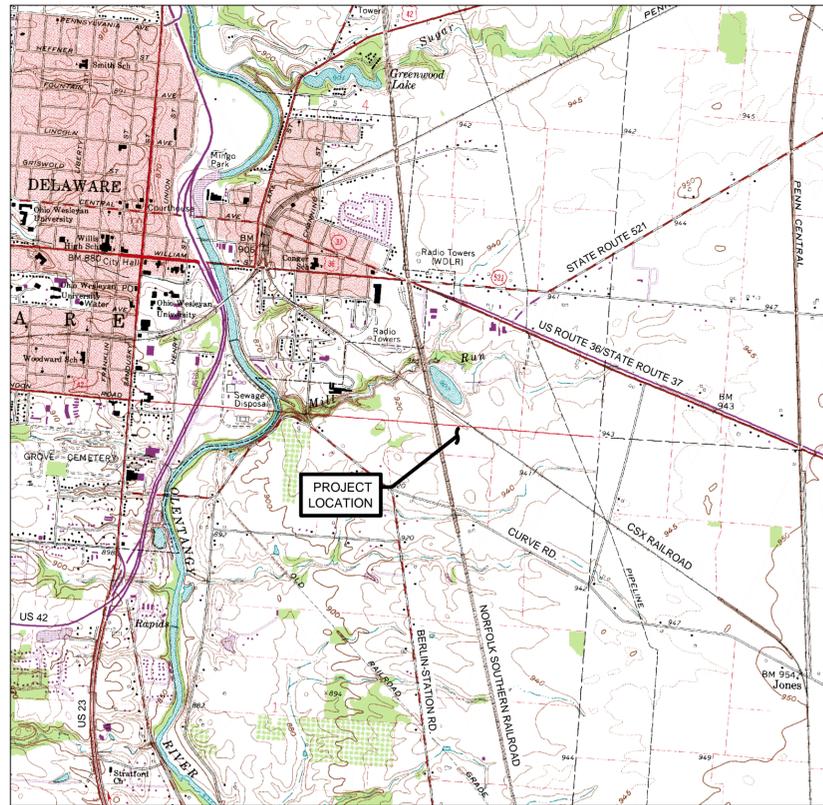


# CITY OF DELAWARE, OHIO CURVE ROAD LANDFILL LEACHATE TRANSFER SYSTEM DELAWARE COUNTY DECEMBER 2014

**BURGESS & NIPLÉ**  
5085 REED ROAD  
COLUMBUS, OHIO 43220

CITY OF DELAWARE, OHIO  
CURVE ROAD LANDFILL  
LEACHATE TRANSFER SYSTEM  
DELAWARE COUNTY  
DECEMBER 2014





**City of  
Delaware  
Ohio**

*Chad Green*

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CHAD W. GREEN, P.E.  
PROJECT MANAGER  
OHIO REGISTERED PROFESSIONAL ENGINEER NO. E-73157

12/10/14

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DATE

*Brad Stanton*

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BRAD STANTON  
DIRECTOR OF PUBLIC UTILITIES

12/10/14

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DATE

APPROVAL OF THESE PLANS DOES NOT CONSTITUTE ASSURANCE TO OPERATE AS INTENDED. THE REVIEWER DOES NOT ACCEPT RESPONSIBILITY FOR THE INTEGRITY OF THE PLANS.

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VICINITY MAP  
SCALE: 1" = 2000'



NO.	DESCRIPTION	DATE

JOB NO: 53387  
DATE: DEC. 2014  
DESIGNED BY: BWT  
DRAWN BY: RVZ  
CHECKED BY: MEL  
APPROVED BY: BWT  
SCALE: NOTED

TITLE SHEET

01

SHEET: 01 OF 22

**ABBREVIATIONS**

@	AT
BLDG	BUILDING
BM	BENCH MARK
CB	CATCH BASIN
CF	CUBIC FEET
CL	CENTERLINE
C/C	CENTERLINE TO CENTERLINE
CONC	CONCRETE
CY	CUBIC YARD
DIA	DIAMETER
DWG	DRAWING
EA	EACH
EL.,ELEV	ELEVATION
EW	EACH WAY
EXIST	EXISTING
FIN	FINISHED
FH	FIRE HYDRANT
FT	FEET OR FOOT
GAL	GALLON
GRD	GROUND OR GRADE
HDPE	HIGH DENSITY POLYETHYLENE
HWL	HIGH WATER LEVEL
ID	INSIDE DIAMETER
INV	INVERT
LF	LINEAL FEET
LWL	LOW WATER LEVEL
MAX	MAXIMUM
MGD	MILLION GALLONS PER DAY
MH	MANHOLE
MIN	MINIMUM, MINUTE
NC	NORMALLY CLOSED
NO	NORMALLY OPEN
NWL	NORMAL WATER LEVEL
OC	ON CENTER
OD	OUTSIDE DIAMETER
PE	POLYETHYLENE
PSI	POUNDS PER SQUARE INCH
PVC	POLYVINYL CHLORIDE
SAN	SANITARY
SAS	SANITARY SEWER
STA	STATION
STD	STANDARD
S STL	STAINLESS STEEL
SY	SQUARE YARD
TC	TOP OF CASTING
TYP	TYPICAL
VCP	VITRIFIED CLAY PIPE
W/	WITH
W/O	WITHOUT

**SITE PLAN SYMBOLS**

	LEACHATE TRANSFER LINE
	PERFORATED TOE DRAIN
	EDGE OF WETLAND
	FENCE
	GUARDRAIL
	PROPERTY LINE
	SURVEY BASE LINE
	CENTERLINE
	RIGHT-OF-WAY
	EXISTING WATERLINE
	NEW WATERLINE
	LIMIT OF WASTE
	NEW CONTOUR
	EXISTING CONTOUR
	CONSTRUCTION SILT FENCE
	NEW GRADE SPOT ELEVATION
	EXISTING GRADE SPOT ELEVATION
	EDGE OF WATER
	DRAINAGE FLOW
	CATCH BASIN
	LEACHATE MANHOLE
	BOLLARD
	VALVE BOX
	FIRE HYDRANT
	YARD HYDRANT
	WATER METER
	IRON PIN (SET)
	IRON PIN (FOUND)
	BENCHMARK
	TREE OR SHRUB
	TREELINE

**ELECTRICAL SYMBOLS**

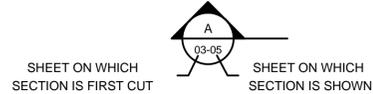
	GROUNDING ROD
	ELECTRICAL STUB-UP
	UNDERGROUND GROUNDING CONDUCTOR LINE
	UNDERGROUND ELECTRICAL CONDUIT
	ELECTRIC RECEPTACLE BOX
	SINGLE OVERHEAD LIGHT
	TWIN OVERHEAD LIGHT
	ELECTRIC JUNCTION BOX
	UTILITY POLE

**LINE SYMBOLS**

	PROPOSED
	EXISTING

**SECTION DESIGNATIONS**

SECTION CUT AND SHOWN ON DIFFERENT SHEETS



**SECTION SYMBOLS**

	EXISTING GRADE
	FINISHED GRADE
	UNDISTURBED SUBGRADE
	ROCK
	POROUS BACKFILL
	COMPACTED GRANULAR BACKFILL OR COMPACTED FOUNDATION

QUANTITY ESTIMATES		
DESCRIPTION	UNITS	ESTIMATED QUANTITY
8"x12" DUAL CONTAINMENT HDPE LEACHATE SEWER	L.F.	1965
18" STEEL CASING PIPE (BORE & JACK IN PLACE)	L.F.	240
8"x12" DUAL CONTAINMENT LEACHATE SEWER INSIDE CASING PIPE	L.F.	240
6" HDPE PERFORATED DRAIN PIPE	L.F.	235
SEWER PIPE COLLARS	EACH	20*
TYPE A CONCRETE MANHOLES	EACH	7
TYPE B HDPE DOUBLE CONTAINMENT MANHOLES	EACH	1
HDPE FLOW MONITORING MANHOLE	EACH	1
DROP MANHOLE	EACH	1
SILT FENCE	L.F.	1160
CONSTRUCTION ENTRANCE DRIVE SEDIMENT CONTROL	EACH	2
6" VALVE WITH EXTENSION STEM, OPERATING NUT & VALVE BOX	EACH	2
CLEARING/GRUBBING	ACRE	0.56
TANK CAVITY WELL PUMP	EACH	1

\* NOT INCLUDING ANTI-FLOTATION COLLARS AS RECOMMENDED BY THE PIPE MANUFACTURER. ADDITIONAL ANTI-FLOTATION COLLARS REQUIRED FOR BUOYANCY OF PIPE IN HIGH GROUNDWATER CONDITIONS SHALL BE FURNISHED AND INSTALLED AS A PART OF THE SEWER PIPE COST.

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SYMBOLS AND ABBREVIATIONS

02

SHEET: 02 OF 22

CAPITAL IMPROVEMENT PROJECTS: 2012 GENERAL PLAN NOTES (REVISED 06-03-13)

GEN1 THE CITY OF DELAWARE "CITY" DETAILED SPECIFICATIONS, STANDARD DRAWINGS, AND INFRASTRUCTURE DESIGN MANUAL, TOGETHER WITH THE CITY OF COLUMBUS (COC) AND STATE OF OHIO DEPARTMENT OF TRANSPORTATIONS CONSTRUCTION AND MATERIAL SPECIFICATION (CMS) MANUALS, INCLUDING ALL SUPPLEMENTS THERETO, SHALL GOVERN ALL MATERIAL AND WORKMANSHIP INVOLVED IN THE IMPROVEMENTS SHOWN IN THESE PLANS UNLESS OTHERWISE NOTED. ALL PERTINENT CITY STANDARD CONSTRUCTION DRAWINGS ARE AVAILABLE UPON REQUEST OF THE DEPARTMENT OF ENGINEERING SERVICES.

GEN2 ALL WORK SHALL BE COMPLETELY ACCEPTABLE TO CITY OFFICIALS. NO WORK SHALL COMMENCE UNTIL ARRANGEMENTS HAVE BEEN COORDINATED WITH THE CITY FOR REQUIRED INSPECTIONS. PRIOR TO BEGINNING CONSTRUCTION, THE CONTRACTOR SHALL MAKE ALL ARRANGEMENTS NECESSARY TO COORDINATE THE PROVISION OF INSPECTION SERVICE BY THE CITY FOR THE PROPOSED WORK. THE COST OF INSPECTION SHALL BE PAID FOR BY THE CITY UNLESS OTHERWISE NOTED.

GEN3 THE CONTRACTOR SHALL PROVIDE WRITTEN NOTIFICATION TO THE DEPARTMENT OF ENGINEERING SERVICES AT LEAST 7 DAYS PRIOR TO THE INITIAL START OF ANY PROJECT.

GEN4 TWENTY-FOUR HOUR ADVANCE NOTIFICATION IS REQUIRED FOR ALL WORK REQUIRING INSPECTION, TESTING, OR APPROVAL BY THE DEPARTMENT OF ENGINEERING SERVICES OR THE BUILDING DEPARTMENT.

GEN5 THE CONTRACTOR IS RESPONSIBLE TO NOTIFY THE DEPARTMENT OF ENGINEERING SERVICES AND REQUEST A FINAL PUNCH-OUT INSPECTION OF THE PROJECT SITE ONCE ALL ITEMS ON THE APPROVED CONSTRUCTION PLANS HAVE BEEN COMPLETED.

GEN6 NECESSARY LINE AND GRADE STAKING SHALL BE PROVIDED BY THE CONTRACTOR AT HIS EXPENSE. CUT SHEETS SHALL BE SUBMITTED TO THE DEPARTMENT OF ENGINEERING SERVICES TWO (2) FULL WORKING DAYS PRIOR TO THE COMMENCEMENT OF CONSTRUCTION ACTIVITIES AND MUST BE APPROVED BY THE CITY PRIOR TO THE BEGINNING OF CONSTRUCTION.

GEN7 THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING THE CITY COPIES OF FIELD NOTES, MARK-UP PLANS SETS, ETC. TO THE DEPARTMENT OF ENGINEERING SERVICES WITHIN 30 DAYS FOLLOWING THE COMPLETION OF THE PROJECT CONSTRUCTION FOR USE BY THE CITY IN PREPARING AS-BUILT CONSTRUCTION DRAWINGS.

GEN8 FOR MODIFICATIONS TO THE WORK AS SHOWN ON THE APPROVED CONSTRUCTION DRAWINGS, THE CONTRACTOR SHALL MAKE SUCH REQUESTS IN WRITING TO THE DEPARTMENT OF ENGINEERING SERVICES FOR REVIEW AND APPROVAL.

GEN9 THE CITY SHALL SECURE AND PAY FOR ALL PERMIT FEES AND INSPECTIONS REQUIRED FOR THE PROPER EXECUTION AND COMPLETION OF THE IMPROVEMENTS AS SHOWN ON THE APPROVED CONSTRUCTION PLANS.

GEN10 IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VISIT THE SITE AND VERIFY THE EXTENT OF THE WORK TO BE PERFORMED IN ADVANCE OF MAKING HIS BID, TO IDENTIFY THE NECESSARY CONSTRUCTION MEANS AND METHODS TO ACCOMPLISH ALL WORK ITEMS, AND TO NOTIFY THE DEPARTMENT OF ENGINEERING SERVICES OF ANY IDENTIFIED CONFLICTS, ERRORS OR OMISSIONS FROM THE CONSTRUCTION PLANS.

GEN11 THE CONTRACTOR OR SUBCONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR COMPLYING WITH ALL FEDERAL, STATE, AND LOCAL SAFETY REQUIREMENTS, TOGETHER WITH EXERCISING PRECAUTIONS AT ALL TIMES FOR PROTECTION OF PERSONS (INCLUDING EMPLOYEES) AND PROPERTY. IT IS ALSO THE SOLE RESPONSIBILITY OF THE CONTRACTOR OR SUBCONTRACTOR TO MAINTAIN, MAINTAIN, AND SUPERVISE ALL SAFETY REQUIREMENTS, PRECAUTIONS, AND PROGRAMS IN CONNECTION WITH THE WORK. THE COST OF THIS WORK SHALL BE CONSIDERED INCIDENTAL TO OTHER ITEMS.

GEN12 THE CONTRACTOR AT HIS EXPENSE, IS RESPONSIBLE FOR THE INVESTIGATION, LOCATION, SUPPORT, PROTECTION, AND RESTORATION OF ALL EXISTING UTILITIES AND APPURTENANCES WHETHER SHOWN ON THESE PLANS OR NOT. THE CONTRACTOR SHALL EXPOSE ALL UTILITIES OR STRUCTURES PRIOR TO CONSTRUCTION TO VERIFY THE VERTICAL AND HORIZONTAL EFFECT ON THE PROPOSED CONSTRUCTION. THE CONTRACTOR SHALL CALL TOLL FREE, THE OHIO UTILITIES PROTECTION SERVICE (OUPS) AT 1-800-362-2764 SEVENTY-TWO HOURS PRIOR TO CONSTRUCTION AND SHALL NOTIFY ALL UTILITY COMPANIES AT LEAST FORTY-EIGHT HOURS PRIOR TO WORK IN THE VICINITY OF THEIR UNDERGROUND LINES.

GEN13 THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THE APPROVED CONSTRUCTION PLANS IS BASED ON THE MOST CURRENT AVAILABLE RECORDS, AND AT TIMES FROM MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION PROVIDED IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CITY ASSUMES NO RESPONSIBILITY AS TO THE ACCURACY OR DEPTHS OF THE UNDERGROUND FACILITIES AS SHOWN ON THE PLANS. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANY AT LEAST SEVEN DAYS IN ADVANCE OF ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES.

GEN14 THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING THE RELOCATION OF ANY PRIVATELY OWNED UTILITY AS REQUIRED BY THE APPROVED CONSTRUCTION PLAN, OR THAT MAY BE DETERMINED BY ADDITIONAL FIELD INVESTIGATION TO BE IN CONFLICT WITH THE CONSTRUCTION OF NEW INFRASTRUCTURE AS SHOWN ON THE PLANS, AND TO COORDINATE THESE EFFORTS WITH THE OWNER OF THE AFFECTED UTILITY AT HIS EXPENSE.

GEN15 WHERE POTENTIAL GRADE CONFLICTS MIGHT OCCUR WITH EXISTING UTILITIES, THE CONTRACTOR WILL BE REQUIRED TO UNCOVER SUCH UTILITIES AT HIS EXPENSE, IN ADVANCE OF INSTALLING NEW UTILITIES IN ORDER FOR THE ENGINEER OF RECORD TO DETERMINE THE EXACT ELEVATIONS, AND TO MAKE ANY NECESSARY PLAN ADJUSTMENTS.

GEN16 ALL MATERIALS INCLUDING BUT NOT LIMITED TO PIPING, APPURTENANCES, MANHOLES, GRAVEL, ETC. UTILIZED FOR THE CONSTRUCTION OF NEW PUBLIC INFRASTRUCTURE MUST BE APPROVED BY THE DEPARTMENT OF ENGINEERING SERVICES. IN ADDITION, ALL CONCRETE PIPE, STORM, AND SANITARY SEWER STRUCTURES WILL BE INSPECTED BY THE CITY OF COLUMBUS AT THE MANUFACTURING PLANT LOCATIONS FOR CONFORMANCE TO SPECIFICATIONS. PIPE OR STRUCTURES WITHOUT PROPER APPROVAL AS IDENTIFIED BY BEARING THE COC APPROVAL STAMP, SHALL NOT BE PERMITTED FOR INSTALLATION IN THE CITY OF DELAWARE.

GEN17 ALL FIELD TILES BROKEN DURING EXCAVATION SHALL BE REPLACED BY THE CONTRACTOR AT HIS EXPENSE, TO ORIGINAL CONDITION OR SHALL BE CONNECTED TO THE STORM SEWER COLLECTION SYSTEM AS DIRECTED BY THE CITY.

GEN18 THE CONTRACTOR SHALL REPAIR OR REPLACE ANY PROPERTY, UTILITY, STRUCTURE, OR OTHER INFRASTRUCTURE AT HIS EXPENSE, DAMAGED DURING THE EXECUTION OF HIS WORK TO AN EQUAL OR BETTER CONDITION THAN EXISTED PRIOR TO THE DAMAGE. ALL WORK IS TO BE REPAIRED OR REPLACED TO THE SATISFACTION OF THE ENGINEER OF RECORD AND THE CITY. ANY DAMAGE TO PRIVATE UTILITIES CAUSED BY THE CONTRACTOR SHALL BE REPAIRED BY THE APPROPRIATE UTILITY COMPANY AT THE CONTRACTOR'S EXPENSE.

GEN19 CARE SHALL BE EXERCISED WHEN WORKING IN THE AREA AROUND EXISTING TREES AND SHRUBS. ANY TREES OR SHRUBS NOT MARKED FOR REMOVAL THAT ARE DAMAGED BY THE CONTRACTOR WILL HAVE TO BE REPLACED BY THE CONTRACTOR AT HIS EXPENSE TO THE SATISFACTION OF THE OWNER.

GEN20 THE CITY IS RESPONSIBLE FOR PROVIDING AND SCHEDULING OF QUALIFIED PERSONNEL FOR CONCRETE, ASPHALT, AND SOILS TESTING SERVICES AS REQUIRED. TESTING SHALL BE PERFORMED UNDER THE DIRECT SUPERVISION OF A REGISTERED TESTING AGENCY APPROVED BY THE DEPARTMENT OF ENGINEERING SERVICES.

GEN21 ANY PROPERTY CORNER PINS OR PERMANENT SURVEY MARKERS DISTURBED DURING CONSTRUCTION SHALL BE RESET BY A REGISTERED SURVEYOR AT CONTRACTOR'S EXPENSE.

GEN22 EXISTING STRUCTURES TO BE REMOVED OR DEMOLISHED REQUIRE A "DEMOLITION PERMIT" ISSUED BY THE CITY BUILDING DEPARTMENT.

GEN23 THE OPEN BURIED OF SITE CLEANING DEBRIS, TRASH, ETC. IS PROHIBITED IN THE CITY

GEN24 THE CONTRACTOR IS RESPONSIBLE FOR THE PROVISION AND MAINTENANCE OF A PORTABLE TOILET ON THE SITE DURING ALL PHASES OF CONSTRUCTION.

GEN25 ALL EARTHWORK OPERATIONS, ESPECIALLY PAVEMENT SUB-GRADE CONSTRUCTION, SHALL BE INSPECTED BY A REGISTERED SOILS ENGINEER AT THE CITY'S EXPENSE. ADDITIONALLY, ALL FINAL GRADES SHALL BE FIELD CHECKED BY BOTH THE CONTRACTOR AND CITY INSPECTOR FOR CONFORMANCE TO CONSTRUCTION PLAN GRADES.

GEN26 UTILITY TRENCHES WITHIN THE INFLUENCE OF THE ROADWAY ARE TO BE FILLED AND COMPACTED PER ITEM 912 OF THE COC CMS. UTILITY TRENCHES WITHIN THE RIGHT OF WAY BUT OUTSIDE THE ROADWAY INFLUENCE SHALL BE FILLED AND COMPACTED WITH SUITABLE NATIVE MATERIAL AND COMPACTED TO WITHIN 98% OF THE MAXIMUM DRY DENSITY PER ITEM 911 OF COC CMS. ALL OTHER TRENCHES ARE TO BE FILLED AND COMPACTED WITH NATIVE MATERIAL TO WITHIN 95% OF THE MAXIMUM DRY DENSITY. THE BACKFILL MATERIAL FOR ANY UTILITY TRENCH SHALL BE FREE OF LARGE BOULDERS, TREE BRANCHES, STUMPS, AND OTHER CONSTRUCTION DEBRIS. UTILITY TRENCHES THAT ARE UNDER EXISTING OR PROPOSED PAVEMENT SHALL BE REQUIRED TO HAVE THE BACKFILL TESTED FOR COMPACTION BY AN APPROVED TESTING FIRM AT THE CITY'S EXPENSE.

GEN27 STORM SEWERS, SANITARY SEWERS, AND WATER MAINS CONSTRUCTED IN FILL AREAS SHALL NOT BE CONSTRUCTED UNTIL AFTER COMPACTED FILL HAS BEEN INSTALLED TO PROPOSED GRADE. THE STORM SEWERS, SANITARY SEWERS, AND WATER MAINS SHALL BE INSTALLED PER SPECIFIED TRENCH INSTALLATION DETAILS.

GEN28 CLEARING AND GRUBBING IS TO BE PERFORMED FROM RIGHT OF WAY LINE TO RIGHT OF WAY LINE, WITHIN ALL EASEMENTS, OR AS OTHERWISE NOTED IN THE APPROVED CONSTRUCTION PLANS. TREE CHIPPING EQUIPMENT MAY BE USED HOWEVER CHIP PILES SHALL BE STORED IN SEPARATE LOCATIONS AWAY FROM ANY AREA SUBJECT TO FURTHER CONSTRUCTION ACTIVITIES, AND SHALL NOT BE SPREAD OR DISPERSED OVER EXISTING GROUND.

GEN29 TOPSOIL SHALL BE STRIPPED AND STOCKPILED SEPARATELY FROM ALL WORK AREAS, AND RE-SPREAD DURING FINAL GRADING OPERATIONS. THE COST OF RE-SPREADING THE TOPSOIL SHALL BE CONSIDERED INCIDENTAL TO OTHER GRADING ITEMS.

GEN30 SEEDING: ALL AREAS WITHIN THE RIGHT OF WAY DISTURBED DURING CONSTRUCTION SHALL BE SEEDER AND MULCHED WITHIN 7 DAYS FROM THE DATE WORK IN THE AREA IS COMPLETED. SEED SHALL BE SPREAD AT A RATE OF 14 POUNDS PER 1000 SF AND MEET THE REQUIREMENTS OF COC CMS ITEM 659.09 CLASS 1 LAWN MIXTURE. A 10-20-10 COMMERCIAL FERTILIZER SHALL BE APPLIED AT A RATE OF 20 POUNDS PER 1000 SF TO NEWLY SEED AREAS. SEEDING PERFORMED BETWEEN OCTOBER 30TH AND MARCH 1ST SHALL BE APPLIED AS TEMPORARY SEEDING PER COC CMS ITEM 207.

GEN31 PARK AREAS: THE FOLLOWING TURF SEED BLEND IS REQUIRED FOR ALL PARK AREAS. SEED SHALL BE CERTIFIED, FRESH, CLEAN, POA AND BENT GRASS FREE, WITH A 98% PURITY AND 85% MINIMUM GERMINATION RATE. SEED SHALL BE APPLIED AT A RATE OF 8 POUNDS PER 1000 SF (850 POUNDS PER ACRE).

TURF TYPE MIXTURE SHALL BE TALL FESCUE (A MIXTURE OF NO LESS THAN THREE CULTIVARS BY WEIGHT) AND PERENNIAL RYEGRASS (A MIXTURE OF NO LESS THAN TWO CULTIVARS BY WEIGHT) SEED CULTIVARS SHALL BE THE FOLLOWING OR AN APPROVED EQUAL:

- 30% GOODEN TURF TYPE TALL FESCUE
- 20% WOLVERINE TURF TYPE TALL FESCUE
- 20% COCHISE II TURF TYPE TALL FESCUE
- 15% NOBILITY PERENNIAL RYEGRASS
- 15% AMAZING GS PERENNIAL RYEGRASS

FERTILIZER SHALL BE 10-20-10; APPLIED AT A RATE OF 20 POUNDS PER 1,000 SQUARE FEET. THE STRAW MULCH WILL BE CLEAN OAT OR WHEAT STRAW, WELL SEASONED BEFORE BAILING, AND FREE FROM MATURE SEED BEARING STALKS OR ROOTS OF PROHIBITIVE OR NOXIOUS WEEDS. THE STRAW MULCH WILL BE APPLIED AT 2 TONS PER ACRE FOR ALL PERMANENT SEEDING.

THE TOP SIX (6) INCHES OF SOIL MUST CONFORM TO CMS ITEM 659.09 FOR LAWN AREAS. ALL ROCK AND OTHER FOREIGN MATERIAL 1 INCH OR GREATER IN ANY DIMENSION SHALL BE REMOVED.

ALL WORK WITHIN PARK AREAS, INCLUDING CONSTRUCTION OF FILLS, SHALL BE COMPLETED WITH TRACK EQUIPMENT ONLY. ALL OTHER EQUIPMENT USED MUST BE APPROVED BY THE CITY.

ALL SEEDING AND MULCHING MUST BE COMPLETED BY OCTOBER 1ST.

GEN 32 ALL MULCH UNDER PLAY EQUIPMENT TO BE CERTIFIED PLAYGROUND MULCH AND SPREAD TO A MINIMUM THICKNESS OF 12 INCHES. CERTIFIED PLAYGROUND MULCH TO BE CERTIFIED TO THE LATEST STANDARDS INCLUDING:

- ASTM F13292-04 - PLAYGROUND MULCH SHALL MEET HC (HEAD IMPACT CRITERIA) AND G: MAX REQUIREMENTS AT 12" COVERAGE
- ASTM F2075-04 - PLAYGROUND MULCH SHALL MEET TRAMP METAL TEST AND SIEVE ANALYSIS
- ASTM F1951 - PLAYGROUND MULCH SHALL BE WHEELCHAIR ACCESSIBLE

ROADWAY NOTES

RDW1 ALL PAVEMENT SUB-GRADE SHALL BE CONSTRUCTED IN ACCORDANCE WITH ITEM 203 OF THE COC CMS, THE SOILS REPORT, AND AS DIRECTED BY THE REGISTERED SOILS ENGINEER PRESENT ON THE SITE. THE CITY WILL STRICTLY ADHERE TO THE COMPACTION REQUIREMENTS SET FORTH IN SECTION 103.07. DENSITY TESTING MUST BE PERFORMED ON EACH LIFT OF FILL, AND THE SOILS ENGINEER PERFORMING THE TESTING MUST HAVE DETAILED LABORATORY TEST DATA ON SITE TO SUPPORT THE VALUES BEING UTILIZED IN THE DENSITY CALCULATIONS. THE MOISTURE CONTENT OF THE NEW FILL SHALL BE IN THE RANGE OF ± 2% OF THE OPTIMUM MOISTURE CONTENT DETERMINED BY ASTM D698. THE CITY RESERVES THE RIGHT TO REQUIRE DENSITY TESTING OF SUB-GRADE IN NEWLY CUT AREAS WHERE TOPSOIL HAS BEEN STRIPPED IN PREPARATION FOR SUB-BASE INSTALLATION OR FILLING OPERATIONS, IN ORDER TO EVALUATE THE NECESSITY FOR ADDITIONAL COMPACTION EFFORT.

RDW2 ALL PAVEMENT JOINTS, PARTICULARLY WHERE A PROPOSED PAVEMENT ABUTS AN EXISTING PAVEMENT, AND ALL PAVEMENT JOINTS ABUTTING THE CURB LINE OR UTILITY STRUCTURES SUCH AS MANHOLES, CATCH BASINS, VALVE BOXES, ETC. SHALL BE SEALED IN ACCORDANCE WITH ITEM 413 TYPE (1) OF THE COC CMS.

RDW3 AT THE DIRECTION OF THE CITY, THE PLACEMENT OF THE FINAL WEARING COURSE OF ITEM 448 ASPHALT CONCRETE MAY BE DELAYED UNTIL SUCH TIME THAT THE WEATHER PERMITS.

RDW4 ALL ASPHALT CONCRETE PAVING OPERATIONS SHALL BE REGULATED AS SPECIFIED IN COC CMS ITEM 400 FLEXIBLE PAVEMENT.

RDW5 PAVEMENT CUTS FOR UTILITY LINE INSTALLATIONS ARE SUBJECT TO THE BACKFILL REQUIREMENTS OF ITEM 912. IN LIEU OF COMPACTED GRANULAR MATERIAL, FLOWABLE CONTROLLED DENSITY FILL, ITEM 636 TYPE-11 MAY BE USED. PAVEMENT SHALL BE CONSTRUCTED TO MATCH THE EXISTING SECTION OR NINE INCHES OF ASPHALT CONCRETE, WHICHEVER IS GREATER. AS AN ALTERNATIVE, THE CONTRACTOR MAY CHOOSE TO REPAIR THE PAVEMENT WITH A 7" CLASS "C" CONCRETE BASE EXTENDING 1'-0" BEYOND ALL EDGES OF THE EXCAVATION, AND FINISHED WITH A 2-INCH ITEM 448 ASPHALT WEARING COURSE.

RDW6 STEEL PLATES SHALL BE POSITIONED AND SECURED IN PLACE WITH STEEL SPIKES AND COLD PATCH ASPHALT MIX OVER ALL TRENCHES THAT ARE LEFT OPEN ON A TEMPORARY BASIS AND SUBJECT TO TRAFFIC. THE CONTRACTOR IS RESPONSIBLE FOR REPORTING THE LOCATION OF ALL STEEL PLATES DIRECTLY TO THE DEPARTMENT OF PUBLIC WORKS AND PROVIDING 24-HOUR CONTACT INFORMATION IN THE EVENT THE PLATES REQUIRE ADJUSTING OR REPAIR.

RDW7 PROACTIVE MEASURES SHALL BE TAKEN BY THE CONTRACTOR TO KEEP PUBLIC STREETS CLEAN AND FREE FROM MUD, STONE, DIRT, ETC. AT ALL TIMES. A STABILIZED CONSTRUCTION ENTRANCE, AS SPECIFIED IN THE PLANS, IS TO BE DILIGENTLY MAINTAINED AT THE CONSTRUCTION SITE (ENTRANCE(S) THROUGHOUT THE PROJECT. IF THE ENTRANCE IS RENDERED INEFFECTIVE IN THE JUDGEMENT OF THE CITY, WORK ON THE PROJECT MAY BE SUSPENDED UNTIL THE ENTRANCE IS MADE EFFECTIVE.

RDW8 CONCRETE CURBS ARE TO BE BRANDED DURING PLACEMENT UTILIZING THE STANDARD BRAND SET PROVIDED BY THE DEPARTMENT OF ENGINEERING SERVICES. BRANDS THAT ARE MISSED MUST BE MECHANICALLY GROUND INTO THE CURB AFTER CONCRETE IS SET.

- BRAND CURBS ARE AS FOLLOWS:
- "S" - ON TOP OF CURB FOR SANITARY LATERAL LOCATIONS.
- "W" - ON FACE OF CURB FOR WATER SERVICE BOX LOCATIONS.
- "WV" - ON FACE OF CURB FOR HYDRANT WATCH VALVE LOCATIONS.
- "WM" - ON FACE OF CURB FOR WATER MAIN VALVE LOCATIONS.
- "SM" - ON FACE OF CURB FOR SANITARY/STORM MANHOLE LOCATIONS.

RDW9 THE COMBINATION CURB AND GUTTER SHALL BE CURBED CONTINUOUSLY. THE CURB SHALL HAVE CONTOURED JOINTS MECHANICALLY CUT AT 10'-0" SPACING WITHIN 24 HOURS FROM BEING POURED. DRIVEWAY CURB CUTS SHALL BE FORMED PER THE APPROVED CONSTRUCTION PLANS.

RDW10 MONUMENT BOXES SHALL BE INSTALLED AT INTERSECTIONS DESIGNATED ON THE PLAN BY THE CONTRACTOR WITH THE SUPPORT OF HIS SURVEYOR. BOXES SHALL BE NEENAH-R1968, TYPE 36-8 EAST JORDAN IRON WORKS NO. 8271. MONUMENTS ARE TO BE SET IN A CONCRETE FILLED 24" DIAMETER CORED HOLE, FLUSH WITH THE TOP OF THE PAVEMENT PER CITY STANDARD.

RDW11 ALL TRAFFIC CONTROL DEVICES SHALL BE FURNISHED, ERECTED, MAINTAINED, AND REMOVED BY THE CONTRACTOR IN ACCORDANCE WITH THE MOST RECENT EDITION OF THE "OHIO MANUAL OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION AND MAINTENANCE OPERATIONS". THE CONTRACTOR MUST PROVIDE THE CITY WITH 24-HOUR CONTACT INFORMATION IN THE EVENT THE MOT ITEMS REQUIRES ADJUSTMENT, REPAIR OR REPLACEMENT.

RDW12 TRAFFIC LANES SHALL BE FULLY OPEN TO TRAFFIC AT ALL TIMES AND INGRESS AND EGRESS SHALL BE MAINTAINED TO PUBLIC AND PRIVATE PROPERTY. LANE RESTRICTIONS OR CLOSURES REQUIRED DURING CONSTRUCTION MUST BE APPROVED BY THE DEPARTMENT OF ENGINEERING SERVICES AND PUBLIC WORKS DEPARTMENTS A MINIMUM OF TWO WEEKS IN ADVANCE OF ANY WORK BEING PERFORMED. A MAINTENANCE OF TRAFFIC APPLICATION MUST BE SUBMITTED AND APPROVED PRIOR TO STARTING ANY WORK THAT EFFECTS TRAFFIC FLOWS. WORK REQUIRING PARTIAL OR COMPLETE CLOSURE OF ANY PUBLIC STREET REQUIRES 48-HOUR ADVANCE NOTIFICATION TO ALL AFFECTED RESIDENTS AND BUSINESSES. NOTIFICATIONS SHALL BE PREPARED AND DISTRIBUTED BY THE CONTRACTOR PRIOR TO SCHEDULED WORK. CITY APPROVAL OF ALL NOTIFICATIONS IS REQUIRED IN ADVANCE OF DISTRIBUTION.

RDW13 TACK COAT (OOT ITEM 407) IS REQUIRED BETWEEN ALL LIFTS OF FLEXIBLE PAVEMENT, BETWEEN CONCRETE BASE AND ASPHALT SURFACE COURSE, AND ALONG THE FACE OF THE CURB. THE TACK COAT APPLICATION MAY BE WAIVED AT THE DISCRETION OF THE DEPARTMENT OF ENGINEERING SERVICES IF THE LIFTS OF ASPHALT ARE INSTALLED WITHIN SEVEN (7) DAYS OF EACH OTHER, THERE HAS BEEN NO WATER OR VEHICLE TRAFFIC ON THE PAVEMENT, AND THE PAVEMENT IS CLEAN AND FREE OF DUST AND DEBRIS.

RDW14 ALL CONSTRUCTION AND PERMANENT ROADWAY SIGNAGE MUST MEET THE MINIMUM REQUIREMENTS OF MUTCD TABLE 2A-3 REGARDING RETROREFLECTIVITY LEVELS.

RDW15 PROOF ROLLING: THE FOLLOWING SPECIFICATIONS ARE PUT IN PLACE BY THE CITY OF DELAWARE IN ADDITION TO THE COC CMS ITEM 204, SUBGRADE COMPACTION AND PROOF ROLLING/TEST ROLLING:

FOR AREAS WHERE SUBGRADE APPEARS TO BE STABLE WITHOUT UNDERCUTTING, PROOF ROLL AFTER THE TOP 12" INCHES OF THE SUBGRADE MEETS THE COMPACTION REQUIREMENTS AND AFTER THE SUBGRADE HAS BEEN BROUGHT TO APPROXIMATE SHAPE WITHIN 0.1 TO 0.2 FEET REQUIRED BY PLAN GRADE.

FOR AREAS THAT ARE UNSTABLE AND REQUIRE UNDERCUTTING, IT IS NOT NECESSARY TO COMMENCE A FORMAL PROOF ROLL TO DEMONSTRATE THAT SUBGRADE CORRECTION IS REQUIRED. CORRECTION MUST BE AUTHORIZED BY THE CITY AT THE TIME OF ROUGH GRADING AND MUST BE BASED ON RECOMMENDATIONS FROM THE SOILS ENGINEER. PROOF ROLLING MUST BE TREATED AS THE FINAL VERIFICATION THAT ALL REPAIRS HAVE BEEN PERFORMED. FAILED PROOF ROLLS FOLLOWING CORRECTIVE ACTION WILL BE AT THE CONTRACTOR'S EXPENSE.

PROOF ROLLING MUST BE DONE IMMEDIATELY AFTER THE SUBGRADE COMPACTION OPERATION, WHEN THE MOISTURE CONTENT OF THE SUBGRADE SOIL IS NEAR OPTIMUM OR AT THE MOISTURE CONTENT THAT ACHIEVED COMPACTION. UNSTABLE OR HARD PAN CONDITIONS ENCOUNTERED DURING PROOF ROLLING OPERATIONS, WHICH RESULT FROM THE FAILURE OF THE CONTRACTOR TO MAINTAIN THE SPECIFIED DENSITY AND MOISTURE REQUIREMENTS, MUST BE CORRECTED BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE.

IF IT BECOMES NECESSARY TO TAKE CORRECTIVE ACTION, SUCH AS BUT NOT LIMITED TO UNDERDRAIN INSTALLATION, UNDERCUT AND BACKFILL OF AN UNSUITABLE MATERIAL, AERATION OF EXCESSIVELY WET MATERIAL IN AREAS THAT HAVE BEEN PROOF ROLLED, OR (IF HARD PAN EXISTS) RECONDITIONING THE UPPER PORTION OF THE SUBGRADE, THESE AREAS SHALL BE PROOF ROLLED AGAIN FOLLOWING THE COMPLETION OF THE NECESSARY CORRECTIONS. IF THE CORRECTIONS ARE NECESSARY DUE TO THE NEGLIGENCE OF THE CONTRACTOR AND/OR WEATHER, THE CORRECTIVE WORK AND ADDITIONAL PROOF ROLLING MUST BE PERFORMED BY THE CONTRACTOR AT NO COST TO THE CITY.

THE CONTRACTOR SHALL BE REQUIRED TO PERFORM A PROOF ROLL ALONG THE CURB LINE TO CONFIRM THAT THERE IS NO UNSUITABLE MATERIAL IN ADVANCE OF INSTALLING CURB DRAIN, STONE OR CONCRETE CURBING.

PROOF ROLLING FOR THE PAVEMENT AREA MAY OCCUR EITHER BEFORE OR AFTER PIPE UNDERDRAINS ARE INSTALLED. IF FOLLOWING THE INSTALLATION OF UNDERDRAINS, ROLLING SHOULD NOT OCCUR DIRECTLY OVER THE UNDERDRAINS. IN 204.06, PROOF ROLLING MUST BE PERFORMED AT LEAST 1-1/2 FEET AWAY FROM THE UNDERDRAINS BECAUSE OF THE POTENTIAL DAMAGE TO THE UNDERDRAINS.

STORM SEWER NOTES

STM1 ALL STORM SEWER SHALL BE INSTALLED IN ACCORDANCE WITH THE SPECIFICATIONS CONTAINED WITHIN THE COC CMS 2012 VERSION, EXCEPT AS MODIFIED WITHIN THE CITY OF DELAWARE GENERAL NOTES, STANDARD DRAWINGS AND INFRASTRUCTURE DESIGN MANUAL. THE MINIMUM REQUIREMENTS FOR STORM SEWER PIPE WITHIN THE CITY RIGHT OF WAY OR EASEMENTS SHALL BE REINFORCED CONCRETE PIPE ASTM C555, ASTM C76, NON-REINFORCED CONCRETE PIPE ASTM C14, OR HDPE PIPE (ADS OR APPROVED EQUAL). ALL PIPE MANUFACTURERS MATERIALS MUST APPEAR ON THE COC LIST OF APPROVED STORM SEWER MATERIALS TO BE USED IN THE CITY OF DELAWARE.

STM2 FLEXIBLE STORM SEWERS WITHIN THE RIGHT OF WAY WILL BE DEFLECTION TESTED AND/OR VIDEO INSPECTED AT THE CONTRACTOR'S EXPENSE. TESTING SHALL BE PERFORMED NO SOONER THAN THIRTY DAYS AFTER THE PIPE TRENCH HAS BEEN BACKFILLED. MAXIMUM DEFLECTION SHALL NOT EXCEED 5% OF THE BASE INSIDE DIAMETER. THE CONTRACTOR IS RESPONSIBLE FOR ARRANGING FOR THE REQUIRED TESTING AND FOR NOTIFYING THE DEPARTMENT OF ENGINEERING SERVICES IN ADVANCE TO WITNESS THE TESTING.

STM3 ALL FLEXIBLE PIPE INSTALLATIONS THAT ARE SUBJECT TO CONSTRUCTION LOADING SHALL MAINTAIN A MINIMUM COVER OF 2'-0" AT ALL TIMES DURING THE CONSTRUCTION PROCESS. TESTING SHALL NOT OCCUR UNTIL ALL CONSTRUCTION LOADING ABOVE THE SEWER IS COMPLETE.

STM4 HDPE PIPE JOINTS SHALL BE MADE USING WATERIGHT COUPLERS WITH O-RING GASKET, ADS WT OR APPROVED EQUAL. WHERE RUBBER O-RING GASKET (IASTM C361) PIPE IS REQUIRED ON THE PLANS. ALL OTHER PIPE SHALL HAVE A BELL AND SPIGOT JOINT WITH RUBBER GASKET MEETING ASTM F477.

STM5 ALL STORM MANHOLES SHALL BE MARKED WITH A 4" x 4" x 10'-0" PRESSURE TREATED WOOD WYE-POLE PROJECTING 4'-0" ABOVE THE FINISH GRADE AND WITH THE TOP 1'-0" PAINTED GREEN ON FOUR SIDES. THE COST SHALL BE INCLUDED IN THE VARIOUS SEWER ITEMS.

STM6 STORM SEWER PIPE SHALL NOT BE INSTALLED IN ANY TRENCH HOLDING WATER. THE CONTRACTOR IS RESPONSIBLE FOR THE COST OF DEWATERING OPERATIONS REQUIRED FOR THE CONSTRUCTION OF THE STORM SEWER.

STM7 IF ROCK MUST BE EXCAVATED WITHIN A PROPOSED TRENCH AREA, THE CONTRACTOR SHALL REMOVE ENOUGH ROCK BELOW THE BELL AND FLOWLINE OF THE PIPE IN ORDER TO INSTALL THE APPROPRIATE AMOUNT OF BEDDING MATERIAL. EXCAVATED ROCK MAY NOT BE USED AS BACKFILL MATERIAL. THE COST OF ANY ROCK EXCAVATION SHALL BE INCLUDED IN THE BID PRICE FOR VARIOUS SEWER ITEMS.

STM8 THE FLOW IN ALL SEWERS, DRAINS AND WATERCOURSES ENCOUNTERED SHALL BE MAINTAINED BY THE CONTRACTOR AT HIS OWN EXPENSE. AND WHENEVER SUCH WATERCOURSES AND DRAINS ARE DISTURBED OR DESTROYED DURING CONSTRUCTION, THEY SHALL BE RESTORED BY THE CONTRACTOR TO A CONDITION SATISFACTORY TO THE CITY.

STM9 ALL MAJOR FLOOD ROUTES AND STORM WATER BASINS ARE TO BE SURVEYED BY A REGISTERED SURVEYOR AT THE CONTRACTORS EXPENSE TO VERIFY CONFORMANCE TO THE APPROVED GRADING PLANS. SURVEY RESULTS ARE TO BE INCLUDED ON THE AS-BUILT CONSTRUCTION PLANS.

STM10 THE CONTRACTOR IS RESPONSIBLE FOR THE PROPER INSTALLATION (PRIOR TO THE START OF CONSTRUCTION) AND MAINTENANCE OF THE CURRENT AND POSITIVE CONTROL MEASURES FOR THE APPROVED SWPPP AND PER THE CURRENT OEPA GENERAL PERMIT FOR CONSTRUCTION STORMWATER REQUIREMENTS, UNDER WHICH THIS PROJECT HAS OBTAINED COVERAGE. THE CONTRACTOR WILL BE RESPONSIBLE FOR PAYING ANY FINE LEVIED BY THE OEPA RESULTING FROM FAILURE TO ADHERE TO THE SWPPP AND/OR THE REQUIREMENTS OF THE OEPA GENERAL PERMIT. THE CONTRACTOR MUST REGISTER AS A CO-PERMITTEE FOR THIS PROJECT (WITH THE OEPA) PRIOR TO THE COMMENCEMENT OF EARTH DISTURBING ACTIVITIES. THE CONTRACTOR AND ALL SUBCONTRACTORS INVOLVED IN THE IMPLEMENTATION AND MAINTENANCE OF THE SWPP3 MUST SIGN A DES FORM ACKNOWLEDGING THEY HAVE REVIEWED AND UNDERSTAND THE CONDITIONS AND REQUIREMENTS OF THE SWPP3 PRIOR TO COMMENCEMENT OF CONSTRUCTION ACTIVITIES.

STM11 SHOP DRAWINGS FOR ALL STORM STRUCTURES MUST BE SUBMITTED BY THE CONTRACTOR AND APPROVED BY THE DEPARTMENT OF ENGINEERING SERVICES BEFORE ORDERING STRUCTURES.

STM12 ALL CATCH BASINS, MANHOLES, AND CURB INLETS SHALL HAVE CONCRETE CHANNELS POURED IN PLACE TO ASSURE POSITIVE DRAINAGE THROUGH THESE STRUCTURES.

STM13 PUBLIC STORM SEWER MANHOLE LIDS ARE TO BE EAST JORDAN IRON WORKS NO. 1661-A1 OR EQUIVALENT, AND EMBOSSED "CITY OF DELAWARE STORM SEWER".

STM14 STORM SEWER CURB INLETS ARE TO BE ADJUSTED WITHIN "4" OF PLAN ELEVATION USING STEEL SHIMS. CURB INLET HOODS SHALL BE EMBOSSED WITH THE WORDING "DRAINS TO THE RIVER" PER THE CITY STANDARD DRAWING.

STM15 PRE-CAST CONCRETE OR HDPE PREFORMED MANHOLE ADJUSTING RINGS ARE TO BE USED FOR ALL FINAL ADJUSTMENTS OF MANHOLE CASTINGS.

STM16 OPENINGS SHALL BE PROVIDED IN CURB INLET DRAINAGE STRUCTURES TO ACCOMMODATE UNDERDRAIN OUTLETS. UNDERDRAINS ARE TO BE CONSTRUCTED IN ACCORDANCE WITH DETAILS GIVEN IN THE PLANS.

WATER LINE NOTES

WTR1 ALL WATER LINES, FITTINGS AND APPURTENANCES SHALL BE INSTALLED IN ACCORDANCE WITH THE SPECIFICATIONS CONTAINED WITHIN THE COC CMS 2012 VERSION, EXCEPT AS MODIFIED WITHIN THE CITY OF DELAWARE GENERAL NOTES, STANDARD DRAWINGS AND INFRASTRUCTURE DESIGN MANUAL.

WTR2 ANY ACTIVITY RELATED TO THE MODIFYING, UPGRADING, OR EXPANDING THE PUBLIC WATER SYSTEM MUST HAVE PRE-APPROVAL OF THE DEPARTMENT OF ENGINEERING SERVICES AND UTILITY DEPARTMENT. WORK REQUIRING THE SHUTDOWN OF EXISTING WATER MAINS IS TO BE COORDINATED WITH THESE TWO DEPARTMENTS FORTY-EIGHT HOURS PRIOR TO THE SCHEDULED WORK BEING PERFORMED. ALL EFFECTED CUSTOMERS SHALL BE NOTIFIED, IN WRITING, BY THE CONTRACTOR AT LEAST TWENTY-FOUR HOURS PRIOR TO SHUT DOWN. CITY APPROVAL OF ALL CUSTOMER NOTIFICATIONS IS REQUIRED IN ADVANCE OF DISTRIBUTION.

WTR3 WATER MAINS SHALL BE DUCTILE IRON PIPE, CLASS 53 FOR SIZES 3" TO 10" AND CLASS 54 FOR SIZES 12" TO 48" (AWWA C151) WITH CEMENT MORTAR LINING AND SEAL COATING (AWWA C104) IN ACCORDANCE WITH CITY SPECIFICATIONS, UNLESS CALLED OUT OTHERWISE BY THESE PLANS. JOINTS MUST BE RUBBER GASKET PUSH-ON MECHANICAL (AWWA C111). WATER MAIN FITTINGS MUST BE DUCTILE IRON WITH CEMENT MORTAR LINING AND SEAL COATING WITH MECHANICAL JOINTS AND MUST CONFORM TO AWWA C153, UNLESS SPECIFIED OTHERWISE BY THESE PLANS. JOINT RESTRAINTS MUST BE PER THE APPROVED PLANS.

WTR4 ALL PIPING 2" OR LESS IN DIAMETER BETWEEN THE WATER MAIN AND THE CONTROL VALVE OR METER PIT SHALL BE TYPE E, SOFT TEMPERED COPPER TUBING CONFORMING IN ALL RESPECTS TO ASTM B88. FITTINGS SHALL BE FORD OR MUELLER HIGH QUALITY COPPER BRASS WITH AWWA APPROVED COMPRESSION TYPE JOINTS. THERE WILL BE NO FITTINGS PERMITTED BETWEEN THE WATER MAIN CONNECTION AND THE CONTROL VALVE.

WTR5 DEAD-END WATER LINES SHALL TERMINATE WITH A FIRE HYDRANT AND WATCH VALVE FOLLOWED BY A MAIN LINE VALVE AND AN ADDITIONAL SECTION OF WATER LINE PLUGGED AND BLOCKED PER THE STANDARD DRAWINGS.

WTR6 WATER LINES SHALL BE INSTALLED WITH A MINIMUM OF 4'-0" OF COVER MEASURED FROM THE FINISHED GRADE TO THE TOP OF THE WATER MAIN, OR AS INDICATED ON THE APPROVED CONSTRUCTION PLANS.

WTR7 ALL MAIN LINE VALVES, HYDRANT WATCH VALVES, CURB BOXES, AND DEAD END LINES ARE TO BE MARKED WITH A 4" x 4" x 10'-0" PRESSURE TREATED WOOD WYE-POLE PROJECTING 4'-0" ABOVE THE FINISHED GRADE AND WITH THE TOP 1'-0" PAINTED BLUE ON FOUR SIDES. POSTS ARE TO BE MAINTAINED UNTIL THE AREA IS HAS UNDERGONE FINAL GRADING AND SEEDING. THE COST SHALL BE INCLUDED IN THE VARIOUS WATER ITEMS.

WTR8 IF THERE ARE ANY CONFLICTS IN GRADE BETWEEN WATER LINE AND SEWERS, THE WATER LINES SHALL BE LOWERED DURING CONSTRUCTION.

WTR9 THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE HORIZONTAL AND VERTICAL DEFLECTIONS OR BEND IN THE WATER LINE IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS. WATER LINES ARE TO MAINTAIN 1'-6" VERTICAL AND 10'-0" HORIZONTAL CLEARANCE FROM SANITARY SEWERS AND STORM SEWERS.

WTR10 PRIOR TO MAKING A CONNECTION TO THE PUBLIC WATER SYSTEM, THE CONTRACTOR SHALL COORDINATE ANY NECESSARY OPERATION OF THE PUBLIC WATERLINE VALVES DIRECTLY WITH THE DEPARTMENT OF PUBLIC UTILITIES.

WTR11 THE WATER SERVICE TAPS SHALL CONSIST OF ALL PIPE, VALVES, FITTINGS, AND APPURTENANCES NECESSARY TO CONNECT TO THE PUBLIC WATER MAIN AND COMPLETE THE INSTALLATION ACCORDING TO THE STANDARDS SET FORTH IN THE APPROVED CONSTRUCTION PLANS.

WTR12 THE VALVE COVERS AND INSIDE OF ALL MAINLINE WATER VALVE BOXES SHALL BE PAINTED BLUE, AND THE VALVE COVERS AND INSIDE OF ALL FIRE HYDRANT WATCH VALVE BOXES SHALL BE PAINTED RED WITH 2 COATS OF RUST INHIBITIVE PAINT. PUBLIC FIRE HYDRANTS ARE TO BE PAINTED WITH TWO COATS OF FEDERAL SAFETY YELLOW. PRIVATE FIRE HYDRANTS ARE TO BE PAINTED FEDERAL SAFETY RED, WITH WHITE BONNETS AND NOZZLE COVERS.

WTR13 ALL MECHANICAL FASTENERS, BOLTS, ALL THREAD ROD, ETC. ARE TO RECEIVE ONE COAT OF RUST INHIBITIVE PAINT OR COATING.

WTR14 IF THE TOP OF THE VALVE OPERATING NUT IS MORE THAN 36" INCHES BELOW FINISHED GRADE, AN EXTENSION STEM SHALL BE FURNISHED TO BRING THE TOP OF THE OPERATING NUT TO WITHIN 24" OF FINISHED GRADE ELEVATION. ALL VALVE STEM EXTENSIONS ARE TO BE INSTALLED WITH THE EXTENSION SECURED DIRECTLY TO THE VALVE OPERATING NUT WITH GALVANIZED BOLTS.

WTR15 WATER LINE SHALL NOT BE INSTALLED IN ANY TRENCH FILLED WITH WATER. THE CONTRACTOR IS RESPONSIBLE FOR THE COST OF DEWATERING OPERATIONS REQUIRED FOR THE CONSTRUCTION OF THE WATER LINE.

WTR16 ALL FITTINGS SHALL BE ADEQUATELY RESTRAINED WITH SOLID OR POURED IN PLACE CONCRETE BLOCKING PER THE CITY STANDARD DRAWINGS. ALL FITTINGS TO BE BACKED MUST BE THOROUGHLY WRAPPED IN PLASTIC SHEETING PRIOR TO PLACING CONCRETE.

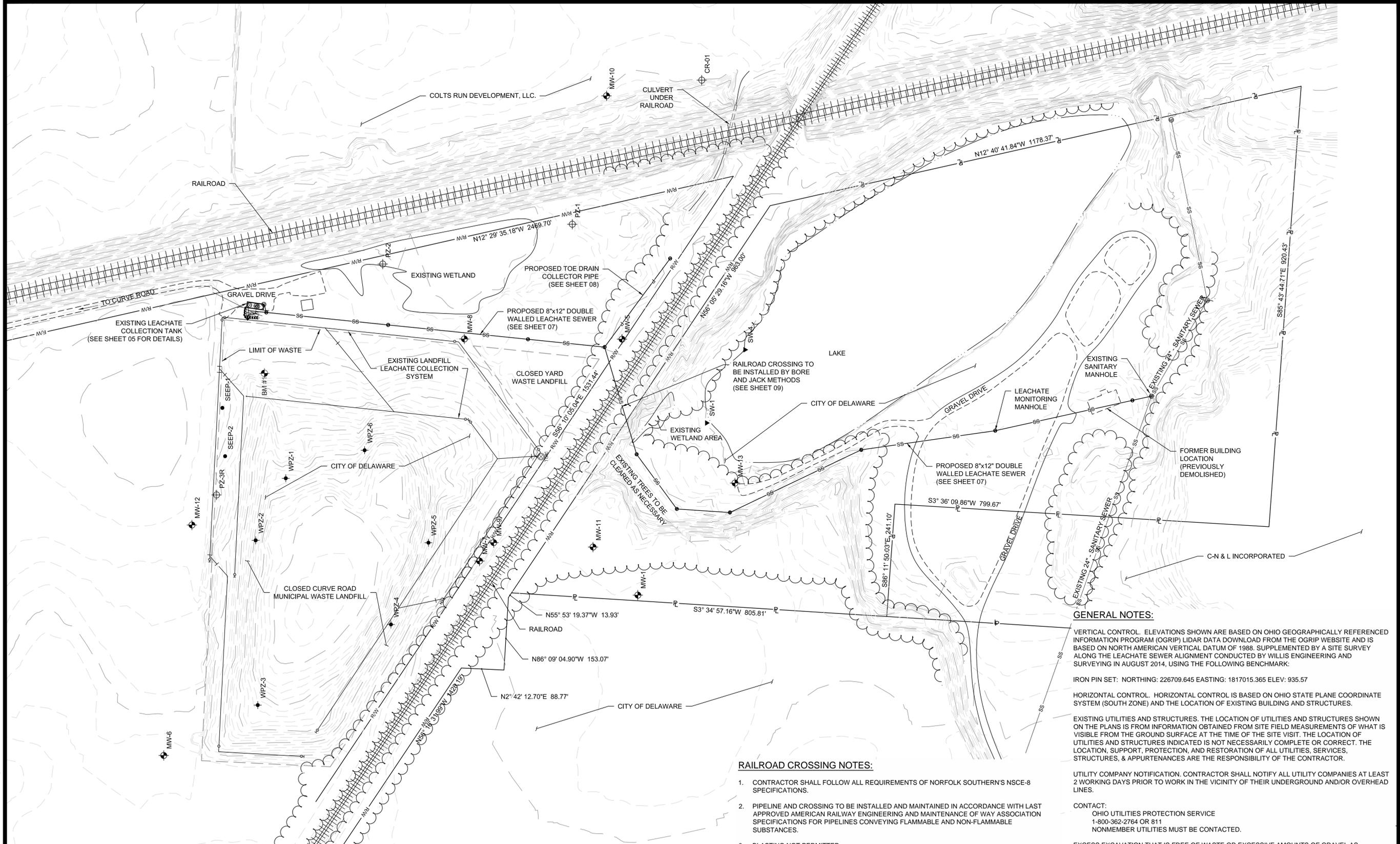
WTR17 FIRE HYDRANTS SHALL MEET AWWA STANDARDS AND ARE TO BE MUELLER "SUPER CENTURION 250" A-423 OR "CLOW MEDALLION" ON TYPE "A" SETTING WITH NATIONAL STANDARD THREADS FOR THE 2-1/2" HOSE NOZZLES AND WATCH VALVE DIRECTLY MOUNTED TO ANCHOR TEE. TYPE "B" SETTINGS SHALL NOT BE USED UNLESS APPROVED BY THE CITY. ALL PIPING BETWEEN THE WATCH VALVE AND HYDRANT SHALL BE MECHANICAL JOINT FITTINGS. THE CONNECTION TO THE HYDRANT SHALL BE A 5" STORTZ FITTING WITH A QUICK RELEASE LOCKING COUPLING. ALL SAFETY CHAINS ARE TO BE REMOVED FROM HYDRANTS.

WTR18 ALL FIRE DEPARTMENT CONNECTIONS (STANDPIPES) SHALL HAVE A 45° DOWNTURN FITTING TO REDUCE KINKING IN THE FIRE HOSE. THE CONNECTION TO THE STANDPIPE SHALL BE A 5" STORTZ FITTING WITH A LOCKING COUPLING.

WTR19 ALL NEW MAIN LINE AND HYDRANT WATCH VALVES ARE TO BE DIRECTLY BOLTED TO THE ANCHOR TEE WITH ANCHOR TEE FITTINGS.

WTR20 THE INSTALLATION OF 3/4" AND 1" WATER TAPS SHALL BE MADE BY DIRECT TAP ONLY. DIRECT TAPS ARE NOT PERMITTED TO ANY ASBESTOS MAINS. 1 1/2" AND 2" WATER TAPS SHALL BE MADE WITH A FORD STYLE F-202. 3" AND 4" WATER TAPS SHALL BE MADE WITH A FORD STYLE F-202. 6" WATER TAPS AND LARGER SHALL BE MADE WITH A FORD FTS TAPPING SLEEVE. A JCM 432 IS AN APPROVED EQUAL.

WTR21 ALL GATE VALVES MUST BE DUCTILE IRON RESILIENT WEDGE 250 PSI AS MANUFACTURED BY AMERICAN FLOW CONTROL OR APPROVED EQUIVALENT WHICH MEETS OR EXCEEDS THE REQUIREMENTS OF ANSI/AWWA C515. CLOW WATER COMPANY, MODEL NUMBER 2638 APPROVED FOR 16", 6" AND 8" MUST BE DUCTILE IRON AND EPOXY COATED.



- RAILROAD CROSSING NOTES:**
1. CONTRACTOR SHALL FOLLOW ALL REQUIREMENTS OF NORFOLK SOUTHERN'S NS-C-8 SPECIFICATIONS.
  2. PIPELINE AND CROSSING TO BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH LAST APPROVED AMERICAN RAILWAY ENGINEERING AND MAINTENANCE OF WAY ASSOCIATION SPECIFICATIONS FOR PIPELINES CONVEYING FLAMMABLE AND NON-FLAMMABLE SUBSTANCES.
  3. BLASTING NOT PERMITTED

**GENERAL NOTES:**

VERTICAL CONTROL. ELEVATIONS SHOWN ARE BASED ON OHIO GEOGRAPHICALLY REFERENCED INFORMATION PROGRAM (OGIP) LIDAR DATA DOWNLOAD FROM THE OGIP WEBSITE AND IS BASED ON NORTH AMERICAN VERTICAL DATUM OF 1988. SUPPLEMENTED BY A SITE SURVEY ALONG THE LEACHATE SEWER ALIGNMENT CONDUCTED BY WILLIS ENGINEERING AND SURVEYING IN AUGUST 2014, USING THE FOLLOWING BENCHMARK:

IRON PIN SET: NORTING: 226709.645 EASTING: 1817015.365 ELEV: 935.57

HORIZONTAL CONTROL. HORIZONTAL CONTROL IS BASED ON OHIO STATE PLANE COORDINATE SYSTEM (SOUTH ZONE) AND THE LOCATION OF EXISTING BUILDING AND STRUCTURES.

EXISTING UTILITIES AND STRUCTURES. THE LOCATION OF UTILITIES AND STRUCTURES SHOWN ON THE PLANS IS FROM INFORMATION OBTAINED FROM SITE FIELD MEASUREMENTS OF WHAT IS VISIBLE FROM THE GROUND SURFACE AT THE TIME OF THE SITE VISIT. THE LOCATION OF UTILITIES AND STRUCTURES INDICATED IS NOT NECESSARILY COMPLETE OR CORRECT. THE LOCATION, SUPPORT, PROTECTION, AND RESTORATION OF ALL UTILITIES, SERVICES, STRUCTURES, & APPURTENANCES ARE THE RESPONSIBILITY OF THE CONTRACTOR.

UTILITY COMPANY NOTIFICATION. CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES AT LEAST 2 WORKING DAYS PRIOR TO WORK IN THE VICINITY OF THEIR UNDERGROUND AND/OR OVERHEAD LINES.

CONTACT:  
OHIO UTILITIES PROTECTION SERVICE  
1-800-362-2764 OR 811  
NONMEMBER UTILITIES MUST BE CONTACTED.

EXCESS EXCAVATION THAT IS FREE OF WASTE OR EXCESSIVE AMOUNTS OF GRAVEL AS DETERMINED BY THE OWNER, MAY BE SPOILED ON-SITE WHERE DIRECTED BY THE OWNER ON THE EXISTING LANDFILL CAP SOUTH OF THE RAILROAD CROSSING. PLACE SOIL TO A MAXIMUM DEPTH OF 12-INCHES UNLESS OTHERWISE DIRECTED BY THE OWNER. COMPACT, GRADE TO ENSURE POSITIVE SITE DRAINAGE, AND SEED/MULCH THE DISTURBED AREAS IN ACCORDANCE WITH THE SPECIFICATIONS.

FINISH GRADING AND SEEDING. ALL AREAS THAT ARE DISTURBED OR DAMAGED DURING CONSTRUCTION THAT ARE NOT PAVED OR OTHERWISE COVERED, SHALL BE RETURNED TO EXISTING GRADES, FERTILIZED, SEED, AND MULCHED IN ACCORDANCE WITH THE SPECIFICATIONS. USE SEED MIX 3 (LANDFILL COVER) ON DISTURBED AREAS SOUTH OF THE RAILROAD RIGHT-OF-WAY BEING CROSSED BY THE NEW SEWER. ALL OTHER DISTURBED AREAS SHALL BE SEED WITH SEED MIX 2, UNLESS NOTED OTHERWISE.

**LEACHATE TRANSFER SYSTEM PLAN**

SCALE: 1" = 100'

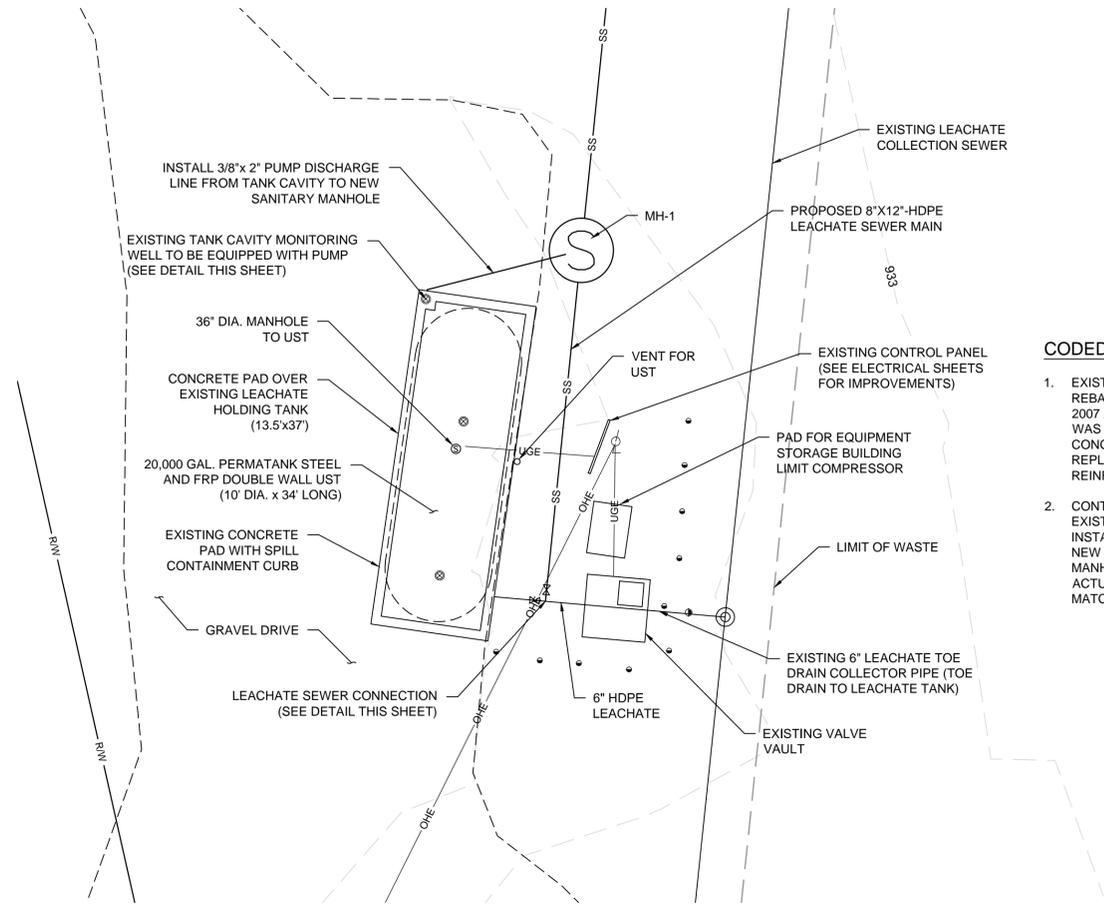
**BURGESS & NIPLE**  
5085 REED ROAD  
COLUMBUS, OHIO 43220

CITY OF DELAWARE, OHIO  
CURVE ROAD LANDFILL  
LEACHATE TRANSFER SYSTEM  
DELAWARE COUNTY  
DECEMBER 2014

NO.	DESCRIPTION	DATE

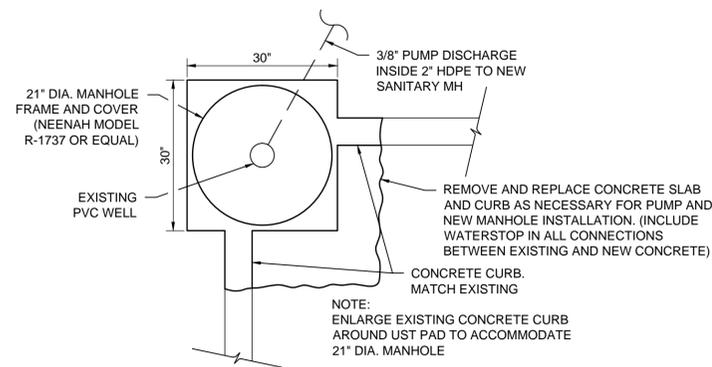
JOB NO: 53387  
DATE: DEC. 2014  
DESIGNED BY: BWT  
DRAWN BY: RVZ  
CHECKED BY: MEL  
APPROVED BY: BWT  
SCALE: NOTED

LEACHATE TRANSFER SYSTEM PLAN



**LEACHATE TANK IMPROVEMENT PLAN**

SCALE: 1" = 10'

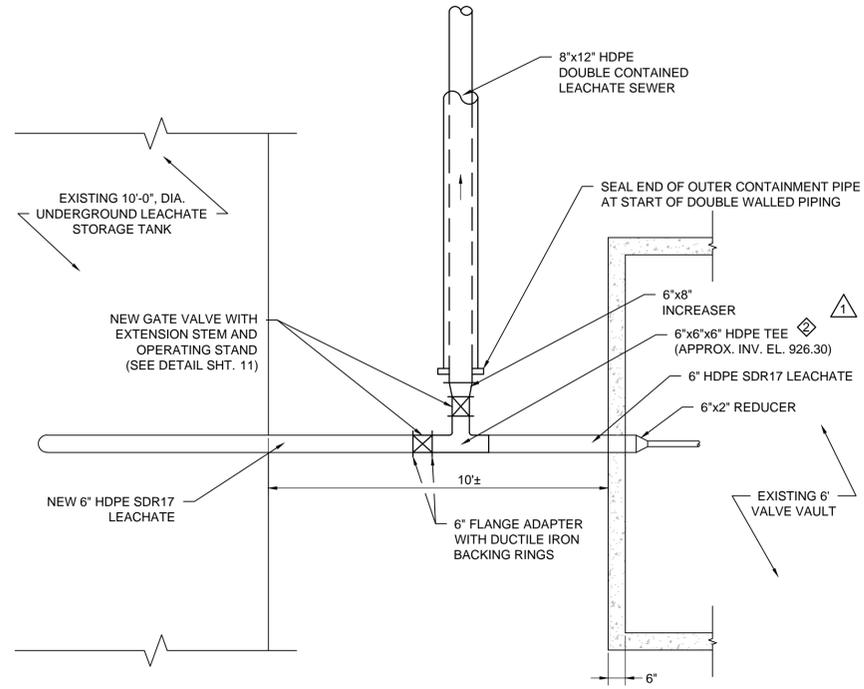


**PUMP INSTALLATION PLAN**

SCALE: NONE

**CODED NOTES:**

1. EXISTING CONCRETE PAD IS 8-INCH THICK REINFORCED WITH #5 REBAR DOWELS AT 24" O.C., E.W., 1" C.C. FROM BOTTOM, PER THE 2007 AS-BUILT DRAWINGS PROVIDED BY THE OWNER. CONCRETE WAS PLACED OVER PLASTIC SHEETING TO SEPARATE THE CONCRETE FROM THE TANK GRAVEL BACKFILL. REMOVE AND REPLACE AS NECESSARY TO MATCH EXISTING IN THICKNESS, REINFORCING, AND FINISH.
2. CONTRACTOR SHALL FIELD VERIFY INVERT ELEVATION OF EXISTING LEACHATE PIPE AND REPORT IT TO THE CITY PRIOR TO INSTALLATION OF THE NEW LEACHATE PIPING OR ORDERING OF NEW MANHOLES. INVERT ELEVATION OF NEW SEWER AND MANHOLES MAY BE ADJUSTED IF IT IS DETERMINED THAT THE ACTUAL INVERT OF THE EXISTING LEACHATE PIPE DOES NOT MATCH THAT SHOWN ON THESE PLANS.

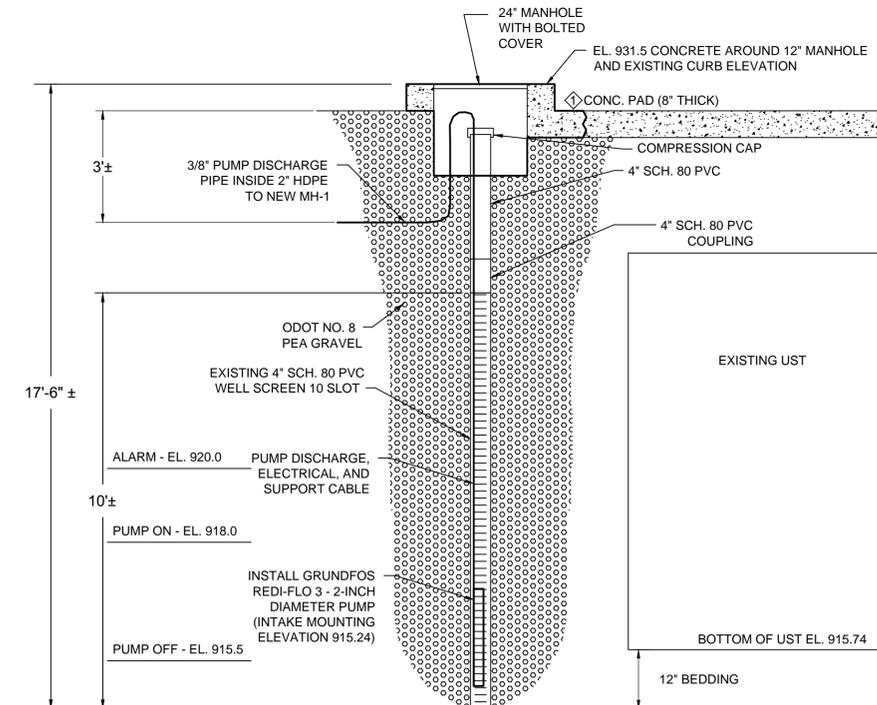


**LEACHATE SEWER CONNECTION DETAIL**

SCALE: 3/8" = 1'-0"

**PUMP INSTALLATION NOTES**

1. REMOVE EXISTING 12" MANHOLE AND SURROUNDING CONCRETE.
2. INSTALL NEW 21" MANHOLE, PUMP, AND DISCHARGE PIPE.
3. RESTORE CONCRETE CURB AND PAD.



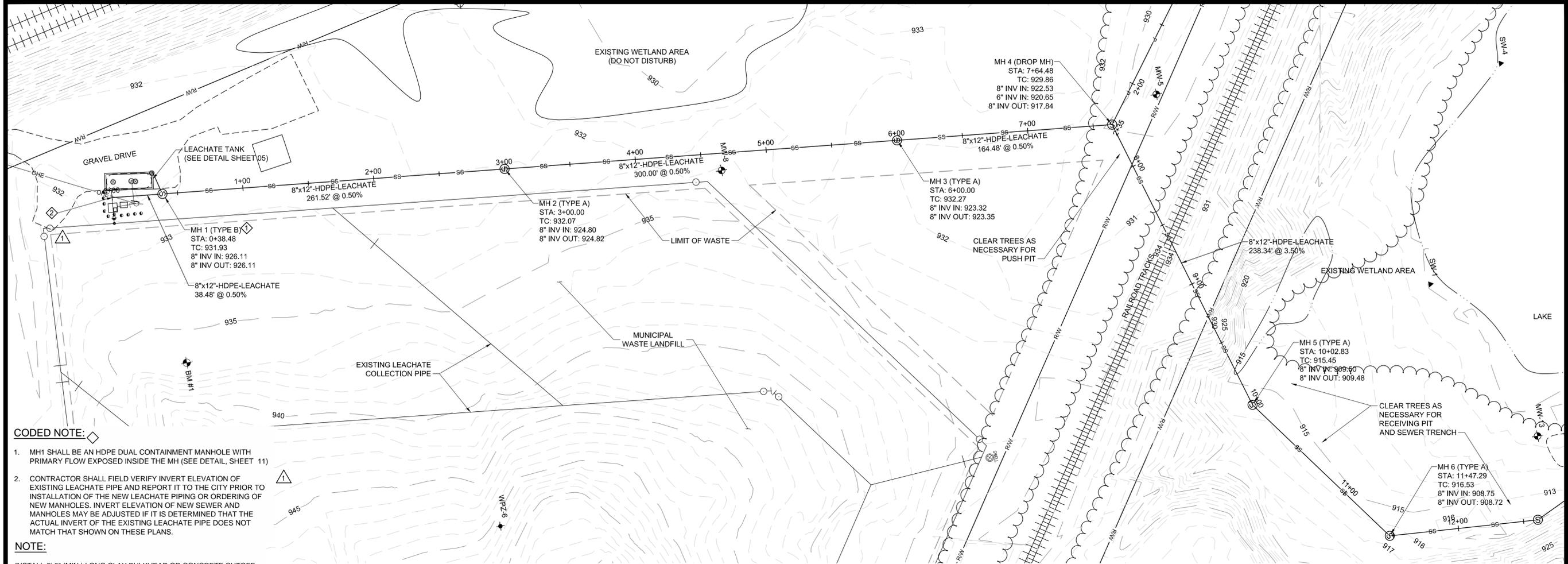
**TANK CAVITY MONITORING WELL DETAIL**

SCALE: NONE

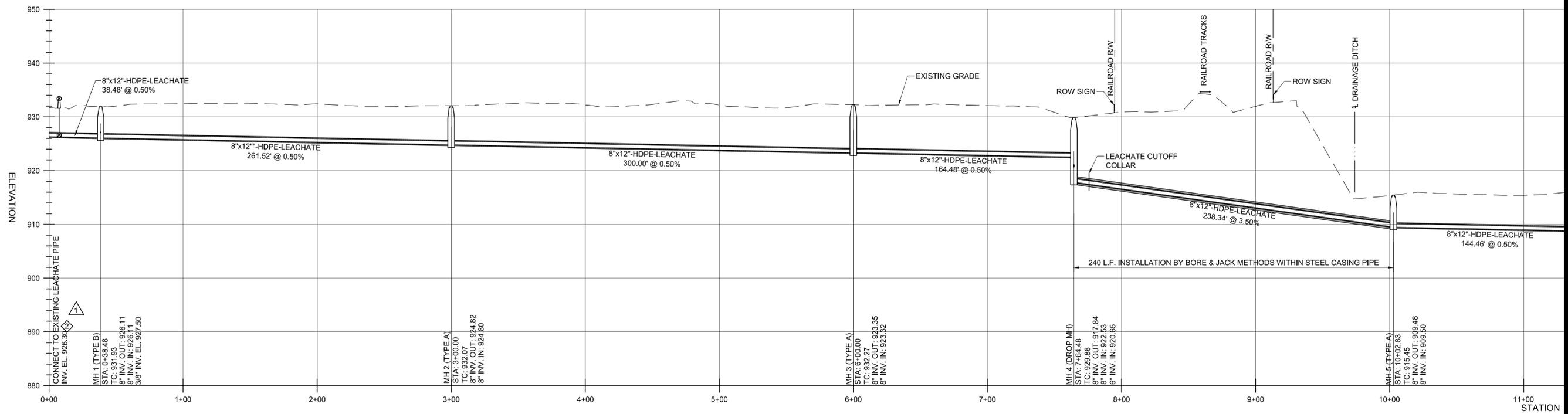
NO.	DESCRIPTION	DATE

JOB NO:	53387
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CHECKED BY:	MEL
APPROVED BY:	BWT
SCALE:	NOTED

LEACHATE COLLECTION TANK IMPROVEMENTS



- CODED NOTE:**
- MH1 SHALL BE AN HDPE DUAL CONTAINMENT MANHOLE WITH PRIMARY FLOW EXPOSED INSIDE THE MH (SEE DETAIL, SHEET 11)
  - CONTRACTOR SHALL FIELD VERIFY INVERT ELEVATION OF EXISTING LEACHATE PIPE AND REPORT IT TO THE CITY PRIOR TO INSTALLATION OF THE NEW LEACHATE PIPING OR ORDERING OF NEW MANHOLES. INVERT ELEVATION OF NEW SEWER AND MANHOLES MAY BE ADJUSTED IF IT IS DETERMINED THAT THE ACTUAL INVERT OF THE EXISTING LEACHATE PIPE DOES NOT MATCH THAT SHOWN ON THESE PLANS.
- NOTE:**
- INSTALL 6'-0" (MIN.) LONG CLAY BULKHEAD OR CONCRETE CUTOFF COLLAR A MINIMUM OF EVERY 100 FT. ALONG SEWER ALIGNMENT TO BLOCK THE MIGRATION OF GROUNDWATER OR LEACHATE THROUGH THE GRANULAR PIPE BEDDING/BACKFILL.



**BURGESS & NIPLÉ**  
5085 REED ROAD  
COLUMBUS, OHIO 43220

CITY OF DELAWARE, OHIO  
CURVE ROAD LANDFILL  
LEACHATE TRANSFER SYSTEM  
DELAWARE COUNTY  
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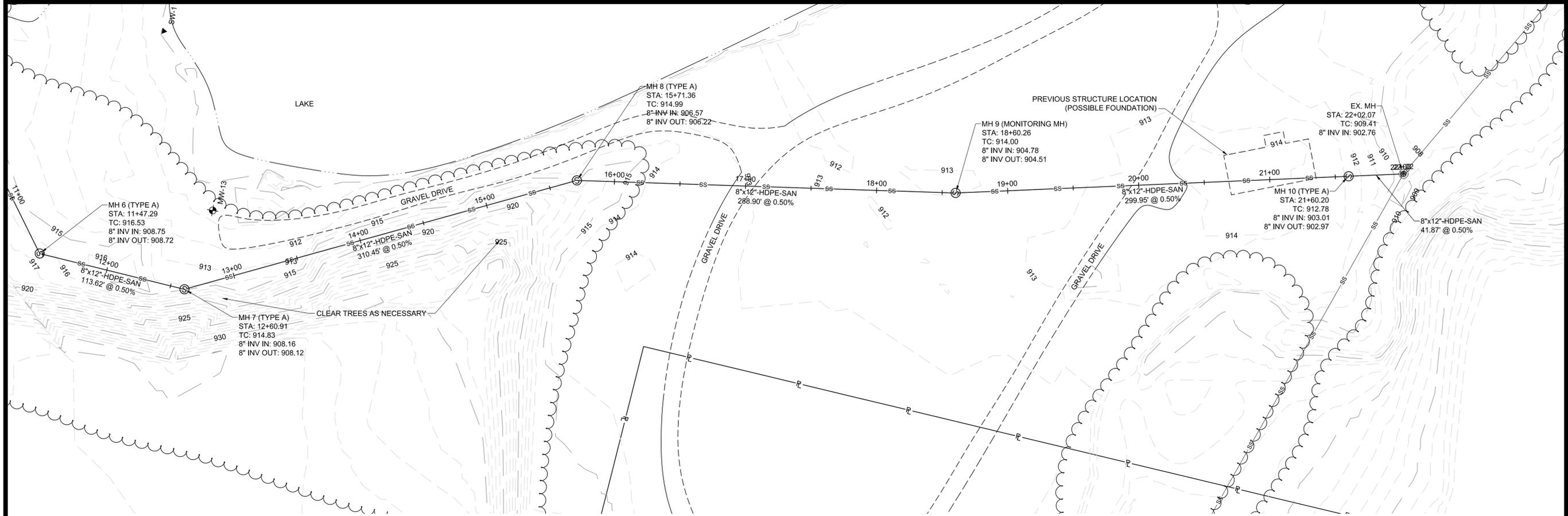
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**APPROVED BY:** BWT  
**SCALE:** NOTED

LEACHATE TRANSFER SEWER PLAN AND PROFILE SHEET 1

**06**  
SHEET: 06 OF 22

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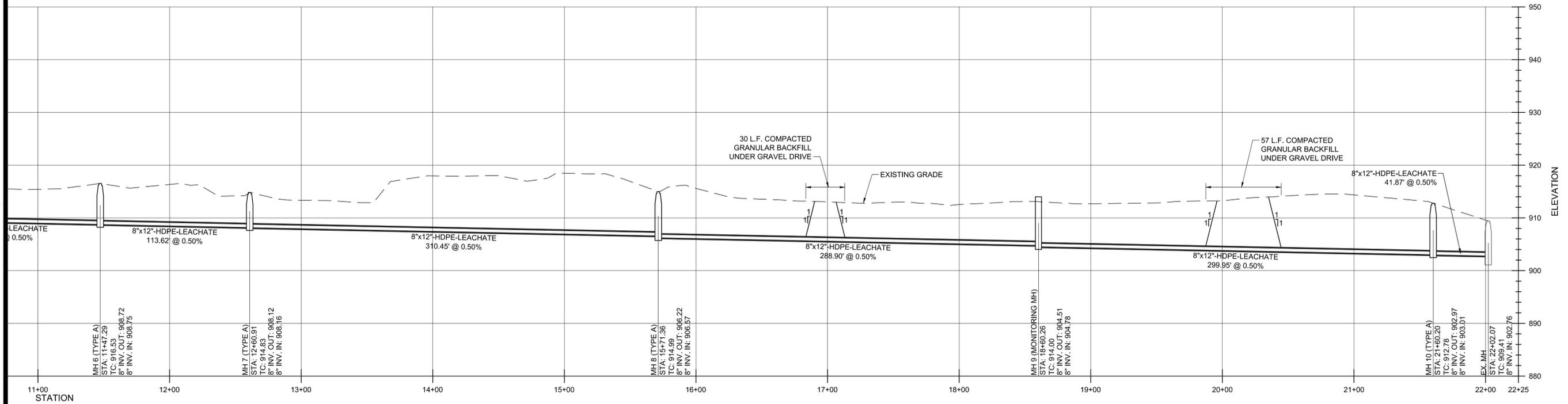
P:\PR5337\cad\07 LEACHATE TRANSFER SEWER PLAN AND PROFILE SHEET 2.dwg 12/9/2014 10:09:52 AM VanZandt, Ryan



**NOTE:**  
 INSTALL 6'-0" (MIN.) LONG CLAY BULKHEAD OR CONCRETE CUTOFF COLLAR A MINIMUM OF EVERY 100 FT. ALONG SEWER ALIGNMENT TO BLOCK THE MIGRATION OF GROUNDWATER OR LEACHATE THROUGH THE GRANULAR PIPE BEDDING/BACKFILL.

**LEACHATE TRANSFER SEWER PLAN**

SCALE: 1" = 40'



**LEACHATE TRANSFER SEWER PROFILE**

SCALE: 0 10' 20' 0 20' 40' 80'  
 VERTICAL SCALE HORIZONTAL SCALE

**BURGESS & NIPLÉ**

5085 REED ROAD  
 COLUMBUS, OHIO 43220

CITY OF DELAWARE, OHIO  
 CURVE ROAD LANDFILL  
 LEACHATE TRANSFER SYSTEM  
 DELAWARE COUNTY  
 DECEMBER 2014

NO.	DESCRIPTION	DATE

JOB NO: 53387  
 DATE: DEC. 2014  
 DESIGNED BY: BWT  
 DRAWN BY: RVZ  
 CHECKED BY: MEL  
 APPROVED BY: BWT  
 SCALE: NOTED

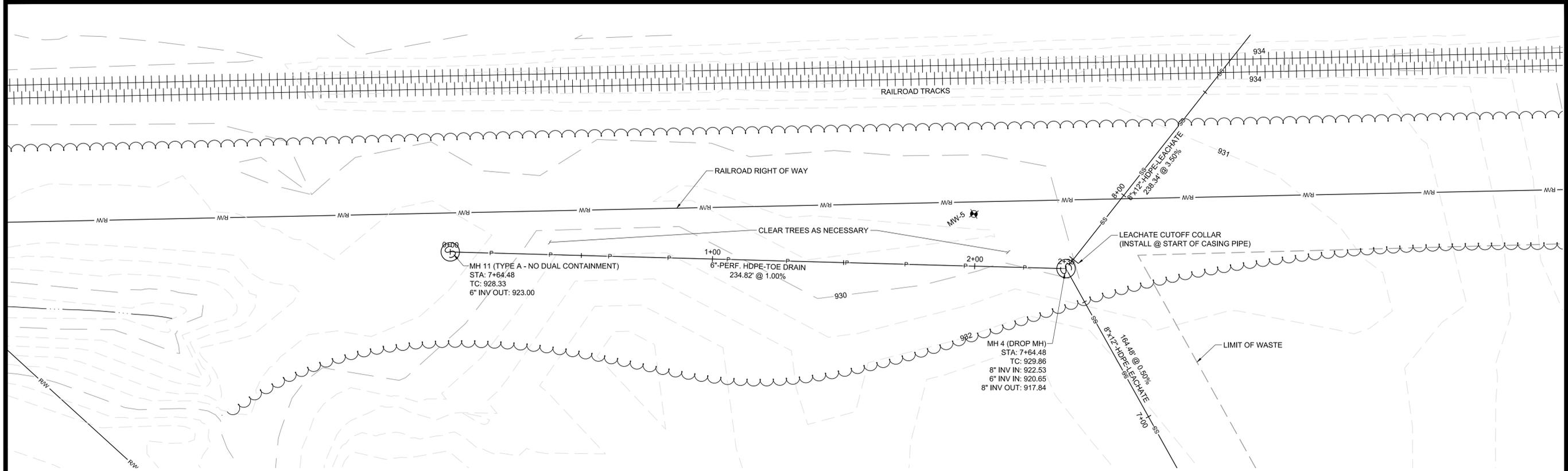
LEACHATE TRANSFER SEWER PLAN AND PROFILE SHEET 2

07

SHEET: 07 OF 22

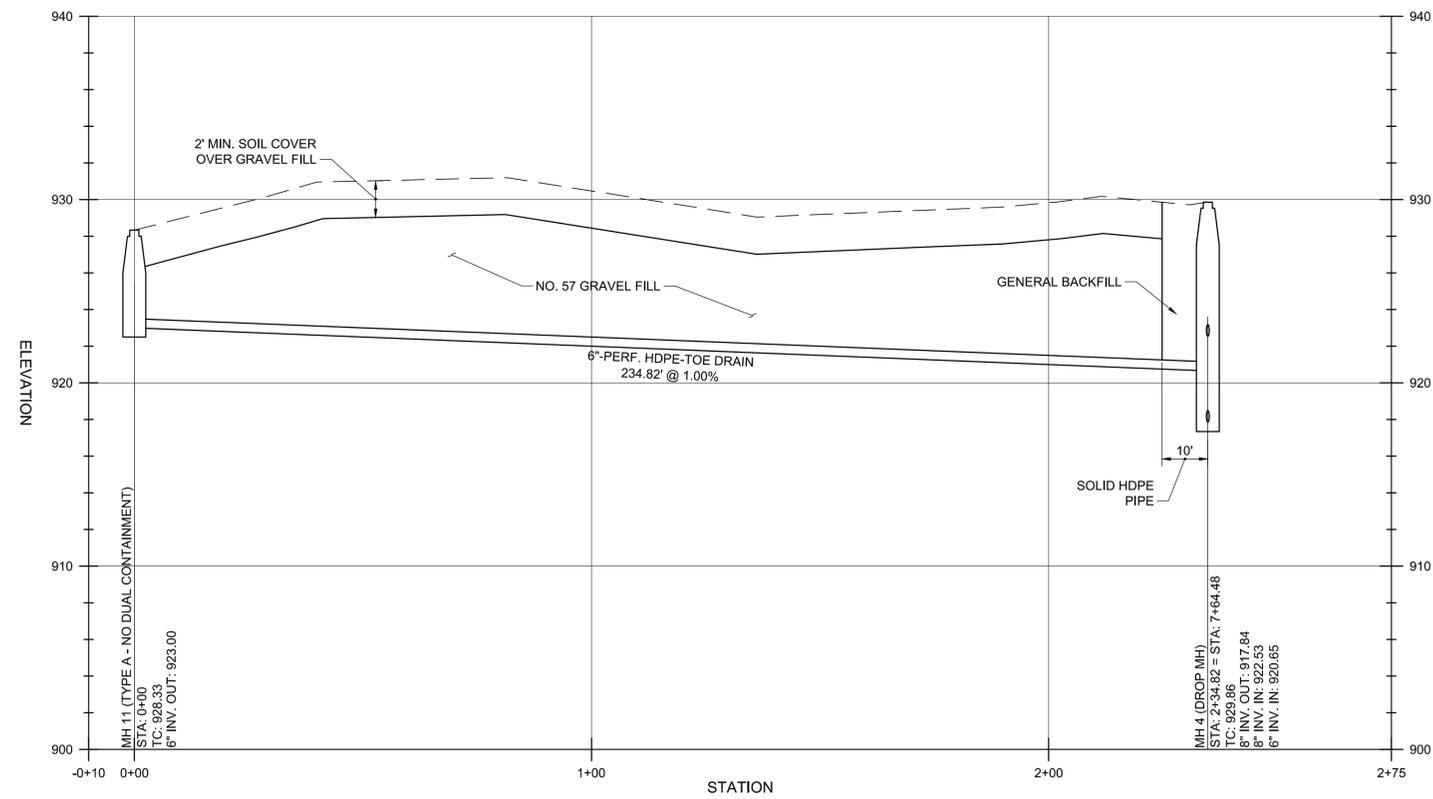
PLOTTED: 2/24/2016 3:44:03 PM

P:\PR5387\cad\08 TOE DRAIN COLLECTOR PIPE PLAN AND PROFILE.dwg 12/4/2014 2:01:07 PM VanZandt, Ryan



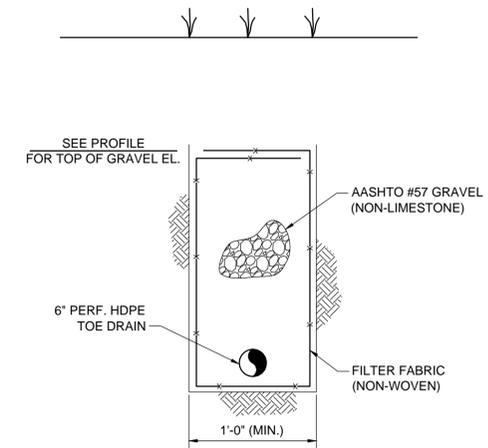
### TOE DRAIN COLLECTOR PIPE PLAN

SCALE: 1" = 20'



### TOE DRAIN COLLECTOR PIPE PROFILE

SCALE: 1" = 20'



### TOE DRAIN INSTALLATION DETAIL

SCALE: NONE

# BURGESS & NIPLÉ

5085 REED ROAD  
COLUMBUS, OHIO 43220

CITY OF DELAWARE, OHIO  
CURVE ROAD LANDFILL  
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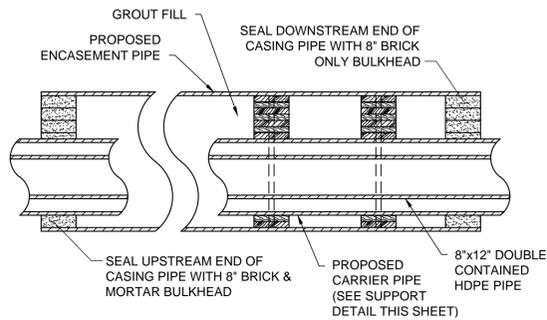
TOE DRAIN COLLECTOR PIPE PLAN AND PROFILE

# 08

SHEET: 08 OF 22

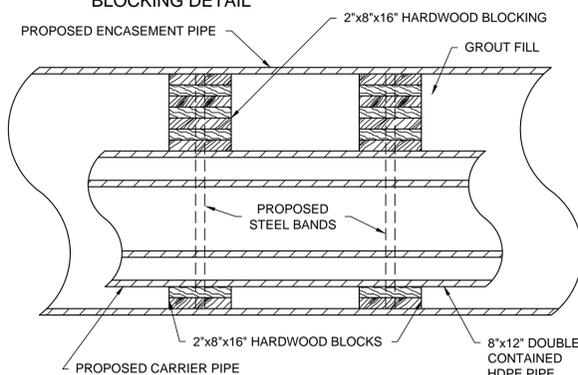
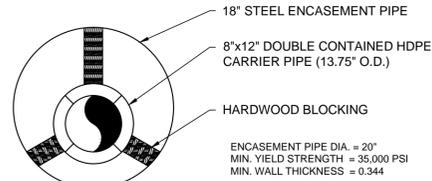
**PIPING NOTES:**

- CARRIER PIPE. THE CARRIER PIPE SHALL BE DOUBLE CONTAINED HIGH DENSITY POLYETHYLENE CONSISTING OF THE PRIMARY 8-INCH DIAMETER CARRIER PIPE AND AN OUTER 12-INCH DIAMETER CONTAINMENT PIPE. THE PIPE AND FITTINGS SHALL CONFORM TO ASTM D-3350. PIPE SHALL HAVE AN IRON PIPE SIZE OUTSIDE DIAMETER AND MEET ASTM D3035. THE CARRIER PIPE SHALL BE SUPPORTED WITHIN THE CONTAINMENT PIPE USING FULL ROUND CENTRALIZERS SPACED PER THE PLASTIC PIPING INSTITUTE STANDARDS AND THE PIPE MANUFACTURER'S RECOMMENDATIONS. PIPE JOINTS SHALL BE BUTT-FUSION TYPE WITH A CONSISTENTLY SOUND WELD PRODUCED SIMULTANEOUSLY ON BOTH THE CARRIER AND CONTAINMENT PIPE. CARRIER PIPE SHALL BE SDR 11 WHILE CONTAINMENT PIPE SHALL BE SDR 17.
- RIGHT OF WAY SIGN. INSTALL AN ALUMINUM PLATE SIGN AND POST AT EACH LOCATION WHERE THE PROPOSED LEACHATE SEWER CROSSES THE EXISTING RAILROAD RIGHT OF WAY. SIGN SHALL BE OF ALUMINUM SHEET OR PLATE SIGN CONFORMING TO THE REQUIREMENTS OF ASTM B 209 FOR 5005-H15 MOUNTED ON A MINIMUM 0.125 INCH THICK EXTRUDED ALUMINUM TUBING FROM 6063-T5 ALLOY. SIGN SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AT A FINAL SIGN HEIGHT OF 3.5 FEET ABOVE FINISHED GRADE. SIGN SHALL BE A MINIMUM OF 12"x18" IN SIZE AND CLEARLY STATE THE OWNER'S NAME, ADDRESS AND EMERGENCY PHONE NUMBER (TO BE PROVIDED BY OWNER), DEPTH TO THE ENCASEMENT PIPE RELATIVE TO FINISHED GRADE AT EACH SIGN, AND THAT THE PIPE CONTENTS ARE LANDFILL LEACHATE AT ATMOSPHERIC PRESSURE.



**ENCASEMENT PIPE DETAIL**

SCALE: NONE



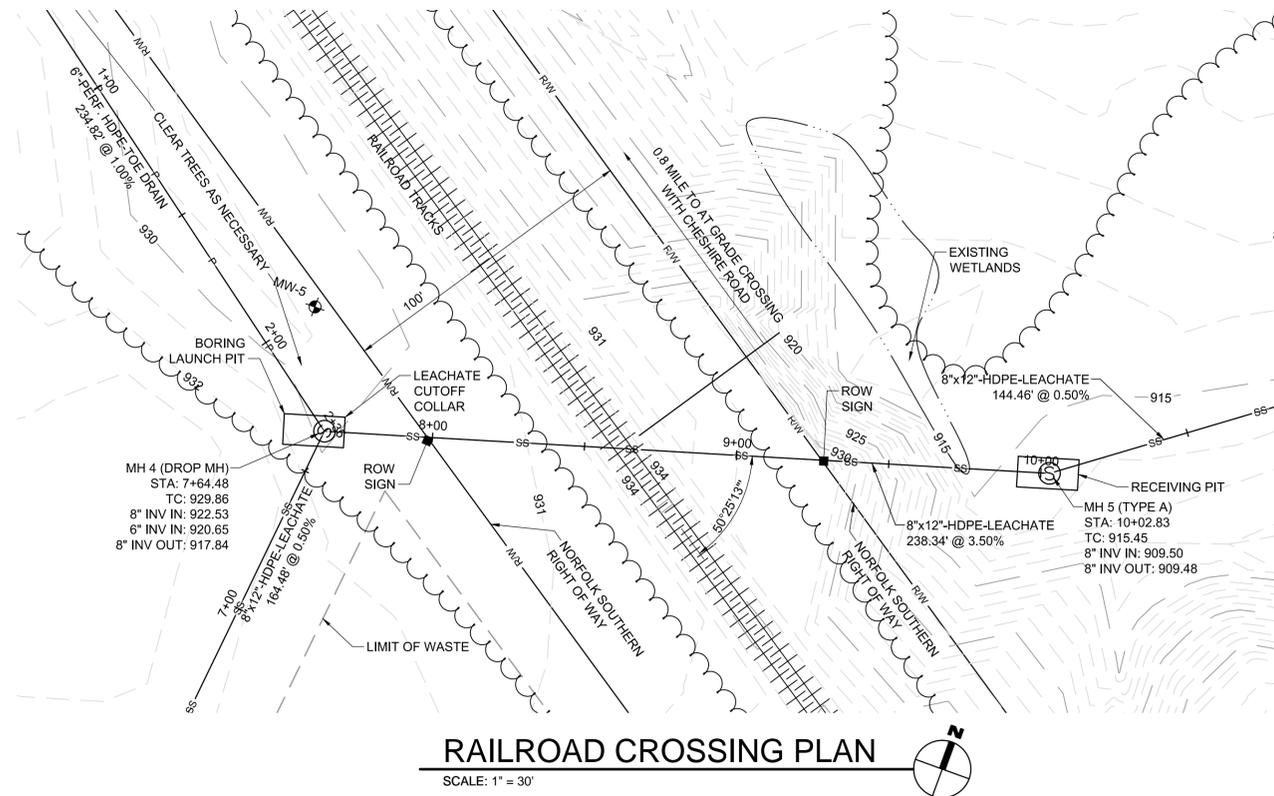
**NOTES:**

THREE BLOCK SUPPORTS SHALL BE USED ON EACH LENGTH OF CARRIER PIPE. PLACE ONE AT EACH END AND ONE IN THE MIDDLE. THE WOOD BLOCKS SHALL BE FORMED TO FIT THE WALL OF THE ENCASEMENT PIPE.

COST OF MATERIAL AND LABOR FOR HARDWOOD BLOCKS, BANDS AND GROUT FILL SHALL BE INCLUDED WITH THE UNIT PRICE OF THE RAILROAD CROSSING.

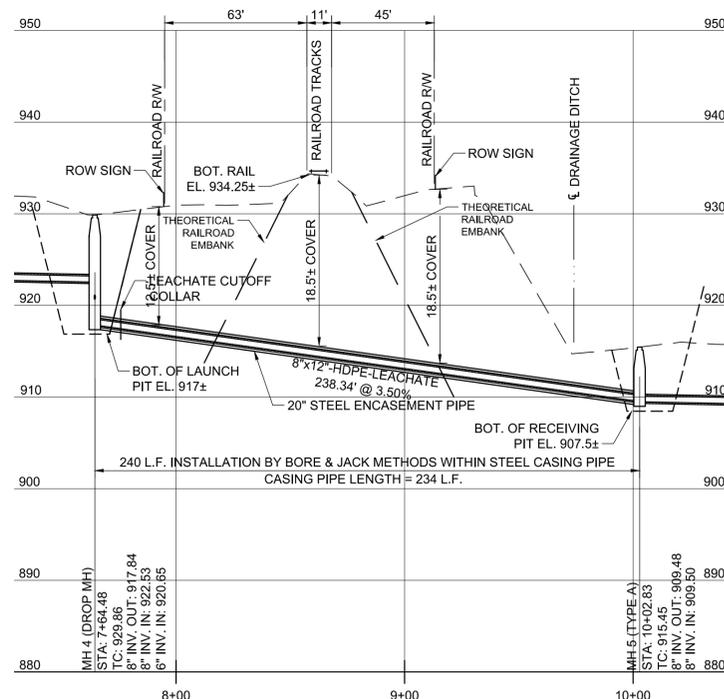
**CARRIER PIPE SUPPORT DETAIL**

SCALE: NONE



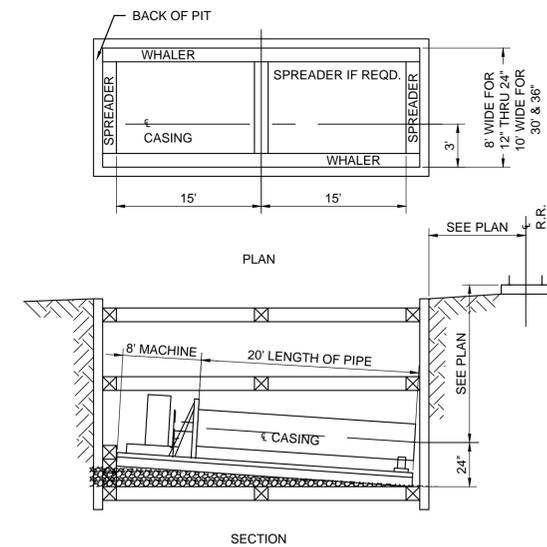
**RAILROAD CROSSING PLAN**

SCALE: 1" = 30'



**RAILROAD CROSSING PIPE PROFILE**

SCALE: 0 20' 40' 80' HORIZONTAL SCALE, 0 5' 10' VERTICAL SCALE



**BORING PIT DETAIL**

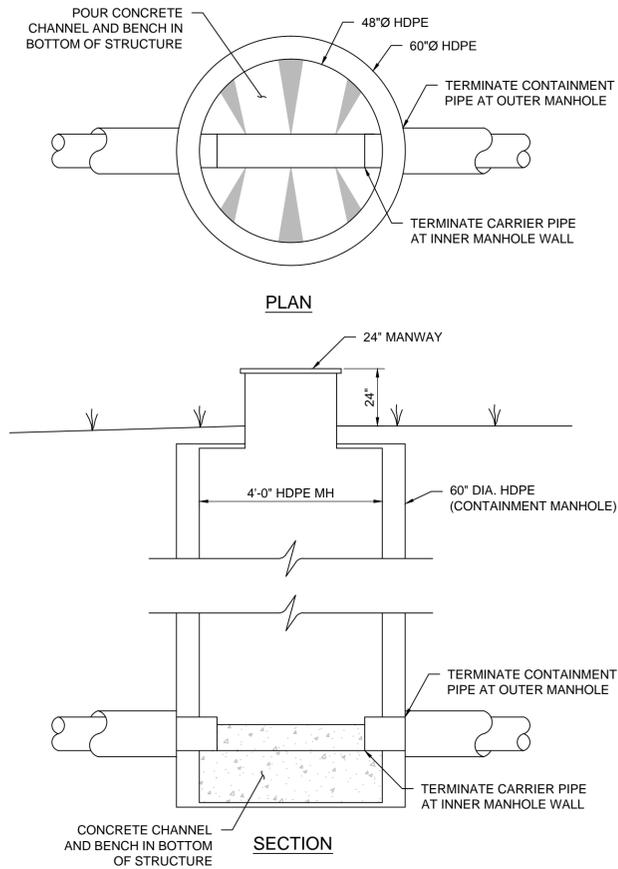
SCALE: NONE

- BORING PIT REQUIREMENTS**
- ACCESS TO PIT SIDE FOR RUBBER TIRE VEHICLES.
  - BOTTOM OF PIT SAME GRADE AS CASING PIPE.
  - LOCATE PIT TO BORE DOWN GRADE.
  - 22 FEET MINIMUM OVERHEAD CLEARANCE.
  - BOTTOM OF PIT FILLED WITH CRUSHED ROCK IF PIT IS WET.
  - BACKSTOP TO HOLD 150 TONS.

NO.	DESCRIPTION	DATE

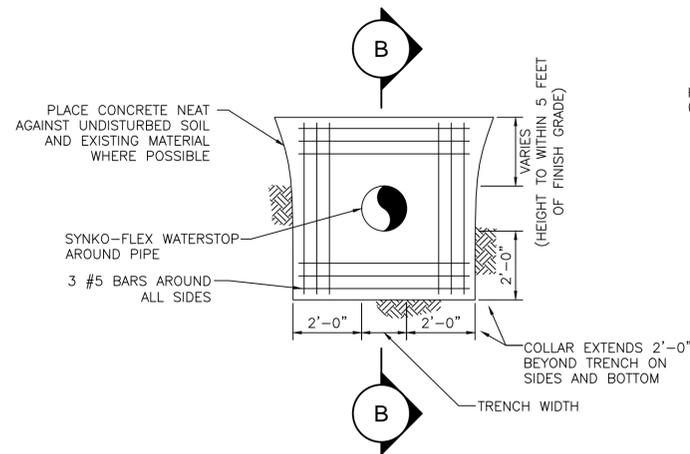
JOB NO: 53387  
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APPROVED BY: BWT  
SCALE: NOTED

RAILROAD CROSSING DETAILS



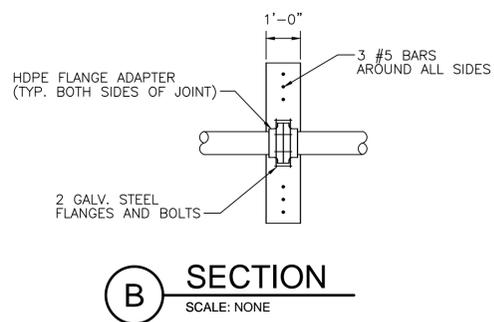
**HDPE DOUBLE CONTAINED MANHOLE (TYPE B)**

SCALE: NONE



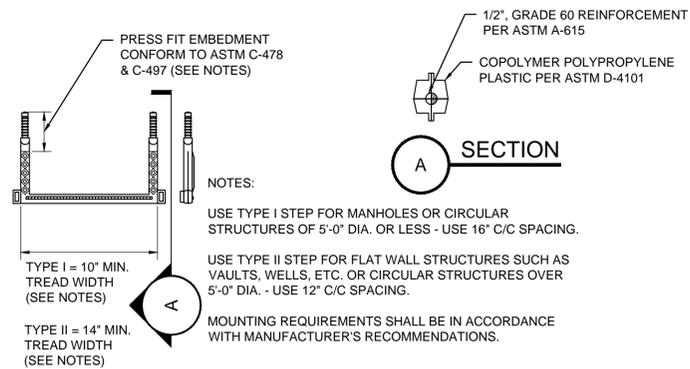
**PIPE COLLAR DETAIL**

SCALE: NONE



**SECTION**

SCALE: NONE



NOTES:

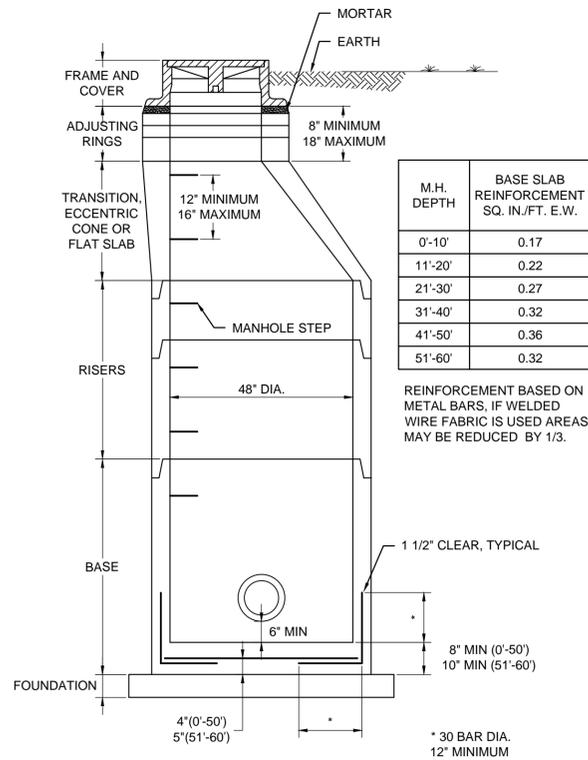
USE TYPE I STEP FOR MANHOLES OR CIRCULAR STRUCTURES OF 5'-0" DIA. OR LESS - USE 16" C/C SPACING.

USE TYPE II STEP FOR FLAT WALL STRUCTURES SUCH AS VAULTS, WELLS, ETC. OR CIRCULAR STRUCTURES OVER 5'-0" DIA. - USE 12" C/C SPACING.

MOUNTING REQUIREMENTS SHALL BE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

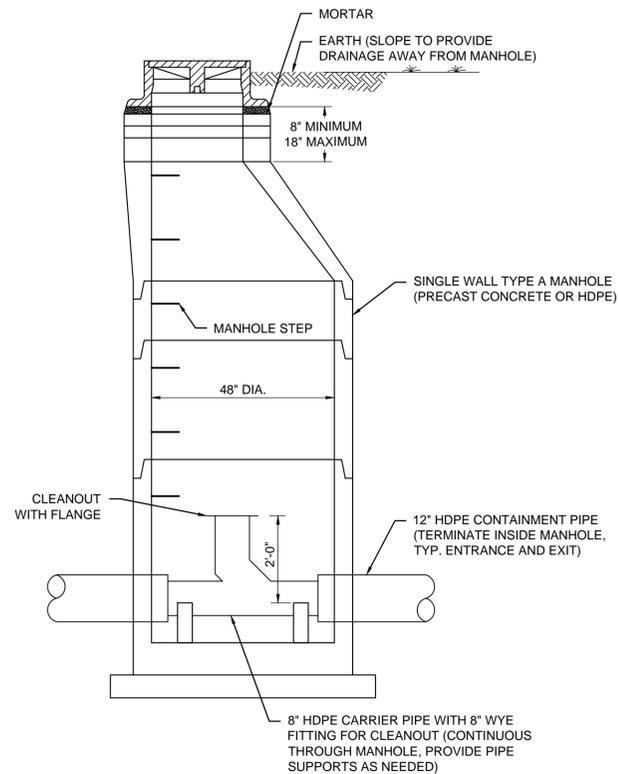
**MANHOLE STEP DETAIL**

SCALE: NONE



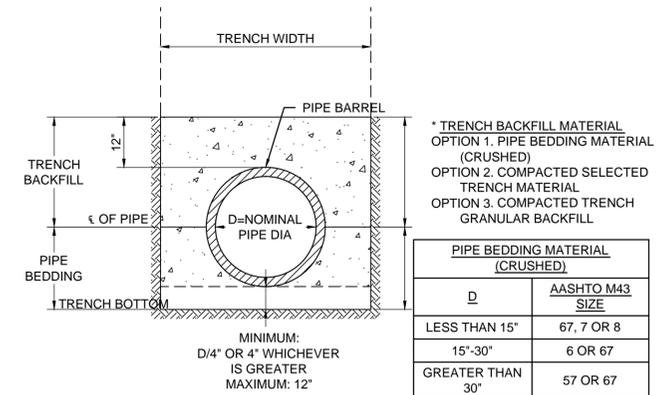
**TYPE "A" MANHOLE (CONCRETE)**

SCALE: NONE



**TYPE "A" MANHOLE**

SCALE: NONE



\* REQUIREMENT FOR PVC, HDPE, AND OTHER TYPES OF PLASTIC PIPE.  
 1. TRENCH WIDTH IS 3D IN SOIL UNLESS GIVEN OTHERWISE BY PLAN NOTE OR SPECIFICATION.  
 2. CRUSHED PIPE BEDDING MATERIAL SHALL BE USED FOR TRENCH BACKFILL, SHOVELED AND TAMPED TO FILL ALL VOIDS AROUND THE PIPE. THE VOIDS INCLUDE THE ZONES IN THE TRENCH BEFORE AND AFTER MOVING TRENCH BOX OR REMOVING TRENCH SUPPORT MATERIAL.

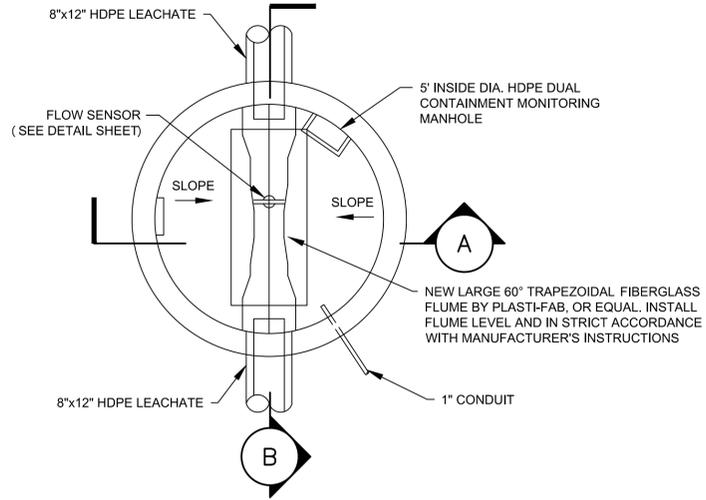
**TYPICAL SEWER DETAIL**

SCALE: NONE

NO.	DESCRIPTION	DATE

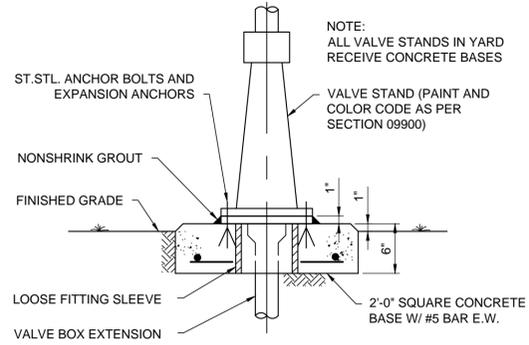
JOB NO:	53387
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CHECKED BY:	MEL
APPROVED BY:	BWT
SCALE:	NOTED

MISCELLANEOUS DETAILS



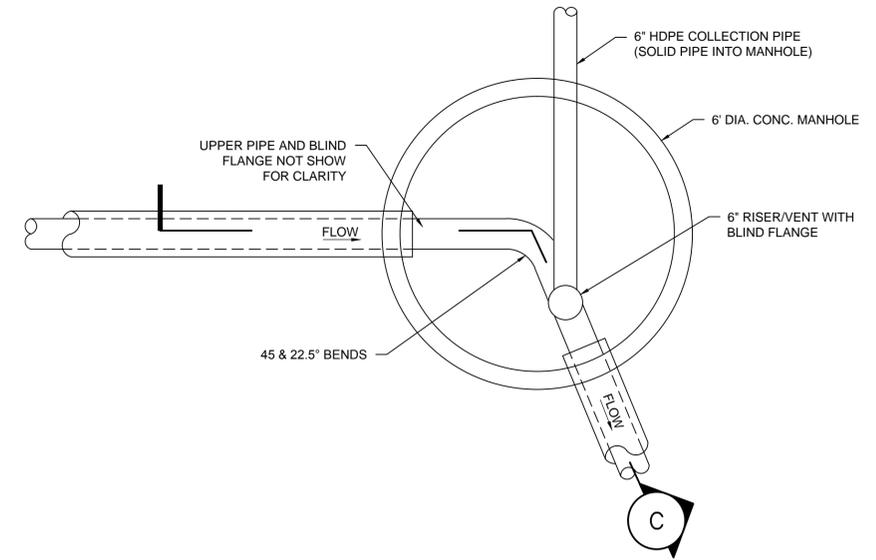
**FLOW MONITORING MANHOLE**

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



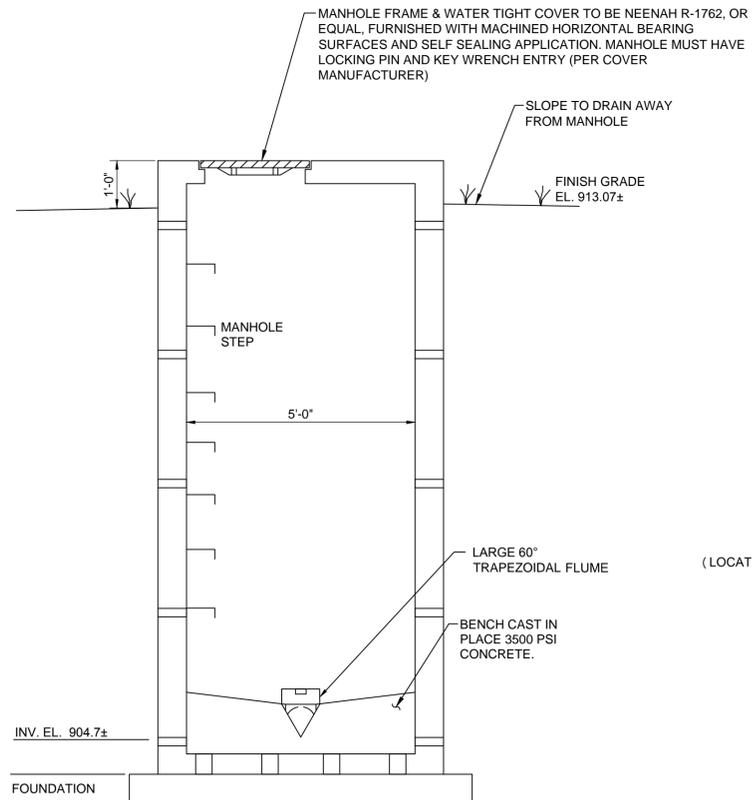
**VALVE STAND BASE, CONCRETE**

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



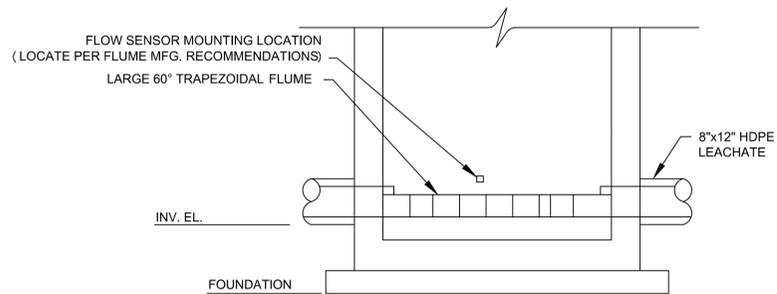
**DROP MANHOLE**

SCALE: NONE



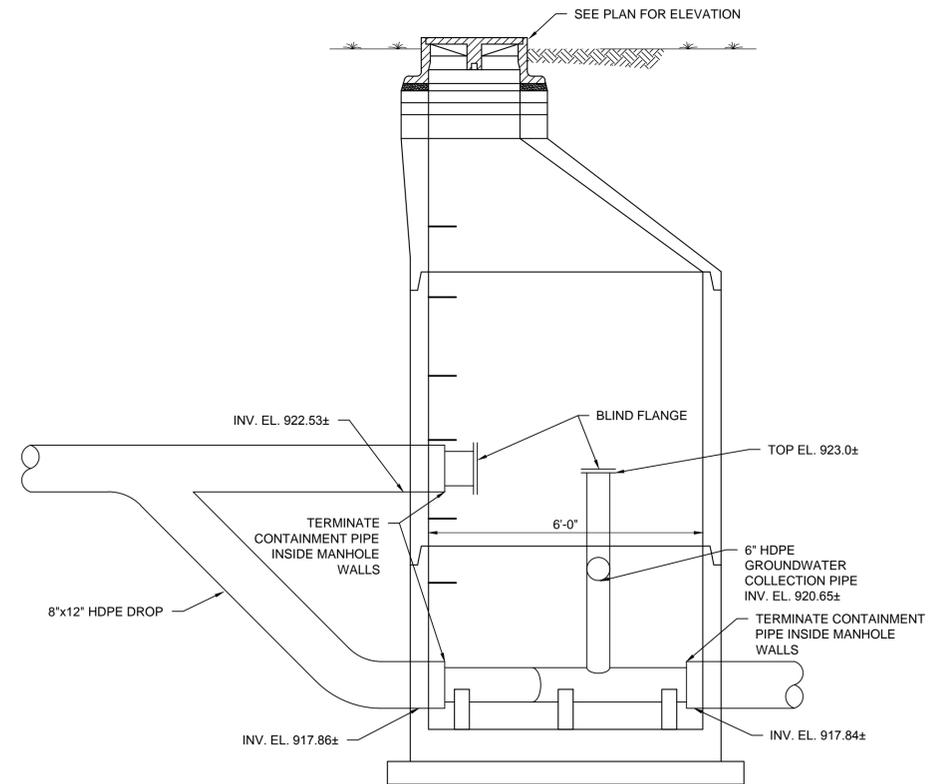
**A SECTION**

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



**B SECTION**

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



**C SECTION**

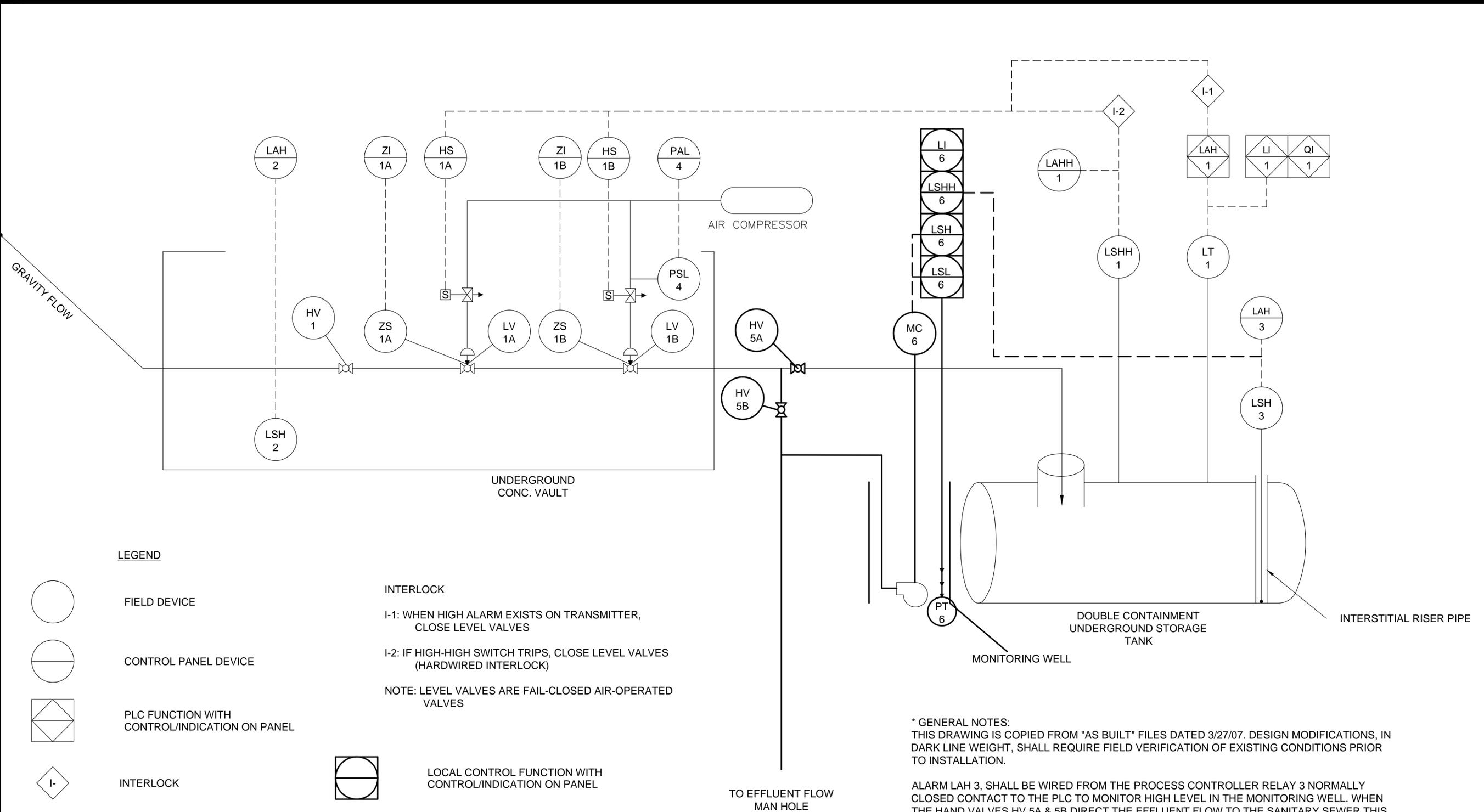
SCALE: NONE

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MONITORING AND  
DROP MANHOLE  
DETAILS





**LEGEND**

-  FIELD DEVICE
-  CONTROL PANEL DEVICE
-  PLC FUNCTION WITH CONTROL/INDICATION ON PANEL
-  INTERLOCK

- INTERLOCK
- I-1: WHEN HIGH ALARM EXISTS ON TRANSMITTER, CLOSE LEVEL VALVES
- I-2: IF HIGH-HIGH SWITCH TRIPS, CLOSE LEVEL VALVES (HARDWIRED INTERLOCK)
- NOTE: LEVEL VALVES ARE FAIL-CLOSED AIR-OPERATED VALVES

-  LOCAL CONTROL FUNCTION WITH CONTROL/INDICATION ON PANEL

**IDENTIFICATION LETTERS**

- |      |                        |     |                     |
|------|------------------------|-----|---------------------|
| HS   | HAND SWITCH            | LSH | LEVEL SWITCH HIGH   |
| HV   | HAND VALVE             | LSL | LEVEL SWITCH LOW    |
| LAH  | LEVEL ALARM HIGH       | MC  | MOTOR CONTROL       |
| LAHH | LEVEL ALARM HIGH-HIGH  | PT  | PRESSURE TRANSDUCER |
| LI   | LEVEL INDICATOR        |     |                     |
| LSHH | LEVEL SWITCH HIGH-HIGH |     |                     |
| LT   | LEVEL TRANSMITTER      |     |                     |
| LV   | LEVEL VALVE            |     |                     |
| PAL  | PRESSURE ALARM LOW     |     |                     |
| PSL  | PRESSURE SWITCH LOW    |     |                     |
| QI   | QUANTITY INDICATOR     |     |                     |
| ZI   | POSITION INDICATOR     |     |                     |
| ZS   | POSITION SWITCH        |     |                     |

\* GENERAL NOTES:  
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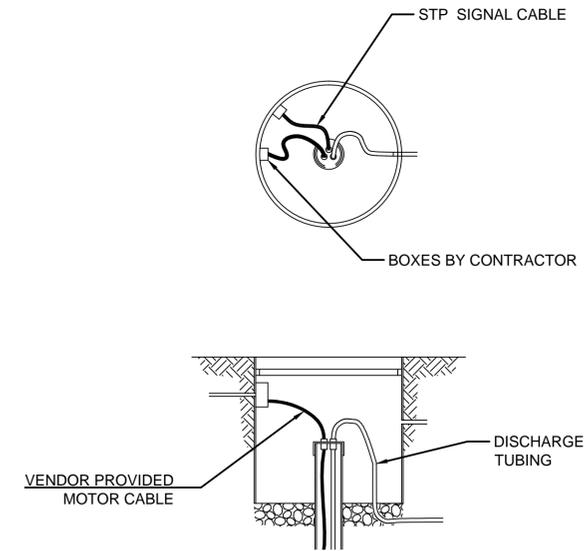
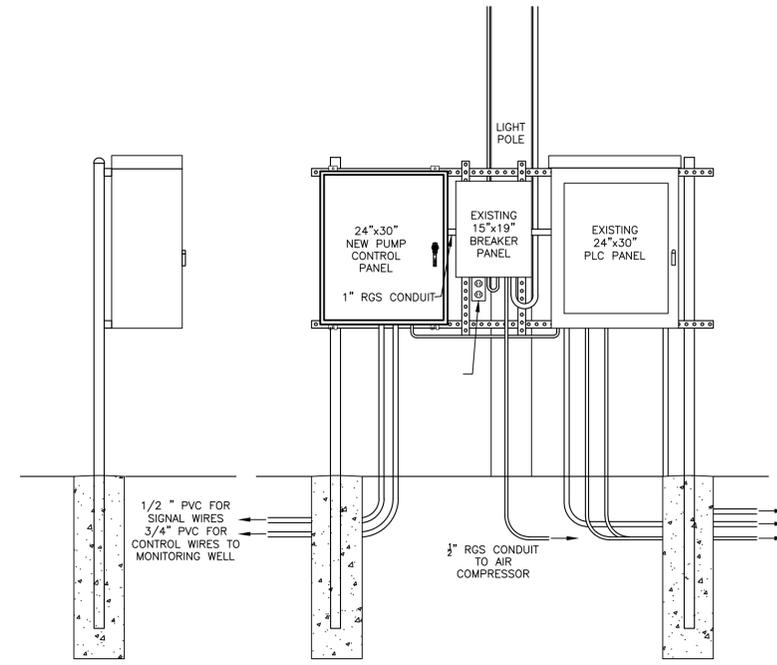
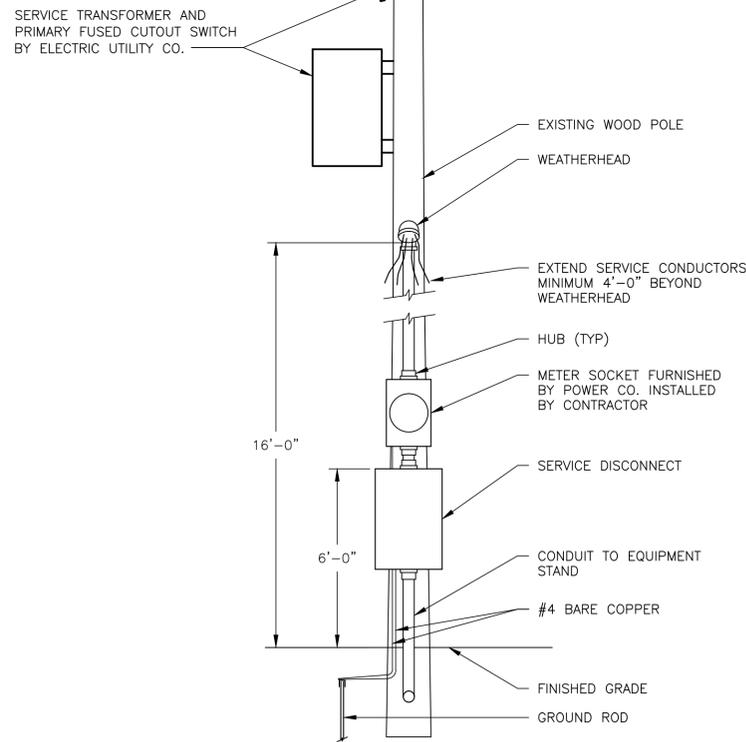
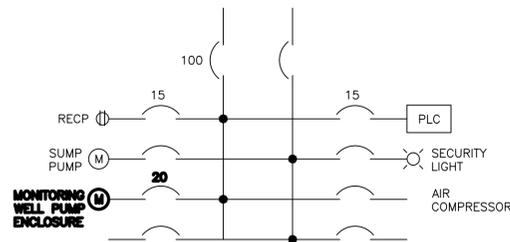
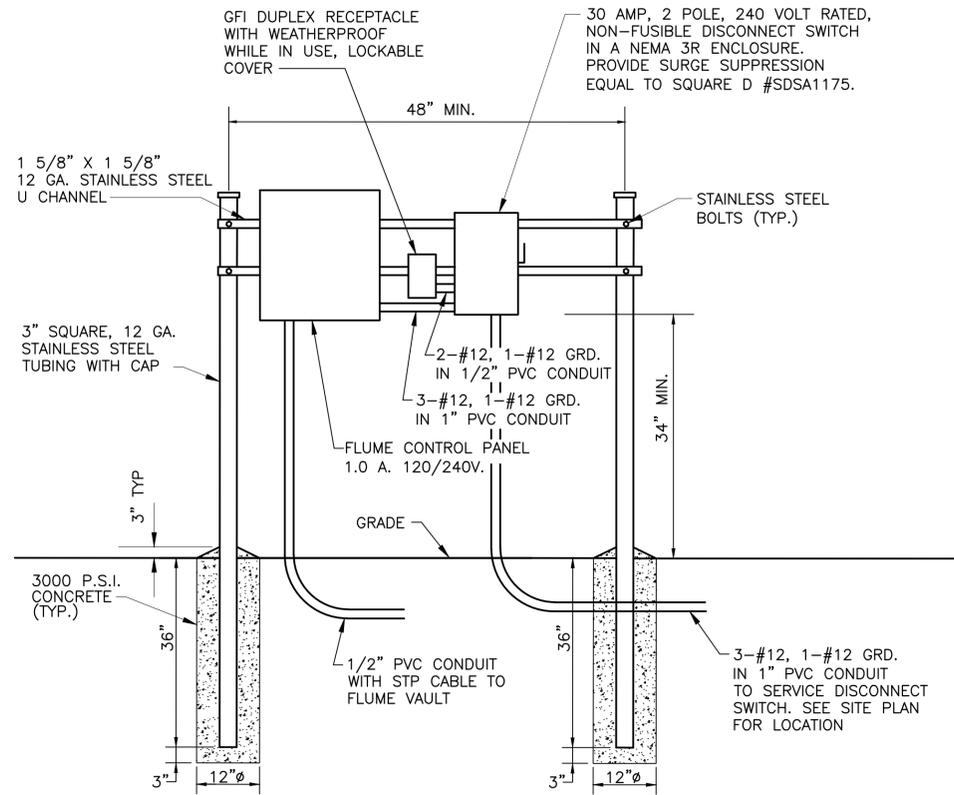
ALARM LAH 3, SHALL BE WIRED FROM THE PROCESS CONTROLLER RELAY 3 NORMALLY CLOSED CONTACT TO THE PLC TO MONITOR HIGH LEVEL IN THE MONITORING WELL. WHEN THE HAND VALVES HV 5A & 5B DIRECT THE EFFLUENT FLOW TO THE SANITARY SEWER. THIS ALARM WILL INDICATE THE WATER LEVEL IN THE PIT AROUND THE LEACHATE TANK.

MONITORING WELL PUMP MC 6 IS OPERATED BY THE PROCESS CONTROLLER RELAY 1 NORMALLY OPEN CONTACT IN THE NEW MONITORING WELL PUMP CONTROL PANEL.

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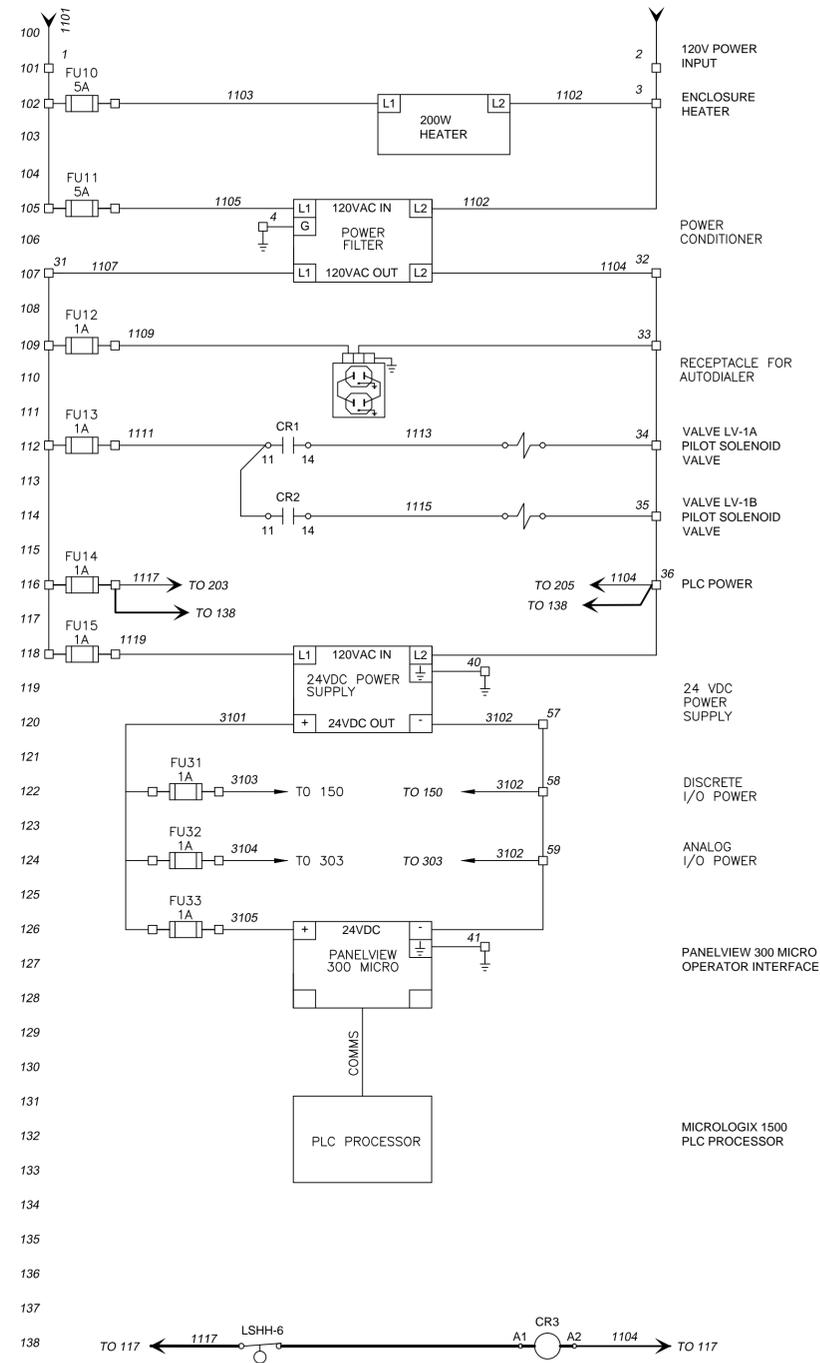
ELECTRICAL  
PID



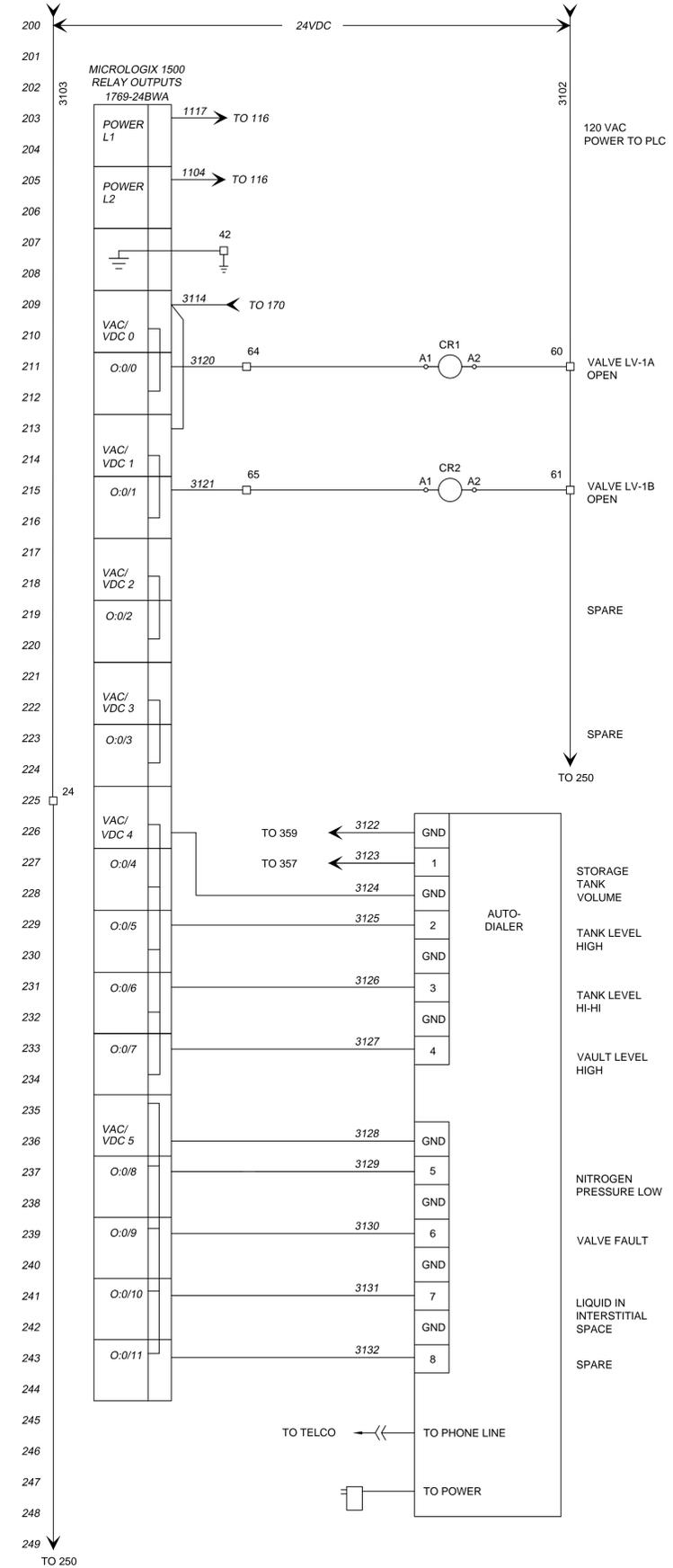
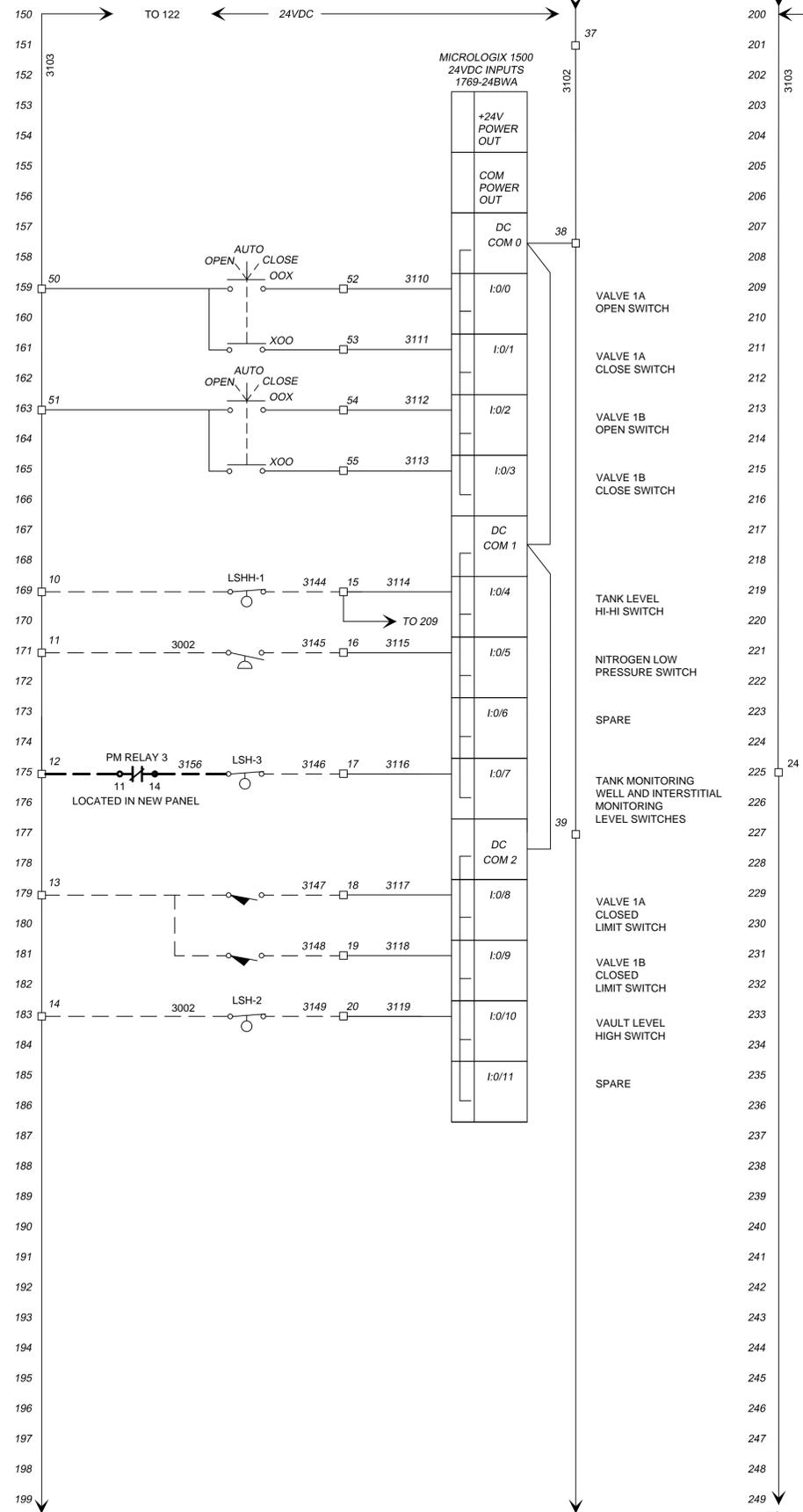
NO.	DESCRIPTION	DATE

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DRAWN BY:	TEB
CHECKED BY:	RJC
APPROVED BY:	RJC
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ELECTRICAL  
DETAILS



\* GENERAL NOTES:  
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DESIGN MODIFICATIONS, IN DARK LINE WEIGHT, SHALL REQUIRE  
FIELD VERIFICATION OF EXISTING CONDITIONS PRIOR TO INSTALLATION.

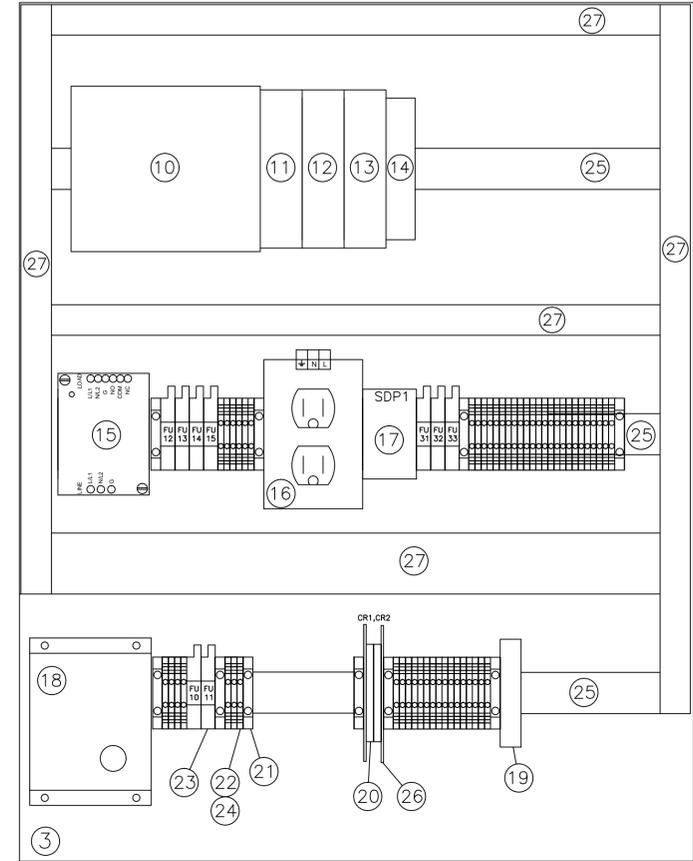
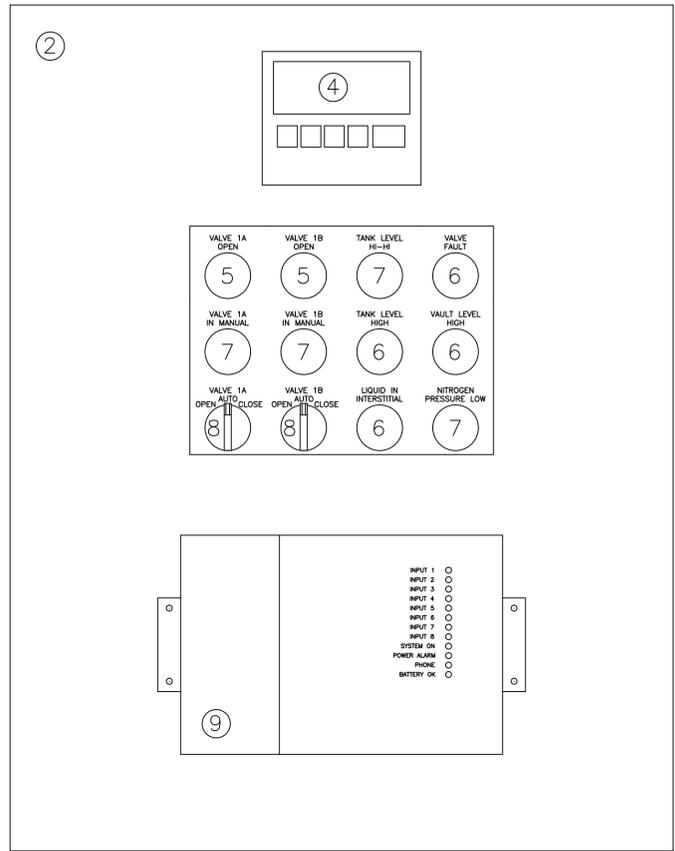
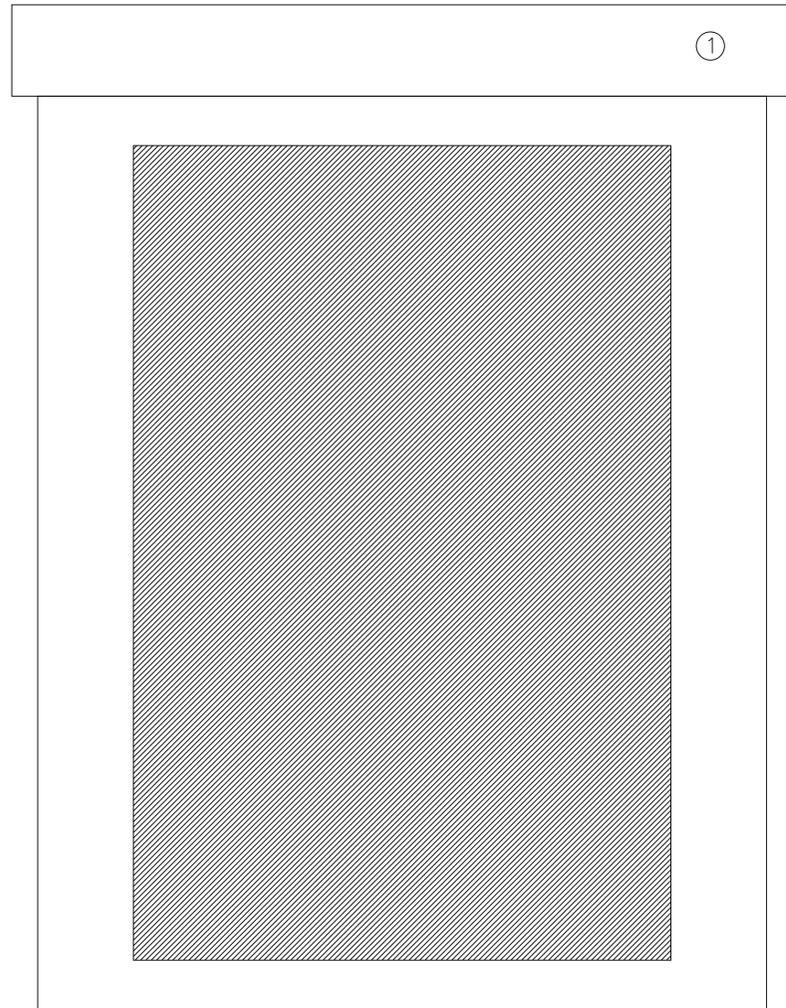


NO.	DESCRIPTION	REVISIONS	DATE

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APPROVED BY:	BWT
SCALE:	NOTED

ELECTRICAL SCHEMATIC





QTY	DESCRIPTION
1	1. HOFFMAN CSD302412W ENCLOSURE W/ SUNSHIELD
1	2. HOFFMAN ANADFK SWING OUT PANEL KIT
2	3. HOFFMAN CP3024 PANEL
1	4. A-B PANELVIEW 300 MICRO 2711-M3A18LI
2	5. ALLEN-BRADLEY 800H-Q24G GREEN PILOT LIGHT
4	6. ALLEN-BRADLEY 800H-Q24R RED PILOT LIGHT
4	7. ALLEN-BRADLEY 800H-Q24A AMBER PILOT LIGHT
2	8. ALLEN-BRADLEY 800H-JR2 THREE POSITION SWITCH
1	9. SENSAPHONE 2000 AUTODIALER
1	10. ALLEN-BRADLEY 1764-24BWA PLC BASE UNIT
1	11. ALLEN-BRADLEY 1769-OB16 OUTPUT MODULE.
1	12. ALLEN-BRADLEY 1769-IF4 INPUT MODULE.
1	13. ALLEN-BRADLEY 1769-OF2 OUTPUT MODULE.
1	14. ALLEN-BRADLEY 1769-ECR I/O END CAP

\* AS REQUIRED

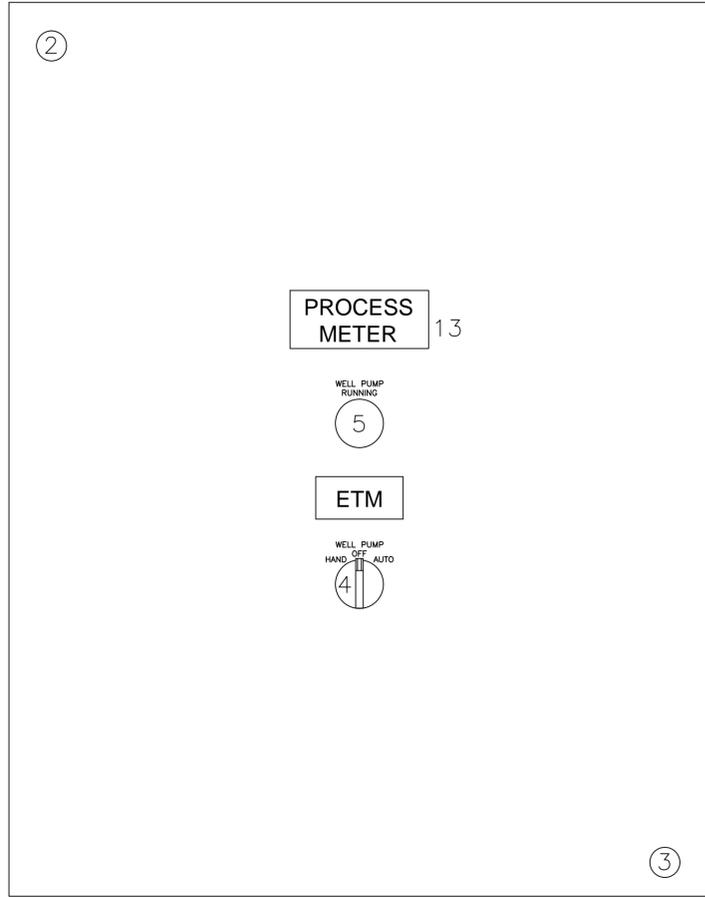
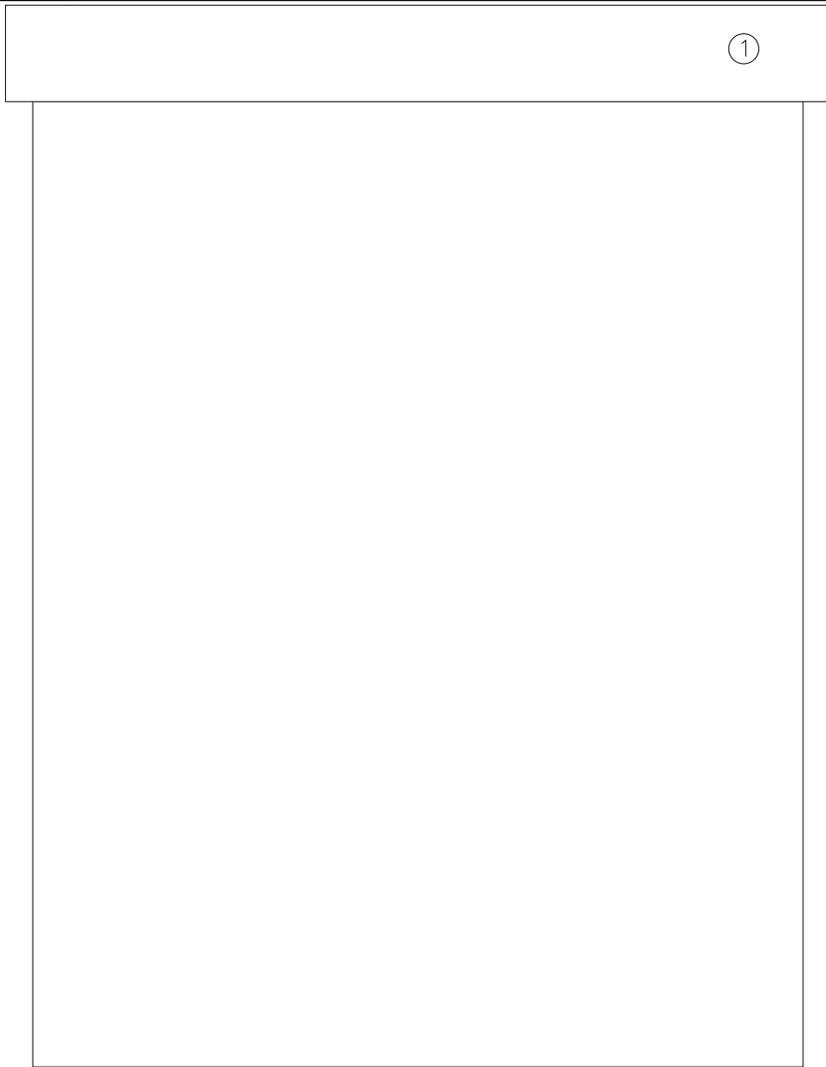
QTY	DESCRIPTION
1	15. CONTROL CONCEPTS ISLATROL IE-105 FILTER
1	16. ACME DR5262I DIN RAIL MOUNT RECP
1	17. SOLA SDP1-24-100T POWER SUPPLY
1	18. HOFFMAN DAH4001B 400W ELECTRIC HEATER
1	19. PHOENIX CONTACT 2856113 BASE WITH 2856032 SURGE SUPPRESSOR
2	20. PHOENIX CONTACT 2966171 PLC-RSC-24VC/21 RELAY
*	21. WEIDMULLER 106120 WEW 35/2 END BRACKET
*	22. WEIDMULLER 102000 WDU 2.5 TERMINAL BLOCK
*	23. WEIDMULLER 101400 WSI 6/2 FUSEHOLDER
*	24. WEIDMULLER 101000 WPE 2.5 GROUND BLOCK
*	25. 35mm DIN RAIL
1	26. PHOENIX CONTACT PLC-ATP BK SEPARATING PLATE
*	27. WIRE DUCT
*	28. BUSS MDL-1 AND MDL-5 FUSES

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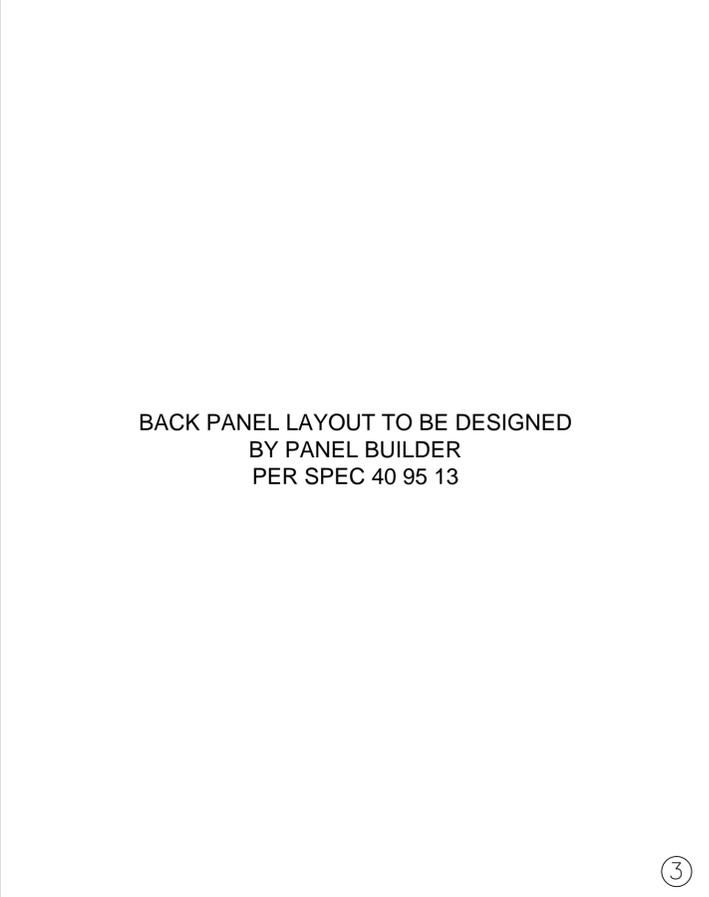
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ELECTRICAL PANEL LAYOUT



SWING OUT PANEL LAYOUT



BACK PANEL LAYOUT TO BE DESIGNED  
BY PANEL BUILDER  
PER SPEC 40 95 13

QTY	DESCRIPTION
1	1. HOFFMAN CSD302412 ENCLOSURE WITH SUNSHIELD
1	2. HOFFMAN ANADFK SWING OUT PANEL KIT
2	3. HOFFMAN CP3024 PANEL
1	4. ALLEN-BRADLEY 800H-JR2 THREE POSITION SWITCH
1	5. ALLEN-BRADLEY 800H-Q24G GREEN PILOT LIGHT
4	6. ELAPSED TIME METER
4	7. HOFFMAN DAH4001B 400W ELECTRIC HEATER
3	8. CIRCUIT BREAKER
1	9. POWER FILTER
*	10. LP-CC FUSES AND FUSE HOLDERS
*	11. 35mm DIN RAIL
1	12. NEMA SIZE 0 SINGLE PHASE MOTOR STARTER
1	13. PRO VUE PROCESS METER MODEL PD6000-6R2
1	14. POWER FILTER

\* AS REQUIRED

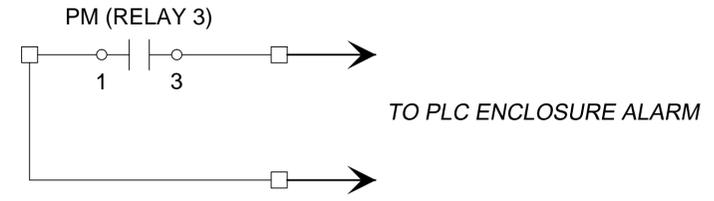
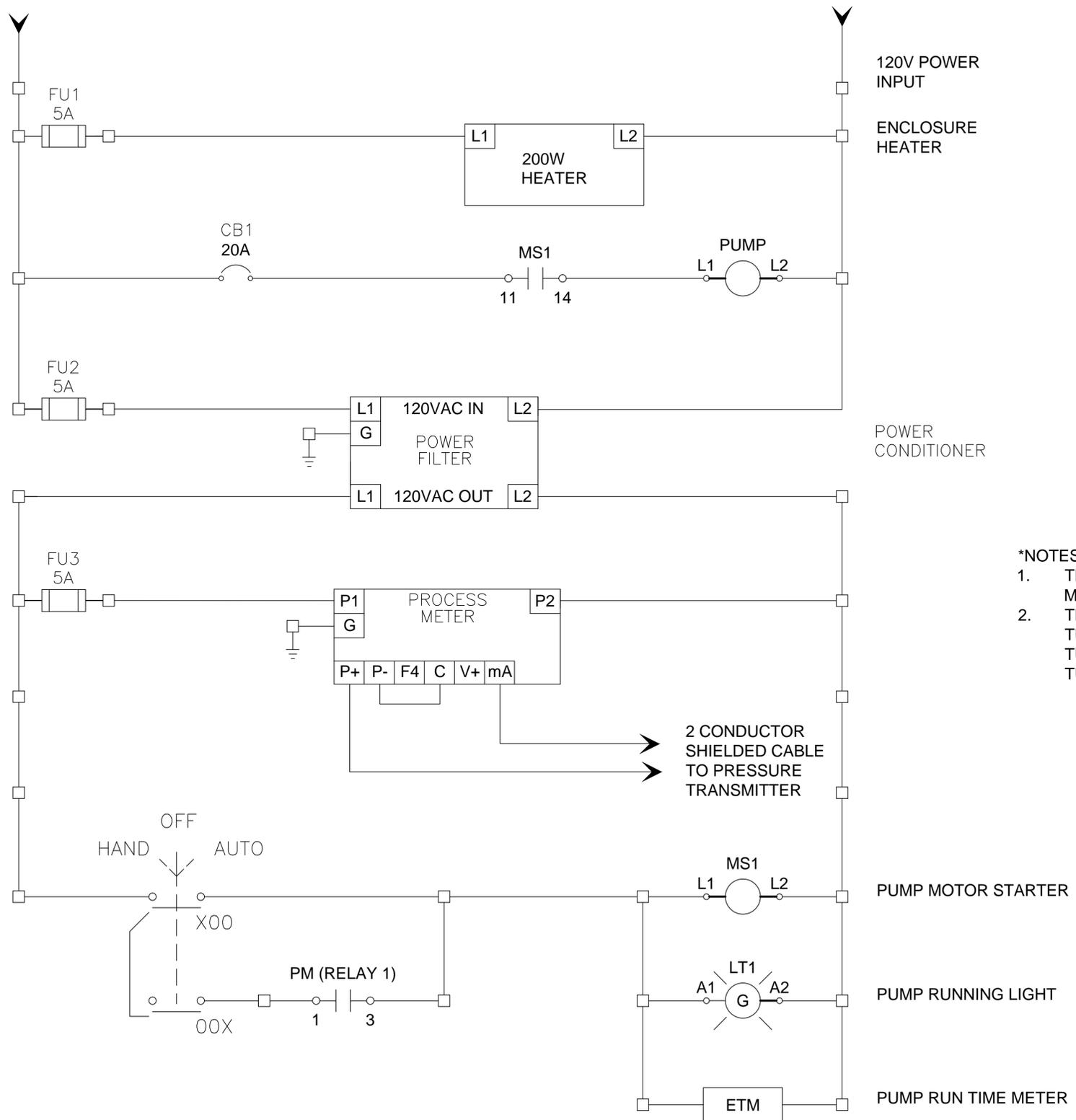
**BURGESS & NIPLÉ**  
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MONITORING WELL  
PUMP CONTROL  
ENCLOSURE

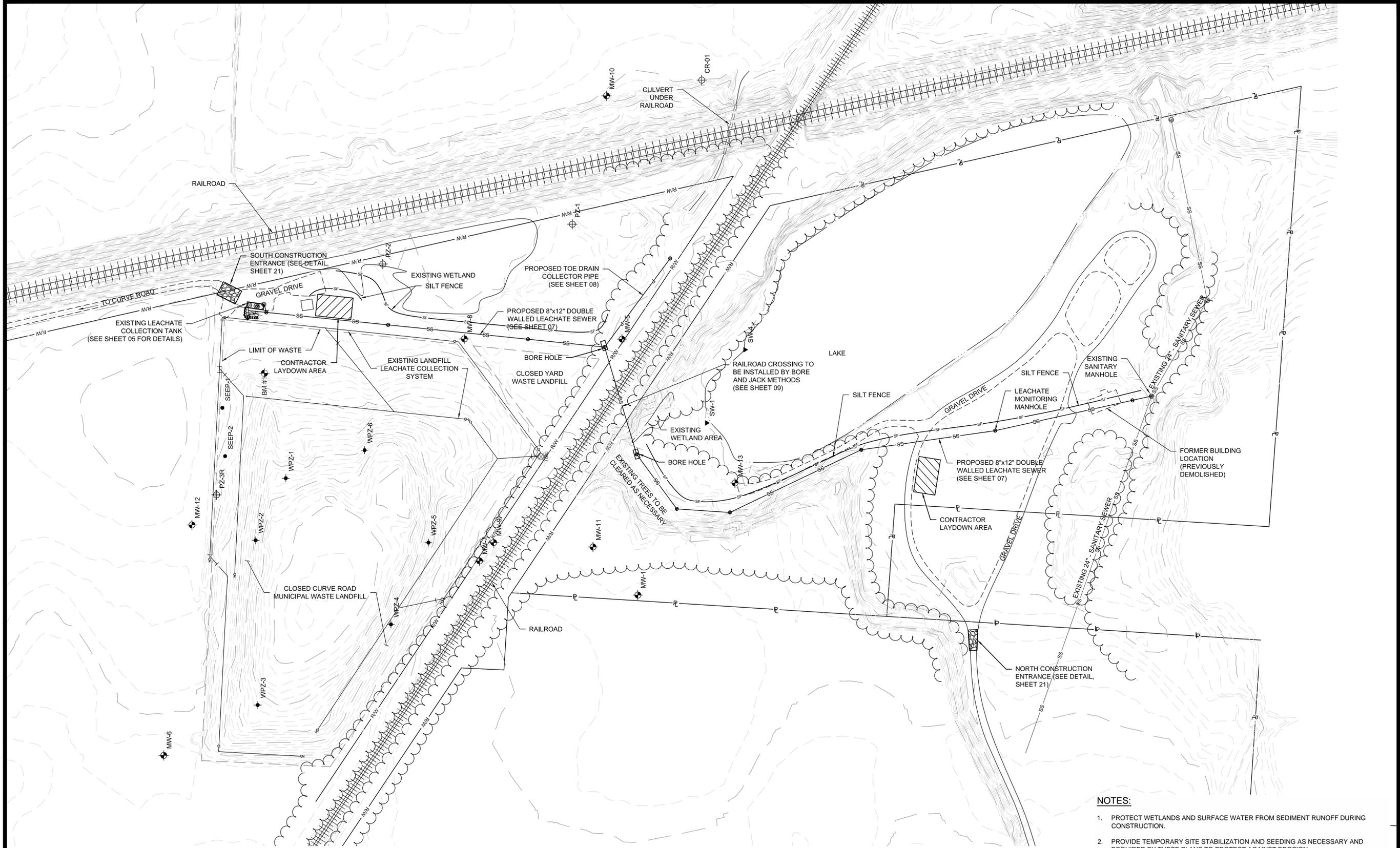


- \*NOTES:**
1. THE PROCESS METER (PM) SHALL BE WIRED IN ACCORDANCE TO THE MANUFACTURERS GUIDELINES.
  2. THE PROCESS METER SHALL BE PROGRAMMED TO:  
 TURN ON THE RELAY 1 OUTPUT WHEN THE WATER LEVEL IS AT 918 FEET.  
 TURN OFF THE RELAY 1 OUTPUT WHEN THE WATER LEVEL IS AT 915 FEET.  
 TURN ON RELAY 3 WHEN THE WATER LEVEL EXCEEDS 920 FEET.

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MONITORING WELL  
 PUMP CONTROL  
 SCHEMATIC



**LEGEND**

CONSTRUCTION ENTRANCE

SILT FENCE OR OTHER SEDIMENT CAPTURE DEVICE (E.G. WATTLE)

**SEDIMENT AND EROSION CONTROL PLAN**

SCALE: 1" = 100'



- NOTES:**
1. PROTECT WETLANDS AND SURFACE WATER FROM SEDIMENT RUNOFF DURING CONSTRUCTION.
  2. PROVIDE TEMPORARY SITE STABILIZATION AND SEEDING AS NECESSARY AND REQUIRED BY THESE PLANS TO PROTECT AGAINST EROSION.
  3. FOLLOW THE REQUIREMENTS OF OHIO EPA PERMIT NO. OHCO00002 (OLENTANGY RIVER).

**BURGESS & NIPLE**  
 5085 REED ROAD  
 COLUMBUS, OHIO 43220

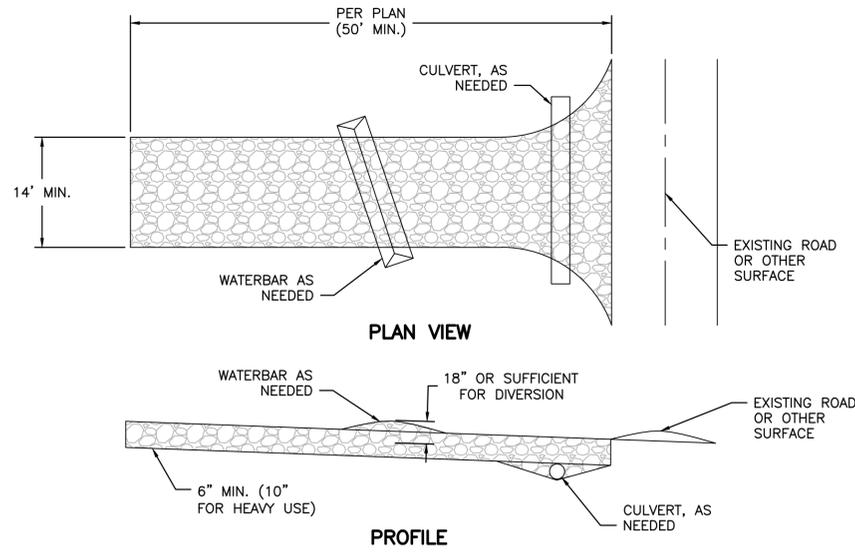
CITY OF DELAWARE, OHIO  
 CURVE ROAD LANDFILL  
 LEACHATE TRANSFER SYSTEM  
 DELAWARE COUNTY  
 DECEMBER 2014

NO.	DESCRIPTION	DATE

JOB NO: 53387  
 DATE: DEC. 2014  
 DESIGNED BY: BWT  
 DRAWN BY: RVZ  
 CHECKED BY: MEL  
 APPROVED BY: BWT  
 SCALE: NOTED

SEDIMENT AND EROSION CONTROL PLAN

20  
 SHEET: 20 OF 22



**CONSTRUCTION ENTRANCE DETAIL**

SCALE: NONE

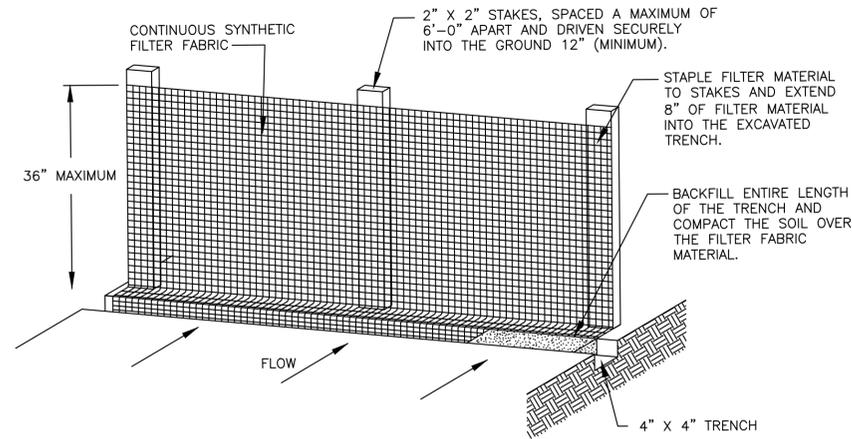
**CONSTRUCTION ENTRANCE NOTES:**

- STONE SIZE – ODOT # 2 (1.5-2.5 INCH) STONE SHALL BE USED, OR RECYCLED CONCRETE EQUIVALENT. NO BRICK SHALL BE PERMITTED.
- LENGTH – THE CONSTRUCTION ENTRANCE SHALL BE AS LONG AS REQUIRED TO STABILIZE HIGH TRAFFIC AREAS BUT NOT LESS THAN 50 FT.
- THICKNESS – THE STONE LAYER SHALL BE AT LEAST 6 INCHES THICK FOR LIGHT DUTY ENTRANCES OR AT LEAST 10 INCHES FOR HEAVY DUTY USE.
- WIDTH – THE ENTRANCE SHALL BE AT LEAST 14 FEET WIDE, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS.
- GEOTEXTILE – A GEOTEXTILE SHALL BE LAID OVER THE ENTIRE AREA PRIOR TO PLACING STONE. IT SHALL BE COMPOSED OF STRONG ROT-PROOF POLYMERIC FIBERS AND MEET THE FOLLOWING SPECIFICATIONS:
- TIMING – THE CONSTRUCTION ENTRANCE SHALL BE INSTALLED AS SOON AS IS PRACTICABLE BEFORE MAJOR GRADING ACTIVITIES.
- CULVERT – A PIPE OR CULVERT SHALL BE CONSTRUCTED UNDER THE ENTRANCE IF NEEDED TO PREVENT SURFACE WATER FROM FLOWING ACROSS THE ENTRANCE OR TO PREVENT RUNOFF FROM BEING DIRECTED OUT ONTO PAVED SURFACES.
- WATER BAR – A WATER BAR SHALL BE CONSTRUCTED AS PART OF THE CONSTRUCTION ENTRANCE IF NEEDED TO PREVENT SURFACE RUNOFF FROM FLOWING THE LENGTH OF THE CONSTRUCTION ENTRANCE AND OUT ONTO PAVED SURFACES OR INTO THE STREAM.
- MAINTENANCE – TOP DRESSING OF ADDITIONAL STONE SHALL BE APPLIED AS CONDITIONS DEMAND. MUD SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC ROADS, OR ANY SURFACE WHERE RUNOFF IS NOT CHECKED BY SEDIMENT CONTROLS, SHALL BE REMOVED IMMEDIATELY. REMOVAL SHALL BE ACCOMPLISHED BY SCRAPING OR SWEEPING.
- CONSTRUCTION ENTRANCES SHALL NOT BE RELIED UPON TO REMOVE MUD FROM VEHICLES AND PREVENT OFF-SITE TRACKING. VEHICLES THAT ENTER AND LEAVE THE CONSTRUCTION-SITE SHALL BE RESTRICTED FROM MUDDY AREAS.
- REMOVAL--THE ENTRANCE SHALL REMAIN IN PLACE UNTIL THE DISTURBED AREA IS STABILIZED OR REPLACED WITH A PERMANENT ROADWAY OR ENTRANCE.

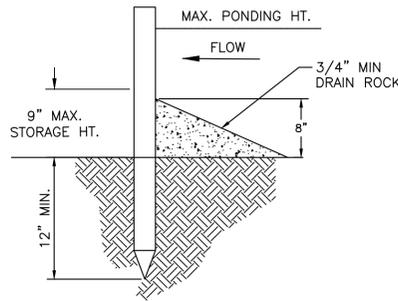
GEOTEXTILE SPECIFICATION FOR CONSTRUCTION ENTRANCE	
MINIMUM TENSILE STRENGTH	200 LBS.
MINIMUM PUNCTURE STRENGTH	80 PSI.
MINIMUM TEAR STRENGTH	50 LBS.
MINIMUM BURST STRENGTH	320 PSI.
MINIMUM ELONGATION	20%
EQUIVALENT OPENING SIZE	EOS < 0.6 MM.
PERMITTIVITY	1x10-3 CM/SEC

**EROSION AND SEDIMENT CONTROL NOTES:**

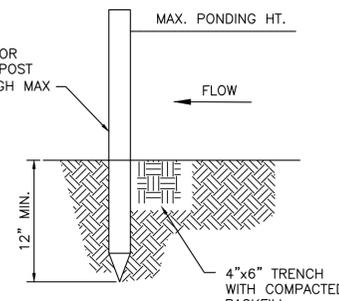
- ALL SOIL EROSION AND SEDIMENT CONTROL DEVICES SHALL BE INSTALLED PRIOR TO CONTRACTOR BEGINNING ANY WORK. ALL DEVICES SHALL BE MAINTAINED IN AN EFFECTIVE, FUNCTIONING CONDITION AT ALL TIMES DURING THE PROJECT. ALL TEMPORARY MEASURES SHALL BE REMOVED AND THE AREA RESTORED AFTER THE AREA IS STABILIZED.
- ALL SOIL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSPECTED A MINIMUM OF ONCE EVERY 7 DAYS AND WITHIN A MINIMUM OF 24 HOURS AFTER A RAINFALL OF 0.5" OR GREATER. ANY EROSION CONTROLS DAMAGED OR RENDERED INEFFECTIVE SHALL BE IMMEDIATELY REPAIRED OR REMOVED AND REPLACED.
- ALL MUD, DIRT, AND DEBRIS TRACKED OR SPILLED ONTO EXISTING ROADWAYS FROM THIS SITE SHALL BE PROMPTLY REMOVED BY THE CONTRACTOR.
- MINIMIZE THE AREAS OF DISTURBANCE AND PHASE CONSTRUCTION ACTIVITIES TO MINIMIZE THE AMOUNT OF AREA DISTURBED AT ONE TIME AND TO PREVENT RUNOFF FROM UNDISTURBED AREAS.
- SILT FENCING WILL BE PLACED ALONG THE STREAMS IN THE AREAS TO BE CLEARED BEFORE ANY CLEARING OR GRADING TAKES PLACE.
- MAINTAIN THE VEGETATED AREAS AT THE SITE AND ALONG THE STREAMS TO THE EXTENT POSSIBLE TO MINIMIZE SEDIMENT RUN-OFF.
- DISTURBED AREAS WITHIN 50 FEET OF THE STREAM WILL BE STABILIZED USING PERMANENT SEEDING WITHIN 2 DAYS FOLLOWING FINAL GRADING ACTIVITIES. OTHER AREAS WILL BE PERMANENTLY STABILIZED WITHIN 7 DAYS OF REACHING FINAL GRADE OR DISTURBANCE. TEMPORARY STABILIZATION MAY BE USED IN THE EVENT DISTURBED AREAS WILL BE DORMANT FOR MORE THAN 21 DAYS OR IDLE OVER THE WINTER. THE TEMPORARY STABILIZATION WILL BE PLACED WITHIN 2 DAYS OF THE MOST RECENT DISTURBANCE FOR AREAS WITHIN 50 FEET OF THE STREAM AND WITHIN 7 DAYS FOR OTHER AREAS.
- SOIL PILES WILL BE SURROUNDED WITH SILT FENCING OR COVERED WITH A TARP. SOIL STOCKPILES STORED FOR MORE THAN 21 DAYS WILL BE TEMPORARILY SEEDED OR COVERED WITH A TARP TO PREVENT EROSION AND COMPACTION.
- ALL MULCH PILES GENERATED BY THE CONTRACTOR SHALL BE COVERED WITH PLASTIC SHEETING.
- MAINTAIN A STABILIZED CONSTRUCTION ENTRANCE TO MINIMIZE THE TRANSPORT OF SEDIMENT FROM THE DISTURBED AREAS.
- TEMPORARY DIVERSION BERMS IN ACCORDANCE WITH CURRENT ODNR "RAINWATER AND LAND DEVELOPMENT" MANUAL, MAY BE INSTALLED AT THE UPSLOPE SIDE OF DISTURBED AREAS TO PREVENT SURFACE RUNOFF FROM UNDISTURBED AREAS TO CROSS THE DISTURBED AREAS. DIVERSIONS SHALL BE SEEDED AND MULCHED AS SOON AS THEY ARE CONSTRUCTED OR OTHER SUITABLE STABILIZATION INSTALLED IN ORDER TO PRESERVE DIKE HEIGHT AND REDUCE MAINTENANCE.
- ALL WASTE MATERIALS ACCUMULATED IN THE EROSION AND SEDIMENT CONTROLS MUST BE COLLECTED AND REMOVED FROM THE SITE. ALL CONTRACTOR TRASH AND CONSTRUCTION DEBRIS COLLECTED FROM THE SITE MUST BE STORED IN COVERED CONTAINERS AND REMOVED FROM THE SITE.



**INSTALLATION WITHOUT TRENCHING**



**TRENCH DETAIL**



**SILT FENCE NOTES:**

- SILT FENCE SHALL BE PLACED ON SLOPE CONTOURS TO MAXIMIZE PONDING EFFICIENCY.
- INSPECT AND REPAIR FENCE AFTER EACH STORM EVENT AND REMOVE SEDIMENT WHEN NECESSARY. (9" MAX. RECOMMENDED STORAGE HEIGHT).
- REMOVED SEDIMENT SHALL BE DEPOSITED TO AN AREA THAT WILL NOT CONTRIBUTE TO SEDIMENT RUN-OFF TO OFF-SITE AREAS AND CAN BE PERMANENTLY STABILIZED.

**SILT FENCE DETAIL**

SCALE: NONE

**FILTER FABRIC FENCE:**

THIS SEDIMENT BARRIER UTILIZES SYNTHETIC FILTER FABRIC IN ACCORDANCE WITH ODOT ITEM 712.09, TYPE C. IT IS DESIGNED FOR SITUATIONS IN WHICH ONLY SHEET OR OVERLAND FLOWS ARE EXPECTED.

- THE HEIGHT OF A SILT FENCE SHALL NOT EXCEED 36 INCHES (HIGHER FENCES MAY IMPOUND VOLUMES OF WATER SUFFICIENT TO CAUSE FAILURE OF THE STRUCTURE).
- THE FILTER FABRIC SHALL BE PURCHASED IN A CONTINUOUS ROLL CUT TO THE LENGTH OF THE BARRIER TO AVOID THE USE OF JOINTS. WHEN JOINTS ARE NECESSARY, FILTER CLOTH SHALL BE SPLICED TOGETHER ONLY AT A SUPPORT POST, WITH A MINIMUM 6 INCH OVERLAP, AND SECURELY SEALED.
- POSTS SHALL BE SPACED A MAXIMUM OF 10 FEET APART AT THE BARRIER LOCATION AND DRIVEN SECURELY INTO THE GROUND (MINIMUM OF 12 INCHES). WHEN EXTRA STRENGTH FABRIC IS USED WITHOUT THE WIRE SUPPORT FENCE, POST SPACING SHALL NOT EXCEED 6 FEET.
- A TRENCH SHALL BE EXCAVATED APPROXIMATELY 4 INCHES WIDE AND 4 INCHES DEEP ALONG THE LINE OF POSTS AND UPSLOPE FROM THE BARRIER.
- WHEN STANDARD STRENGTH FILTER FABRIC IS USED, A WIRE MESH SUPPORT FENCE SHALL BE FASTENED SECURELY TO THE UPSLOPE SIDE OF THE POSTS USING HEAVY DUTY WIRE STAPLES AT LEAST 1 INCH LONG, TIE WIRES, OR HOG RINGS. THE WIRE SHALL EXTEND INTO THE TRENCH A MINIMUM OF 2 INCHES AND SHALL NOT EXTEND MORE THAN 36 INCHES ABOVE THE ORIGINAL GROUND SURFACE.
- THE STANDARD STRENGTH FILTER FABRIC SHALL BE STAPLED OR WIRED TO THE FENCE, AND 8 INCHES OF THE FABRIC SHALL BE EXTENDED INTO THE TRENCH. THE FABRIC SHALL NOT EXTEND MORE THAN 36 INCHES ABOVE THE ORIGINAL GROUND SURFACE. FILTER FABRIC SHALL NOT BE STAPLED TO EXISTING TREES.
- WHEN EXTRA STRENGTH FILTER FABRIC AND CLOSER POST SPACING ARE USED, THE WIRE MESH SUPPORT FENCE MAY BE ELIMINATED. IN SUCH A CASE, THE FILTER FABRIC IS STAPLED OR WIRED DIRECTLY TO THE POSTS WITH ALL OTHER PROVISIONS OF ITEM NO. 6 APPLYING.
- THE TRENCH SHALL BE BACKFILLED AND SOIL COMPACTED OVER THE FILTER FABRIC.

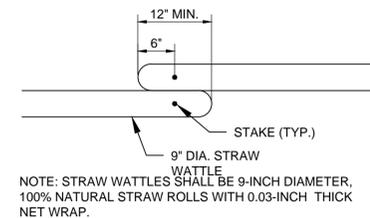
**MAINTENANCE:**

- SILT FENCES AND FILTER BARRIERS SHALL BE INSPECTED IMMEDIATELY AFTER RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY REQUIRED REPAIRS SHALL BE MADE IMMEDIATELY.
- SHOULD THE FABRIC ON A SILT FENCE OR FILTER BARRIER DECOMPOSE OR BECOME INEFFECTIVE PRIOR TO THE END OF THE EXPECTED USABLE LIFE AND THE BARRIER IS STILL NECESSARY, THE FABRIC SHALL BE REPLACED PROMPTLY.
- SEDIMENT DEPOSITS SHOULD BE REMOVED AFTER EACH STORM EVENT. THEY MUST BE REMOVED WHEN DEPOSITS REACH APPROXIMATELY ONE-HALF THE HEIGHT OF THE BARRIER.

**REMOVAL:**

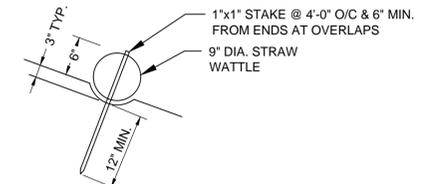
- SILT FENCES SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFUL PURPOSE, BUT NOT BEFORE THE UPSLOPE AREA HAS BEEN PERMANENTLY STABILIZED.
- ANY SEDIMENT DEPOSITS REMAINING IN PLACE AFTER THE SILT FENCE OR FILTER BARRIER IS NO LONGER REQUIRED SHALL BE DRESSED TO CONFORM WITH THE EXISTING GRADE, PREPARED, AND SEEDED.
- REMOVE ALL SILT FENCE AND SUPPORTING STAKES AFTER BARRIER IS NO LONGER REQUIRED.
- REPAIR AREAS OF CAP SOILS WHERE SEGMENTS OF SILT FENCE WERE REMOVED. CAP REPAIRS TO BE PERFORMED IN AREAS AS IDENTIFIED BY THE OWNER OR OWNER'S REPRESENTATIVE. CAP REPAIRS TO BE PERFORMED BY METHODS SPECIFIED BY THE OWNER OR OWNER'S REPRESENTATIVE.

- GOOD HOUSEKEEPING AND SPILL CONTROL PRACTICES MUST BE FOLLOWED DURING THE PROJECT TO MINIMIZE STORM WATER CONTAMINATION.
- ALL CONSTRUCTION VEHICLES ON SITE MUST BE MONITORED FOR LEAKS AND RECEIVE REGULAR PREVENTATIVE MAINTENANCE TO REDUCE THE CHANCE OF A LEAK.
- PETROLEUM PRODUCTS MUST BE STORED IN TIGHTLY SEALED CONTAINERS WHICH ARE LABELED.
- ALL FUEL STORAGE AREAS MUST BE LOCATED AT LEAST 100 FEET FROM STREAMS.
- SPILL KITS MUST BE INCLUDED WITH ALL FUELING SOURCES AND MAINTENANCE ACTIVITIES.
- ALL SPILLS WILL BE CLEANED UP IMMEDIATELY UPON DISCOVERY. SPILLS LARGE ENOUGH TO REACH THE STREAM OR STORM SYSTEM MUST BE REPORTED TO THE OHIO EPA.
- SLOPES THAT ARE EQUAL OR GREATER THAN 2:1 SHALL BE STABILIZED WITH EROSION CONTROL BLANKET INSTALLED CONCURRENT WITH PERMANENT SEEDING AND MULCHING.
- ADDITIONAL EROSION AND SEDIMENT CONTROL PRACTICES NOT ALREADY SPECIFIED ON THESE PLANS MAY BE NECESSARY DUE TO UNFORESEEN ENVIRONMENTAL CONDITIONS AND/OR CHANGES IN DRAINAGE PATTERNS CAUSED BY EARTH MOVING ACTIVITY.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIR AND STABILIZATION OF ALL SITE EROSION CHANNELS OR DRAINAGE CAUSED BY EROSION OF THE EXPOSED AREAS UNTIL THE FINAL SEEDING IS ALIVE, HEALTHY, AND ACCEPTED BY THE OWNER.



**ADJACENT WATTLE DETAIL**

SCALE: NONE



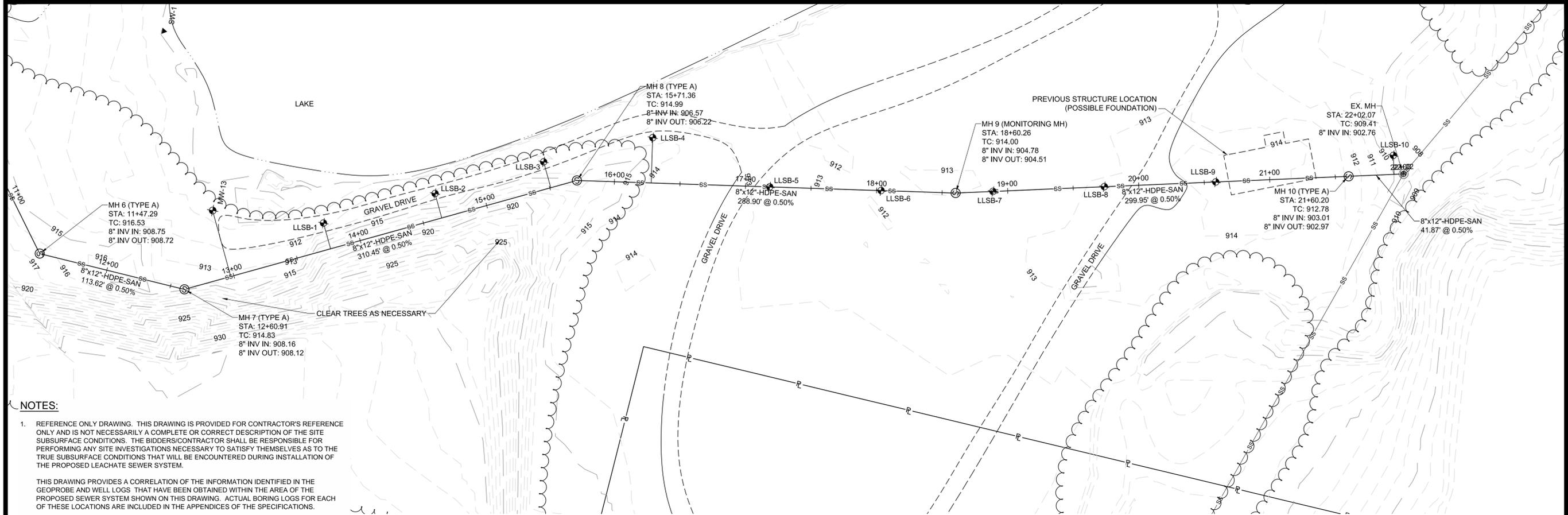
**STRAW WATTLE DETAIL**

SCALE: NONE

NO.	DESCRIPTION	REVISIONS	
		DATE	

JOB NO:	53387
DATE:	DEC. 2014
DESIGNED BY:	BWT
DRAWN BY:	RVZ
CHECKED BY:	MEL
APPROVED BY:	BWT
SCALE:	NOTED

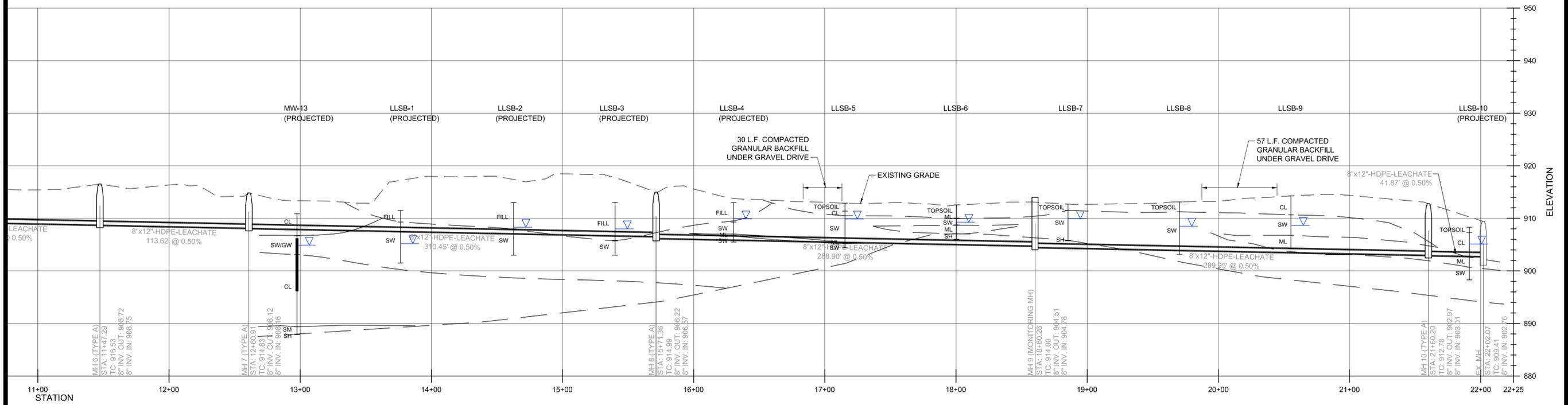
SEDIMENT AND EROSION CONTROL DETAILS



- NOTES:**
- REFERENCE ONLY DRAWING. THIS DRAWING IS PROVIDED FOR CONTRACTOR'S REFERENCE ONLY AND IS NOT NECESSARILY A COMPLETE OR CORRECT DESCRIPTION OF THE SITE SUBSURFACE CONDITIONS. THE BIDDERS/CONTRACTOR SHALL BE RESPONSIBLE FOR PERFORMING ANY SITE INVESTIGATIONS NECESSARY TO SATISFY THEMSELVES AS TO THE TRUE SUBSURFACE CONDITIONS THAT WILL BE ENCOUNTERED DURING INSTALLATION OF THE PROPOSED LEACHATE SEWER SYSTEM.
  - GROUNDWATER CONDITIONS. CONTRACTOR SHALL BE AWARE OF THE ANTICIPATED PRESENCE OF GROUNDWATER WITHIN THE AREA OF THE PROPOSED SEWER INSTALLATION THAT IS AT OR ABOVE THE ELEVATION OF THE INVERT ELEVATION OF THE PROPOSED SEWER. THE CONTRACTOR SHALL IDENTIFY AND UNDERTAKE ANY AND ALL MEANS AND METHODS REQUIRED TO COMPLETE INSTALLATION OF THE SEWER SYSTEM IN ACCORDANCE WITH THE SPECIFICATIONS AND IN "THE DRY". CONTRACTOR SHALL INCLUDE THE COST OF SUCH MEANS AND METHODS WITHIN THE PRICE BID FOR THE SEWER INSTALLATION.

**LEACHATE TRANSFER SEWER AND SOIL BORING PLAN**

SCALE: 1" = 40'



**LEGEND**

- |    |                 |    |               |
|----|-----------------|----|---------------|
| CL | SILTY CLAY      | SW | GRAVELLY SAND |
| ML | SILT/SANDY SILT | GW | SANDY GRAVEL  |
| SM | SILTY SAND      | SH | SHALE         |

**PROJECTED SUBSURFACE PROFILE (SEE NOTE 1)**



**BURGESS & NIPLE**  
5085 REED ROAD  
COLUMBUS, OHIO 43220

CITY OF DELAWARE, OHIO  
CURVE ROAD LANDFILL  
LEACHATE TRANSFER SYSTEM  
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REFERENCE DRAWING - SUBSURFACE DATA SEWER STA. 13+00 - 22+00

FOR REFERENCE ONLY