	MAY 2024
SCALE:	AS NOTED

SHEET NUMBER  
1 OF 12

jmsesell  
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 2/4/2025  
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**GENERAL NOTES:**

1. THIS PLAN SET REPRESENTS APPROXIMATE LOCATION ONLY OF EXISTING EQUIPMENT LAYOUT. THIS PLAN IS BASED ON PHOTOS AND EXISTING DRAWINGS AVAILABLE.
2. VERIFY ALL DIMENSIONS AND GEOMETRY OF THE EXISTING EQUIPMENT LAYOUT IN THE FIELD AS NECESSARY FOR PROPER FIT OF THE PROPOSED CONSTRUCTION.
3. BIDDERS ARE REQUIRED TO FIELD-VERIFY INFORMATION PRESENTED. THE INFORMATION SHOWN HEREIN IS NOT A PART OF THE PLAN, PROPOSAL, OR CONTRACT, AND IS NOT TO BE CONSIDERED AS A BASIS FOR COMPUTATION FOR ANY PURPOSE.
4. CONTRACTOR SHALL SUBMIT A TEMPORARY FACILITIES AND CONTROLS PLAN FOR APPROVAL. NO WORK SHALL BEGIN UNTIL THE PLAN IS APPROVED BY THE ENGINEER.
5. THE CONTRACTOR SHALL PERFORM ALL WORK IN ACCORDANCE WITH THE WWTWP'S OPERATIONAL REQUIREMENTS AND THE PROJECT PROGRESS SCHEDULE. INTERRUPTION OF OPERATIONS SHALL BE MINIMIZED AND SHALL RECEIVE THE PRIOR APPROVAL.
6. MATERIAL AND EQUIPMENT RESULTING FROM THE SELECTIVE DEMOLITION SHALL BECOME THE CONTRACTOR'S PROPERTY AND BE PROPERLY DISPOSED OF OFF SITE.
7. ALL EXISTING CONSTRUCTION, EQUIPMENT, FINISHES, ETC. TO REMAIN THAT ARE DAMAGED, DISTURBED OR REMOVED IN THE COURSE OF THE WORK SHALL BE REPAIRED OR RESTORED TO THEIR ORIGINAL CONDITION AT NO ADDITIONAL EXPENSE TO THE OWNER.
8. THIS PROJECT INVOLVES REHABILITATION OF PORTIONS OF THE PRIMARY CLARIFIERS OF THE MIDLAND WASTEWATER TREATMENT PLANT.
9. ONLY ONE CLARIFIER MAY BE TAKEN OUT OF SERVICE AT A TIME. CONTRACTOR SHALL COORDINATE STAGING AND WORK IN A MANNER THAT WILL NOT INTERFERE WITH PLANT OPERATIONS AND MAINTENANCE. EACH CLARIFIER MAY ONLY BE TAKEN OUT OF SERVICE FOR 30 DAYS MAXIMUM.
10. CONTRACTOR SHALL DRAIN EACH CLARIFIER PRIOR TO REHABILITATION. THE CONTRACTOR IS RESPONSIBLE TO CLEAN THE CLARIFIERS AS REQUIRED TO PERFORM PROJECT WORK.
11. CONTRACTOR SHALL PROVIDE A PUMP TO REMOVE RAINWATER, GROUNDWATER THAT MAY ENTER THROUGH THE FLAPGATES AND MINOR LEAKAGE THROUGH SHUTOFF VALVES. CONTRACTOR SHALL KEEP THE CLARIFIER STRUCTURES DEWATERED THROUGHOUT THE CONSTRUCTION PERIOD.
12. ALL SPRAY COATING OPERATIONS SHALL BE TENTED TO PREVENT OVERSPRAY.
13. LAWN AREAS SURROUNDING CLARIFIERS MAY BE USED FOR STAGING PURPOSES. RESTORATION AFTER COMPLETION OF PROJECT IS REQUIRED.

**EXISTING UNDERGROUND UTILITY LINES:**

IN ORDER TO MAINTAIN SAFETY DURING CONSTRUCTION AND PREVENT DAMAGE TO UNDERGROUND FACILITIES, THE PENNSYLVANIA ONE CALL SYSTEM (POCS) WAS CONTACTED TO REQUEST THE LOCATION OF THE PUBLIC UTILITIES IN THE VICINITY OF THE PROJECT SITE. INQUIRIES WERE PLACED ON DECEMBER 19, 2022 (PRELIMINARY DESIGN SERIAL NO. 20223531063). THOSE PUBLIC UTILITY PROVIDERS WHO MAINTAIN FACILITIES IN AREA ARE NOTED AS FOLLOWS:

COMPANY: DUQUESNE LIGHT COMPANY  
 ADDRESS: 2645 NEW BEAVER AVE  
 PA-T  
 PITTSBURGH, PA. 15233  
 CONTACT: KYLIE PARISON  
 EMAIL: kparison@duqlight.com  
 PHONE: 412-393-2927

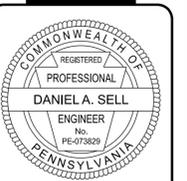
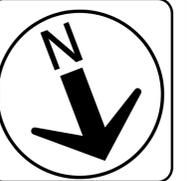
COMPANY: MIDLAND BOROUGH  
 ADDRESS: 936 MIDLAND AVE  
 MIDLAND, PA. 15059  
 CONTACT: CHAD MILLER  
 EMAIL: miller125@comcast.net  
 PHONE: 724-581-7811

COMPANY: MIDLAND BORO MUNI AUTH  
 ADDRESS: 946 RAILROAD AVE  
 MIDLAND, PA. 15059  
 CONTACT: JOHN NOTO  
 EMAIL: plantmanager@midlandpawater.com  
 PHONE: 724-643-4920

**LEGEND:**

- — — — — EXISTING STRUCTURE
- - - - - EXISTING DRIVEWAY
- - - - - EXISTING CONCRETE PAD
- — — — — EXISTING RAILROAD
- X - X - EXISTING CHAIN-LINK FENCE
- SA - EXISTING SANITARY SEWER LINE
- W - EXISTING WATER LINE
- E - EXISTING ELECTRIC
- ⊗ EXISTING MANHOLE
- - - - - PROPOSED PROJECT AREA

**SCALE**  
 0 20 40 FEET  
 1" = 20'



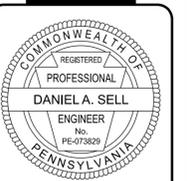
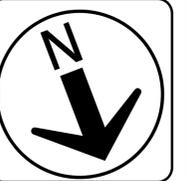
DATE	REVISIONS	BY	CHK

PREPARED BY: **WIDMER ENGINEERING**  
 806 LINCOLN PLACE, BEAVER FALLS, PA 15010

INDEX MAP  
 PREPARED FOR  
**MUNICIPAL AUTHORITY OF MIDLAND**  
 946 RAILROAD AVE  
 MIDLAND, PA 15059  
 SITUATE IN  
 BOROUGH OF MIDLAND  
 BEAVER COUNTY, PENNSYLVANIA

PROJECT #:	22126
FIELD BOOK #:	###
DRAWN:	JSM
CHECKED:	DAS
DATE:	MAY 2024
SCALE:	AS NOTED

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 2/4/2025  
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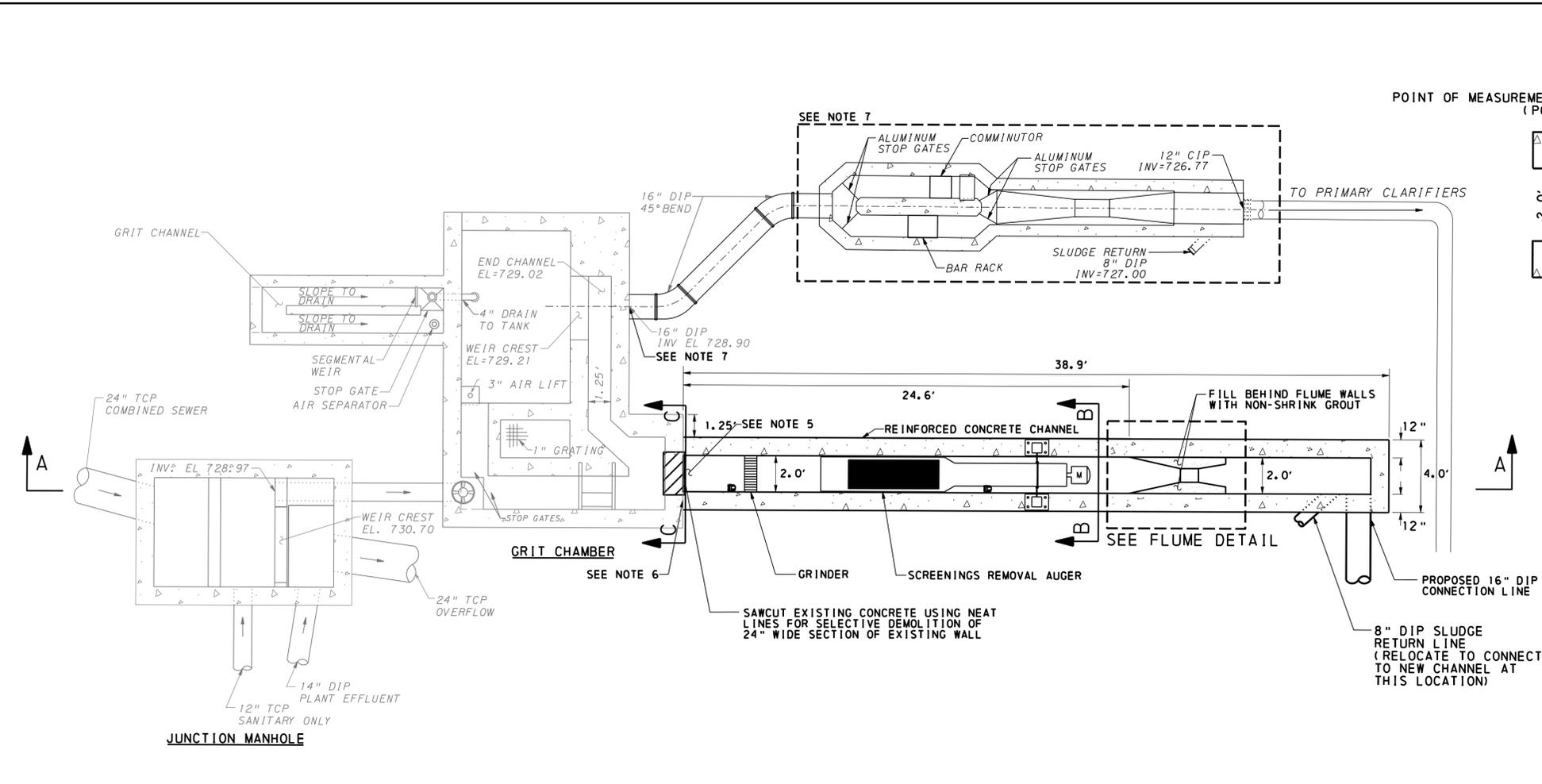
REVISIONS	DATE	BY	CHK



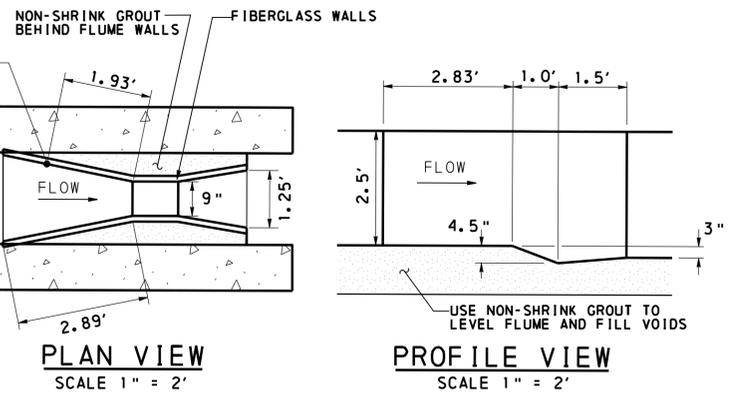
HEADWORKS PLAN  
 PREPARED FOR  
**MUNICIPAL AUTHORITY OF MIDLAND**  
 946 RAILROAD AVE  
 MIDLAND, PA 15059  
 SITUATE IN  
 BOROUGH OF MIDLAND  
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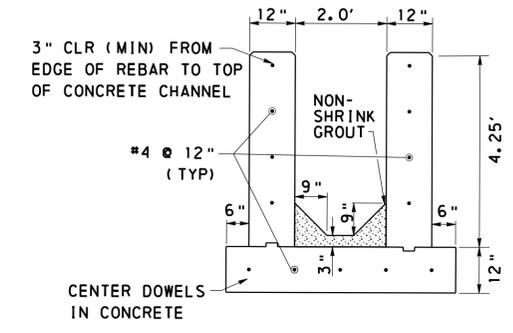
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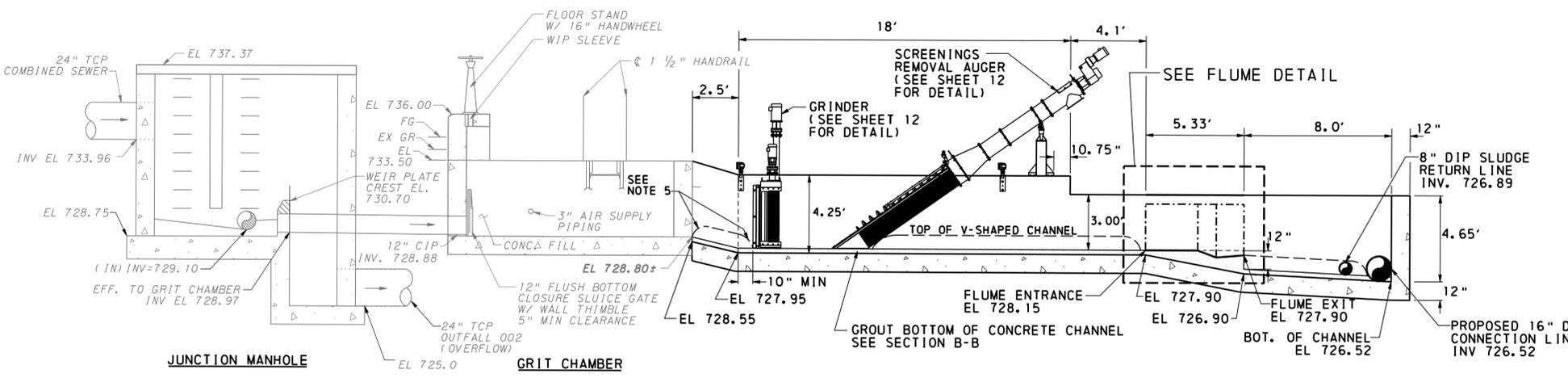
**PLAN - EXISTING JUNCTION MANHOLE & GRIT CHAMBER WITH PROPOSED CHANNEL**



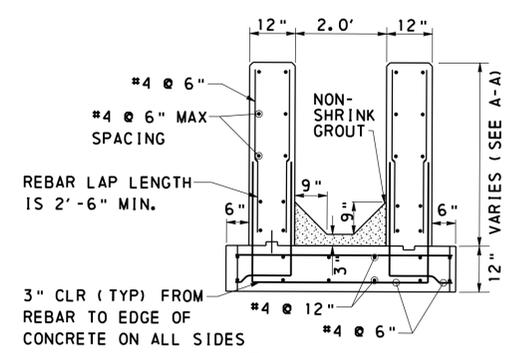
**PARSHALL FLUME**



**SECTION C-C  
 TIE-IN TO GRIT CHAMBER  
 SCALE 1" = 2'**

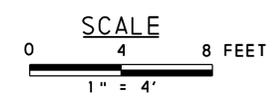


**SECTION A-A  
 PROFILE**

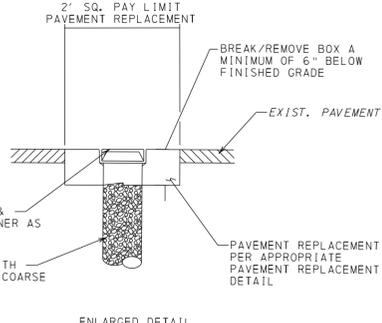
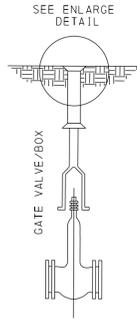


**SECTION B-B  
 TYPICAL CHANNEL SECTION  
 SCALE 1" = 2'**

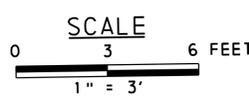
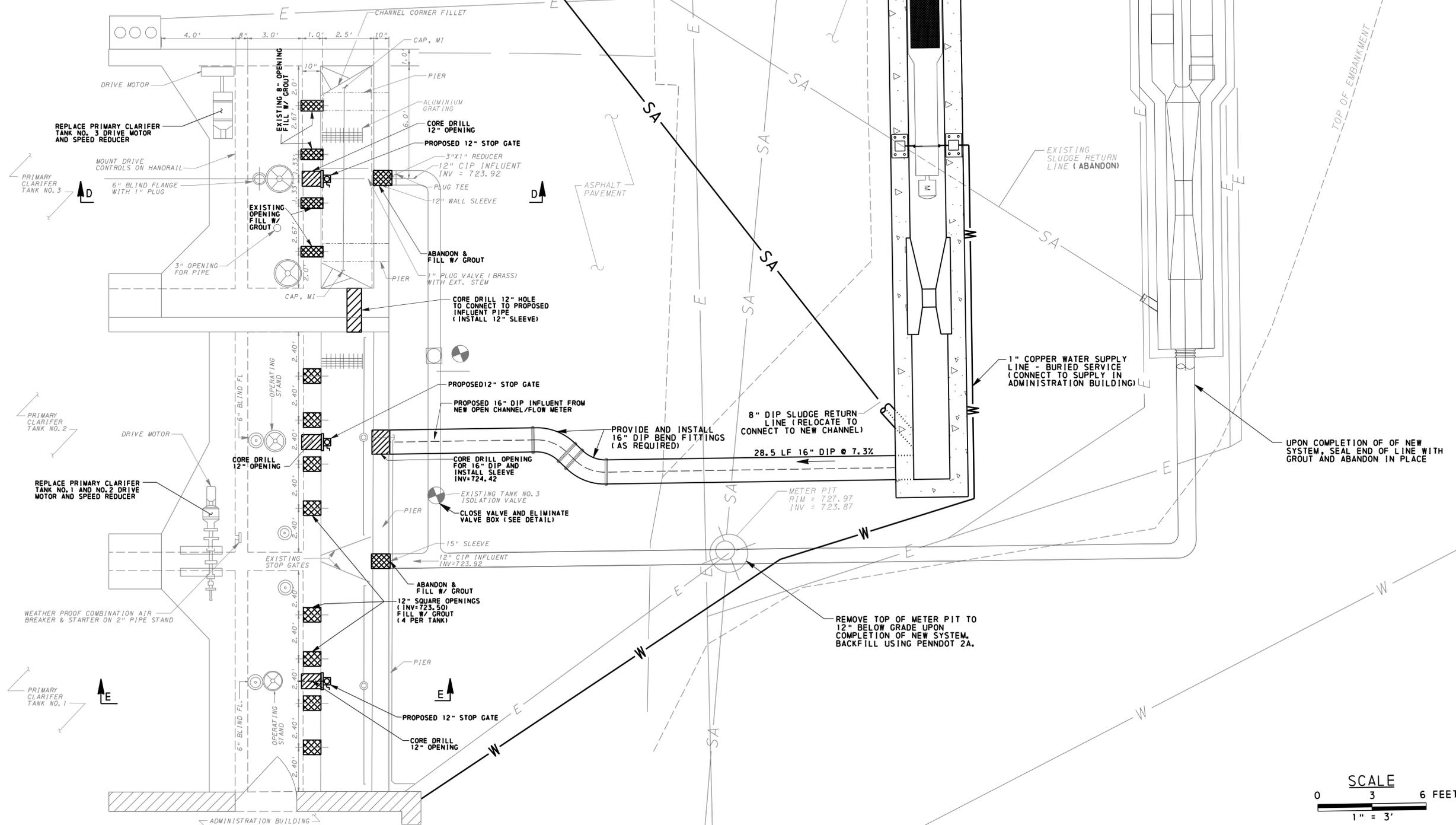
- NOTES:**
1. CONSTRUCT NEW OPEN CHANNEL FROM 12" THICK REINFORCED CONCRETE
  2. CAST-IN-PLACE CONCRETE SHALL BE 3000 PSI MIN.
  3. ALL REBAR SHALL BE EPOXY COATED
  4. ALL GROUT SHALL BE 'NON-SHRINK GROUT'
  5. ROUND OFF EDGES OF THE V-SHAPED CHANNEL TO MAKE A SMOOTH TRANSITION BETWEEN ADJOINING CHANNEL SECTIONS
  6. CONNECT NEW CHANNEL TO GRIT CHAMBER USING 12" LONG #4 DOWELS DRILLED INTO EXISTING CONCRETE AND SECURED WITH EPOXY (SEE SECTION C-C)
  7. UPON COMPLETION OF NEW REINFORCED CONCRETE OPEN CHANNEL, PLUG EXISTING 16" DIP AT GRIT CHAMBER WALL AND DEMOLISH COMMINUTOR AND OPEN CHANNEL



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EXISTING VALVE BOX REMOVAL DETAIL  
NOT TO SCALE



REVISIONS	DATE	TYPE	BY	CHK

PREPARED BY:

WIDMER ENGINEERING INC.  
806 LINCOLN PLACE, BEAVER FALLS, PA 15010

PRIMARY CLARIFIERS REHABILITATION PLAN

PREPARED FOR:

MUNICIPAL AUTHORITY OF MIDLAND  
946 RAILROAD AVE  
MIDLAND, PA 15059

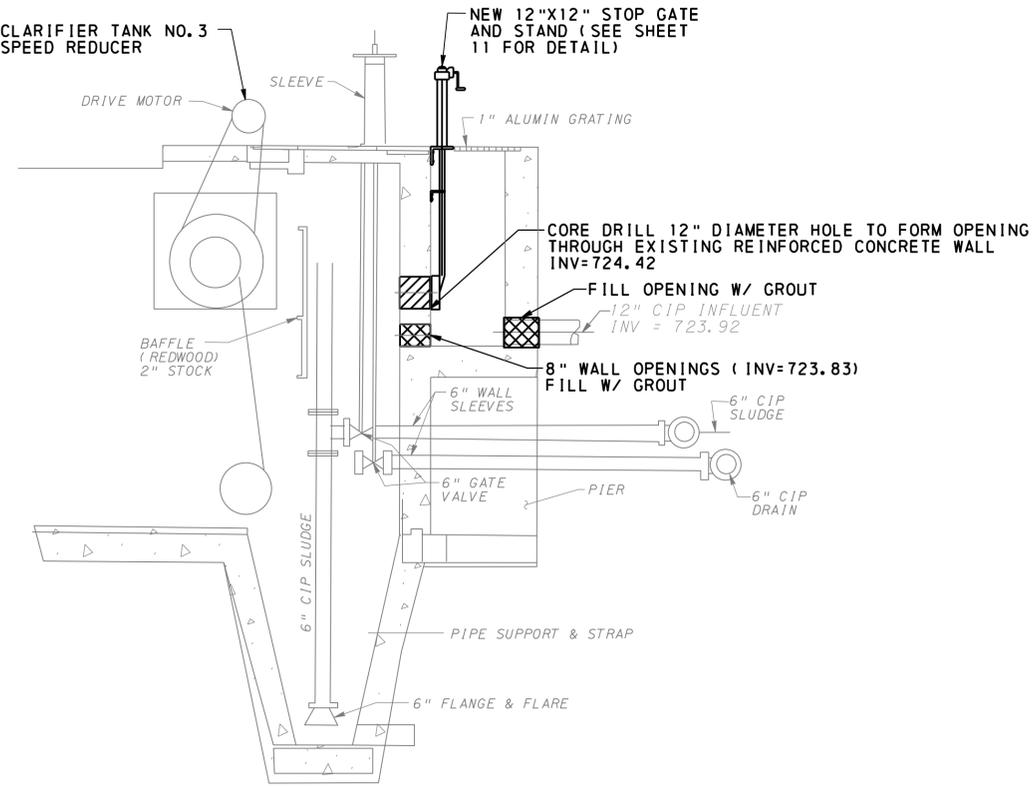
SITUATE IN:  
BOROUGH OF MIDLAND  
BEAVER COUNTY, PENNSYLVANIA

PROJECT #:	22126
FIELD BOOK #:	###
DRAWN:	JSM
CHECKED:	DAS
DATE:	MAY 2024
SCALE:	AS NOTED

SHEET NUMBER  
4 OF 12

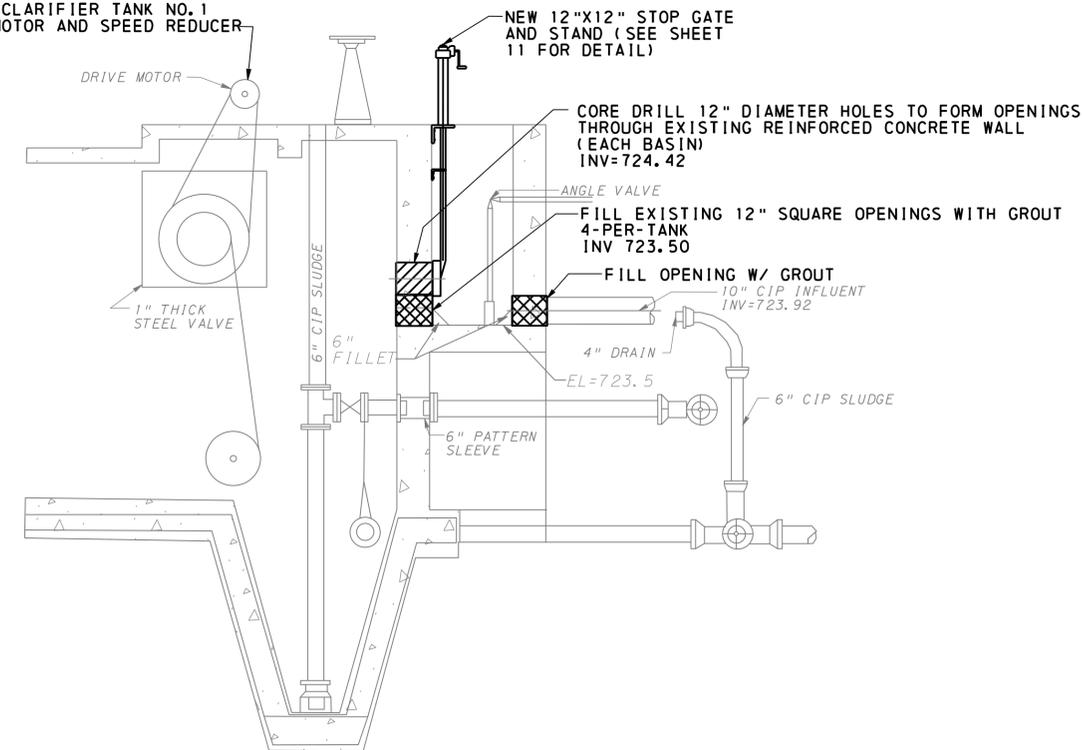
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 2/4/2025  
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REPLACE PRIMARY CLARIFIER TANK NO. 3  
DRIVE MOTOR AND SPEED REDUCER



SECTION D-D  
TANK 3

REPLACE PRIMARY CLARIFIER TANK NO. 1  
AND NO. 2 DRIVE MOTOR AND SPEED REDUCER



SECTION E-E  
TANKS 2 & 3

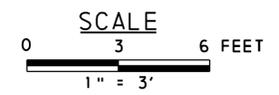


REVISIONS	DATE	BY	CHK

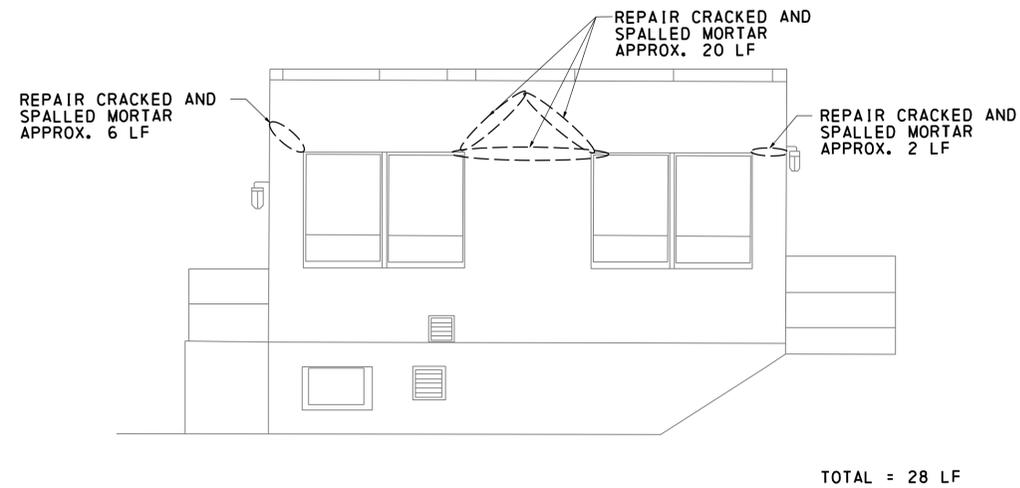


PREPARED FOR:  
MUNICIPAL AUTHORITY OF MIDLAND  
946 RAILROAD AVE  
MIDLAND, PA 15059  
SITUAITE IN:  
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BEAVER COUNTY, PENNSYLVANIA

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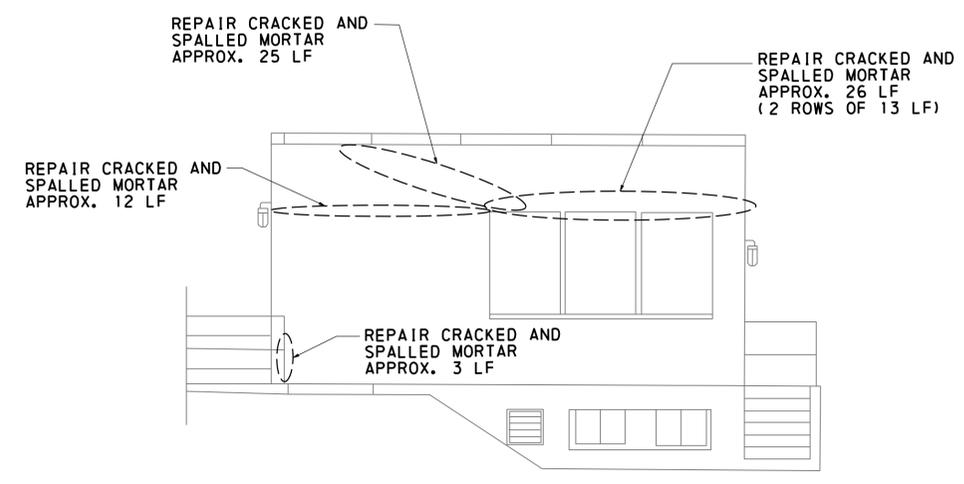


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5 OF 12



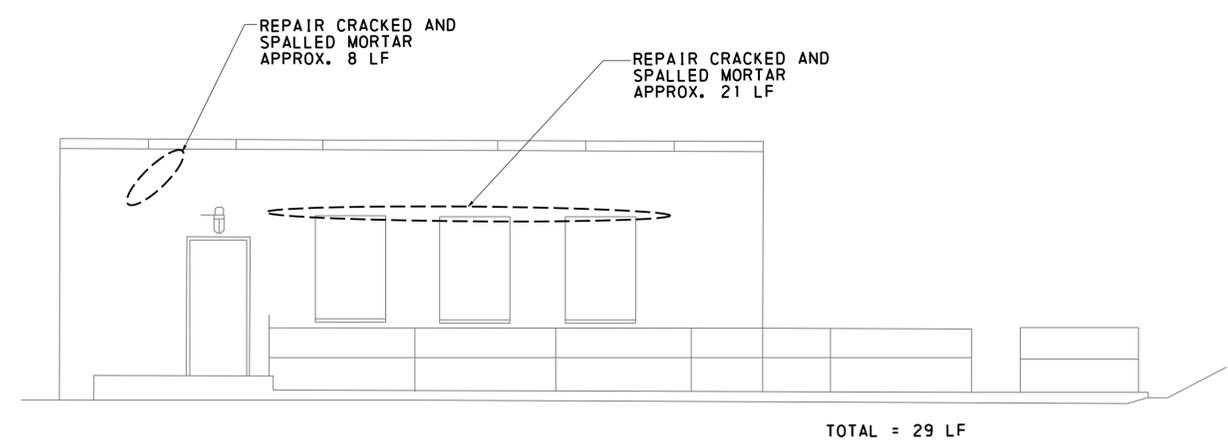
TOTAL = 28 LF

ADMINISTRATION BUILDING  
SOUTH VIEW  
NOT TO SCALE



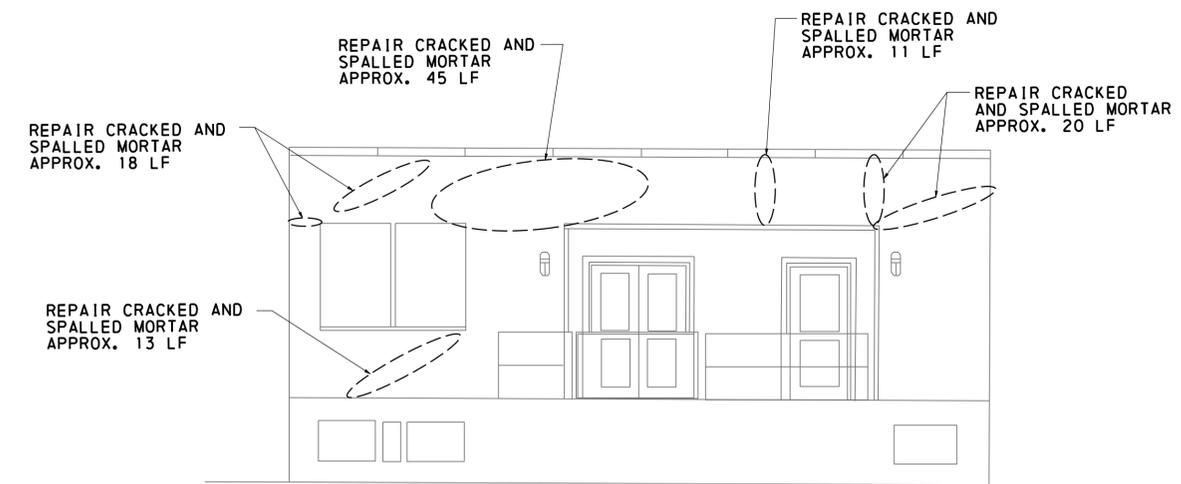
TOTAL = 66 LF

ADMINISTRATION BUILDING  
NORTH VIEW  
NOT TO SCALE



TOTAL = 29 LF

ADMINISTRATION BUILDING  
EAST VIEW  
NOT TO SCALE



TOTAL = 107 LF

ADMINISTRATION BUILDING  
WEST VIEW  
NOT TO SCALE



REVISIONS	DATE	TYPE	BY	CHK



ADMINISTRATION BUILDING  
PREPARED FOR  
MUNICIPAL AUTHORITY OF MIDLAND  
946 RAILROAD AVE  
MIDLAND, PA 15059  
SITUAITE IN  
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SHEET NUMBER  
6 OF 12

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 2/4/2025  
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AT SOUTH CORNER (NOT SHOWN):

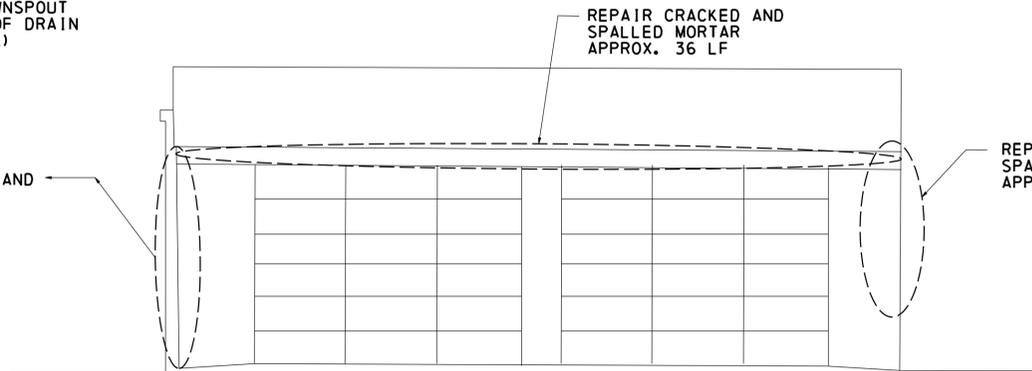
REPAIR CRACKED AND SPALLED MORTAR APPROX. 9 LF

INSTALL NEW DOWNSPOUT AT EXISTING ROOF DRAIN (SOUTHEAST SIDE)

REPAIR CRACKED AND SPALLED MORTAR APPROX. 15 LF

REPAIR CRACKED AND SPALLED MORTAR APPROX. 36 LF

REPAIR CRACKED AND SPALLED MORTAR APPROX. 8 LF



TOTAL = 68 LF

GARAGE ELEVATION (FRONT)  
NORTHEAST VIEW  
NOT TO SCALE

LINTEL REPAIRS:

REMOVE RUST ON EACH LINTEL AND REPAINT

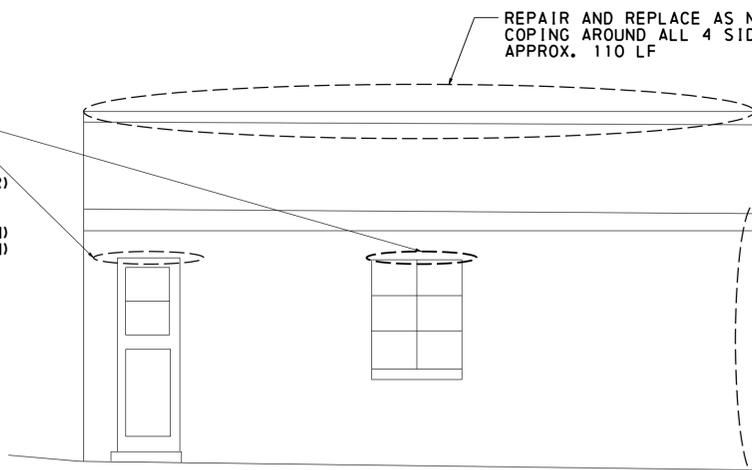
REMOVE LOOSE MORTAR AND REPOINT (MATCHING COLOR) AT EACH LINTEL

- 8 LF (NORTHWEST WALL - 1 WINDOW & 1 DOOR)
- 5 LF (SOUTHEAST WALL - 1 WINDOW) (NOT SHOWN)
- 5 LF (SOUTHWEST WALL - 1 WINDOW) (NOT SHOWN)

REMOVE EXISTING CAULKING AND RESEAL AROUND ALL WINDOW FRAMES

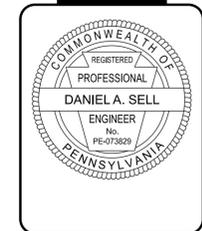
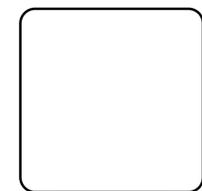
REPAIR AND REPLACE AS NECESSARY CONCRETE COPING AROUND ALL 4 SIDES OF GARAGE APPROX. 110 LF

REPAIR CRACKED AND SPALLED MORTAR APPROX. 12 LF

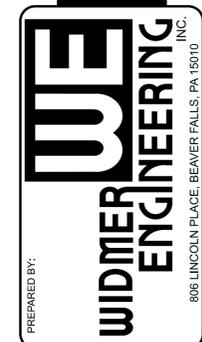


TOTAL = 30 LF MORTAR REPOINTING  
TOTAL = 110 LF OF CONCRETE REPAIR

GARAGE ELEVATION (RIGHT)  
NORTHWEST VIEW  
NOT TO SCALE



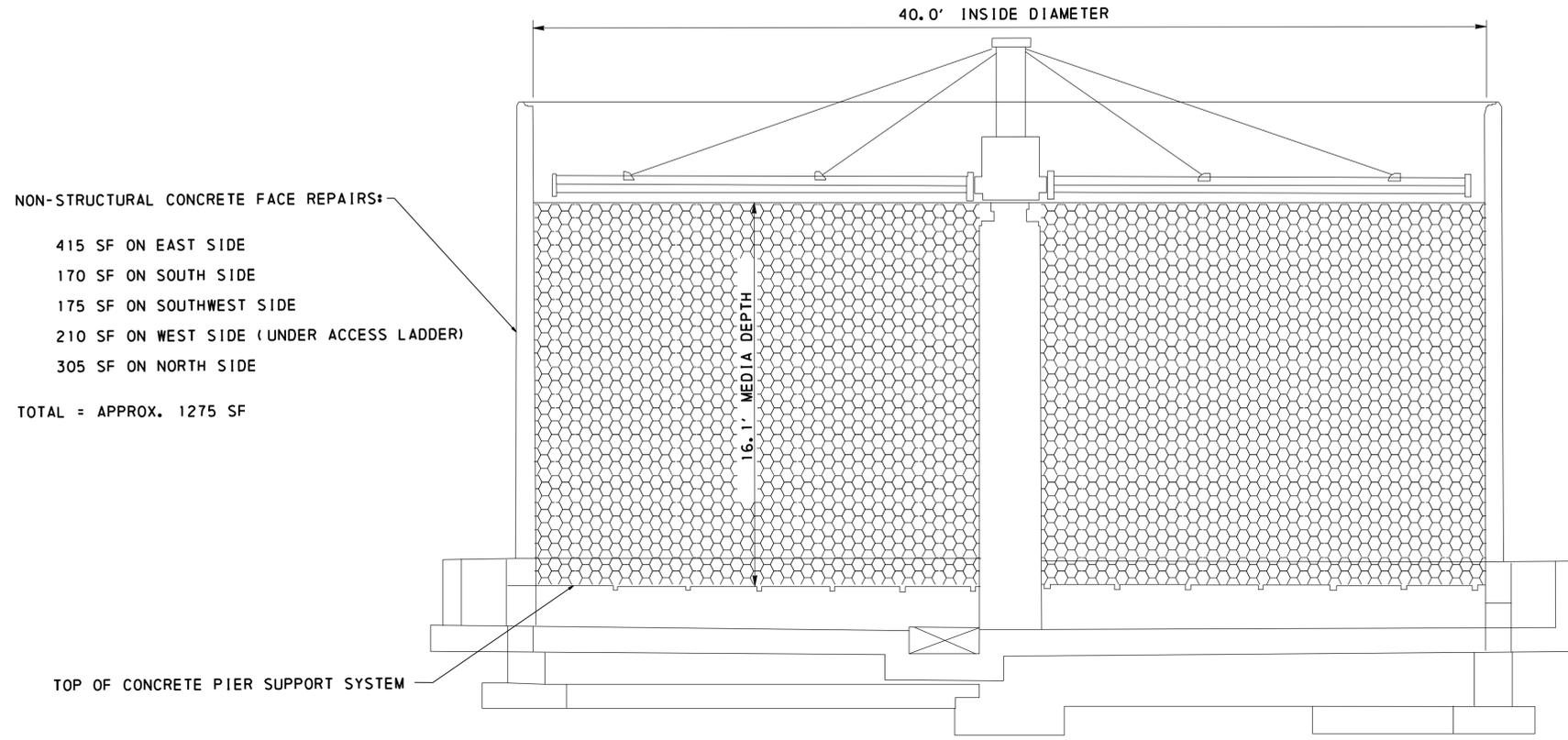
REVISIONS	DATE	BY	CHK



GARAGE  
PREPARED FOR  
MUNICIPAL AUTHORITY OF MIDLAND  
946 RAILROAD AVE  
MIDLAND, PA 15059  
SITUAITE IN  
BOROUGH OF MIDLAND  
BEAVER COUNTY, PENNSYLVANIA

PROJECT #:	22126
FIELD BOOK #:	###
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SHEET NUMBER  
7 OF 12



OXIDATION TOWER  
NOT TO SCALE

NOTES:

1. LOCATE AND CONNECT BYPASS LINE TO EXISTING BURIED FORCE MAIN LINE (SEE PHOTOS IN SPECIFICATIONS FOR LOCATION BESIDE OXIDATION TOWER) AND PIPE FLOW TO THE SECONDARY CLARIFIERS.
2. REMOVE OXIDATION TOWER "CROSS-FLOW" MEDIA IN ITS ENTIRETY IN ACCORDANCE WITH PROJECT SPECIFICATIONS.
3. REMOVE EXISTING 45 MIL REINFORCED POLYPROPYLENE TOWER LINER AND REPLACE AS SPECIFIED USING SAME FASTENING SCHEME AND COVERAGE.
4. REPLACE OXIDATION TOWER MEDIA PER SPECIFICATIONS AND START UP OXIDATION TOWER.
5. REMOVE BYPASS PIPING.

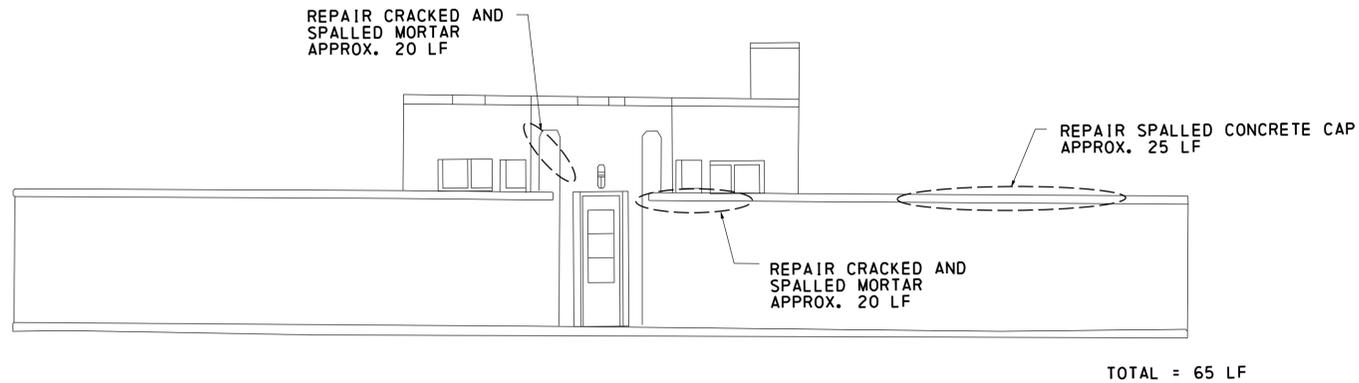


REVISIONS	DATE	TYPE	BY	CHK

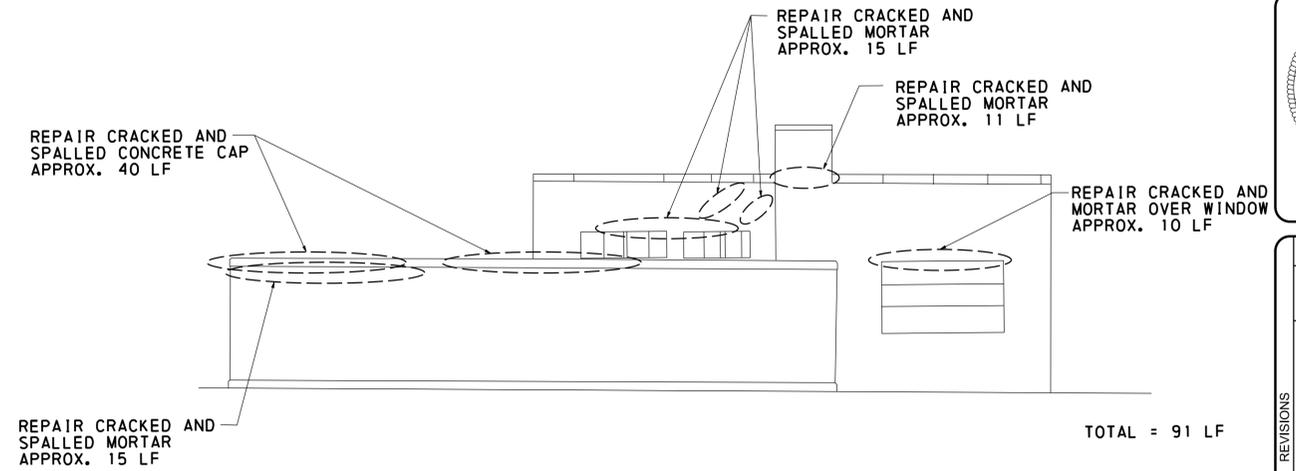


OXIDATION TOWER  
PREPARED FOR  
MUNICIPAL AUTHORITY OF MIDLAND  
946 RAILROAD AVE  
MIDLAND, PA 15059  
SITUATE IN  
BOROUGH OF MIDLAND  
BEAVER COUNTY, PENNSYLVANIA

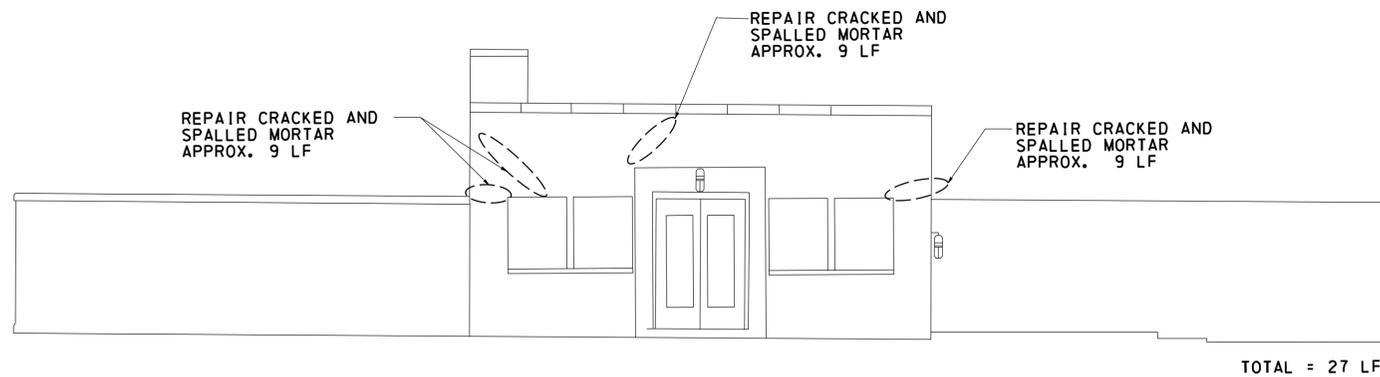
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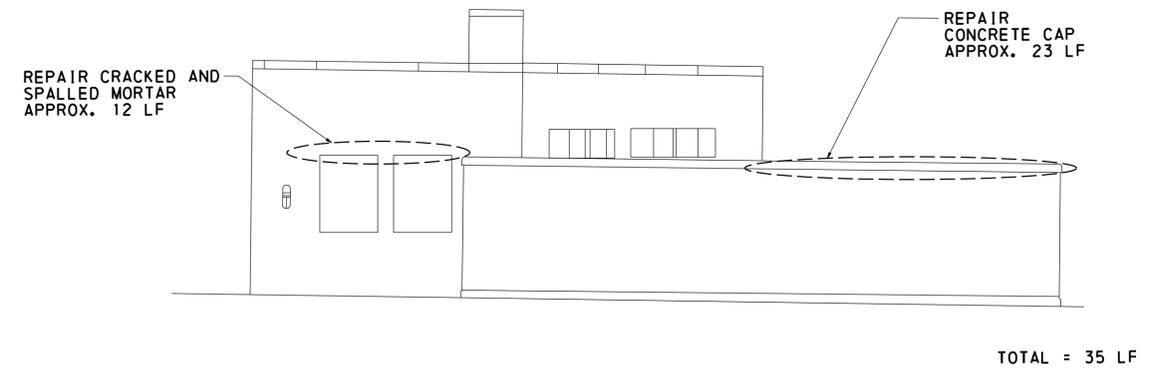
DIGESTERS AND CONTROL HOUSE (REAR)  
SOUTHWEST VIEW  
NOT TO SCALE



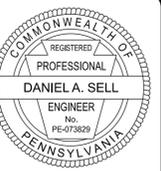
DIGESTERS AND CONTROL HOUSE  
SOUTHEAST VIEW  
NOT TO SCALE



DIGESTERS AND CONTROL HOUSE (FRONT)  
NORTHEAST VIEW  
NOT TO SCALE



DIGESTERS AND CONTROL HOUSE  
NORTHWEST VIEW  
NOT TO SCALE



REVISIONS	DATE	TYPE	BY	CHK

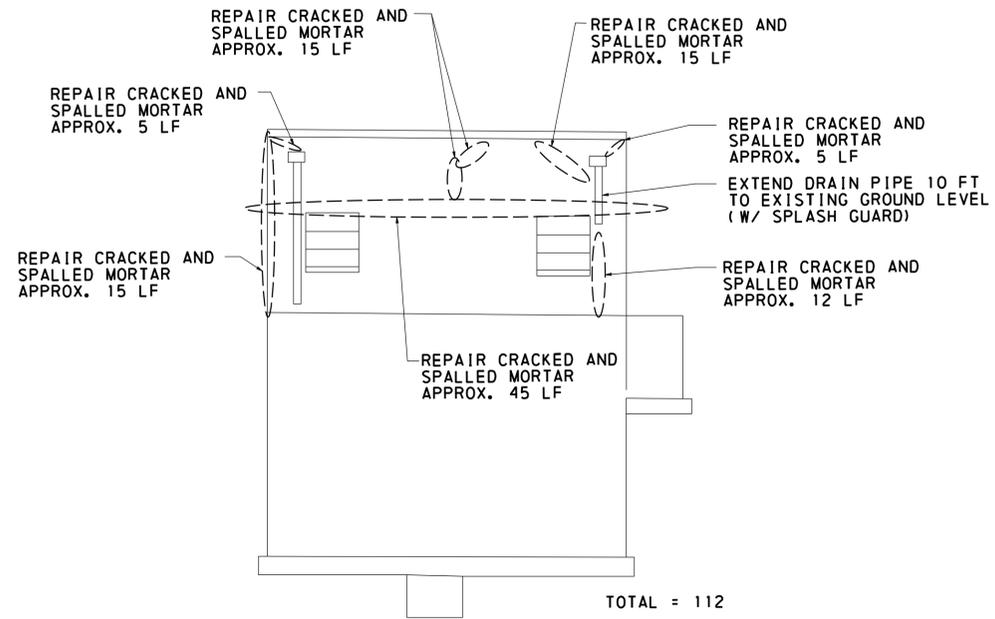


PREPARED BY:  
**WIDMER ENGINEERING, INC.**  
806 LINCOLN PLACE, BEAVER FALLS, PA 15010

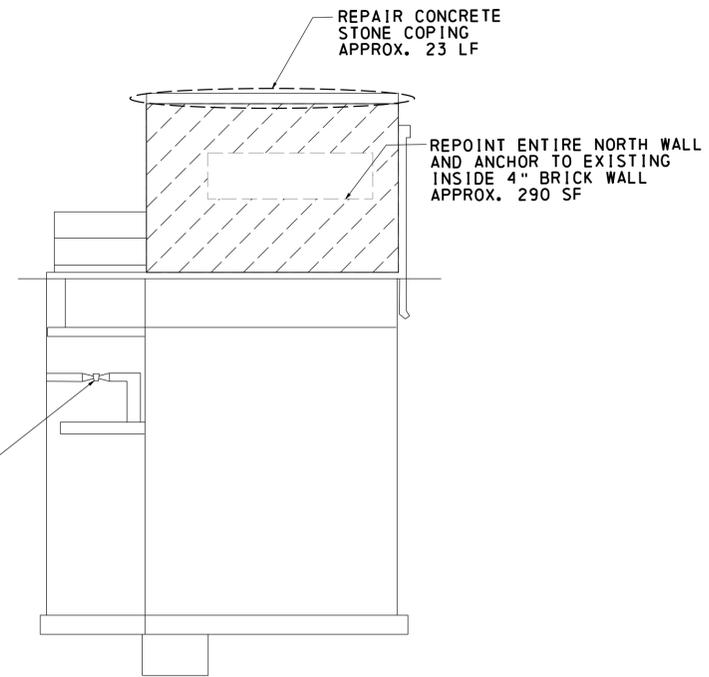
DIGESTERS AND CONTROL HOUSE  
PREPARED FOR:  
**MUNICIPAL AUTHORITY OF MIDLAND**  
946 RAILROAD AVE  
MIDLAND, PA 15059  
SITUAITE IN:  
BOROUGH OF MIDLAND  
BEAVER COUNTY, PENNSYLVANIA

PROJECT #:	22126
FIELD BOOK #:	###
DRAWN:	JSM
CHECKED:	DAS
DATE:	MAY 2024
SCALE:	AS NOTED

SHEET NUMBER  
**9 OF 12**

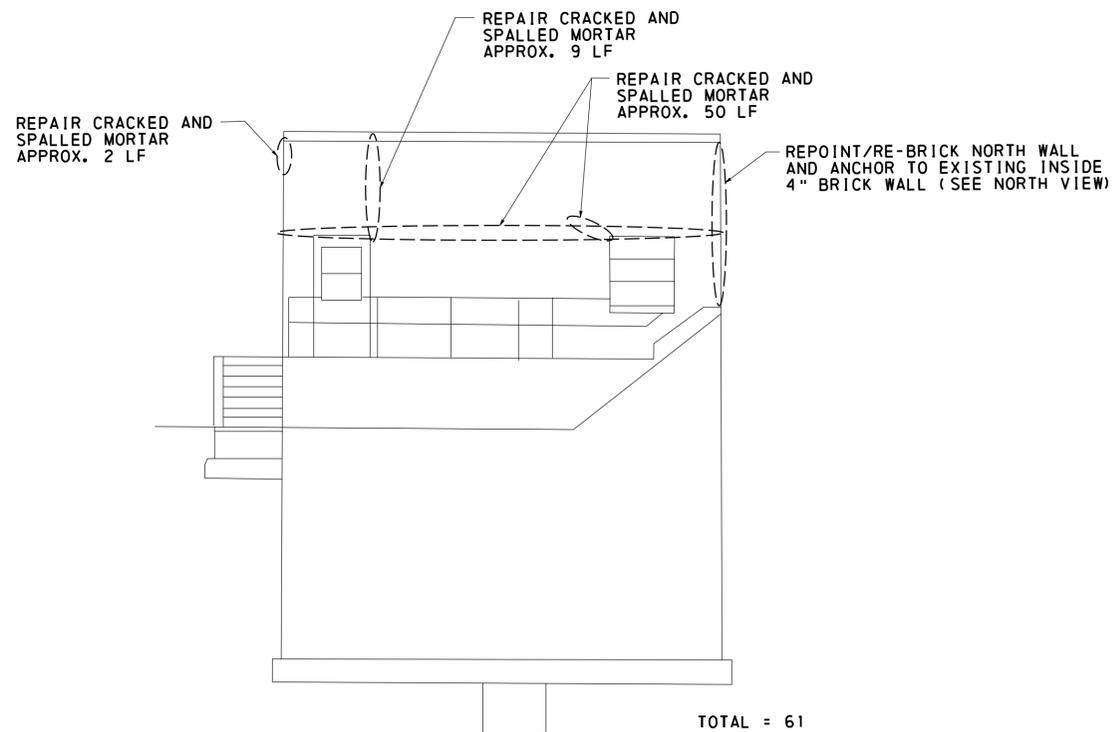


PUMP HOUSE ELEVATIONS  
WEST VIEW  
NOT TO SCALE

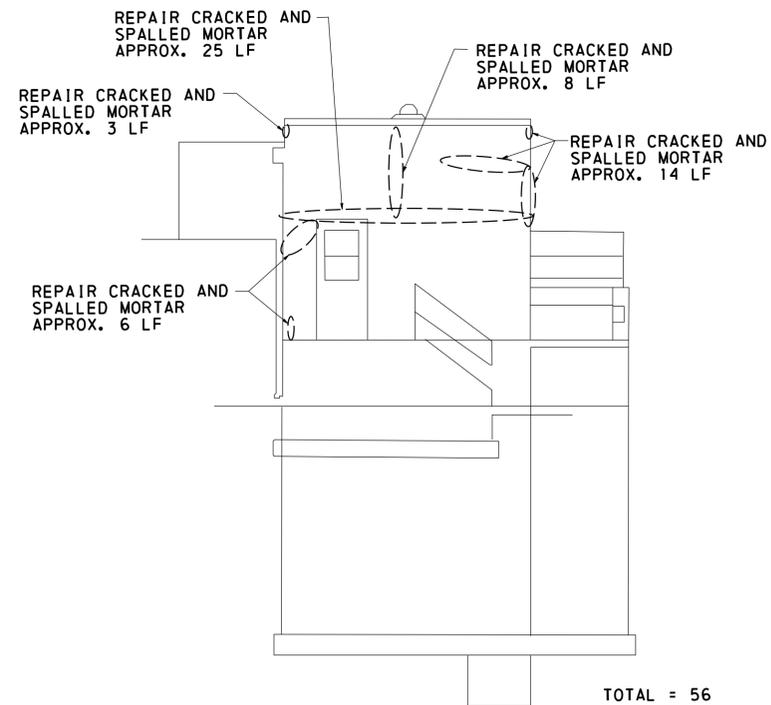


PUMP HOUSE ELEVATIONS  
NORTH VIEW  
NOT TO SCALE

**SPECIAL NOTE**  
FOR MECHANICAL WORK IN PUMP HOUSE  
REPLACE 6" BUTTERFLY VALVE AND VALVE ACTUATOR (OXIDATION TOWER RECYCLE CONTROL VALVE) (REFER TO ELECTRICAL PLAN PAGES 10-12 FOR DETAILS)  
PIPEWORK AND VALVE INSTALLATION AND MOUNTING IS PART OF THE GENERAL CONSTRUCTION CONTRACT.



PUMP HOUSE ELEVATIONS  
EAST VIEW  
NOT TO SCALE



PUMP HOUSE ELEVATIONS  
SOUTH VIEW  
NOT TO SCALE



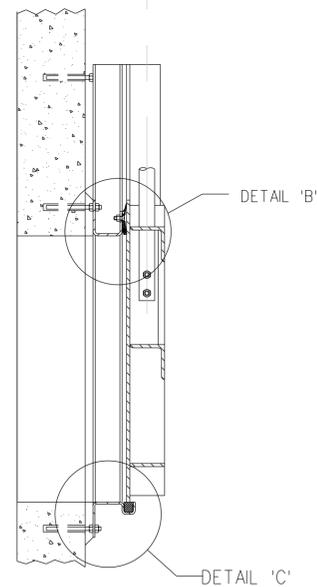
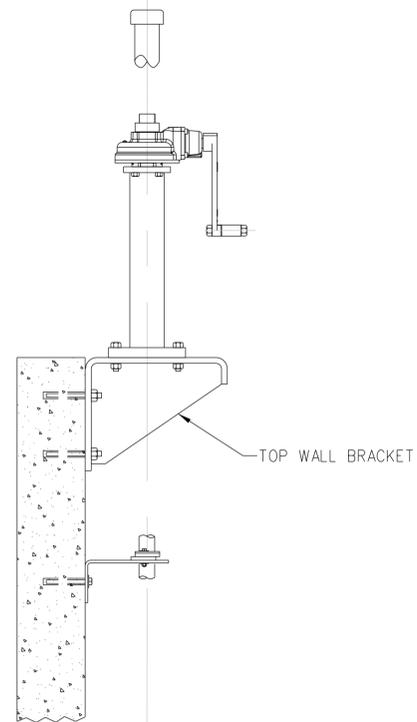
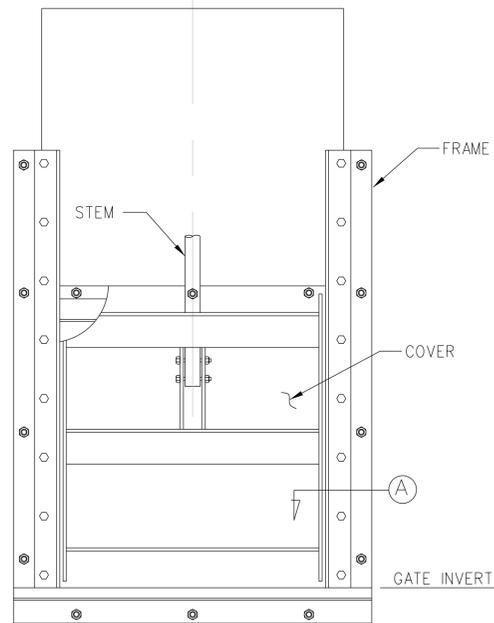
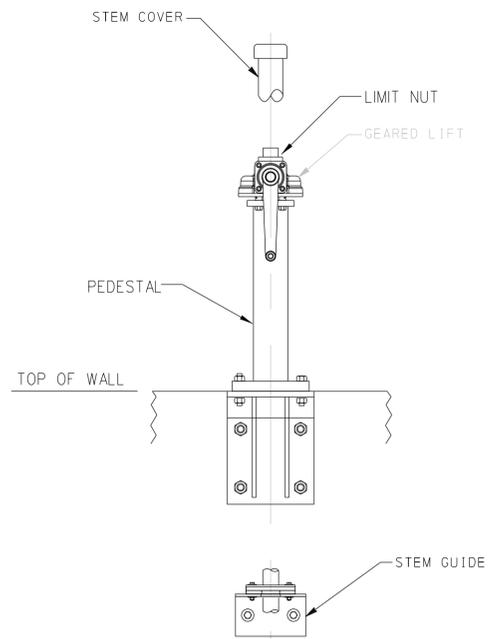
DATE	REVISIONS	BY	CHK
	TYPE		



PUMP HOUSE  
PREPARED FOR  
MUNICIPAL AUTHORITY OF MIDLAND  
946 RAILROAD AVE  
MIDLAND, PA 15059  
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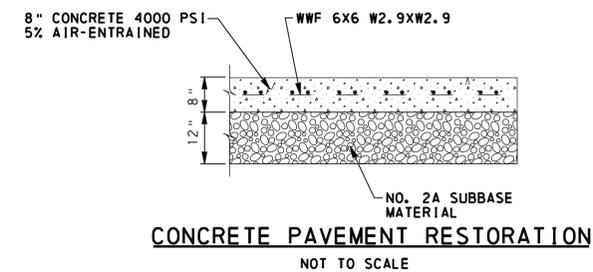
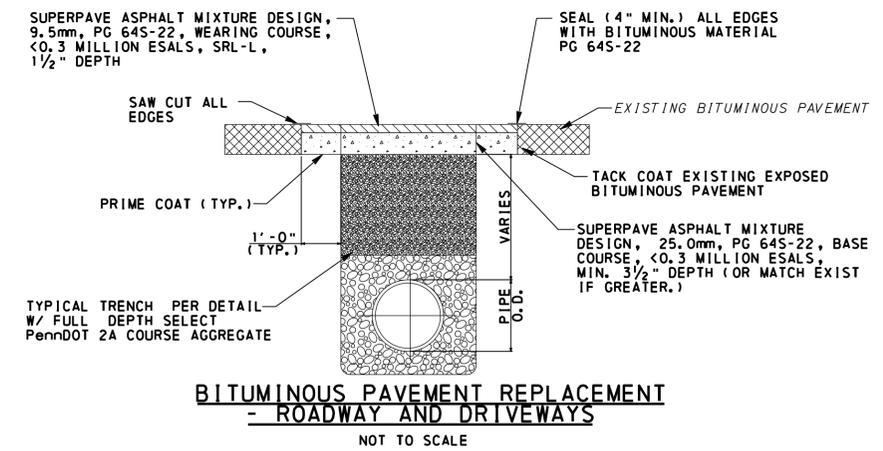
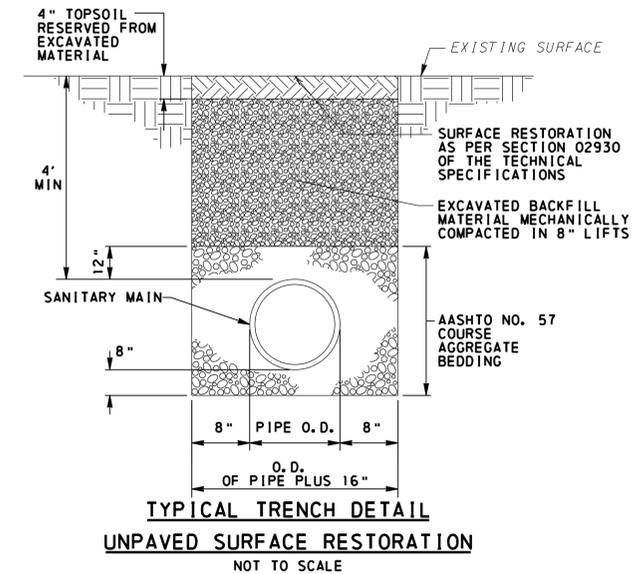
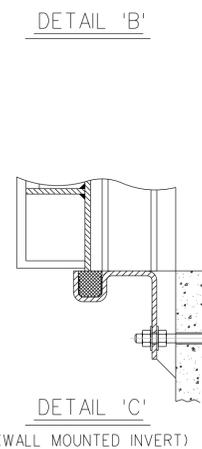
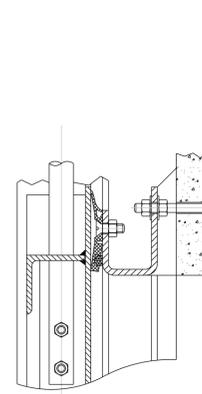
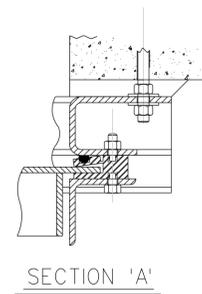
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10 OF 12



**WALL MOUNTED SLIDE GATES**

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NOTES:  
CUT OPENING IN EXISTING FLOOR GRATE AS REQUIRED TO FIT TOP WALL BRACKET AND PEDESTAL. ENSURE A CLOSE FIT.



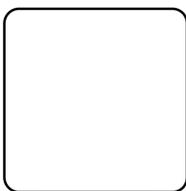
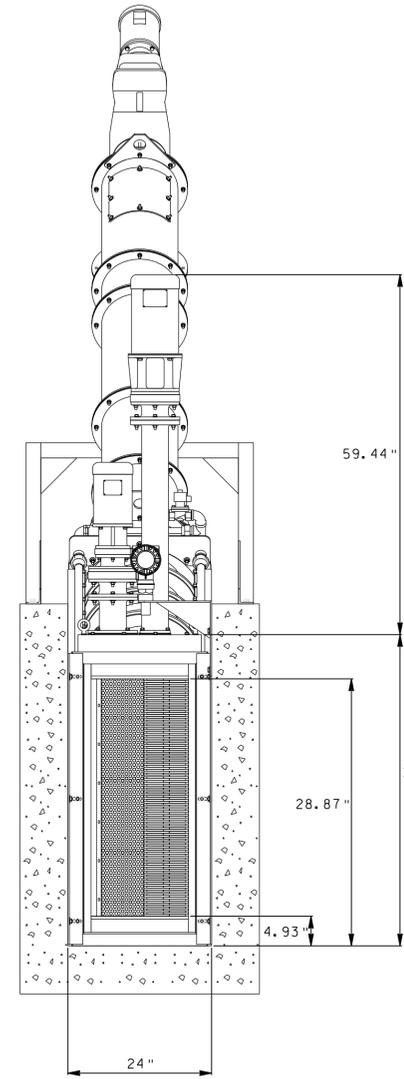
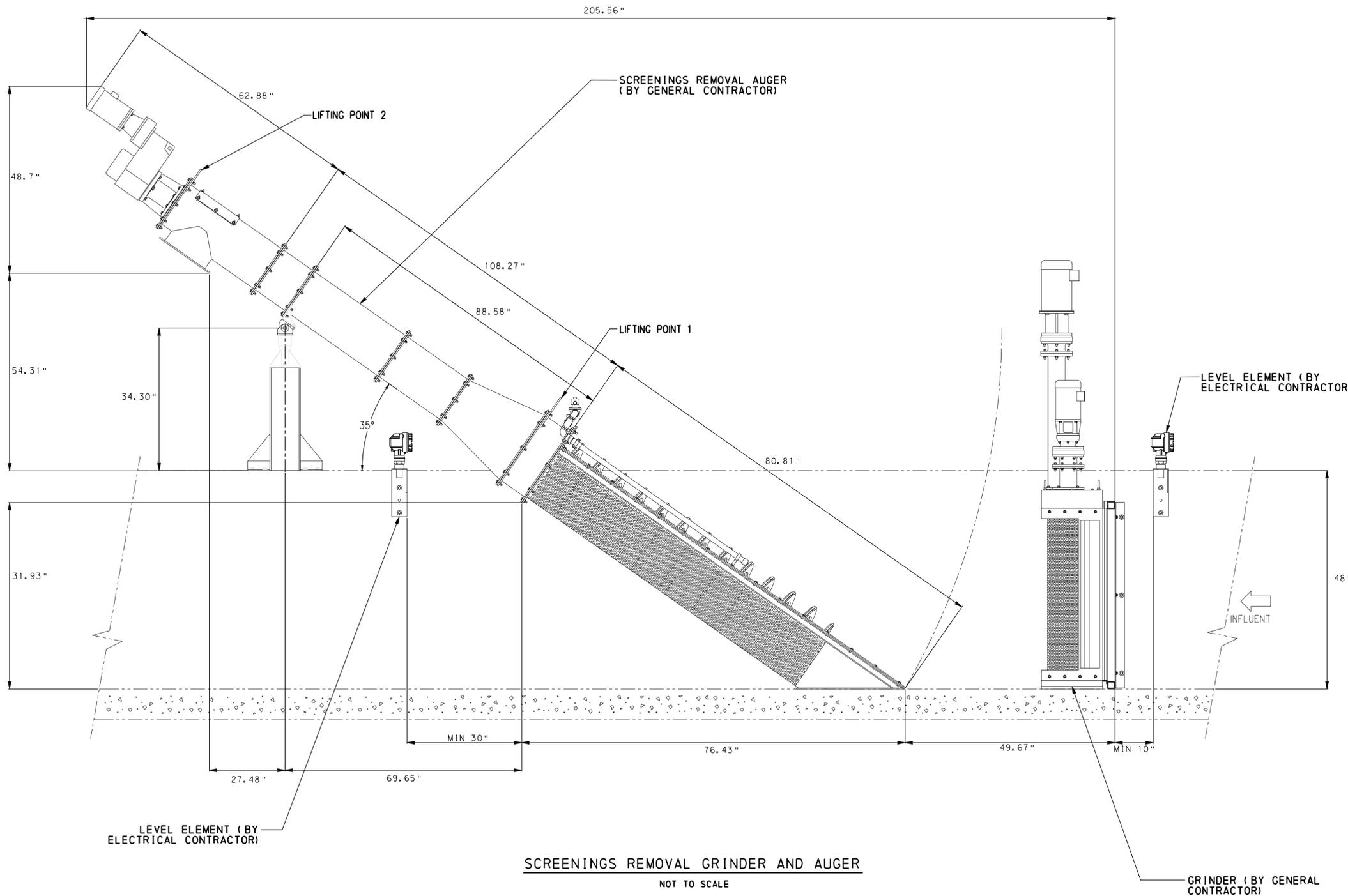
REVISIONS	DATE	BY	CHK



PREPARED BY:  
**WIDMER ENGINEERING INC.**  
MUNICIPAL AUTHORITY OF MIDLAND  
946 RAILROAD AVE  
MIDLAND, PA 15059  
SITUATED IN:  
BOROUGH OF MIDLAND  
BEAVER COUNTY, PENNSYLVANIA

PROJECT #:	22126
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SCALE:	AS NOTED

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REVISIONS	DATE	TYPE	BY	CHK

DATE	TYPE	BY	CHK

PREPARED BY:

**WIDMER ENGINEERING**  
 INC.  
 806 LINCOLN PLACE, BEAVER FALLS, PA 15010

SCREENINGS REMOVAL GRINDER AND AUGER DETAILS

MUNICIPAL AUTHORITY OF MIDLAND  
 946 RAILROAD AVE  
 MIDLAND, PA 15059

SITUAITE IN  
 BOROUGH OF MIDLAND  
 BEAVER COUNTY, PENNSYLVANIA

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CHECKED:	DAS
DATE:	MAY 2024
SCALE:	AS NOTED

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DATE	REVISIONS TYPE	BY	CHK

PREPARED BY:

**WIDMER ENGINEERING**  
 806 LINCOLN PLACE, BEAVER FALLS, PA 15010

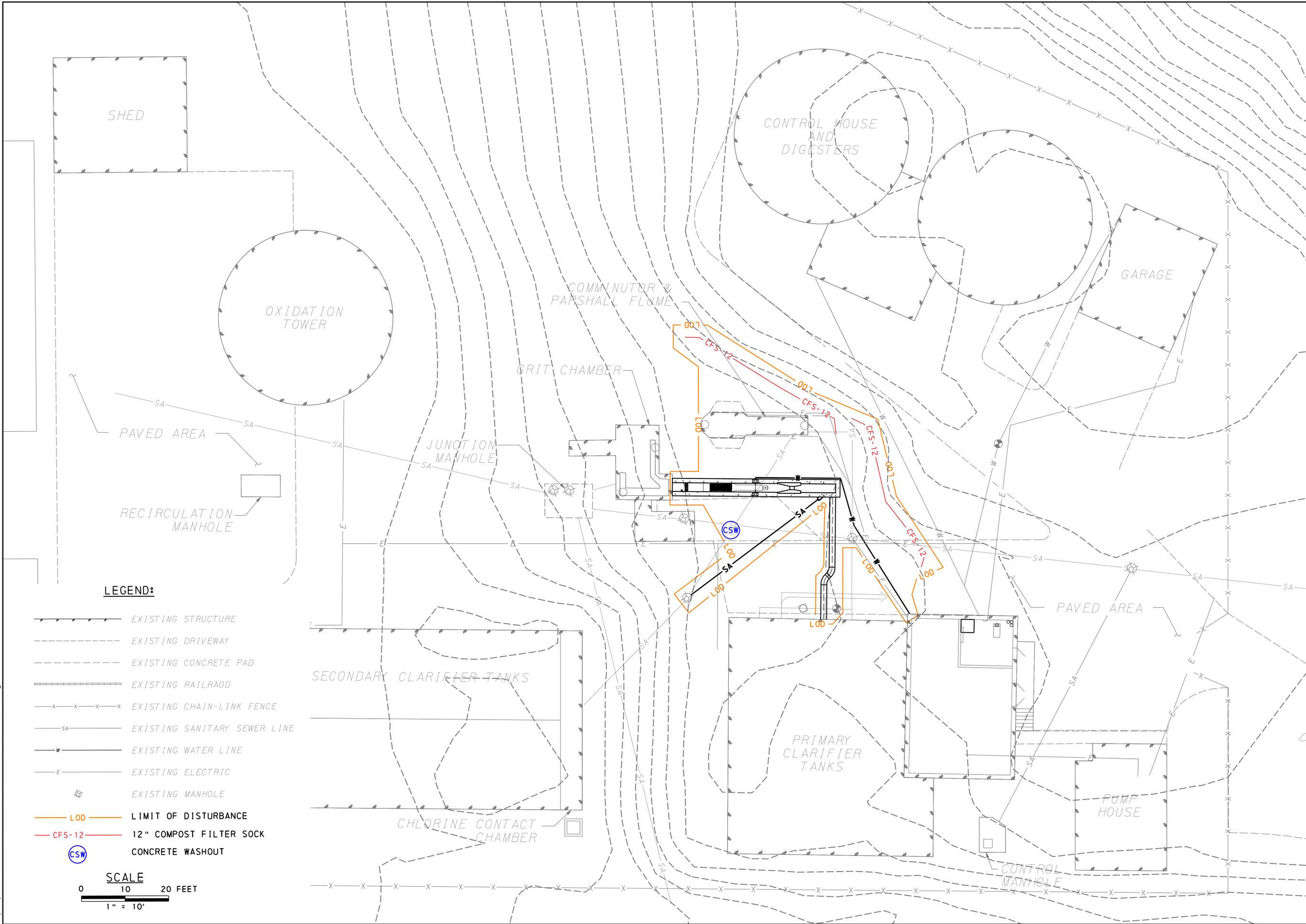
EROSION AND SEDIMENT CONTROL PLAN

PREPARED FOR:  
**MUNICIPAL AUTHORITY OF MIDLAND**  
 946 RAILROAD AVE  
 MIDLAND, PA 15059

SITuated IN:  
 BOROUGH OF MIDLAND  
 BEAVER COUNTY, PENNSYLVANIA

PROJECT #:	22126
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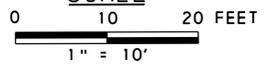
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**LEGEND:**

- EXISTING STRUCTURE
- EXISTING DRIVEWAY
- EXISTING CONCRETE PAD
- EXISTING RAILROAD
- EXISTING CHAIN-LINK FENCE
- EXISTING SANITARY SEWER LINE
- EXISTING WATER LINE
- EXISTING ELECTRIC
- EXISTING MANHOLE
- LOD LIMIT OF DISTURBANCE
- CFS-12 12" COMPOST FILTER SOCK
- CONCRETE WASHOUT

**SCALE**



**STANDARD EROSION AND SEDIMENTATION CONTROL PLAN NOTES**

- ALL EARTH DISTURBANCES, INCLUDING CLEARING AND GRUBBING AS WELL AS CUTS AND FILLS SHALL BE DONE IN ACCORDANCE WITH THE APPROVED E&S PLAN. A COPY OF THE APPROVED DRAWINGS (STAMPED, SIGNED AND DATED BY THE REVIEWING AGENCY) MUST BE AVAILABLE AT THE PROJECT SITE AT ALL TIMES. THE REVIEWING AGENCY SHALL BE NOTIFIED OF ANY CHANGES TO THE APPROVED PLAN PRIOR TO IMPLEMENTATION OF THOSE CHANGES. THE REVIEWING AGENCY MAY REQUIRE A WRITTEN SUBMITTAL OF THOSE CHANGES FOR REVIEW AND APPROVAL AT ITS DISCRETION.
- AT LEAST 7 DAYS PRIOR TO STARTING ANY EARTH DISTURBANCE ACTIVITIES, INCLUDING CLEARING AND GRUBBING, THE OWNER AND/OR OPERATOR SHALL INVITE ALL CONTRACTORS, THE LANDOWNER, APPROPRIATE MUNICIPAL OFFICIALS, THE E&S PLAN PREPARER, THE PCSM PLAN PREPARER, THE LICENSED PROFESSIONAL RESPONSIBLE FOR OVERSIGHT OF CRITICAL STAGES OF IMPLEMENTATION OF THE PCSM PLAN, AND A REPRESENTATIVE FROM THE BEAVER COUNTY CONSERVATION DISTRICT TO AN ON-SITE PRECONSTRUCTION MEETING.
- AT LEAST 3 DAYS PRIOR TO STARTING ANY EARTH DISTURBANCE ACTIVITIES, OR EXPANDING INTO AN AREA PREVIOUSLY UNMARKED, THE PENNSYLVANIA ONE CALL SYSTEM INC. SHALL BE NOTIFIED AT 1-800-242-1776 FOR THE LOCATION OF EXISTING UNDERGROUND UTILITIES.
- ALL EARTH DISTURBANCE ACTIVITIES SHALL PROCEED IN ACCORDANCE WITH THE SEQUENCE PROVIDED ON THE PLAN DRAWINGS. DEVIATION FROM THAT SEQUENCE MUST BE APPROVED IN WRITING FROM THE BEAVER COUNTY CONSERVATION DISTRICT OR BY THE DEPARTMENT PRIOR TO IMPLEMENTATION.
- AREAS TO BE FILLED ARE TO BE CLEARED, GRUBBED, AND STRIPPED OF TOPSOIL TO REMOVE TREES, VEGETATION, ROOTS AND OTHER OBJECTIONABLE MATERIAL.
- CLEARING, GRUBBING, AND TOPSOIL STRIPPING SHALL BE LIMITED TO THOSE AREAS DESCRIBED IN EACH STAGE OF THE CONSTRUCTION SEQUENCE. GENERAL SITE CLEARING GRUBBING AND TOPSOIL STRIPPING MAY NOT COMMENCE IN ANY STAGE OR PHASE OF THE PROJECT UNTIL THE E&S BMPS SPECIFIED BY THE BMP SEQUENCE FOR THAT STAGE OR PHASE HAVE BEEN INSTALLED AND ARE FUNCTIONING AS DESCRIBED IN THIS E&S PLAN.
- AT NO TIME SHALL CONSTRUCTION VEHICLES BE ALLOWED TO ENTER AREAS OUTSIDE THE LIMIT OF DISTURBANCE BOUNDARIES SHOWN ON THE PLAN MAPS. THESE AREAS MUST BE CLEARLY MARKED AND FENCED OFF BEFORE CLEARING AND GRUBBING OPERATIONS BEGIN.
- TOPSOIL REQUIRED FOR THE ESTABLISHMENT OF VEGETATION SHALL BE STOCKPILED AT THE LOCATION(S) SHOWN ON THE PLAN MAP(S) IN THE AMOUNT NECESSARY TO COMPLETE THE FINISH GRADING OF ALL EXPOSED AREAS THAT ARE TO BE STABILIZED BY VEGETATION. EACH STOCKPILE SHALL BE PROTECTED IN THE MANNER SHOWN ON THE PLAN DRAWINGS. STOCKPILE HEIGHTS SHALL NOT EXCEED 35 FEET. STOCKPILE SLOPES SHALL BE 2H:1V OR FLATTER.
- IMMEDIATELY UPON DISCOVERING UNFORESEEN CIRCUMSTANCES POSING THE POTENTIAL FOR ACCELERATED EROSION AND/OR SEDIMENT POLLUTION, THE OPERATOR SHALL IMPLEMENT APPROPRIATE BEST MANAGEMENT PRACTICES TO MINIMIZE THE POTENTIAL FOR EROSION AND SEDIMENT POLLUTION AND NOTIFY THE BEAVER COUNTY CONSERVATION DISTRICT AND/OR THE REGIONAL OFFICE OF THE DEPARTMENT.
- ALL BUILDING MATERIALS AND WASTES SHALL BE REMOVED FROM THE SITE AND RECYCLED OR DISPOSED OF IN ACCORDANCE WITH THE DEPARTMENT'S SOLID WASTE MANAGEMENT REGULATIONS AT 25 PA. CODE 260.1 ET SEQ., 271.1, AND 287.1 ET. SEQ. NO BUILDING MATERIALS OR WASTES OR UNUSED BUILDING MATERIALS SHALL BE BURNED, BURIED, DUMPED, OR DISCHARGED AT THE SITE.
- ALL OFF-SITE WASTE AND BORROW AREAS MUST HAVE AN E&S PLAN APPROVED BY THE BEAVER COUNTY CONSERVATION DISTRICT OR THE DEPARTMENT FULLY IMPLEMENTED PRIOR TO BEING ACTIVATED.
- THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT ANY MATERIAL BROUGHT ON SITE IS CLEAN FILL. FORM FP-001 MUST BE RETAINED BY THE PROPERTY OWNER FOR ANY FILL MATERIAL AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE BUT QUALIFYING AS CLEAN FILL DUE TO ANALYTICAL TESTING.
- ALL PUMPING OF WATER FROM ANY WORK AREA SHALL BE DONE ACCORDING TO THE PROCEDURE DESCRIBED IN THIS PLAN, OVER UNDISTURBED VEGETATED AREAS.
- VEHICLES AND EQUIPMENT MAY NEITHER ENTER DIRECTLY NOR EXIT DIRECTLY FROM ANY AREA OTHER THAN THOSE DESIGNATED ON THE PLAN DRAWINGS.
- UNTIL THE SITE IS STABILIZED, ALL EROSION AND SEDIMENT BMPS SHALL BE MAINTAINED PROPERLY. MAINTENANCE SHALL INCLUDE INSPECTIONS OF ALL EROSION AND SEDIMENT BMPS AFTER EACH RUNOFF EVENT AND ON A WEEKLY BASIS. ALL PREVENTATIVE AND REMEDIAL MAINTENANCE WORK, INCLUDING CLEAN OUT, REPAIR, REPLACEMENT, REGRADING, RESEEDING, REMULCHING AND RENETTING MUST BE PERFORMED IMMEDIATELY. IF THE E&S BMPS FAIL TO PERFORM AS EXPECTED, REPLACEMENT BMPS, OR MODIFICATIONS OF THOSE INSTALLED WILL BE REQUIRED.
- A LOG SHOWING DATES THAT E&S BMPS WERE INSPECTED AS WELL AS ANY DEFICIENCIES FOUND AND THE DATE THEY WERE CORRECTED SHALL BE MAINTAINED ON THE SITE AND BE MADE AVAILABLE TO REGULATORY AGENCY OFFICIALS AT THE TIME OF INSPECTION.
- SEDIMENT TRACKED ONTO ANY PUBLIC ROADWAY OR SIDEWALK SHALL BE RETURNED TO THE CONSTRUCTION SITE BY THE END OF EACH WORK DAY AND DISPOSED IN THE MANNER DESCRIBED IN THIS PLAN. IN NO CASE SHALL THE SEDIMENT BE WASHED, SHOVELED, OR SWEEP INTO ANY ROADSIDE DITCH, STORM SEWER, OR SURFACE WATER.
- ALL SEDIMENT REMOVED FROM BMPS SHALL BE DISPOSED OF IN THE MANNER DESCRIBED ON THE PLAN DRAWINGS.
- AREAS WHICH ARE TO BE TOPSOILED SHALL BE SCARIFIED TO A MINIMUM DEPTH OF 3 TO 5 INCHES, 6 TO 12 INCHES ON COMPACTED SOILS, PRIOR TO PLACEMENT OF TOPSOIL. AREAS TO BE VEGETATED SHALL HAVE A MINIMUM 4 INCHES OF TOPSOIL IN PLACE PRIOR TO SEEDING AND MULCHING. FILL OUTSLOPES SHALL HAVE A MINIMUM OF 2 INCHES OF TOPSOIL.

- ALL FILLS SHALL BE COMPACTED AS REQUIRED TO REDUCE EROSION, SLIPPAGE, SETTLEMENT, SUBSIDENCE OR OTHER RELATED PROBLEMS. FILL INTENDED TO SUPPORT BUILDINGS, STRUCTURES AND CONDUITS, ETC. SHALL BE COMPACTED IN ACCORDANCE WITH LOCAL REQUIREMENTS OR CODES.
- ALL EARTHEN FILLS SHALL BE PLACED IN COMPACTED LAYERS NOT TO EXCEED 9 INCHES IN THICKNESS.
- FILL MATERIALS SHALL BE FREE OF FROZEN PARTICLES, BRUSH, ROOTS, SOD, OR OTHER FOREIGN OR OBJECTIONABLE MATERIALS THAT WOULD INTERFERE WITH OR PREVENT CONSTRUCTION OF SATISFACTORY FILLS.
- FROZEN MATERIALS OR SOFT, MUCKY, OR HIGHLY COMPRESSIBLE MATERIALS SHALL NOT BE INCORPORATED INTO FILLS.
- FILL SHALL NOT BE PLACED ON SATURATED OR FROZEN SURFACES.
- SEEPS OR SPRINGS ENCOUNTERED DURING CONSTRUCTION SHALL BE HANDLED IN ACCORDANCE WITH THE STANDARD AND SPECIFICATION FOR SUBSURFACE DRAIN OR OTHER APPROVED METHOD.
- ALL GRADED AREAS SHALL BE PERMANENTLY STABILIZED IMMEDIATELY UPON REACHING FINISHED GRADE. SEEDED AREAS WITHIN 50 FEET OF A SURFACE WATER, OR AS OTHERWISE SHOWN ON THE PLAN DRAWINGS, SHALL BE BLANKETED ACCORDING TO THE STANDARDS OF THIS PLAN.
- IMMEDIATELY AFTER EARTH DISTURBANCE ACTIVITIES CEASE IN ANY AREA OR SUBAREA OF THE PROJECT, THE OPERATOR SHALL STABILIZE ALL DISTURBED AREAS. DURING NON-GERMINATING MONTHS, MULCH OR PROTECTIVE BLANKETING SHALL BE APPLIED AS DESCRIBED IN THE PLAN. AREAS NOT AT FINISHED GRADE, WHICH WILL BE REACTIVATED WITHIN 1 YEAR, MAY BE STABILIZED IN ACCORDANCE WITH THE TEMPORARY STABILIZATION SPECIFICATIONS. THOSE AREAS WHICH WILL NOT BE REACTIVATED WITHIN 1 YEAR SHALL BE STABILIZED IN ACCORDANCE WITH THE PERMANENT STABILIZATION SPECIFICATIONS.
- PERMANENT STABILIZATION IS DEFINED AS A MINIMUM UNIFORM, PERENNIAL 70% VEGETATIVE COVER OR OTHER PERMANENT NON-VEGETATIVE COVER WITH A DENSITY SUFFICIENT TO RESIST ACCELERATED EROSION. CUT AND FILL SLOPES SHALL BE CAPABLE OF RESISTING FAILURE DUE TO SLUMPING, SLIDING, OR OTHER MOVEMENTS.
- E&S BMPS SHALL REMAIN FUNCTIONAL AS SUCH UNTIL ALL AREAS TRIBUTARY TO THEM ARE PERMANENTLY STABILIZED OR UNTIL THEY ARE REPLACED BY ANOTHER BMP APPROVED BY THE BEAVER COUNTY CONSERVATION DISTRICT OR THE DEPARTMENT.
- UPON COMPLETION OF ALL EARTH DISTURBANCE ACTIVITIES AND PERMANENT STABILIZATION OF ALL DISTURBED AREAS, THE OWNER AND/OR OPERATOR SHALL CONTACT THE BEAVER COUNTY CONSERVATION DISTRICT FOR AN INSPECTION PRIOR TO REMOVAL/CONVERSION OF THE E&S BMPS.
- AFTER FINAL SITE STABILIZATION HAS BEEN ACHIEVED, TEMPORARY EROSION AND SEDIMENT BMPS MUST BE REMOVED OR CONVERTED TO PERMANENT POST CONSTRUCTION STORMWATER MANAGEMENT BMPS. AREAS DISTURBED DURING REMOVAL OR CONVERSION OF THE BMPS SHALL BE STABILIZED IMMEDIATELY. IN ORDER TO ENSURE RAPID REVEGETATION OF DISTURBED AREAS, SUCH REMOVAL/CONVERSIONS ARE TO BE DONE ONLY DURING THE GERMINATING SEASON.
- UPON COMPLETION OF ALL EARTH DISTURBANCE ACTIVITIES AND PERMANENT STABILIZATION OF ALL DISTURBED AREAS, THE OWNER AND/OR OPERATOR SHALL CONTACT THE BEAVER COUNTY CONSERVATION DISTRICT TO SCHEDULE A FINAL INSPECTION.
- FAILURE TO CORRECTLY INSTALL E&S BMPS, FAILURE TO PREVENT SEDIMENT-LADEN RUNOFF FROM LEAVING THE CONSTRUCTION SITE, OR FAILURE TO TAKE IMMEDIATE CORRECTIVE ACTION TO RESOLVE FAILURE OF E&S BMPS MAY RESULT IN ADMINISTRATIVE, CIVIL, AND/OR CRIMINAL PENALTIES BEING INSTITUTED BY THE DEPARTMENT AS DEFINED IN SECTION 602 OF THE PENNSYLVANIA CLEAN STREAMS LAW. THE CLEAN STREAMS LAW PROVIDES FOR UP TO \$10,000 PER DAY IN CIVIL PENALTIES, UP TO \$10,000 IN SUMMARY CRIMINAL PENALTIES, AND UP TO \$25,000 IN MISDEMEANOR CRIMINAL PENALTIES FOR EACH VIOLATION.
- CONCRETE WASH WATER SHALL BE HANDLED IN THE MANNER DESCRIBED ON THE PLAN DRAWINGS. IN NO CASE SHALL IT BE ALLOWED TO ENTER ANY SURFACE WATERS OR GROUNDWATER SYSTEMS.

**CLEAN FILL NOTES**

IF THE SITE WILL NEED TO IMPORT OR EXPORT MATERIAL FROM THE SITE, THE RESPONSIBILITY FOR PERFORMING ENVIRONMENTAL DUE DILIGENCE AND DETERMINATION OF CLEAN FILL WILL REST WITH THE CONTRACTOR.

**CLEAN FILL**

CLEAN FILL IS DEFINED AS: UNCONTAMINATED, NON-WATER SOLUBLE, NON-DECOMPOSABLE, INERT, SOLID MATERIAL. THE TERM INCLUDES SOIL, ROCK, STONE, DREGGED MATERIAL, USED ASPHALT AND BRICK, BLOCK OR CONCRETE FROM CONSTRUCTION AND DEMOLITION ACTIVITIES THAT IS SEPARATE FROM OTHER WASTE AND IS RECOGNIZABLE AS SUCH. THE TERM DOES NOT INCLUDE MATERIALS PLACED IN OR ON THE WATERS OF THE COMMONWEALTH UNLESS OTHERWISE AUTHORIZED. (THE TERM "USED ASPHALT" DOES NOT INCLUDE MILLED ASPHALT OR ASPHALT THAT HAS BEEN PROCESSED FOR REUSE).

**CLEAN FILL AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE**

CLEAN FILL AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE: FILL MATERIALS AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE STILL QUALIFIES AS CLEAN FILL PROVIDED THE TESTING REVEALS THAT THE FILL MATERIAL CONTAINS CONCENTRATIONS OF REGULATED SUBSTANCES THAT ARE BELOW THE RESIDENTIAL LIMITS IN TABLES FP-1A AND FP-1B FOUND IN THE DEPARTMENT'S POLICY "MANAGEMENT OF FILL".

ANY PERSON PLACING CLEAN FILL THAT HAS BEEN AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE MUST USE FORM FP-001 TO CERTIFY THE ORIGIN OF THE FILL MATERIAL AND THE RESULTS OF THE ANALYTICAL TESTING TO QUALIFY THE MATERIAL AS CLEAN FILL. FORM FP-001 MUST BE RETAINED BY THE OWNER OF THE PROPERTY RECEIVING THE FILL.

**ENVIRONMENTAL DUE DILIGENCE**

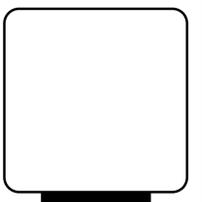
THE CONTRACTOR MUST PERFORM ENVIRONMENTAL DUE DILIGENCE TO DETERMINE IF THE FILL MATERIALS ASSOCIATED WITH THE PROJECT QUALIFY AS CLEAN FILL. ENVIRONMENTAL DUE DILIGENCE IS DEFINED AS: INVESTIGATIVE TECHNIQUES, INCLUDING, BUT NOT LIMITED TO, VISUAL PROPERTY INSPECTIONS, ELECTRONIC DATA BASE SEARCHES, REVIEW OF PROPERTY OWNERSHIP, REVIEW OF PROPERTY USE HISTORY, SANBORN MAPS, ENVIRONMENTAL QUESTIONNAIRES, TRANSACTION SCREENS, ANALYTICAL TESTING, ENVIRONMENTAL ASSESSMENTS OR AUDITS. ANALYTICAL TESTING IS NOT A REQUIRED PART OF DUE DILIGENCE UNLESS VISUAL INSPECTION AND/OR REVIEW OF THE PAST LAND USE OF THE PROPERTY INDICATES THAT THE FILL MAY HAVE BEEN SUBJECTED TO A SPILL OR RELEASE OF REGULATED SUBSTANCE. IF THE FILL MAY HAVE BEEN AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE, IT MUST BE TESTED TO DETERMINE IF IT QUALIFIES AS CLEAN FILL. TESTING SHOULD BE PERFORMED IN ACCORDANCE WITH APPENDIX A OF THE DEPARTMENT'S POLICY "MANAGEMENT OF FILL". FILL MATERIAL THAT DOES NOT QUALIFY AS CLEAN FILL IS REGULATED FILL. REGULATED FILL IS WASTE AND MUST BE MANAGED IN ACCORDANCE WITH THE DEPARTMENT'S MUNICIPAL OR RESIDUAL WASTE REGULATIONS BASED ON 25 PA. CODE CHAPTERS 287 RESIDUAL WASTE MANAGEMENT OR 271 MUNICIPAL WASTE MANAGEMENT, WHICHEVER IS APPLICABLE. THESE REGULATIONS ARE AVAILABLE ON-LINE AT WWW.PACODE.COM.

**MAINTENANCE SCHEDULE**

BMP	INSPECTION FREQUENCY	DEADLINE FOR REPAIRS	PERSON RESPONSIBLE FOR REPAIRS & MAINTENANCE
COMPOST FILTER SOCK	WEEKLY OR AFTER RUNOFF EVENT	IMMEDIATELY AFTER INSPECTION	CONTRACTOR
ROLLED EROSION CONTROL PRODUCTS	WEEKLY OR AFTER RUNOFF EVENT	IMMEDIATELY AFTER INSPECTION	CONTRACTOR
VEGETATED AREAS	WEEKLY OR AFTER RUNOFF EVENT	IMMEDIATELY AFTER INSPECTION	CONTRACTOR

INSPECTIONS WILL BE LOGGED ONTO DEP FORM 3800-FM-BCW0271d (12/2019); THESE REPORTS WILL BE KEPT ONSITE AT ALL TIMES.

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DATE	BY	CHK
REVISIONS	TYPE	

**WIDMER ENGINEERING**  
 806 LINCOLN PLACE, BEAVER FALLS, PA 15010, INC.

PREPARED FOR:  
**MUNICIPAL AUTHORITY OF MIDLAND**  
 946 RAILROAD AVE  
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 SITUATE IN:  
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**ES 2**

A MAINTENANCE PROGRAM WHICH PROVIDES FOR INSPECTION OF BMPs ON A WEEKLY BASIS AND AFTER EACH RUNOFF EVENT, INCLUDING THE REPAIR OF THE BMPs TO ENSURE EFFECTIVE AND EFFICIENT OPERATION.

**A. MAINTENANCE PROGRAM**

**GENERAL**

WATER FROM ALL DISTURBED AREAS SHALL BE DIRECTED AND FILTERED THROUGH THE PROPOSED COMPOST FILTER SOCK, ROCK FILTERS, OR OTHER SEDIMENT CONTROL DEVICES PRIOR TO ITS DISCHARGE OFF-SITE. ALL TEMPORARY SEDIMENT CONTROL MEASURES SHALL BE INSPECTED AND MAINTAINED BY THE CONTRACTOR ON A WEEKLY OR DAILY BASIS AND AFTER EACH RUNOFF EVENT AS SPECIFIED IN THE MAINTENANCE PROGRAM SCHEDULE. MAINTENANCE REPAIRS TO SEDIMENT CONTROL DEVICES SHALL BE COMPLETED IMMEDIATELY OR WITHIN TWENTY-FOUR (24) HOURS OF INSPECTION. ALL SEDIMENT REMOVED FROM THE EROSION CONTROL MEASURES SHALL BE DISPOSED OF EITHER AT THE TOPSOIL STOCKPILE TO BE LATER MIXED WITH THE TOPSOIL OR OFFSITE AT AN APPROVED EROSION AND SEDIMENT POLLUTION CONTROL SITE.

**COMPOST FILTER SOCK**

THE CONTRACTOR SHALL INSPECT ALL COMPOST FILTER SOCK ON A WEEKLY BASIS AND AFTER EACH RUNOFF EVENT. DAMAGED FILTER SOCK WILL BE REPAIRED OR REPLACED IMMEDIATELY. THE CONTRACTOR SHALL REMOVE ALL SEDIMENT FROM COMPOST FILTER SOCK WHERE ACCUMULATIONS REACH ONE-HALF (1/2) OF THE ABOVE GROUND HEIGHT OF THE SOCK OR DEEPER. AFTER SEDIMENT IS REMOVED, REPAIR AND/OR REPLACE THE COMPOST FILTER SOCK AS NEEDED. ANY SECTION OF COMPOST FILTER SOCK THAT HAS BEEN UNDERCUT OR OVERTOPPED MUST BE REPLACED WITHIN TWENTY-FOUR (24) HOURS OF INSPECTION. ADHERE TO ANY MANUFACTURER'S RECOMMENDATIONS FOR REPLACING THE COMPOST FILTER SOCK DUE TO WEATHERING. ALL SEDIMENT REMOVED SHALL BE USED ON CONSTRUCTION SITE OR DISPOSED OF AS CONSTRUCTION WASTE IN THE MANNER DESCRIBED IN THESE PLANS.

NOTE: COMPOST FILTER SOCK IS SHOWN ON THE PLAN BY SPECIFIC INSTALLATION LOCATIONS. THE CONTRACTOR SHALL RELOCATE THE COMPOST FILTER SOCK WHEREVER THE LOCATION OF THE COMPOST FILTER SOCK IS NEEDED DUE TO EXCAVATION, UTILITY INSTALLATION, ETC. THROUGHOUT THE CONSTRUCTION, THE CONTRACTOR(S) SHALL RELOCATE THE COMPOST FILTER SOCK TO APPROPRIATE LOCATIONS TO ENSURE THAT SEDIMENT LADEN SURFACE RUNOFF WILL BE CAPTURED AT ALL TIMES.

**VEGETATED AREAS**

THE CONTRACTOR SHALL INSPECT VEGETATED AND MULCHED AREAS WEEKLY AND AFTER EACH RUNOFF EVENT. ANY AREA NOT USED (NOR SCHEDULED FOR USE) WITHIN 4 DAYS OF DISTURBANCE SHALL BE MULCHED OR SEEDED WITH TEMPORARY GRASS MIXTURE PER PENNDOT 408 REQUIREMENTS. ALL WORK AREAS COMPLETED SHALL HAVE PERMANENT VEGETATION ESTABLISHED AS SOON AS POSSIBLE. WHERE SEDIMENT HAS ACCUMULATED, IT SHALL BE REMOVED PRIOR TO PLACEMENT OF VEGETATION. IF THE SEEDED OR MULCHED AREAS HAVE BECOME DAMAGED BY EROSION OR ADDITIONAL CONSTRUCTION OPERATIONS, THE CONTRACTOR SHALL PROMPTLY REPAIR THE AFFECTED AREA BY REGARDING, LIMING, FERTILIZING, SEEDING, AND MULCHING AS ORIGINALLY SPECIFIED. VEGETATED AREAS THAT HAVE NOT ESTABLISHED A UNIFORM 70% PERENNIAL VEGETATIVE COVER AT THE END OF ONE GROWING SEASON SHALL BE RESEEDED, LIMED, FERTILIZED, AND MULCHED AS ORIGINALLY SPECIFIED. ALL SEDIMENT REMOVED SHALL BE USED ON CONSTRUCTION SITE OR DISPOSED OF AS CONSTRUCTION WASTE IN THE MANNER DESCRIBED IN THESE PLANS.

**LITTER / CONSTRUCTION DEBRIS**

THE CONTRACTOR SHALL INSPECT THE SITE AND AREAS SURROUNDING THE SITE FOR LITTER AND CONSTRUCTION DEBRIS ON A WEEKLY BASIS. ALL LITTER AND CONSTRUCTION DEBRIS SHALL BE COLLECTED BY THE CONTRACTOR AND PLACED INTO PROPER WASTE RECEPTACLES (MUNICIPAL WASTE, RECYCLABLES, OTHERS AS NEEDED) SUCH THAT THE WASTE IS DISPOSED OF IN A PROPER, LEGAL MANNER, OFF-SITE AT AN APPROPRIATE WASTE FACILITY.

**SEEDING**

VEGETATED AND MULCHED AREAS WILL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT. ANY AREA NOT USED (NOR SCHEDULED FOR USE) WITHIN 4 DAYS OF DISTURBANCE SHALL BE MULCHED OR SEEDED WITH TEMPORARY GRASS MIXTURE PER PENNDOT 408 REQUIREMENTS. ALL WORK AREAS COMPLETED SHALL HAVE PERMANENT VEGETATION ESTABLISHED AS SOON AS POSSIBLE. WHERE SEDIMENT HAS ACCUMULATED, IT SHALL BE REMOVED PRIOR TO PLACEMENT OF VEGETATION. IF THE SEEDED OR MULCHED AREAS HAVE BECOME DAMAGED BY EROSION OR ADDITIONAL CONSTRUCTION OPERATIONS, THE CONTRACTOR SHALL PROMPTLY REPAIR THE AFFECTED AREA BY REGARDING, LIMING, FERTILIZING, SEEDING, AND MULCHING AS ORIGINALLY SPECIFIED. VEGETATED AREAS THAT HAVE NOT ESTABLISHED A UNIFORM 70% PERENNIAL VEGETATIVE COVER AT THE END OF ONE GROWING SEASON SHALL BE RESEEDED, LIMED, FERTILIZED, AND MULCHED AS ORIGINALLY SPECIFIED.

**SILT FENCE AND COMPOST FILTER SOCK**

THE CONTRACTOR SHALL INSPECT ALL SILT FENCE AND COMPOST FILTER SOCK ON A WEEKLY BASIS AND AFTER EACH RUNOFF EVENT. THE CONTRACTOR SHALL REMOVE ALL SEDIMENT FROM SILT FENCE OR COMPOST FILTER SOCK WHERE ACCUMULATIONS REACH ONE-HALF (1/2) OF THE ABOVE GROUND HEIGHT OF THE FENCE/SOCK OR DEEPER. CLEAN FENCE BY TAPPING THE DRY FABRIC FROM THE DOWNSTREAM SIDE. AFTER SEDIMENT IS REMOVED, REPAIR AND/OR REPLACE THE SILT FENCE OR COMPOST FILTER SOCK AS NEEDED. ANY SECTION OF SILT FENCE OR COMPOST FILTER SOCK THAT HAS BEEN UNDERCUT OR OVERTOPPED MUST BE REPLACED IMMEDIATELY OR WITHIN ONE (1) WORKING DAY WITH A ROCK FILTER OUTLET AS DETAILED IN PENNDOT RC-70M. ADHERE TO ANY MANUFACTURER'S RECOMMENDATIONS FOR REPLACING THE SILT BARRIER FENCE DUE TO WEATHERING.

NOTE: SILT FENCE AND COMPOST FILTER SOCK ARE SHOWN ON THE PLAN BY SPECIFIC INSTALLATION LOCATIONS. THE CONTRACTOR SHALL RELOCATE THE SILT FENCE OR COMPOST FILTER SOCK WHEREVER THE LOCATION OF THE SILT FENCE OR COMPOST FILTER SOCK IS NEEDED DUE TO EXCAVATION, UTILITY INSTALLATION, ETC. THROUGHOUT THE CONSTRUCTION, THE CONTRACTOR(S) SHALL RELOCATE THE SILT FENCE OR COMPOST FILTER SOCK TO APPROPRIATE LOCATIONS TO ENSURE THAT SEDIMENT LADEN SURFACE RUNOFF WILL BE CAPTURED AT ALL TIMES.

**DUST CONTROL**

THE CONTRACTOR SHALL IMPLEMENT A PLAN FOR DUST CONTROL ON THE SITE AREA. WINDBREAKS, WATERING OF HAUL ROADS, STREETSWEeping PAVED AREAS, MULCHING OF DISTURBED AREAS, AND ENVIRONMENTALLY SAFE CHEMICAL TREATMENTS ARE SOME TECHNIQUES THE CONTRACTOR MAY IMPLEMENT. AS NEEDED, ALL AREAS REQUIRING DUST CONTROL SHALL BE TREATED BY THE CONTRACTOR TO ENSURE THAT DUST DOES NOT ADVERSELY IMPACT THE SITE AND SURROUNDING AREA.

**ROLLED EROSION CONTROL PRODUCTS**

THE EROSION CONTROL MULCH BLANKET AND HIGH VELOCITY EROSION CONTROL MULCH BLANKET WILL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT. THE CONTRACTOR SHALL REPAIR, OR REPLACE ALL MULCH BLANKET FOUND TO BE IN UNSATISFACTORY CONDITION WITHIN 24 HOURS OF THE INSPECTION.

**B. PERMANENT MAINTENANCE OPERATIONS**

UPON COMPLETION OF THE PROJECT, THE MAINTENANCE OF ALL PERMANENT EROSION AND SEDIMENTATION CONTROLS WILL BECOME PART OF THE BEAVER COUNTY PUBLIC WORKS REGULAR MAINTENANCE PROGRAM. THIS WILL INCLUDE PERIODIC INSPECTIONS OF FACILITIES AND ALL REQUIRED REPAIRS.

**C. SPECIFICATIONS**

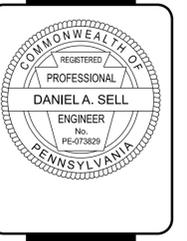
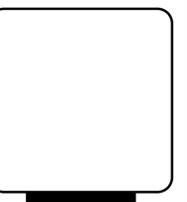
THE PENNSYLVANIA DEPARTMENT OF TRANSPORTATION SPECIFICATIONS PUBLICATION 408/2016, CURRENT EDITION, ARE APPLICABLE TO THIS PROJECT.

**D. RECYCLING**

ALL BUILDING MATERIALS AND WASTES SHALL BE REMOVED FROM THE SITE AND RECYCLED OR DISPOSED OF IN ACCORDANCE WITH THE DEPARTMENTS SOLID WASTE MANAGEMENT REGULATIONS AT 25 PA CODE 260. 1 ET SEQ 271.1 AND 287.1 ET SEQ. NO BUILDING MATERIALS OR WASTES OR UNUSED BUILDING MATERIALS SHALL BE BURNED, DUMPED, OR DISCHARGED AT THE SITE.

**PROJECT CONSTRUCTION SEQUENCE**

1. AT LEAST 3 DAYS PRIOR TO STARTING ANY EARTH DISTURBANCE ACTIVITIES, OR EXPANDING INTO AN AREA PREVIOUSLY UNMARKED, THE PENNSYLVANIA ONE CALL SYSTEM INC. SHALL BE NOTIFIED AT 1-800-242-1776 FOR THE LOCATION OF EXISTING UNDERGROUND UTILITIES.
2. ALL EARTH DISTURBANCE ACTIVITIES SHALL PROCEED IN ACCORDANCE WITH THE SEQUENCE PROVIDED ON THE PLAN DRAWINGS. DEVIATION FROM THAT SEQUENCE MUST BE APPROVED BY THE BEAVER COUNTY CONSERVATION DISTRICT OR BY THE DEPARTMENT PRIOR TO IMPLEMENTATION. EACH STEP OF THE SEQUENCE SHALL BE COMPLETED BEFORE PROCEEDING TO THE NEXT STEP, EXCEPT WHERE NOTED.
3. STAKE LIMIT OF DISTURBANCE.
4. INSTALL COMPOST FILTER SOCKS #1 AND 2 AS SHOWN ON THE PLAN AND DETAILS. TEMPORARY STABILIZATION MEASURES WILL BE IMPLEMENTED WHEN CONSTRUCTION ACTIVITY CEASES FOR 4 DAYS OR LONGER.
5. INSTALL CONCRETE WASHOUT ACCORDING TO PLAN DETAILS PRIOR TO POURING ANY CONCRETE ON SITE, UNLESS SUCH A FACILITY WILL BE USED AT THE SOURCE OF THE CONCRETE. PERFORM CONSTRUCTION OF CONCRETE OPEN CHANNEL.
6. INSTALL ALL UNDERGROUND UTILITIES. CONSTRUCT THE SANITARY LINE FROM THE OPEN CHANNEL TO THE PRIMARY CLARIFIERS. CONSTRUCT NEW SLUDGE RETURN LINE FROM MANHOLE "C" AND CONNECT TO OPEN CHANNEL.
7. UPON COMPLETION OF OPEN CHANNEL AND PIPES, PERFORM DEMOLITION OF EXISTING COMMUNOTOR & PARSHALL FLUME. ABANDON EXISTING SANITARY LINE AND EXISTING SLUDGE RETURN LINE BY FILLING WITH GROUT. ELIMINATE METER PIT AND TANK #3 ISOLATION VALVE.
8. BACKFILL ALL DEMOLITION AREAS AND PERFORM TRENCH RESTORATION.
9. PROVIDE FINAL SEEDING AND STABILIZATION, INCLUDING PLACEMENT OF TOPSOIL, OF ALL DISTURBED AREAS WITHIN CONSTRUCTION LIMITS. VEGETATED AREAS SHALL BE CONSIDERED STABILIZED UPON ACHIEVING A MINIMUM UNIFORM 70% PERENNIAL VEGETATIVE COVER OVER THE ENTIRE DISTURBED AREA. UPON COMPLETION OF STABILIZATION AND APPROVAL FROM THE RESOURCE CONSERVATIONIST AND THE BEAVER COUNTY CONSERVATION DISTRICT, ALL TEMPORARY BMPs STILL IN PLACE SHALL BE REMOVED AND DISPOSED OF PROPERLY AND THOSE AREAS STABILIZED.



DATE	REVISIONS TYPE	BY	CHK

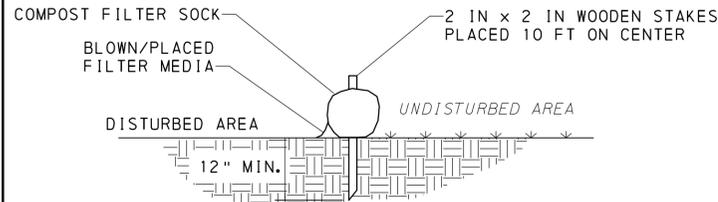


EROSION AND SEDIMENT CONTROL NOTES  
 PREPARED FOR  
**MUNICIPAL AUTHORITY OF MIDLAND**  
 946 RAILROAD AVE  
 MIDLAND, PA 15059  
 SITUATE IN  
 BOROUGH OF MIDLAND  
 BEAVER COUNTY, PENNSYLVANIA

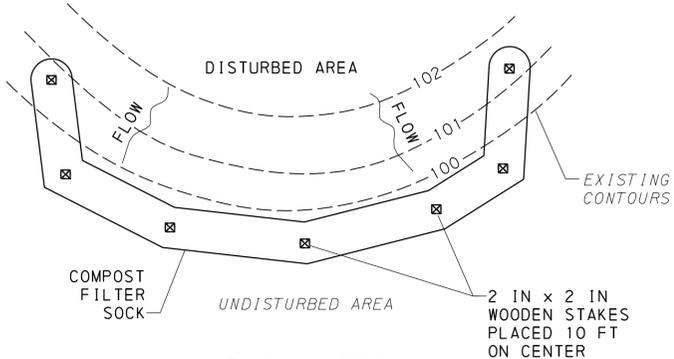
PROJECT #:	22126
FIELD BOOK #:	###
DRAWN:	JSM
CHECKED:	DAS
DATE:	APRIL 2024
SCALE:	AS NOTED

SHEET NUMBER  
**ES 3**

jmsesell  
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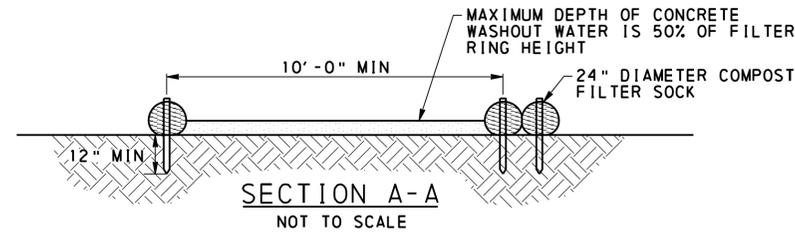
SECTION



PLAN VIEW

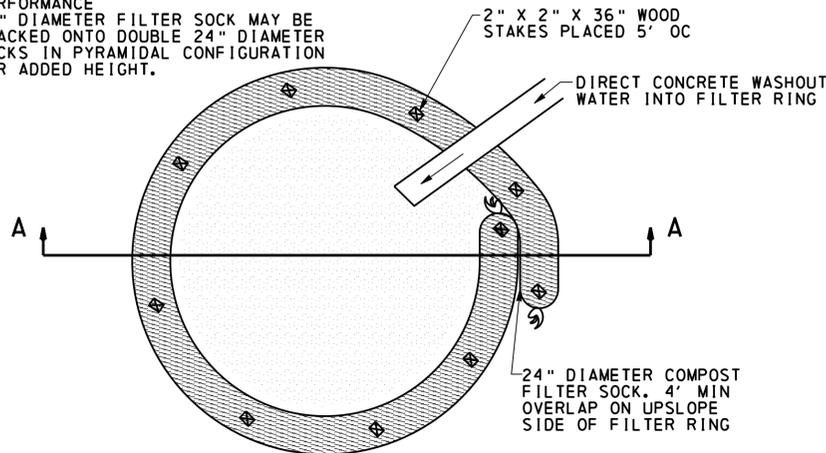
**NOTES:**  
 SOCK FABRIC SHALL MEET STANDARDS OF TABLE 4.1 OF THE PA DEP EROSION CONTROL MANUAL. COMPOST SHALL MEET THE STANDARDS OF TABLE 4.2 OF THE PA DEP EROSION CONTROL MANUAL. COMPOST FILTER SOCK SHALL BE PLACED AT EXISTING LEVEL GRADE. BOTH ENDS OF THE BARRIER SHALL BE EXTENDED AT LEAST 8 FEET UP SLOPE AT 45 DEGREES TO THE MAIN BARRIER ALIGNMENT. MAXIMUM SLOPE LENGTH ABOVE ANY BARRIER SHALL NOT EXCEED THAT SPECIFIED FOR THE SIZE OF THE SOCK AND THE SLOPE OF ITS TRIBUTARY AREA. TRAFFIC SHALL NOT BE PERMITTED TO CROSS COMPOST FILTER SOCKS. ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN IT REACHES 1/2 THE ABOVE GROUND HEIGHT OF THE BARRIER AND DISPOSED IN THE MANNER DESCRIBED ELSEWHERE IN THE PLAN. COMPOST FILTER SOCKS SHALL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT. DAMAGED SOCKS SHALL BE REPAIRED ACCORDING TO MANUFACTURER'S SPECIFICATIONS OR REPLACED WITHIN 24 HOURS OF INSPECTION. BIODEGRADABLE COMPOST FILTER SOCKS SHALL BE REPLACED AFTER 6 MONTHS; PHOTODEGRADABLE SOCKS AFTER 1 YEAR. POLYPROPYLENE SOCKS SHALL BE REPLACED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS. UPON STABILIZATION OF THE AREA TRIBUTARY TO THE SOCK, STAKES SHALL BE REMOVED. THE SOCK MAY BE LEFT IN PLACE AND VEGETATED OR REMOVED. IN THE LATTER CASE, THE MESH SHALL BE CUT OPEN AND THE MULCH SPREAD AS A SOIL SUPPLEMENT.

STANDARD CONSTRUCTION DETAIL #4-1  
 COMPOST FILTER SOCK  
 NOT TO SCALE



SECTION A-A  
 NOT TO SCALE

**NOTES:**  
 1. INSTALL ON FLAT GRADE FOR OPTIMUM PERFORMANCE  
 2. 18" DIAMETER FILTER SOCK MAY BE STACKED ONTO DOUBLE 24" DIAMETER SOCKS IN PYRAMIDAL CONFIGURATION FOR ADDED HEIGHT.



PLAN  
 NOT TO SCALE

**NOTES:**  
 INSTALL ON FLAT GRADE FOR OPTIMUM PERFORMANCE.  
 18" DIAMETER FILTER SOCK MAY BE STACKED ONTO DOUBLE 24" DIAMETER SOCKS IN PYRAMIDAL CONFIGURATION FOR ADDED HEIGHT.  
 A SUITABLE IMPERVIOUS GEOMEMBRANE SHALL BE PLACED AT THE LOCATION OF THE WASHOUT PRIOR TO INSTALLING THE SOCKS.  
 CONSTRUCT THE APPROPRIATE NUMBER OF WASHOUTS TO ACCOMMODATE ALL READY MIXED CONCRETE TRUCKS AND CONCRETE PUMP TRUCKS.  
 ALL CONCRETE WASHOUT FACILITIES SHOULD BE INSPECTED DAILY. DAMAGED OR LEAKING WASHOUTS SHOULD BE DEACTIVATED AND REPAIRED OR REPLACED IMMEDIATELY.  
 ACCUMULATED MATERIALS SHOULD BE PROPERLY DISPOSED OF OR RECYCLED WHEN THEY REACH THE CLEANOUT LEVEL.  
 IMPERVIOUS GEOMEMBRANE SHOULD BE REPLACED WITH EACH CLEANING OF THE WASHOUT FACILITY.

STANDARD CONSTRUCTION DETAIL #3-18  
 COMPOST SOCK WASHOUT  
 NOT TO SCALE

TEMPORARY AND PERMANENT SEEDING SPECIFICATIONS

(TEMPORARY)	SPECIES #:	FORMULA T (OATS-SPRING; CEREAL RYE-FALL)
	% PURE LIVE SEED:	82 %
	APPLICATION RATE:	45 LB./ACRE
	FERTILIZER TYPE:	10-20-20 (X-X-X)
	FERTILIZER APPL. RATE:	678 LB./ACRE
	LIMING RATE:	3872 LB./ACRE
	MULCH TYPE:	HAY OR STRAW
	MULCHING RATE:	2.9 T/ACRE

(PERMANENT)	SPECIES #:	FORMULA B (PERENNIAL RYEGRASS/KENTUCKY BLUEGRASS)
	% PURE LIVE SEED:	87 %
	APPLICATION RATE:	60 LB./ACRE
	FERTILIZER TYPE:	10-20-20 (X-X-X)
	FERTILIZER APPL. RATE:	678 LB./ACRE
	LIMING RATE:	3872 LB./ACRE
	MULCH TYPE:	HAY OR STRAW
	MULCHING RATE:	2.9 T/ACRE
	ANCHOR MATERIAL:	WOOD - CELLULOSE
	ANCHORING METHOD:	HYDROSEED OR BROADCAST
	RATE OF ANCHOR MATERIAL APPL:	678 LB/ACRE
	SEEDING SEASON DATES:	MARCH 15 TO JUNE 1; AUGUST 1 TO OCTOBER 15

(PERMANENT STEEP SLOPE) (>3:1)	SPECIES #:	FORMULA L (HARD FESCUE/CREEPING RED FESCUE/ANNUAL RYEGRASS)
	% PURE LIVE SEED:	86 %
	APPLICATION RATE:	40 LB./ACRE
	FERTILIZER TYPE:	10-20-20 (X-X-X)
	FERTILIZER APPL. RATE:	678 LB./ACRE
	LIMING RATE:	3872 LB./ACRE
	MULCH TYPE:	HAY OR STRAW
	MULCHING RATE:	2.9 T/ACRE
	ANCHORING MATERIAL:	WOOD-CELLULOSE
	ANCHORING METHOD:	HYDROSEED OR BROADCAST
	RATE OF ANCHOR MATERIAL APPL:	678 LB/ACRE
	SEEDING SEASON DATES:	MARCH 15 TO JUNE 1; AUGUST 1 TO OCTOBER 15

\* IF MORE THAN ONE SPECIES IS USED, INDICATE APPLICATION RATE FOR EACH SPECIES.



REVISIONS	DATE	TYPE	BY	CHK



EROSION AND SEDIMENT CONTROL DETAILS  
 PREPARED FOR  
 MUNICIPAL AUTHORITY OF MIDLAND  
 946 RAILROAD AVE  
 MIDLAND, PA 15059  
 SITUATE IN  
 BOROUGH OF MIDLAND  
 BEAVER COUNTY, PENNSYLVANIA

PROJECT #:	22126
FIELD BOOK #:	###
DRAWN:	JSM
CHECKED:	DAS
DATE:	APRIL 2024
SCALE:	AS NOTED

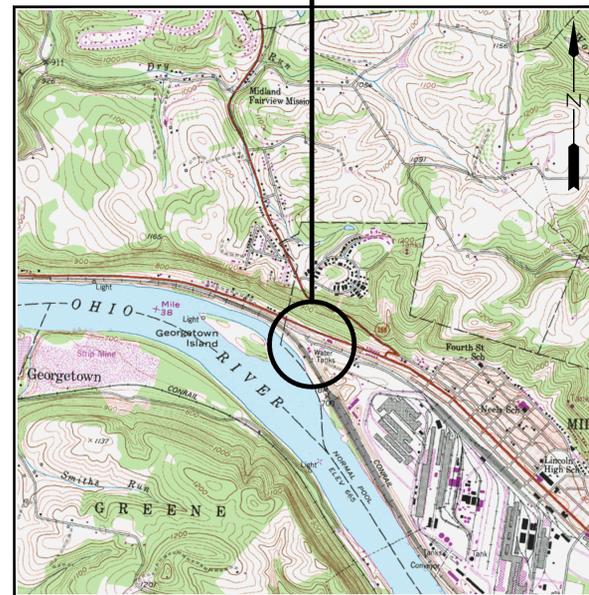
SHEET NUMBER  
 ES 4

# MUNICIPAL AUTHORITY OF THE BOROUGH OF MIDLAND

## 946 RAILROAD AVENUE, MIDLAND, PA 15059

### MIDLAND WASTE WATER TREATMENT PLANT IMPROVEMENTS CONTRACT No. 2024-2: ELECTRICAL CONSTRUCTION

#### PROJECT LOCATION



#### LOCATION MAP

SCALE: 1" = 2000'

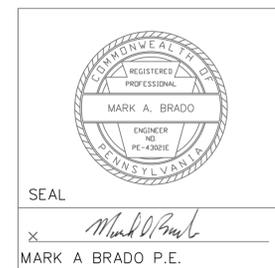
#### DRAWING LIST

SHEET NO.	DWG. NO.	DESCRIPTION
1 of 28	G1	TITLE SHEET
2 of 28	EC1	ELECTRICAL SITE PLAN
3 of 28	EC2	WASHER COMPACTOR AREA DEMOLITION PLAN
4 of 28	EC3	WASHER COMPACTOR AREA PROPOSED ELECTRICAL PLAN
5 of 28	E1	ELECTRICAL SINGLE LINE DIAGRAM 1 OF 3
6 of 28	E2	ELECTRICAL SINGLE LINE DIAGRAM 2 OF 3
7 of 28	E3	ELECTRICAL SINGLE LINE DIAGRAM 3 OF 3
8 of 28	E4	ELECTRICAL MOTOR CONTROL CENTER ELEVATIONS
9 of 28	E5	VFD LAYOUT, BILL OF MATERIAL & SCHEMATICS
10 of 28	PSDM1	PUMP STATION DEMOLITION PLANS
11 of 28	PSDM2	PUMP STATION DEMOLITION SECTION
12 of 28	PSM1	PUMP STATION PROPOSED MECHANICAL PLAN & SECTION
13 of 28	PSE1	PUMP STATION PROPOSED ELECTRICAL PLANS
14 of 28	PSE2	PUMP STATION CONTROL PANEL (PS-CP-100) LAYOUT & DETAILS
15 of 28	PSE3	PUMP STATION CONTROL PANEL (PS-CP-100) SCHEMATICS SHEET 1 OF 2
16 of 28	PSE4	PUMP STATION CONTROL PANEL (PS-CP-100) SCHEMATICS SHEET 2 OF 2
17 of 28	CBDM1	CONTROL BUILDING DEMOLITION UPPER PLAN
18 of 28	CBDM2	CONTROL BUILDING DEMOLITION LOWER PLAN
19 of 28	CBE1	CONTROL BUILDING PROPOSED UPPER ELECTRICAL PLAN
20 of 28	CBE2	CONTROL BUILDING PROPOSED LOWER ELECTRICAL PLAN
21 of 28	DBDM1	DIGESTER BUILDING DEMOLITION UPPER PLAN
22 of 28	DBDM2	DIGESTER BUILDING DEMOLITION LOWER PLAN
23 of 28	DBE1	DIGESTER BUILDING PROPOSED UPPER ELECTRICAL PLAN
24 of 28	DBE2	DIGESTER BUILDING PROPOSED LOWER ELECTRICAL PLAN
25 of 28	SCDM1	SECONDARY CLARIFIER DEMOLITION PLAN
26 of 28	SCE1	SECONDARY CLARIFIER PROPOSED ELECTRICAL PLAN
27 of 28	SCE2	SECONDARY CLARIFIER DRIVE MOTOR SCHEMATICS
28 of 28	SGE1	SCREENINGS REMOVAL GRINDER ELECTRICAL PLAN AND DETAILS

ISSUED FOR BID  
APRIL 2024



5173 Campbells Run Road  
Pittsburgh, PA 15205  
Phone: 412.494.0510 Fax: 412.494.0426  
info@klhengineers.com



SEAL

MARK A BRADO P.E.

#### CALL BEFORE YOU DIG!

PENNSYLVANIA LAW REQUIRES  
3 WORKING DAYS NOTICE FOR  
CONSTRUCTION PHASE AND 10 WORKING  
DAYS IN DESIGN STAGE-STOP CALL

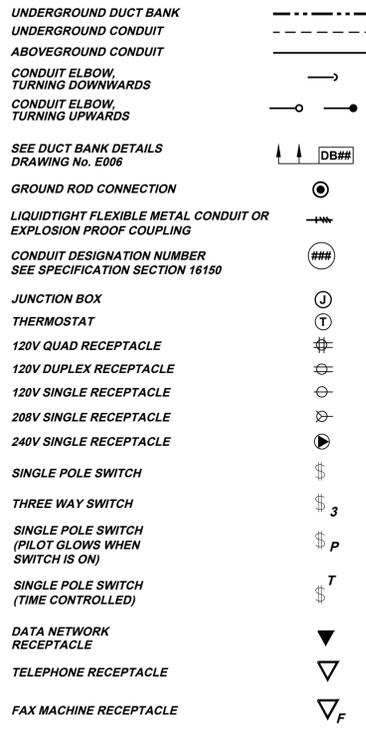
PA1 POCs SERIAL NUMBER  
1-800-242-1776 20241023125-000

NOTE: IN ACCORDANCE WITH THE PENNSYLVANIA UNDERGROUND UTILITY LINE PROTECTION LAW, ACT 287 OF 1974 AS AMENDED BY ACT 50 OF 2017, THE CONTRACTOR MUST NOTIFY ALL UTILITY COMPANIES PRIOR TO EXCAVATION FOR FIELD LOCATION AND SIZE CONFORMATION. AT LEAST THREE (3) DAYS NOTIFICATION PRIOR TO THE ACTUAL START OF EXCAVATION IS REQUIRED. UTILITIES CAN BE NOTIFIED THROUGH THE PENNSYLVANIA ONE CALL SYSTEM, INC. BY CALLING 1-800-242-1776. THE PENNSYLVANIA ONE CALL DESIGN SERIAL NUMBER FOR THIS PROJECT IS 20241023125-000.

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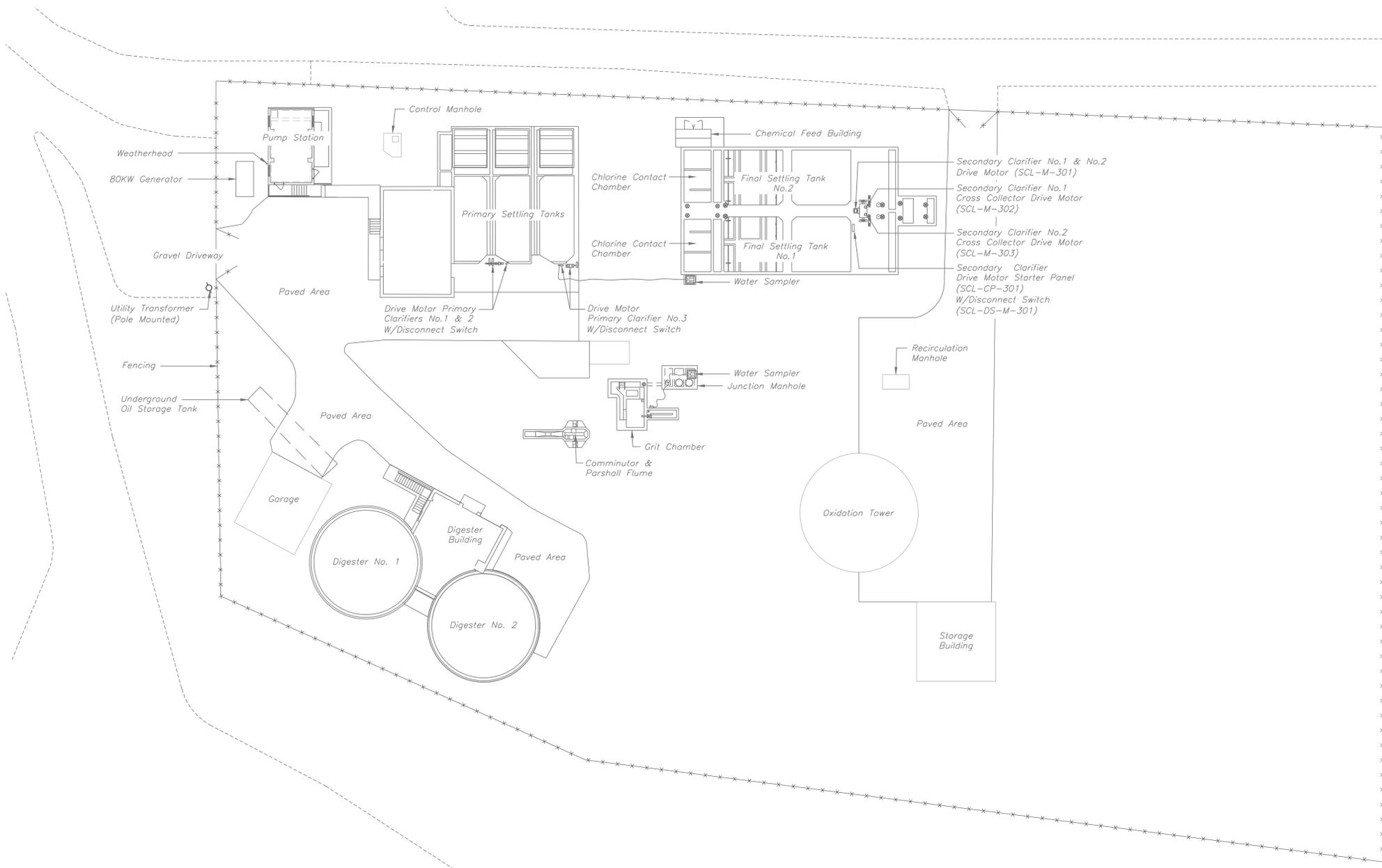
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Drawing No.  
**G1**  
Sheet No.  
**1 of 28**

**ELECTRICAL LEGEND**

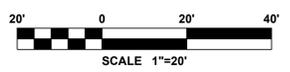


**NOTE:**  
 ITEMS IDENTIFIED WITH UPPER CASE TEXT ARE PROPOSED.  
 Items Identified with Mixed Case Text are Existing.

- GENERAL NOTES:**
- ALL CONDUITS SHALL BE INSTALLED AS PER THE CONDUIT AND CABLE SCHEDULE OR AS SHOWN ON THE CONTRACT DRAWINGS. UNLESS SHOWN, NO CONDUITS SHALL BE ROUTED OR CONCEALED IN CONCRETE SLABS, STRUCTURES, WALLS, ETC., WITHOUT APPROVAL FROM THE ENGINEER. INDIVIDUAL CONDUITS THAT ARE ROUTED TO THE SAME AREA SHALL NOT BE COMBINED INTO LARGER CONDUITS WITHOUT APPROVAL OF THE ENGINEER.
  - THE PLANS AND SCHEMATIC DRAWINGS SHOW THE REQUIRED CONTROL CONNECTIONS AND INTERFACES BETWEEN THE VARIOUS CONTROL PANELS AND DEVICES, HOWEVER DURING CONSTRUCTION SOME PRODUCTS MAY BE SUBSTITUTED BY THE GENERAL/MECHANICAL CONTRACTOR. THE MANUFACTURER MAY CHANGE HIS PRODUCT, ETC.
  - ALL CONDUIT RUNS ARE SHOWN IN THE HOME RUN FORMAT ONLY. EXACT LOCATIONS SHALL BE DETERMINED BY THE CONTRACTOR.
  - CONDUITS SHALL BE ROUTED TO AVOID INTERFERENCE WITH PIPING, DOORS & ACCESS HATCHES.
  - THE SPECIFICATIONS AND ACCOMPANYING DRAWINGS ARE MUTUALLY EXPLANATORY AND ANYTHING REQUIRED BY ONE BUT NOT BY THE OTHER SHALL BE CONSIDERED AS REQUIRED BY BOTH. WHERE THE REQUIREMENTS DIFFER OR ARE CONTRADICTORY BETWEEN THE VARIOUS PARTS OF THE SPECIFICATIONS, DIFFERENT DRAWINGS OR PARTS OF DRAWINGS, OR BETWEEN THE DRAWINGS AND SPECIFICATION, THE MORE RESTRICTIVE (LARGER SIZE, GREATER RATING, MORE OPTIONS, ETC.) SHALL APPLY.
  - THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH THE GENERAL/MECHANICAL CONTRACTOR AND FOR REVIEWING ALL SUBMITTALS TO VERIFY THAT THEY CONFORM TO THE ELECTRICAL REQUIREMENTS OF OTHER DEVICES WHICH THEY ARE CONNECTED.
  - THE ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL ALL REQUIRED CONDUITS, CONDUCTORS, ENCLOSURES, ETC., IN ORDER TO MAKE A COMPLETE ELECTRICAL SYSTEM READY FOR OPERATION.
  - THE CONTRACTOR SHALL SUPPLY ALL AUXILIARY EQUIPMENT, FRAMES, SUPPORTS, CONNECTORS, TERMINALS, ACCESS PANELS, AND OTHER DEVICES REQUIRED FOR PROPER INSTALLATION AND OPERATION OF EQUIPMENT FURNISHED AND INSTALLED BY HIM.
  - ALL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE NATIONAL ELECTRIC CODE, NFPA, UL, BUILDING STANDARDS, AND ALL OTHER GOVERNING AGENCIES HAVING JURISDICTIONS.
  - ALL WORK SHALL BE EXECUTED IN A WORKMANLIKE MANNER AND SHALL PRESENT A NEAT MECHANICAL APPEARANCE WHEN COMPLETED.
  - ALL RACEWAYS FOR FEEDERS, BRANCH AND CONTROL CIRCUITS SHALL CONTAIN A SEPARATE INSULATED EQUIPMENT GROUNDING CONDUCTOR SIZED IN ACCORDANCE WITH ARTICLE 250 OF THE NATIONAL ELECTRIC CODE. ALL 120V BRANCH CIRCUITS SHALL CONTAIN A FULL SIZE SEPARATE NEUTRAL PER CIRCUIT. SHARING OF NEUTRALS IS NOT PERMISSIBLE.
  - ALL "WP" RECEPTACLES SHALL BE RATED TYPE "WR" WEATHER RESISTANT. REFER TO SPECIFICATION 16140 FOR ADDITIONAL INFORMATION.



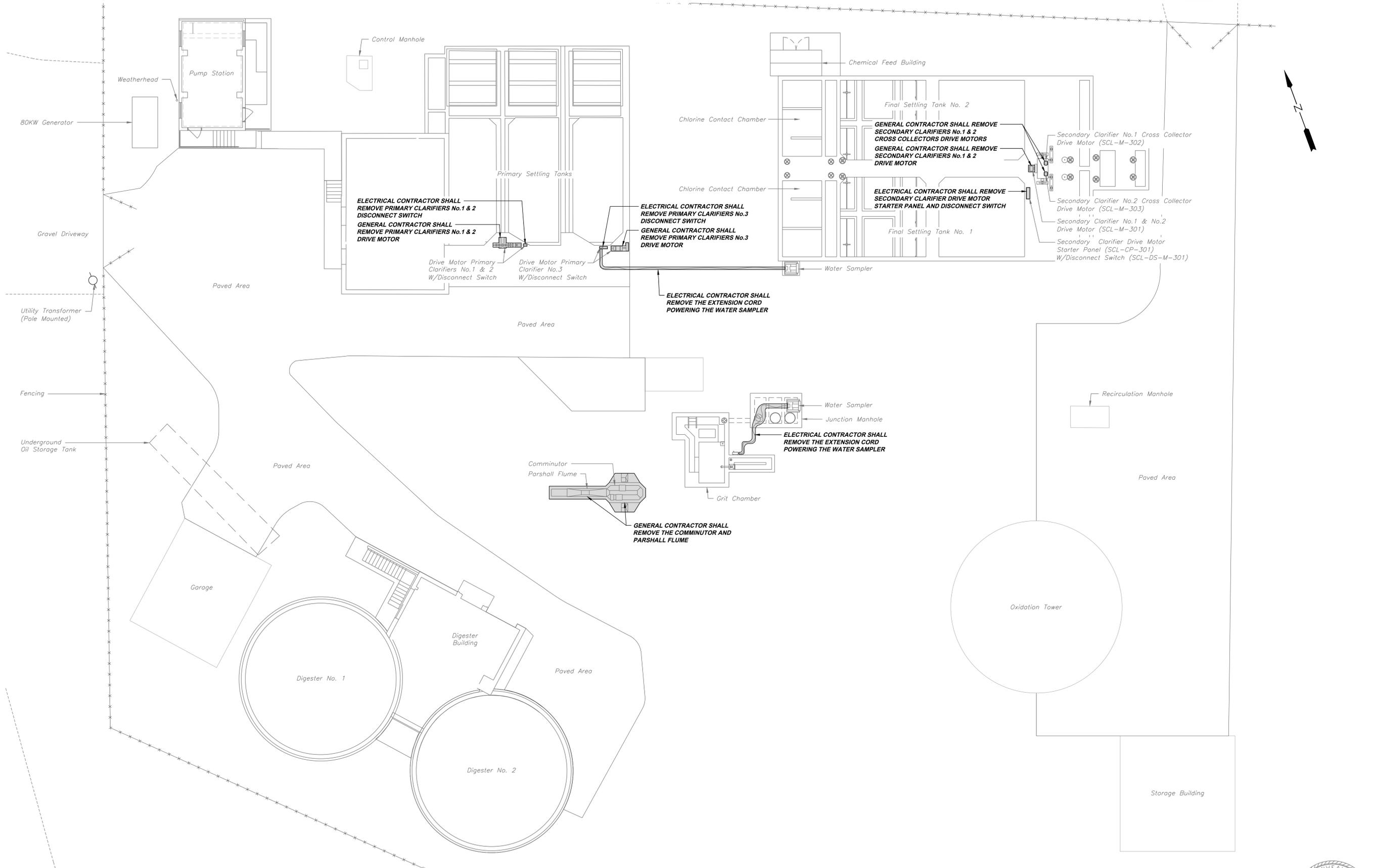
**ELECTRICAL SITE PLAN**  
 SCALE: 1"=20'



Revisions	Date	Revisions	Date	5173 Campbell Run Road Pittsburgh, PA 15205 Phone: 412.484.0510 Fax: 412.484.0426 info@klhengineers.com
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<b>KLH ENGINEERS, INC.</b>				
<b>MUNICIPAL AUTHORITY OF THE BOROUGH OF MIDLAND</b> 946 RAILROAD AVENUE, MIDLAND, PA 15059 MIDLAND WASTE WATER TREATMENT PLANT IMPROVEMENTS CONTRACT NO. 2024-2: ELECTRICAL CONSTRUCTION ELECTRICAL SITE PLAN				
As Shown	APRIL 2024	KAK	MB	JMG
Date:	Drawn By:	Checked By:	Approved By:	
Order No.	646-04			
Drawing No.	EC1			
Sheet No.	2 of 28			

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**NOTE:**  
ITEMS IDENTIFIED WITH UPPER CASE TEXT ARE PROPOSED.  
Items Identified with Mixed Case Text are Existing.



**ELECTRICAL CONTRACTOR SHALL REMOVE PRIMARY CLARIFIERS No.1 & 2 DISCONNECT SWITCH**  
**GENERAL CONTRACTOR SHALL REMOVE PRIMARY CLARIFIERS No.1 & 2 DRIVE MOTOR**

**ELECTRICAL CONTRACTOR SHALL REMOVE PRIMARY CLARIFIERS No.3 DISCONNECT SWITCH**  
**GENERAL CONTRACTOR SHALL REMOVE PRIMARY CLARIFIERS No.3 DRIVE MOTOR**

**GENERAL CONTRACTOR SHALL REMOVE SECONDARY CLARIFIERS No.1 & 2 CROSS COLLECTORS DRIVE MOTORS**  
**GENERAL CONTRACTOR SHALL REMOVE SECONDARY CLARIFIERS No.1 & 2 DRIVE MOTOR**

**ELECTRICAL CONTRACTOR SHALL REMOVE SECONDARY CLARIFIER DRIVE MOTOR STARTER PANEL AND DISCONNECT SWITCH**

**ELECTRICAL CONTRACTOR SHALL REMOVE THE EXTENSION CORD POWERING THE WATER SAMPLER**

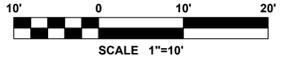
**ELECTRICAL CONTRACTOR SHALL REMOVE THE EXTENSION CORD POWERING THE WATER SAMPLER**

**GENERAL CONTRACTOR SHALL REMOVE THE COMMUNOTOR AND PARSHALL FLUME**

**WASHER COMPACTOR AREA  
DEMOLITION PLAN**  
SCALE: 1"=10'

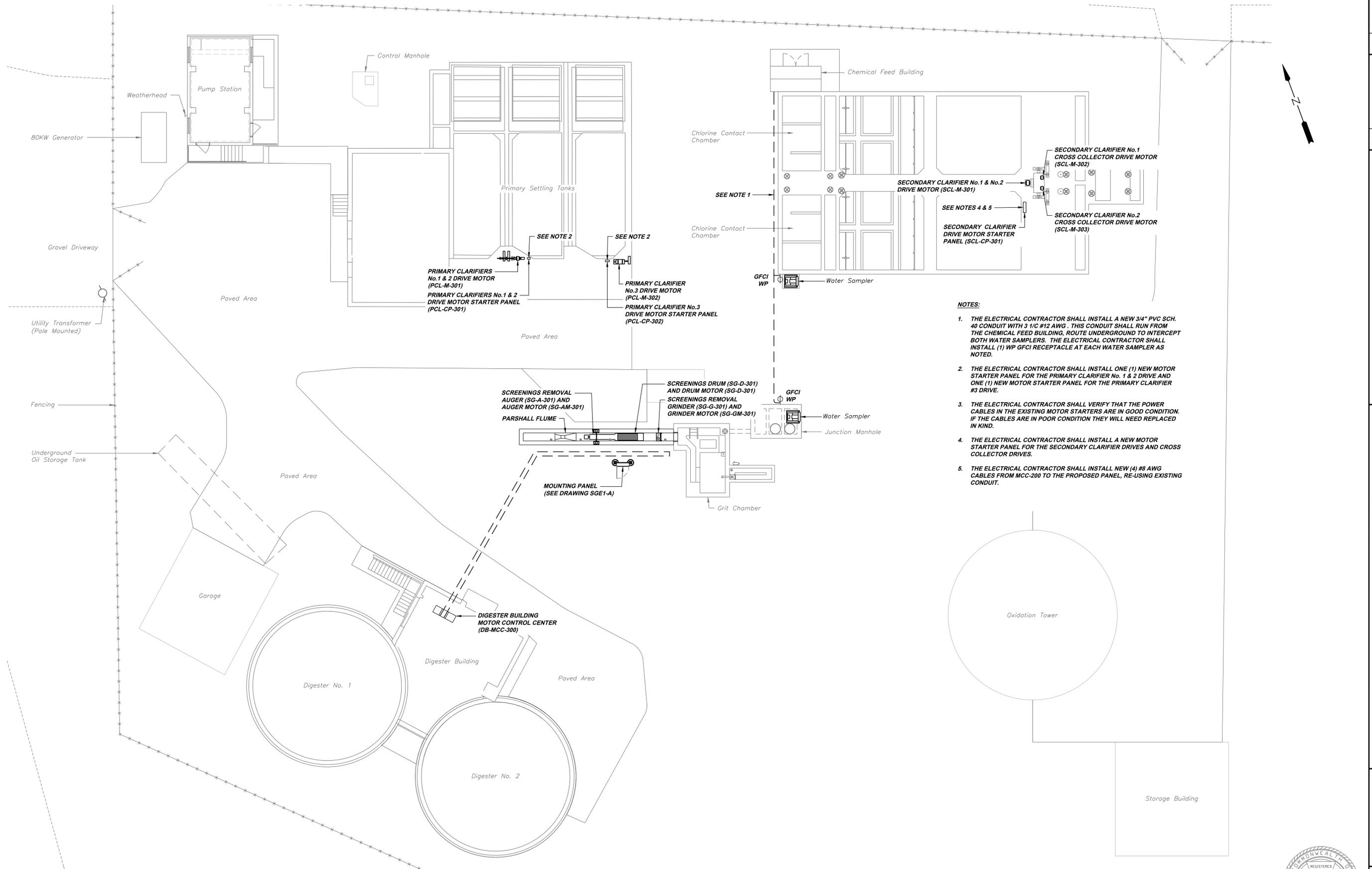
**LEGEND**

■ = ITEMS FOR DEMOLITION AND OR REMOVAL ON THIS DRAWING



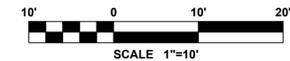
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ISSUED FOR BID	4/20/24		
5173 Campbell Run Road Pittsburgh, PA 15205 Phone: 412.494.0510 Fax: 412.494.0426 info@klhengineers.com		<b>KLH</b> ENGINEERS, INC.	
<b>MUNICIPAL AUTHORITY OF THE BOROUGH OF MIDLAND</b> 946 RAILROAD AVENUE, MIDLAND, PA 15059 MIDLAND WASTE WATER TREATMENT PLANT IMPROVEMENTS CONTRACT NO. 2024-2: ELECTRICAL CONSTRUCTION WASHER COMPACTOR AREA DEMOLITION PLAN			
As Shown	APRIL 2024	Drawn By:	KAK
Scale:		Checked By:	MB
Order No.	646-04	Approved By:	JMG
Drawing No.	EC2		
Sheet No.	3 of 28		

**NOTE:**  
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- NOTES:**
1. THE ELECTRICAL CONTRACTOR SHALL INSTALL A NEW 3/4" PVC SCH. 40 CONDUIT WITH 3 1/2 #12 AWG. THIS CONDUIT SHALL RUN FROM THE CHEMICAL FEED BUILDING, ROUTE UNDERGROUND TO INTERCEPT BOTH WATER SAMPLERS. THE ELECTRICAL CONTRACTOR SHALL INSTALL (1) WP GFCI RECEPTACLE AT EACH WATER SAMPLER AS NOTED.
  2. THE ELECTRICAL CONTRACTOR SHALL INSTALL ONE (1) NEW MOTOR STARTER PANEL FOR THE PRIMARY CLARIFIER No. 1 & 2 DRIVE AND ONE (1) NEW MOTOR STARTER PANEL FOR THE PRIMARY CLARIFIER #3 DRIVE.
  3. THE ELECTRICAL CONTRACTOR SHALL VERIFY THAT THE POWER CABLES IN THE EXISTING MOTOR STARTERS ARE IN GOOD CONDITION. IF THE CABLES ARE IN POOR CONDITION THEY WILL NEED REPLACED IN KIND.
  4. THE ELECTRICAL CONTRACTOR SHALL INSTALL A NEW MOTOR STARTER PANEL FOR THE SECONDARY CLARIFIER DRIVES AND CROSS COLLECTOR DRIVES.
  5. THE ELECTRICAL CONTRACTOR SHALL INSTALL NEW (4) #8 AWG CABLES FROM MCC-200 TO THE PROPOSED PANEL, RE-USING EXISTING CONDUIT.

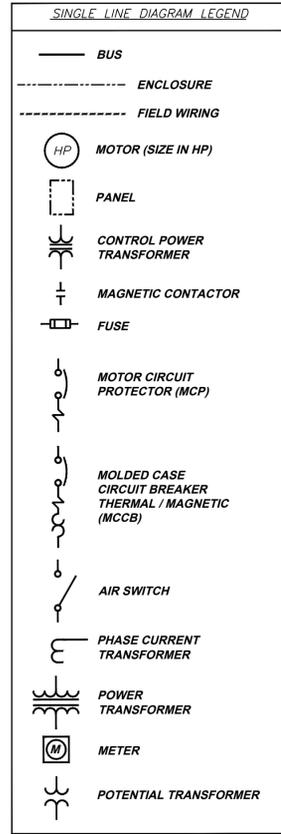
**WASHER COMPACTOR AREA  
 PROPOSED ELECTRICAL PLAN**  
 SCALE: 1"=10'



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Date:		Approved By:	
Drawn By:		Order No.	646-04
Checked By:		Drawing No.	EC3
Approved By:		Sheet No.	4 of 28

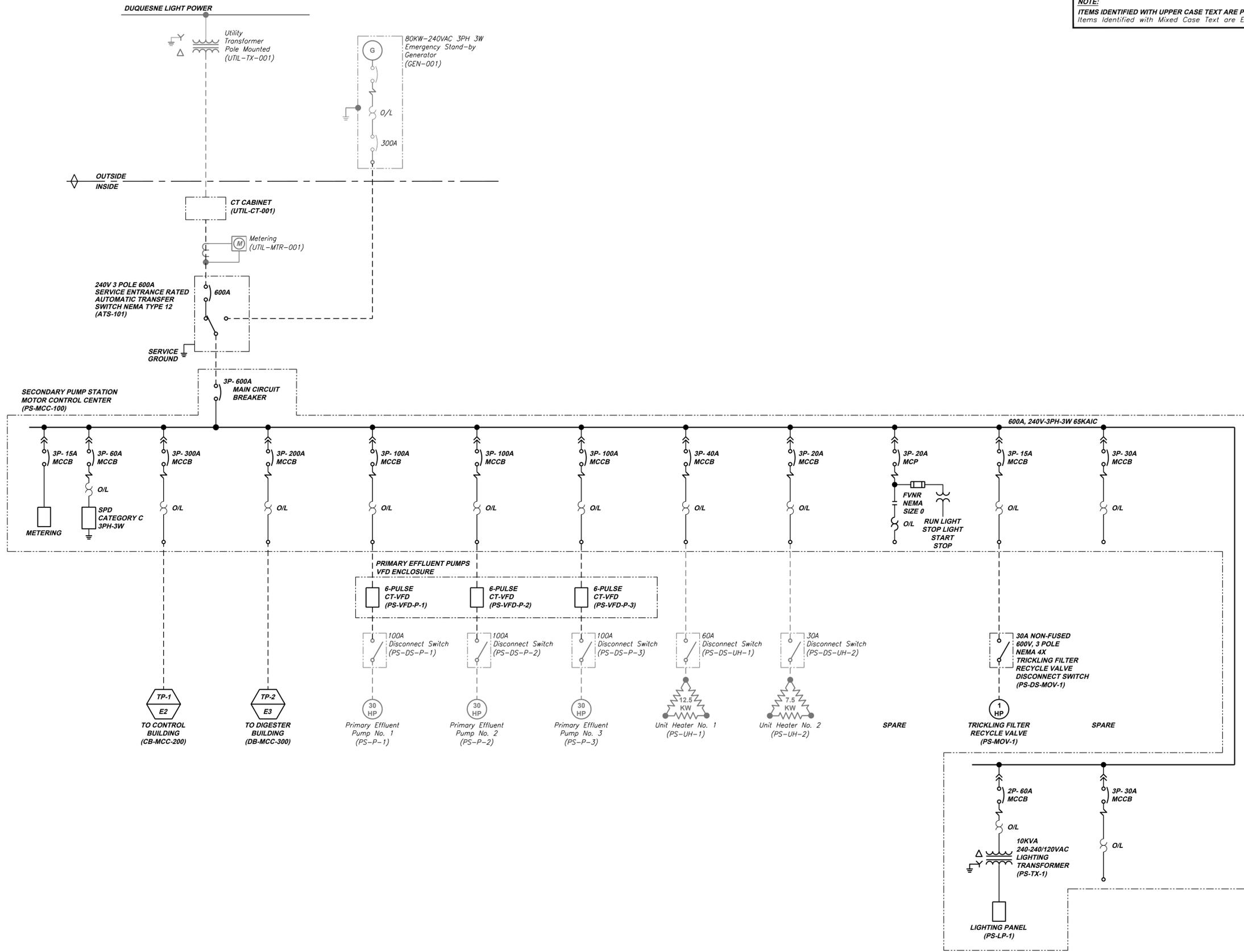
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**ABBREVIATIONS**

EO	ELECTRICALLY OPERATED
MO	MANUALLY OPERATED
AF	AMP - FRAME
AT	AMP - TRIP
LSIG	L - LONG TIME
	S - SHORT TIME
	I - INSTANTANEOUS
	G - GROUND
PT	POTENTIAL TRANSFORMER
SPD	SURGE PROTECTIVE DEVICE
FVNR	FULL VOLTAGE NON-REVERSING



**NOTE:**  
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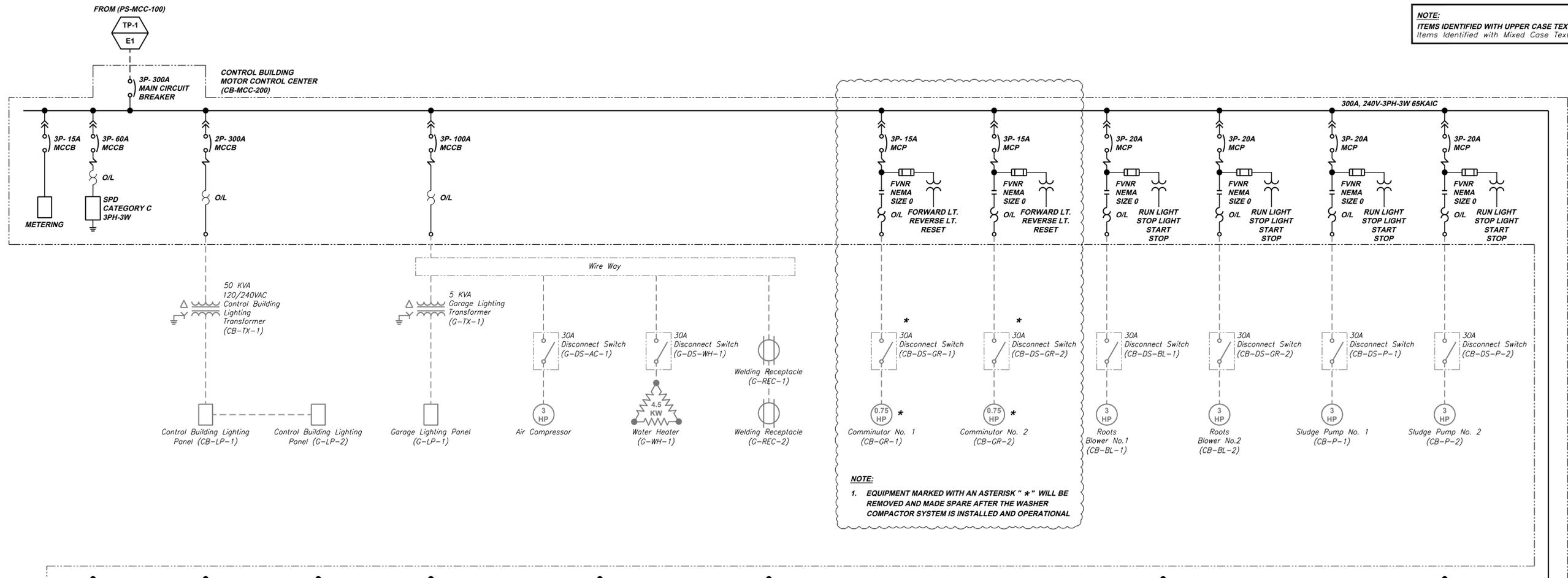
Scale:	As Shown	Order No.	646-04
Date:	APRIL 2024	Drawing No.	E1
Drawn By:	KAK	Sheet No.	5 of 28
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Approved By:	JMG		

**MUNICIPAL AUTHORITY OF THE BOROUGH OF MIDLAND**  
946 RAILROAD AVENUE, MIDLAND, PA 15059  
MIDLAND WASTE WATER TREATMENT PLANT IMPROVEMENTS  
CONTRACT NO. 2024-2: ELECTRICAL CONSTRUCTION  
SINGLE LINE DIAGRAM 1 OF 3

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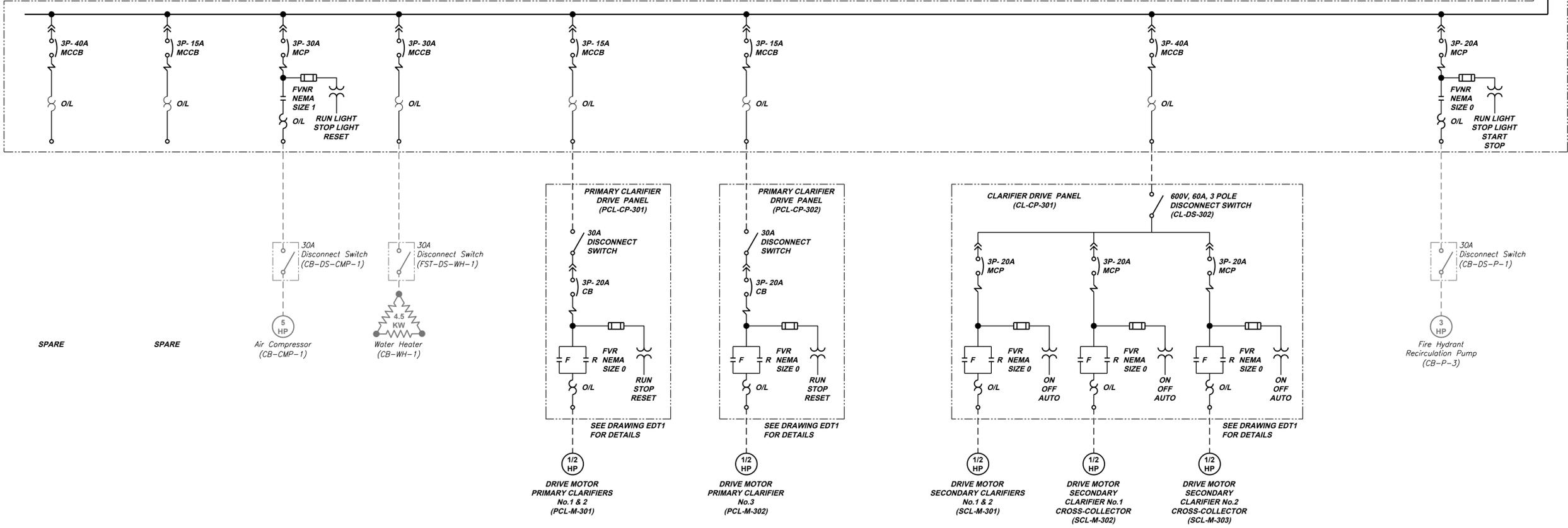
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**NOTE:**  
1. EQUIPMENT MARKED WITH AN ASTERISK "\*" WILL BE REMOVED AND MADE SPARE AFTER THE WASHER COMPACTOR SYSTEM IS INSTALLED AND OPERATIONAL



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<b>KLH ENGINEERS, INC.</b>			
<b>MUNICIPAL AUTHORITY OF THE BOROUGH OF MIDLAND</b> 946 RAILROAD AVENUE, MIDLAND, PA 15059 MIDLAND WASTE WATER TREATMENT PLANT IMPROVEMENTS CONTRACT NO. 2024-2: ELECTRICAL CONSTRUCTION SINGLE LINE DIAGRAM 2 OF 3			
As Shown	APRIL 2024	KAK	JMG
Date	Drawn By	Checked By	Approved By
Order No.	646-04		
Drawing No.	E2		
Sheet No.	6 of 28		





**NOTE:**  
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 Items Identified with Mixed Case Text are Existing.

600A CB MAIN CIRCUIT BREAKER		300A CB CONTROL BUILDING SUBFEED		LIGHTING PANEL (PS-LP-1)	
		40A CB UNIT HEATER No. 1	100A CB EFFLUENT PUMP No. 3	200A CB DIGESTER BLDG. SUBFEED	
METERING		20A CB UNIT HEATER No. 2	15A CB TRICKLING FILTER RECYCLE VALVE	10kVA TRANSFORMER (PS-TX-LP-1) FOR (PS-LP-1)	
SPD CATEGORY C 3P-3W		30A CB SPARE	30A CB SPARE		
100A CB EFFLUENT PUMP No. 1	100A CB EFFLUENT PUMP No. 2	FVNR SIZE 0 SPARE			

**PUMP STATION  
 MOTOR CONTROL CENTER (MCC-100)  
 ELEVATION E4-A  
 NOT TO SCALE**

300A CB MAIN CIRCUIT BREAKER		300A CB LIGHTING TRANSFORMER SUBFEED		30A CB WATER HEATER		30A CB SPARE	
		FVNR SIZE 0 COMMUNOTOR No. 1		FVNR SIZE 1 SPARE		15A CB PRIMARY CLARIFIER No. 3	
		FVNR SIZE 0 COMMUNOTOR No. 2		FVNR SIZE 1 SPARE		15A CB SPARE	
		FVNR SIZE 0 ROOTS BLOWER No. 1		40A CB SECONDARY CLARIFIER No. 1 & 2			
METERING		FVNR SIZE 0 ROOTS BLOWER No. 2					
SPD CATEGORY C 3P-3W		FVNR SIZE 0 SLUDGE PUMP No. 1		40A CB SPARE		15A CB SPARE	
		FVNR SIZE 0 SLUDGE PUMP No. 2					
100A CB GARAGE SUBFEED		FVNR SIZE 0 HYDRANT RECIRC. PUMP		FVNR SIZE 1 AIR COMPRESSOR			
		SPACE					

**CONTROL BUILDING  
 MOTOR CONTROL CENTER (MCC-200)  
 ELEVATION E4-B  
 NOT TO SCALE**

200A CB MAIN CIRCUIT BREAKER		FVNR SIZE 0 FRONT SUMP PUMP		LIGHTING PANEL (DB-LP-1)	
		FVNR SIZE 0 REAR SUMP PUMP			
		FVNR SIZE 0 WATER SEAL PUMP			
METERING		FVNR SIZE 0 BASEMENT BLOWER			
SPD CATEGORY C 3P-3W		60A CB DIGESTER BLOWER	40A CB WASHER COMPACTOR	SPACE	
FVNR SIZE 0 EXHAUST FAN		30A CB SPARE	30A CB SPARE	10kVA TRANSFORMER (DB-TX-LP-1) FOR (DB-LP-1)	
FVNR SIZE 2 SLUDGE PUMP					
FVNR SIZE 1 SLUDGE TRANSFER PUMP No. 1		FVNR SIZE 0 EXHAUST FAN			
FVNR SIZE 1 SLUDGE TRANSFER PUMP No. 2		SPACE			
20A CB GRINDER PUMP		FVNR SIZE 1 SPARE			

**DIGESTER BUILDING  
 MOTOR CONTROL CENTER (MCC-300)  
 ELEVATION E4-C  
 NOT TO SCALE**

**NOTE:**

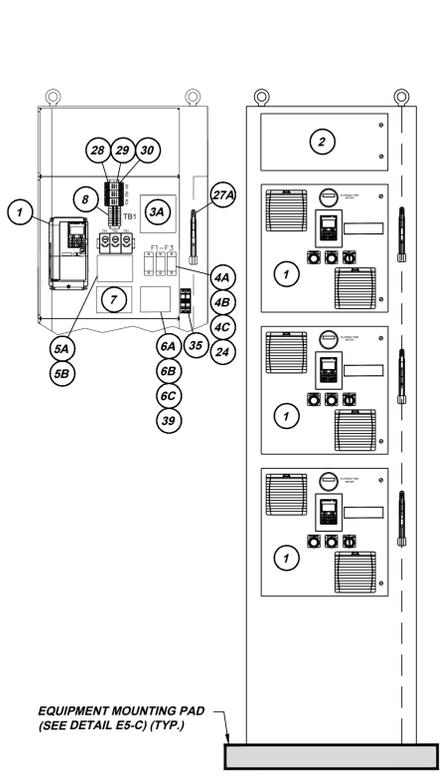
1. THE ELECTRICAL CONTRACTOR SHALL AVOID SPLICING EXISTING POWER CABLES BY ARRANGING MOTOR CONTROL CENTER COMPARTMENTS BASED ON EXISTING CABLE ENTRIES AND LENGTHS. IF AFTER THE FINAL ARRANGMENT IS COMPLETE AND EXISTING POWER CABLE IS TOO SHORT, THE CABLE SHALL BE PROPERLY SPLICED AND EXTENDED IN A PULLBOX OR MCC BOTTOM WIREWAY USING A UL LISTED CONNECTOR IN ACCORDANCE WITH CODE REQUIRMENTS IN SPECIFICATION 16120.

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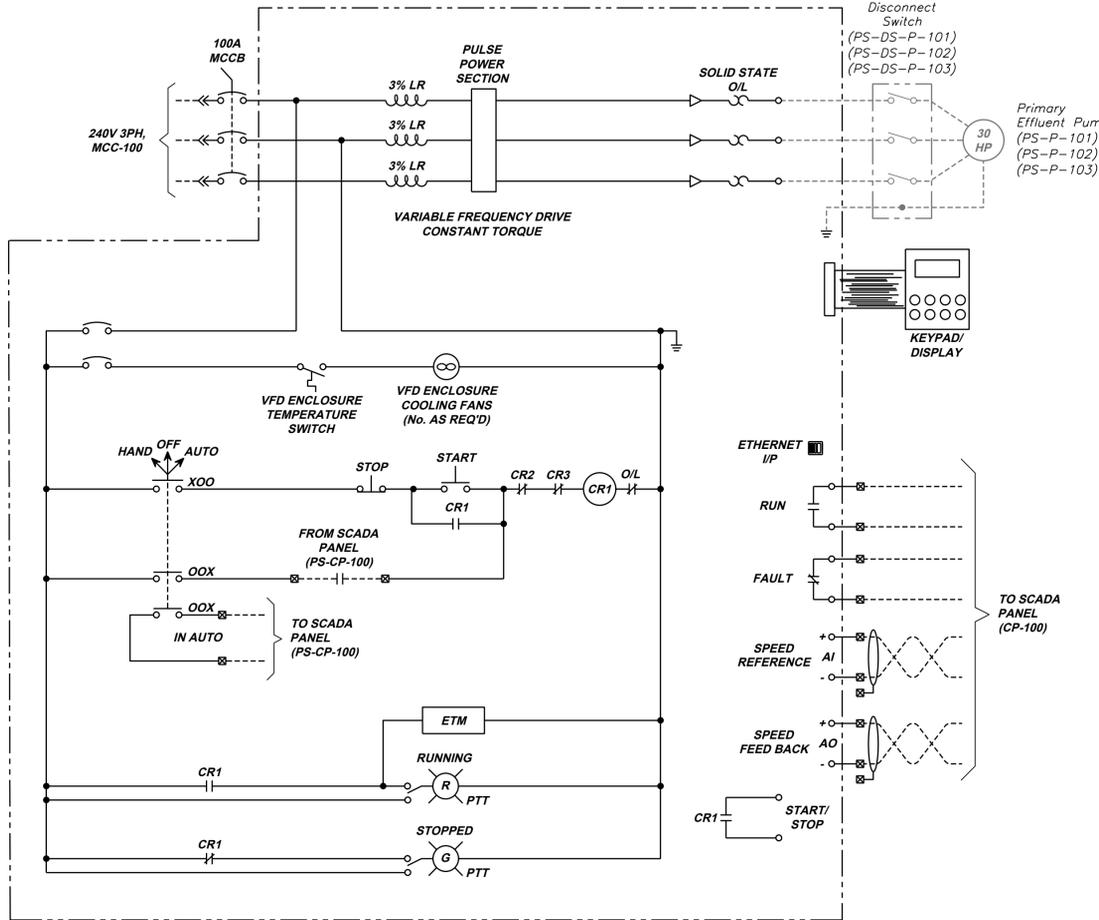


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Date:		Sheet No.	8 of 28
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<b>MUNICIPAL AUTHORITY OF THE BOROUGH OF MIDLAND</b> 946 RAILROAD AVENUE, MIDLAND, PA 15059 MIDLAND WASTE WATER TREATMENT PLANT IMPROVEMENTS CONTRACT NO. 2024-2: ELECTRICAL CONSTRUCTION <b>MOTOR CONTROL CENTER ELEVATIONS</b>			
Revisions	Date	Revisions	Date
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5173 Campbell Run Road Pittsburgh, PA 15205 Phone: 412.494.0510 Fax: 412.494.0426 info@klhengineers.com			

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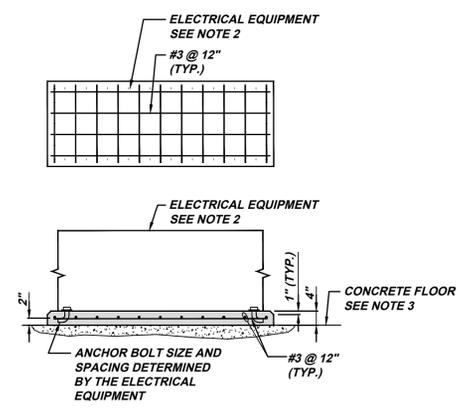
**PRIMARY EFFLUENT PUMP  
(PS-VFD-P-101 THRU 103)  
VFD ENCLOSURE (PS-CP-101)  
LAYOUT E5-A  
NOT TO SCALE**



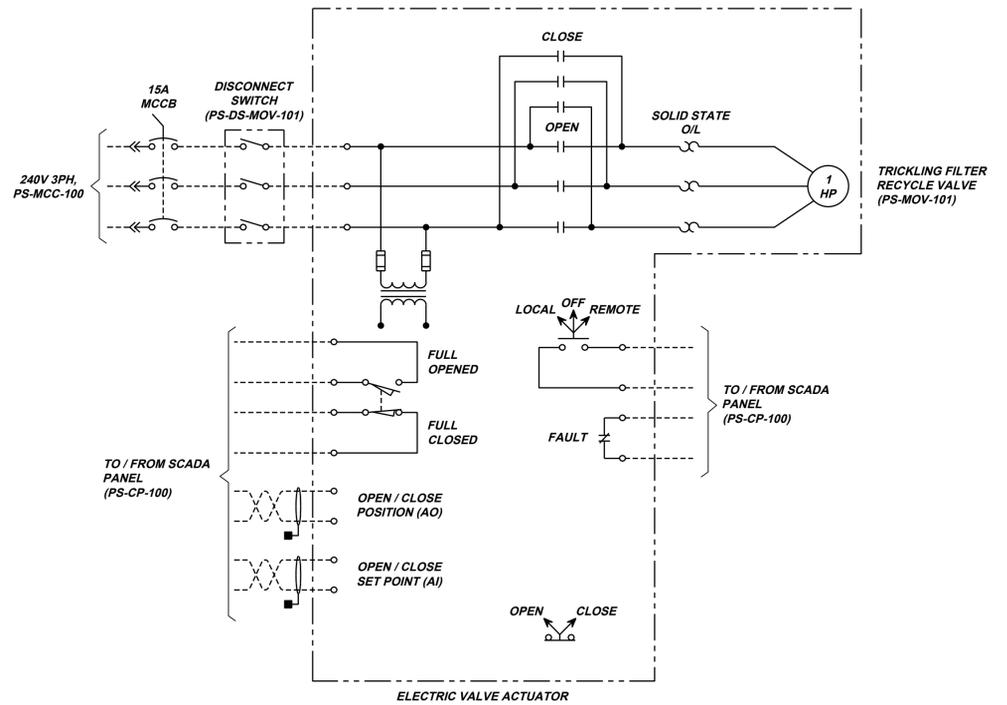
**PRIMARY EFFLUENT PUMP No. 1 (PS-P-101)  
PRIMARY EFFLUENT PUMP No. 2 (PS-P-102)  
PRIMARY EFFLUENT PUMP No. 3 (PS-P-103)  
SCHEMATIC E5-B  
NOT TO SCALE**

CUSTOM VARIABLE FREQUENCY DRIVE BILL OF MATERIALS					
ITEM	QTY.	DESCRIPTION	PRODUCT NUMBER	MANUFACTURER	REMARKS
1	3	30 HP, 240V, FLANGE GA800 CONSTANT TORQUE DRIVE	GA80U2082ABM	YASKAWA	OR APPROVED EQUAL
2	1	90" x 36" x 26" ENCLOSURE, NEMA TYPE 12	CUSTOM - 903626ENCL	SAGINAW	OR APPROVED EQUAL
3A	AR	CIRCUIT BREAKER	125HU FTU 125	ABB	OR APPROVED EQUAL
3B	AR	CIRCUIT BREAKER	250HU FTU 250	ABB	OR APPROVED EQUAL
3C	AR	CIRCUIT BREAKER	T5H600DW	ABB	OR APPROVED EQUAL
4A	AR	LINE FUSES	FWH-20A14F	BUSSMAN	OR APPROVED EQUAL
4B	AR	LINE FUSES	FWH-25A14F	BUSSMAN	OR APPROVED EQUAL
4C	AR	LINE FUSES	KTK-30	BUSSMAN	OR APPROVED EQUAL
4D	AR	LINE FUSES	FWH-90B	BUSSMAN	OR APPROVED EQUAL
4E	AR	LINE FUSES	FWH-150B	BUSSMAN	OR APPROVED EQUAL
4F	AR	LINE FUSES	FWH-500A	BUSSMAN	OR APPROVED EQUAL
5A	AR	480/120V 150VA TRANSFORMER	X4150PSF1	ABB	OR APPROVED EQUAL
5B	AR	480/120V 150VA TRANSFORMER	T6350PS1	ABB	OR APPROVED EQUAL
5C	AR	480/120V 150VA TRANSFORMER	X4750PS1	ABB	OR APPROVED EQUAL
6A	AR	VFD LINE REACTOR	KDRAA4L2	TCI	OR APPROVED EQUAL
6B	AR	VFD LINE REACTOR	KDRA5L	TCI	OR APPROVED EQUAL
6C	AR	VFD LINE REACTOR	KDR2BL	TCI	OR APPROVED EQUAL
6D	AR	VFD LINE REACTOR	KDRF2L	TCI	OR APPROVED EQUAL
6E	AR	VFD LINE REACTOR	KDRF3L	TCI	OR APPROVED EQUAL
7	AR	MOISTURE RELAY	MR1	PUMP MANUFACTURER	OR APPROVED EQUAL
8	AR	TERMINAL BLOCKS	11511607	ABB	OR APPROVED EQUAL
9	AR	3-POSITION SELECTOR SWITCH	SS03-ASHWE	C3CONTROLS	OR APPROVED EQUAL
10	AR	30mm PUSH-TO-TEST PILOT LIGHT	FVPTT120LG-AIPBCGN-IP20	C3CONTROLS	OR APPROVED EQUAL
11	AR	30mm PUSH-TO-TEST PILOT LIGHT	FVPTT120LA-AIPBCAR-IP20	C3CONTROLS	OR APPROVED EQUAL
12	AR	30mm PUSH-TO-TEST PILOT LIGHT	PBO-AFCGN	C3CONTROLS	OR APPROVED EQUAL
13	AR	30mm PUSH-TO-TEST PILOT LIGHT	PBO-AXCRD	C3CONTROLS	OR APPROVED EQUAL
14	AR	30mm PUSH/PULL E-STOP	PBO-APMCRD	C3CONTROLS	OR APPROVED EQUAL
15	AR	POTENTIOMETER OPERATOR	POTOA5K-TBW	C3CONTROLS	OR APPROVED EQUAL
16	AR	30mm START LEGEND PLATE	LPAL-22	C3CONTROLS	OR APPROVED EQUAL
17	AR	30mm STOP LEGEND PLATE	LPAL-23	C3CONTROLS	OR APPROVED EQUAL
18	AR	30mm RUN LEGEND PLATE	LPAL-20	C3CONTROLS	OR APPROVED EQUAL
19	AR	30mm FAULT LEGEND PLATE	LPAL-101	C3CONTROLS	OR APPROVED EQUAL
20	AR	30mm H-O-A LEGEND PLATE	LPAL-83	C3CONTROLS	OR APPROVED EQUAL
21	AR	30mm X LEGEND PLATE	LPAL-44	C3CONTROLS	OR APPROVED EQUAL
22	AR	30mm 0-100 LEGEND PLATE - SPEED POTENTIOMETER	LPRYW-04	C3CONTROLS	OR APPROVED EQUAL
23	AR	ELAPSED TIME METER	38X601	DRV	OR APPROVED EQUAL
24	AR	3-POLE FUSE HOLDER	CH143B	BUSSMAN	OR APPROVED EQUAL
25	AR	3-POLE STUD TYPE FUSE HOLDER	C5268-1	BUSSMAN	OR APPROVED EQUAL
26	AR	KEYPAD MOUNTING KIT	UUX000526	YASKAWA	OR APPROVED EQUAL
27A	AR	FLANGE HANDLE DISCONNECT SWITCH	FH-1/36	ABB	OR APPROVED EQUAL
27B	AR	FLANGE HANDLE DISCONNECT SWITCH	FH-2/36	ABB	OR APPROVED EQUAL
28	AR	4PDT 120 VAC CONTROLLER	1SVR405618R2100	ABB	OR APPROVED EQUAL
29	AR	RELAY BASE	1SVR405651R3000	ABB	OR APPROVED EQUAL
30	AR	RELAY SUPPRESSOR	1SVR405651R0000	ABB	OR APPROVED EQUAL
31A	AR	PF 22000 FILTER FAN	11622154055	PFANNENBERG	OR APPROVED EQUAL
31B	AR	PF 43000 FILTER FAN	11643154055	PFANNENBERG	OR APPROVED EQUAL
31C	AR	PF 66000 FILTER FAN	11666154055	PFANNENBERG	OR APPROVED EQUAL
32	AR	PFA 66000 EXHAUST FILTER	11760004055	PFANNENBERG	OR APPROVED EQUAL
33	AR	FLZ 530 N.O. THERMOSTAT	11721000010	PFANNENBERG	OR APPROVED EQUAL
34	AR	FLZ 520 N.C. THERMOSTAT	17111000010	PFANNENBERG	OR APPROVED EQUAL
35	AR	MINI-CIRCUIT BREAKER	6013	SCHNEIDER ELECTRIC	OR APPROVED EQUAL
36	AR	PRIMARY TRANSFORMER FUSING	ATOR3	MERCEN	OR APPROVED EQUAL
37	AR	SECONDARY TRANSFORMER FUSING	ATOR5	MERCEN	OR APPROVED EQUAL
38	AR	TERMINAL BLOCKS	MPDB69053	MERCEN	OR APPROVED EQUAL
39	AR	LINE REACTOR LUG KIT	SLK10	TCI	OR APPROVED EQUAL
40	AR	WASHDOWN RAINHOOD	18182000018	PFANNENBERG	OR APPROVED EQUAL
41	AR	FLH-T800 FAN HEATER WITH INTEGRATED FAN	17080315007	PFANNENBERG	OR APPROVED EQUAL
42	AR	DIN RAIL	-	-	OR APPROVED EQUAL

- EQUIPMENT MOUNTING PANEL NOTES:**
- PLACE WWF AT HALF THE HEIGHT OF THE PAD.
  - USE A MINIMUM 2" OVERHANG, OR MATCH EXISTING OVERHANG.
  - ROUGH UP CONCRETE FLOOR SLAB SURFACE AND APPLY BONDING AGENT.
  - FOR USE ON EXISTING CONCRETE SURFACE OR FORMED ON NEW STRUCTURALLY DESIGNED FLOOR SLAB.
  - USE 4,000 PSI CONCRETE.



**EQUIPMENT MOUNTING PAD ON CONCRETE  
DETAIL E5-C  
NOT TO SCALE**



**TRICKLING FILTER  
RECYCLE VALVE (PS-MOV-101)  
SCHEMATIC E5-D  
NOT TO SCALE**

**SCHEMATICS SYMBOL LEGEND**

⊠	TERMINAL LOCATED IN VFD ENCLOSURE
—	LOCAL WIRING
---	FIELD WIRING



Revisions: \_\_\_\_\_ Date: \_\_\_\_\_

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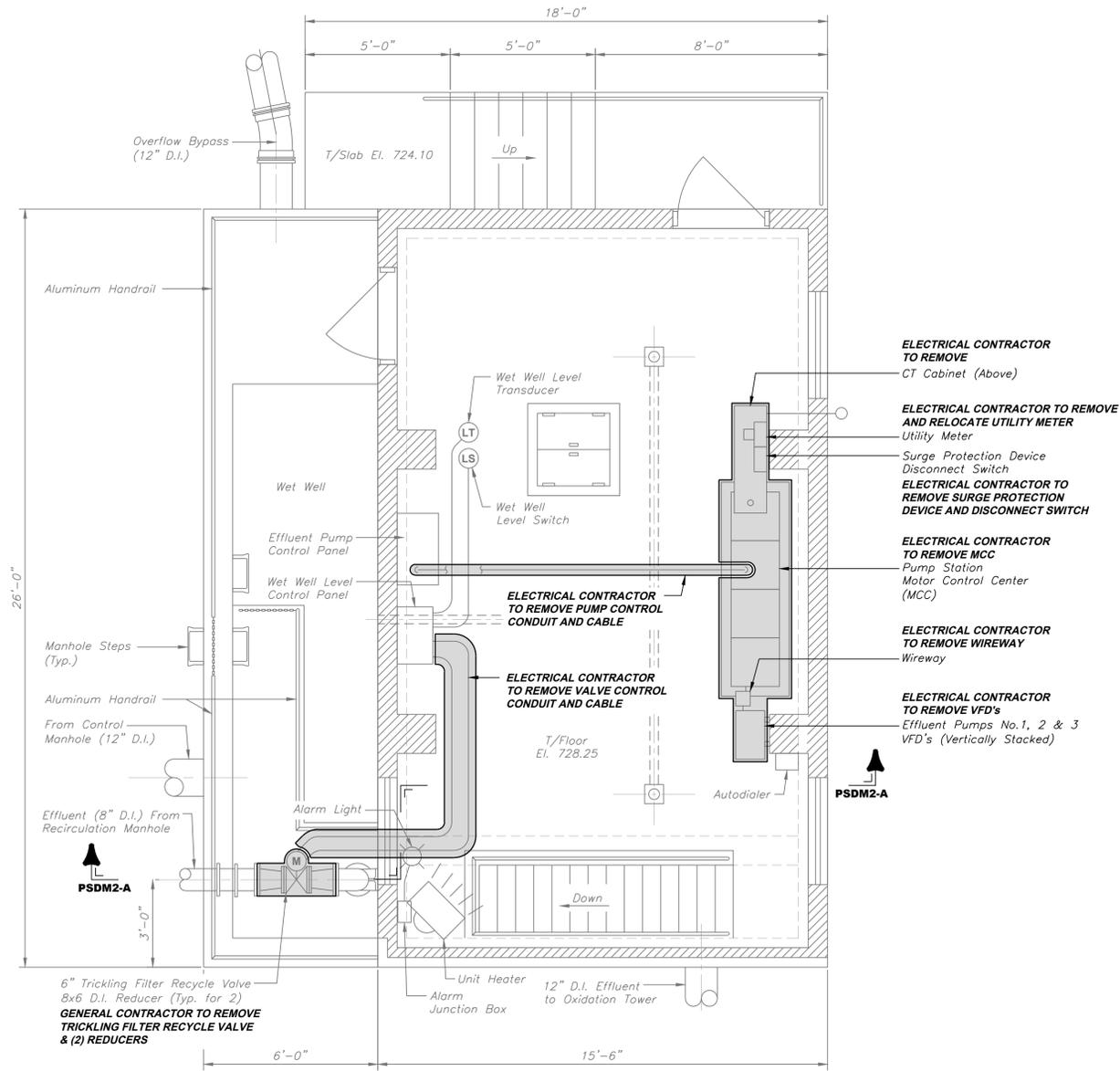
**MUNICIPAL AUTHORITY OF THE BOROUGH OF MIDLAND**  
946 RAILROAD AVENUE, MIDLAND, PA 15059  
MIDLAND WASTE WATER TREATMENT PLANT IMPROVEMENTS  
CONTRACT NO. 2024-2: ELECTRICAL CONSTRUCTION  
VFD ENCLOSURE LAYOUT, BILL OF MATERIALS & SCHEMATICS

As Shown: \_\_\_\_\_ Date: APRIL 2024  
Drawn By: KAK  
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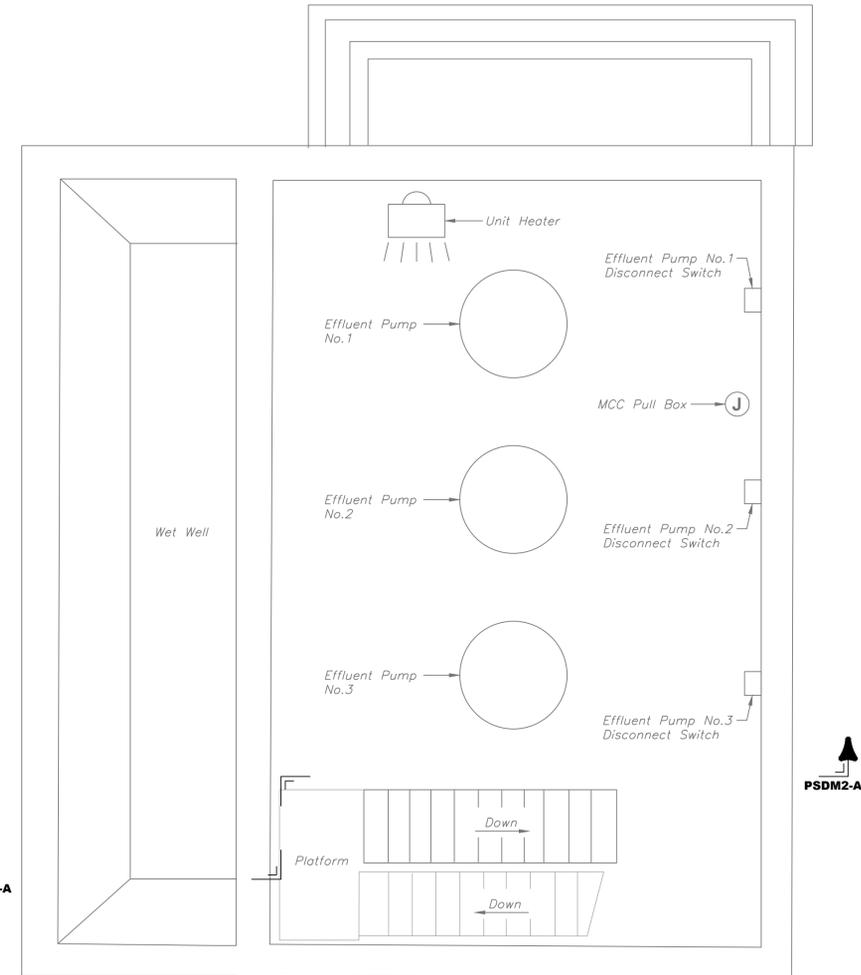
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Drawing No. E5  
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**PUMP STATION DEMOLITION  
 UPPER PLAN PSDM1-A**  
 SCALE: 3/8" = 1'-0"



**PUMP STATION DEMOLITION  
 LOWER PLAN PSDM1-B**  
 SCALE: 3/8" = 1'-0"

**LEGEND**

= ITEMS FOR DEMOLITION AND OR REMOVAL ON THIS DRAWING

**TEMPORARY POWER NOTES:**

- ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE AND MAINTAIN A TEMPORARY POWER SOURCE TO MAINTAIN PLANT OPERATION DURING THE REPLACEMENT OF THE POWER DISTRIBUTION EQUIPMENT.**
- ELECTRICAL CONTRACTOR TO INTERCEPT ANY 240VAC AND 120VAC CIRCUITS THAT ARE REQUIRED TO MAINTAIN PLANT OPERATION AND RE-ROUTE TO THE TEMPORARY POWER SOURCE EQUIPMENT UNTIL FINAL SWITCHOVER IS COMPLETE.**

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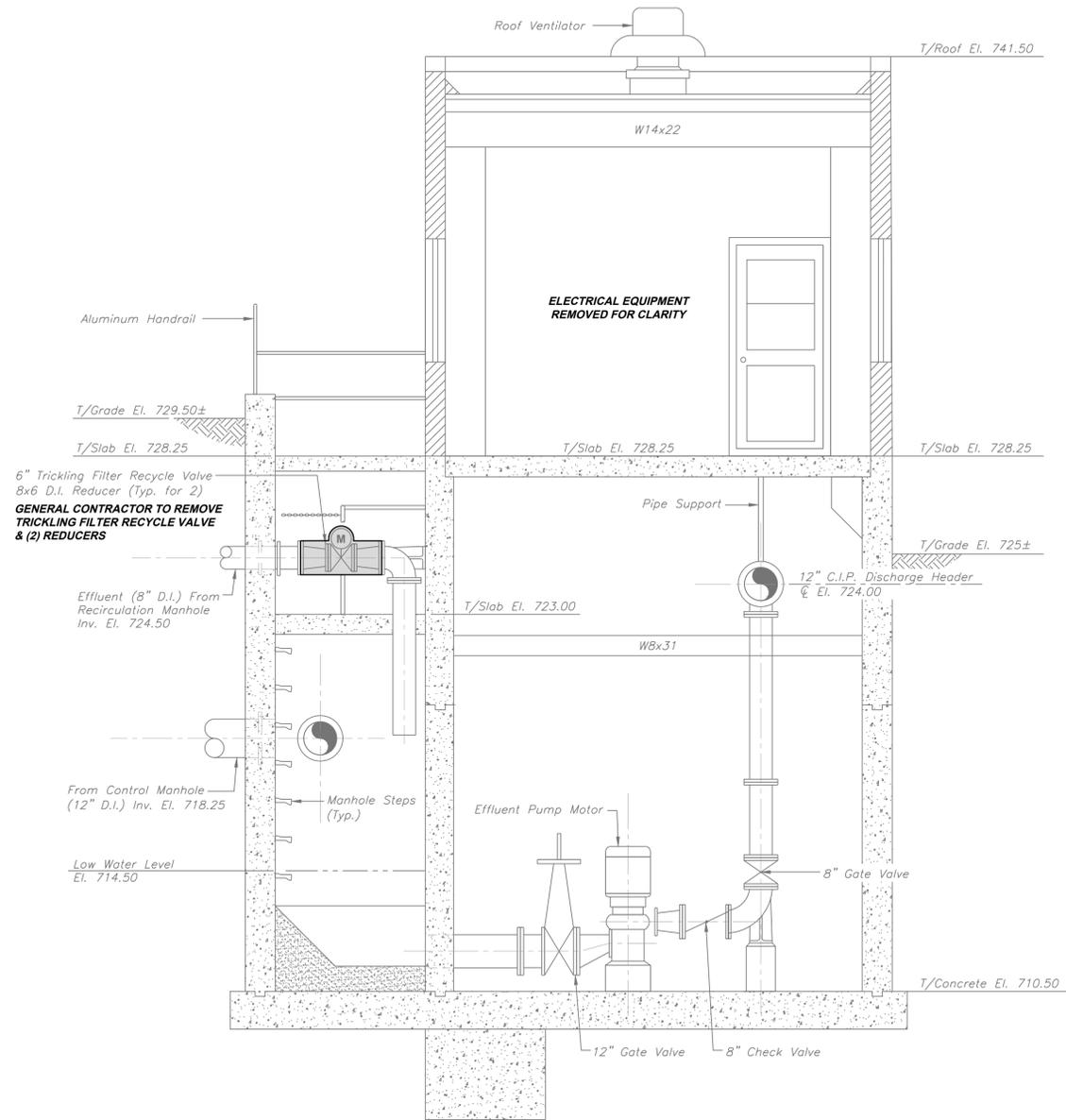
**KLH ENGINEERS, INC.**

**MUNICIPAL AUTHORITY OF THE BOROUGH OF MIDLAND**  
 946 RAILROAD AVENUE, MIDLAND, PA 15059  
 MIDLAND WASTE WATER TREATMENT PLANT IMPROVEMENTS  
 CONTRACT NO. 2024-2: ELECTRICAL CONSTRUCTION  
 PUMP STATION DEMOLITION PLANS

As Shown	APRIL 2024	KAK	MB	JMG
Scale:	Date:	Drawn By:	Checked By:	Approved By:
Order No.	646-04			
Drawing No.	PSDM1			
Sheet No.	10 of 28			



**NOTE:**  
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 Items Identified with Mixed Case Text are Existing.



**PUMP STATION DEMOLITION  
 SECTION PSDM2-A**  
 SCALE: 3/8" = 1'-0"

**LEGEND**

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Drawn By:	KAK	Sheet No.	11 of 28
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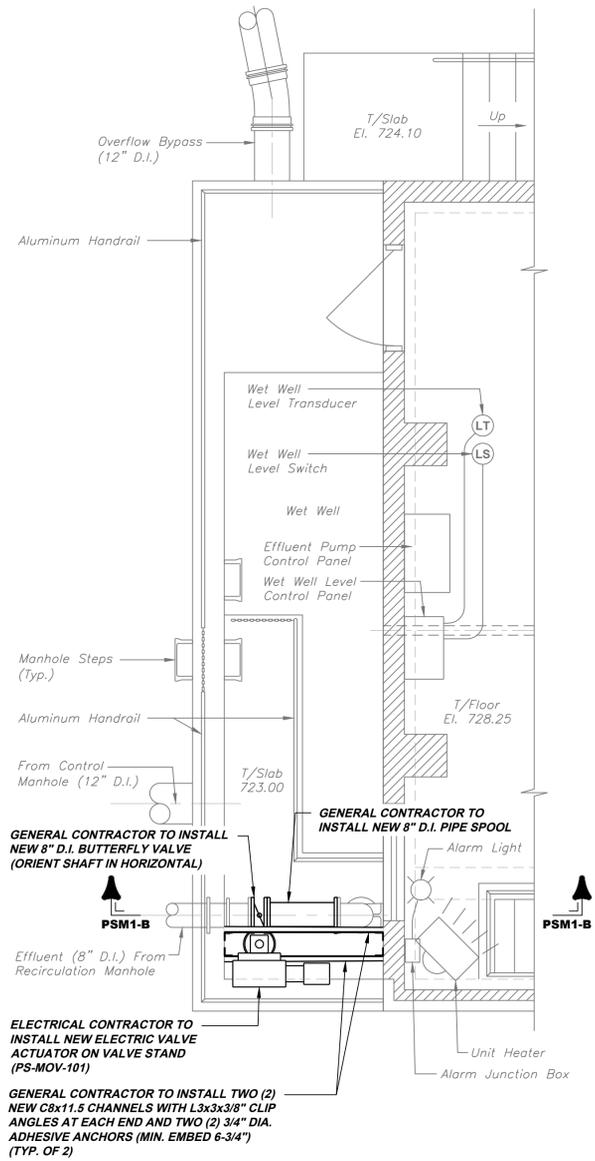
  

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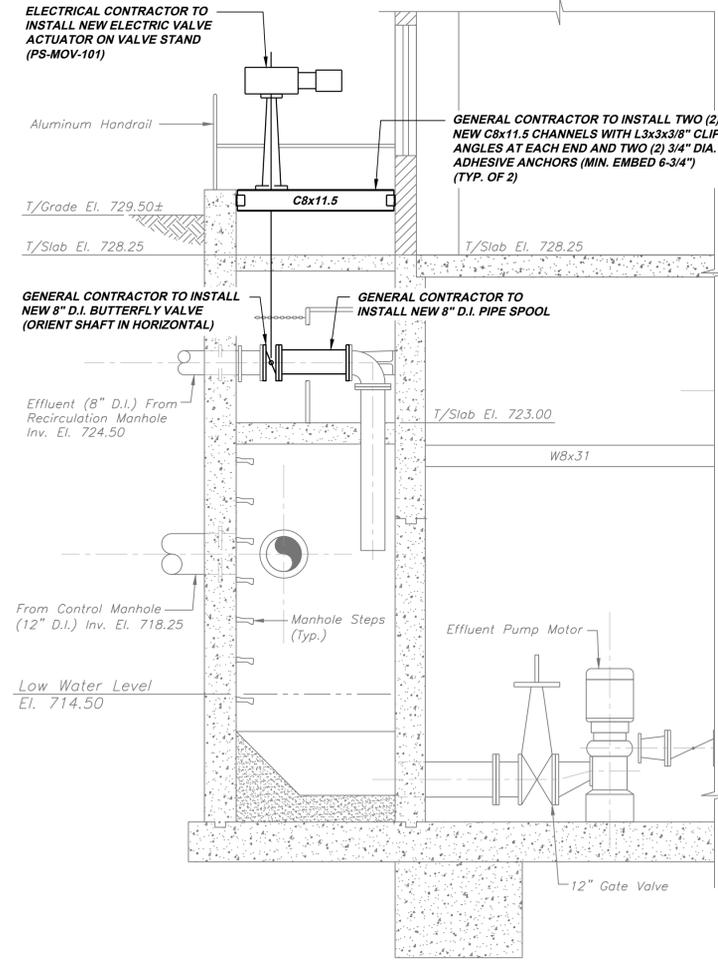
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 CONTRACT NO. 2024-2: ELECTRICAL CONSTRUCTION  
 PUMP STATION DEMOLITION SECTION

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**PUMP STATION PROPOSED  
 PARTIAL MECHANICAL PLAN  
 PSM1-A**  
 SCALE: 3/8" = 1'-0"



**PUMP STATION PROPOSED  
 PARTIAL MECHANICAL SECTION  
 PSM1-B**  
 SCALE: 3/8" = 1'-0"



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 MIDLAND WASTE WATER TREATMENT PLANT IMPROVEMENTS  
 CONTRACT NO. 2024-2: ELECTRICAL CONSTRUCTION  
 PUMP STATION PROPOSED MECHANICAL PLAN & SECTION



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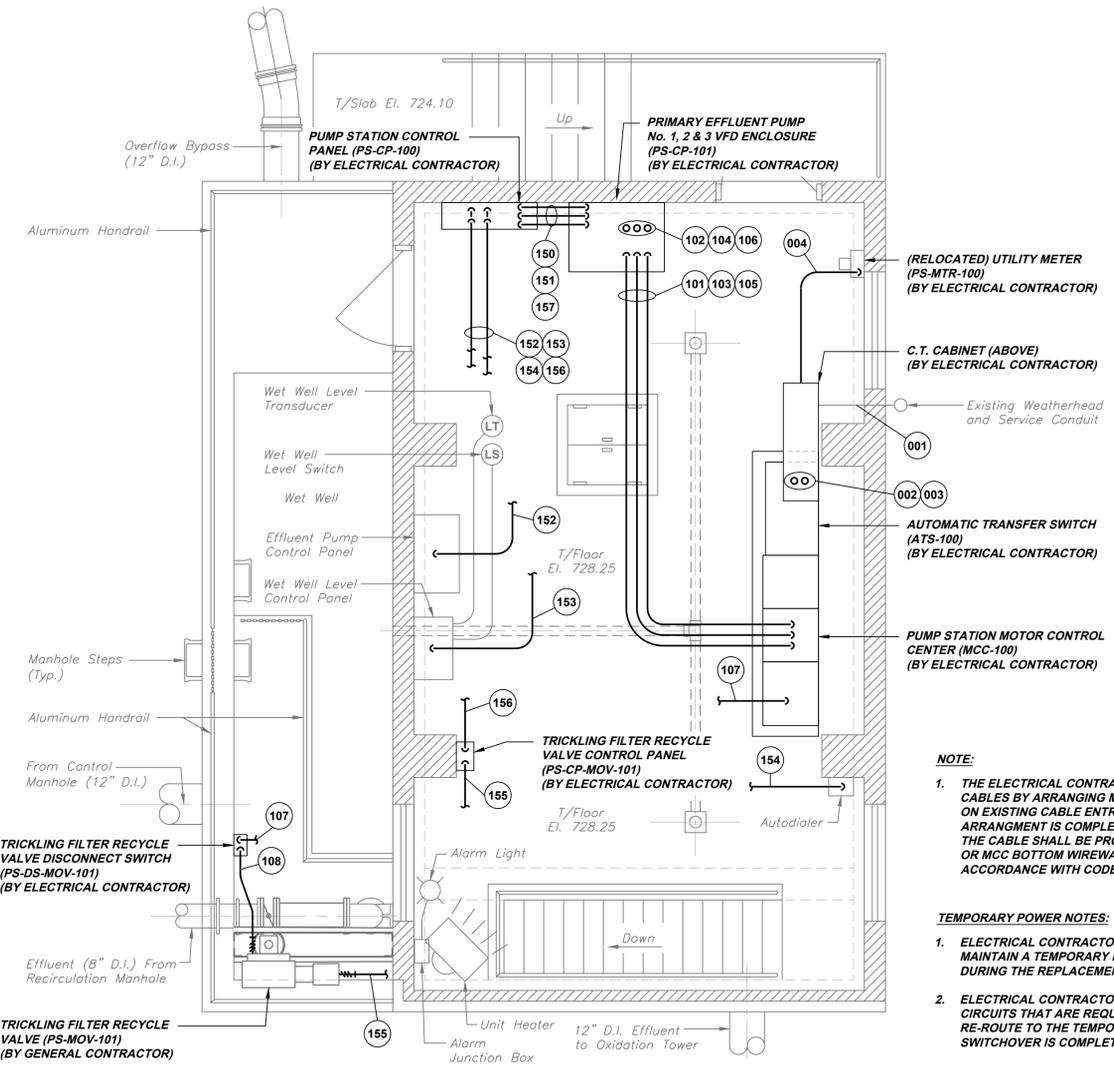
**NOTE:**  
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CONDUIT NO.	FROM EQUIPMENT	TO EQUIPMENT	CABLE SIZE	CABLE TYPE	CONDUIT SIZE	CONDUIT TYPE			REMARKS
						INTERIOR	EXTERIOR	UNDERGROUND	
						001	Utility Weatherhead	CT CABINET (UTIL-CT-001)	
002	CT CABINET (UTIL-CT-001)	AUTOMATIC TRANSFER SWITCH (PS-ATS-101)	3-1/C 500kCMIL	THWN	3"	RIGID ALUMINUM	-	-	-
003	CT CABINET (UTIL-CT-001)	AUTOMATIC TRANSFER SWITCH (PS-ATS-101)	3-1/C 500kCMIL	THWN	3"	RIGID ALUMINUM	-	-	-
004	CT CABINET (UTIL-CT-001)	Utility Meter (UTIL-MTR-100)	3-1/C #2	THWN	1"	RIGID ALUMINUM	-	-	-
005	AUTOMATIC TRANSFER SWITCH (PS-ATS-101)	MOTOR CONTROL CENTER (PS-MCC-100)	3-1/C 400kCMIL	THWN	3"	RIGID ALUMINUM	-	-	-
006	AUTOMATIC TRANSFER SWITCH (PS-ATS-101)	MOTOR CONTROL CENTER (PS-MCC-100)	3-1/C 400kCMIL	THWN	3"	RIGID ALUMINUM	-	-	-
007	Generator (GEN-001)	AUTOMATIC TRANSFER SWITCH (PS-ATS-101)	3-1/C 350kCMIL	THWN	4"	RIGID ALUMINUM	Existing	Existing	-
101	MOTOR CONTROL CENTER (PS-MCC-100)	PUMP VFD ENCLOSURE (PS-CP-101)	3-1/C #2 & 1-1/C #8GND	THWN	1-1/4"	RIGID ALUMINUM	-	-	-
102	PUMP VFD ENCLOSURE (PS-CP-101)	Primary Effluent Pump No. 1 Disconnect Switch	3-1/C #2 & 1-1/C #8GND	THWN	1-1/4"	RIGID ALUMINUM	-	-	-
103	MOTOR CONTROL CENTER (PS-MCC-100)	PUMP VFD ENCLOSURE (PS-CP-101)	3-1/C #2 & 1-1/C #8GND	THWN	1-1/4"	RIGID ALUMINUM	-	-	-
104	PUMP VFD ENCLOSURE (PS-CP-101)	Primary Effluent Pump No. 2 Disconnect Switch	3-1/C #2 & 1-1/C #8GND	THWN	1-1/4"	RIGID ALUMINUM	-	-	-
105	MOTOR CONTROL CENTER (PS-MCC-100)	PUMP VFD ENCLOSURE (PS-CP-101)	3-1/C #2 & 1-1/C #8GND	THWN	1-1/4"	RIGID ALUMINUM	-	-	-
106	PUMP VFD ENCLOSURE (PS-CP-101)	Primary Effluent Pump No. 3 Disconnect Switch	3-1/C #2 & 1-1/C #8GND	THWN	1-1/4"	RIGID ALUMINUM	-	-	-
107	MOTOR CONTROL CENTER (PS-MCC-100)	RECYCLE VALVE DISCONNECT SWITCH (PS-DS-MOV-101)	4-1/C #12	THWN	3/4"	RIGID ALUMINUM	-	-	-
108	RECYCLE VALVE DISCONNECT SWITCH (PS-DS-MOV-101)	TRICKLING FILTER RECYCLE VALVE (PS-MOV-101)	4-1/C #12	THWN	3/4"	RIGID ALUMINUM	-	-	-
150	PUMP STATION SCADA PANEL (PS-CP-100)	PUMP VFD ENCLOSURE (PS-CP-101)	22-1/C #14	THWN	1"	RIGID ALUMINUM	-	-	-
151	PUMP STATION SCADA PANEL (PS-CP-100)	PUMP VFD ENCLOSURE (PS-CP-101)	6-1/PR #16	PVC SHIELDED	1"	RIGID ALUMINUM	-	-	-
152	PUMP STATION SCADA PANEL (PS-CP-100)	Grayline PSL 5.0 Level Transmitter	2-1/PR #16	PVC SHIELDED	3/4"	RIGID ALUMINUM	-	-	-
153	PUMP STATION SCADA PANEL (PS-CP-100)	ABB Commander 350 Level Controller	2-1/PR #16	PVC SHIELDED	3/4"	RIGID ALUMINUM	-	-	-
154	PUMP STATION SCADA PANEL (PS-CP-100)	Auto-Dialer	5-1/C #14	THWN	3/4"	RIGID ALUMINUM	-	-	-
155	TRICKLING FILTER RECYCLE VALVE (PS-MOV-101)	VALVE CONTROL PANEL (PS-CP-MOV-101)	2-1/PR #16	PVC SHIELDED	3/4"	RIGID ALUMINUM	-	-	-
156	PUMP STATION SCADA PANEL (PS-CP-100)	VALVE CONTROL PANEL (PS-CP-MOV-101)	2-1/PR #16	PVC SHIELDED	3/4"	RIGID ALUMINUM	-	-	-
157	PUMP STATION SCADA PANEL (PS-CP-100)	PUMP VFD ENCLOSURE (PS-CP-101)	3-4/PR #24	CAT6	1"	RIGID ALUMINUM	-	-	-

**NOTE:**  
ALL CABLE SHALL BE COPPER

PUMP STATION LIGHTING PANEL (PS-LP-1)											
VOLTS, PHASE, WIRE:		PANEL SIZE & TYPE:		MAIN SIZE & TYPE:		CABINET:		REMARKS:			
240/120V, 1PH, 3W		125A		100A MCCB		INSIDE MCC		INSIDE MCC			
NO	TRIP	DESCRIPTION	L1	L2	L1	L2	DESCRIPTION	TRIP	NO		
1	20A	EXHAUST FAN	●	●	●	●	OPERATOR FLOOR LIGHTING	20A	2		
3	20A	BASEMENT LIGHTING	●	●	●	●	SPARE	20A	4		
5	20A	BASEMENT LIGHTING	●	●	●	●	OPERATOR FLOOR RECEPTACLES	20A	6		
7	20A	BASEMENT RECEPTACLES	●	●	●	●	OUTSIDE LIGHTING	20A	8		
9	20A	EFFLUENT PUMP CONTROL PANEL	●	●	●	●	VALVE CONTROL PANEL	20A	10		
11	20A	GENERATOR 120V POWER	●	●	●	●	MAG FLOW METER	20A	12		
13	20A	AUTO DIALER DEDICATED RECEPTACLE	●	●	●	●	WET WELL LEVEL CONTROL PANEL	20A	14		
15	20A	SPARE	●	●	●	●	SPARE	20A	16		
17	20A	SPARE	●	●	●	●	SPACE	-	18		
19	20A	SPARE	●	●	●	●	SPACE	-	20		
21	-	SPACE	●	●	●	●	SPD	30A	21		
23	-	SPACE	●	●	●	●			24		

INTEGRAL 1P-3W SPD CATEGORY A

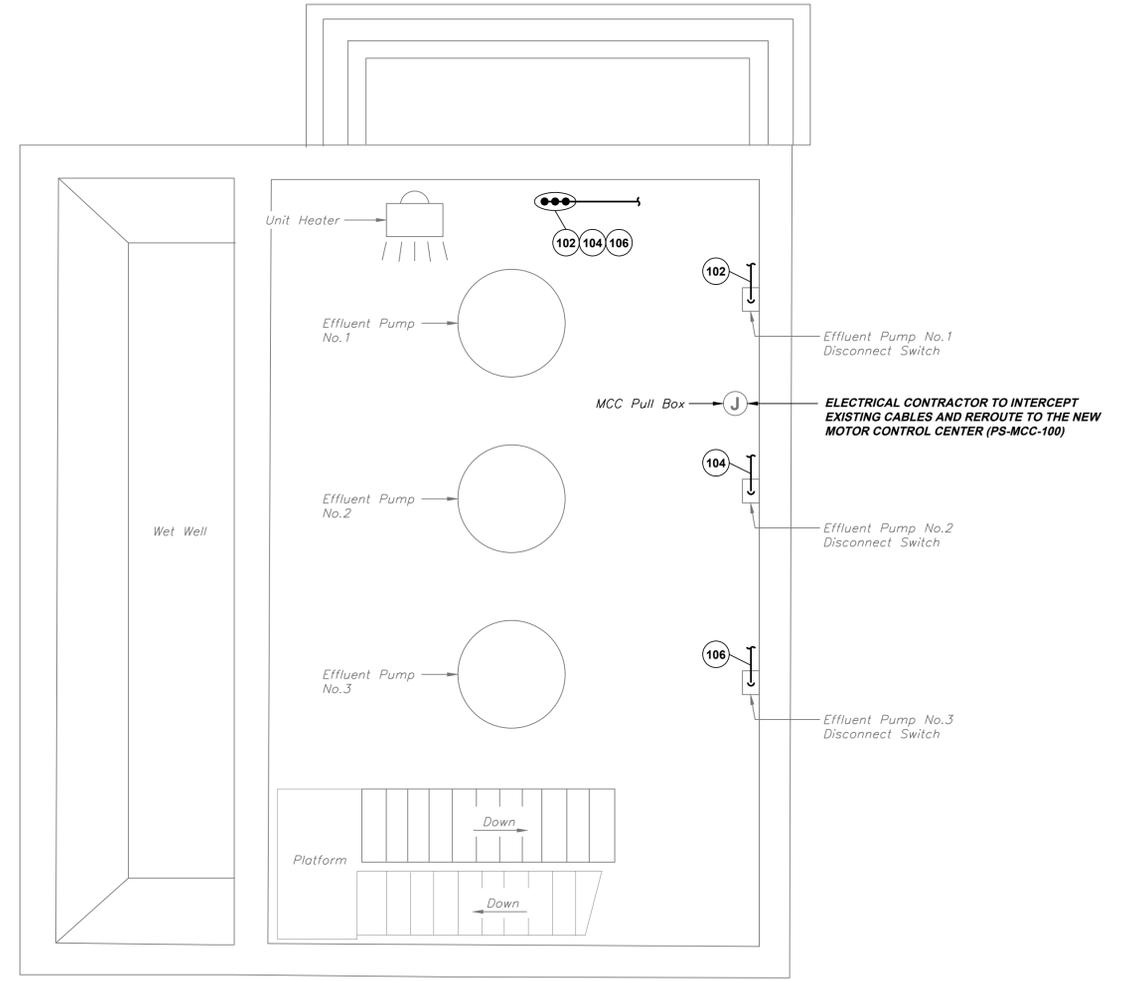


**NOTE:**

- THE ELECTRICAL CONTRACTOR SHALL AVOID SPLICING EXISTING POWER CABLES BY ARRANGING MOTOR CONTROL CENTER COMPARTMENTS BASED ON EXISTING CABLE ENTRIES AND LENGTHS. IF AFTER THE FINAL ARRANGEMENT IS COMPLETE AND EXISTING POWER CABLE IS TOO SHORT, THE CABLE SHALL BE PROPERLY SPLICED AND EXTENDED IN A PULLBOX OR MCC BOTTOM WIREWAY USING A UL LISTED CONNECTOR IN ACCORDANCE WITH CODE REQUIREMENTS IN SPECIFICATION 16120.

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Revisions

Date

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Date

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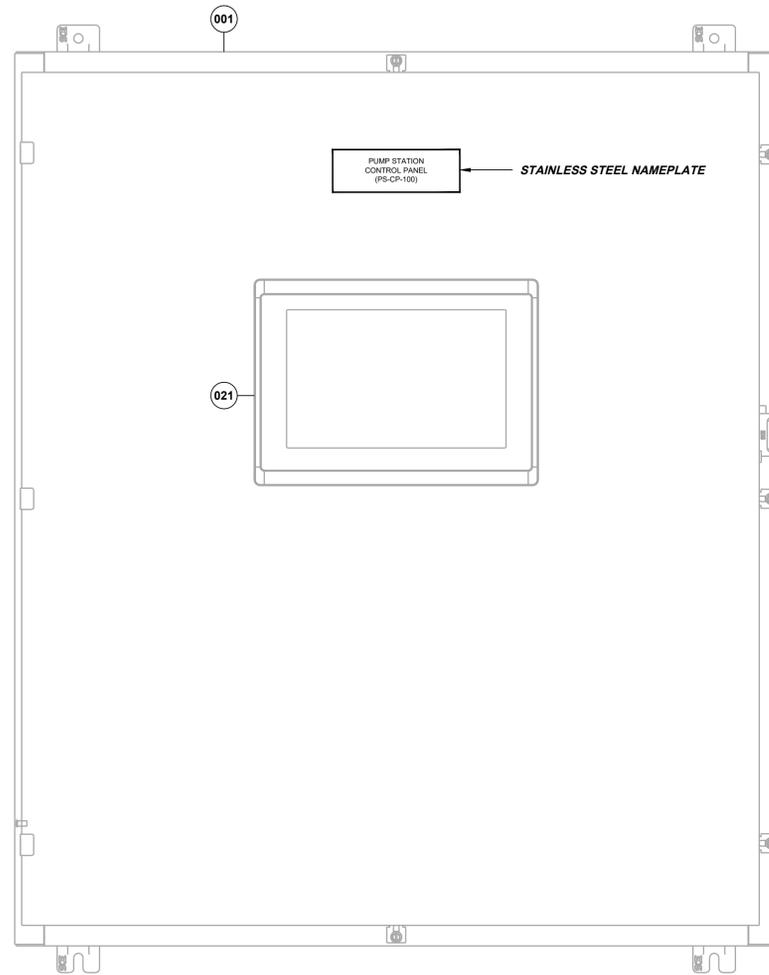
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946 RAILROAD AVENUE, MIDLAND, PA 15059  
MIDLAND WASTE WATER TREATMENT PLANT IMPROVEMENTS  
CONTRACT NO. 2024-2: ELECTRICAL CONSTRUCTION  
PUMP STATION PROPOSED ELECTRICAL PLANS

As Shown: APRIL 2024  
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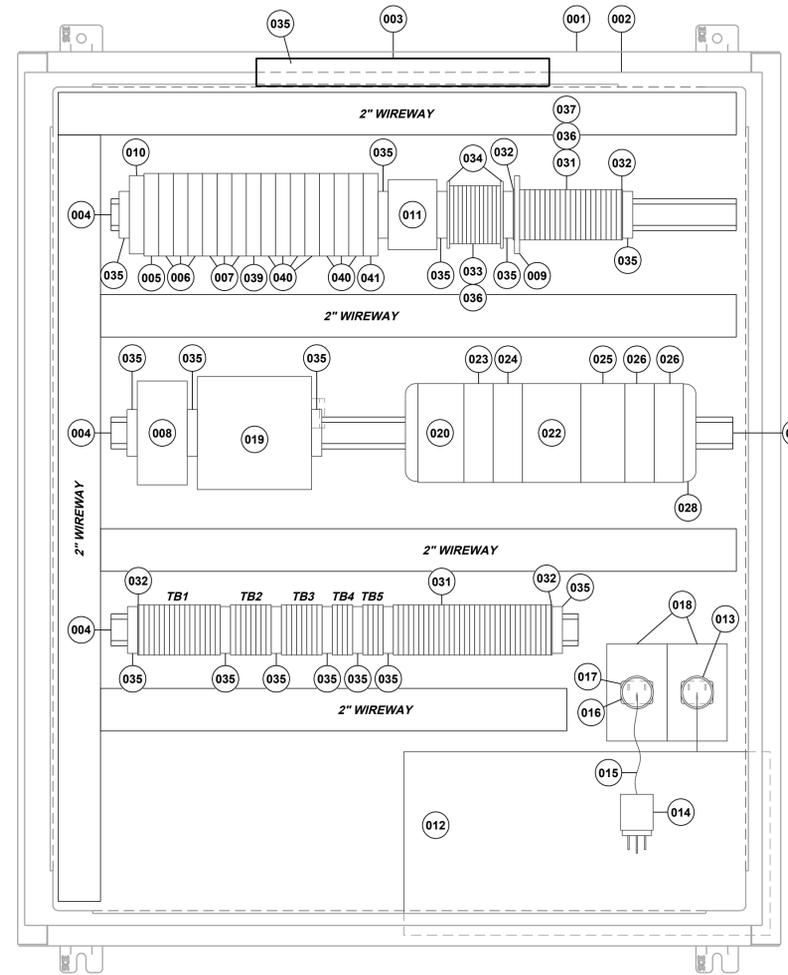
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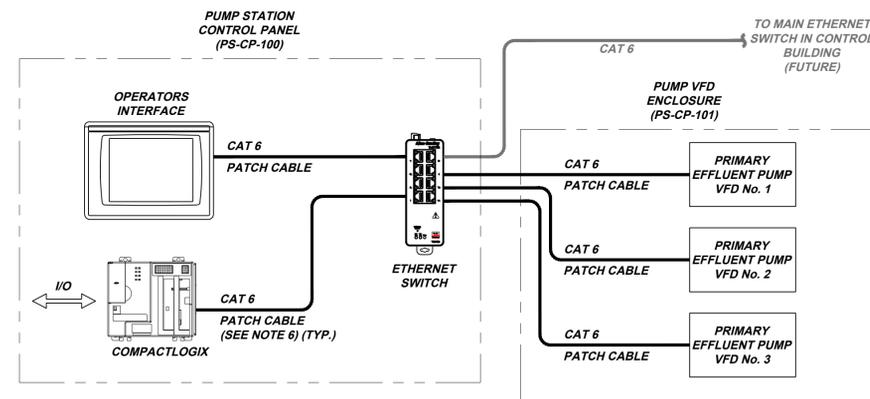


**PUMP STATION  
CONTROL PANEL (PS-CP-100)  
EXTERIOR LAYOUT PSE2-A**  
NOT TO SCALE



**PUMP STATION  
CONTROL PANEL (PS-CP-100)  
INTERIOR LAYOUT PSE2-B**  
NOT SHOWN TO SCALE

PUMP STATION CONTROL PANEL (PS-CP-100) BILL OF MATERIALS					
ITEM	QTY	DESCRIPTION	PRODUCT NUMBER*	MANUFACTURER*	REMARKS
001	1	ENCLOSURE (42" x 36" x 10") (NEMA TYPE 12)	SCE-42H3610LP	SAGINAW	* OR APPROVED EQUAL
002	1	ENCLOSURE SUB-PANEL	SCE-42P36	SAGINAW	* OR APPROVED EQUAL
003	1	LED LIGHTING PACKAGE	SCE-SLOF700	SAGINAW	* OR APPROVED EQUAL
004	AR	DIN RAIL	199-DR1	ALLEN-BRADLEY	* OR APPROVED EQUAL
005	1	277VAC/48VDC SINGLE POLE 20A CIRCUIT BREAKER	1492-SP1C200	ALLEN-BRADLEY	* OR APPROVED EQUAL
006	3	277VAC/48VDC SINGLE POLE 15A CIRCUIT BREAKER	1492-SP1C150	ALLEN-BRADLEY	* OR APPROVED EQUAL
007	3	277VAC/48VDC SINGLE POLE 5A CIRCUIT BREAKER	1492-SP1C050	ALLEN-BRADLEY	* OR APPROVED EQUAL
008	1	24VDC POWER SUPPLY	1606-XLE240E	ALLEN-BRADLEY	* OR APPROVED EQUAL
009	1	CONTROL RELAY 120VAC	700-HLT1U1	ALLEN-BRADLEY	* OR APPROVED EQUAL
010	1	120V SURGE PROTECTOR DEVICE	2907918	PHEONIX	* OR APPROVED EQUAL
011	1	CONVENIENCE RECEPTACLE	DMRBA	ALTECH	* OR APPROVED EQUAL
012	1	SMART UPS	SMT1500C	APC	* OR APPROVED EQUAL
013	1	120VAC 15A RECEPTACLE	5279-CWP	LEVITON	* OR APPROVED EQUAL
014	1	120VAC 15A PLUG	515PV	LEVITON	* OR APPROVED EQUAL
015	5 ft	3/C #14AWG SEOW CABLE	-	-	* OR APPROVED EQUAL
016	1	120VAC 15A CONNECTOR	515CV	LEVITON	* OR APPROVED EQUAL
017	1	120VAC 15A INLET	5278-CWP	LEVITON	* OR APPROVED EQUAL
018	2	UTILITY BOX *	-	-	* OR APPROVED EQUAL
		* SIZE TO FIT RECEPTACLES AND INLET			
019	1	8-PORT ETHERNET SWITCH	1783-LMS8	ALLEN-BRADLEY	* OR APPROVED EQUAL
020	1	COMPACTLOGIX CONTROLLER	1769-L30ER	ALLEN-BRADLEY	* OR APPROVED EQUAL
021	1	OPERATORS INTERFACE PANEL VIEW	2711P-TTC22D9P	ALLEN-BRADLEY	* OR APPROVED EQUAL
022	1	POWER SUPPLY	1769-PA4	ALLEN-BRADLEY	* OR APPROVED EQUAL
023	4	DIGITAL INPUT MODULE	1769-IQ16	ALLEN-BRADLEY	* OR APPROVED EQUAL
024	3	DIGITAL OUTPUT MODULE	1769-OW8I	ALLEN-BRADLEY	* OR APPROVED EQUAL
025	2	ANALOG INPUT MODULE	1769-IF8	ALLEN-BRADLEY	* OR APPROVED EQUAL
026	1	ANALOG OUTPUT MODULE	1769-OF4C1	ALLEN-BRADLEY	* OR APPROVED EQUAL
027					
028	1	COMPACT I/O END CAP RIGHT	1769-ECR	ALLEN-BRADLEY	* OR APPROVED EQUAL
029					
030					
031	AR	FEED THROUGH TERMINAL BLOCK	1492-J4	ALLEN-BRADLEY	* OR APPROVED EQUAL
032	AR	FEED THROUGH TERMINAL BLOCK END BARRIER	1492-EBJ3	ALLEN-BRADLEY	* OR APPROVED EQUAL
033	AR	TWO-CIRCUIT FEED THROUGH TERMINAL BLOCK	1492-JD3	ALLEN-BRADLEY	* OR APPROVED EQUAL
034	AR	TWO-CIRCUIT TERMINAL BLOCK END BARRIER	1492-EBJD3	ALLEN-BRADLEY	* OR APPROVED EQUAL
035	AR	TERMINAL BLOCK ANCHORS	1492-EA235	ALLEN-BRADLEY	* OR APPROVED EQUAL
036	4	TERMINAL BLOCK JUMPERS	1492-CJJS-10	ALLEN-BRADLEY	* OR APPROVED EQUAL
037	20	ONE-CIRCUIT FEED THROUGH GROUND	1492-JG3	ALLEN-BRADLEY	* OR APPROVED EQUAL
038	150	TERMINAL BLOCK LABELS	-	ALLEN-BRADLEY	* OR APPROVED EQUAL
039	1	277VAC/48VDC SINGLE POLE 3A CIRCUIT BREAKER	1492-SP1C030	ALLEN-BRADLEY	* OR APPROVED EQUAL
040	7	277VAC/48VDC SINGLE POLE 2A CIRCUIT BREAKER	1492-SP1C020	ALLEN-BRADLEY	* OR APPROVED EQUAL
041	1	277VAC/48VDC SINGLE POLE 1A CIRCUIT BREAKER	1492-SP1C010	ALLEN-BRADLEY	* OR APPROVED EQUAL



**NETWORK DETAIL PSE2-C**  
NOT SHOWN TO SCALE

**SCADA NOTES:**

1. THE CONTRACTOR AND/OR CONTROL PANEL SUPPLIER SHALL PROVIDE ALL REQUIRED COMPONENTS FOR A COMPLETE OPERATING SYSTEM. THIS SHALL INCLUDE ANY SPECIAL CABLING, WIRE, CONNECTORS, AUXILIARY DEVICES, ETC. THE BILL OF MATERIAL LIST MINIMUM REQUIRED COMPONENTS, BUT SHALL NOT BE CONSIDERED COMPLETE. PER THE SPECIFICATION, THE CONTRACTOR IS RESPONSIBLE FOR COORDINATION BETWEEN THE VARIOUS INSTRUMENT/EQUIPMENT SUPPLIERS AND THE CUSTOM CONTROL PANEL MANUFACTURER(S) TO ENSURE THAT ALL REQUIRED I/O AND ACCESSORIES ARE AVAILABLE TO MEET THE REQUIREMENTS OF THE SPECIFICATIONS.
2. ALL CONTROL PANELS SHALL BE UL 508A APPROVED.

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MIDLAND WASTE WATER TREATMENT PLANT IMPROVEMENTS  
CONTRACT NO. 2024-2: ELECTRICAL CONSTRUCTION  
PUMP STATION CONTROL PANEL (PS-CP-100) LAYOUT & DETAILS

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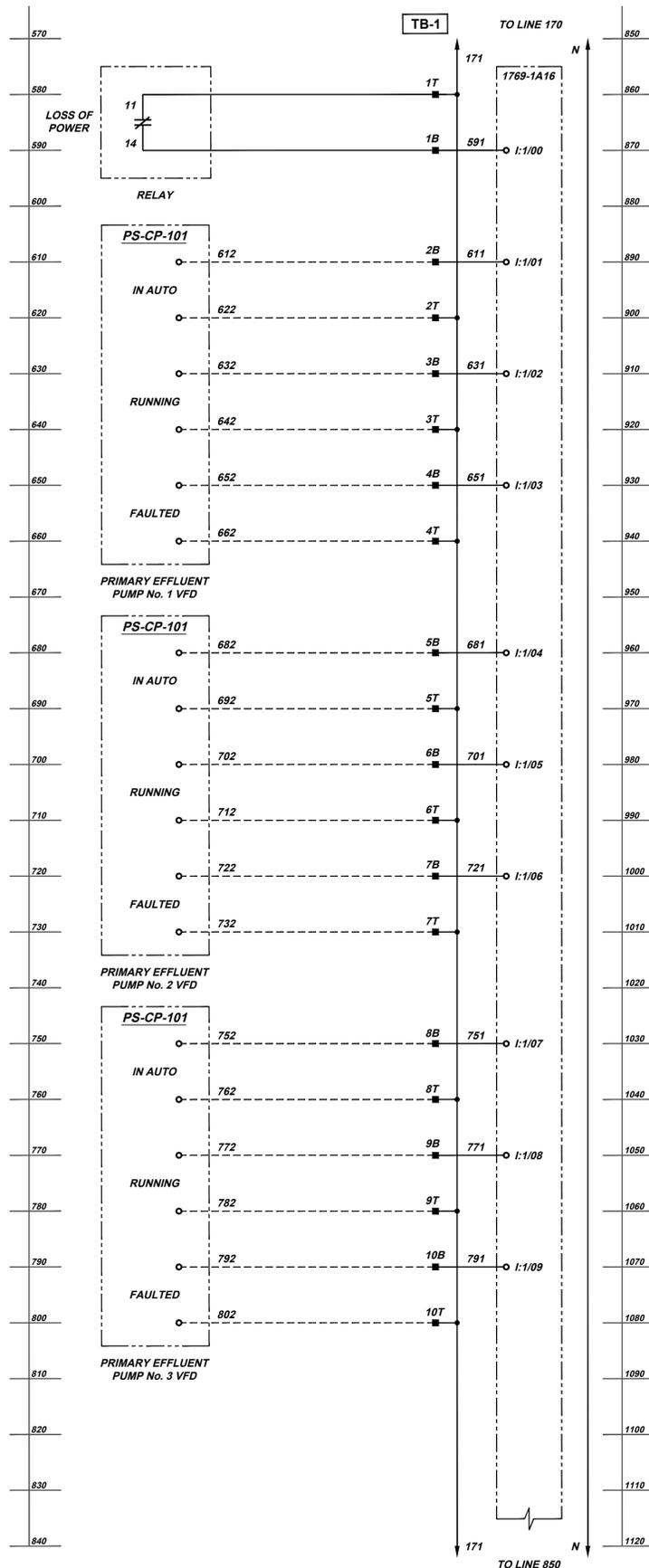
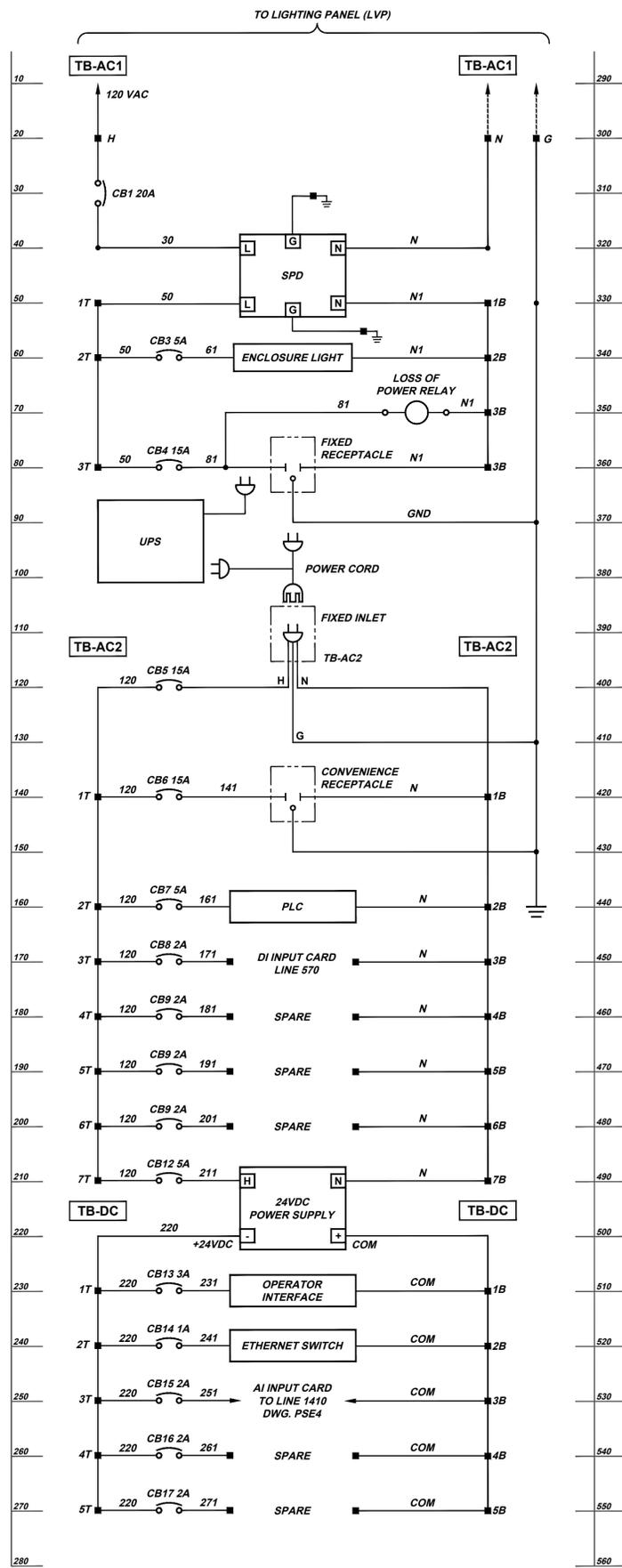
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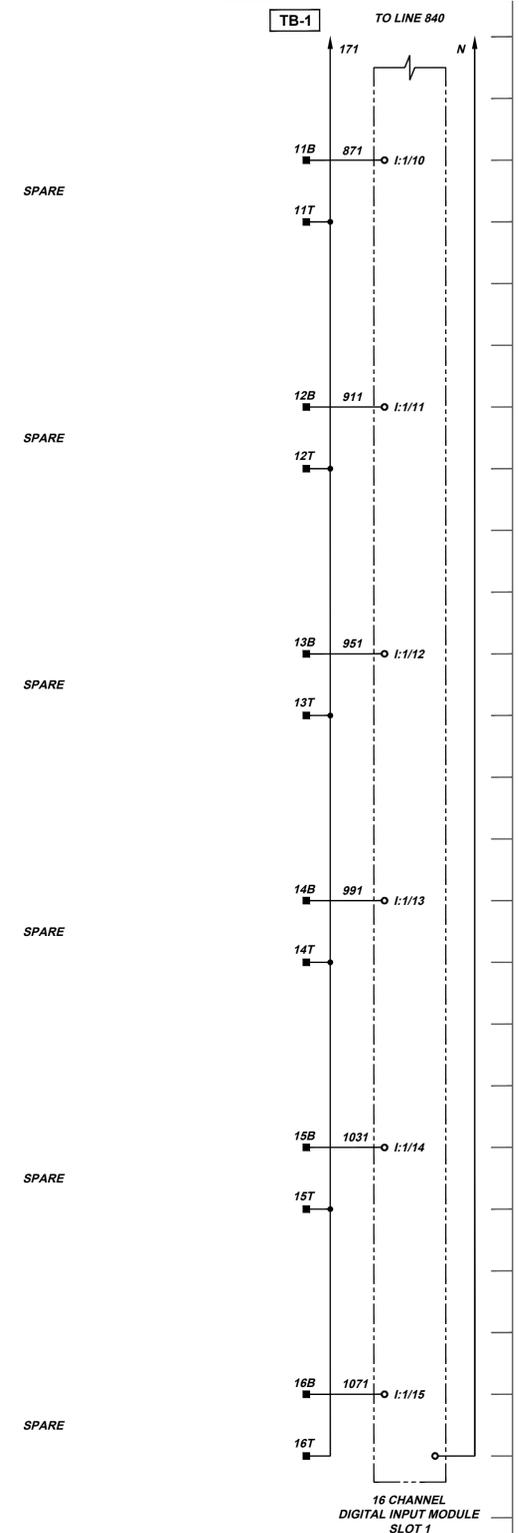
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**PUMP STATION CONTROL PANEL (PS-CP-100)**  
**SCADA SCHEMATIC SHEET 1 OF 2**  
NOT TO SCALE

Revisions	Date	Revisions	Date
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PUMP STATION CONTROL PANEL (PS-CP-100) SCHEMATICS SHEET 1 OF 2

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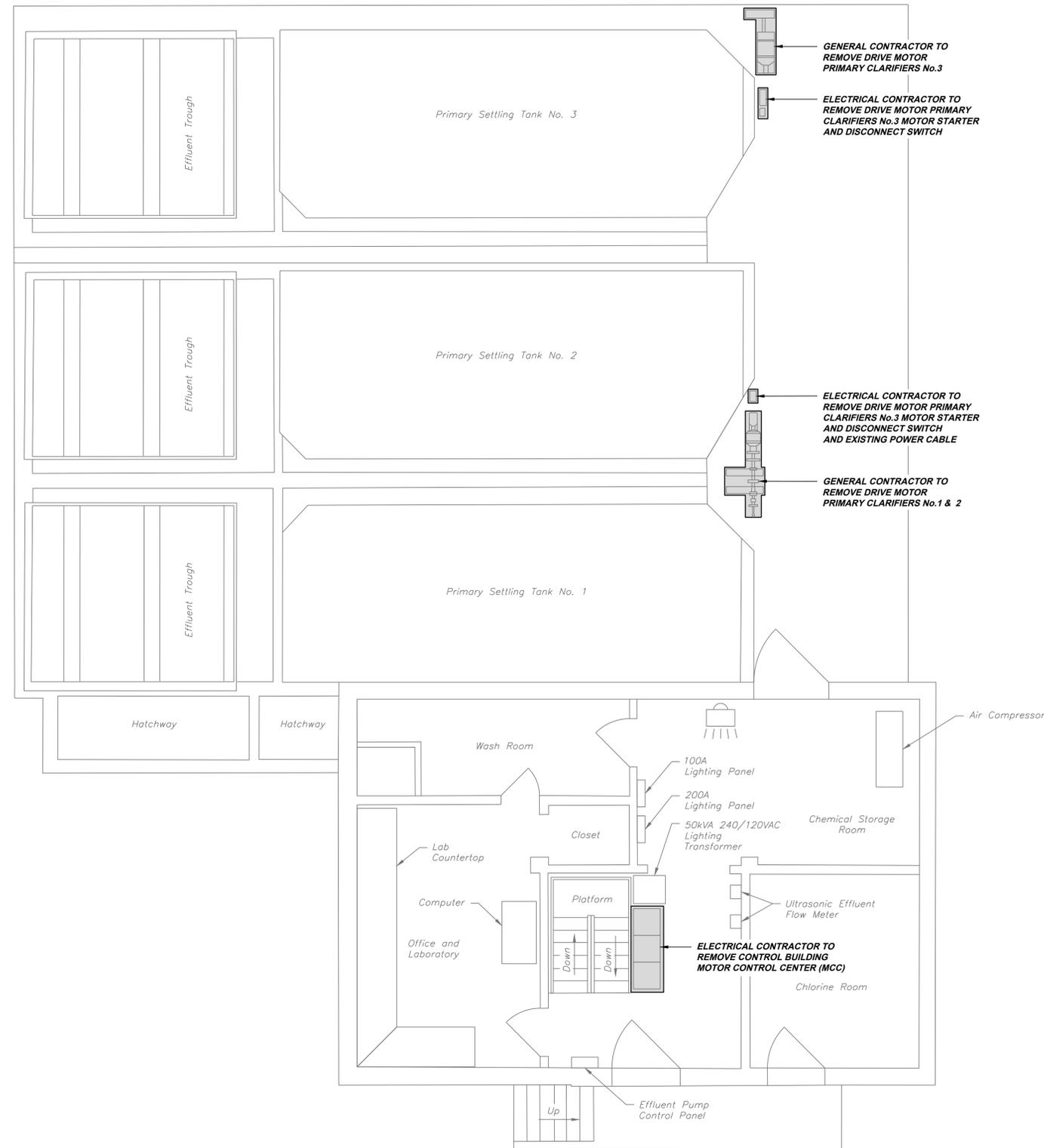
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**CONTROL BUILDING DEMOLITION  
 UPPER PLAN CBDM1-A**

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



**LEGEND**

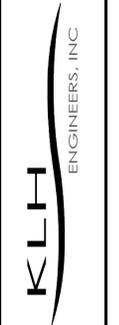
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 Drawing No. CBDM1  
 Sheet No. 17 of 28

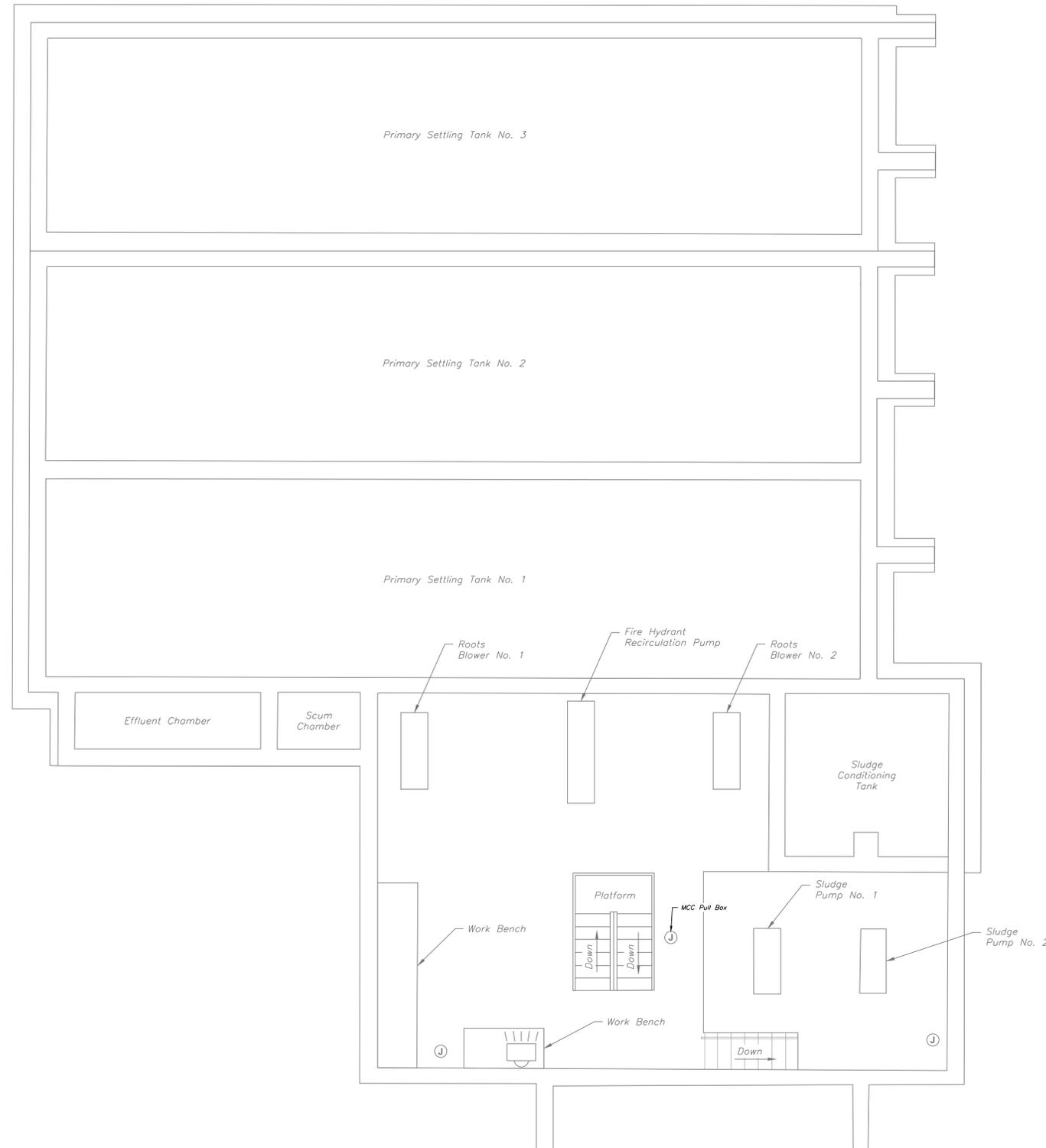
**MUNICIPAL AUTHORITY OF THE BOROUGH OF MIDLAND**  
 946 RAILROAD AVENUE, MIDLAND, PA 15059  
 MIDLAND WASTE WATER TREATMENT PLANT IMPROVEMENTS  
 CONTRACT NO. 2024-2: ELECTRICAL CONSTRUCTION  
 CONTROL BUILDING DEMOLITION UPPER PLAN



5173 Campbell Run Road  
 Pittsburgh, PA 15205  
 Phone: 412.494.0510  
 Fax: 412.494.0426  
 info@klhengineers.com

Revisions	Date	Revisions	Date
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**NOTE:**  
 ITEMS IDENTIFIED WITH UPPER CASE TEXT ARE PROPOSED.  
 Items Identified with Mixed Case Text are Existing.



**CONTROL BUILDING DEMOLITION  
 LOWER PLAN CBDM2-A**

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



**ELECTRICAL NOTES:**

1. THIS DRAWING IS PROVIDED FOR INFORMATION PURPOSES ONLY.

**TEMPORARY POWER NOTES:**

1. ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE AND MAINTAIN A TEMPORARY POWER SOURCE TO MAINTAIN PLANT OPERATION DURING THE REPLACEMENT OF THE POWER DISTRIBUTION EQUIPMENT.
2. ELECTRICAL CONTRACTOR TO INTERCEPT ANY 240VAC AND 120VAC CIRCUITS THAT ARE REQUIRED TO MAINTAIN PLANT OPERATION AND RE-ROUTE TO THE TEMPORARY POWER SOURCE EQUIPMENT UNTIL FINAL SWITCHOVER IS COMPLETE.

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As Shown	APRIL 2024	KAK	MB	JMG
Date:	Drawn By:	Checked By:	Approved By:	
Order No.	646-04	Drawing No.	CBDM2	
Sheet No.	18 of 28			

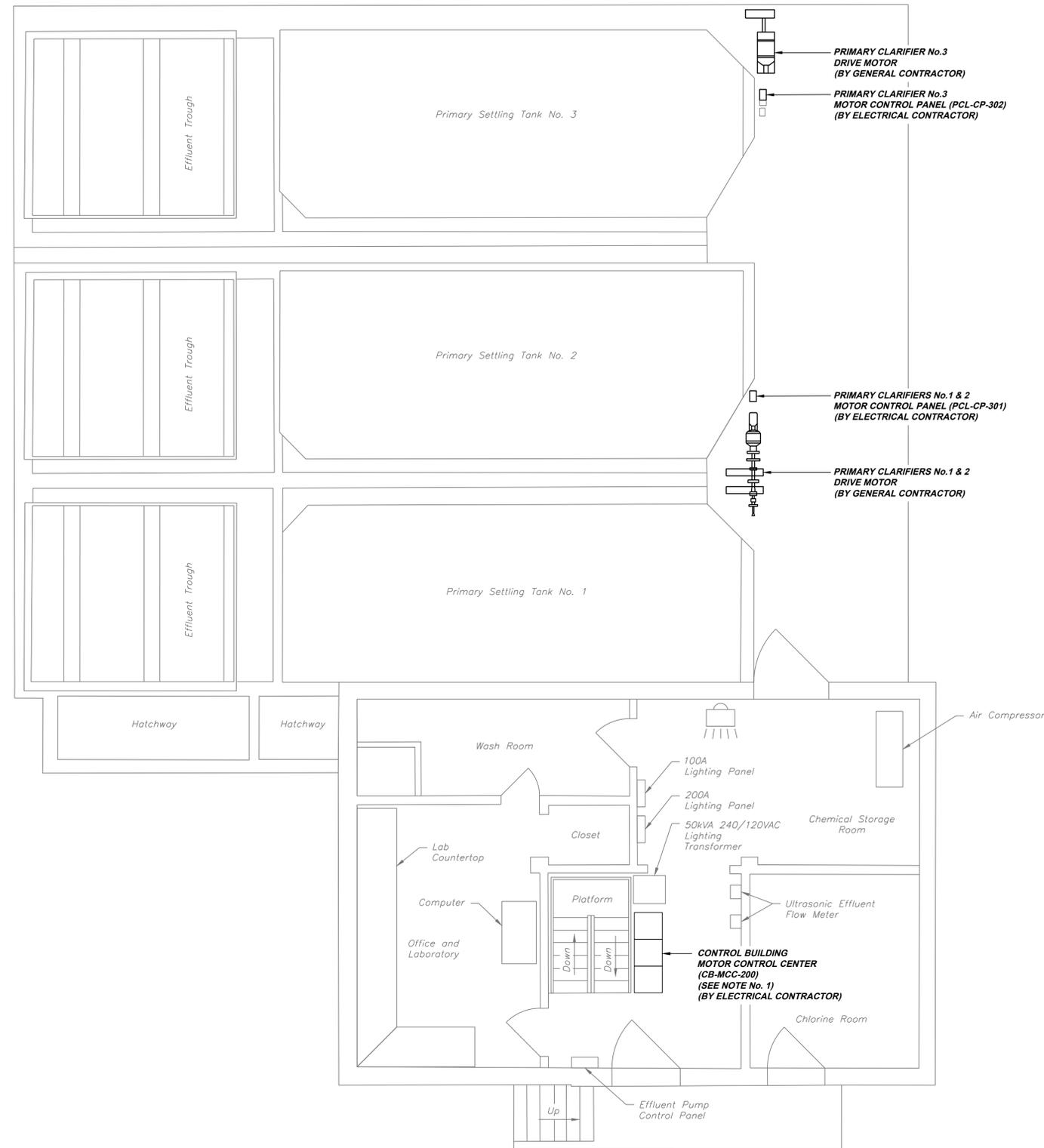
**MUNICIPAL AUTHORITY OF THE BOROUGH OF MIDLAND**  
 946 RAILROAD AVENUE, MIDLAND, PA 15059  
 MIDLAND WASTE WATER TREATMENT PLANT IMPROVEMENTS  
 CONTRACT NO. 2024-2: ELECTRICAL CONSTRUCTION  
 CONTROL BUILDING DEMOLITION LOWER PLAN



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Revisions	Date	Revisions	Date
ISSUED FOR BID	4/2024		

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**NOTE:**

1. THE ELECTRICAL CONTRACTOR SHALL AVOID SPLICING EXISTING POWER CABLES BY ARRANGING MOTOR CONTROL CENTER COMPARTMENTS BASED ON EXISTING CABLE ENTRIES AND LENGTHS. IF AFTER THE FINAL ARRANGEMENT IS COMPLETE AND EXISTING POWER CABLE IS TOO SHORT, THE CABLE SHALL BE PROPERLY SPLICED AND EXTENDED IN A PULLBOX OR MCC BOTTOM WIREWAY USING A UL LISTED CONNECTOR IN ACCORDANCE WITH CODE REQUIREMENTS IN SPECIFICATION 16120.

**TEMPORARY POWER NOTES:**

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**CONTROL BUILDING PROPOSED ELECTRICAL UPPER PLAN CBE1-A**

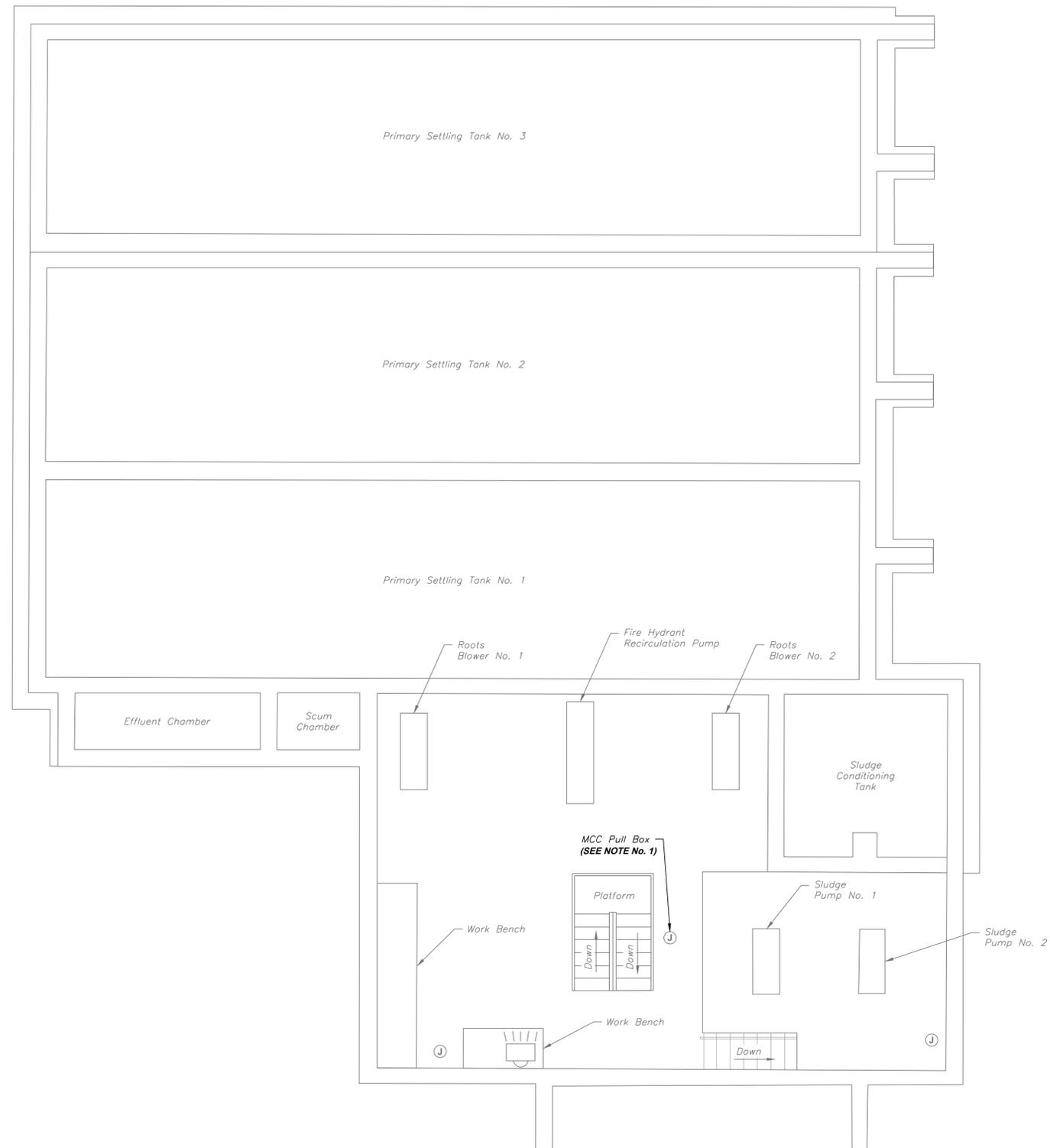
SCALE: 1/4" = 1'-0"



Revisions	Date	Revisions	Date
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5173 Campbell Run Road Pottsville, PA 17855 Phone: 412.494.0510 Fax: 412.494.0426 info@klhengineers.com			
<b>MUNICIPAL AUTHORITY OF THE BOROUGH OF MIDLAND</b> 946 RAILROAD AVENUE, MIDLAND, PA 15059 MIDLAND WASTE WATER TREATMENT PLANT IMPROVEMENTS CONTRACT NO. 2024-2: ELECTRICAL CONSTRUCTION <b>CONTROL BUILDING PROPOSED ELECTRICAL UPPER PLAN</b>			
As Shown	APRIL 2024		
Date:	Drawn By:	Checked By:	Approved By:
	KAK	MB	JMG
Order No.	646-04		
Drawing No.	CBE1		
Sheet No.	19 of 28		

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**NOTE:**  
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**NOTE:**

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**TEMPORARY POWER NOTES:**

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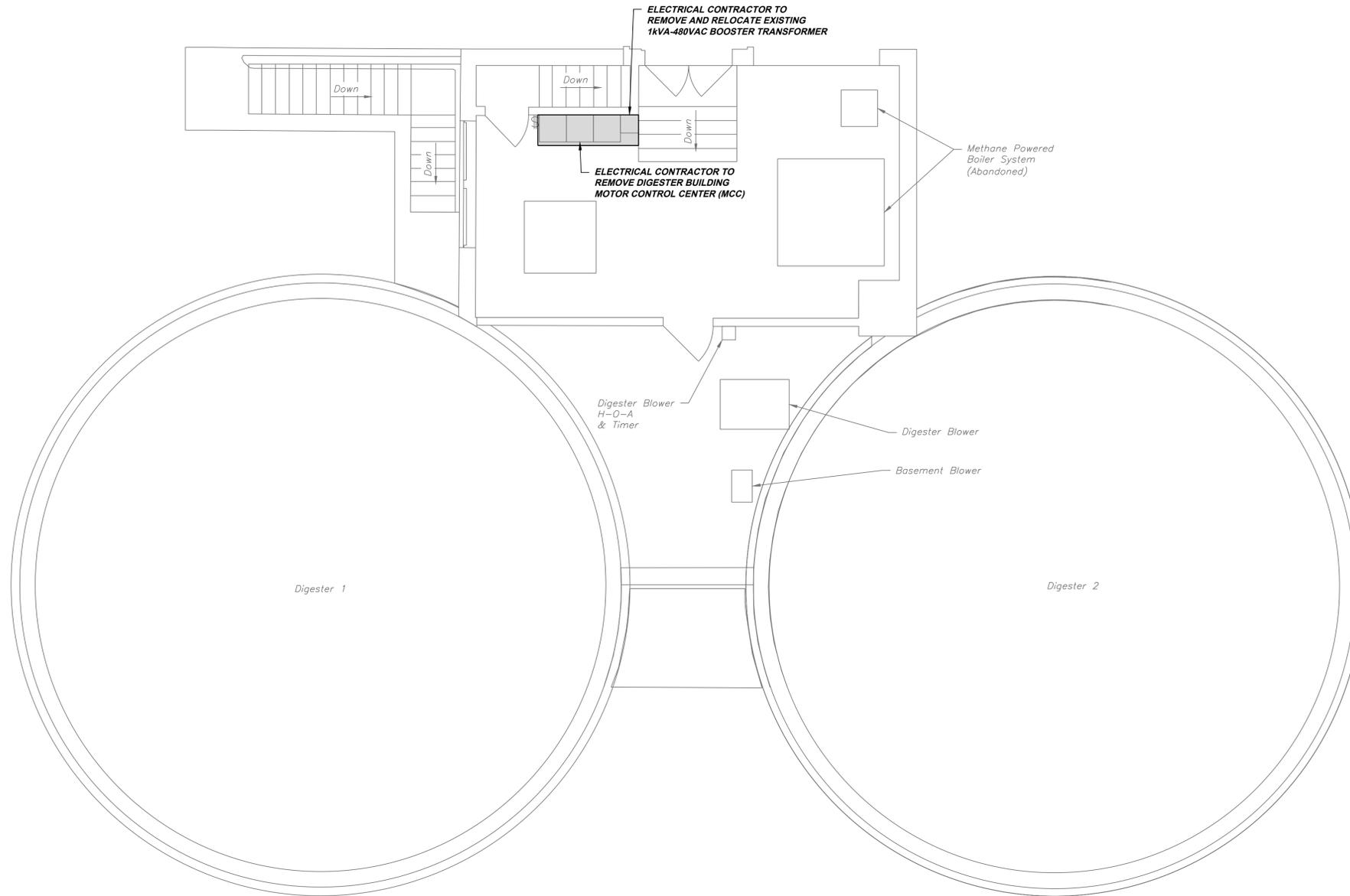
**CONTROL BUILDING PROPOSED ELECTRICAL LOWER PLAN CBE2-A**

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



As Shown	Revisions
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Drawn By:	Revisions
Checked By:	ISSUED FOR BID
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Drawing No.	Pittsburgh, PA 15205
Sheet No.	Phone: 412.494.0510
	Fax: 412.494.0426
	info@klhengineers.com
	<b>KLH ENGINEERS, INC.</b>
	<b>MUNICIPAL AUTHORITY OF THE BOROUGH OF MIDLAND</b>
	946 RAILROAD AVENUE, MIDLAND, PA 15059
	MIDLAND WASTE WATER TREATMENT PLANT IMPROVEMENTS
	CONTRACT NO. 2024-2: ELECTRICAL CONSTRUCTION
	CONTROL BUILDING PROPOSED ELECTRICAL LOWER PLAN

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 Items Identified with Mixed Case Text are Existing.



**DIGESTER BUILDING DEMOLITION  
 UPPER PLAN DBDM1-A**



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

**TEMPORARY POWER NOTES:**

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**LEGEND**

= ITEMS FOR DEMOLITION AND OR REMOVAL ON THIS DRAWING



As Shown: APRIL 2024  
 Date: APRIL 2024  
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 Checked By: MB  
 Approved By: JMG

Order No. 646-04

Drawing No. DBDM1

Sheet No. 21 of 28

**MUNICIPAL AUTHORITY OF THE BOROUGH OF MIDLAND**  
 946 RAILROAD AVENUE, MIDLAND, PA 15059  
 MIDLAND WASTE WATER TREATMENT PLANT IMPROVEMENTS  
 CONTRACT NO. 2024-2: ELECTRICAL CONSTRUCTION  
 DIGESTER BUILDING DEMOLITION UPPER PLAN

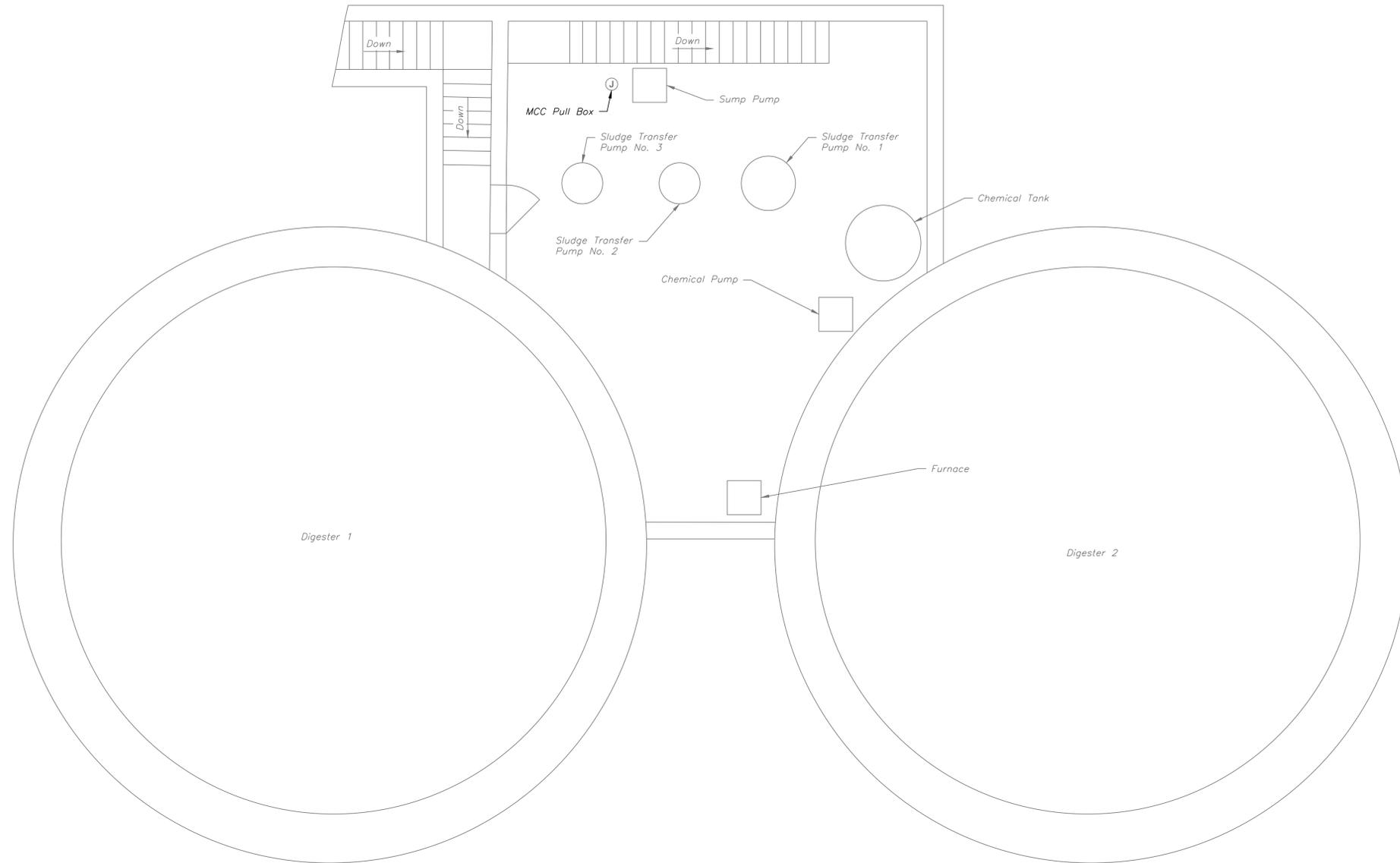


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4/2024	ISSUED FOR BID

Date	Revisions

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**DIGESTER BUILDING DEMOLITION  
 LOWER PLAN DBDM2-A**



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

**ELECTRICAL NOTES:**

1. THIS DRAWING IS PROVIDED FOR INFORMATION PURPOSES ONLY.

**TEMPORARY POWER NOTES:**

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As Shown: APRIL 2024  
 Date:  
 Drawn By: KAK  
 Checked By: MB  
 Approved By: JMG

Order No. 646-04  
 Drawing No. DBDM2  
 Sheet No. 22 of 28

**MUNICIPAL AUTHORITY OF THE BOROUGH OF MIDLAND**  
 946 RAILROAD AVENUE, MIDLAND, PA 15059  
 MIDLAND WASTE WATER TREATMENT PLANT IMPROVEMENTS  
 CONTRACT NO. 2024-2: ELECTRICAL CONSTRUCTION  
 DIGESTER BUILDING DEMOLITION LOWER PLAN



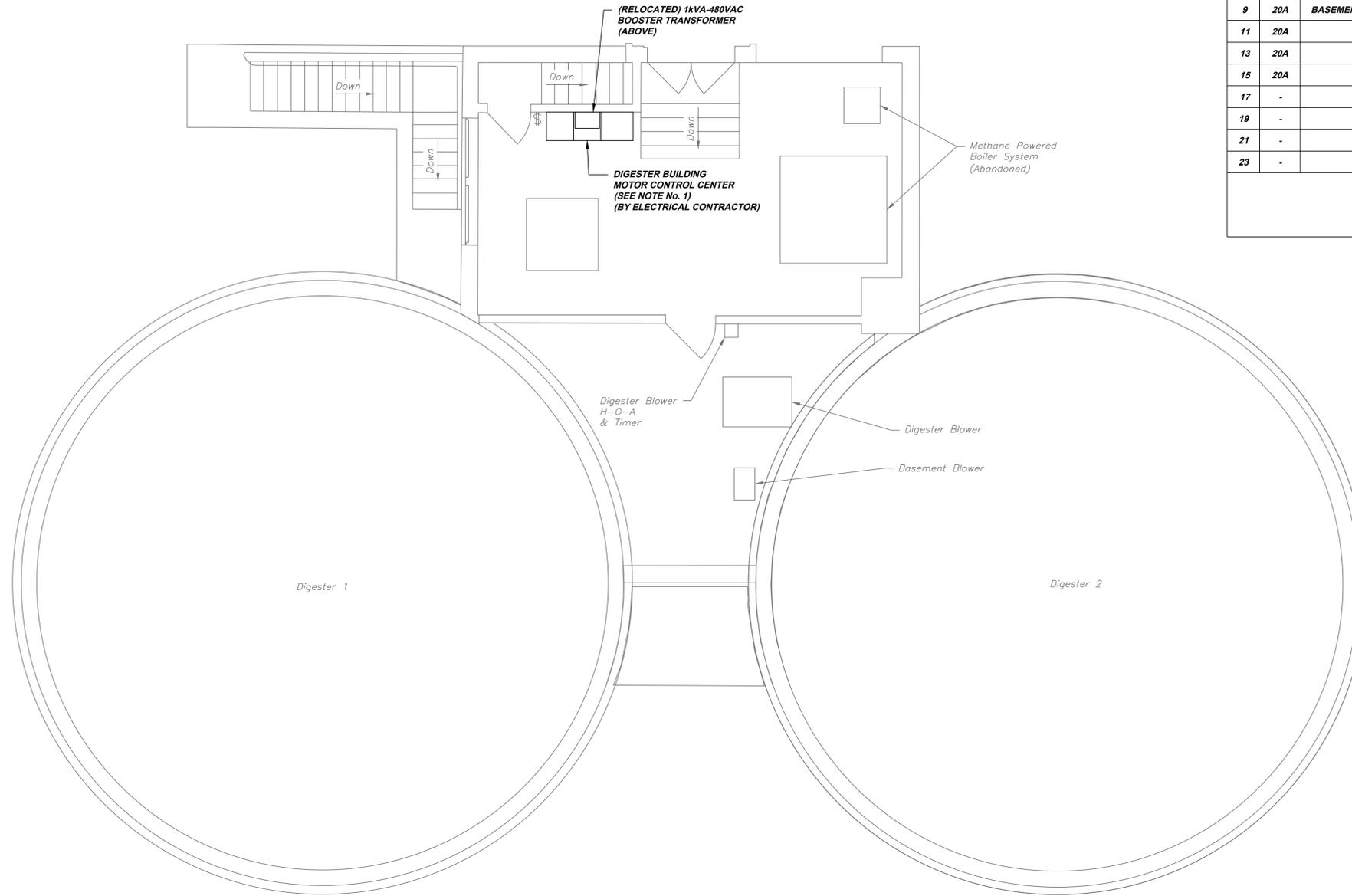
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Revisions	Date	Revisions	Date
ISSUED FOR BID	4/20/24		

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DIGESTER BUILDING LIGHTING PANEL (DB-LP-1)										
VOLTS, PHASE, WIRE:		PANEL SIZE & TYPE:	MAIN SIZE & TYPE:				CABINET:		REMARKS:	
240/120V, 1PH, 3W		125A	100A MCCB						INSIDE MCC	
NO	TRIP	DESCRIPTION	L1	L2	L1	L2	DESCRIPTION	TRIP	NO	
1	20A	BASEMENT LIGHTING	●	●	●	●	OUTSIDE STAIRWELL	20A	2	
3	20A	FIRST FLOOR REAR ROOM	●	●	●	●	FIRST FLOOR BOILER ROOM	20A	4	
5	20A	RECEPTACLES	●	●	●	●	FAN	20A	6	
7	20A	BASEMENT STAIRS	●	●	-	-	SPARE	20A	8	
9	20A	BASEMENT UNIT HEATER	●	●	-	-	SPARE	20A	10	
11	20A	SPARE	●	-	●	●	BLOWER CONTROL CIRCUIT	20A	12	
13	20A	SPARE	-	●	●	●	WET WELL LEVEL CONTROL PANEL	20A	14	
15	20A	SPARE	●	-	-	-	SPARE	20A	16	
17	-	SPACE	-	-	-	-	SPACE	-	18	
19	-	SPACE	-	-	-	-	SPACE	-	20	
21	-	SPACE	-	●	●	●	SPD	30A	21	
23	-	SPACE	-	-	-	-	SPD	30A	24	

INTEGRAL  
1P-3W SPD  
CATEGORY A



**NOTE:**

1. THE ELECTRICAL CONTRACTOR SHALL AVOID SPLICING EXISTING POWER CABLES BY ARRANGING MOTOR CONTROL CENTER COMPARTMENTS BASED ON EXISTING CABLE ENTRIES AND LENGTHS. IF AFTER THE FINAL ARRANGEMENT IS COMPLETE AND EXISTING POWER CABLE IS TOO SHORT, THE CABLE SHALL BE PROPERLY SPLICED AND EXTENDED IN A PULLBOX OR MCC BOTTOM WIREWAY USING A UL LISTED CONNECTOR IN ACCORDANCE WITH CODE REQUIREMENTS IN SPECIFICATION 16120.

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1. ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE AND MAINTAIN A TEMPORARY POWER SOURCE TO MAINTAIN PLANT OPERATION DURING THE REPLACEMENT OF THE POWER DISTRIBUTION EQUIPMENT.
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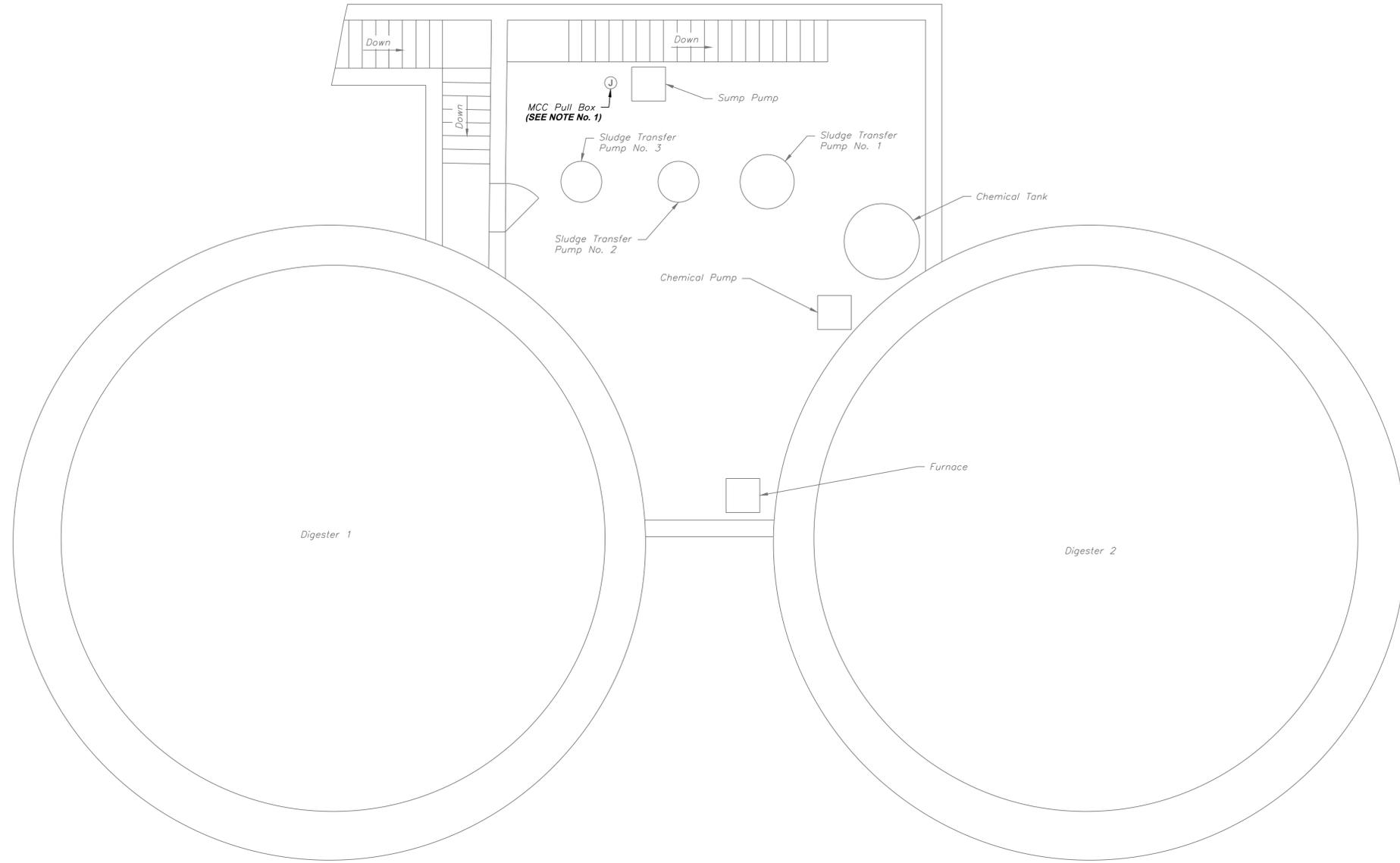
**DIGESTER BUILDING PROPOSED ELECTRICAL UPPER PLAN DBE1-A**

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



<b>KLH</b> ENGINEERS, INC.	<b>MUNICIPAL AUTHORITY OF THE BOROUGH OF MIDLAND</b> 946 RAILROAD AVENUE, MIDLAND, PA 15059 MIDLAND WASTE WATER TREATMENT PLANT IMPROVEMENTS CONTRACT NO. 2024-2: ELECTRICAL CONSTRUCTION DIGESTER BUILDING PROPOSED ELECTRICAL UPPER PLAN	As Shown APRIL 2024	Order No. <b>646-04</b>
Date: APRIL 2024	Drawn By: KAK	Checked By: MB	Drawing No. <b>DBE1</b>
Approved By: JMG	Date: 4/20/24	Revisions ISSUED FOR BID	Sheet No. <b>23 of 28</b>

**NOTE:**  
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 Items Identified with Mixed Case Text are Existing.



**DIGESTER BUILDING PROPOSED  
 ELECTRICAL LOWER PLAN DBE2-A**



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

**NOTE:**

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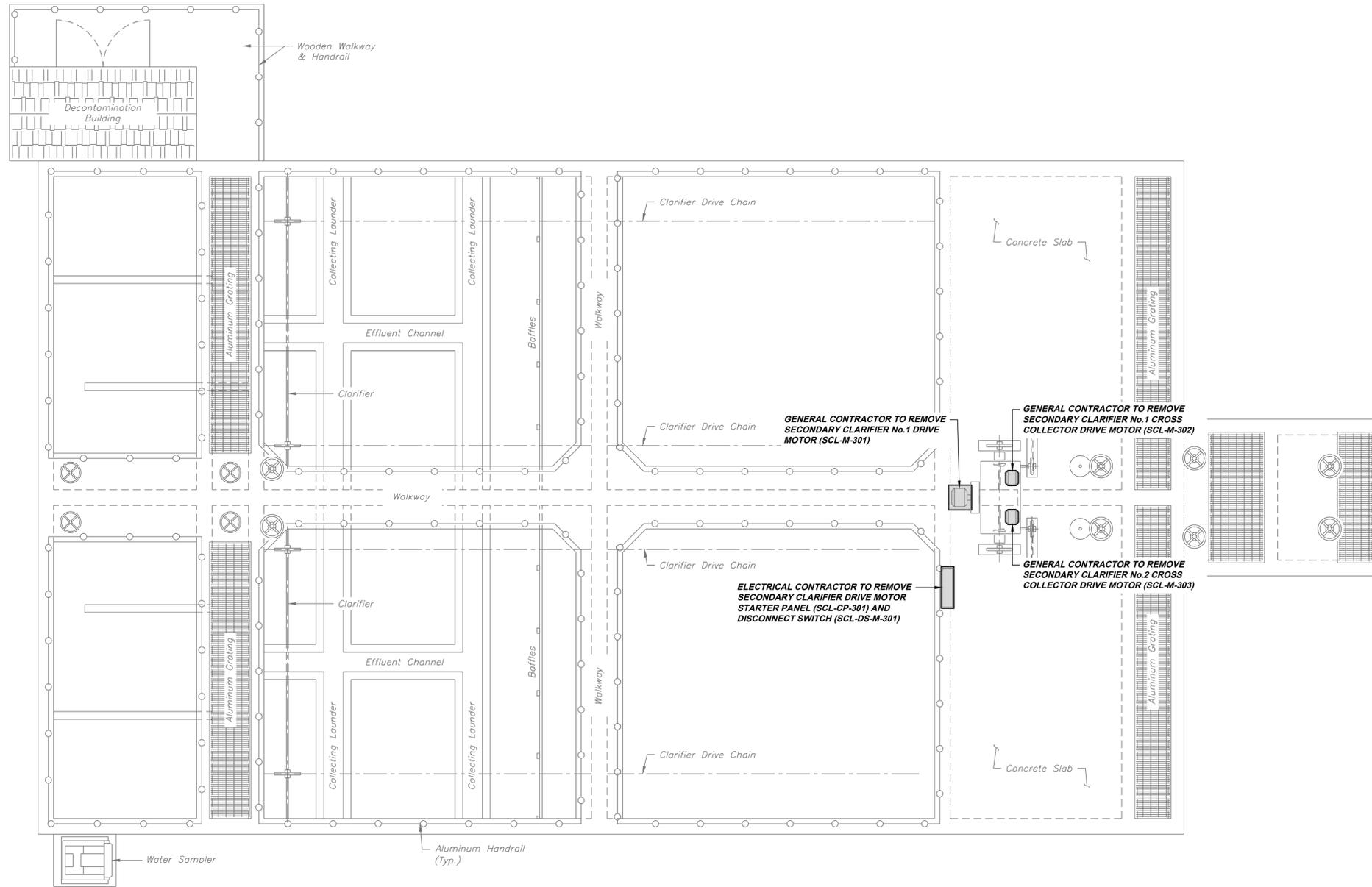


As Shown	Revisions
Date: APRIL 2024	Date
Drawn By: KAK	Revisions FOR BID
Checked By: MB	4/20/24
Approved By: JMG	ISSUED FOR BID
Order No. 646-04	Date
Drawing No. DBE2	5/7/24 Campbell Run Road Pittsburgh, PA 15205 Phone: 412.494.0510 Fax: 412.494.0426 info@klhengineers.com
Sheet No. 24 of 28	

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 946 RAILROAD AVENUE, MIDLAND, PA 15059  
 MIDLAND WASTE WATER TREATMENT PLANT IMPROVEMENTS  
 CONTRACT NO. 2024-2: ELECTRICAL CONSTRUCTION  
 DIGESTER BUILDING PROPOSED ELECTRICAL LOWER PLAN

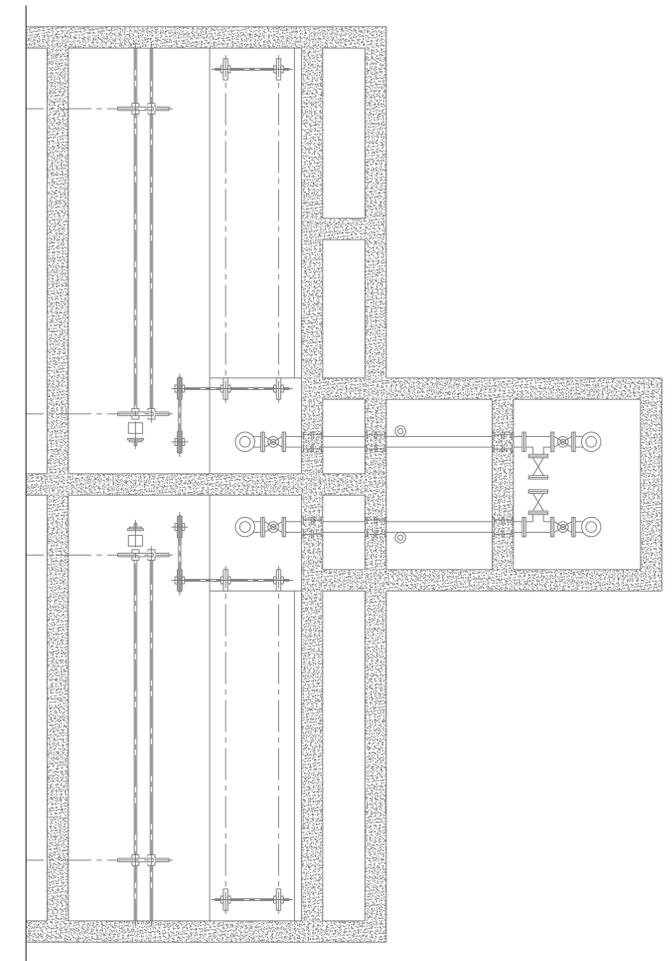


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**SECONDARY CLARIFIERS  
 UPPER DEMOLITION PLAN SCDM1-A**

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



**SECONDARY CLARIFIERS  
 UNDER DEMOLITION PLAN SCDM1-B**

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

**NOTE:**

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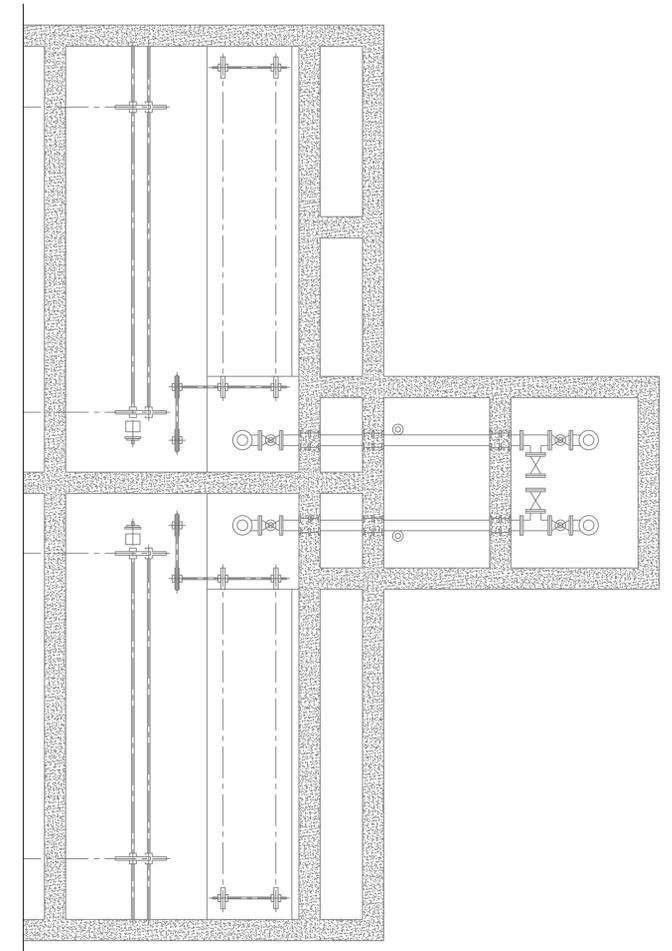
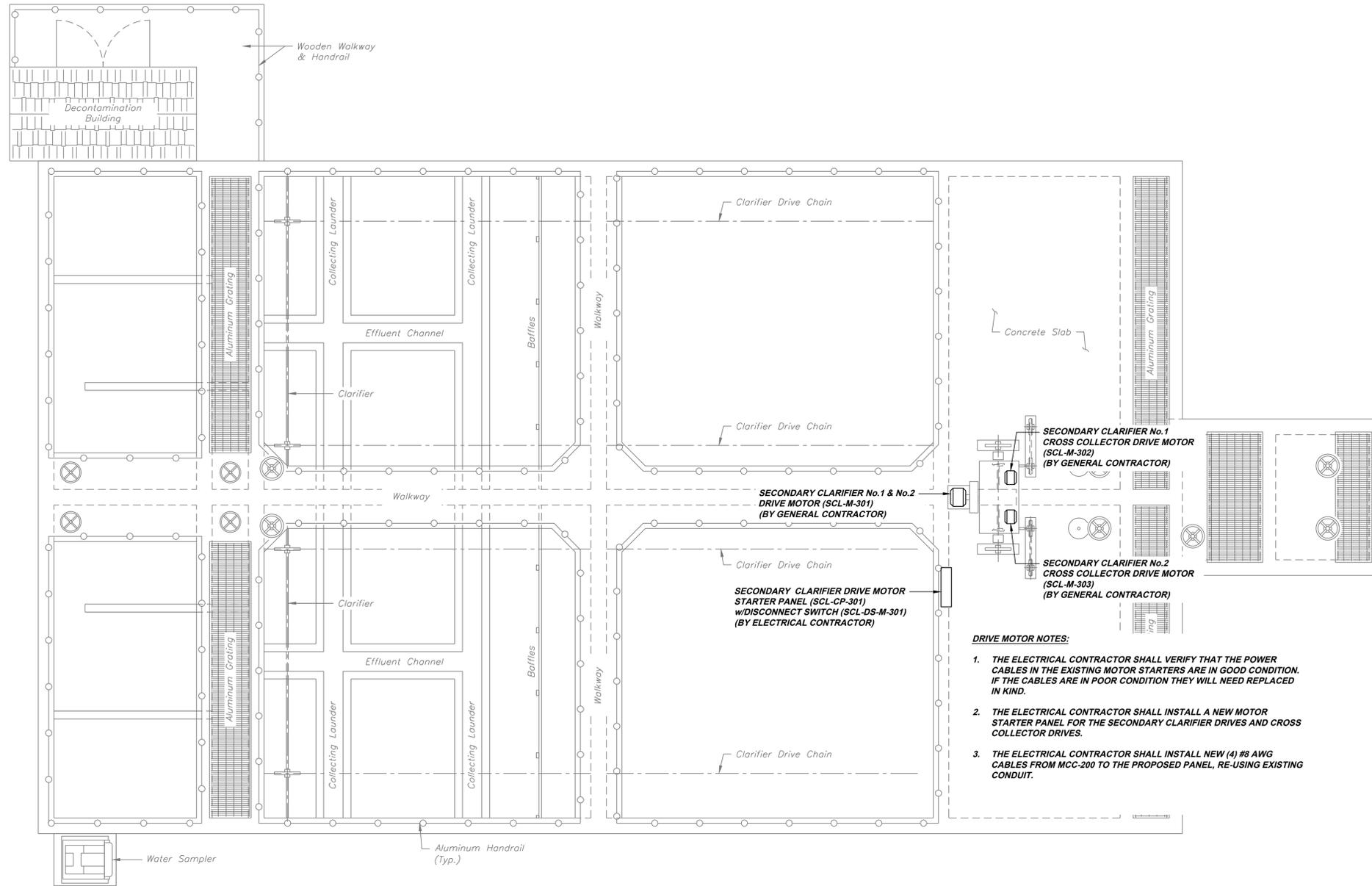
As Shown	Revisions
APRIL 2024	Date
MAS	ISSUED FOR BID
MAB	4/20/24
JMG	5/17/24
Order No.	646-04
Drawing No.	SCDM1
Sheet No.	25 of 28

**MUNICIPAL AUTHORITY OF THE BOROUGH OF MIDLAND**  
 946 RAILROAD AVENUE, MIDLAND, PA 15059  
 MIDLAND WASTE WATER TREATMENT PLANT IMPROVEMENTS  
 CONTRACT NO. 2024-2: ELECTRICAL CONSTRUCTION  
 SECONDARY CLARIFIER DEMOLITION



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 Items Identified with Mixed Case Text are Existing.



- DRIVE MOTOR NOTES:**
1. THE ELECTRICAL CONTRACTOR SHALL VERIFY THAT THE POWER CABLES IN THE EXISTING MOTOR STARTERS ARE IN GOOD CONDITION. IF THE CABLES ARE IN POOR CONDITION THEY WILL NEED REPLACED IN KIND.
  2. THE ELECTRICAL CONTRACTOR SHALL INSTALL A NEW MOTOR STARTER PANEL FOR THE SECONDARY CLARIFIER DRIVES AND CROSS COLLECTOR DRIVES.
  3. THE ELECTRICAL CONTRACTOR SHALL INSTALL NEW (4) #8 AWG CABLES FROM MCC-200 TO THE PROPOSED PANEL, RE-USING EXISTING CONDUIT.

**NOTE:**

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**SECONDARY CLARIFIERS  
 UPPER PLAN SCE1-A**

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

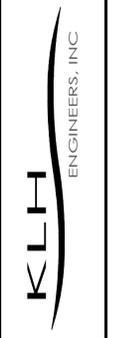
**SECONDARY CLARIFIERS  
 UNDER PLAN SCE1-B**

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



As Shown:	APRIL 2024	MAS	JMG
Date:	APRIL 2024	MAS	JMG
Drawn By:		MAB	
Checked By:			
Approved By:			
Order No.	646-04		
Drawing No.	SCE1		
Sheet No.	26 of 28		

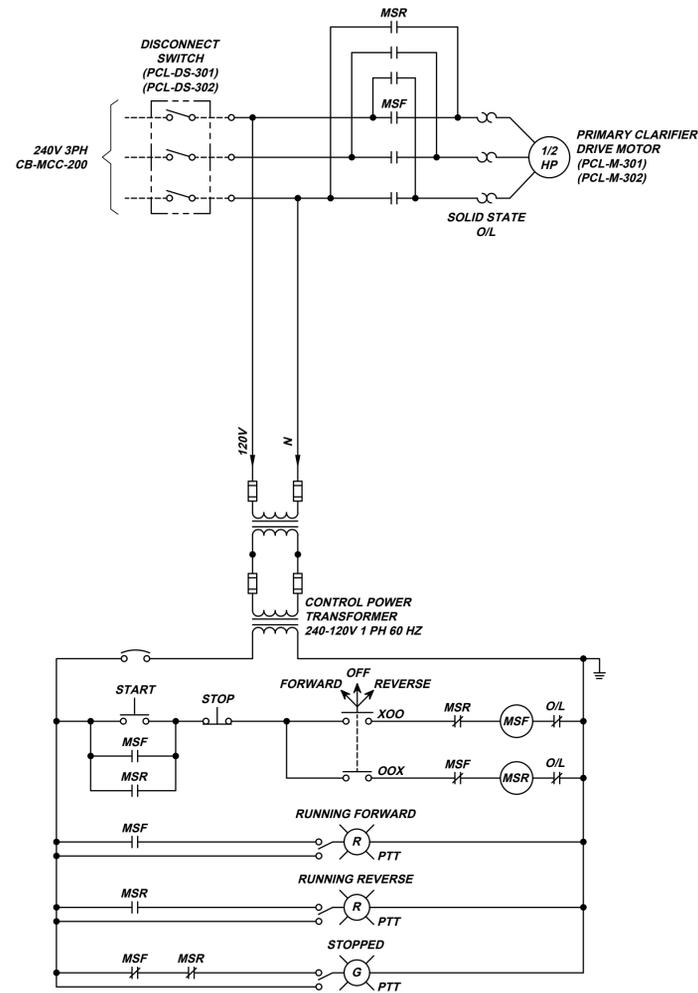
**MUNICIPAL AUTHORITY OF THE BOROUGH OF MIDLAND**  
 946 RAILROAD AVENUE, MIDLAND, PA 15059  
 MIDLAND WASTE WATER TREATMENT PLANT IMPROVEMENTS  
 CONTRACT NO. 2024-2: ELECTRICAL CONSTRUCTION  
 SECONDARY CLARIFIER PROPOSED



Revisions	Date	Revisions	Date
ISSUED FOR BID	4/20/24		
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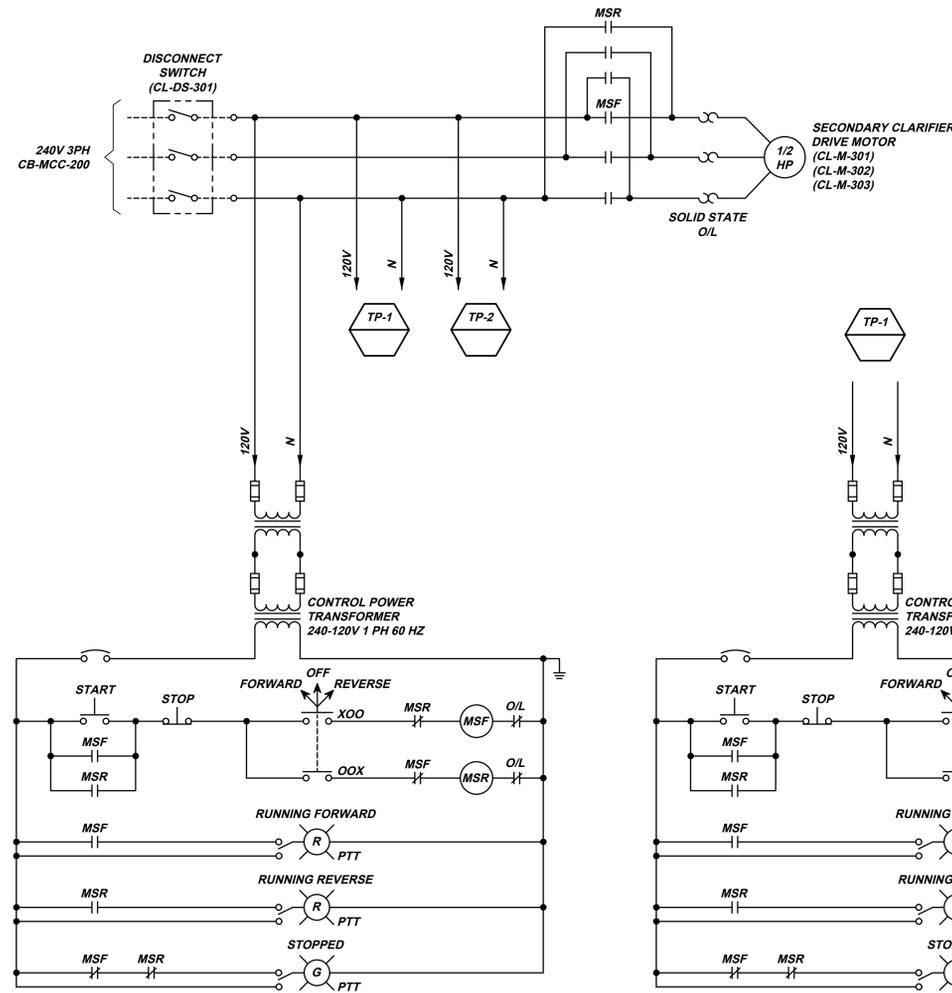
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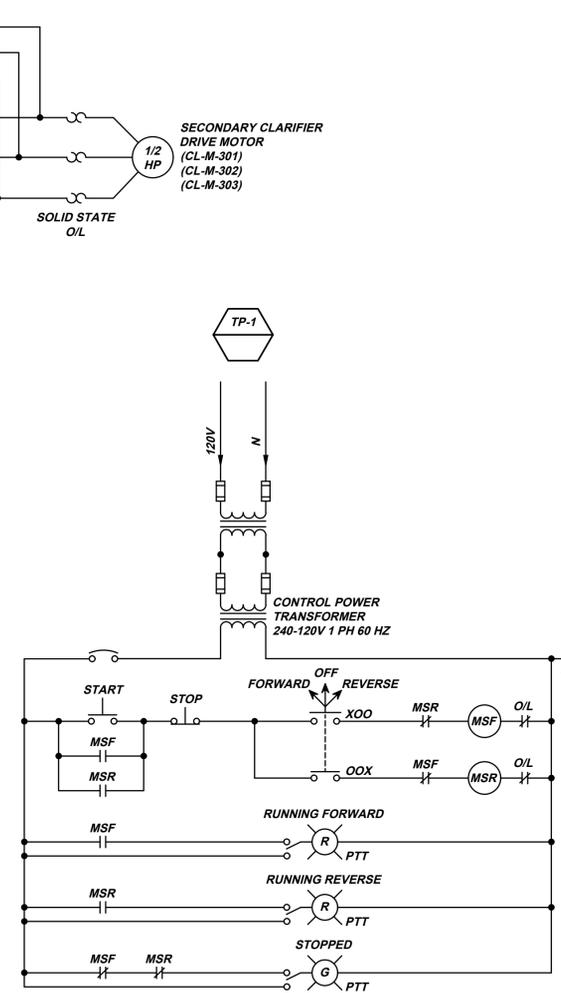
**PRIMARY CLARIFIER  
 DRIVE MOTOR  
 (PCL-M-301) & (PCL-M-302)  
 SCHEMATIC EDT1-A**

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



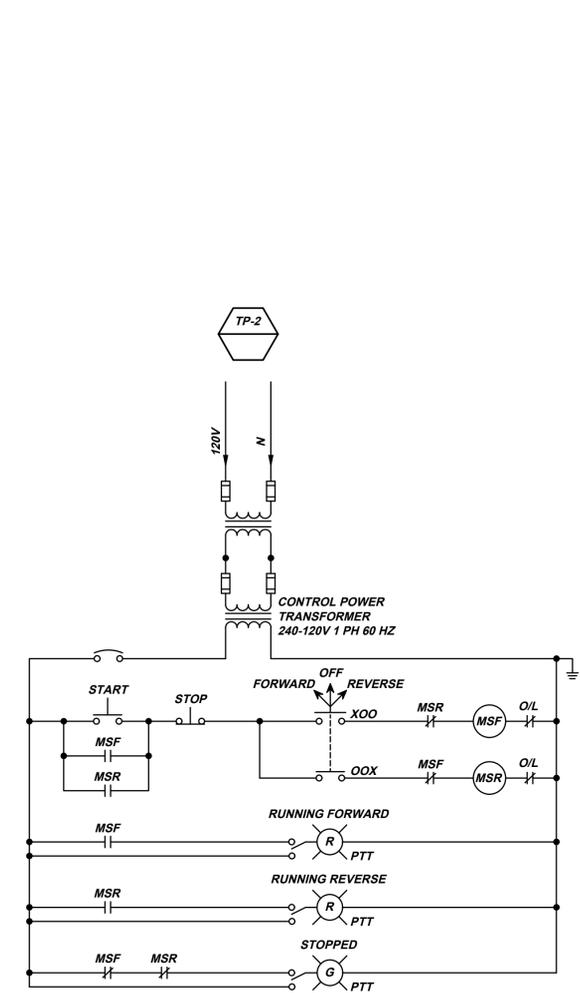
**SECONDARY CLARIFIER  
 DRIVE MOTOR  
 (CL-M-301)  
 SCHEMATIC EDT1-B**

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



**SECONDARY CLARIFIER  
 DRIVE MOTOR  
 (CL-M-302)  
 SCHEMATIC EDT1-C**

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



**SECONDARY CLARIFIER  
 DRIVE MOTOR  
 (CL-M-303)  
 SCHEMATIC EDT1-D**

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

**SCHEMATICS SYMBOL LEGEND**

- LOCAL WIRING
- - - - FIELD WIRING

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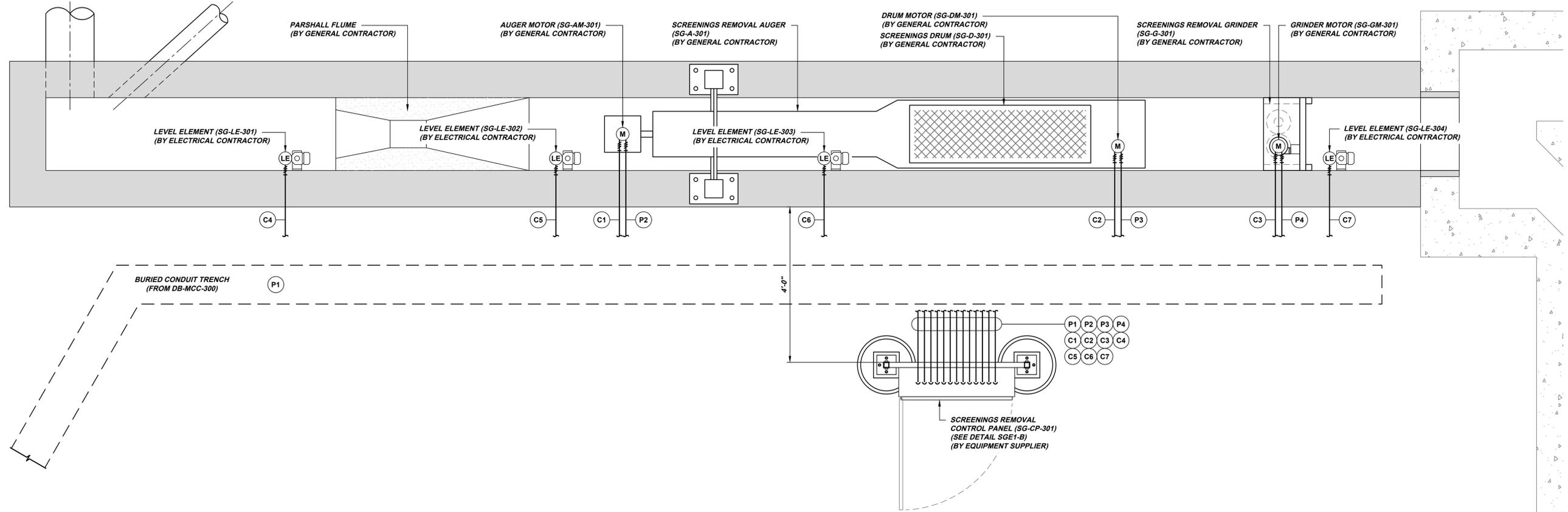
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Date:	APRIL 2024
Drawn By:	MAS
Checked By:	MAB
Approved By:	JMG
Order No.:	646-04
Drawing No.:	SCE2
Sheet No.:	27 of 28

**MUNICIPAL AUTHORITY OF THE BOROUGH OF MIDLAND**  
 946 RAILROAD AVENUE, MIDLAND, PA 15059  
 MIDLAND WASTE WATER TREATMENT PLANT IMPROVEMENTS  
 CONTRACT NO. 2024-2: ELECTRICAL CONSTRUCTION  
 SECONDARY CLARIFIER DRIVE MOTOR SCHEMATICS

5173 Campbell Run Road  
 Pittsburgh, PA 15205  
 Phone: 412.494.0510  
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**KLH ENGINEERS, INC.**

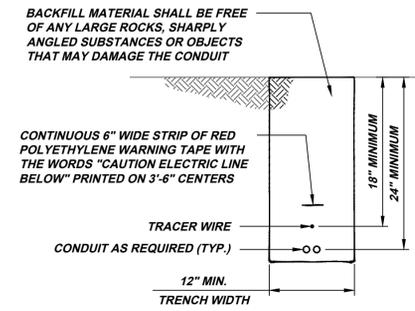
**NOTE:**  
 ITEMS IDENTIFIED WITH UPPER CASE TEXT ARE PROPOSED.  
 Items Identified with Mixed Case Text are Existing.



**SCREENINGS REMOVAL GRINDER  
 ELECTRICAL PLAN SGE1-A**

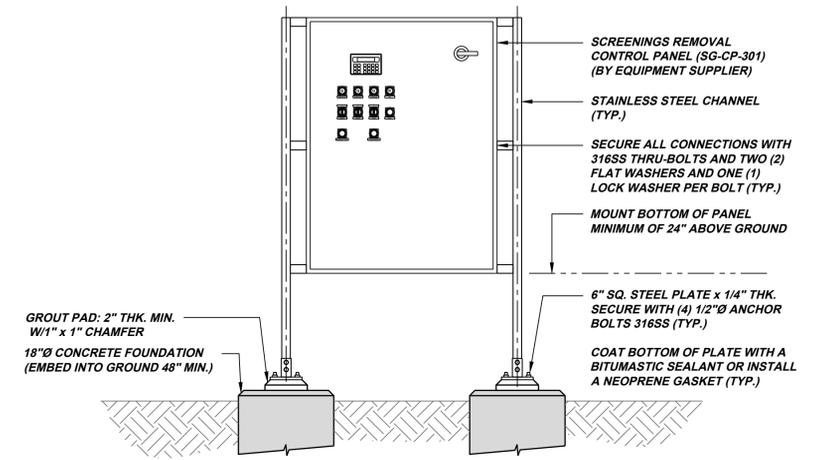
SCALE: 3/4" = 1'-0"

PROPOSED CONDUIT / CABLE SCHEDULE						
CONDUIT No.	FROM EQUIPMENT	TO EQUIPMENT	CABLE SIZE	CABLE TYPE	CONDUIT	REMARKS
			NOTE: ALL CABLE SHALL BE STRANDED COPPER			
P1	DIGESTER BUILDING MCC (DB-MCC-301)	SCREENING SYSTEM CONTROL PANE (SG-CP-301)	(4) #8 AWG	XHHW	1"	
P2	SCREENING SYSTEM CONTROL PANEL (SG-CP-301)	AUGER MOTOR (SG-AM-301)	(4) #12 AWG	XHHW	1"	
P3	SCREENING SYSTEM CONTROL PANEL (SG-CP-301)	DRUM MOTOR (SG-DM-301)	(4) #12 AWG	XHHW	1"	
P4	SCREENING SYSTEM CONTROL PANEL (SG-CP-301)	GRINDER MOTOR (SG-GM-301)	(4) #12 AWG	XHHW	1"	
C1	SCREENING SYSTEM CONTROL PANEL (SG-CP-301)	AUGER MOTOR (SG-AM-301)	(5) #14 AWG	XHHW	3/4"	
C2	SCREENING SYSTEM CONTROL PANEL (SG-CP-301)	DRUM MOTOR (SG-DM-301)	(5) #14 AWG	XHHW	3/4"	
C3	SCREENING SYSTEM CONTROL PANEL (SG-CP-301)	GRINDER MOTOR (SG-GM-301)	(5) #14 AWG	XHHW	3/4"	
C4	SCREENING SYSTEM CONTROL PANEL (SG-CP-301)	LEVEL ELEMENT (SG-LE-301) (UPSTREAM)	(1) #16 TWISTED SHIELDED PAIR	XHHW	3/4"	
C5	SCREENING SYSTEM CONTROL PANEL (SG-CP-301)	LEVEL ELEMENT (SG-LE-302) (DOWNSTREAM)	(1) #16 TWISTED SHIELDED PAIR	XHHW	3/4"	
C6	SCREENING SYSTEM CONTROL PANEL (SG-CP-301)	LEVEL ELEMENT (SG-LE-303) (UPSTREAM)	(1) #16 TWISTED SHIELDED PAIR	XHHW	3/4"	
C7	SCREENING SYSTEM CONTROL PANEL (SG-CP-301)	LEVEL ELEMENT (SG-LE-304) (DOWNSTREAM)	(1) #16 TWISTED SHIELDED PAIR	XHHW	3/4"	



**TYPICAL TRENCH  
 DETAIL SGE1-C**

NOT SHOWN TO SCALE



**SCREENINGS REMOVAL CONTROL  
 PANEL MOUNTING DETAIL SGE1-B**

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



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 SCREENINGS REMOVAL GRINDER ELECTRICAL PLAN

As Shown: APRIL 2024  
 Date: APRIL 2024  
 Drawn By: MAS  
 Checked By: MAB  
 Approved By: JMG

Order No. 646-04  
 Drawing No. SGE1  
 Sheet No. 28 of 28



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Revisions	Date
ISSUED FOR BID	4/20/24