

Contract Drawings For

GEAUGA COUNTY DEPARTMENT OF WATER RESOURCES (GCDWR)

AQUILLA WWTP IMPROVEMENTS JANUARY 2024

ISSUED FOR BID

OPWC CG14Z/CG15Z

GCDWR PROJECT NO. P1802
HDR PROJECT NO. 10336478

PROJECT ADDRESS:
202 CORNELIA DRIVE
AQUILLA VILLAGE, OHIO
CLARIDON TOWNSHIP, GEAUGA COUNTY



LOCATION MAP
NOT TO SCALE

THIS IS TO CERTIFY THAT THE CONSTRUCTION PLANS AS SHOWN HERE ARE HEREBY APPROVED BY:
APPROVAL ON BEHALF OF GCDWR:

 DATE 2/10/23

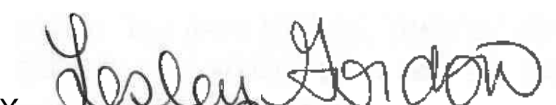
STEVEN OLUIC, PHD
12511 RAVENWOOD DRIVE, SUITE 390
CHARDON, OHIO 44024

 DATE 2.10.2023

NICHOLAS GORRIS, PE
GEAUGA COUNTY SANITARY ENGINEER

DATE _____
OHIO ENVIRONMENTAL PROTECTION AGENCY

ENGINEER PREPARING PLANS:

SUBMITTED BY  DATE 2/10/2023

LESLEY A. GORDON, P.E., PROJECT MANAGER
OHIO REGISTERED PROFESSIONAL ENGINEER (PE 72293)
HDR ENGINEERING, INC.



SHEET LIST:

G-00	GENERAL	COVER SHEET
G-01	GENERAL	NOTES AND SHEET LIST
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OHIO UTILITIES PROTECTION SERVICE BEFORE YOU DIG ANYWHERE IN OHIO! CALL 1-800-362-2764 OR 8-1-1 (TOLL FREE) OHIO LAW REQUIRES 48 HOURS BUT NO MORE THAN 10 WORKING DAYS NOTICE TO UTILITIES BEFORE YOU EXCAVATE, DRILL, BLAST OR DEMOLISH (NON MEMBERS MUST BE CALLED DIRECTLY) WWW.OUPS.ORG TICKET NO.: (SEE "O.U.P.S. REFERENCE NUMBERS")	OHIO OIL & GAS PRODUCERS UNDERGROUND PROTECTION SERVICE TWO WORKING DAYS BEFORE YOU DIG CALL 1-800-925-0988 (TOLL FREE) WWW.OGPUPS.COM
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ISSUED FOR BID

GENERAL NOTES:

- 1. A PRECONSTRUCTION MEETING SCHEDULED WITH THE CONTRACTOR AND THE GEAUGA COUNTY DEPARTMENT OF WATER RESOURCES SHALL BE HELD PRIOR TO ANY WORK STARTING. IN ADDITION, THE CONTRACTOR SHALL PROVIDE TWO (2) WORKING DAYS NOTICE TO THE GEAUGA COUNTY DEPARTMENT OF WATER RESOURCES PRIOR TO BEGINNING WORK TO ARRANGE FOR INSPECTION. NON-CALL IN JOB CANCELLATION MAY BE CHARGED A MINIMUM OF 2 HOURS OF INSPECTION TIME.
- 2. THE CONTRACTOR SHALL AUDIO-VISUAL RECORD THE PROJECT LIMITS AND ADJACENT AREAS INCLUDING ACCESS ROADS AND HAUL ROADS PRIOR TO CONSTRUCTION. THE RECORDING SHALL BE THUMB DRIVE OR DIGITAL FORMAT AND A COPY SHALL BE RETAINED AT THE COUNTY. ALL COSTS SHALL BE INCLUDED WITH MOBILIZATION.
- 3. THE CONTRACTOR SHALL PROVIDE FOR THE MAINTENANCE OF VEHICULAR AND PEDESTRIAN TRAFFIC AT ALL TIMES DURING THE CONSTRUCTION OF THIS PROJECT. THE CONTRACTOR IS RESPONSIBLE FOR INSTALLING, MAINTAINING, AND REMOVAL UPON PROJECT COMPLETION OF TEMPORARY SURFACES, BARRICADES, DRUMS AND SIGNING.
- 4. THE SITE INCLUDES AN ACTIVE WASTEWATER TREATMENT PLANT (WWTP). THE CONTRACTOR SHALL COORDINATE ALL WORK WITH THE OWNER AND ENSURE COUNTY OPERATIONS AND ACCESS TO THE WWTP ARE NOT INTERRUPTED.
- 5. THE CONTRACTOR SHALL MAINTAIN THE PLANT IN AN OPERABLE CONDITION EXCEPT TEMPORARY PERIODS THAT HAVE BEEN PREVIOUSLY APPROVED BY THE PLANT OPERATOR AND/OR COUNTY. AT NO TIME SHALL BOTH LAGOONS BE OFFLINE SO THAT CONTINUOUS TREATMENT CAN BE ACCOMPLISHED. IF THERE IS ANY BYPASS OR TEMPORARY PUMPING REQUIRED IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- 6. THESE SPECIFICATIONS, PLANS, SPECIAL PROVISIONS AND ALL SUPPLEMENTARY DOCUMENTS INCLUDING THE GEAUGA COUNTY DEPARTMENT OF WATER RESOURCES RULES AND REGULATIONS, EFFECTIVE APRIL 1, 2015 ARE ESSENTIAL PARTS OF THE CONTRACT. AND A REQUIREMENT APPEARING IN ONE IS BINDING AS THOUGH OCCURRING IN ALL. THEY ARE INTENDED TO BE COMPLEMENTARY AND TO DESCRIBE AND PROVIDE FOR COMPLETE WORK. IN CASE OF DISCREPANCY, CALCULATED DIMENSIONS WILL GOVERN OVER SCALED DIMENSIONS; PLANS WILL GOVERN OVER SPECIFICATIONS, PROPOSALS AND SPECIAL PROVISIONS WILL GOVERN OVER BOTH SPECIFICATIONS AND PLANS.
- 7. THE STANDARD SPECIFICATIONS OF THE OHIO DEPARTMENT OF TRANSPORTATION, CURRENT EDITION, INCLUDING ALL SUPPLEMENTAL SPECIFICATIONS AND STANDARD DRAWINGS SHALL BE INCORPORATED BY REFERENCE AND ARE SUPPLEMENTARY TO THE PLANS AND SPECIFICATIONS FOR THIS PROJECT. FOR THE PURPOSE OF THIS PLAN:
 - A. ALL SANITARY SEWER WORK CONTEMPLATED MUST BE IN ACCORDANCE WITH CURRENT RULES AND REGULATIONS OF THE GEAUGA COUNTY DEPARTMENT OF WATER RESOURCES.
 - B. THE CONTRACTOR SHALL INCLUDE THE COST OF COMPACTED BACKFILL MATERIAL INCLUDING COMPACTION TESTS UNDER ALL EXISTING AND PROPOSED PAVEMENTS IN THE LUMP SUM PRICE BID FOR EARTHWORK.
- 8. WORK HOURS SHALL BE LIMITED TO MONDAY THROUGH FRIDAY BETWEEN THE HOURS OF 7:00AM AND 7:00PM, EXCLUDING HOLIDAYS, UNLESS OTHERWISE INDICATED AT THE PRECONSTRUCTION MEETING.
 - A. WEEKEND HOURS: WEEKEND WORK, BETWEEN THE HOURS OF 9:00 A.M. AND 7:00 P.M., IS PERMITTED PROVIDED THE CONTRACTOR NOTIFIES THE OWNER AND THE ENGINEER A MINIMUM OF 48 HOURS IN ADVANCE OF THE SCHEDULED WORK. CONTRACTOR WILL BE RESPONSIBLE FOR ADDITIONAL COSTS RELATED TO WEEKEND AND/OR WEEKEND INSPECTIONS.
 EQUIPMENT SHALL BE USED IN A MANNER THAT IS CONSISTENT WITH TYPICAL OPERATION. ALL MUFFLERS AND EXHAUST SYSTEMS SHALL BE IN GOOD CONDITION AND MAINTAIN NOISE LEVELS AT LEVELS REASONABLE FOR THE EQUIPMENT BEING USED. ADDITIONAL COSTS FOR WEEKEND INSPECTIONS WILL BE PASSED ON TO THE CONTRACTOR.
- 9. IT IS THE OBLIGATION AND RESPONSIBILITY OF THE CONTRACTOR TO MAKE ANY ADDITIONAL INVESTIGATIONS OF SURFACE AND SUBSURFACE CONDITIONS PRIOR TO SUBMITTING THEIR PROPOSAL. IN THE EVENT THAT ANY CONTRACTOR OR BIDDER DESIRES TO MAKE ANY ADDITIONAL TESTING, NOTICE MUST BE GIVEN TO THE GEAUGA COUNTY DEPARTMENT OF WATER RESOURCES AND ALL OTHER JURISDICTIONS AS NECESSARY. ALL AREAS DISTURBED BY THESE INVESTIGATIONS MUST BE IMMEDIATELY RESTORED TO THEIR ORIGINAL CONDITION.
- 10. THE CONTRACTOR IS RESPONSIBLE TO COMPLY WITH ALL APPLICABLE SECTIONS OF OSHA STANDARD 29 CFR 1910.146 AND OSHA STANDARD 29 CFR 1926. THE COST OF THIS WORK SHALL BE INCLUDED IN THE ITEM THAT REQUIRES COMPLIANCE.
- 11. ATTENTION IS CALLED TO THE FACT THAT THE WORK REQUIRED BY THIS CONTRACT INCLUDES THE PERFORMANCE OF CERTAIN TASKS WHICH ARE IDENTICAL TO THE ITEMIZED REQUIREMENTS AND PAY ITEMS HEREOF AND INCLUDE TASKS SUCH AS: ALL COORDINATION, LABOR, EXCAVATION, DEWATERING, DISPOSAL, BACKFILLING, SHEETING, BRACING, RESTORATION, MAINTENANCE OF EXISTING PLANT SANITARY FLOWS, TEMPORARY POWER AND CONTROLS, TEMPORARY RELOCATION OF EXISTING FACILITIES FOR THE PERFORMANCES HEREIN DESCRIBED, AND FOR OTHER INCIDENTAL PERFORMANCES OF LIKE NATURE. THE OWNER WILL MAKE NO SPECIFIC OR SEPARATE PAYMENT FOR SUCH INCIDENTALS. THE COST THEREOF SHALL BE INCLUDED IN THE PRICES STIPULATED TO BE PAID FOR THE VARIOUS ITEMS OF THE WORK TO BE DONE UNDER THIS CONTRACT.
- 12. THE WORK LIMITS SHALL BE THE STRICTER OF THE LIMITS OF DISTURBANCE SHOWN ON THE PLANS OR THE AREA ENCLOSED BY THE PROPOSED TREATMENT FACILITY FENCE AND LIMITED TO THE EXISTING WWTP OR PUMP STATION PROPERTY. MATERIALS MAY BE STORED WITHIN THE FENCED AREA AS DESIGNATED BY THE COUNTY REPRESENTATIVES. THE CONTRACTOR SHALL COORDINATE DIRECTLY WITH THE COUNTY DURING CONSTRUCTION REGARDING STAGING AND STORAGE LOCATIONS.

- 13. ANY ADDITIONAL WORK AREA OUTSIDE OF THE EXISTING COUNTY PROPERTY OR EASEMENTS, REQUIRED TO FACILITATE THE CONSTRUCTION, SHALL BE ACQUIRED BY THE CONTRACTOR AT THEIR EXPENSE IN THE FORM OF WORK AGREEMENTS FROM THE PROPERTY OWNERS. ALL WORK AGREEMENTS SHALL RECEIVE PRIOR APPROVAL AS TO FORM, CONTENT, AND CONDITIONS FROM THE COUNTY.
- 14. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING AND COMPLYING WITH ALL PERMIT, PERFORMANCE BONDS, INSPECTIONS, OR SPECIAL PROVISIONS REQUIRED BY THE COUNTY AND/OR PERMITTING AUTHORITY.
- 15. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DAMAGE TO THE EXISTING TREATMENT SYSTEMS RESULTING FROM NONCONFORMANCE WITH COUNTY STANDARDS AND/OR GENERAL NEGLIGENCE.
- 16. APPROVAL BY THE COUNTY AND/OR THEIR REPRESENTATIVE CONSTITUTES NEITHER EXPRESSED NOR IMPLIED WARRANTIES AS TO THE FITNESS, ACCURACY, OR SUFFICIENCY OF PLANS, DESIGNS, OR SPECIFICATIONS.
- 17. MATERIAL SPECIFICATIONS CALLED FOR HEREIN AND ON THE PLANS REPRESENT THE MINIMUM REQUIRED FOR EACH APPLICATION. THE OWNER MAY REQUEST OR THE CONTRACTOR DESIRE TO SUBSTITUTE ALTERNATE MATERIALS. ANY SUCH SUBSTITUTION MUST BE EQUIVALENT IN QUALITY TO THE MATERIAL CALLED FOR ON THE PLANS AND MUST BE APPROVED IN WRITING FORM FROM THE GEAUGA COUNTY DEPARTMENT OF WATER RESOURCES.
- 18. ALL DIMENSIONS, GRADES, AND UTILITY LOCATIONS SHOWN ON THESE PLANS WERE BASED ON A COMBINATION OF FIELD SURVEY AND RECORD PLANS. THE CONTRACTOR SHALL NOTIFY CONSTRUCTION/PROJECT MANAGER FOR NECESSARY PLAN CHANGES PRIOR TO PROCEEDING WITH THE CONSTRUCTION SHOULD ANY DISCREPANCIES EXIST. NO ADDITIONAL COMPENSATION SHALL BE PAID TO THE CONTRACTOR FOR WORK HAVING TO BE REDONE DUE TO THE INFORMATION SHOWN INCORRECTLY ON THESE PLANS IF SUCH NOTIFICATION HAS NOT BEEN GIVEN.
- 19. NEITHER THE COUNTY NOR THE ENGINEER WILL BE RESPONSIBLE FOR CONSTRUCTION OR SAFETY MEANS, METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES UTILIZED IN CONSTRUCTION BY THE CONTRACTOR OR SUBCONTRACTORS.
- 20. FOR SEQUENCE OF CONSTRUCTION SEE SPECIFICATION SECTION 01 11 00.
- 21. ROOF DRAINS, FOUNDATION DRAINS, AND OTHER CLEAN WATER CONNECTIONS TO THE SANITARY SEWER SYSTEM ARE PROHIBITED.
- 22. DEWATERED SLUDGE SHALL BE DISPOSED OF IN A MANNER THAT WILL REDUCE PATHOGENS AND VECTOR ATTRACTION BY IMMEDIATE INJECTION/INCORPORATION IN THE FIELD. THE CONTRACTOR RESPONSIBLE FOR DEWATERING AND HAULING THE SLUDGE SHALL SUBMIT HIS/HER PLAN TO THE OWNER ALONG WITH LAND APPLICATION RATES SO THAT THEY MAY BE REPORTED TO OHIO EPA.

CONTRACTOR SHALL TEST THE SLUDGE FOR FECAL COLIFORMS BEFORE REMOVING FROM LAGOON; A COUNT OF LESS THAN 2,000,000 CFU/GRAM IS REQUIRED BY NPDES PERMIT 3PG00100*HD STATION 581 IN ORDER TO LAND APPLY AND MEET PATHOGEN REDUCTION REQUIREMENTS.

IF THE TEST RESULTS IN A NUMBER GREATER THAN 2,000,000 CFU/GRAM THEN THE SLUDGE MUST BE LIME STABILIZED IN THE LAGOON PRIOR TO REMOVAL. AN ALLOWANCE HAS BEEN INCLUDED IN THE BID FOR LIME APPLICATION AND TO COMPENSATE FOR THE TIME REQUIRED TO STABILIZE THE SLUDGE.

CUMULATIVE POLLUTANT LOADING RATES WILL NEED TO BE USED IN DETERMINING LAND APPLICATION RATES. LABORATORY TESTING FOR METALS SHALL BE INCLUDED IN THE COST FOR SLUDGE REMOVAL, DEWATERING AND HAULING.
- 23. DEWATERING MUST OCCUR ON A WATERTIGHT PAD, LINED WITH HDPE OR CONCRETE, THAT HAS PROPER BERMS. THE AREA SHALL SLOPE TO A SUMP SUCH THAT WATER DERIVED FROM DEWATERING WILL BE CONVEYED TO EACH LAGOON.

DRAINAGE, EROSION AND SEDIMENT CONTROL:

- 1. CONTRACTOR SHALL AT ALL TIMES ENSURE THAT SWPPP MEASURES PROTECTING EXISTING DRAINAGE FACILITIES BE IN PLACE PRIOR TO THE COMMENCEMENT OF ANY PHASE OF THE SITE CONSTRUCTION OR LAND ALTERATION. ALL WORK SHALL BE IN ACCORDANCE WITH THE STORMWATER POLLUTION PREVENTION PLAN SUBMITTED BY THE CONTRACTOR AND APPROVED BY THE COUNTY.
- 2. UPON COMPLETION OF PROJECT, CONTRACTOR SHALL CLEAN THE PAVED AREAS PRIOR TO REMOVAL OF TEMPORARY SEDIMENT CONTROLS AND AS DIRECTED BY THE OWNER AND/OR CONSTRUCTION/PROJECT MANAGER. IF POWER WASHING IS USED, NO SEDIMENT LADEN WATER SHALL BE WASHED INTO THE STORM SYSTEM. ALL SEDIMENT LADEN MATERIAL ON PAVEMENT OR WITHIN THE STORM SYSTEM SHALL BE COLLECTED AND REMOVED FROM THE SITE AT THE CONTRACTOR'S EXPENSE.
- 3. PRIMARY SEDIMENT CONTROL SHALL BE ACCOMPLISHED BY SEEDING AND MULCHING IMMEDIATELY UPON COMPLETION OF EXCAVATION OR FILL AND FINISHED GRADING IN ACCORDANCE WITH ITEM 659 OF THE OHIO DEPARTMENT OF TRANSPORTATION, CONSTRUCTION AND MATERIALS SPECIFICATIONS OR AS DIRECTED BY THE GEAUGA COUNTY DEPARTMENT OF WATER RESOURCES.
- 4. RESTORATION OF ALL DISTURBED AREAS SHALL IMMEDIATELY FOLLOW EXCAVATION AND GRADING OPERATIONS. DELAY IN RESTORATION SHALL NECESSITATE TEMPORARY EROSION CONTROL MEASURES APPROVED BY THE GEAUGA COUNTY DEPARTMENT OF WATER RESOURCES AT THE EXPENSE OF THE CONTRACTOR.

- 5. ALL DISTURBED DRAINAGE CHANNELS, SWALES, DITCHES AND BERMS SHALL BE RESTORED TO THEIR ORIGINAL SHAPE AND GRADE. ALL DISTURBED DRIVE CULVERTS SHALL BE REPLACED IN THE ORIGINAL LOCATIONS AND GRADE, AT THE CONTRACTOR'S EXPENSE AND AS DIRECTED BY THE GEAUGA COUNTY DEPARTMENT OF WATER RESOURCES, EXCEPT AS NOTED ON PLANS.
- 6. ALL SEEDED AREAS SHALL BE WATERED AS NECESSARY TO ESTABLISH VEGETATIVE GROWTH. ALL WORK SHALL BE COMPLETE AND VEGETATIVE GROWTH ESTABLISHED PRIOR TO THE RELEASE OF FUNDS FOR GRADING AND SEEDING.
- 7. THE CONTRACTOR SHALL MAINTAIN ALL EXISTING STORM WATER DRAINAGE COURSES (WHETHER SHOWN ON THE PLANS OR NOT) AT ALL TIMES DURING CONSTRUCTION OF THIS PROJECT. THIS SHALL INCLUDE BUT NOT BE LIMITED TO DITCHES, DRAINAGE PIPES, DRIVEWAY CULVERTS, ROADWAY CULVERTS AND CREEKS. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE TO COMPLY WITH OEPA, GEAUGA SOIL AND WATER CONSERVATION DISTRICT AND ANY CODE REGULATIONS FOR SILTATION, EROSION CONTROL AND STORM WATER RUNOFF. ANY CULVERTS OR STORM SEWERS DAMAGED BY THE CONSTRUCTION PROCESS SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
- 8. THE CONTRACTOR SHALL FURNISH AND APPLY WATER AND CALCIUM CHLORIDE FOR DUST CONTROL AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL INSPECT THE SURROUNDING STREETS, WALKS AND DRIVES FOR MATERIAL

"TRACKED" FROM THE PROJECT SITE TO THESE AREAS. THE CONTRACTOR SHALL SWEEP THESE AREAS AS NEEDED AND AS DIRECTED TO REMOVE ALL DEPOSITED MATERIAL BY VACUUMING. ALLOWING SEDIMENT TO BECOME AIRBORNE, BY BLOWING OR OTHER METHODS, IS NOT PERMITTED. THERE WILL BE NO SEPARATE PAYMENT FOR DUST CONTROL OR STREET SWEEPING.

PROHIBITED CONSTRUCTION ACTIVITIES:

- 1. DISPOSING OF EXCESS OR UNSUITABLE SOIL MATERIAL IN WETLANDS, STREAMS OR FLOODPLAIN, EVEN WITH THE PERMISSION OF THE PROPERTY OWNER;
- 2. LOCATING STOCKPILE STORAGE AREAS IN ENVIRONMENTALLY SENSITIVE AREAS;
- 3. INDISCRIMINATE, ARBITRARY OR CAPRICIOUS OPERATION OF EQUIPMENT IN ANY STREAM CORRIDORS, ANY WETLANDS, AND SURFACE WATERS OR OUTSIDE THE WORK LIMITS;
- 4. PUMPING OF SEDIMENT-LADEN WATER FROM TRENCHES OR OTHER EXCAVATIONS DIRECTLY INTO ANY SURFACE WATERS, ANY STREAM CORRIDORS, AND WETLAND OR STORM SEWERS; ALL SUCH WATER SHALL BE PROPERLY FILTERED OR SETTLED TO REMOVE SILT PRIOR TO RELEASE;
- 5. DISCHARGING POLLUTANTS SUCH AS CHEMICALS, FUELS, LUBRICANTS, BITUMINOUS MATERIAL, RAW SEWAGE AND OTHER HARMFUL WASTE INTO OR ALONGSIDE RIVERS, STREAMS, IMPOUNDMENTS OR INTO NATURAL OR MAN-MADE CHANNELS LEADING THERETO;
- 6. PERMANENT OR UNSPECIFIED ALTERATION OF THE FLOW LINE OF ANY STREAM;
- 7. DAMAGING VEGETATION OUTSIDE OF THE CONSTRUCTION AREA;
- 8. DISPOSING OF TREES, BRUSH AND OTHER DEBRIS IN ANY STREAM CORRIDORS, ANY WETLANDS, ANY SURFACE WATERS OR AT UNSPECIFIED LOCATIONS;
- 9. OPEN BURNING OF PROJECT DEBRIS WITHOUT A PERMIT;
- 10. DISCHARGING INJURIOUS SILICA DUST CONCENTRATIONS INTO THE ATMOSPHERE RESULTING FROM BREAKING, CUTTING, CHIPPING, RILLING, BUFFING, GRINDING, POLISHING, SHAPING, OR SURFACE CLOSER THAN 200 FEET TO PLACES OF RESIDENCES OR COMMERCIAL, PROFESSIONAL, QUASI-PUBLIC OR PUBLIC PLACES OF HUMAN OCCUPATION;
- 11. STORING CONSTRUCTION EQUIPMENT AND VEHICLES AND/OR STOCKPILING CONSTRUCTION MATERIALS ON PROPERTY, PUBLIC OR PRIVATE, NOT PREVIOUSLY SPECIFIED ON THE PLANS BY THE ENGINEER FOR SUCH PURPOSES;



ISSUE	DATE	DESCRIPTION

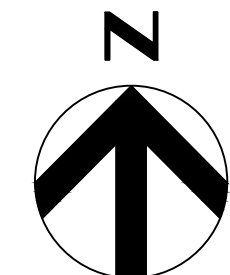
PROJECT MANAGER	L. GORDON
DESIGNED BY	SK
DRAWN BY	VKN
CHECKED BY	
APPROVED BY	
PROJECT NUMBER	10336478



GENERAL NOTES AND SHEET LIST

FILENAME	G-01.DWG
SCALE	NOT TO SCALE

SHEET **G-01**

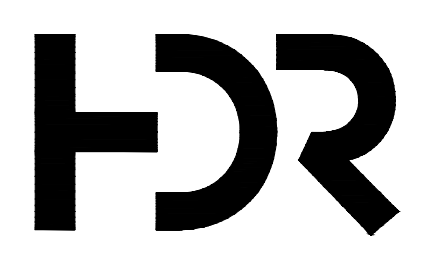


NOTES:

1. PROPERTY LINES ARE NOT SHOWN ON THIS PLAN VIEW. PARCEL IS PA 13-706300 OWNED BY THE GEAUGA COUNTY BOARD OF COMMISSIONERS. ALL PROPOSED WORK SHALL BE WITHIN THE COUNTY-OWNED PARCEL.
2. CONTRACTOR SHALL HAVE A SURVEYOR LOCATE THE PROPERTY CORNERS PRIOR TO COMMENCING WORK IN ORDER TO ENSURE THAT ALL WORK IS COMPLETED INSIDE THE PROPERTY LINES.



DRAINAGE STRUCTURE IS NOT INTENDED TO BE USED AS A LAGOON BYPASS, ONLY FOR DRAINING INFILTRATION FROM THE EFFLUENT CONTROL STRUCTURE



ISSUE	DATE	DESCRIPTION

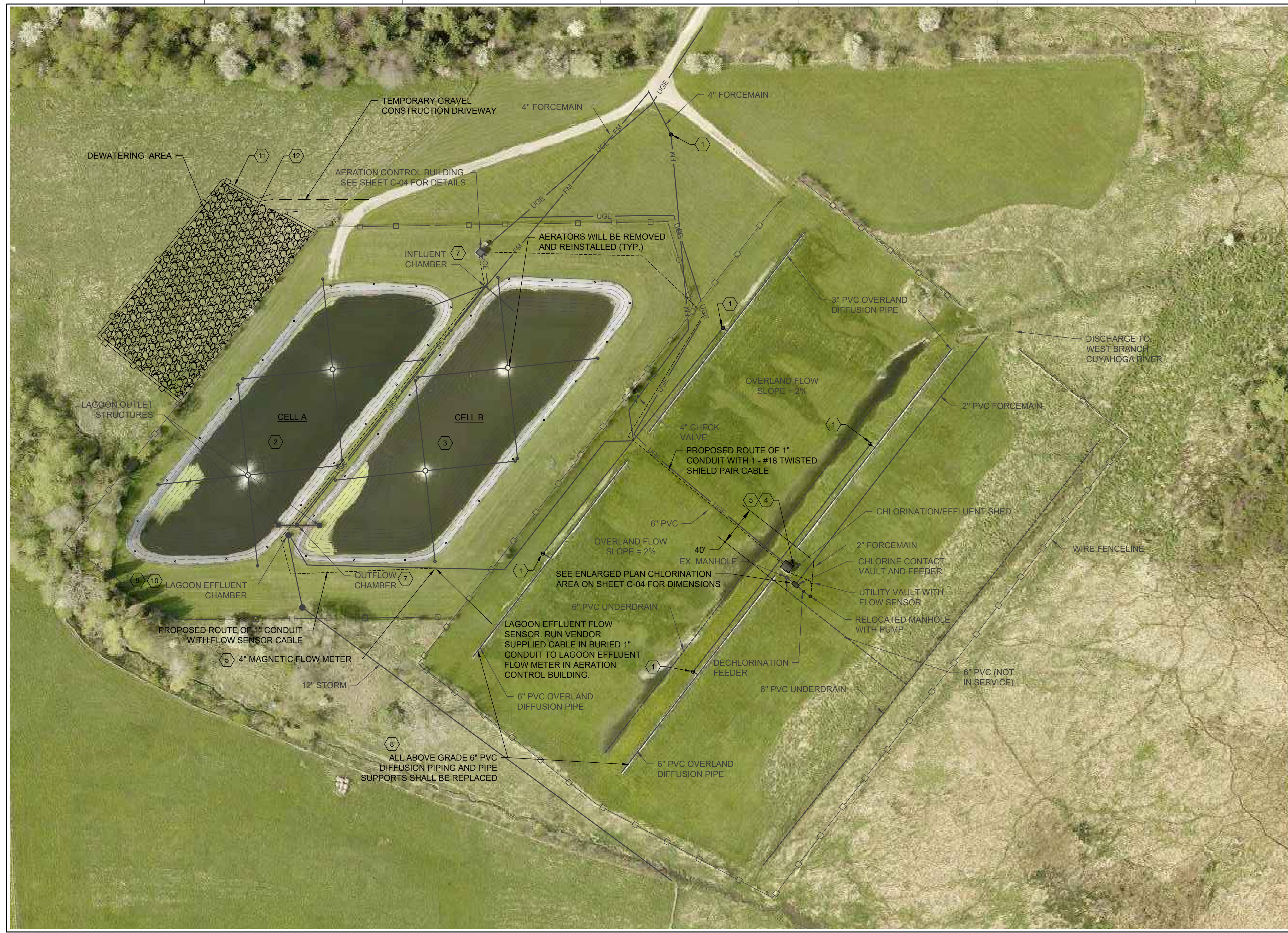
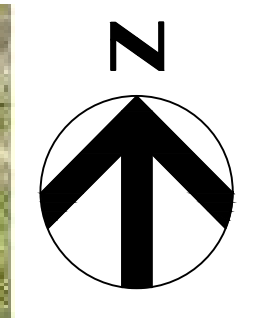
PROJECT MANAGER	L. GORDON
DESIGNED BY	SK
DRAWN BY	VKN
CHECKED BY	
APPROVED BY	
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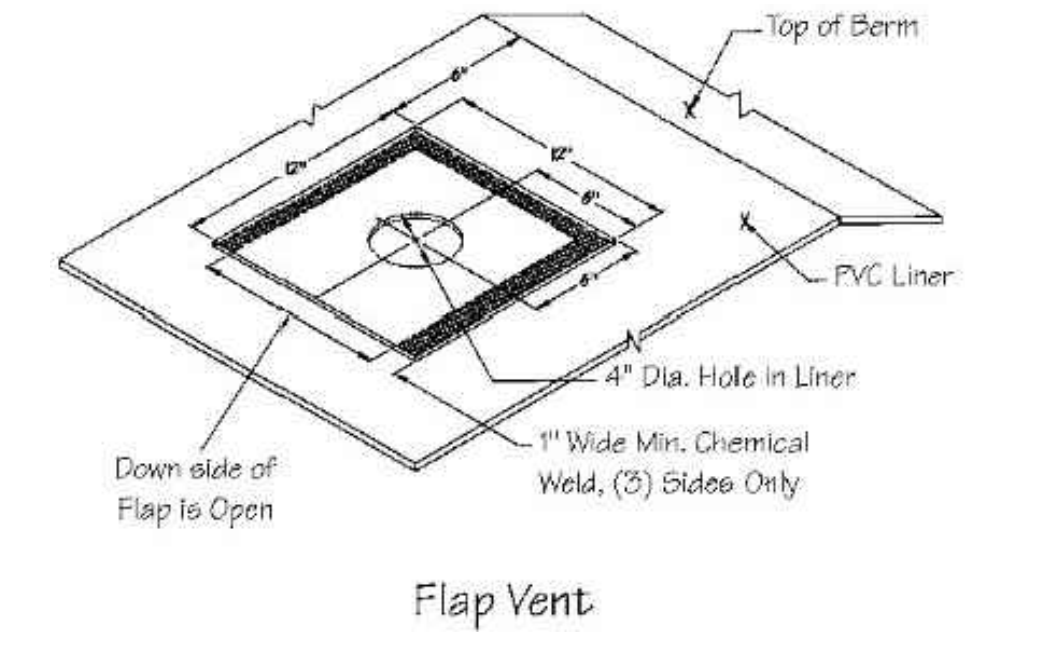
**CIVIL
EXISTING CONDITIONS**

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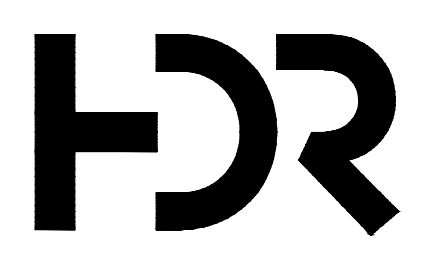
SHEET
C-01



- NOTES:**
- REPLACE GATE VALVES IN KIND.
 - SLUDGE TO BE REMOVED FROM CELLS, DEWATERED ON SITE AND HAULED FOR DISPOSAL (BOTH CELLS).
 - CELL LINERS TO BE REPLACED (BOTH CELLS).
 - REPLACE CHLORINE CONTACT TANK WITH PRECAST VAULT. SEE SHEET C-04 FOR DETAILS.
 - ADD EFFLUENT METER.
 - THE CONTRACTOR SHALL EXERCISE CARE IN INSTALLING THE NEW CHLORINATION/DECHLORINATION COMPONENTS AND METER TO NOT DISTURB THE DRAIN FIELDS. THERE IS A 40-FOOT WIDE AREA BETWEEN THE FIELD TO WORK IN. HEAVY EQUIPMENT SHALL NOT BE DRIVEN OUTSIDE OF THIS AREA. RECORD PLANS SHOW A 40 FOOT DIMENSION FROM THE 6" FORCE MAIN TO THE UNDERDRAIN AREA OF THE EASTERN DRAIN FIELDS. THIS IS THE 40 FOOT AREA WHERE THE CONTRACTOR MAY PARK CONSTRUCTION VEHICLES FOR INSTALLING THE NEW ITEMS SHOWN ON THE PLANS. IT IS INTENDED THAT THE CONTRACTOR AVOID PARKING ON THE DRAIN FIELDS.
 - SEE DETAILS SHEETS FOR WORK IN EXISTING CHAMBERS.
 - SEE DETAILS FOR PIPE SUPPORTS.
 - LAGOON EFFLUENT CHAMBER. SEE SHEET C-06 FOR DEMOLITION AND MODIFICATION DETAILS.
 - LAGOON EFFLUENT FLOW SENSOR BURIED CONDUIT ALTERNATIVE. THE CONTRACTOR MAY ELECT TO INVESTIGATE AND INTERCEPT THE EXISTING CONDUIT FROM THE AERATOR CONTROL BUILDING TO THE LAGOON EFFLUENT CHAMBER. THE EXISTING CONDUIT CONTAINS CIRCUIT CONDUCTORS FOR THE EXISTING VALVE ACTUATORS. CONDUCTORS ARE TO BE REMOVED AND THE EMPTY CONDUIT MAY BE INTERCEPTED AND EXTENDED AS NEEDED TO ROUTE THE LAGOON FLOW SENSOR CABLE.
 - CONTRACTOR SHALL INSTALL A TEMPORARY FENCE AROUND THE DEWATERING AREA THAT MAY BE TIED INTO THE PLANT FENCE. INCLUDE A GATE FOR ENTRANCE. ANY SECTION OF THE EXISTING FENCE AROUND THE PLANT THAT IS REMOVED MUST BE REPLACED IN THE SAME LOCATION. SILT FENCE SHALL BE ERECTED ALONG THE PERIMETER OF THE DEWATERING AREA OF THE THREE SIDES THAT WILL NOT DRAIN TOWARDS THE LAGOONS.
 - IT IS THE INTENTION OF THIS CONTRACT THAT AT MOBILE DEWATERING UNIT BE BROUGHT TO THE SITE FOR DEWATERING THE SLUDGE ON-SITE AND HAULING AWAY OF DEWATERED SLUDGE. CONTRACTOR SHALL USE A TEMPORARY SUMP PUMP AND ABOVE-GRADE PIPE TO DIRECT FLOW FROM THE DEWATERING AREA AND SLOPE BETWEEN THE DEWATERING AREA AND LAGOON.
 - VENTS SHALL BE REPLACED IN THE SAME LOCATION AS THE EXISTING VENTS - EVERY 30' IN CELLS "A" AND "B". A 4-INCH DIAMETER HOLE WILL BE CUT IN THE HDPE LINER AND A 12-INCH SQUARE LINER FLAP WITH MATCHING 4-INCH HOLE PLACED ON TOP OF THE HDPE LINER. A 1-INCH WIDE MINIMUM ADHESIVE SEAL WILL BE USED ON THREE SIDES OF THE LINER, WITH THE FOURTH SIDE OPEN ON THE DOWN-SLOPE SIDE OF THE VENT. SEE DETAIL BELOW.
 - A FLEXIBLE SPILL CONTAINMENT BERM SHALL BE PLACED ALONG THE PERIMETER OF THE DEWATERING AREA AND LINED WITH HDPE PER THE DETAIL ON THIS SHEET. AT THE LOW POINT OF THE DEWATERING AREA, THE CONTRACTOR SHALL EITHER UTILIZE A SUMP PUMP TO PUMP ANY LIQUID BACK TO THE LAGOONS OR INSTALL A DRAIN PIPE TO DO THE SAME. ALTERNATELY, THE DRAINAGE CAN BE DIRECTED TO THE INFLUENT CHAMBER FOR DISTRIBUTION BACK INTO THE LAGOON THAT IS IN OPERATION AT THAT POINT.

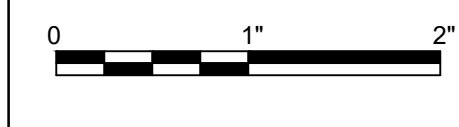


- CONTRACTOR WILL BE RESPONSIBLE FOR HAULING WATER TO SITE FOR DEWATERING ACTIVITIES. INCLUDE COST IN COST FOR DEWATERING



ISSUE	DATE	DESCRIPTION

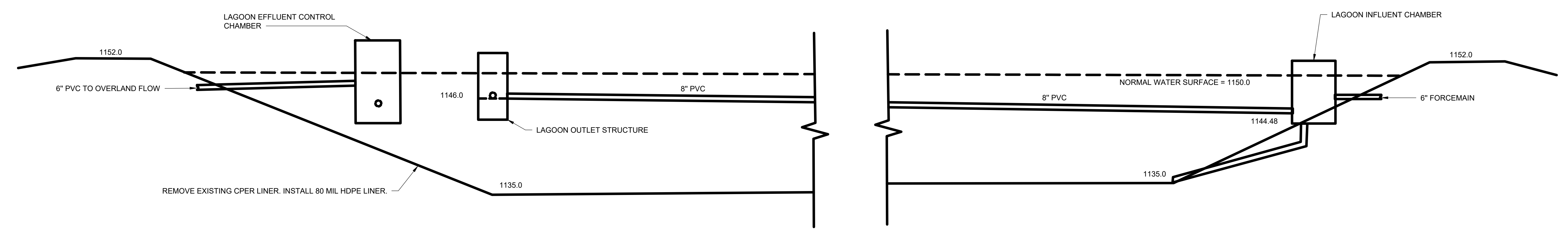
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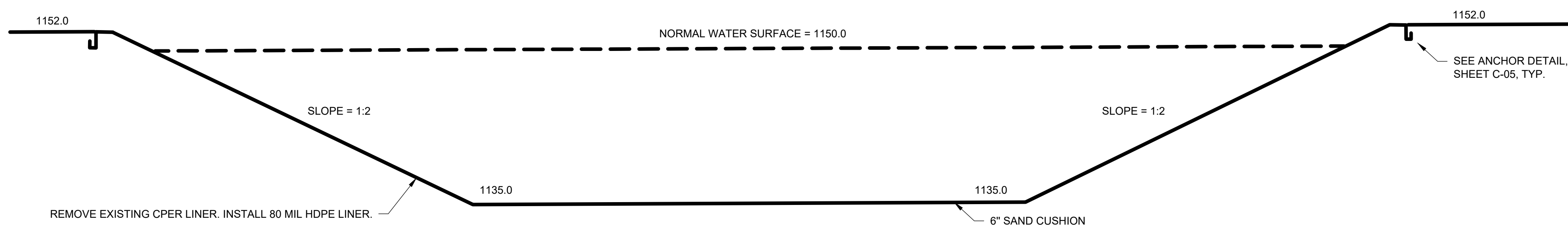
CIVIL
SITE PLAN

FILENAME | C-02.DWG
SCALE | NOT TO SCALE

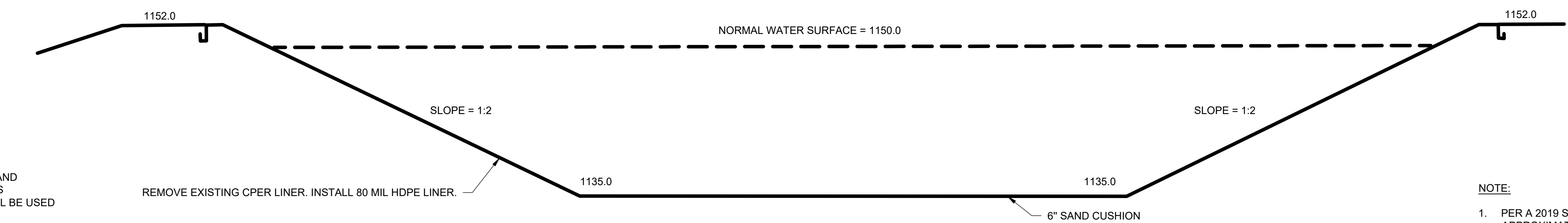
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C-02



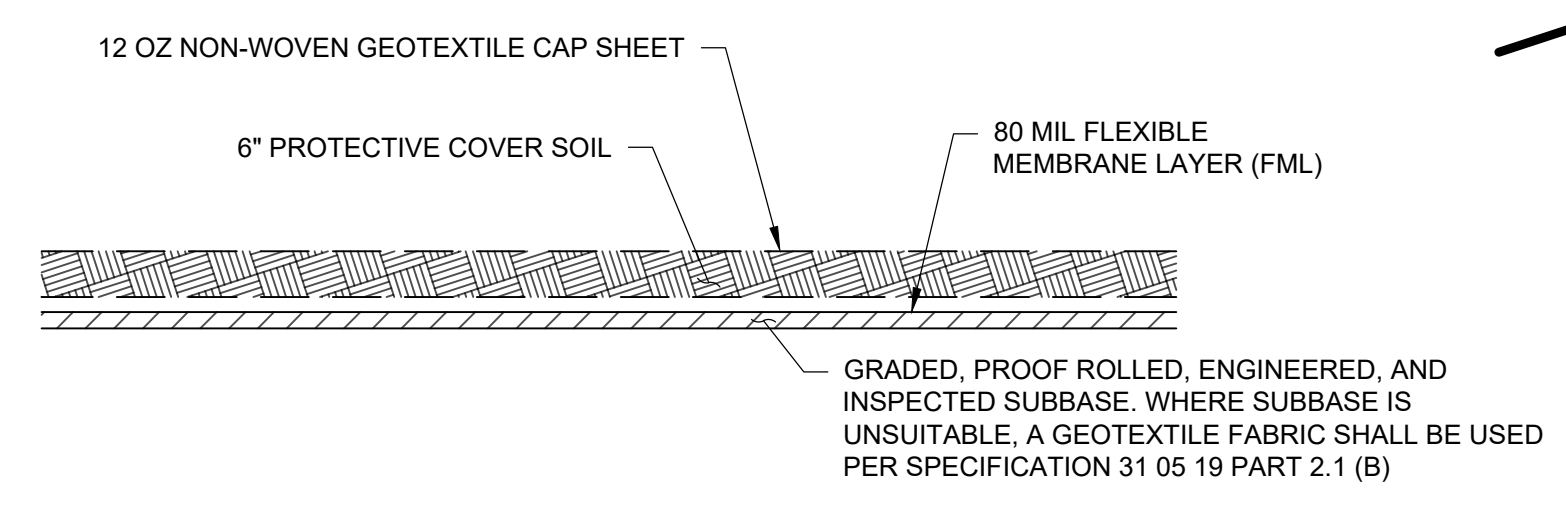
LAGOON PROFILE
HORIZ. AND VERT. SCALE 1"=6'



CELL "A" SECTION
HORIZ. AND VERT. SCALE 1"=6'

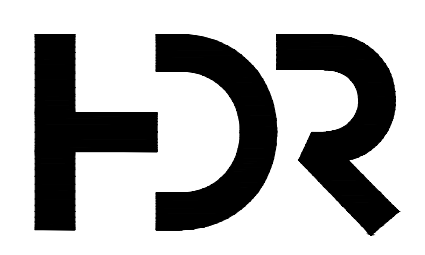


CELL "B" SECTION
HORIZ. AND VERT. SCALE 1"=6'



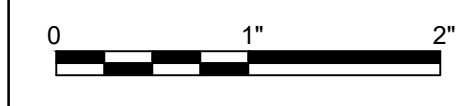
REPLACEMENT LAGOON LINER LAYERS

NOTE:
1. PER A 2019 SAMPLING REPORT, LAGOON A HOLDS APPROXIMATELY 42,400 CF OF MATERIAL AND LAGOON B HOLDS APPROXIMATELY 76,860 CF OF MATERIAL. THE VOLUME OF SLUDGE ANTICIPATED TO BE DEWATERED ON-SITE IS ABOUT 900,000 GALLONS. BASED ON A PERCENT SOLIDS ANALYSIS CONDUCTED AT THAT TIME, THE TOTAL DRY TONS OF MATERIAL EXPECTED TO BE REMOVED FROM THE TWO LAGOONS IS 164 DRY TONS.



ISSUE	DATE	DESCRIPTION

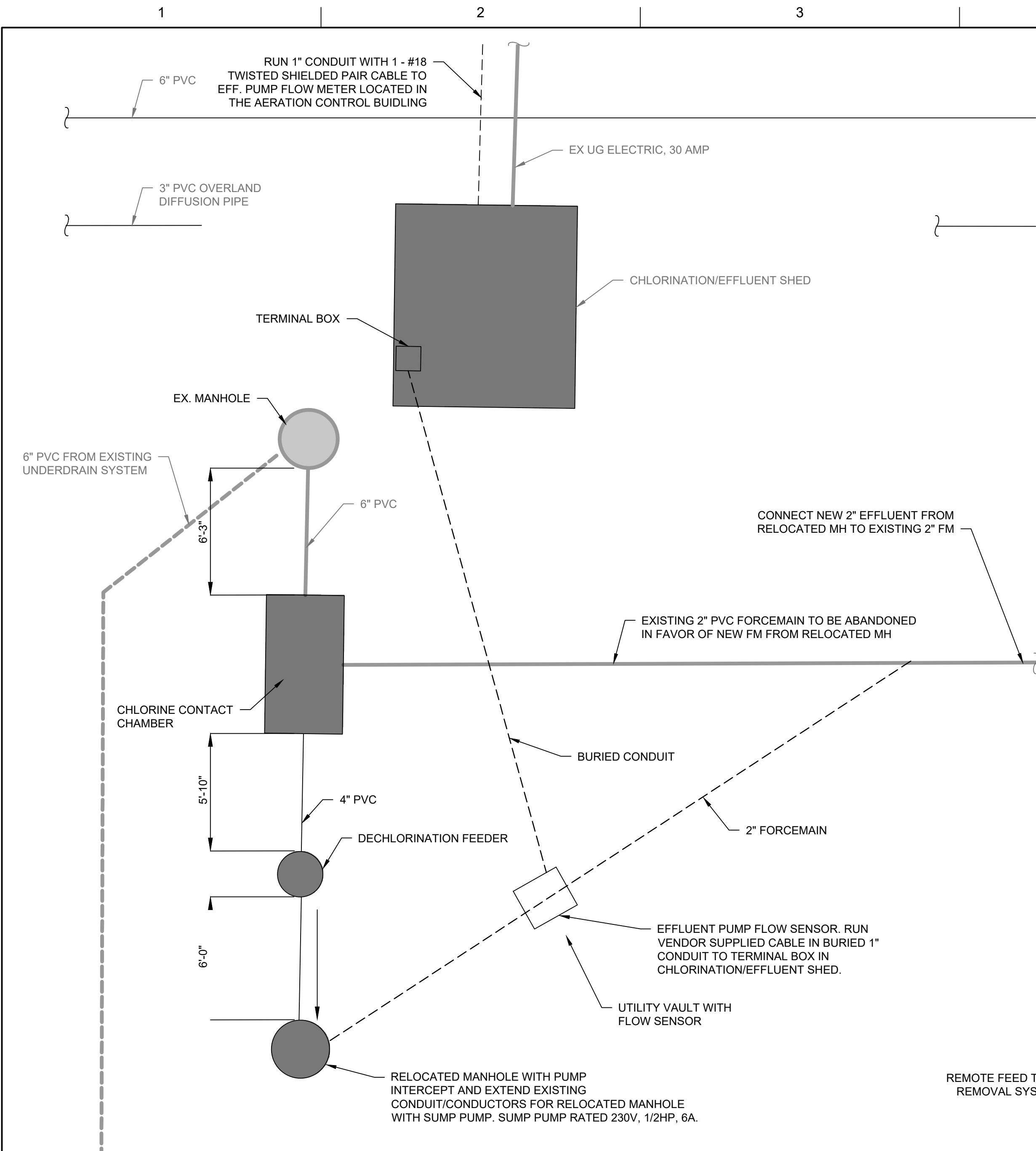
PROJECT MANAGER	L. GORDON
DESIGNED BY	SK
DRAWN BY	SK
CHECKED BY	
APPROVED BY	
PROJECT NUMBER	10336478



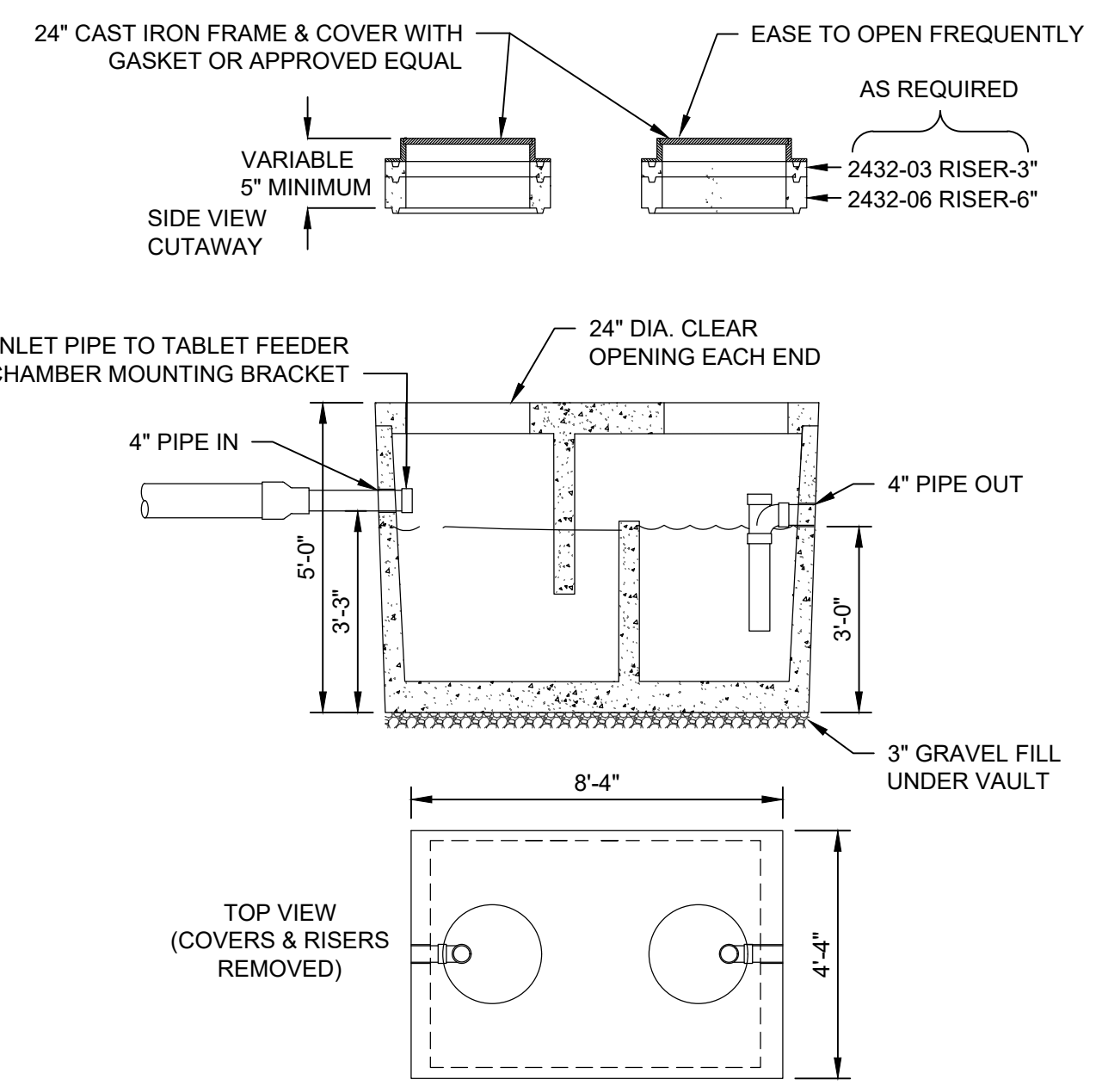
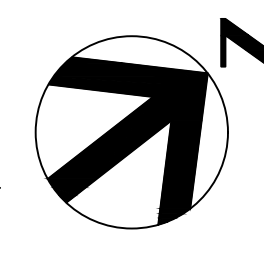
FILENAME | C-03.DWG
SCALE | AS NOTED

SHEET
C-03

**CIVIL
LAGOON PROFILES**



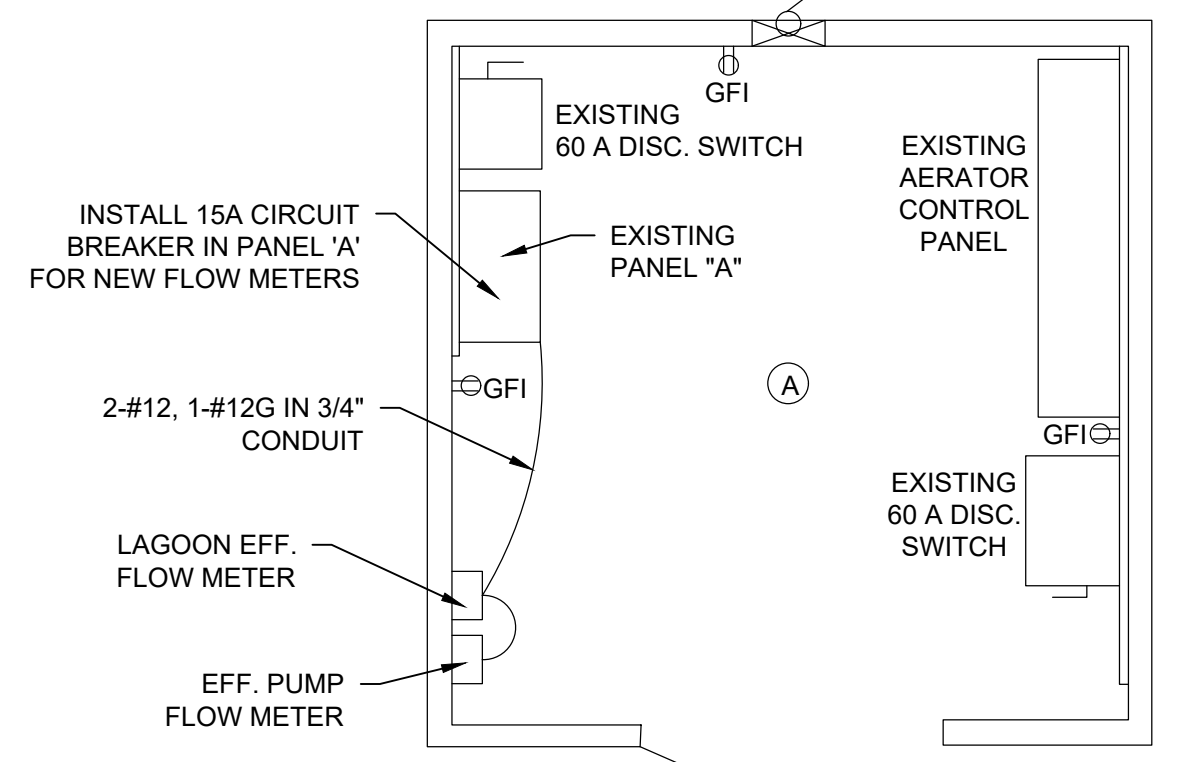
ENLARGED PLAN CHLORINATION AREA
SCALE: 1/4"=1'-0"



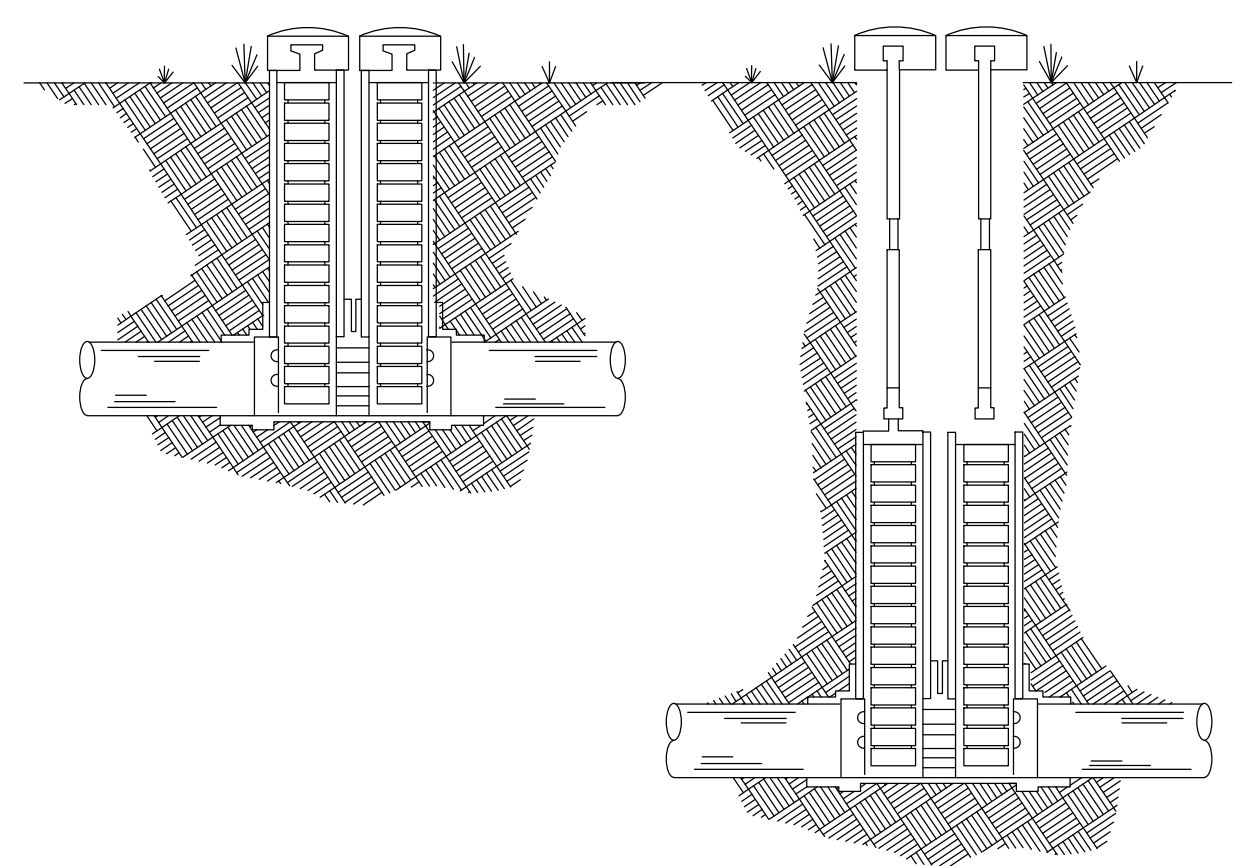
LIQUID CAPACITY: 1,000 GALLONS.
BOX DESIGN LOAD: H-20 TRAFFIC FROM 1' TO 6' OF SOIL COVER.

NOTE:
CONTRACTOR SHALL INSTALL A PRECAST CONCRETE VAULT AND MOUNT THE CHLORINE TABLET FEEDER INSIDE FOR USE AS A CHLORINE CONTACT TANK. THE TABLET FEEDER SHALL BE INSTALLED SO THAT THE RISERS FOR LOADING THE TABLETS EXTEND THROUGH THE 24-INCH OPENING. TABLET FEEDER RISERS SHALL BE EXTENDED TO BE ACCESSIBLE TO THE OPERATOR FROM GRADE WHEN THE MANHOLE LID IS OPENED.

PRECAST VAULT DETAIL
SCALE: 3/8"=1'-0"



AERATOR CONTROL BUILDING
SCALE: 3/8"=1'-0"



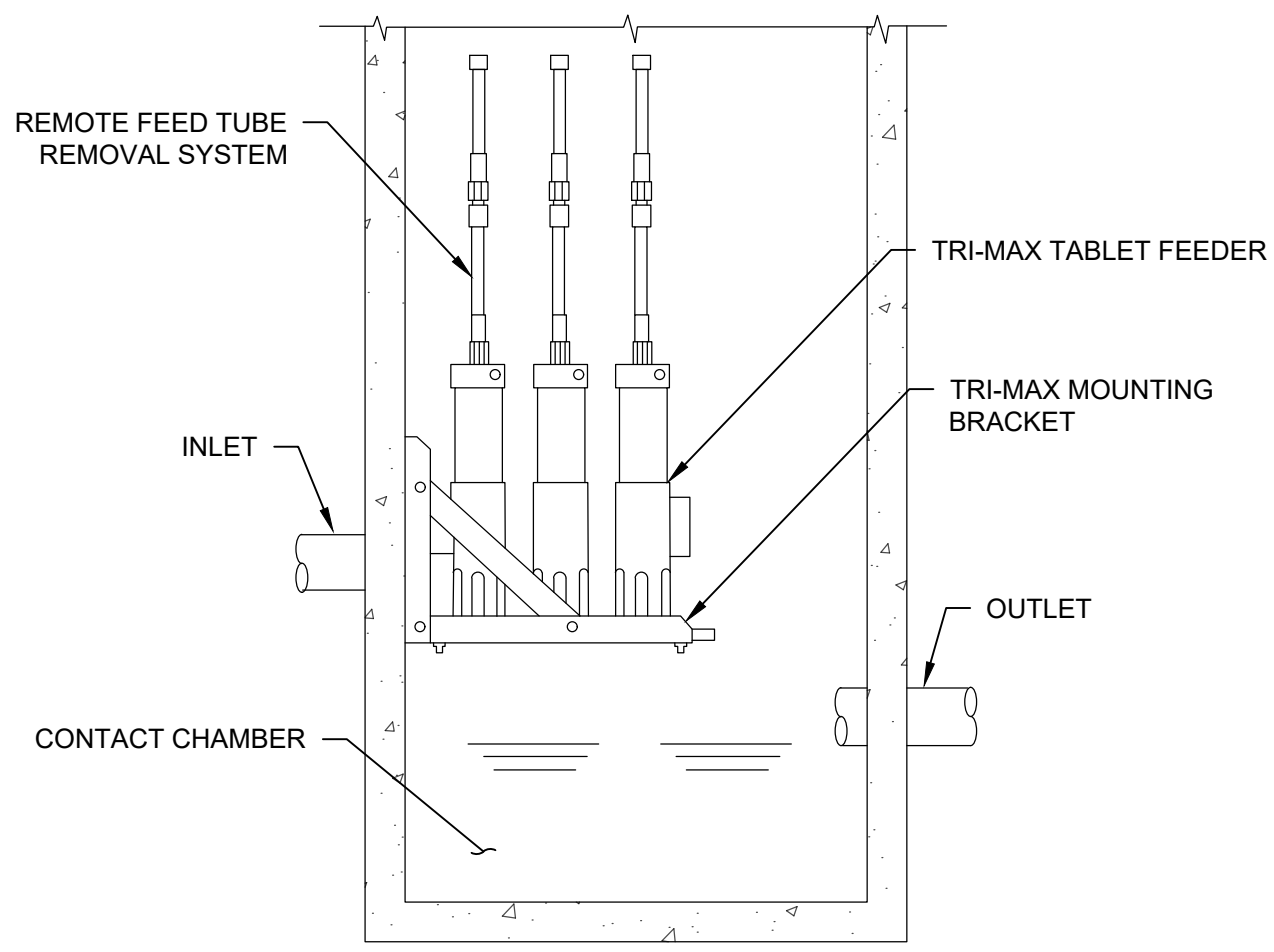
DIRECT BURIAL AND REMOTE DIRECT BURIAL
SCALE: NTS

CHLORINATION AND DECHLORINATION TABLET FEEDER SHALL BE NORWECO BIODYNAMICS LF 2000 SERIES OR APPROVED EQUAL. FEED TUBE FOR DECHLORINATION SHALL BE BROUGHT TO GRADE. FEED TUBE(S) FOR CHLORINATION SHALL BE ACCESSIBLE TO THE PLANT PERSONNEL VIA MANHOLE.

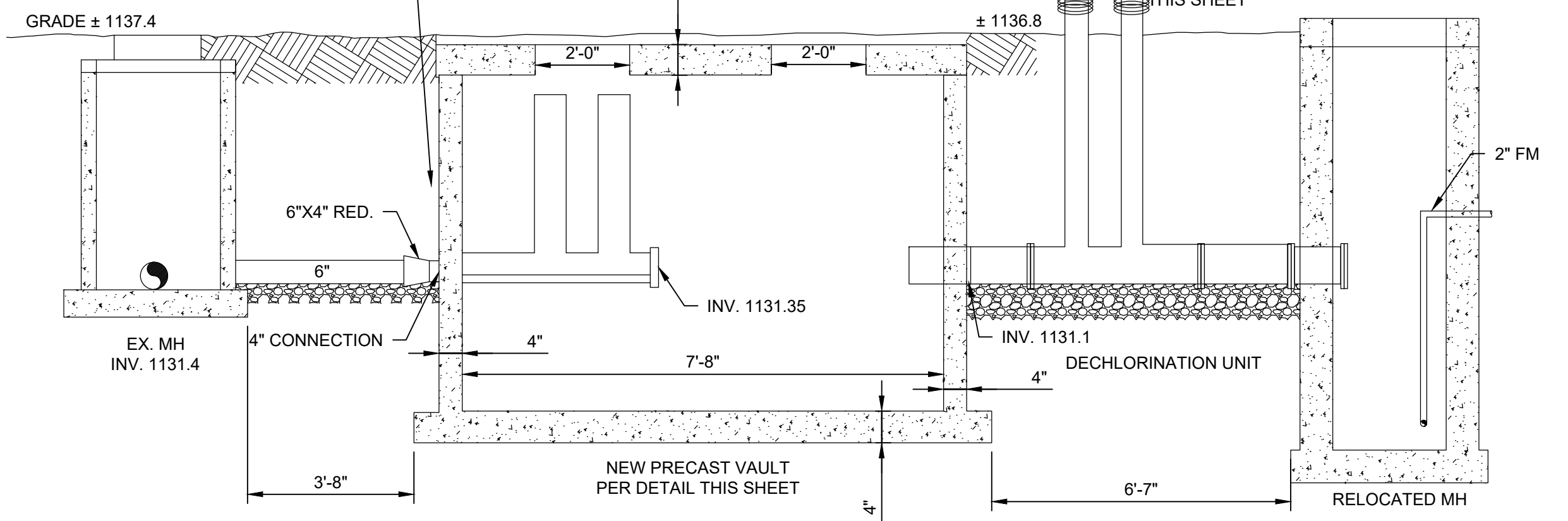
ALL CONNECTIONS TO MANHOLES AND VAULTS SHALL BE WATERTIGHT GASKETS BY A-LOK, KOR-N-SEAL, OR APPROVED EQUAL.

DISTANCES BETWEEN EXISTING STRUCTURES ARE APPROXIMATE BASED ON RECORD DRAWINGS. ALL ELEVATIONS AND GRADES ARE ALSO BASED ON RECORD DRAWINGS.

ALL PIPES AND STRUCTURES SHALL BE PLACED ON MINIMUM 3 INCHES OF GRAVEL FILL. THE VOID AREA BETWEEN THE VAULT AND RELOCATED MANHOLE, BELOW THE PIPE, SHALL ALSO BE BACKFILLED WITH GRAVEL.



CHAMBER MOUNTING BRACKETS
SCALE: NTS



CHLORINATION AREA PROFILE
SCALE: 3/8"=1'-0"

NOTE:
CONTRACTOR TO INSTALL A 2-INCH MAGNETIC FLOW METER ON THE DISCHARGE PIPE FROM THE EFFLUENT PUMP. A MINIMUM OF SEVEN PIPE DIAMETERS UPSTREAM OF THE METER AND TWO DIAMETERS ARE REQUIRED ON A STRAIGHT SECTION OF PIPE FOR PROPER INSTALLATION OF THE METER. TRANSMITTER SHALL BE MOUNTED INSIDE THE ADJACENT SHED AERATOR CONTROL BUILDING. METER SHALL BE A BADGER METER MODMAG M2000 OR APPROVED EQUAL AND SHALL BE PROVIDED WITH SUFFICIENT CABLE LENGTH TO TERMINATE AT TERMINAL BOX WITHIN THE CHLORINATION/EFFLUENT SHED. CONTRACTOR TO FIELD VERIFY THE CABLE LENGTH REQUIREMENT. THE METER SHALL BE INSTALLED IN A BELOW GRADE UTILITY VAULT. DISTANCES BETWEEN EXISTING STRUCTURES ARE APPROXIMATE BASED ON RECORD DRAWINGS. ALL ELEVATIONS AND GRADES ARE ALSO BASED ON RECORD DRAWINGS.

PROJECT MANAGER	L. GORDON
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PROJECT NUMBER	10336478

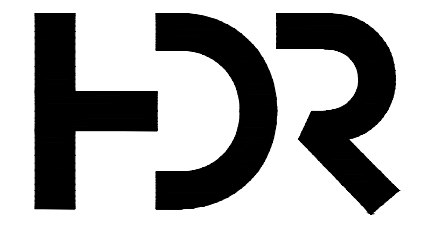


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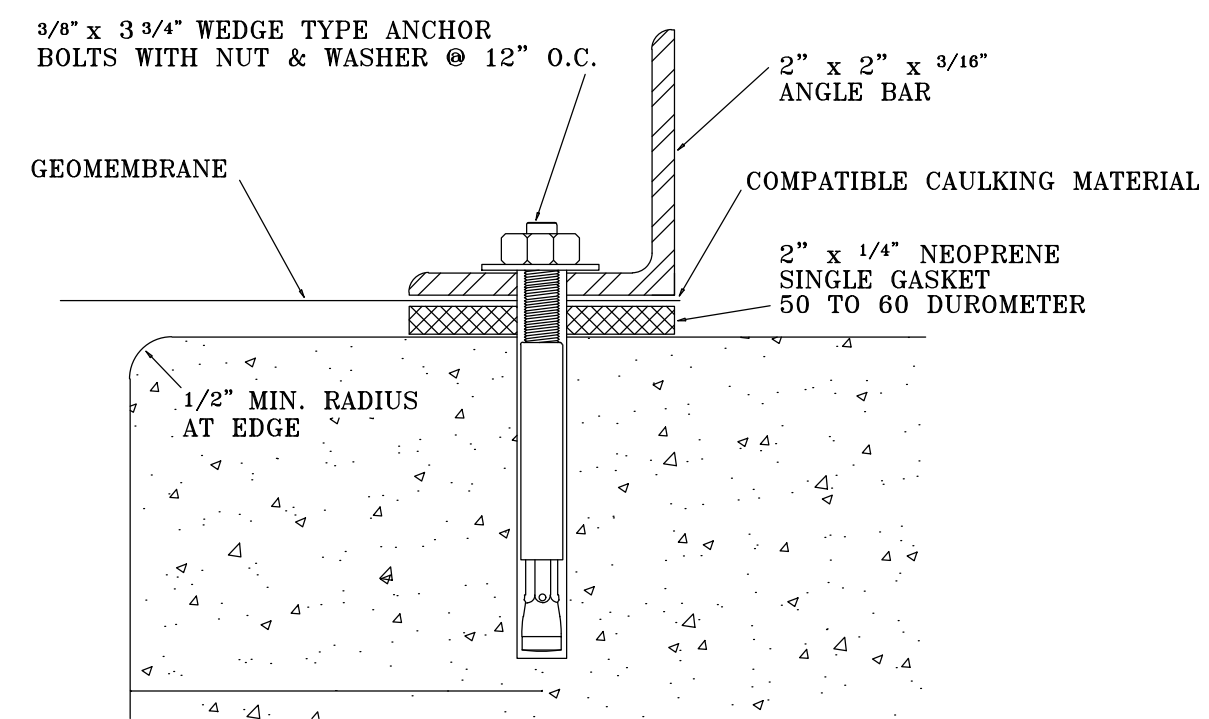
AERATOR CONTROLS, DISINFECTION, SAMPLING MANHOLE DETAILS AND PROFILE

FILENAME: C-04.DWG
SCALE: NOT TO SCALE

SHEET: **C-04**



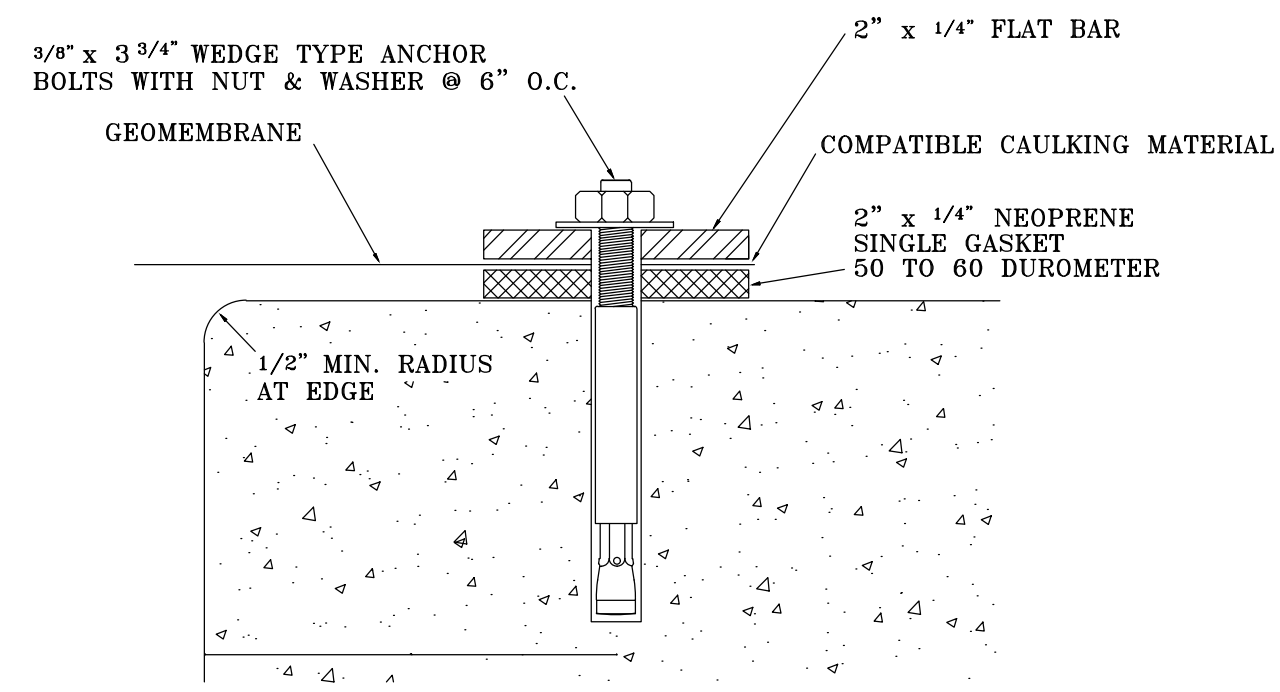
ISSUE	DATE	DESCRIPTION



ANGLE BAR DETAIL

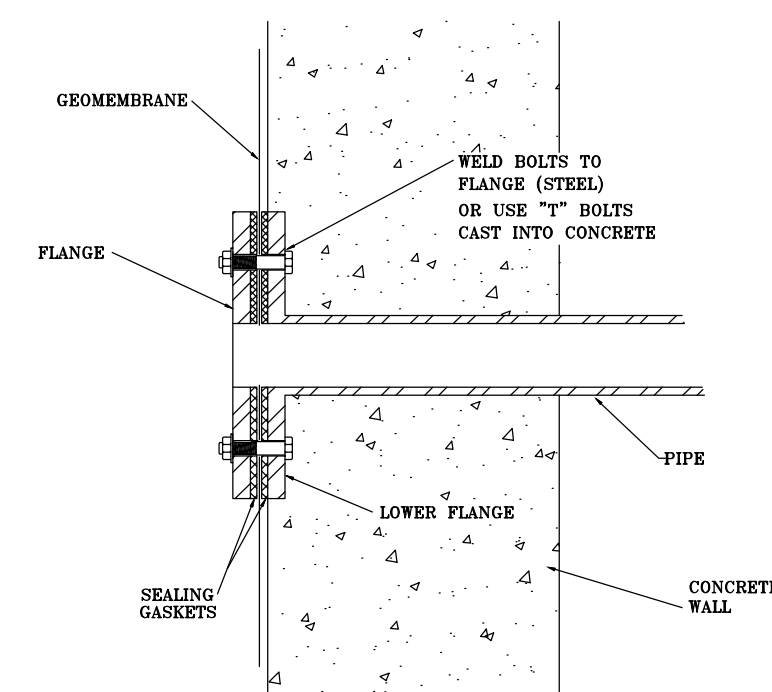
(STANDARD)

Drawing provided by Layfield Plastics (1978) Ltd.



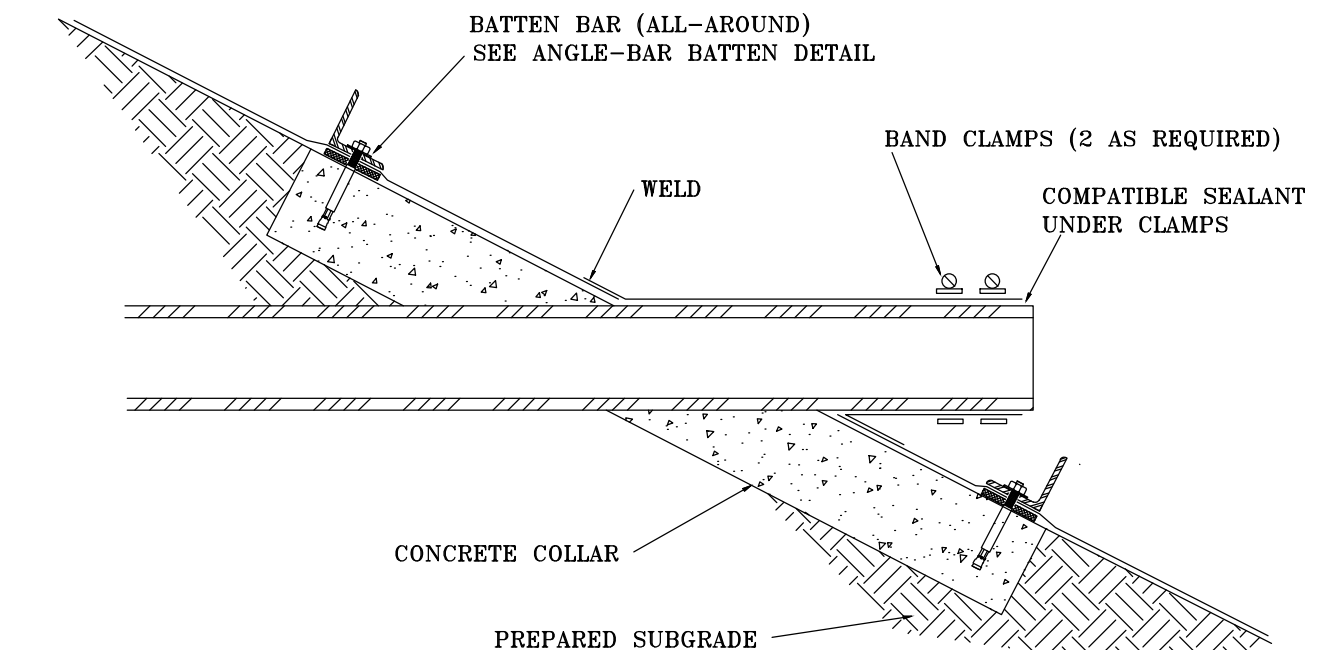
FLAT BAR DETAIL

Drawing provided by Layfield Plastics (1978) Ltd.



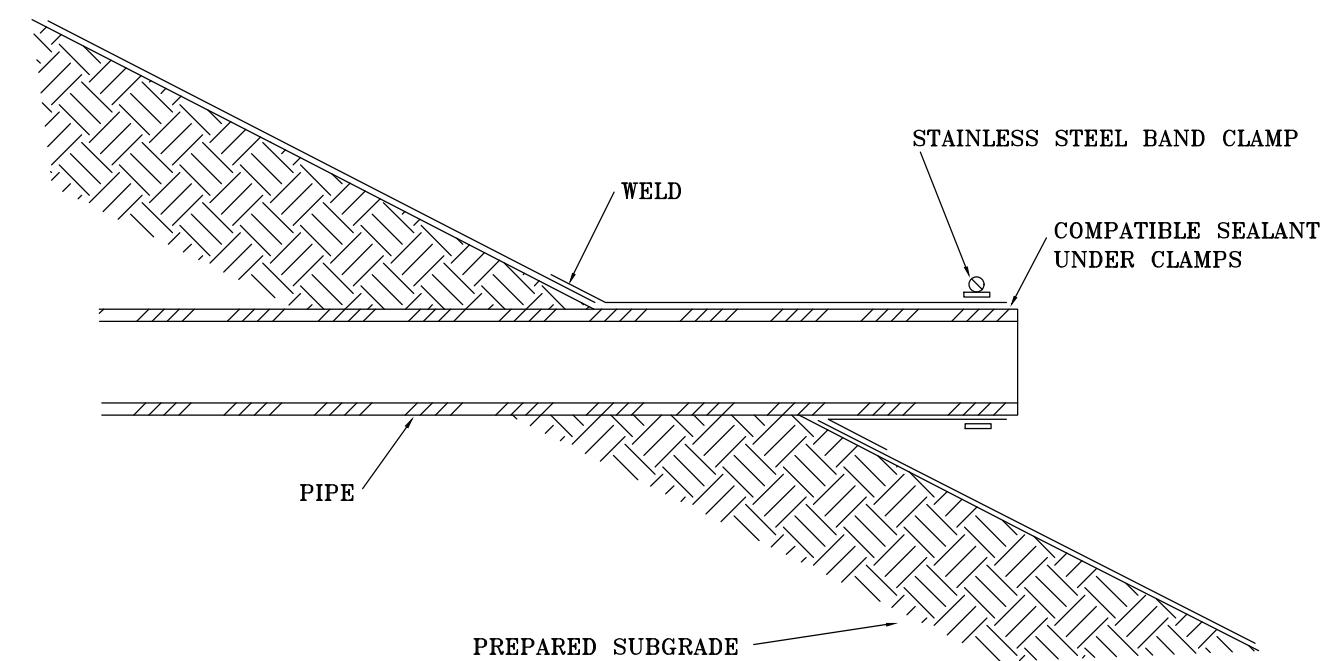
PIPE FLANGE CONNECTION

Drawing provided by Layfield Plastics (1978) Ltd.



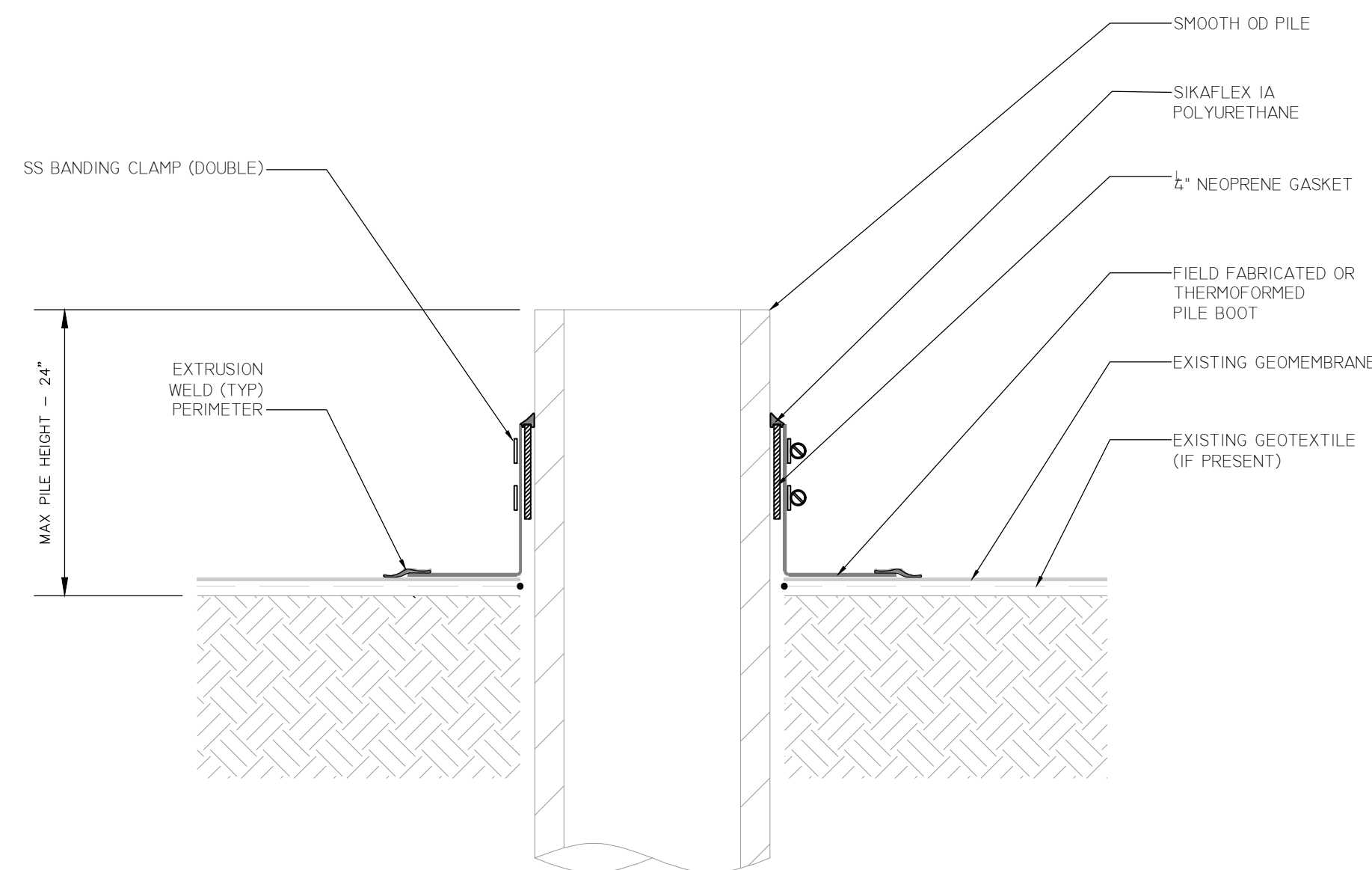
LARGE DIAMETER PIPE BOOT CONNECTION

Drawing provided by Layfield Plastics (1978) Ltd.



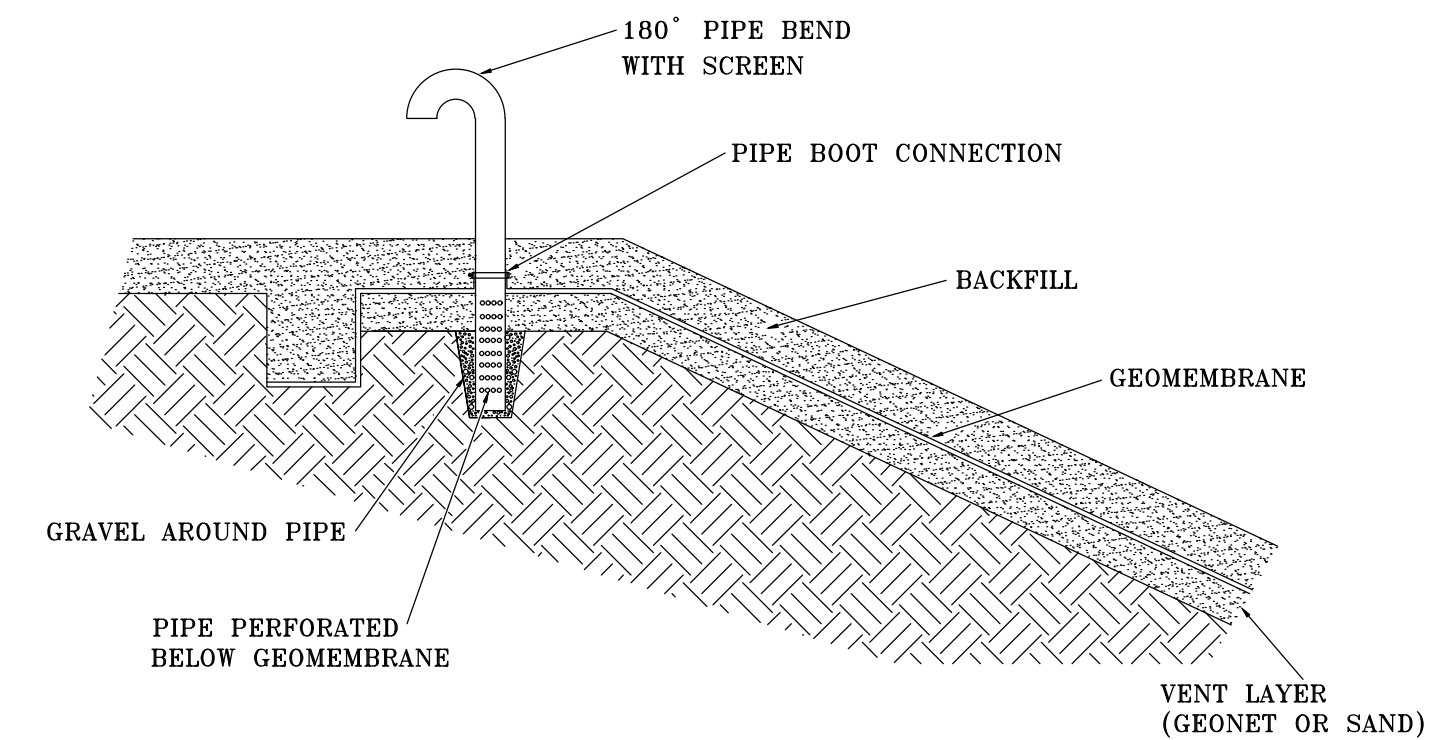
SMALL DIAMETER PIPE BOOT CONNECTION

Drawing provided by Layfield Plastics (1978) Ltd.



VERTICAL PILE PENETRATION BOOT DETAIL

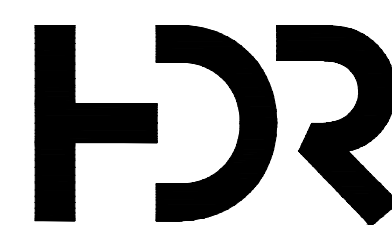
Drawing provided by Layfield Plastics (1978) Ltd.



BACKFILLED GEOMEMBRANE VENT DETAIL

Drawing provided by Layfield Plastics (1978) Ltd.

- NOTES:**
1. DETAILS USED FROM LAYFIELD PLASTICS WITH PERMISSION FROM MANUFACTURER.
 2. SEE SHEET C-03 FOR PROFILE OF LAGOON LINER.



ISSUE	DATE	DESCRIPTION

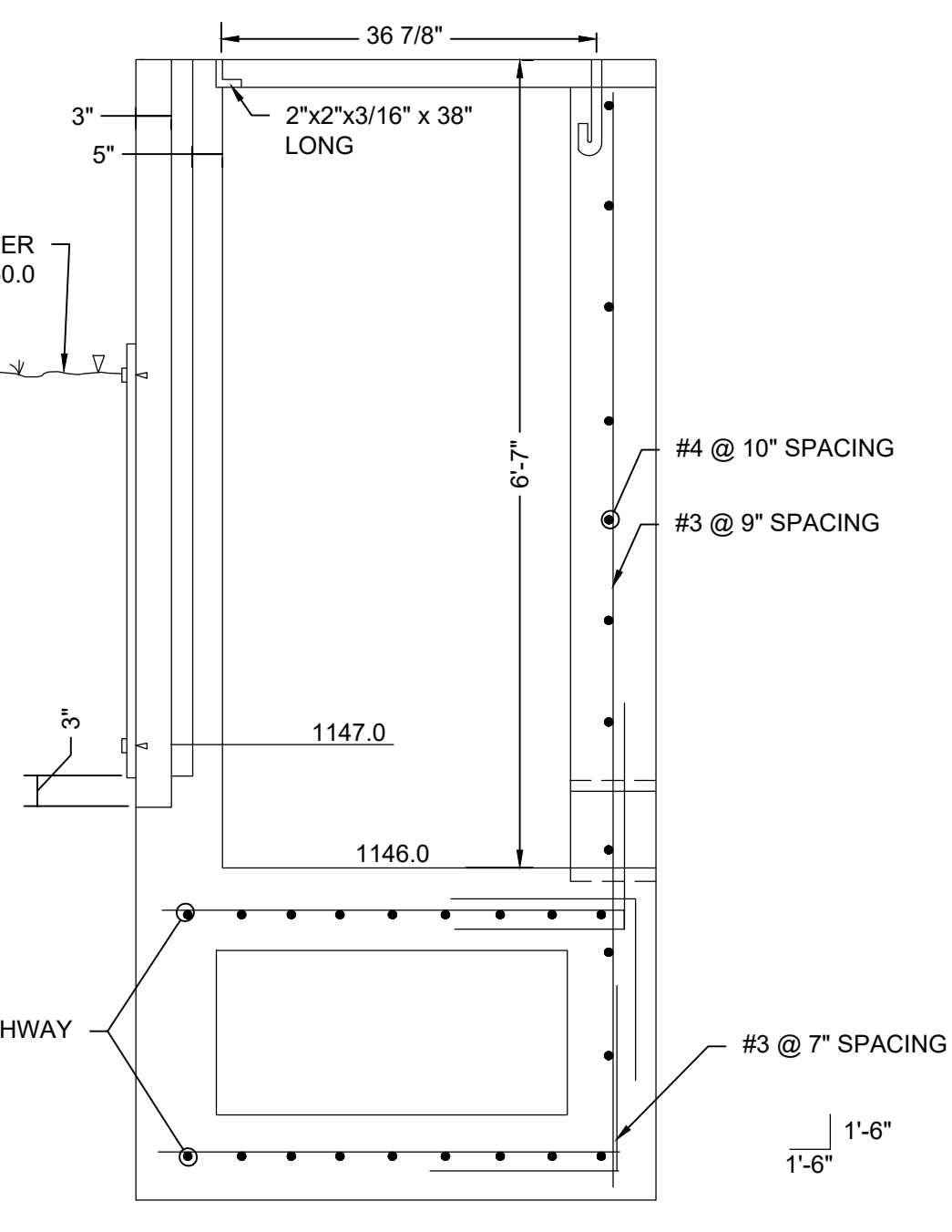
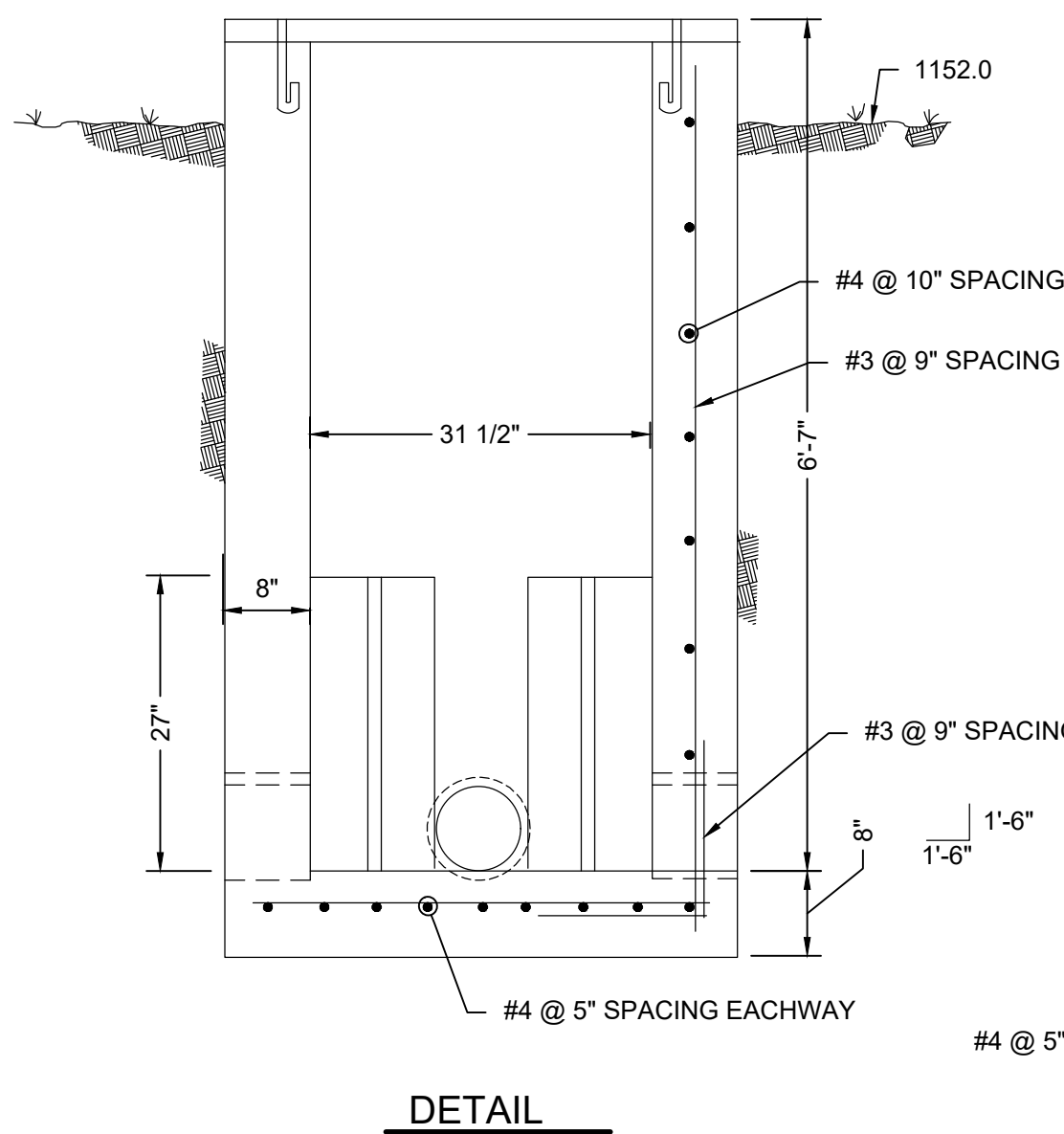
PROJECT MANAGER	L. GORDON
DESIGNED BY	SK
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APPROVED BY	
PROJECT NUMBER	10336478



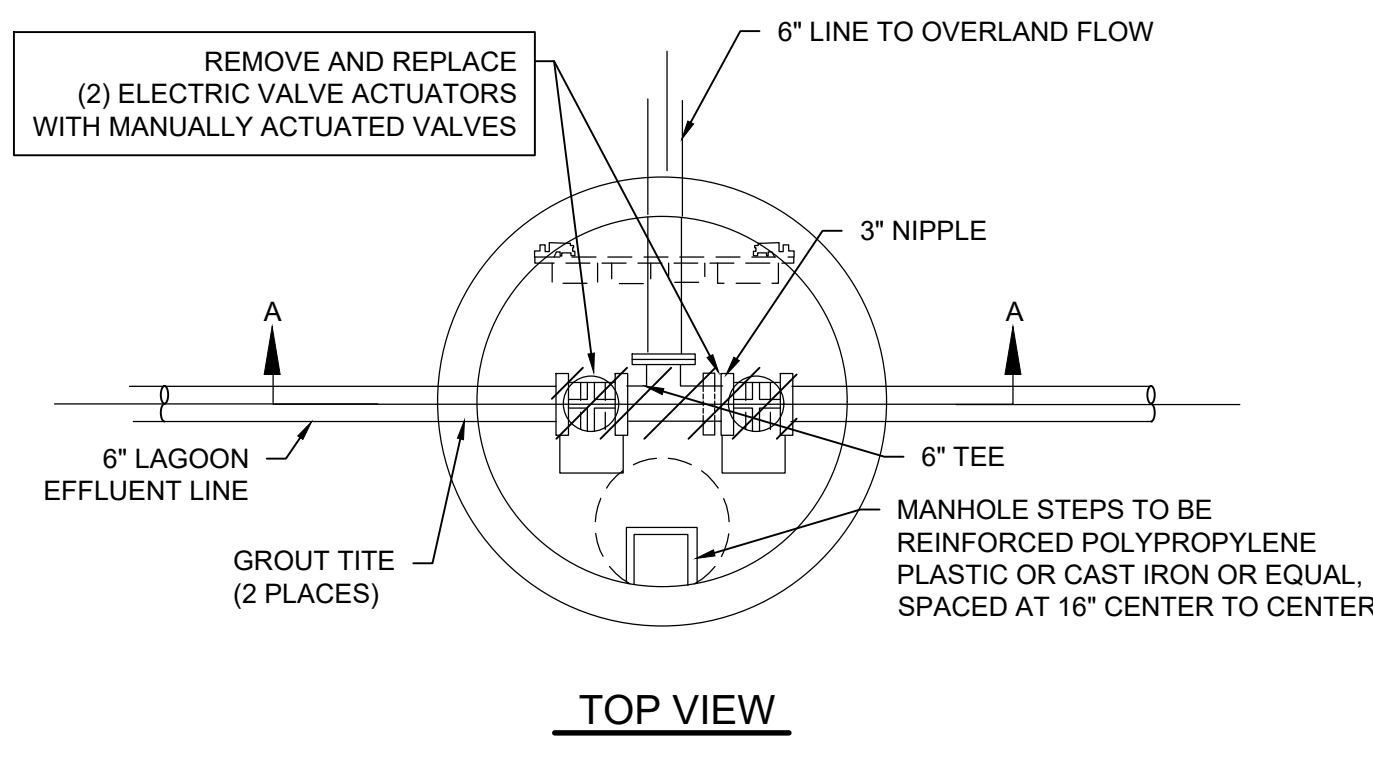
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STANDARD DETAILS

FILENAME | C-05.DWG
SCALE | NOT TO SCALE

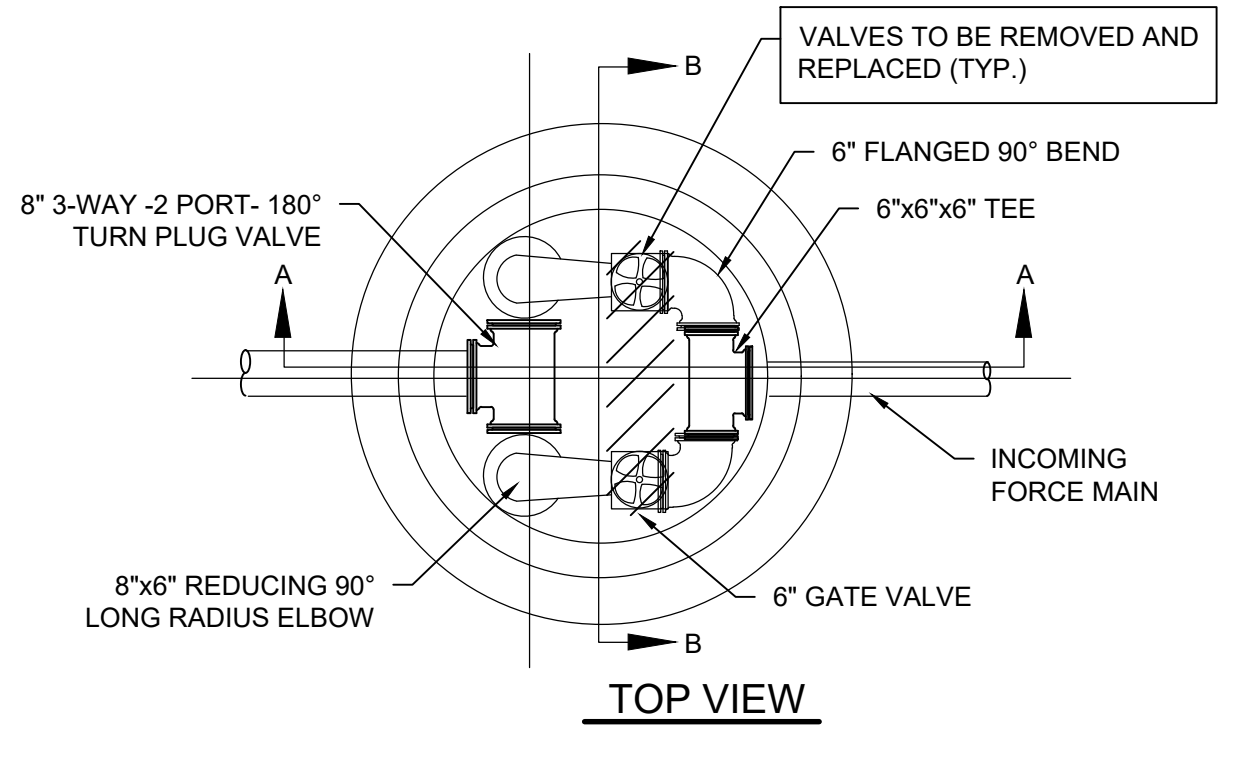
SHEET
C-05



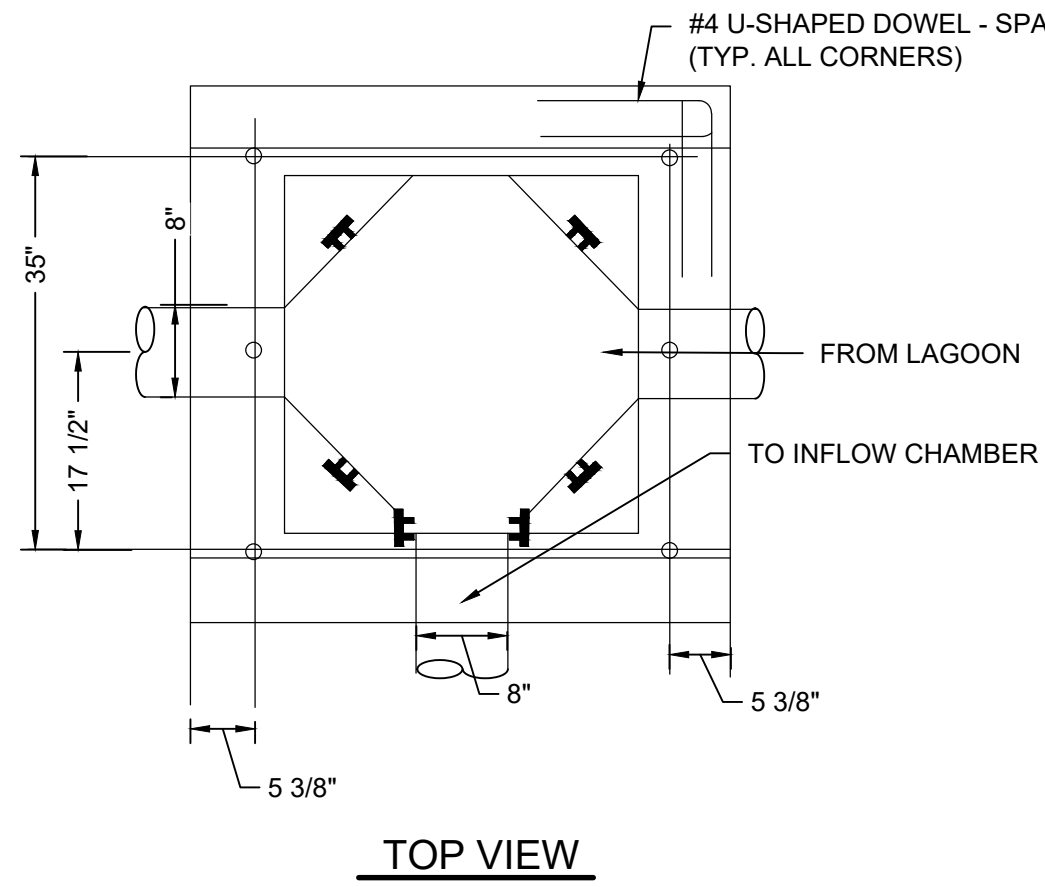
LAGOON OUTLET STRUCTURE
NOT TO SCALE



TOP VIEW

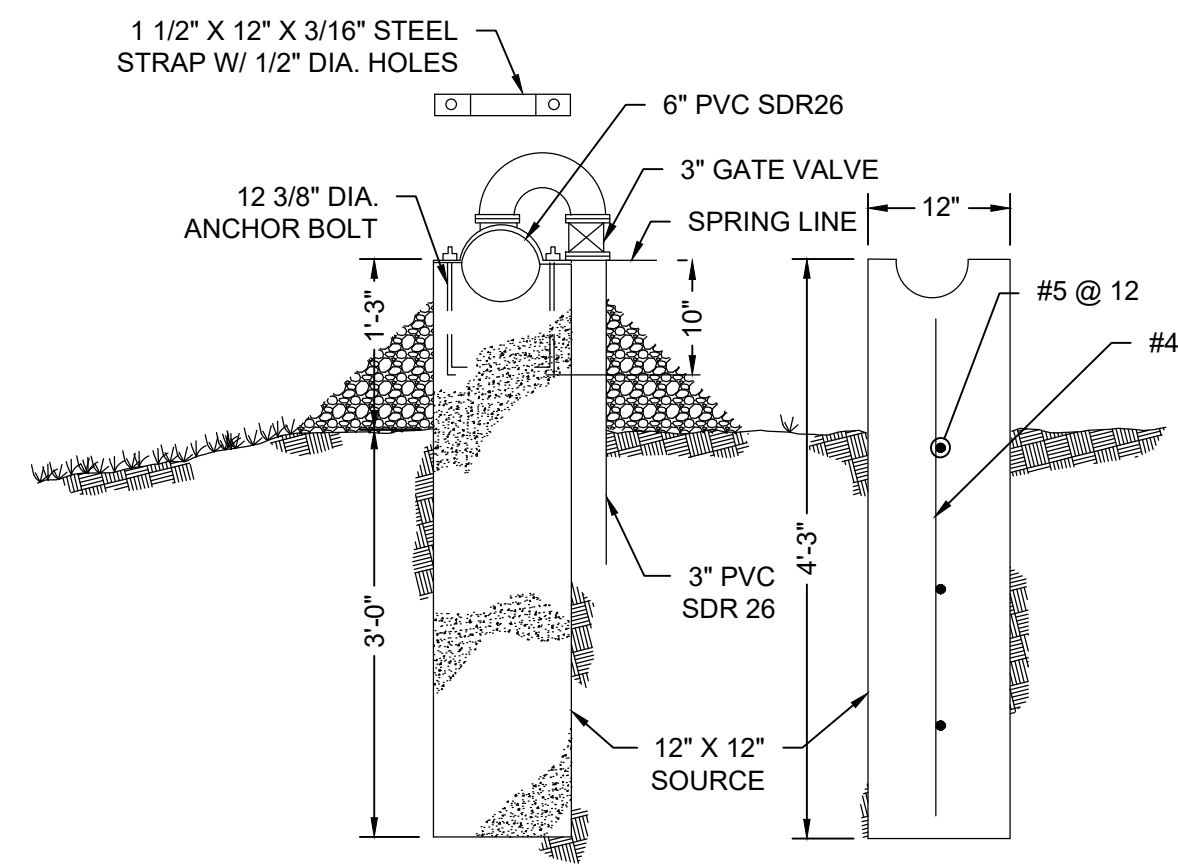


TOP VIEW

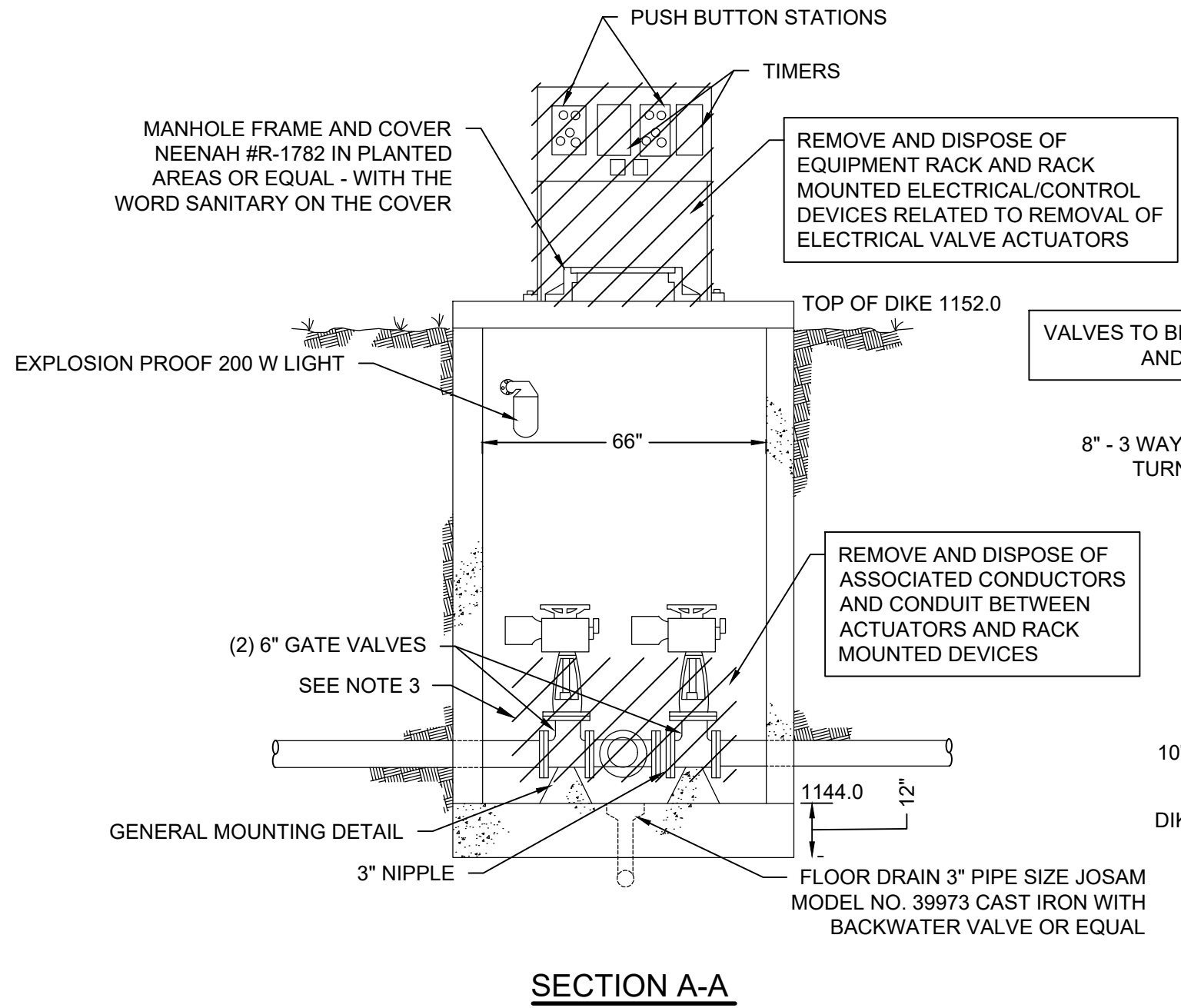


TOP VIEW

OUTFLOW JUNCTION CHAMBER
NOT TO SCALE

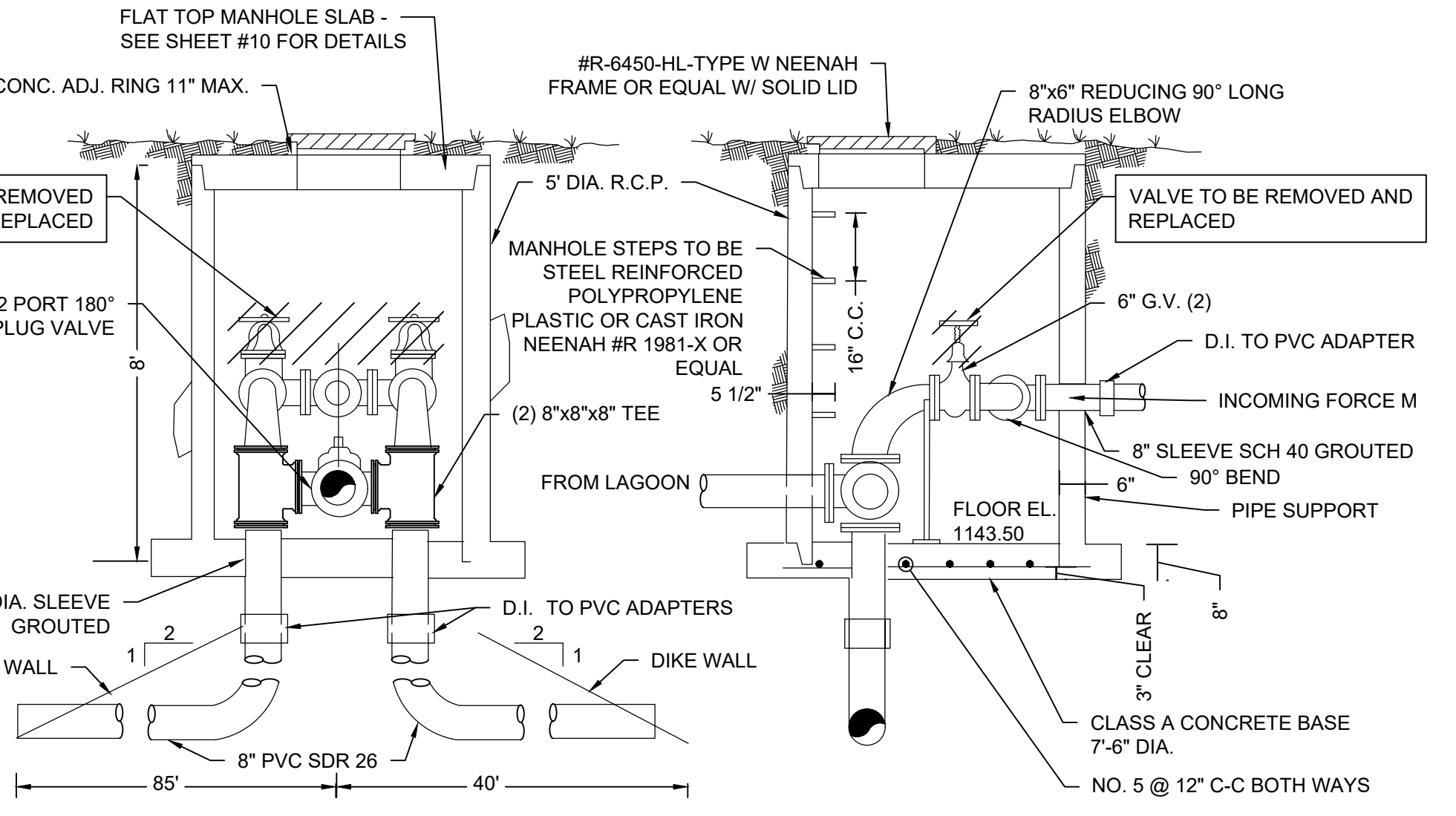


ORFICE SUPPORT DETAIL
NOT TO SCALE



SECTION A-A

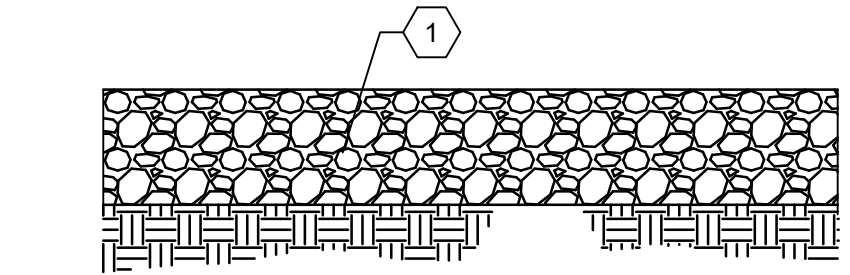
LAGOON EFFLUENT CONTROL STRUCTURE
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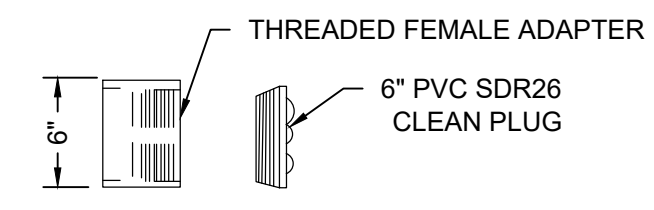
SECTION B-B

SECTION A-A

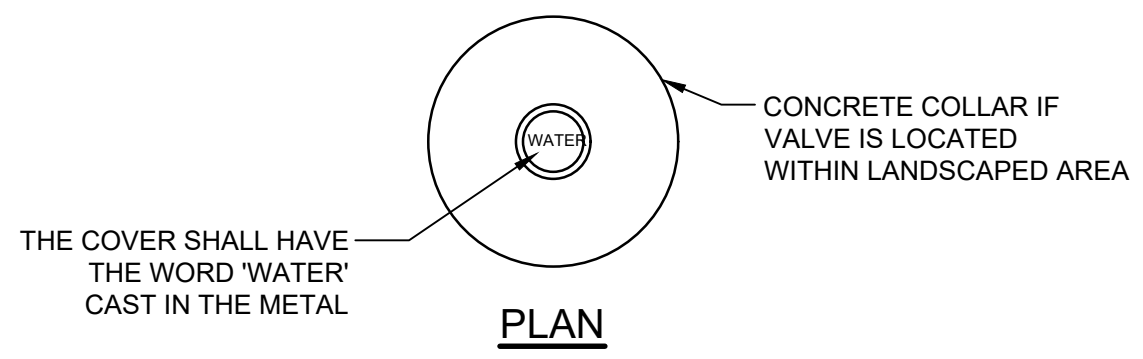
LAGOON INFLUENT CHAMBER
NOT TO SCALE



GRAVEL ACCESS DRIVE SECTION
NOT TO SCALE

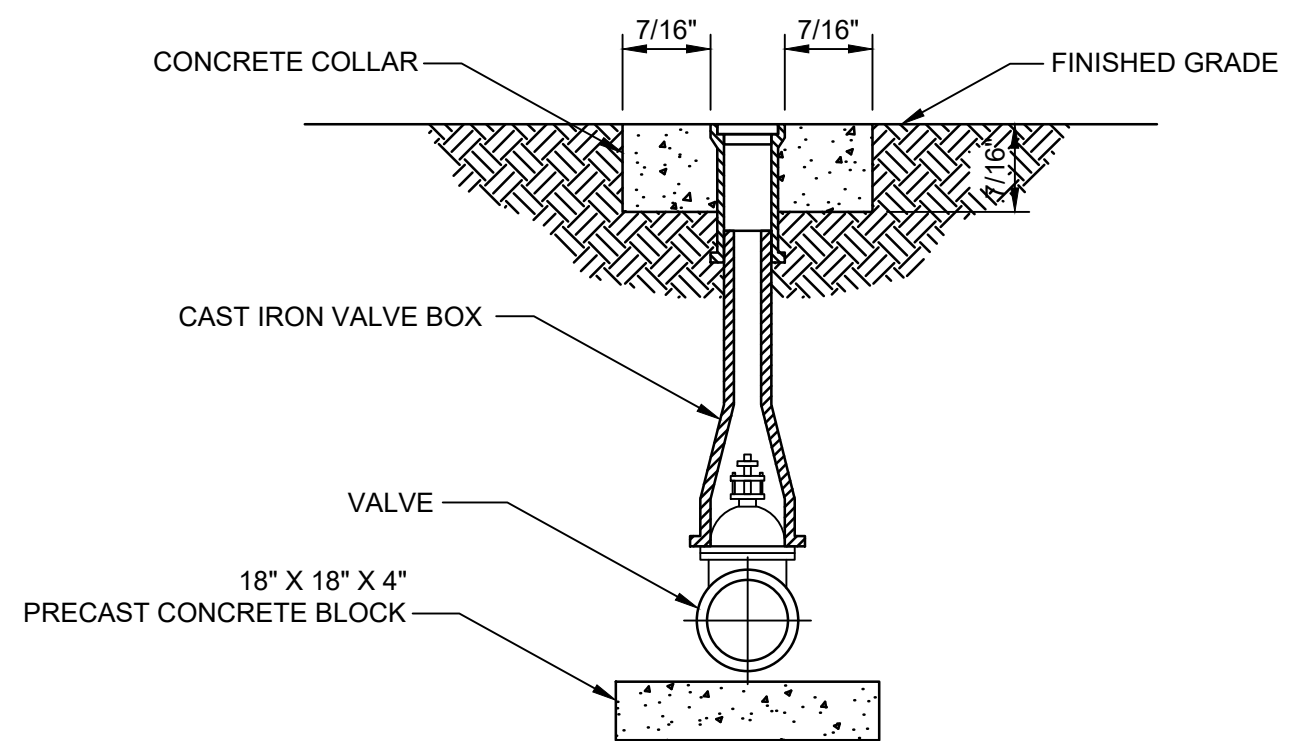


ORFICE END PLUG DETAIL
NOT TO SCALE



PLAN

CAST IRON VALVE BOX DETAIL
NOT TO SCALE

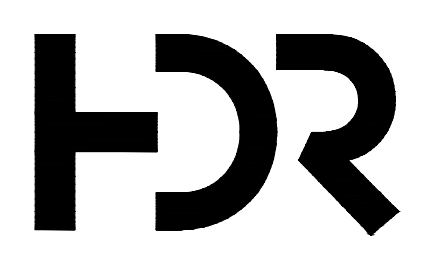


SECTION

- PROCESS DESCRIPTION:**
- FLOW IS PUMPED FROM THE INFLUENT PUMP STATION TO THE LAGOON INFLUENT STRUCTURE THROUGH THE INCOMING FORCE MAIN. FLOW CAN BE DIRECTED TO EITHER LAGOON A OR B DEPENDING ON WHICH VALVE IS OPEN.
 - ON THE FAR END OF THE LAGOON(S), WHEN VALVES ARE OPENED IN THE EFFLUENT CONTROL STRUCTURE THE CORRESPONDING LAGOON IS EMPTIED THROUGH THE EFFLUENT CONTROL STRUCTURE TO THE OVERLAND FLOW FIELDS. A NEW METER WILL MEASURE FLOW FROM THE LAGOON(S) TO THE FIELDS.
 - IF IT IS DESIRED TO EMPTY ONE OF THE LAGOONS INTO THE OTHER LAGOON, A SLIDE GATE CAN BE PLACED IN THE OUTFLOW JUNCTION CHAMBER TO ISOLATE THE LAGOON TO BE EMPTIED AND IT WILL GRAVITY FLOW BACK TO THE INFLUENT STRUCTURE THROUGH AN 8-INCH PIPE THAT CAN BE DIRECTED TO THE OTHER LAGOON.
 - THE DRAINAGE STRUCTURE SHOWN ON THE SITE PLAN IS NOT USED IN NORMAL OPERATION.

- NOTES:**
- PRIOR TO PLACING THE NEW GRAVEL, THE MOTOR GRADER OPERATOR SHALL WINDROW AND EQUALIZE THE GRAVEL IN ORDER TO PROPERLY BLEND ANY SEGREGATED MATERIAL AND CREATE AN EVEN WINDOW THAT CAN BE SPREAD AT A UNIFORM DEPTH OVER THE ROAD SURFACE.
 - WITH TOTAL LAYER THICKNESS EXCEEDING 4", THE GRAVEL SHALL BE PLACED IN SEPARATE LAYERS IN ORDER TO ACHIEVE GOOD COMPACTION AND DENSITY SPECIFIED FOR BACKFILL IN ACCORDANCE WITH SPECIFICATION SECTION 31 23 00.
 - APPLY COMPACTION WITH PNEUMATIC ROLLERS. IF COMPACTION CANNOT BE ACHIEVED, DUMP TRUCKS SHOULD REDUCE SPEED AND STAGGER TRACKS.
 - APPLY WATER AS NEEDED.

- NOTES:**
- DETAILS FOR STRUCTURES FROM ORIGINAL PLANT PLANS.
 - ALL STRUCTURES SHALL BE PUMPED DRY. ONCE DRY, INTERIOR OF EACH CHAMBER SHALL BE INSPECTED FOR DEFECTS AND DEFECTS REPAIRED.
 - VALVES IN THE EFFLUENT CONTROL STRUCTURE, AND THE INFLUENT CHAMBER SHALL ALL BE REPLACED WITH MANUALLY OPERATED VALVES. STEMS SHALL BE PROVIDED TO ALLOW FOR OPERATION OF THE VALVES AT GRADE BY PLANT PERSONNEL.
 - ALL OTHER EXISTING STRUCTURE DETAILS ARE FOR REFERENCE ONLY.
 - ALL ORFICE PIPING AND ASSOCIATED VALVES ARE BEING REPLACED; ORFICE SUPPORTS WILL ALSO BE REPLACED PER DETAIL THIS SHEET.



ISSUE	DATE	DESCRIPTION

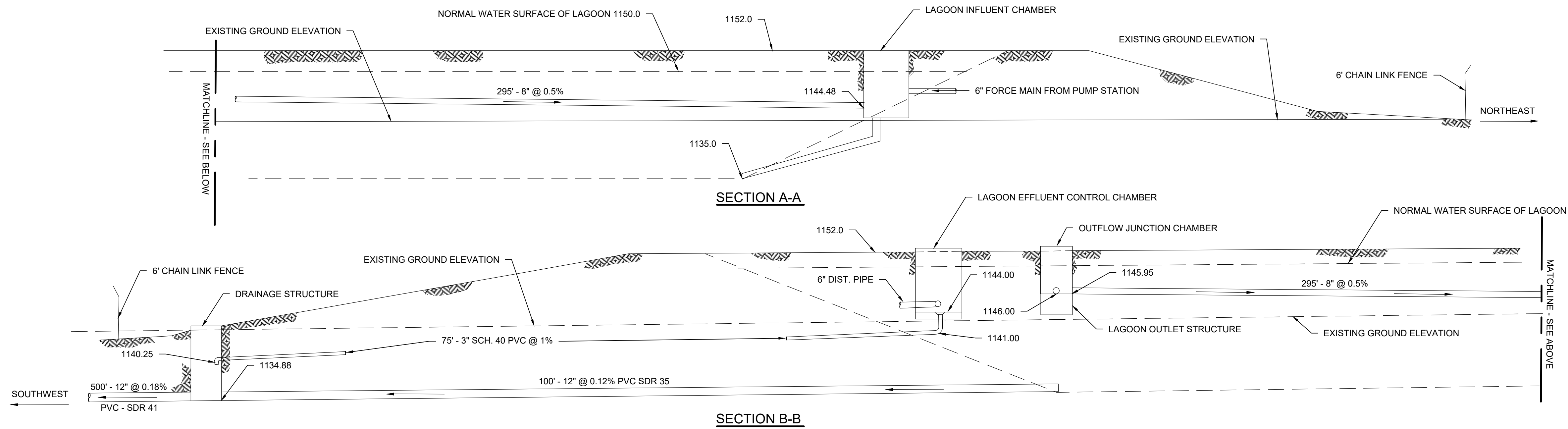
PROJECT MANAGER	L. GORDON
DESIGNED BY	SK
DRAWN BY	VKN
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APPROVED BY	
PROJECT NUMBER	10336478



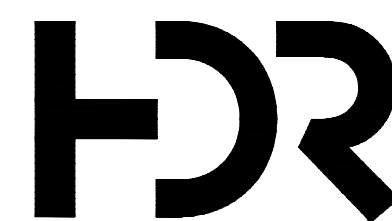
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SCALE | NOT TO SCALE

SHEET
C-06

**CIVIL
STANDARD DETAILS**



LAGOON SECTIONS
NOT TO SCALE



ISSUE	DATE	DESCRIPTION

PROJECT MANAGER	L. GORDON
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FILENAME | C-07.DWG
SCALE | NOT TO SCALE

SHEET
C-07