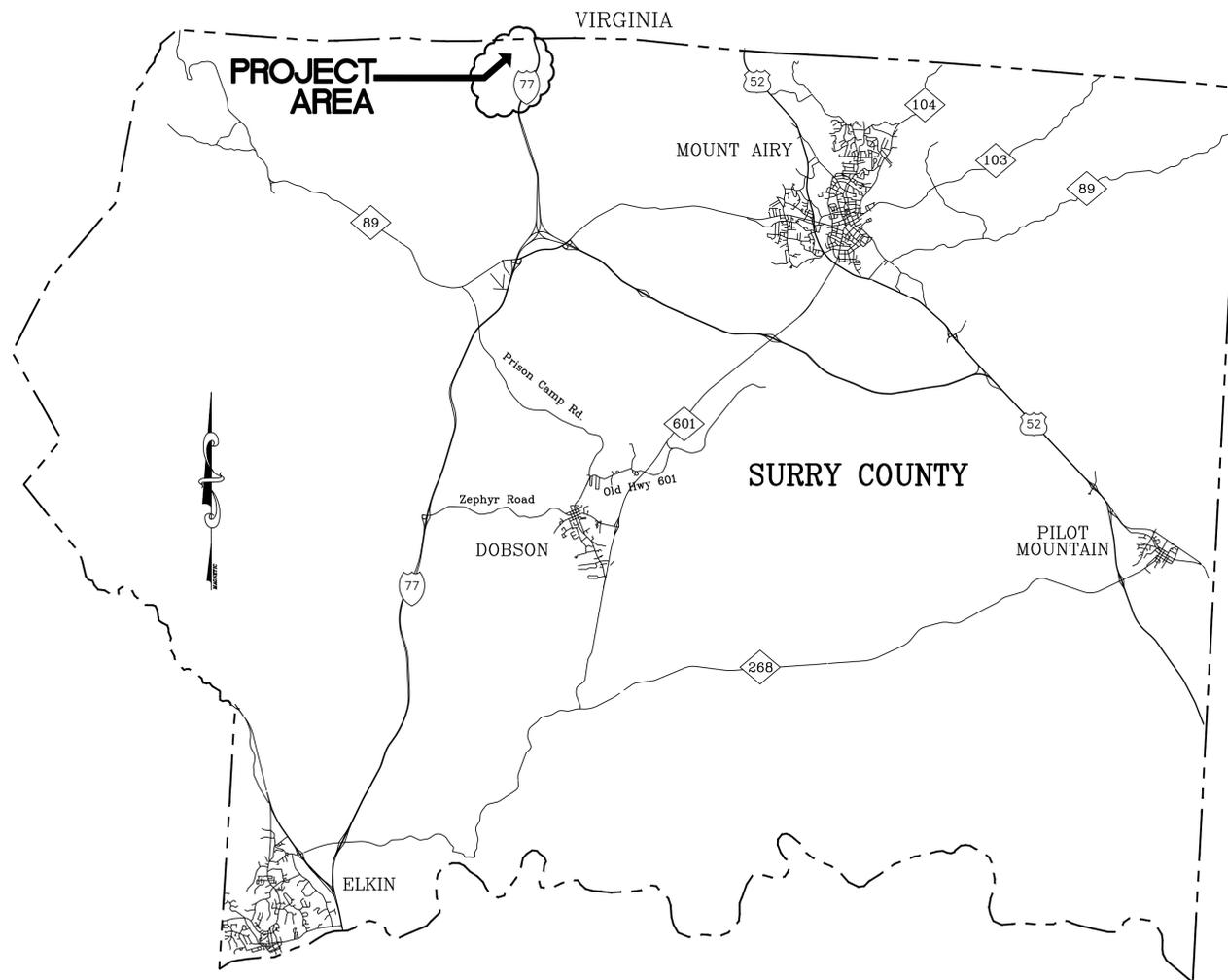


I-77 WELCOME CENTER WASTEWATER TREATMENT PLANT IMPROVEMENTS NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

BIDDING DOCUMENTS: APRIL 2021

PLAN SHEET INDEX:

- C001 - COVER
- C002 - VICINITY MAP & GENERAL NOTES
- C101 - EXISTING CONDITIONS SITE PLAN
- C102 - PROPOSED CONDITIONS SITE PLAN
- C201 - EXISTING CONDITIONS PACKAGE PLANT - PLAN & SECTION VIEWS
- C202 - EXISTING DOSING TANK & COMMUNOTOR
- C203 - EXISTING SAND FILTER & CHLORINE CONTACT TANK
- C204 - PROPOSED PACKAGE PLANT MODIFICATIONS
- C205 - PROPOSED DOSING TANK, COMMUNOTOR & CHLORINE CONTACT TANK
- C206 - PROPOSED INTERMITTENT SAND FILTER MODIFICATIONS
- C207 - ENLARGED DETAILS
- 2082 - UTILITY DETAILS



COUNTY MAP



OWNER:
NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
1557 MAIL SERVICE CENTER
RALEIGH, NORTH CAROLINA 27699
PH: 919.707.2929



DATE:	24MARCH2021
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SHEET:	C001
DRAWN BY:	SCT
CHECKED BY:	RKH
PROJECT NO.:	TLG-2135
THE LANE GROUP INC.	

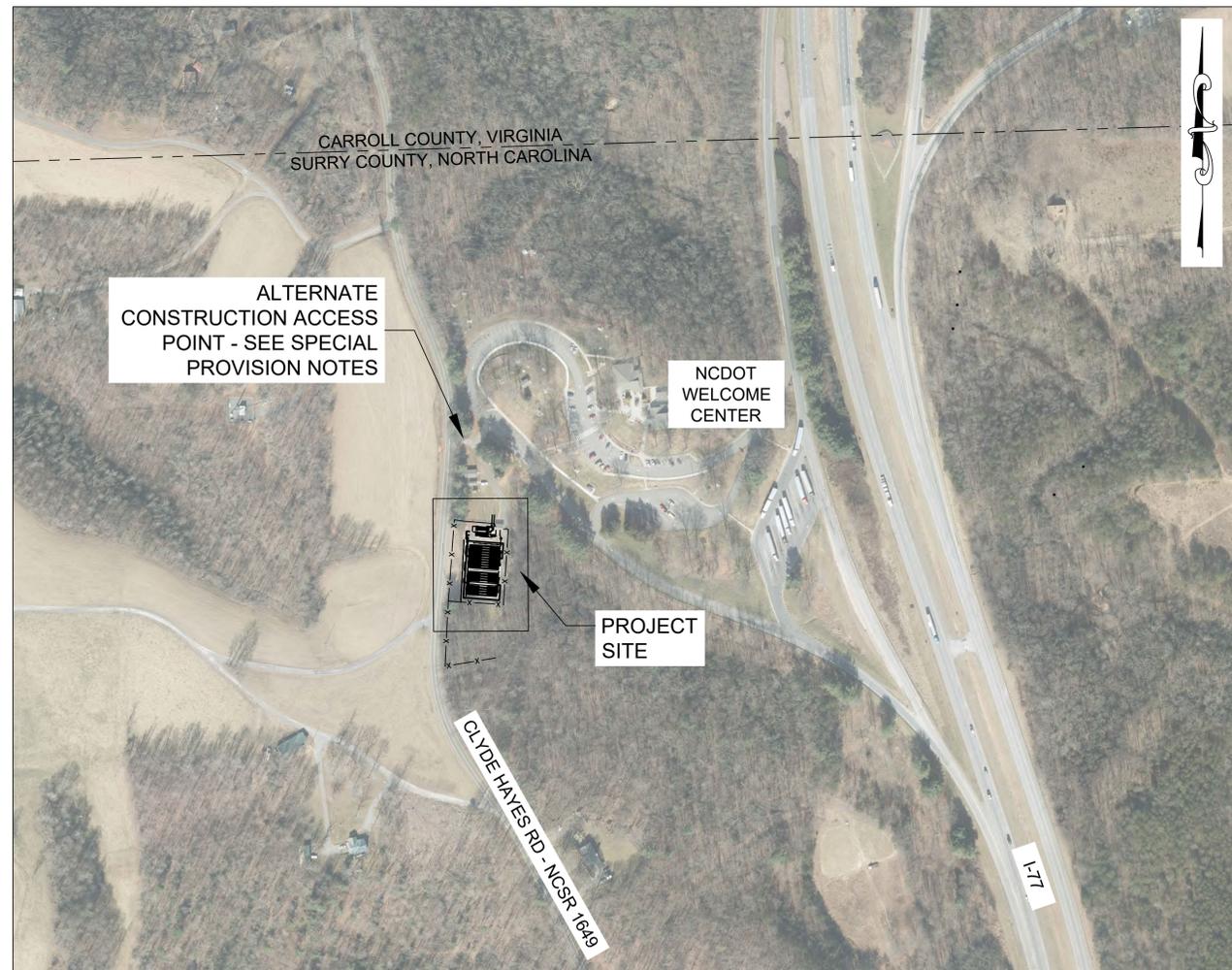
GENERAL CONSTRUCTION NOTES:

- THE EXISTING WASTEWATER TREATMENT PLANT IS CURRENTLY IN SERVICE AND IS REQUIRED TO REMAIN IN SERVICE DURING THE CONSTRUCTION PERIOD. CONTRACTOR SHALL COORDINATE & SEQUENCE CONSTRUCTION WITH NCDOT SO THAT THE PLANT REMAINS OPERATIONAL DURING THE CONSTRUCTION PERIOD.
- THE EXACT LOCATION AND QUANTITY OF EXISTING UNDERGROUND UTILITIES ARE UNKNOWN. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONTACT ALL EXISTING UTILITY OWNERS PRIOR TO START OF CONSTRUCTION AND HAVE UTILITIES MARKED IN THE FIELD.
- EXISTING UTILITIES SHOWN ON THE PLANS ARE APPROXIMATE AND ARE BASED UPON OWNER-PROVIDED UTILITY MAPS.
- EXISTING UTILITY LINES SHALL BE KEPT IN SERVICE AT ALL TIMES.
- ALL CONSTRUCTION SHALL BE COORDINATED WITH THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION. PROVIDE 48 HOURS NOTIFICATION PRIOR TO START OF CONSTRUCTION.
- THE CONTRACTOR SHALL NOT MAKE ANY PIPE CONNECTIONS OR OPERATE ANY VALVES UNLESS IN THE PRESENCE OF AUTHORIZED REPRESENTATIVES OF NCDOT.
- CONTRACTOR SHALL VERIFY ALL DIMENSIONS, CONDITIONS, EXISTING INVERTS, ELEVATIONS, ETC. AND SHALL NOTIFY ENGINEER IN WRITING OF ANY DISCREPANCIES PRIOR TO CONTINUING CONSTRUCTION OF THE WORK INVOLVED.
- ALL PIPE FITTINGS HAVE NOT BEEN SHOWN. CONTRACTOR SHALL PROVIDE/INSTALL ALL FITTINGS, FLEX COUPLINGS, JOINT RESTRAINTS, THRUST BLOCKING, ETC. NECESSARY FOR COMPLETE INSTALLATION. PROVIDE CLEARANCES AS NEEDED FOR FUTURE ACCESSIBILITY.
- ALL PIPE PENETRATIONS THRU WALLS, FLOORS, ETC. SHALL BE WATERTIGHT, UNLESS SPECIFICALLY NOTED OTHERWISE.
- WHEN WORKING ADJACENT TO EXISTING STRUCTURES OR UTILITIES, CONTRACTOR SHALL USE WHATEVER METHODS NECESSARY TO PROTECT STRUCTURES AND UTILITIES FROM DAMAGE. REPLACEMENT OF STRUCTURES AND UTILITIES DAMAGED FROM CONSTRUCTION ACTIVITIES SHALL BE AT CONTRACTOR'S EXPENSE.
- ALL CONSTRUCTION SHALL CONFORM TO THE ENGINEER'S PLANS AND SPECIFICATIONS.
- ALL AREAS DISTURBED BY CONSTRUCTION SHALL BE GRADED AS TO PRECLUDE THE PONDING OF WATER AND SHALL BE RESTORED TO AS NEAR AS POSSIBLE TO ORIGINAL CONDITION.
- ALL EQUIPMENT, UTILITY PIPING, AND RELATED APPURTENANCES SHALL BE INSTALLED PER MATERIAL MANUFACTURER'S SPECIFICATIONS.
- THE CONTRACTOR SHALL INSTALL AND MAINTAIN EROSION CONTROL MEASURES AS NECESSARY TO PREVENT / MINIMIZE EROSION DURING THE CONSTRUCTION PERIOD. ALL EROSION CONTROL MEASURES SHALL BE INSTALLED WITH THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENTAL QUALITY'S (NCDEQ) EROSION & SEDIMENT CONTROL PLANNING AND DESIGN MANUAL. REFER TO THE EROSION AND SEDIMENT CONTROL NARRATIVE IN THE PROJECT SPECIFICATIONS FOR MORE SPECIFIC INFORMATION.
- CONTRACTOR IS REFERENCED TO SPECIFICATIONS FOR SEQUENCE OF CONSTRUCTION REQUIREMENTS (SECTION 01005).
- CONTRACTOR TO PAINT ALL NEW SURFACES, AND EXISTING SURFACES WHERE NOTED, IN ACCORDANCE WITH THE SPECIFICATIONS. CONTRACTOR SHALL BE RESPONSIBLE FOR SURFACE PREPARATION AND MAINTAINING ENVIRONMENTAL CONDITIONS FOR PROPER COATING CURE. CONTRACTOR TO COORDINATE TREATMENT UNIT SHUTDOWN FOR PAINTING PER SPECIFICATIONS.
- CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND FIELD CONDITIONS; DO NOT SCALE DRAWINGS. IF INSUFFICIENT INFORMATION EXISTS, NOTIFY THE ENGINEER IMMEDIATELY FOR CLARIFICATION PRIOR TO PROCEEDING WITH THE WORK.
- PROTECT EXISTING ITEMS TO REMAIN. CONTRACTOR TO REPLACE ALL ITEMS DAMAGED DURING CONSTRUCTION AT NO COST TO OWNER.
- ITEMS MARKED "NIC" ARE "NOT IN CONTRACT." SUCH ITEMS ARE INCLUDED IN THE DOCUMENTS AND REQUIRE CONTRACTOR COORDINATION FOR CONSTRUCTION.
- DETAILS MARKED "TYPICAL OR TYP" SHALL APPLY IN ALL CASES UNLESS OTHERWISE NOTED.
- DETAILS MARKED "SIMILAR OR SIM" SHALL HAVE COMPARABLE CONDITIONS TO THAT SHOWN.
- CONTRACTOR TO ASSUME ALL ITEMS SHOWN ON DRAWINGS TO BE NEW WORK UNLESS NOTED AS EXISTING.
- CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION OF CONSTRUCTION DOCUMENTS AND SHOP DRAWINGS. CONTRACTOR SHALL NOTIFY ARCHITECT/ENGINEER IN WRITING IMMEDIATELY OF ANY DISCREPANCIES IN PLANS, SHOP DRAWINGS AND/OR SPECIFICATIONS. SHOULD A DISCREPANCY BE FOUND, DO NOT PROCEED UNTIL CLARIFICATIONS HAVE BEEN MADE BY THE ARCHITECT/ENGINEER.
- THE DISTURBED AREA FOR THIS PROJECT IS ANTICIPATED TO BE LESS THAN ONE ACRE SO AN EROSION & SEDIMENT CONTROL PERMIT IS NOT REQUIRED FROM NCDEQ. IF THE CONTRACTOR DISTURBS MORE AREA THAN IS SHOWN ON THE PLANS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING AN EROSION AND SEDIMENT CONTROL PLAN FOR THE ADDITIONAL AREA.
- IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VISIT THE SITE AND INSPECT EXISTING CONDITIONS PRIOR TO SUBMITTING BIDS.
- THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE FEDERAL, STATE, AND LOCAL ENVIRONMENTAL AND SAFETY REGULATIONS.
- IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE ANY UNDERGROUND UTILITIES, STRUCTURES, OR OTHER IMPROVEMENTS WITHIN THE LIMITS OF THE PROJECT. SHOULD A PREVIOUSLY UNKNOWN UTILITY BE ENCOUNTERED, THE CONTRACTOR SHALL CONTACT THE ENGINEER BEFORE ANY FURTHER EXCAVATION OR OTHER ACTION IS TAKEN.
- THE CONTRACTOR SHALL MARK DRAWINGS AND KEEP A RECORD OF PREVIOUSLY UNKNOWN UTILITIES ENCOUNTERED DURING CONSTRUCTION, NOTING WORKING SIZE, TYPE, DEPTH, MATERIALS, AND ANY OTHER PERTINENT INFORMATION.
- ALL DEMOLITION MATERIAL SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL IMMEDIATELY BE PROPERLY CONTAINERIZED, REMOVED, TRANSPORTED FOR PROPER DISPOSITION. WASTE MATERIALS SHALL BE DISPOSED AT A PROPERLY PERMITTED DISPOSAL SITE. ALL EQUIPMENT ITEMS REMOVED (i.e. BLOWERS, PUMPS, PANELS, etc.) SHALL BE CLEANED BY THE CONTRACTOR AND PROVIDED TO NCDOT FOR SALVAGE AND/OR SPARE INVENTORY.
- THE CONTRACTOR SHALL NOT BURN ANY MATERIALS OR HAVE FIRES ON THE PROJECT SITE AT ANY TIME.
- THE CONTRACTOR SHALL OBTAIN, AT ITS SOLE EXPENSE, ALL REQUIRED PERMITS NECESSARY TO COMPLETE THE PROJECT.
- THE CONTRACTOR SHALL KEEP ALL PLANT SITE TRAVEL WAYS OPEN AND SAFE FOR USE BY VEHICULAR AND PEDESTRIAN TRAFFIC.
- ANY DAMAGE TO ROADS / STREETS, OR OTHER IMPROVEMENTS SHALL BE REPAIRED TO THEIR PRE-EXISTING CONDITION OR BETTER AT NO EXPENSE TO THE OWNER.
- ALL EROSION AND SEDIMENT CONTROL PRACTICES SHALL COMPLY WITH THE MOST CURRENT EDITION OF THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENTAL QUALITY'S (NCDEQ) EROSION & SEDIMENT CONTROL PLANNING AND DESIGN MANUAL.
- ALL EXCAVATION AND TRENCHING SHALL BE PERFORMED IN ACCORDANCE WITH THE CURRENT OCCUPATIONAL, SAFETY, AND HEALTH ADMINISTRATION (OSHA) REQUIREMENTS AND GUIDELINES. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR PROVIDING ADEQUATE EQUIPMENT AND ASSURING ALL CONSTRUCTION ACTIVITIES ARE IN FULL COMPLIANCE WITH THE OSHA REGULATIONS.
- THE CONTRACTOR SHALL PROCURE AND PAY FOR ALL REQUIRED TESTING SERVICES.

CONSTRUCTION SPECIAL PROVISIONS:

- DURING THE CONSTRUCTION PERIOD, THE CONTRACTOR MAY BE GRANTED TEMPORARY VEHICLE ACCESS TO THE FACILITY THROUGH AN EXISTING GATE TO NCSR 1649. ACCESS PRIVILEGES ARE PROVISIONAL. IN THAT THE GATE IS REQUIRED TO REMAIN LOCKED AND PRIVILEGES MAY BE REVOKED BY NCDOT FOR NONCOMPLIANCE AND/OR AT NCDOT'S CONVENIENCE.
- ALL CONSTRUCTION WORK IS REQUIRED TO BE SUBSTANTIALLY COMPLETE PRIOR TO JUNE 30, 2021.
- DURING THE CONSTRUCTION PERIOD, THE CONTRACTOR WILL BE ALLOWED TO WORK 24 HOURS/DAY, 7 DAYS/WEEK, IF DESIRED.
- GENERAL CONTRACTORS BIDDING ON THE PROJECT ARE REQUIRED TO BE PRE-QUALIFIED TO BID BY NCDOT.
- ALL ELECTRICAL WORK INCLUDED IN THE PROJECT IS REQUIRED TO BE COMPLETED BY A PROPERLY LICENSED ELECTRICAL CONTRACTOR.
- ALL CONSTRUCTION SHALL BE COMPLETED IN ACCORDANCE WITH THE TERMS AND CONDITIONS OF THE CONTRACT ISSUED BY NCDOT.
- THE EXISTING WWTP SERVING THE I-77 WELCOME CENTER FACILITY HAS A PERMITTED DISCHARGE CAPACITY OF 30,000 GPD. THE WELCOME CENTER WILL REMAIN OPEN DURING THE CONSTRUCTION PERIOD, SO THE WWTP WILL BE REQUIRED TO REMAIN OPERATIONAL AT ALL TIMES. THE CONTRACTOR IS REQUIRED TO COORDINATE ALL CONSTRUCTION ACTIVITIES WITH THE WWTP OPERATOR AND SEQUENCE THE WORK IN THE MANNER NECESSARY TO ENSURE THAT DISRUPTIONS TO THE TREATMENT PROCESS ARE MINIMIZED.
- ALL CONSTRUCTION FOR THIS PROJECT IS LOCATED ENTIRELY ON NCDOT PROPERTY AND IS BEING COMPLETED FOR NCDOT. AS SUCH, THE CONTRACTOR IS NOT REQUIRED TO CONTACT THE LOCAL BUILDING OFFICIAL FOR INSPECTIONS.

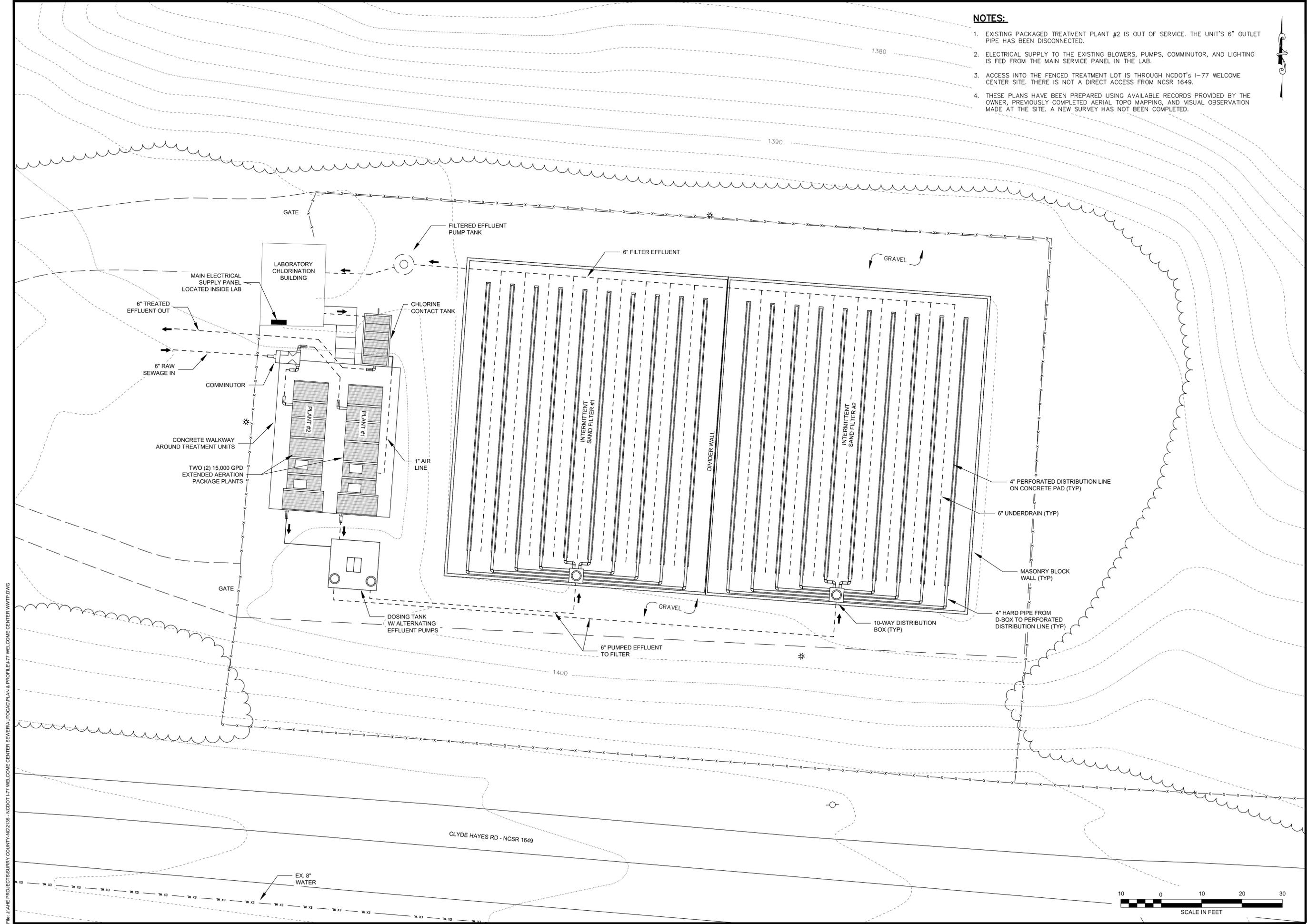
LEGEND	
	PROPOSED GRAVITY SEWER LINE
	PROPOSED SEWAGE FORCE MAIN
	PROPOSED GATE VALVE
	SURVEY HUB & TRAVERSE
	STREAM
	EXISTING FENCE
	DIRECTIONAL FLOW ARROW
	EXISTING TREELINE
	EXISTING VEGETATION
	EXISTING PAVEMENT
	EXISTING GRAVEL ROAD
	EXISTING GATE VALVE
	EXISTING MANHOLE
	EXISTING SEWER CLEANOUT
	EXISTING GRAVITY SEWER LINE
	EXISTING STORM DRAIN
	EXISTING PROPERTY LINE
	EXISTING MAJOR CONTOUR
	EXISTING MINOR CONTOUR
	EXISTING WATER LINE
	EXISTING BURIED ELECTRIC
	EXISTING LIGHT POLE
	EXISTING POWER POLE



VICINITY MAP
SCALE: 1" = 200'



DATE:	24MARCH2021
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SHEET:	C002
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PROJECT NO.	TLG-2135
THE LANE GROUP INC.	



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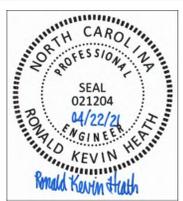
1. EXISTING PACKAGED TREATMENT PLANT #2 IS OUT OF SERVICE. THE UNIT'S 6" OUTLET PIPE HAS BEEN DISCONNECTED.
2. ELECTRICAL SUPPLY TO THE EXISTING BLOWERS, PUMPS, COMMUNOTOR, AND LIGHTING IS FED FROM THE MAIN SERVICE PANEL IN THE LAB.
3. ACCESS INTO THE FENCED TREATMENT LOT IS THROUGH NCDOT'S I-77 WELCOME CENTER SITE. THERE IS NOT A DIRECT ACCESS FROM NCSR 1649.
4. THESE PLANS HAVE BEEN PREPARED USING AVAILABLE RECORDS PROVIDED BY THE OWNER, PREVIOUSLY COMPLETED AERIAL TOPO MAPPING, AND VISUAL OBSERVATION MADE AT THE SITE. A NEW SURVEY HAS NOT BEEN COMPLETED.

FILE: J:\AHE PROJECT\SURRY COUNTY\NC2135 - NCDOT I-77 WELCOME CENTER SEWER\AUTOCAD\PLAN & PROFILE\I-77 WELCOME CENTER WWTP.DWG



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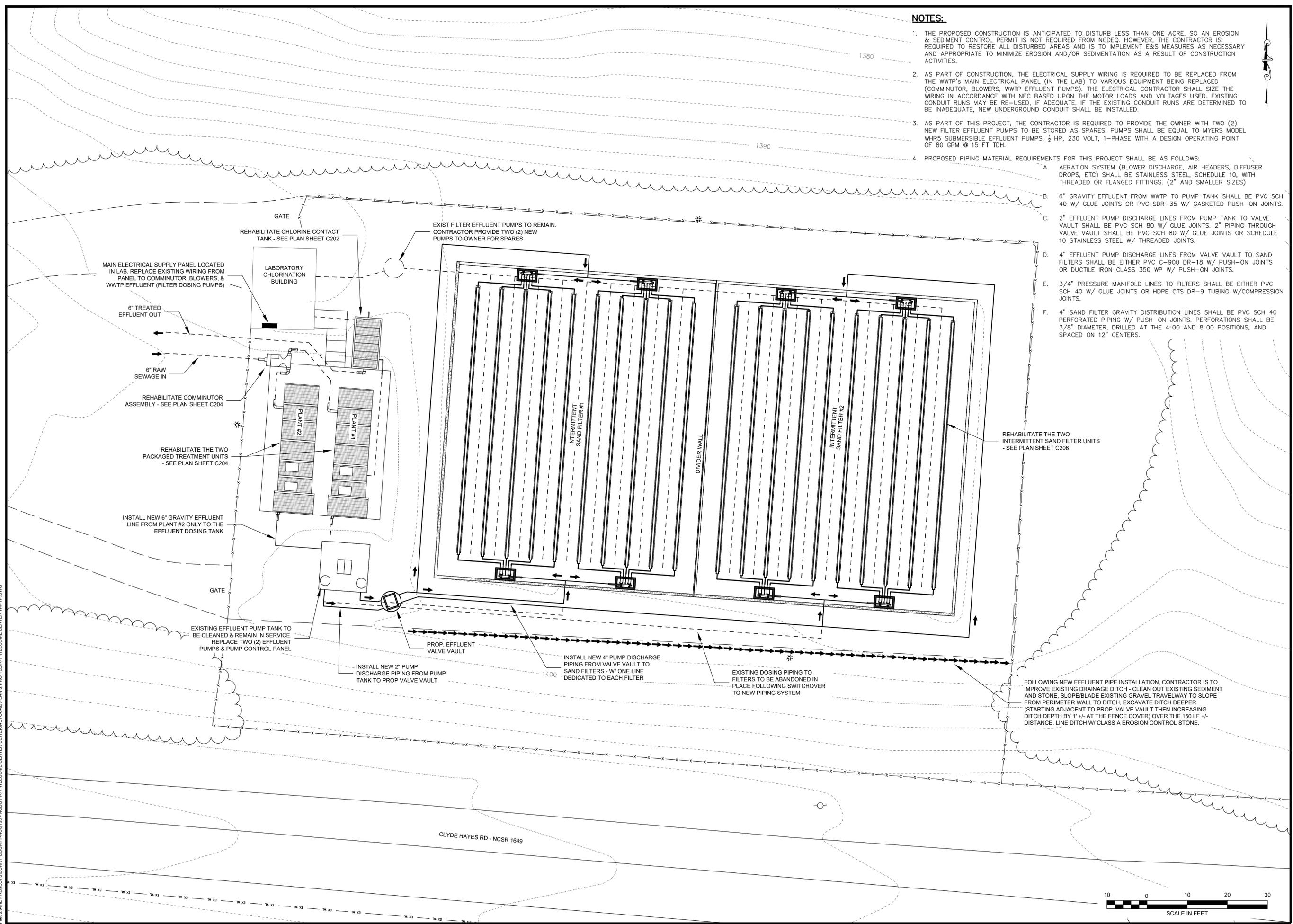




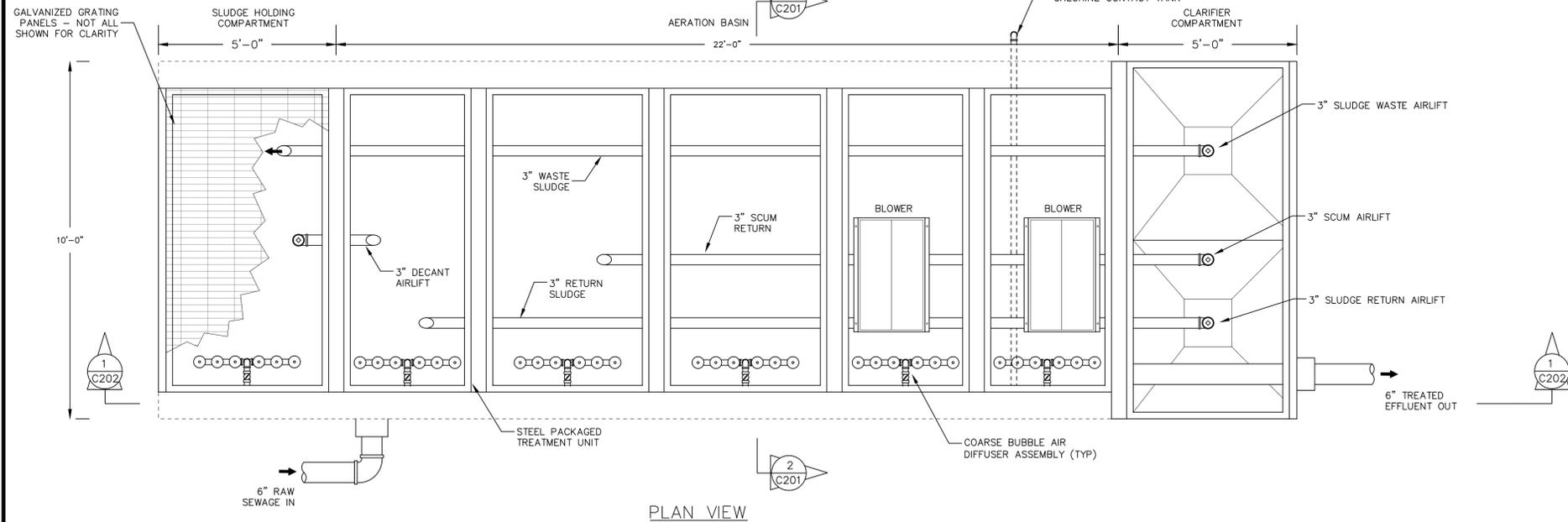
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PROJECT NO.:	TLG-2135
THE LANE GROUP INC.	

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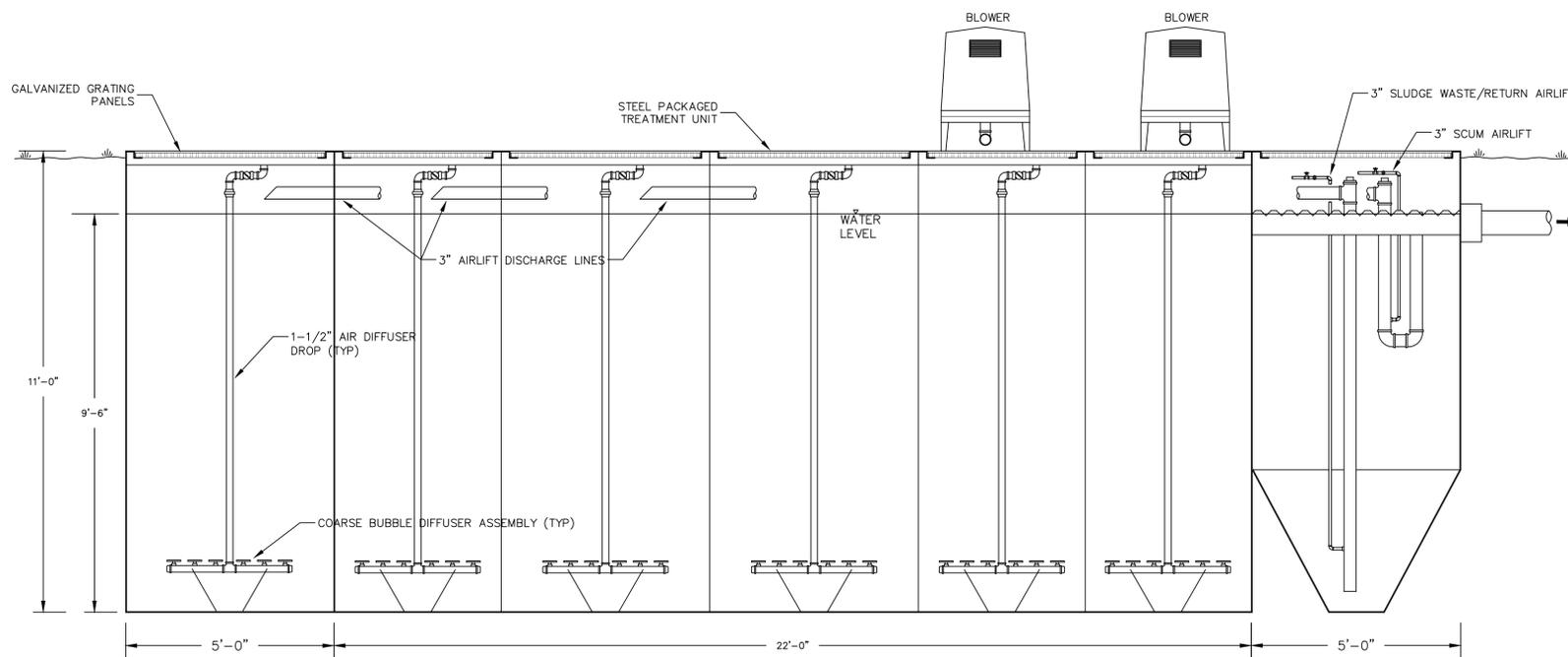
- THE PROPOSED CONSTRUCTION IS ANTICIPATED TO DISTURB LESS THAN ONE ACRE, SO AN EROSION & SEDIMENT CONTROL PERMIT IS NOT REQUIRED FROM NCDQR. HOWEVER, THE CONTRACTOR IS REQUIRED TO RESTORE ALL DISTURBED AREAS AND IS TO IMPLEMENT E&S MEASURES AS NECESSARY AND APPROPRIATE TO MINIMIZE EROSION AND/OR SEDIMENTATION AS A RESULT OF CONSTRUCTION ACTIVITIES.
- AS PART OF CONSTRUCTION, THE ELECTRICAL SUPPLY WIRING IS REQUIRED TO BE REPLACED FROM THE WWTP'S MAIN ELECTRICAL PANEL (IN THE LAB) TO VARIOUS EQUIPMENT BEING REPLACED (COMMINUTOR, BLOWERS, WWTP EFFLUENT PUMPS). THE ELECTRICAL CONTRACTOR SHALL SIZE THE WIRING IN ACCORDANCE WITH NEC BASED UPON THE MOTOR LOADS AND VOLTAGES USED. EXISTING CONDUIT RUNS MAY BE RE-USED, IF ADEQUATE. IF THE EXISTING CONDUIT RUNS ARE DETERMINED TO BE INADEQUATE, NEW UNDERGROUND CONDUIT SHALL BE INSTALLED.
- AS PART OF THIS PROJECT, THE CONTRACTOR IS REQUIRED TO PROVIDE THE OWNER WITH TWO (2) NEW FILTER EFFLUENT PUMPS TO BE STORED AS SPARES. PUMPS SHALL BE EQUAL TO MYERS MODEL WHR5 SUBMERSIBLE EFFLUENT PUMPS, 1/2 HP, 230 VOLT, 1-PHASE WITH A DESIGN OPERATING POINT OF 80 GPM @ 15 FT TDH.
- PROPOSED PIPING MATERIAL REQUIREMENTS FOR THIS PROJECT SHALL BE AS FOLLOWS:
 - AERATION SYSTEM (BLOWER DISCHARGE, AIR HEADERS, DIFFUSER DROPS, ETC) SHALL BE STAINLESS STEEL, SCHEDULE 10, WITH THREADED OR FLANGED FITTINGS. (2" AND SMALLER SIZES)
 - 6" GRAVITY EFFLUENT FROM WWTP TO PUMP TANK SHALL BE PVC SCH 40 W/ GLUE JOINTS OR PVC SDR-35 W/ GASKETED PUSH-ON JOINTS.
 - 2" EFFLUENT PUMP DISCHARGE LINES FROM PUMP TANK TO VALVE VAULT SHALL BE PVC SCH 80 W/ GLUE JOINTS. 2" PIPING THROUGH VALVE VAULT SHALL BE PVC SCH 80 W/ GLUE JOINTS OR SCHEDULE 10 STAINLESS STEEL W/ THREADED JOINTS.
 - 4" EFFLUENT PUMP DISCHARGE LINES FROM VALVE VAULT TO SAND FILTERS SHALL BE EITHER PVC C-900 DR-18 W/ PUSH-ON JOINTS OR DUCTILE IRON CLASS 350 WP W/ PUSH-ON JOINTS.
 - 3/4" PRESSURE MANIFOLD LINES TO FILTERS SHALL BE EITHER PVC SCH 40 W/ GLUE JOINTS OR HDPE CTS DR-9 TUBING W/ COMPRESSION JOINTS.
 - 4" SAND FILTER GRAVITY DISTRIBUTION LINES SHALL BE PVC SCH 40 PERFORATED PIPING W/ PUSH-ON JOINTS. PERFORATIONS SHALL BE 3/8" DIAMETER, DRILLED AT THE 4:00 AND 8:00 POSITIONS, AND SPACED ON 12" CENTERS.



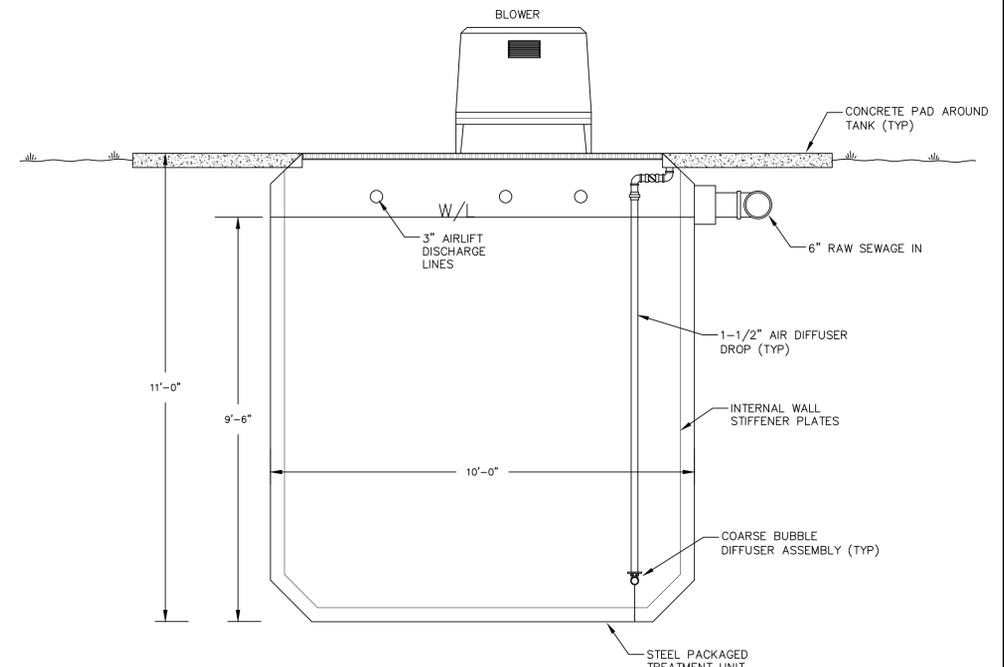
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PLAN VIEW



1 SECTION VIEW
C201



2 SECTION VIEW
C201

NOTES:

- EXISTING PACKAGED TREATMENT PLANT #2 (SEE SITE PLAN) IS OUT OF SERVICE AND IS NOT CURRENTLY BEING USED, BUT HAS LIQUID CONTENTS.
- THERE IS AN EXISTING 1" AIR LINE EXTENDING FROM PACKAGED TREATMENT PLANT #1 TO THE CHLORINE CONTACT TANK.
- THE GRATING SUPPORT FRAMING INCLUDES A FALL-PROTECTION GRID SYSTEM.
- THE EXISTING 6" EFFLUENT PIPING FROM PACKAGED TREATMENT PLANT #2 TO THE EFFLUENT PUMP TANK HAS FAILED AND IS TO BE REPLACED.



EXISTING PACKAGED TREATMENT UNITS



EXISTING PACKAGED TREATMENT UNITS



DATE: 24MARCH2021

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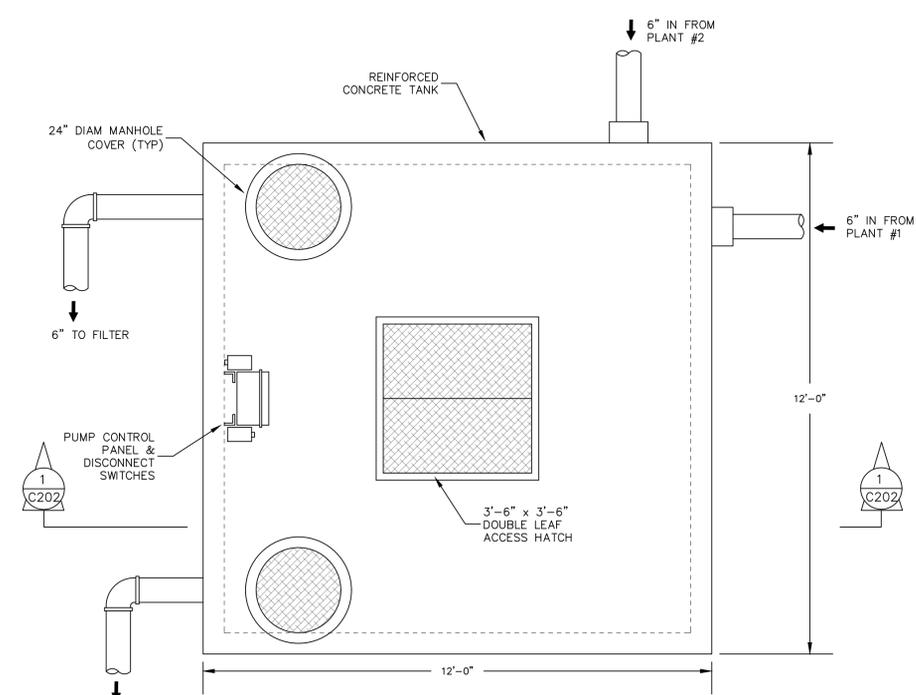
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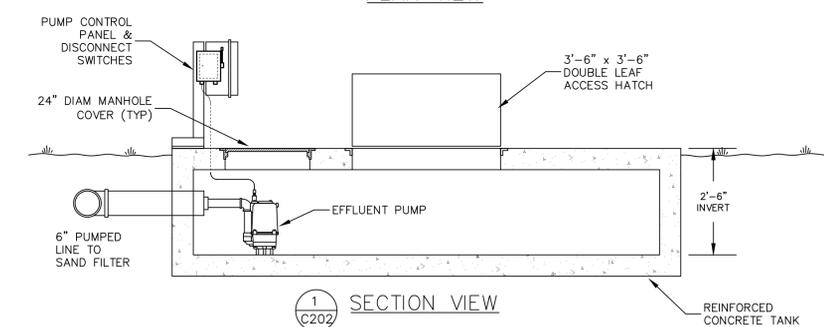
PROJECT NO: TLG-2135

THE LANE GROUP INC.

FILE: JAKE PROJECT/SURRY COUNTY/NC/2135 - NCDOT I-77 WELCOME CENTER SEWER/AUTOCAD/PLAN & PROFILE/I-77 WELCOME CENTER WWTP.DWG



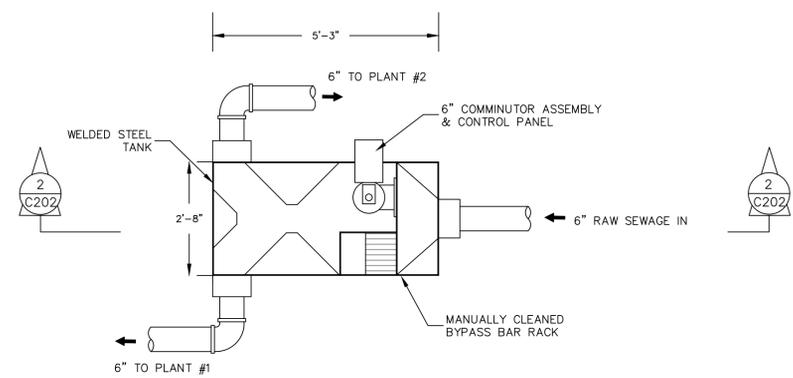
PLAN VIEW



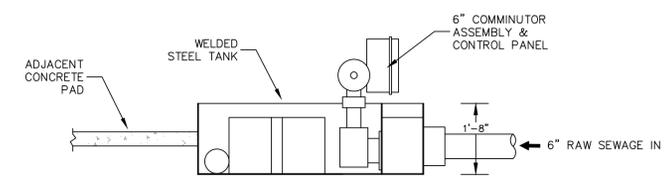
SECTION VIEW 1

EFFLUENT PUMP TANK

SCALE: 1/2" = 1'



PLAN VIEW



SECTION VIEW 2

COMMUNOTOR

SCALE: 1/2" = 1'

NOTES:

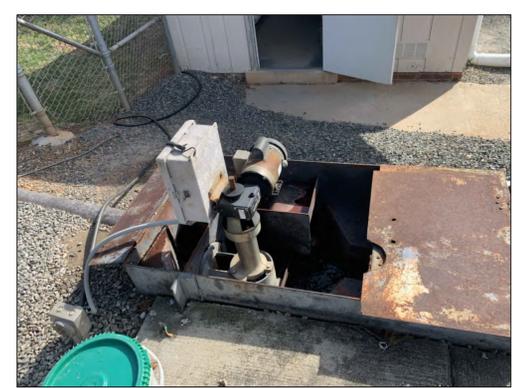
1. ALL CHANNEL ISOLATION GATES ARE NOT SHOWN, FOR CLARITY.
2. THE EXISTING INLET AND OUTLET LINES ARE ONLY PARTIALLY BELOW GRADE.



EXISTING EFFLUENT PUMP TANK



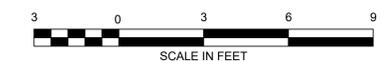
EXISTING EFFLUENT PUMP TANK



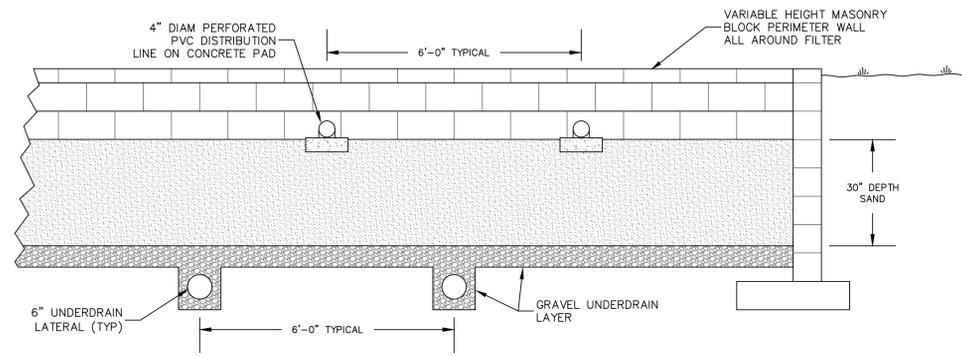
EXISTING COMMUNOTOR TANK



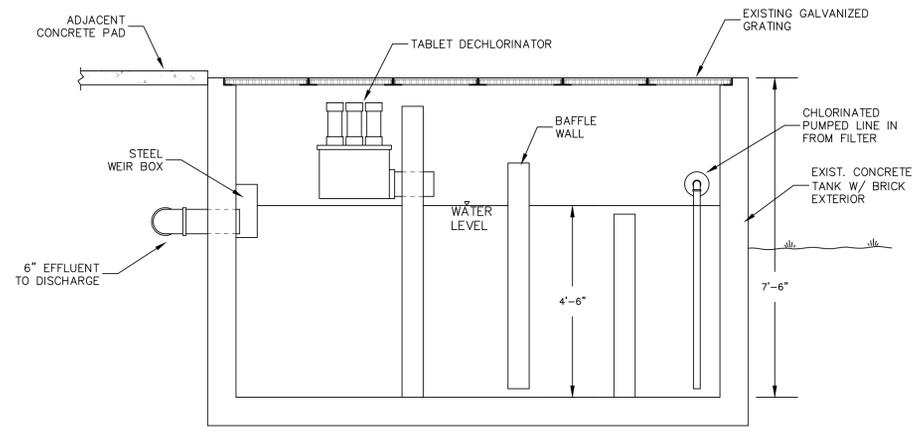
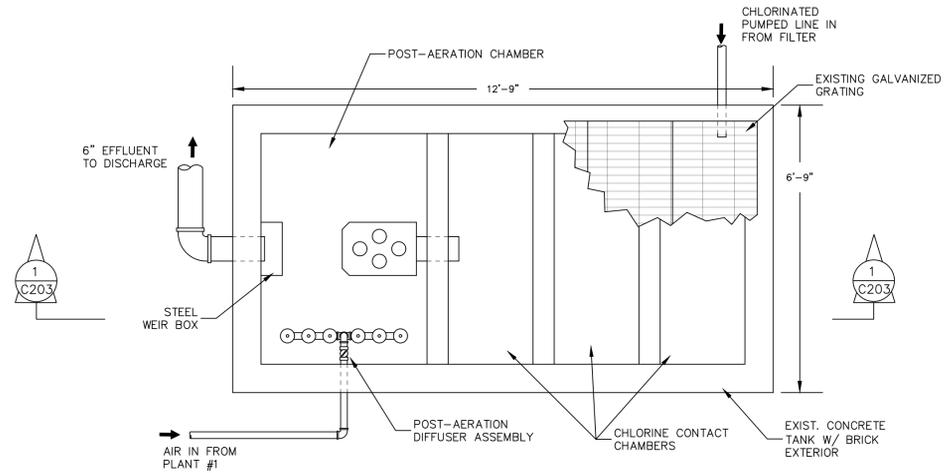
EXISTING COMMUNOTOR TANK



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EXISTING SAND FILTER CROSS SECTION
SCALE: 1/2" = 1'



CHLORINE CONTACT TANK
SCALE: 1/2" = 1'



EXISTING SAND FILTER



EXISTING SAND FILTER



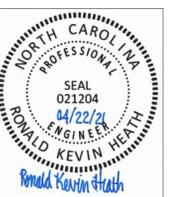
EXISTING CHLORINE CONTACT TANK



EXISTING CHLORINE CONTACT TANK



EXISTING CHLORINE CONTACT TANK



DATE: 24MARCH2021

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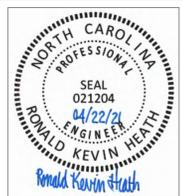
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PROJECT NO: TLG-2135

THE LANE GROUP INC.



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PROJECT NO.:	TLG-2135
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ABBREVIATED SCOPE OF WORK:

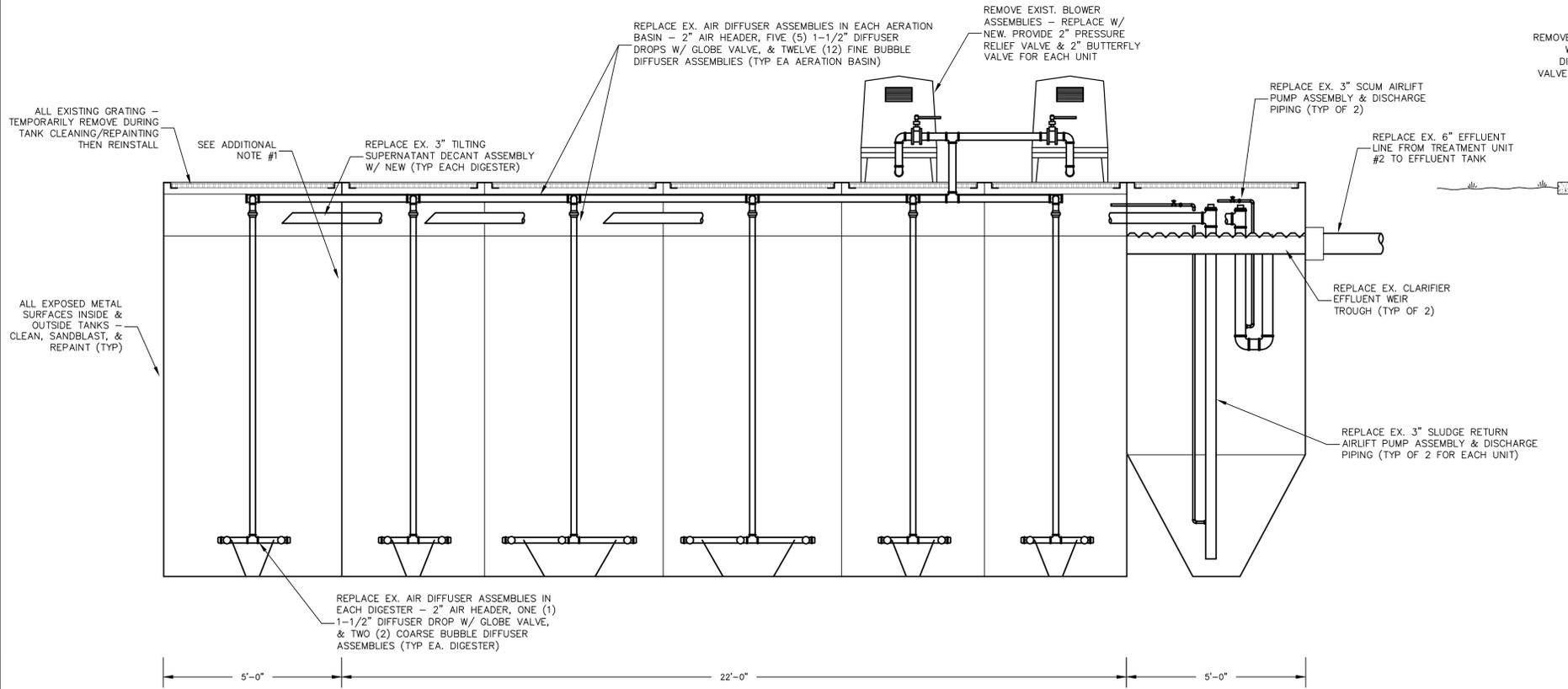
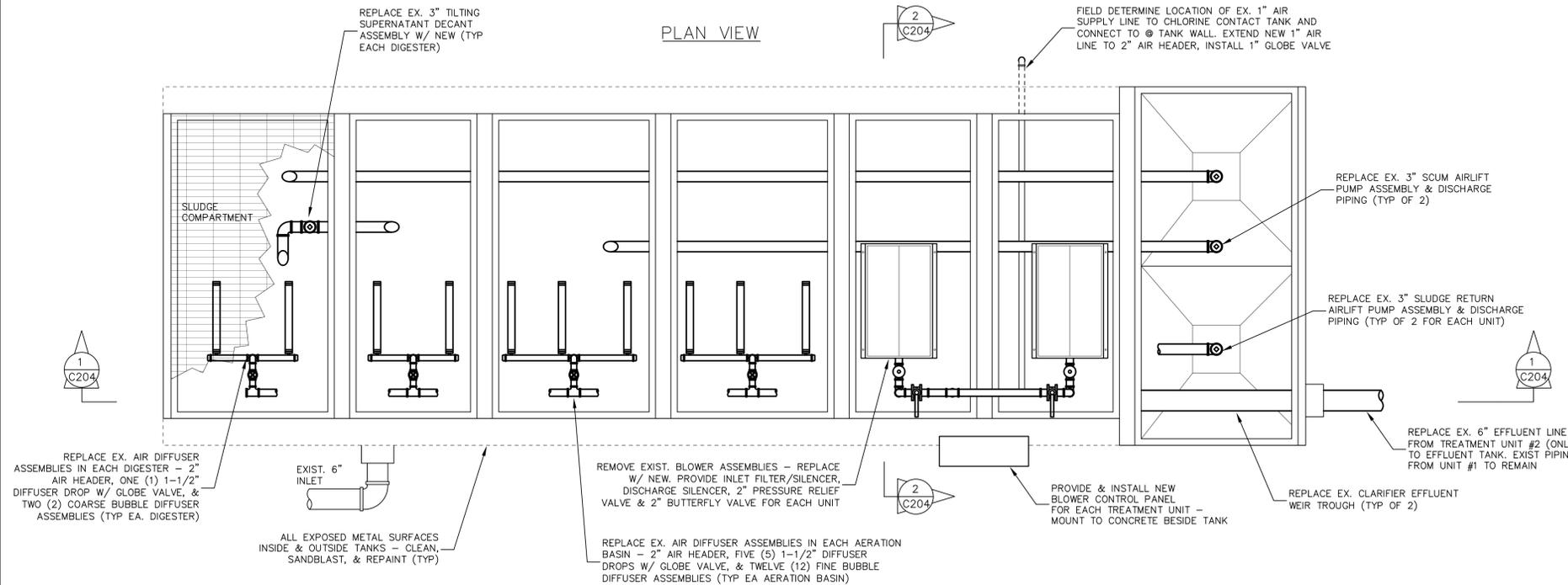
THE FOLLOWING ABBREVIATED SCOPE OF WORK IS NOT INTENDED TO BE ALL-INCLUSIVE, BUT IS INTENDED TO PROVIDE A GENERAL OVERVIEW OF THOSE WORK ITEMS TO BE COMPLETED. PRIOR TO START OF WORK, THE CONTRACTOR SHALL PROVIDE A PROPOSED SEQUENCE OF WORK SCHEDULE.

1. FIELD INSPECT & MEASURE ALL COMPONENTS TO VERIFY DIMENSIONS AND MATERIALS NEEDED TO EFFICIENTLY COMPLETE THE WORK. VERIFY THAT ALL ISOLATION VALVES/GATES/ETC ARE OPERATIONAL.
2. PACKAGED TREATMENT UNIT #2 IS CURRENTLY OUT OF SERVICE AND ISOLATED FROM THE FLOW TRAIN. BEGIN WORK WITH THIS UNIT.
3. PUMP OUT THE ISOLATED TRAIN. THE WWTP DOES NOT HAVE A PLANT DRAIN PUMP STATION, SO A SEPTIC TANK CLEANING SERVICE WILL BE REQUIRED. ALL LIQUID/SOLIDS/DEBRIS/SLUDGE REMAINING IN THE ISOLATED TRAIN SHALL BE CLEANED OUT BY THE PUMPER TRUCK AND DISPOSED OF AT THE CONTRACTOR'S EXPENSE.
4. REMOVE ALL ITEMS REQUIRED TO BE REMOVED FROM THE ISOLATED TRAIN - AERATION DIFFUSERS AND PIPING, AIRLIFT PUMPS, BLOWER ASSEMBLIES, EFFLUENT WEIR TROUGH, DAMAGED CHANNEL FRAMES, ETC.
5. CLEAN AND SANDBLAST ALL EXPOSED METAL SURFACES. REPAINT ALL EXPOSED METAL SURFACES.
6. REPLACE ALL ITEMS REQUIRED TO BE REPLACED - BLOWER ASSEMBLIES, AIRLIFT PUMP ASSEMBLIES, AIR PIPING & DIFFUSER ASSEMBLIES, REPLACE 6" EFFLUENT LINE TO EFFLUENT TANK.
7. TOUCH UP PAINT AS REQUIRED. RE-ATTACH GRATING. (GRATING IS NOT REQUIRED TO BE REPLACED ON PACKAGE PLANT UNITS.)
8. SWITCH WWTP FLOW TO COMPLETED TRAIN AND REPEAT STEPS 3-7 ON THE REMAINING TREATMENT TRAIN.

ADDITIONAL NOTES:

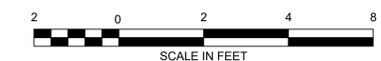
1. THE TANK #1 INTERNAL DIVIDER WALL BETWEEN THE SLUDGE COMPARTMENT AND THE AERATION BASIN IS IN POOR CONDITION. CONTRACTOR SHALL CUT/REMOVE/REPLACE THE MOST SEVERELY DAMAGED SECTION (ESTIMATE 8' WIDE x 11' TALL) W/ NEW 1/4" STEEL PLATE. FULL SEAM WELD & PROVIDE STIFFENING ANGLES PRIOR TO REPAINTING..
2. REPLACE EXISTING BLOWER WIRING FROM MAIN ELECTRIC SUPPLY PANEL (IN LAB) TO PROP. NEW BLOWERS. EXISTING CONDUIT MAY BE RE-USED.
3. AFTER SANDBLASTING & PRIOR TO PAINTING, ALL SANDBLAST DEBRIS SHALL BE CLEANED/REMOVED FROM THE TANK AND DISPOSED OF BY THE CONTRACTOR.
4. ALL PROPOSED AERATION SYSTEM PIPING (2" HEADER, 1-1/2" DIFFUSER DROPS, 3" AIRLIFTS, 1/2" AIRLIFT SUPPLY) SHALL BE SCHEDULE 10 STAINLESS STEEL W/ THREADED FITTINGS & SUFFICIENT UNIONS INSTALLED TO PERMIT DISASSEMBLY.

PLAN VIEW

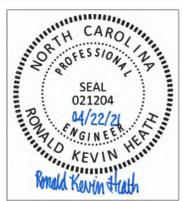


SECTION VIEW

SECTION VIEW



FILE: JAAHE PROJECT/SURRY COUNTY/NC/2135 - NDDOT I-77 WELCOME CENTER SEVERAL TANKS PLAN & PROFILE/I-77 WELCOME CENTER WWTP.DWG



DATE: 24MARCH2021

NO. REVISION DATE

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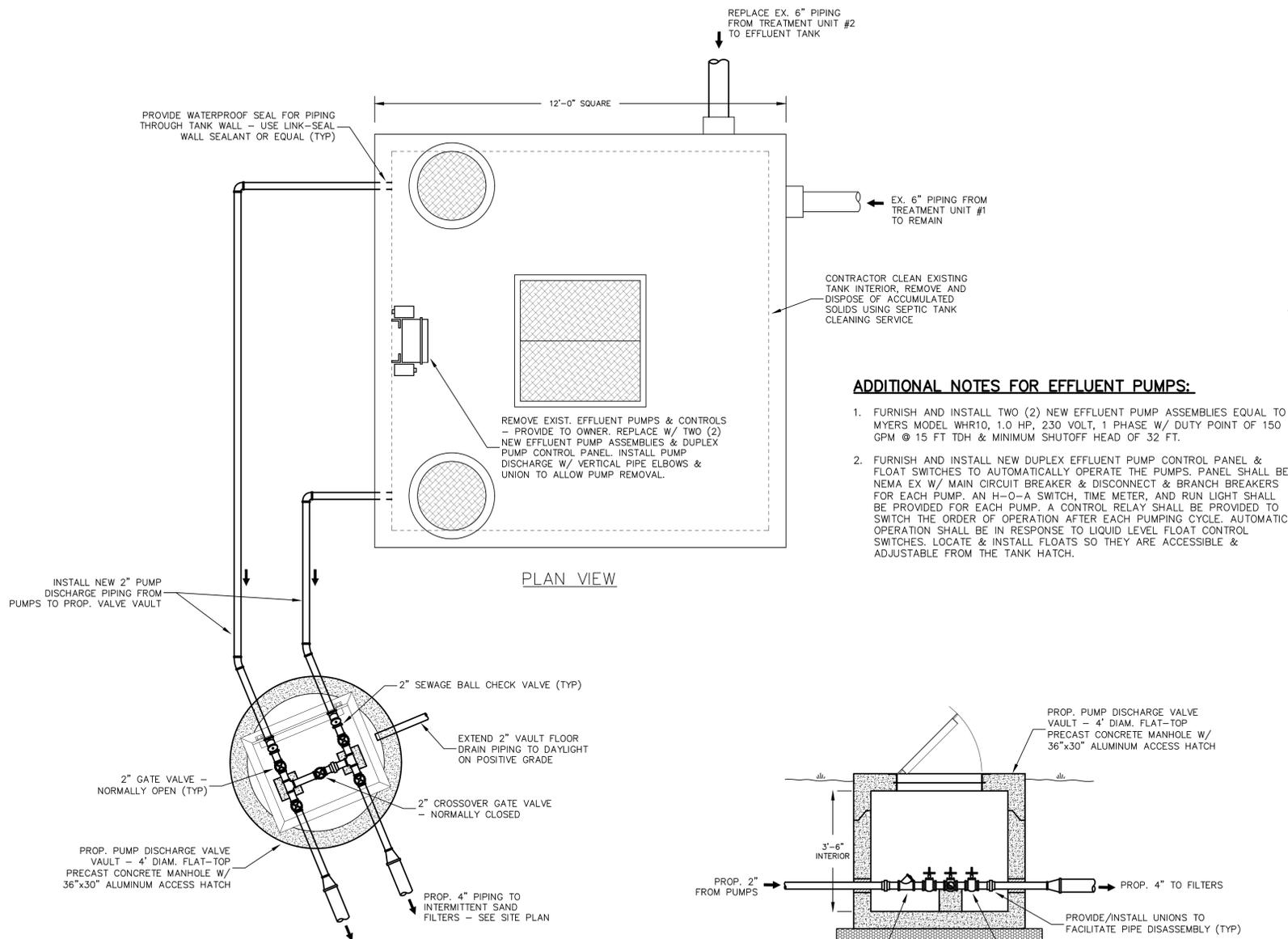
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SHEET: C205

DRAWN BY: SCT CHECKED BY: RKH

PROJECT NO: TLG-2135

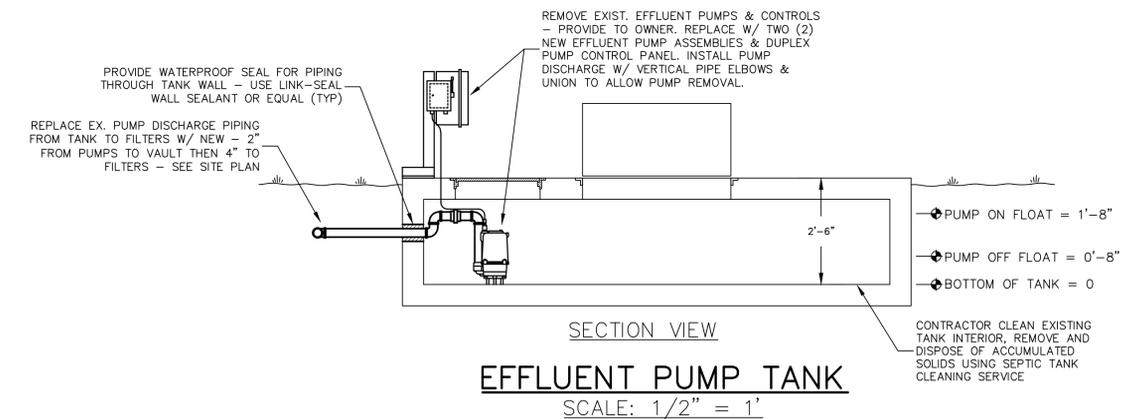
THE LANE GROUP INC.



ADDITIONAL NOTES FOR EFFLUENT PUMPS:

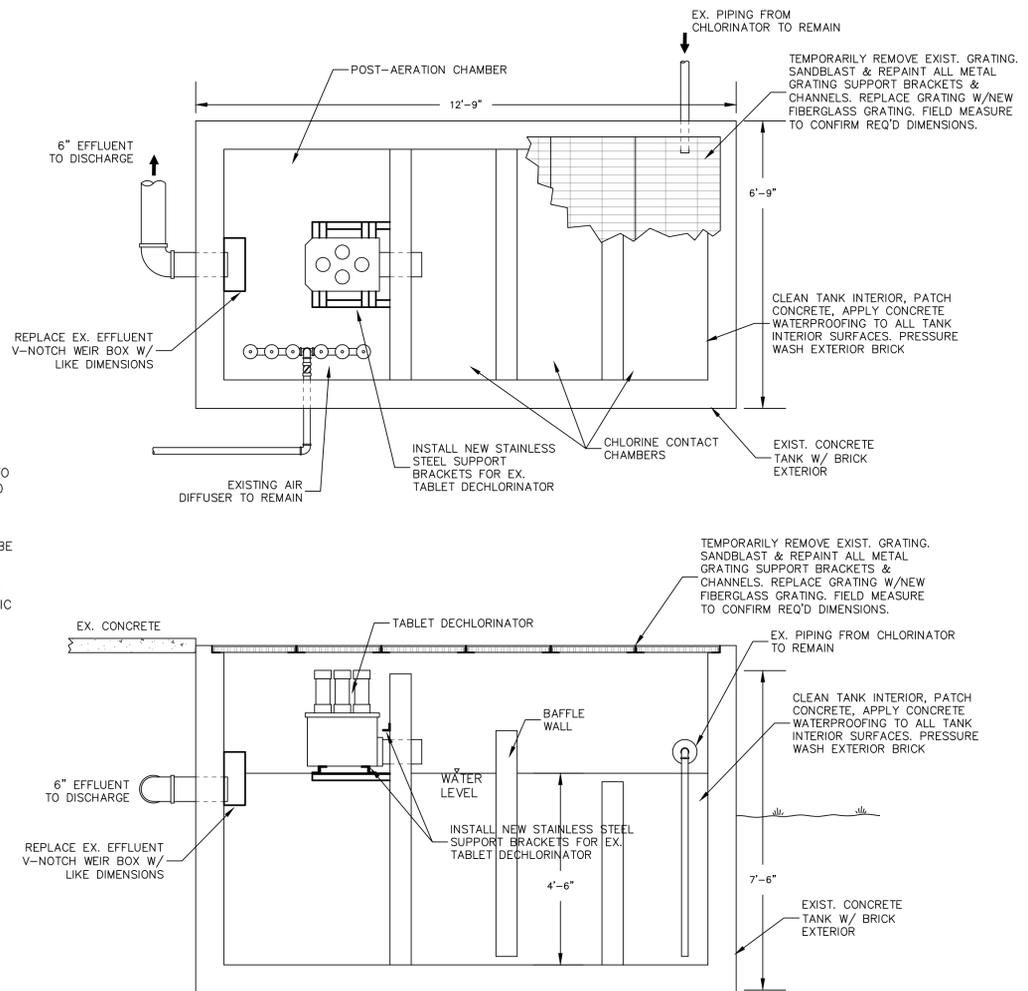
1. FURNISH AND INSTALL TWO (2) NEW EFFLUENT PUMP ASSEMBLIES EQUAL TO MYERS MODEL WHR10, 1.0 HP, 230 VOLT, 1 PHASE W/ DUTY POINT OF 150 GPM @ 15 FT TDH & MINIMUM SHUTOFF HEAD OF 32 FT.
2. FURNISH AND INSTALL NEW DUPLEX EFFLUENT PUMP CONTROL PANEL & FLOAT SWITCHES TO AUTOMATICALLY OPERATE THE PUMPS. PANEL SHALL BE NEMA EX W/ MAIN CIRCUIT BREAKER & DISCONNECT & BRANCH BREAKERS FOR EACH PUMP. AN H-O-A SWITCH, TIME METER, AND RUN LIGHT SHALL BE PROVIDED FOR EACH PUMP. A CONTROL RELAY SHALL BE PROVIDED TO SWITCH THE ORDER OF OPERATION AFTER EACH PUMPING CYCLE. AUTOMATIC OPERATION SHALL BE IN RESPONSE TO LIQUID LEVEL FLOAT CONTROL SWITCHES. LOCATE & INSTALL FLOATS SO THEY ARE ACCESSIBLE & ADJUSTABLE FROM THE TANK HATCH.

SECTION VIEW - VALVE VAULT



EFFLUENT PUMP TANK

SCALE: 1/2" = 1'

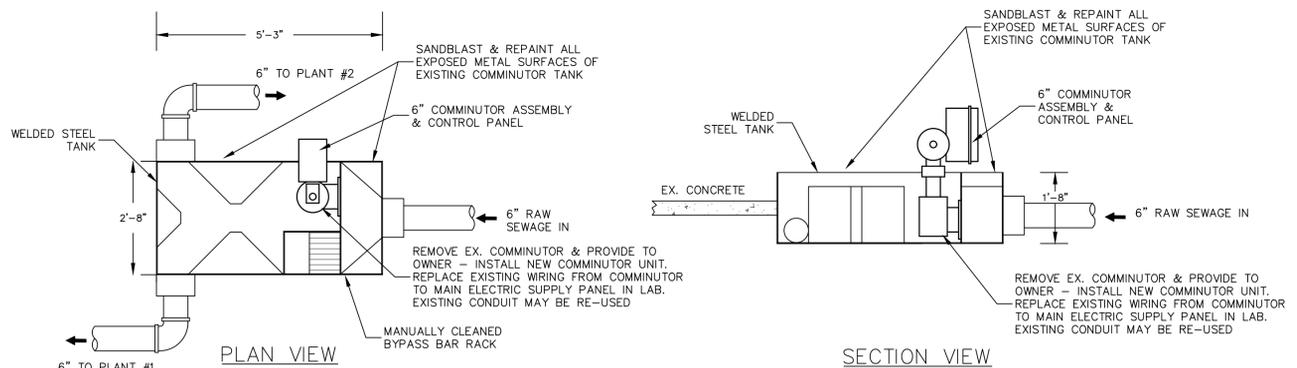


CHLORINE CONTACT TANK

SCALE: 1/2" = 1'

ADDITIONAL NOTES FOR COMMUNUTOR:

1. FURNISH AND INSTALL ONE (1) NEW COMMUNUTOR ASSEMBLY EQUAL TO PURESTREAM MODEL A-5, 0.5 HP, 230 VOLT, 1 PHASE W/ 164 PGM CAPACITY.
2. COMMUNUTOR ASSEMBLY SHALL BE FURNISHED COMPLETE W/ NEMA 4X CONTROL PANEL MOUNTED AT THE UNIT W/ H-O-A SELECTOR SWITCH AND AUTO-REVERSE ON JAM.

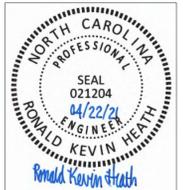


COMMUNUTOR

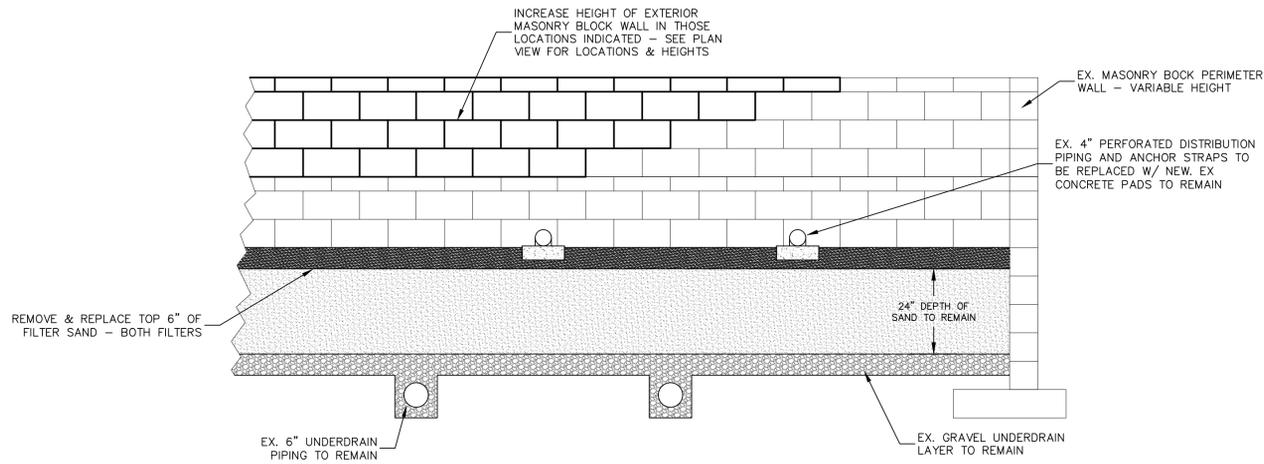
SCALE: 1/2" = 1'



FILE: JAAHE PROJECT/SURRY COUNTY/NC2135 - NDDOT I-77 WELCOME CENTER SEVERAL TANKS PLAN & PROFILE/I-77 WELCOME CENTER WWTP.DWG

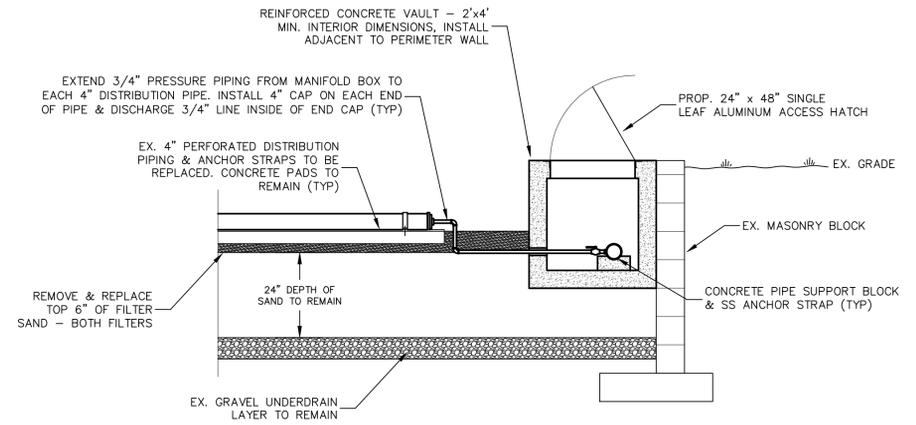


DATE:	24MARCH2021
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DRAWN BY:	SCT
CHECKED BY:	RKH
PROJECT NO.	TLG-2135
THE LANE GROUP INC.	



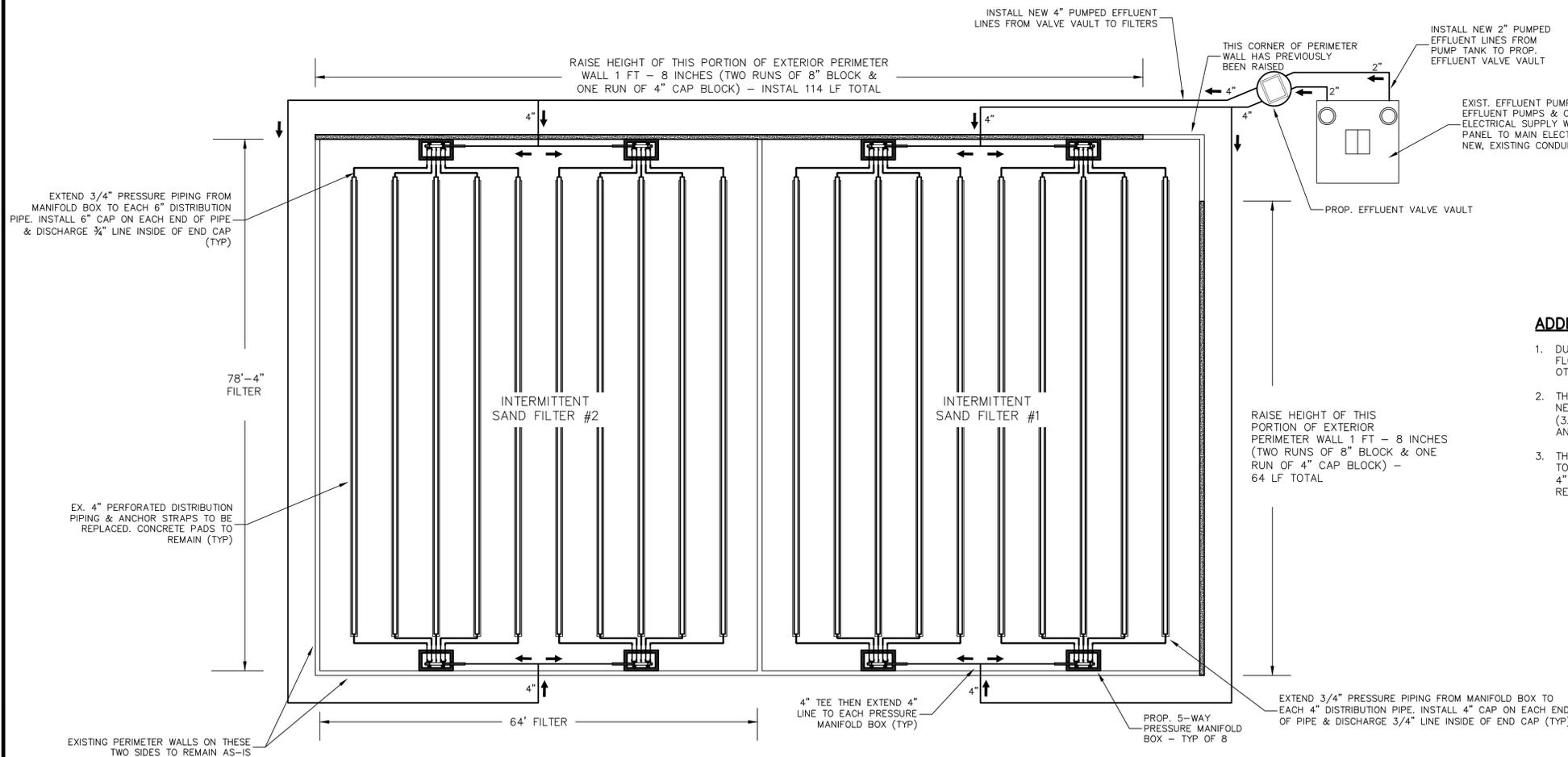
INTERMITTENT SAND FILTER CROSS SECTION

SCALE: 1/2" = 1'



PRESSURE MANIFOLD BOX DETAIL

SCALE: 1/2" = 1'



INTERMITTENT SAND FILTER PIPING MODIFICATIONS

SCALE: 1" = 10'

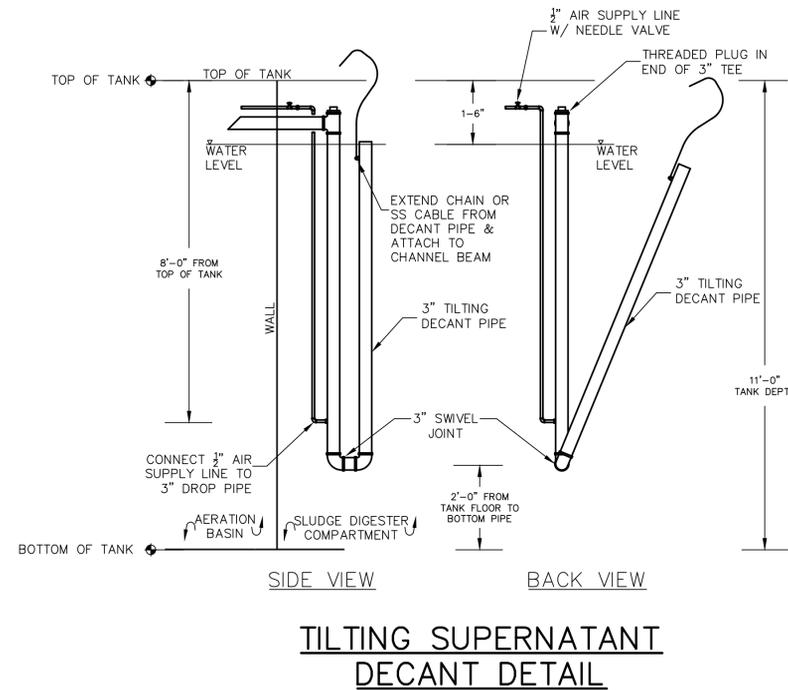
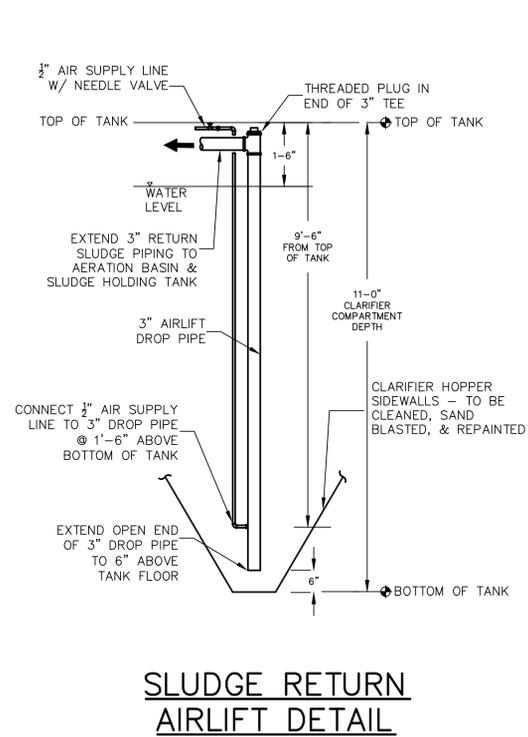
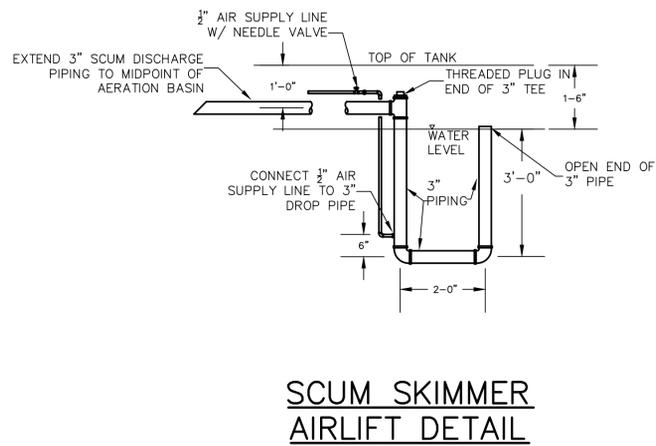
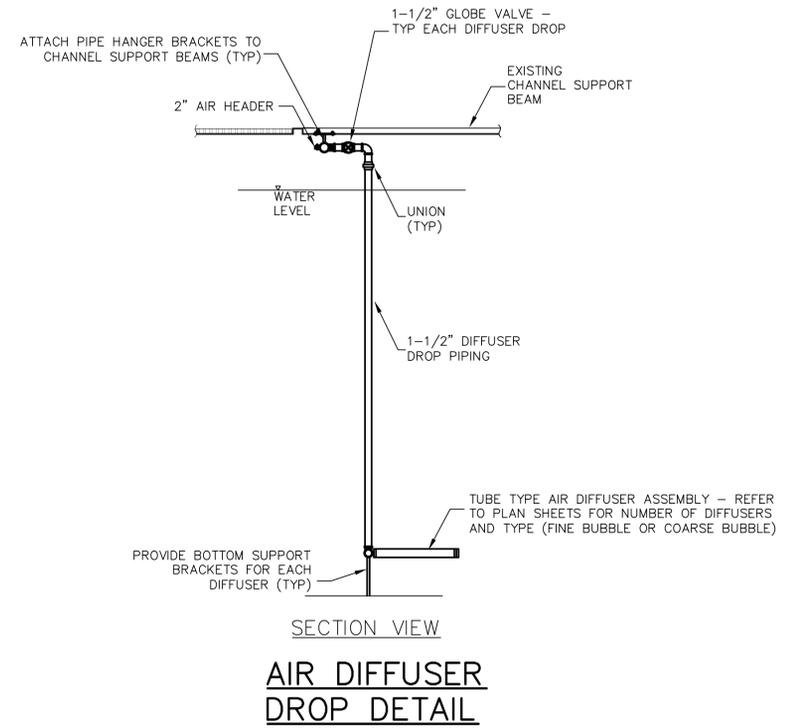
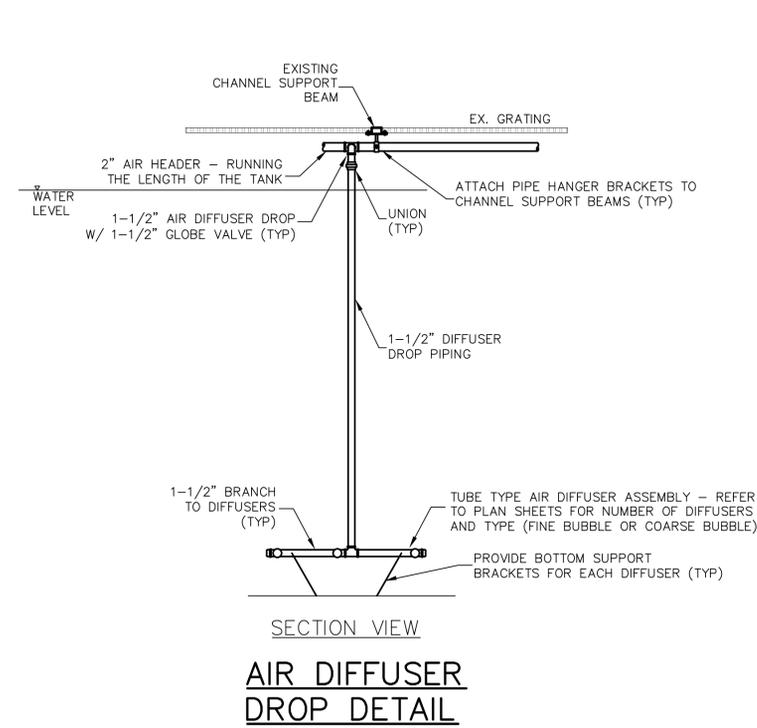
ADDITIONAL NOTES:

1. DURING FILTER MODIFICATIONS, ONE UNIT MUST REMAIN IN OPERATION AT ALL TIMES. ISOLATE FLOW TO ONE FILTER, REHABILITATE THE ISOLATED FILTER, THEN REPEAT PROCEDURE WITH THE OTHER FILTER.
2. THE UPPERMOST 6" OF BOTH FILTERS' SAND IS REQUIRED TO BE REMOVED AND REPLACED WITH NEW. FILTER SAND SHALL BE APPROVED BY NCEQ FOR USE WITH A SINGLE-PASS, HIGH RATE (3.0 GPD/SF) INTERMITTENT SAND FILTER. THE SANE UNIFORMITY COEFFICIENT SHALL BE < 2.0 AND HAVE AN EFFECTIVE SIZE OF 0.65 MM.
3. THE EXISTING 10-WAY GRAVITY DISTRIBUTION BOXES AND 4" HARD PIPING FROM THE D-BOXES TO THE PERFORATED DISTRIBUTION PIPING IS TO BE REMOVED AND DISPOSED OF. THE EXISTING 4" PERFORATED DISTRIBUTION PIPING AND STAINLESS STEEL ANCHOR STRAPS ARE TO BE REMOVED AND REPLACED.

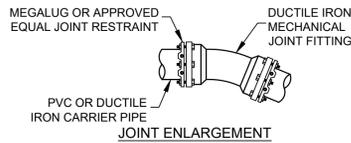
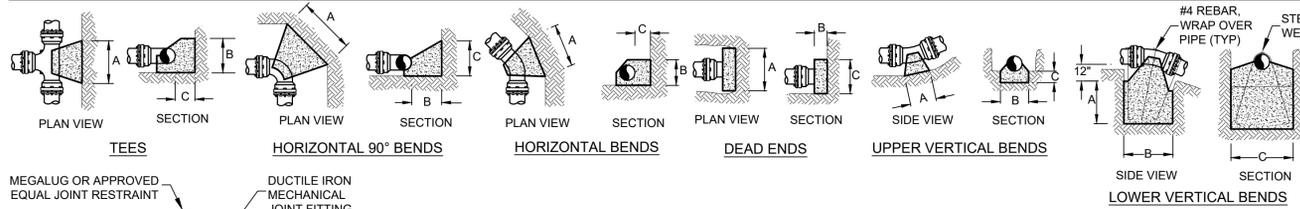




DATE:	24MARCH2021
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PROJECT NO.:	TLG-2135
THE LANE GROUP INC.	



PIPE SIZE	PIPELINE CONCRETE THRUST BLOCK DATA																																			
	TEES			90° BEND HORIZONTAL			45° BEND HORIZONTAL			22-1/2° BEND HORIZONTAL			11-1/4° BEND HORIZONTAL			45° BEND UPPER VERTICAL			22-1/2° BEND UPPER VERTICAL			11-1/4° BEND UPPER VERTICAL			45° BEND LOWER VERTICAL			22-1/2° BEND LOWER VERTICAL			11-1/4° BEND LOWER VERTICAL			DEAD-ENDS AND PLUGS		
	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C			
4"-6"	1.5'	1.33'	1.10'	2.33'	1.67'	1.2'	1.25'	1.2'	0.75'	0.75'	1.2'	0.75'	0.5'	1.2'	0.75'	1.2'	0.6'	0.75'	1.2'	0.6'	0.5'	1.2'	0.6'	3.0'	3.0'	2.5'	1.85'	2.5'	2.0'	1.25'	2.0'	1.5'	1.5'	0.5'	1.2'	
8"	2.0'	1.67'	1.10'	3.20'	1.75'	1.5'	2.0'	1.33'	0.75'	1.0'	1.33'	0.75'	0.67'	1.33'	0.75'	2.1'	1.5'	0.85'	1.0'	1.33'	0.67'	0.67'	1.33'	0.6'	3.25'	4.5'	3.25'	2.25'	3.25'	3.33'	1.75'	2.5'	2.0'	2.25'	0.67'	1.5'
10"	2.5'	2.0'	1.20'	3.34'	1.75'	2.1'	2.5'	1.5'	1.0'	1.5'	1.5'	0.85'	0.85'	1.5'	0.75'	2.1'	1.67'	0.85'	1.5'	1.67'	0.67'	0.85'	1.5'	0.67'	3.67'	4.75'	4.0'	2.5'	3.85'	3.67'	1.75'	2.75'	2.5'	2.5'	0.67'	2.0'
12"	2.85'	2.5'	1.33'	4.0'	2.0'	2.5'	3.0'	1.85'	1.2'	1.75'	1.85'	1.0'	1.0'	1.67'	0.75'	2.5'	1.85'	1.0'	1.75'	1.67'	0.67'	1.0'	1.67'	0.67'	3.67'	5.0'	4.5'	2.5'	4.0'	4.0'	2.0'	3.0'	3.0'	3.25'	0.85'	2.33'
16"	3.66'	3.34'	1.17'	4.16'	2.17'	3.00'	3.67'	2.5'	1.42'	2.33'	2.0'	1.17'	1.33'	2.0'	0.75'	3.33'	2.5'	1.25'	2.25'	1.67'	0.75'	1.33'	2.0'	0.75'	3.67'	5.0'	4.5'	2.5'	4.0'	4.0'	2.0'	3.0'	3.0'	4.17'	1.0'	2.92'



CONCRETE THRUST BLOCK INFO & CONSTRUCTION NOTES:

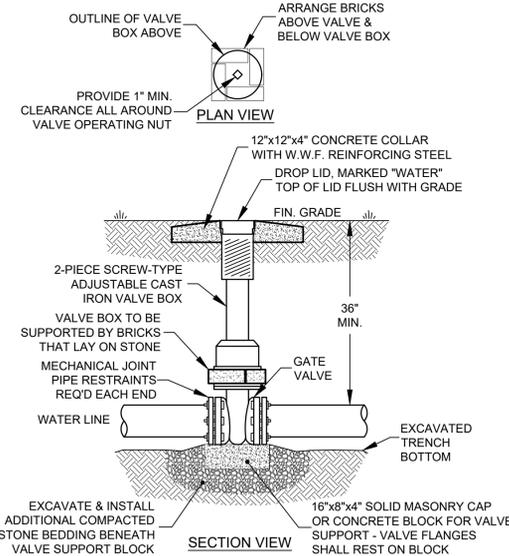
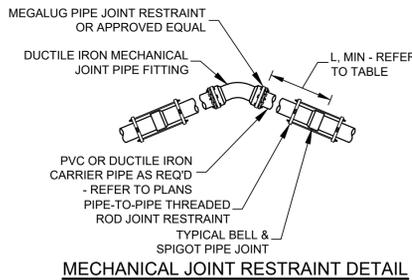
- ALL CONCRETE USED FOR THRUST BLOCKS SHALL BE 2500psi STRENGTH, POURED AGAINST STABLE, COMPACTED GROUND.
- PIPES SHALL NOT BE PRESSURIZED UNTIL AT LEAST 7 DAYS AFTER THE THRUST BLOCKS HAVE BEEN POURED.
- THRUST BLOCKS AT REDUCING FITTINGS SHALL BE SIZED BASED UPON THE LARGER PIPE SIZE.
- ALL FITTINGS SHALL BE SECURED TO PIPE USING MEGALUG JOINT RESTRAINTS OR APPROVED EQUAL.
- IN LOCATIONS WITH WET OR OTHERWISE UNSTABLE GROUND, THE CONTRACTOR SHALL USE MEGALUG JOINT RESTRAINTS OR MECHANICAL JOINT FITTINGS WITH TIE RODS INSTEAD OF CONCRETE THRUST BLOCKS.
- THE CONTRACTOR MAY ELECT TO USE MECHANICAL JOINT RESTRAINTS IN LIEU OF CONCRETE THRUST BLOCKS. MECHANICAL JOINT RESTRAINTS SHALL BE SERIES 1100 MEGALUG RESTRAINTS OR APPROVED EQUAL FOR DUCTILE IRON PIPE OR SERIES 2000 PV MEGALUG RESTRAINTS OR APPROVED EQUAL FOR PVC PIPE. MECHANICAL JOINT RESTRAINTS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER RECOMMENDATIONS & THE APPROPRIATE STANDARD DETAIL.

		PIPELINE MECHANICAL JOINT RESTRAINT DATA																	
		150psi WORKING PRESSURE						200psi WORKING PRESSURE											
TYPE OF PIPE	PIPE SIZE	TEE	90° BEND	45° BEND, HORIZ	22-1/2° BEND, HORIZ	11-1/4° BEND, HORIZ	45° BEND, VERT	22-1/2° BEND, VERT	11-1/4° BEND, VERT	TEE	90° BEND	45° BEND, HORIZ	22-1/2° BEND, HORIZ	11-1/4° BEND, HORIZ	45° BEND, VERT	22-1/2° BEND, VERT	11-1/4° BEND, VERT	PIPE SIZE	TYPE OF PIPE
PVC PIPE	4"	32	51	21	11	5	38	19	10	50	61	26	13	6	46	22	11	4"	PVC PIPE
	6"	67	71	30	15	7	54	26	13	92	85	36	17	9	64	31	16	6"	
	8"	105	93	39	19	10	70	34	17	137	111	46	23	11	84	41	20	8"	
	10"	136	110	46	22	11	84	41	20	175	132	55	27	13	101	49	24	10"	
	12"	170	129	54	26	13	99	48	24	215	155	64	31	16	119	57	29	12"	
	14"	200	146	61	30	15	113	54	27	252	176	73	35	18	135	65	33	14"	
DUCTILE IRON	4"	22	39	16	8	4	25	12	6	33	47	20	10	5	29	14	7	4"	DUCTILE IRON
	6"	45	54	23	11	6	34	17	9	61	65	27	13	7	41	20	10	6"	
	8"	70	71	30	14	7	45	22	11	91	85	35	17	9	54	26	13	8"	
	10"	90	84	35	17	9	54	26	13	116	101	42	20	10	64	31	16	10"	
	12"	112	98	41	20	10	63	30	15	143	118	49	24	12	75	36	18	12"	
	14"	133	111	46	23	11	71	35	17	167	134	56	27	14	86	41	21	14"	
16"	154	125	52	25	13	80	39	19	192	150	62	30	15	96	46	23	16"		

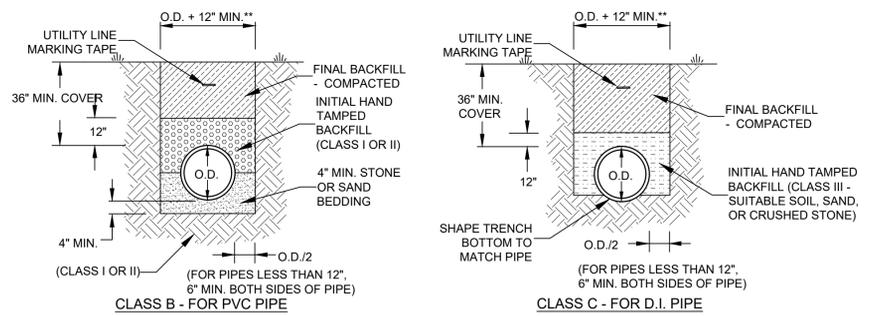
MINIMUM DISTANCE, ("L", FEET) JOINTS REQUIRED TO BE RESTRAINED BEYOND FITTING

MECHANICALLY RESTRAINED JOINT NOTES:

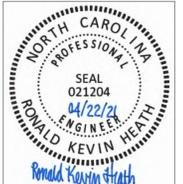
- CONTRACTOR MAY ELECT TO USE MECHANICALLY RESTRAINED JOINTS WITHOUT CONCRETE THRUST BLOCKS IN LOCATIONS WITH 150psi AND 200psi WORKING PRESSURES.
- PIPE SHALL BE RESTRAINED TO FITTING USING MEGALUG OR APPROVED EQUAL JOINT RESTRAINTS.
- ALL PIPE JOINTS FOR A DISTANCE, "L" FEET BEYOND FITTING SHALL BE RESTRAINED. REFER TO TABLE FOR APPROPRIATE FITTING TYPE AND LENGTH.
- CONCRETE THRUST BLOCKS REQUIRED FOR ALL LOCATIONS WITH WORKING PRESSURES OF 250psi AND HIGHER.



- TYPICAL GATE VALVE**
- ALL BURIED VALVES SHALL HAVE MECHANICAL JOINT END CONNECTIONS.
 - VALVE SHALL BE RESTRAINED TO ADJACENT PIPE AND/OR FITTINGS USING EITHER MECHANICAL JOINT PIPE RESTRAINTS (PREFERRED) OR THREAD RODS.
 - VALVE BOX LID TO BE SET FLUSH WITH GRADE.
 - VALVE SHALL NOT BEAR ANY LOADS FROM VALVE BOX.



UTILITY LINE BEDDING DETAILS
**FOR PIPE LESS THAN 12" THE TRENCH WIDTH MAY BE 36" MAXIMUM



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FILE: J:\AHE PROJECT\SURRY COUNTY\NC2135 - NDDOT I-77 WELCOME CENTER SEVERAL TCC\PLAN & PROFILE\I-77 WELCOME CENTER WWTP.DWG