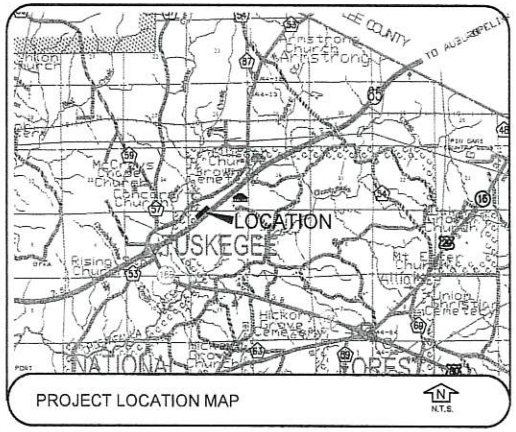
PROPOSED SANITARY SEWER TREATMENT & DISPOSAL SYSTEM

FOR

I 85 REST AREAS MACON COUNTY
ALABAMA DEPARTMENT OF TRANSPORTATION
SOUTHEAST REGION - MONTGOMERY AREA
LOCATED IN THE NW 1/4 OF SECTION 2,
T-17-N, R-24-E
MACON COUNTY, ALABAMA

INDEX OF SHEETS



CONTACT:

ALDOT - SOUTHEAST REGION - MONTGOMERY AREA
RANDALL HARRELL
1525 COLISEUM BLVD.
MONTGOMERY, ALABAMA, 36110
334-261-3234

PREPARED BY:

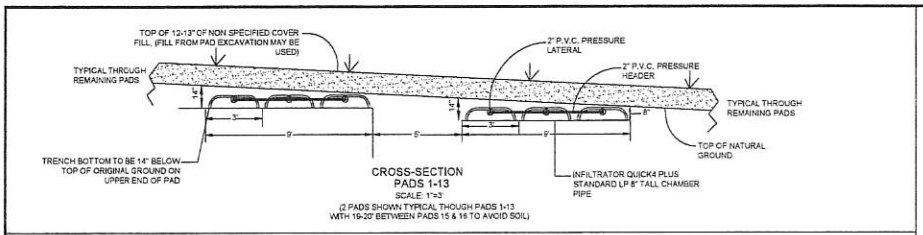
LARRY E. SPEAKS & ASSOCIATES,INC.
Consulting Engineers & Land Surveyors
535 Herron St.
Montgomery, Alabama 36104
Phone: 262-1091

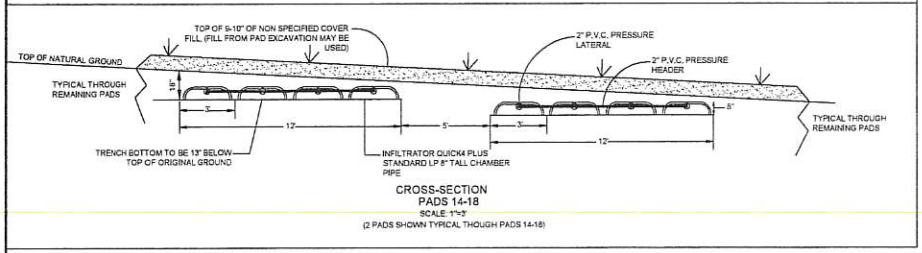
NOVEMBER 2024

REVISIONS

11-14-2024: REV. PER ALDOT COMMENTS
2-11-2025 REV. ADJUST PADS 16-18 ISOLATE/AVOID POCKET OF SOIL
3-26-2025: REV. PER ALDOT ADDED "OR EQUIVALENT" FOR PRODUCT SPECS.

Project: PROPOSED SANITARY SEWER TREATMENT DISPOSAL SYSTEM
Project No.: 20382
Date: NOVEMBER 2024





Map Unit Data Table-I85-Soil Map

Soil Series – Map unit	Slope (%)	Depth to ASHES (Inches)	Recommended Trench Depth (Inches)	Permeability Rate (MPI)	Suitability Code (ADPH)
Cowarts	2-5	30	-	65	Moderate
Cowarts	5-10	30	-	65	Moderate
Cowarts	15-20	30	-	65	Moderate
Cowarts (1)	2-5	20	-	65	Extreme
Marvyn	0-5	32	-	50	Moderate
Nankin (1)	10-15	26	-	70	Moderate
Nankin (2)	10-15	32	-	65	Moderate
Uchee (1)	0-5	26	-	55	Moderate
Uchee (2)	0-5	30	-	45	Moderate

BUILDING NOTE:

BUILDING SHALL BE USED TO SECURE AND PROTECT CONTROL PANELS AND TELEMETRY

1.) BUILDING SHALL BE A PORTABLE BUILDING OR SIMILAR CONSTRUCTION WITH A LOCKING ACCESS DOOR AND ONE WINDOW.

2.) BUILDING SHALL BE CONSTRUCTED USING STANDARD CONSTRUCTION PRACTICES.

3.) BUILDING SHALL HAVE A METAL ROOF.

4.) A WINDOW AIR CONDITIONER/HEATER COMBINATION UNIT SHALL BE INSTALLED WITH THE THE THERMOSTAT SETTING OF 60 DEGREES IN THE SUMMER AND 60 DEGREES IN THE WINTER.

REQ'D 4' TALL CHAIN LINK FENCE TO BE INSTALLED FOLLOWING ALL CONSTRUCTION TO PROTECT DISPOSAL PADS FROM ANY FUTURE VEHICLE OR EQUIPMENT TRAFFIC AND/OR PARKING

REQ'D 3 PAD DISTRIBUTION BOX (SEE SHEET 7)

REQ'D 10,000 GAL/DAY AEROBIC TREATMENT UNIT. (SEE SHEETS 5 & 6) (OR PRODUCT EQUIVALENT APPROVED BY THE ENGINEER OF RECORD, ALABAMA DEPARTMENT OF PUBLIC HEALTH AND ALABAMA DEPARTMENT OF TRANSPORTATION)

AIR SUPPLY LINES AND PUMP CONTROL LINES

REQ'D BUILDING FOR CONTROL PANELS, TELEMETRY, (SEE BUILDING TYPE NOTE)

REQ'D CONNECT TO EXISTING FORCE MAIN AND INSTALL NEW 3" SCH 40 P.V.C. FORCE MAIN TO PROPOSED TREATMENT PLANT (REQ'D TWO (2) 3" VALVES)

REQ'D 4 PAD DISTRIBUTION BOX (SEE SHEET 7)

REQ'D DOUBLE GATE FOR MOWER AND MAINTENANCE ACCESS

REQ'D VALVE BOX WITH ZONE INDEXING VALVE

REQ'D ADDITION TO EXISTING FENCE TO SECURE TREATMENT PLANT AND VALVE BOX. FENCE AND DOUBLE GATE TO MATCH EXISTING FENCE.

REQ'D CRUSHED AGGREGATE INSIDE NEW FENCE AREA

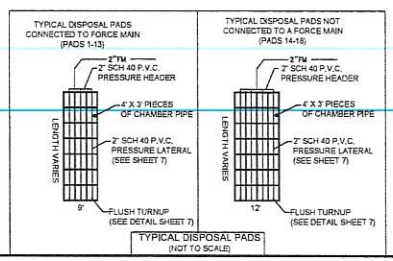
EXISTING FENCE AND GATE AROUND PUMP STATION

EXISTING 3-1500 GALLON SEPTIC TANKS IN A SERIES

INTERSTATE I-85 (SOUTH BOUND LANES)

FORCE MAIN INSTALLATION NOTES:

1.) 2" SCH 40 P.V.C. FORCE MAIN SHALL BE ENCASED WITHIN 4" SCH 40 P.V.C UNDER ANY DRIVE OR PARKING AREA.
2.) FORCE MAINS SHALL BE INSTALLED LOCATED AT A MINIMUM DEPTH OF 36" BELOW THE TOP OF NATURAL GROUND.
3.) ALL UTILITIES IN AREA OF FORCE MAIN INSTALLATION SHALL BE VISUALLY LOCATED PRIOR TO CONSTRUCTION.
4.) FORCE MAINS SHALL BE INSTALLED WITH TRACER WIRE.



TYPICAL DISPOSAL PADS
(NOT TO SCALE)

TIME DOSE AT 1000± GALLONS PER DOSE EVERY 2 HOURS

DISTRIBUTION PIPES:
0.5 GAL/MIN FOR 5/32" HOLE

HOLES ON 3' SPACING

DOSING RATE GAL/MINUTE

ZONE 1: 300' OF 9' WIDE PADS
900' OF PRESSURE LATERALS
300 HOLES X 0.5 GAL/HOLE/MIN
MAX. DOSE RATE 150 GAL/MINUTE

ZONE 2: 306' OF 9' WIDE PADS
918' OF PRESSURE LATERALS
306 HOLES X 0.5 GAL/HOLE/MIN
MAX. DOSE RATE 153 GAL/MINUTE

ZONE 3: 248' OF 9' WIDE PADS
744' OF PRESSURE LATERALS
248 HOLES X 0.5 GAL/HOLE/MIN
MAX. DOSE RATE 124 GAL/MINUTE

ZONE 4: 276' OF 12' WIDE PADS
1104' OF PRESSURE LATERALS
368 HOLES X 0.5 GAL/HOLE/MIN
MAX. DOSE RATE 184 GAL/MINUTE

ZONE 5: 224' OF 12' WIDE PADS
896' OF PRESSURE LATERALS
298 HOLES X 0.5 GAL/HOLE/MIN
MAX. DOSE RATE 149 GAL/MINUTE

PUMP PRESSURES SHALL BE ADJUSTED AS NEEDED FOR UNIFORM PRESSURE AT FLUSH TURNUP CAPS

SEWAGE FLOW:
BASED ON ACTUAL FLOW DATA RECORDINGS PER 420-3-1-.76 (2)(c)
(FLOW DATA SPREADSHEET IS ATTACHED TO THE APPLICATION PACKAGE)

AVERAGE DAILY FLOW FOR 365 DAYS:
4,969 GALLONS/DAY

PEAK FLOWS INDEPENDENT OF PLUMBING FIXTURE PROBLEMS*:
7,760 GALLONS/DAY

* PLUMBING FIXTURES WERE STICKING OPEN FOLLOWING A FACILITY REMODEL

DISPOSAL PAD ZONE DESIGN DATA:

ZONE 1:

PAD 1: 88' X 9' = 792 SQ FT
792 SQ FT X 0.893 GAL/SQ FT = 707 GAL/DAY DISPOSAL

PAD 2: 84' X 9' = 756 SQ FT
756 SQ FT X 0.893 GAL/SQ FT = 675 GAL/DAY DISPOSAL

PAD 3: 128' X 9' = 1152 SQ FT
1152 SQ FT X 0.893 GAL/SQ FT = 1028 GAL/DAY DISPOSAL

ZONE 2:

PAD 4: 96' X 9' = 864 SQ FT
864 SQ FT X 0.893 GAL/SQ FT = 771 GAL/DAY DISPOSAL

PAD 5: 64' X 9' = 576 SQ FT
576 SQ FT X 0.893 GAL/SQ FT = 514 GAL/DAY DISPOSAL

PAD 6: 70' X 9' = 630 SQ FT
630 SQ FT X 0.893 GAL/SQ FT = 562 GAL/DAY DISPOSAL

PAD 7: 76' X 9' = 684 SQ FT
684 SQ FT X 0.893 GAL/SQ FT = 610 GAL/DAY DISPOSAL

ZONE 3:

PAD 8: 80' X 9' = 720 SQ FT
720 SQ FT X 0.893 GAL/SQ FT = 642 GAL/DAY DISPOSAL

PAD 9: 80' X 9' = 720 SQ FT
720 SQ FT X 0.893 GAL/SQ FT = 642 GAL/DAY DISPOSAL

PAD 10: 88' X 9' = 792 SQ FT
792 SQ FT X 0.893 GAL/SQ FT = 707 GAL/DAY DISPOSAL

TOTAL: 7686 SQ FT 9' WIDE PADS
8658 GAL/DAY/DISPOSAL

ZONE 4:

PAD 11: 92' X 9' = 828 SQ FT
828 SQ FT X 0.631 GAL/SQ FT = 522 GAL/DAY DISPOSAL

PAD 12: 92' X 9' = 828 SQ FT
828 SQ FT X 0.631 GAL/SQ FT = 522 GAL/DAY DISPOSAL

PAD 13: 92' X 9' = 828 SQ FT
828 SQ FT X 0.631 GAL/SQ FT = 522 GAL/DAY DISPOSAL

TOTAL: 2484 SQ FT 12' WIDE PADS
1566 GAL/DAY/DISPOSAL

ZONE 5:

PAD 14: 44' X 12' = 528 SQ FT
528 SQ FT X 0.631 GAL/SQ FT = 333 GAL/DAY DISPOSAL

PAD 15: 48' X 12' = 576 SQ FT
576 SQ FT X 0.631 GAL/SQ FT = 363 GAL/DAY DISPOSAL

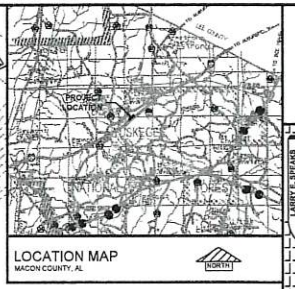
PAD 16: 48' X 12' = 576 SQ FT
576 SQ FT X 0.631 GAL/SQ FT = 363 GAL/DAY DISPOSAL

PAD 17: 44' X 12' = 528 SQ FT
528 SQ FT X 0.631 GAL/SQ FT = 333 GAL/DAY DISPOSAL

PAD 18: 40' X 12' = 480 SQ FT
480 SQ FT X 0.631 GAL/SQ FT = 302 GAL/DAY DISPOSAL

TOTAL: 2688 SQ FT
1694 GAL/DAY/DISPOSAL

TOTAL DISPOSAL/DAY: 10,118 GALLONS/DAY OF DISPOSAL PADS



STATE PLANE GRID NORTH

SCALE: 1"=30'

LEGEND:

EXISTING:
- FOUND IRON PIN
- SET IRON PIN (5/8" REBAR CAPPED) W/# CA-00017-LS
- FOUND CONCRETE MARKER
- CALCULATED POINT
- GRAVEL
- CONCRETE
- SANITARY SEWER MANHOLE
- POWER POLE
- OHP — OVERHEAD POWER
- VALVE
- SPOT ELEVATION
- EXISTING CONTOUR
- BORE HOLE
- FENCE
- SS — GRAVITY SANITARY SEWER LINE

REQUIRED:
- PRIMARY EFFLUENT DISPOSAL PADS
- REPLACEMENT EFFLUENT DISPOSAL AREA
- 2"FM — 2" SCH 40 P.V.C. FORCE MAIN
- 3"FM — 3" SCH 40 P.V.C. FORCE MAIN
- CHAIN LINK FENCE & GATE
- SF — SILT FENCE
- 3" VALVE

GENERAL NOTES

1.) PROVIDE EFFLUENT FILTERS AS REQUIRED BY STATE HEALTH DEPT IN EXISTING SEPTIC TANKS AS REQ'D.

2.) IF ANY CUTTING OR FILLING HAS BEEN DONE ON SITE SINCE DATE OF SOIL TESTS THIS DESIGN IS INVALID

3.) FOLLOWING CONSTRUCTION ALL DISTURBED AREAS SHALL BE SEEDED AND MULCHED TO PROVIDE VEGETATION FOR EROSION CONTROL.

4.) ALL PIPING AND CROSSOVERS SHALL BE SCH 40 P.V.C.

5.) ALL FORCE MAINS SHALL BE INSTALLED WITH TRACER WIRE.

6.) ALL TREATMENT AND DISPOSAL PRODUCTS SHALL BE INSTALLED BY A CONTRACTOR WITH A VALID PERMIT AND HOLDING A LEVEL 2 ADVANCED CURRENT LICENSE TO INSTALL BY THE ALABAMA ONSITE WASTEWATER BOARD.

7.) INSTALLER SHALL VISUALLY LOCATE ALL EXISTING UTILITIES PRIOR TO BEGINNING INSTALLATION.

8.) ALL DISTURBED AREAS SHALL RECEIVE SEED AND MULCH.

TRAFFIC CONTROL NOTE:

CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TRAFFIC CONTROL MEASURES, EQUIPMENT AND IMPLEMENTATION OF SAID MEASURES IN ACCORDANCE WITH THE CURRENT EDITION OF THE MANUEL ON UNIFORM TRAFFIC CONTROL DEVICES. (MUTCD).

LARRY E. SPEARS ASSOCIATES, INC.
CIVIL ENGINEERS
LAND SURVEYORS
3660 INVERMAN RD.
MONTGOMERY, AL 36104
(334) 272-2460

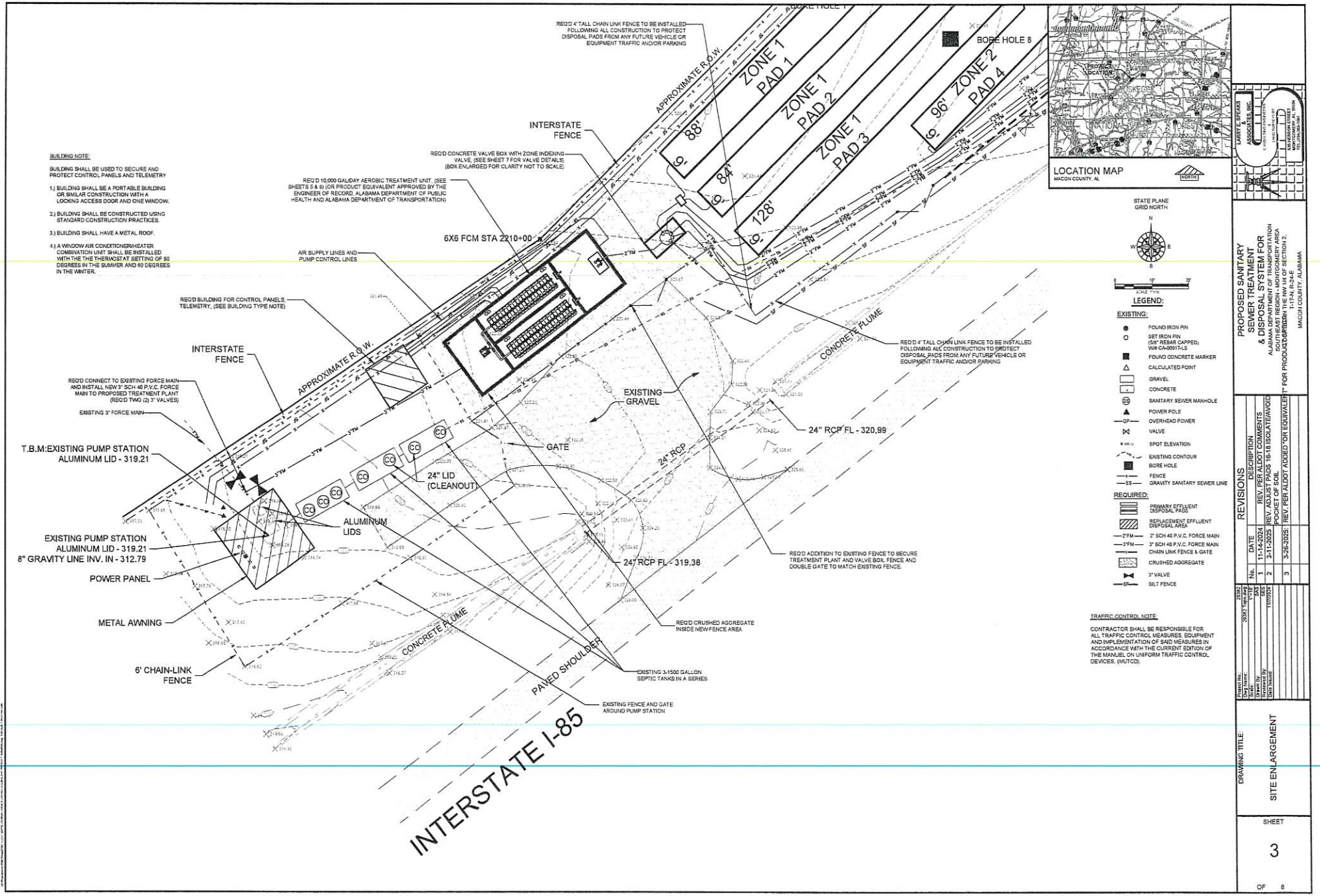
PROPOSED SANITARY SEWER TREATMENT & DISPOSAL SYSTEM FOR
ALABAMA DEPARTMENT OF TRANSPORTATION
SOUTHEAST REGION - MONTGOMERY AREA
LOCATED IN THE NW 1/4 OF SECTION 2, T-17-N, R-24-E
MACON COUNTY, ALABAMA

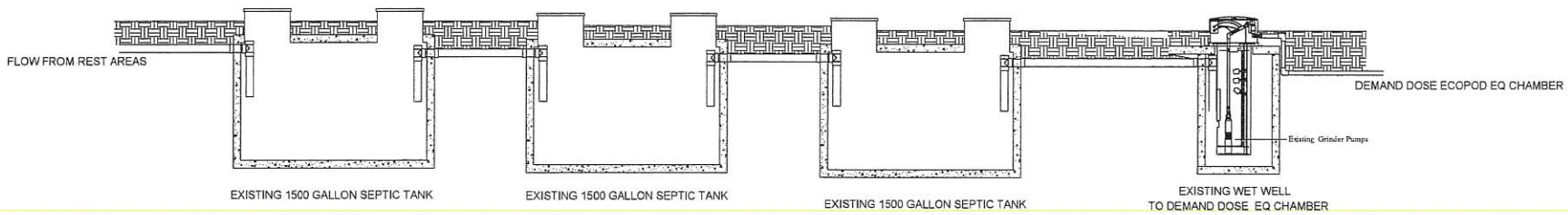
REVISIONS			
No.	DATE	DESCRIPTION	
1	11-14-2024	REV. PER ALDOT COMMENTS	
2	2-11-2025	REV. ADJUST PADS 16-18 ISOLATE/AVOID POCKET OF SOIL	
3	3-26-2025	REV. PER ALDOT ADDED "OR EQUIVALENT" FOR PRODUCT DESCRIPTION	

Project No.: 2024-3592
Drawing Folder: 3592 Treatment
Scale: 1"=30'
Drawn by: DKS
Checked by: LES
Date Issued: 11/7/2024

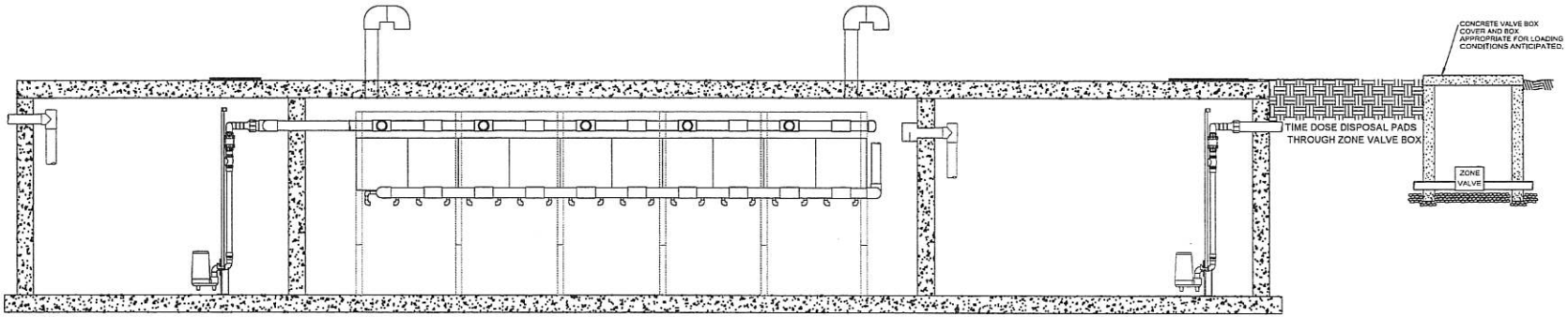
DRAWING TITLE: PLOT PLAN

SHEET 2 OF 8


BUILDING NOTE:
BUILDING SHALL BE USED TO SECURE AND PROTECT CONTROL PANELS AND TELEMETRY
1.) BUILDING SHALL BE A PORTABLE BUILDING OR SIMILAR CONSTRUCTION WITH A LOCKING ACCESS DOOR AND ONE WINDOW.
2.) BUILDING SHALL BE CONSTRUCTED USING STANDARD CONSTRUCTION PRACTICES.
3.) BUILDING SHALL HAVE A METAL ROOF.
4.) A WINDOW AIR CONDITIONER/HEATER COMBINATION UNIT SHALL BE INSTALLED WITH THE THE THERMOSTAT SETTING OF 80 DEGREES IN THE SUMMER AND 60 DEGREES IN THE WINTER.
REQ'D 4' TALL CHAIN LINK FENCE TO BE INSTALLED FOLLOWING ALL CONSTRUCTION TO PROTECT DISPOSAL PADS FROM ANY FUTURE VEHICLE OR EQUIPMENT TRAFFIC AND/OR PARKING
BORE HOLE 8
APPROXIMATE R.O.W.
ZONE 1 PAD 1
ZONE 1 PAD 2
ZONE 1 PAD 3
ZONE 2 PAD 4
88'
84'
128'
96'
INTERSTATE FENCE
REQ'D CONCRETE VALVE BOX WITH ZONE INDEXING VALVE, (SEE SHEET 7 FOR VALVE DETAILS) (BOX ENLARGED FOR CLARITY NOT TO SCALE)
REQ'D 10,000 GAL/DAY AEROBIC TREATMENT UNIT, (SEE SHEETS 5 & 6) (OR PRODUCT EQUIVALENT APPROVED BY THE ENGINEER OF RECORD, ALABAMA DEPARTMENT OF PUBLIC HEALTH AND ALABAMA DEPARTMENT OF TRANSPORTATION)
6X6 FCM STA 2210+00
AIR SUPPLY LINES AND PUMP CONTROL LINES
REQ'D BUILDING FOR CONTROL PANELS, TELEMETRY, (SEE BUILDING TYPE NOTE)
INTERSTATE FENCE
APPROXIMATE R.O.W.
REQ'D CONNECT TO EXISTING FORCE MAIN AND INSTALL NEW 3" SCH 40 P.V.C. FORCE MAIN TO PROPOSED TREATMENT PLANT (REQ'D TWO (2) 3" VALVES)
EXISTING 3" FORCE MAIN
T.B.M:EXISTING PUMP STATION ALUMINUM LID - 319.21
EXISTING PUMP STATION ALUMINUM LID - 319.21
8" GRAVITY LINE INV. IN - 312.79
POWER PANEL
METAL AWNING
6' CHAIN-LINK FENCE
ALUMINUM LIDS
24" LID (CLEANOUT)
GATE
EXISTING GRAVEL
CONCRETE FLUME
REQ'D 4' TALL CHAIN LINK FENCE TO BE INSTALLED FOLLOWING ALL CONSTRUCTION TO PROTECT DISPOSAL PADS FROM ANY FUTURE VEHICLE OR EQUIPMENT TRAFFIC AND/OR PARKING
24" RCP FL - 320.99
24" RCP
24" RCP FL - 319.38
REQ'D ADDITION TO EXISTING FENCE TO SECURE TREATMENT PLANT AND VALVE BOX, FENCE AND DOUBLE GATE TO MATCH EXISTING FENCE.
REQ'D CRUSHED AGGREGATE INSIDE NEW FENCE AREA
CONCRETE FLUME
PAVED SHOULDER
EXISTING 3-1500 GALLON SEPTIC TANKS IN A SERIES
EXISTING FENCE AND GATE AROUND PUMP STATION
INTERSTATE I-85
LOCATION MAP
MACON COUNTY, AL
PROJECT LOCATION
NORTH
STATE PLANE GRID NORTH
N
W
E
S
SCALE: 1"=10'
LEGEND:
EXISTING:
FOUND IRON PIN
SET IRON PIN (5/8" REBAR CAPPED) W/# CA-0017-LS
FOUND CONCRETE MARKER
CALCULATED POINT
GRAVEL
CONCRETE
SANITARY SEWER MANHOLE
POWER POLE
OVERHEAD POWER
VALVE
SPOT ELEVATION
EXISTING CONTOUR
BORE HOLE
FENCE
GRAVITY SANITARY SEWER LINE
REQUIRED:
PRIMARY EFFLUENT DISPOSAL PADS
REPLACEMENT EFFLUENT DISPOSAL AREA
2" FM
2" SCH 40 P.V.C. FORCE MAIN
3" FM
3" SCH 40 P.V.C. FORCE MAIN
CHAIN LINK FENCE & GATE
CRUSHED AGGREGATE
3" VALVE
SILT FENCE
TRAFFIC CONTROL NOTE:
CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TRAFFIC CONTROL MEASURES, EQUIPMENT AND IMPLEMENTATION OF SAID MEASURES IN ACCORDANCE WITH THE CURRENT EDITION OF THE MANUEL ON UNIFORM TRAFFIC CONTROL DEVICES, (MUTCD).
LARRY E. SPEAKS & ASSOCIATES, INC.
CIVIL ENGINEERS
LAND SURVEYORS
MONTGOMERY, ALABAMA
PROPOSED SANITARY SEWER TREATMENT & DISPOSAL SYSTEM FOR
ALABAMA DEPARTMENT OF CORRECTION
REGION I, MONTGOMERY AREA
LOCATED IN THE NW 1/4 OF SECTION 2, T-17-N, R-24-E
FOR PRODUCT EQUIVALENT
MACON COUNTY, ALABAMA
REVISIONS
No. | DATE | DESCRIPTION
1 | 11-14-2024 | REV. PER ALDOT COMMENTS
2 | 2-11-2025 | REV. ADJUST PADS 16-18 ISOLATE/AVOID POCKET OF SOIL
3 | 3-26-2025 | REV. PER ALDOT ADDED "OR EQUIVALENT"
Project No. 20362
Dwg Name 20362 Topo.dwg
Drawn By: SKS
Reviewed By: GES
Date Issued: 10/7/2024
DRAWING TITLE: SITE ENLARGEMENT
SHEET 3 OF 8



TANK PROFILE VIEW (N.T.S)



FLOW EQ

DUPLEX TIME DOSE EFFLUENT PUMPS

DOSING CHAMBER

DUPLEX TIME DOSE EFFLUENT PUMPS

ECOPOD TREATMENT SYSTEM (N.T.S.) (SEE SHEETS 5-6)

REQ'D 10,000 GAL/DAY AEROBIC TREATMENT UNIT (OR PRODUCT EQUIVALENT APPROVED BY THE ENGINEER OF RECORD, ALABAMA DEPARTMENT OF PUBLIC HEALTH AND ALABAMA DEPARTMENT OF TRANSPORTATION)

THIS DETAIL SHEET PROVIDED BY:
INFILTRATOR WATER TECHNOLOGIES, INC.
4 BUSINESS PARK ROAD
OLD SAYBROOK, CONNECTICUT 06475

TANK DESIGN, DETAILS, LIDS, PANELS, ETC.
ARE SPECIFIED BY INFILTRATOR WATER TECHNOLOGIES, INC.

CONTACT:
BRENDA FAZ, MSc
ENGINEERED SYSTEMS CONSULTANT
225-963-0444

LARRY E. SPEAKS ASSOCIATES, INC.
CIVIL ENGINEERS & LAND SURVEYORS
LARRY E. SPEAKS
REGISTERED
MONTGOMERY, AL. 36104
REGISTERED ENGINEER

PROPOSED SANITARY SEWER TREATMENT & DISPOSAL SYSTEM FOR
ALABAMA DEPARTMENT OF TRANSPORTATION
SOUTHEAST REGION - MONTGOMERY AREA
LOCATED IN T 17 N, R 24 E
1-17-N, R-24-E
MACON COUNTY - ALABAMA

REVISIONS

No.	DATE	DESCRIPTION
1	11-14-2024	REV. PER ALDOT COMMENTS
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3	3-26-2025	REV. PER ALDOT ADDED "OR EQUIVALENT" FOR PRODUCT SPECS.

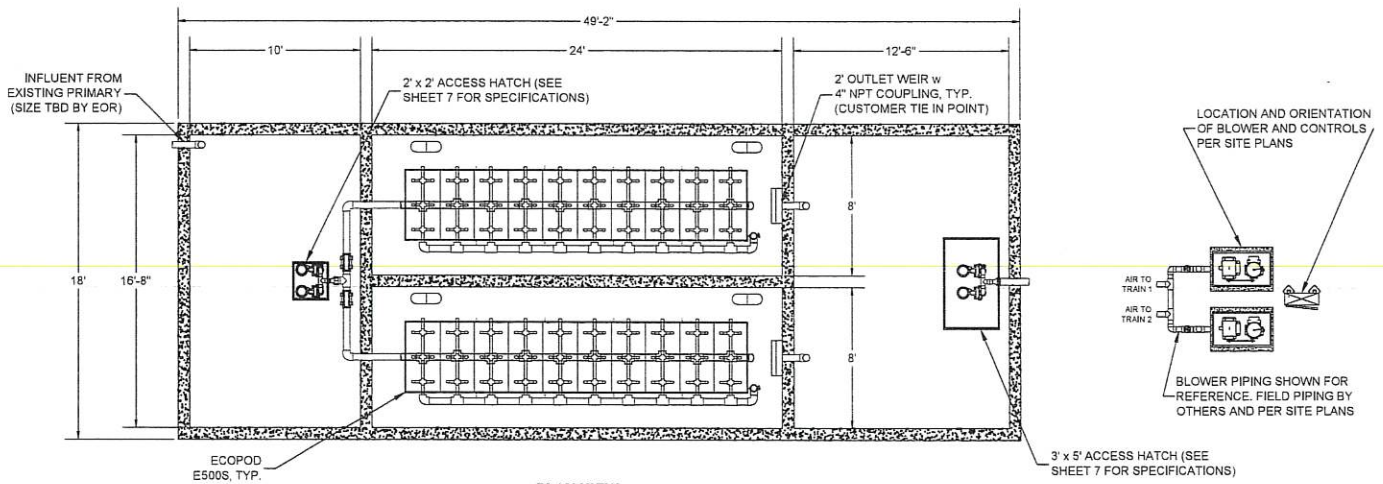
Project No.: 39362
Project Name: 39362 Tankage
Scale: N.T.S
Drawn By: DCS
Checked By: DCS
Date Issued: 11/7/2024

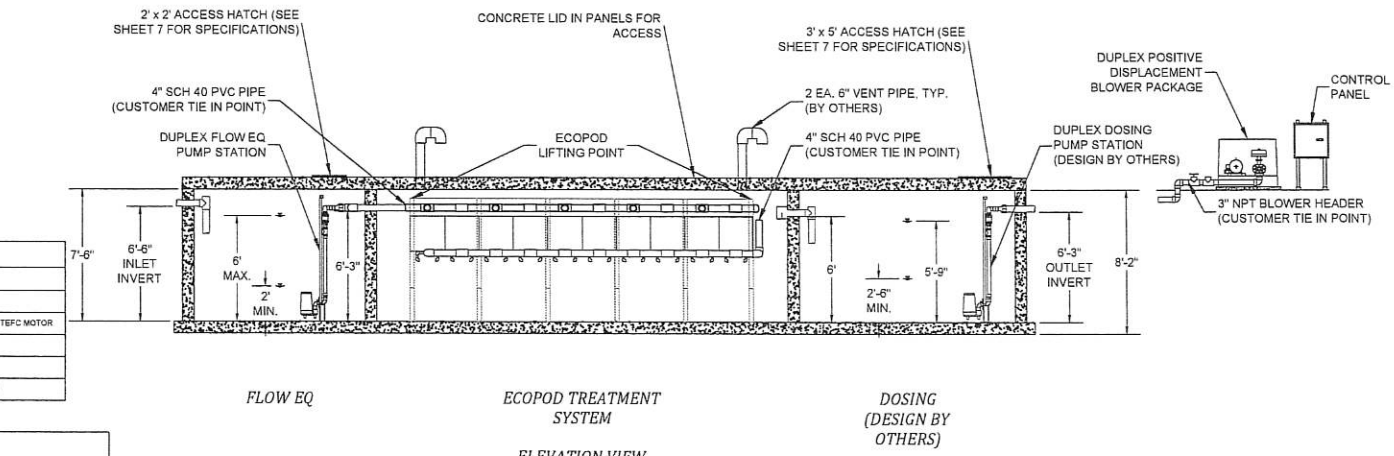
DRAWING TITLE: TANK PROFILES

SHEET 4 OF 8

GENERAL ARRANGEMENT NOTES

1. THESE DRAWINGS DEPICT PRELIMINARY LAYOUT(S) OF A WASTEWATER TREATMENT SYSTEM CAPABLE OF TREATING THE DESIGN AVERAGE INFLUENT FLOW AND LOAD TO THE EFFLUENT WATER QUALITY DENOTED IN THE WASTELOAD SUMMARY.
2. THE EQUIPMENT ARRANGEMENT/LAYOUT IS SCHEMATIC IN NATURE AND SOME OBJECTS MAY NOT BE DRAWN TO SCALE. REFER TO THE ENGINEER-OF-RECORD PROJECT DOCUMENTS FOR FINAL SITE AND/OR EQUIPMENT ARRANGEMENT.
3. ALL REACTORS SHALL BE CONSTRUCTED OF CAST-IN-PLACE CONCRETE PER ENGINEER-OF-RECORD REQUIREMENTS.
4. BLOWERS, WEIRS, CONTROL PANELS, AND VARIOUS SMALL PARTS SHALL BE SHIPPED UNASSEMBLED AND SECURELY PACKAGED, TO BE INSTALLED BY CONTRACTOR. REFER TO MANUFACTURER'S INSTALLATION INSTRUCTIONS FOR ADDITIONAL DETAIL.
5. CONTRACTOR TO PROVIDE AND INSTALL ALL FIELD PIPING AND SECURE ALL EQUIPMENT CONNECTIONS AS SHOWN IN THE ENGINEER OF RECORD'S PROJECT DOCUMENTS.
6. REACTORS AND INTERNAL DEVICES SHALL BE INSTALLED PLUMB AND LEVEL.
7. ECOPOD REACTORS SHALL BE PROVIDED WITH A 3" DIFFERENCE BETWEEN INLET INVERT AND OUTLET INVERT.
8. SEE THE PROJECT SPECIFIC QUOTE FOR MORE INFORMATION REGARDING SCOPE OF SUPPLY AND CORRESPONDING TERMS AND CONDITIONS.





EQUIPMENT LIST			
DESCRIPTION	QTY	MAKE	MODEL
FLOW EQ PUMP	2	BARNES	SE-L, 0.5 HP
MAIN AIR BLOWER	2	GARDNER DENVER	4L w/ 5 HP GENERAL DUTY, TEFC MOTOR
CONTROL PANEL	1	IWT	CUSTOM
ECOPOD	2	IWT	E500S
OUTLET WEIR	2	IWT	TROUGH-2.0

FIELD PIPING SCHEDULE			
SERVICE	SIZE (in)	ALLOWABLE MATERIALS	NOTES
WATER/SEWER	UP TO 2 ½"	SCH40/80 PVC	SOLVENT WELD
WATER/SEWER	3" AND LARGER	ASTM 1785 SCH40/80 PVC	SOLVENT WELD ABOVE GRADE
		ASTM D3034 SDR26/35 PVC	GASKETED BELOW GRADE
AIR	UP TO 2 ½"	SCH40 A54 GALVANIZED STEEL	THRD. AND SEALED WITH ANAEROBIC THREAD SEALER
		SCH10 A304 STAINLESS STEEL	PVC ALLOWED BELOW WSEL
AIR	3" AND LARGER	PRESSURE CLASS 350 DUCTILE IRON	UNLINED DIP WITH HIGH TEMP. GASKET MAT'L
		SCH40 A54 GALVANIZED STEEL	THRD. AND SEALED WITH ANAEROBIC THREAD SEALER
		SCH10 A304 STAINLESS STEEL	PVC ALLOWED BELOW WSEL
CHEM FEED	ANY	RIGID AND FLEXIBLE PVC	SHALL BE NSF 61 APPROVED
		HDPE	
GRAVITY SITE PIPING SHALL BE INSTALLED AT A MINIMUM SLOPE OF 1% UNLESS OTHERWISE ALLOWED BY LOCAL REGULATIONS. AIR PIPING PENETRATIONS SHALL BE ABOVE WSEL AND THROUGH TANK WALL U.N.O. AIR SUPPLY CONNECTION TO AIR HEADER SHALL BE MADE BELOW WSEL.			

REQ'D 10,000 GAL/DAY AEROBIC TREATMENT UNIT (OR PRODUCT EQUIVALENT APPROVED BY THE ENGINEER OF RECORD, ALABAMA DEPARTMENT OF PUBLIC HEALTH AND ALABAMA DEPARTMENT OF TRANSPORTATION)

THIS DETAIL SHEET PROVIDED BY:
INFILTRATOR WATER TECHNOLOGIES, INC.
4 BUSINESS PARK ROAD
OLD SAYBROOK, CONNECTICUT 06475

TANK DESIGN, DETAILS, LIDS, PANELS, ETC. ARE SPECIFIED BY INFILTRATOR WATER TECHNOLOGIES, INC.

CONTACT:
BRENDA FAZ, MSc
ENGINEERED SYSTEMS CONSULTANT
225-953-0444

LARRY E. SPEARS & ASSOCIATES, INC.
CONSULTING ENGINEERS
LAND SURVEYORS
135 SHERMAN STREET
HUNTSVILLE, ALABAMA 35804
TELEPHONE (256) 539-1991

PROPOSED SANITARY SEWER TREATMENT & DISPOSAL SYSTEM FOR
ALABAMA DEPARTMENT OF TRANSPORTATION
SOUTHEAST REGION ROAD EQUIPMENT AREA
LOCATED BETWEEN HWY 72 AND HWY 431
T-1-7-N, R-24-E
MACON COUNTY, ALABAMA

REVISIONS

No.	DATE	DESCRIPTION
1	11-14-2024	REV. PER ALDOT COMMENTS
2	2-11-2025	REV. ADDED TRAILS 16-18 ISOLATE/AVOID
3	3-26-2025	REV. PER ALDOT ADDED "OR EQUIVALENT" FOR PRODUCT SPECS.

Project No: 20323
Dwg Name: 20323 TREATMENT PLANT
Scale: N.T.S.
Drawn By: MES
Reviewed By: MES
Date Issued: 11/7/2024

DRAWING TITLE: TREATMENT PLANT

SHEET 5 OF 8

PROCESS DIAGRAM NOTES

1. THE DRAWINGS DEPICTED HEREIN REPRESENT PRELIMINARY LAYOUT(S) OF A WASTEWATER TREATMENT SYSTEM CAPABLE OF TREATING THE DESIGN INFLUENT FLOW AND LOAD TO THE EFFLUENT WATER QUALITY DENOTED IN THE EFFLUENT WASTELOAD SUMMARY.
2. THE PROCESS SCHEMATIC SHOWS THE GENERAL FLOW LAYOUT. SPECIFIC REACTOR COMPONENTS, SIZES, AND CONFIGURATIONS MAY DIFFER.
3. PRELIMINARY BASIN SIZING IS PROVIDED FOR INFORMATIONAL PURPOSES ONLY. FINAL DESIGN VALUES SHALL BE ESTABLISHED BY THE ENGINEER OF RECORD.
4. SEE THE PROJECT SPECIFIC QUOTE FOR MORE INFORMATION REGARDING SCOPE OF SUPPLY AND CORRESPONDING TERMS AND CONDITIONS.
5. ENTIRE SYSTEM TO BE PROVIDED WITH CONTROL PANEL(S) FOR ALL EQUIPMENT.

- DIAPHRAGM VALVE
- GLOBE/NEEDLE VALVE
- BALL VALVE
- CHARACTERIZED BALL VALVE
- BALL CHECK VALVE
- PLUG VALVE
- BUTTERFLY VALVE
- GATE VALVE
- 3-WAY VALVE
- CHECK VALVE
- (B) BLOWER
- (P) MECHANICAL PUMP
- (AL) AIR LIFT PUMP
- (M) MIXER
- (M) FLOW METER
- (C) CHEMICAL DOSING PUMP
- (F) FILTER
- (UV) ULTRAVIOLET DISINFECTION UNIT
- BAR SCREEN
- MECHANICAL BAR SCREEN
- (XX) TABLET FEEDER
- DISC FILTER

WASTELOAD SUMMARY

INFLUENT WASTELOAD AS PROVIDED BY ENGINEER OF RECORD
300 mg/L (25 LB/D) BOD_5
300 mg/L (25 LB/D) TSS
7.0-8.0 pH (ASSUMED)
68 F (20 C) WATER TEMPERATURE (ASSUMED)

EFFLUENT TARGETS
30 mg/L BOD_5 30-D AVERAGE
30 mg/L TSS 30-D AVERAGE

ORGANIC LOADING
0.0012 LB $BOD_5/D/FT^3$ (6.7 g $BOD_5/D/M^3$) TO BOD REACTOR
0.047 LB $BOD_5/D/FT^3$ (230 g $BOD_5/D/M^3$) TO BOD REACTOR

AERATION SYSTEM DESIGN
AOR: 30 LB O_2/D
SOTR: 49 LB O_2/D
ECOPOD AIR DEMAND: 218 SCFM
SITE ELEVATION: 900 FT AMSL (ASSUMED)
MAXIMUM AIR TEMPERATURE: 115 F (ASSUMED)
MINIMUM PROCESS AIR INLET FLOW: 245 ICFM
MINIMUM SCOUR AIR INLET FLOW: 269 ICFM
BLOWER AIRFLOW: 1 DUTY/1 STANDBY, 269 ICFM @ 1.9 PSIG
SELECTED BLOWER: GARDNER DENVER MODEL 4L @ 1,830 RPM
SELECTED MOTOR: 5 HP

TANK SIZES

TANK	QTY	WIDTH (FT)	LENGTH (FT)	HEIGHT (FT)	SWD (FT)	VOLUME (GAL)
FLOW EQ	1	16.67	10	7.5	2 MIN. 6 MAX.	7,500 TOTAL 5,000 OPERATIONAL
ECOPOD TREATMENT SYSTEM	2	8	24	7.5	6	8,600 EA / 17,200 TOTAL
DOSING (DESIGN BY OTHERS)	1	16.67	12.5	7.5	2.5 MIN. 5.75 MAX.	9,000 TOTAL 5,100 OPERATIONAL
TOTAL EXTERIOR CIP	-	18	49.17	8.17	-	-

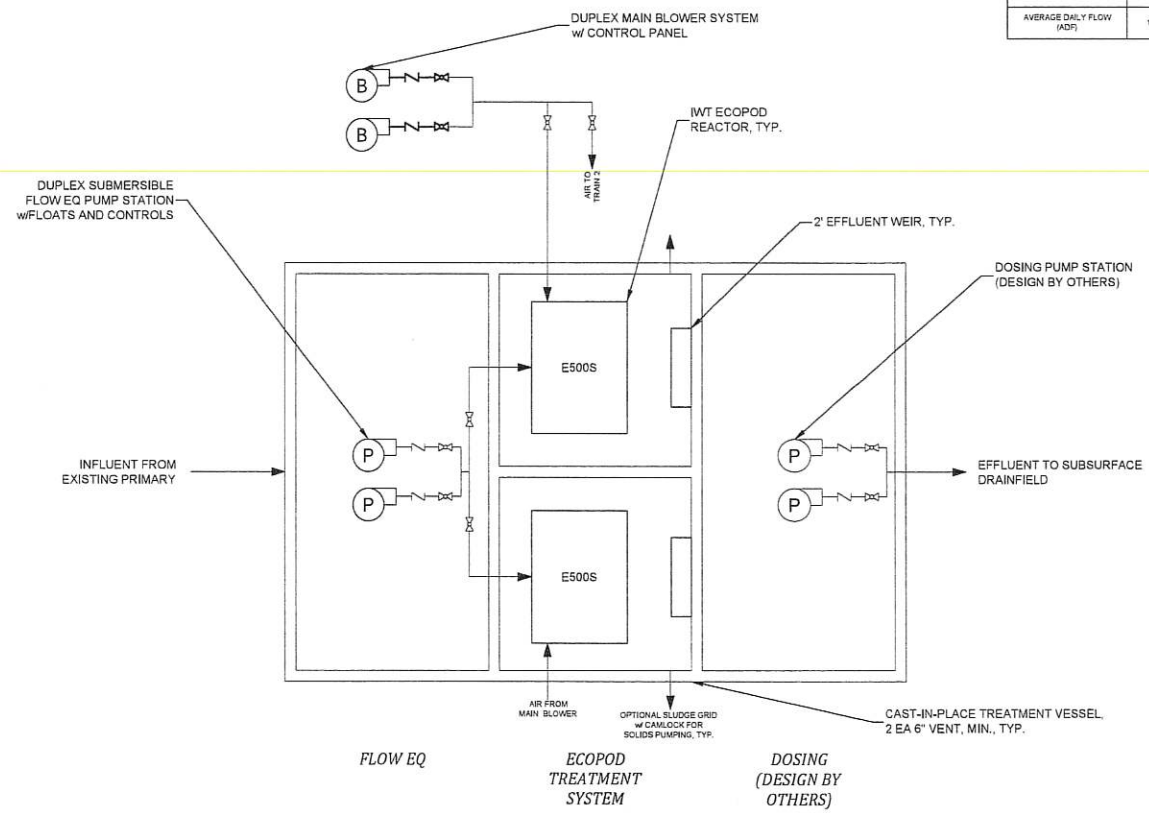
ALL DIMENSIONS ARE INSIDE OF TANK UNLESS NOTED OTHERWISE.
EXTERIOR DIMENSIONS ARE BASED ON 8" THICK CAST-IN-PLACE CONCRETE WALLS. ACTUAL THICKNESS AND REINFORCING REQUIREMENTS SHALL BE PER STRUCTURAL ENGINEER OF RECORD REQUIREMENTS.

MOTOR LOADS

DEVICE	QTY	CONCURRENTLY OPERATING	POWER (HP)	VOLTAGE (V)	FULL LOAD CURRENT (A)
FLOW EQ PUMP	2	1	0.5	460V - 3PH	1.5
MAIN AIR BLOWER	2	1	5	460V - 3PH	6.5
DOSING PUMP (DESIGN BY OTHERS)	TBD	TBD	TBD	TBD	TBD

FLOW SUMMARY

FLOW PARAMETER	GPD	GPM	M^3/D
AVERAGE DAILY FLOW (ADF)	10,000	6.9	38



PROVIDED BY IWT
PROVIDED BY OTHERS
PROVISIONAL

REQ'D 10,000 GAL/DAY AEROBIC TREATMENT UNIT (OR PRODUCT EQUIVALENT APPROVED BY THE ENGINEER OF RECORD, ALABAMA DEPARTMENT OF PUBLIC HEALTH AND ALABAMA DEPARTMENT OF TRANSPORTATION)

THIS DETAIL SHEET PROVIDED BY:
INFILTRATOR WATER TECHNOLOGIES, INC.
4 BUSINESS PARK ROAD
OLD SAYBROOK, CONNECTICUT 06475

CONTACT:
BRENDA FAZ, MSc
ENGINEERED SYSTEMS CONSULTANT
225-953-0444

LARRY E. SPEAKS ASSOCIATES, INC.
CONSULTING ENGINEERS
Registered Engineer
MONTGOMERY, AL. 36104

PROPOSED SANITARY SEWER TREATMENT & DISPOSAL SYSTEM FOR
ALABAMA DEPARTMENT OF TRANSPORTATION
SOUTHEAST REGION - MONTGOMERY AREA
LOCATED IN THE NW 1/4 OF SECTION 2,
T-17-N, R-12-E
MACON COUNTY, ALABAMA

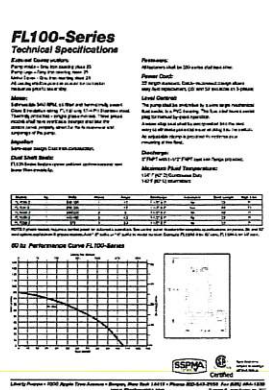
REVISIONS

No.	DATE	DESCRIPTION
1	11-14-2024	REV. PER ALDOT COMMENTS
2	2-11-2025	REV. ADJUST PADS 16-18 ISOLATE/AVOID POCKET OF SOIL
3	3-26-2025	REV. PER ALDOT ADDED 'OR EQUIVALENT' FOR PRODUCT SPECS.

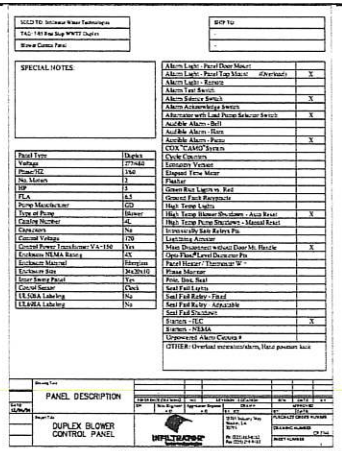
Project No.: 20192
Drawing No.: 20242 1 20242 A1
Scale: N.T.S.
Drawn By: BFS
Date Issued: 10/7/2024

DRAWING TITLE: TREATMENT PLANT

SHEET 6 OF 8



DUPLEX PUMP FOR THE PRIMARY EQUALIZATION TANK & THE PUMP VAULT TANK IN THE AEROBIC UNIT(OR PRODUCT EQUIVALENT APPROVED BY THE ENGINEER OF RECORD, ALABAMA DEPARTMENT OF PUBLIC HEALTH AND ALABAMA DEPARTMENT OF TRANSPORTATION)



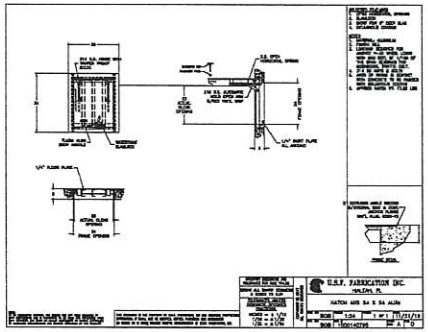
CONTROL PANEL DETAIL SHEETS PROVIDED BY:
COX RESEARCH AND TECHNOLOGY, INC.
14697 S HARRELLS FERRY ROAD
BATON ROUGE, LOUISIANA 70816

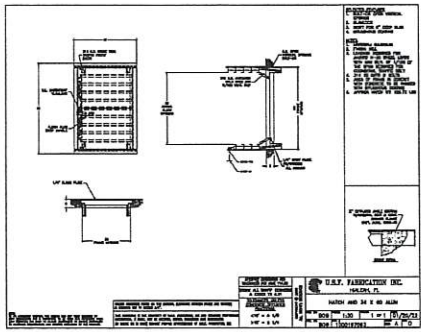
CONTACT:
AUSTIN DEVILLIER
PROJECT MANAGER
800-910-9109

(OR PRODUCT EQUIVALENT APPROVED BY THE ENGINEER OF RECORD, ALABAMA DEPARTMENT OF PUBLIC HEALTH AND ALABAMA DEPARTMENT OF TRANSPORTATION)
(ADDITIONAL CONTROL PANEL SPECIFICATIONS ATTACHED TO APPLICATION PACKAGE)

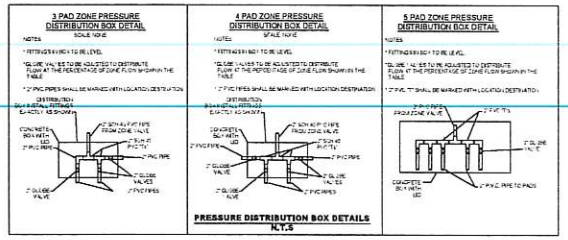
5 ZONE INDEXING VALVE
(OR PRODUCT EQUIVALENT APPROVED BY THE ENGINEER OF RECORD, ALABAMA DEPARTMENT OF PUBLIC HEALTH AND ALABAMA DEPARTMENT OF TRANSPORTATION)

REMOTE MONITORING ALARM UNIT TO MONITOR EXISTING WET WELL DUPLEX PUMPS, PROPOSED DUPLEX EQ PUMPS, DUPLEX DOSE PUMPS AND REACTOR BLOWERS (OR PRODUCT EQUIVALENT APPROVED BY THE ENGINEER OF RECORD, ALABAMA DEPARTMENT OF PUBLIC HEALTH AND ALABAMA DEPARTMENT OF TRANSPORTATION)





ACCESS HATCH SPECIFICATIONS FOR
AEROBIC TREATMENT PLANT, (OR PRODUCT EQUIVALENT APPROVED BY THE ENGINEER OF RECORD, ALABAMA DEPARTMENT OF PUBLIC HEALTH AND ALABAMA DEPARTMENT OF TRANSPORTATION)
ALL HATCHES SHALL HAVE A HS-20 LOAD RATING



DISPOSAL PAD ZONE DISTRIBUTION BOX VALVE SETTINGS:

ZONE 1 - 3 PAD PRESSURE DISTRIBUTION BOX:

PAD 1: 792 SQ FT = 30% VALVE SETTING
PAD 2: 756 SQ FT = 28% VALVE SETTING
PAD 3: 1152 SQ FT = 42% VALVE SETTING

ZONE 2 - 4 PAD PRESSURE DISTRIBUTION BOX:

PAD 4: 864 SQ FT = 31% VALVE SETTING
PAD 5: 576 SQ FT = 22% VALVE SETTING
PAD 6: 630 SQ FT = 23% VALVE SETTING
PAD 7: 684 SQ FT = 25% VALVE SETTING

ZONE 3 - 3 PAD PRESSURE DISTRIBUTION BOX:

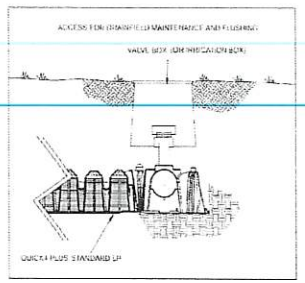
PAD 8: 720 SQ FT = 32% VALVE SETTING
PAD 9: 720 SQ FT = 32% VALVE SETTING
PAD 10: 792 SQ FT = 34% VALVE SETTING

ZONE 4 - 3 PAD PRESSURE DISTRIBUTION BOX:

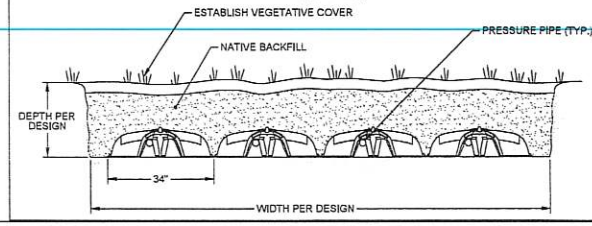
PAD 11: 828 SQ FT = 33% VALVE SETTING
PAD 12: 825 SQ FT = 33% VALVE SETTING
PAD 13: 828 SQ FT = 34% VALVE SETTING

ZONE 5 - 5 PAD PRESSURE DISTRIBUTION BOX:

PAD 14: 528 SQ FT = 20% VALVE SETTING
PAD 15: 576 SQ FT = 21% VALVE SETTING
PAD 16: 576 SQ FT = 21% VALVE SETTING
PAD 17: 528 SQ FT = 20% VALVE SETTING
PAD 18: 480 SQ FT = 18% VALVE SETTING



INFILTRATOR WATER TECHNOLOGIES
QUICK4 PLUS STANDARD LOW PROFILE CHAMBER
TYPICAL BED DETAIL
SECTION VIEW
(NOT TO SCALE)



PROPOSED SANITARY SEWER TREATMENT & DISPOSAL SYSTEM FOR
ALABAMA DEPARTMENT OF TRANSPORTATION
SOUTHEAST REGION - MONTGOMERY AREA
LOCATED IN THE NW 1/4 OF SECTION 2, T-17-N, R-24-E
MACON COUNTY, ALABAMA

LARRY E. SPEAKS ASSOCIATES, INC.
CIVIL ENGINEERS
LAND SURVEYORS
3301 ATLANTIC BLVD.
MONTGOMERY, AL 36116
MONTGOMERY, ALABAMA

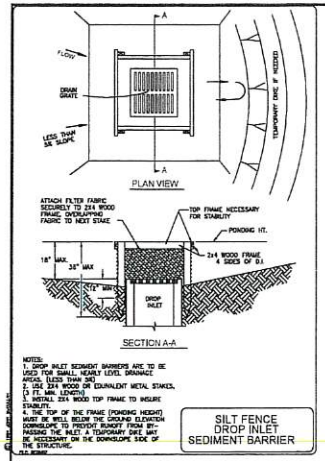
REVISIONS

No.	DATE	DESCRIPTION
1	11-14-2024	REV. PER ALDOT COMMENTS
2	2-11-2025	REV. ADJUST PADS 16-18 ISOLATE/AVOID POCKET OF SOIL
3	3-26-2025	REV. PER ALDOT ADDED "OR EQUIVALENT" FOR PRODUCT SPECS.

Project No.: 20343
Design Name: N.T.S.
Date: 10/7/2024
Drawn By: BT
Reviewed By: BE Stamp

DRAWING TITLE: DETAILS

SHEET 7 OF 8



SILT FENCE DROP INLET SEDIMENT BARRIER

DROP INLET SEDIMENT BARRIERS

Construction Specifications

Straw Bale Barrier

Excavate a 4-inch deep trench around the inlet and make the trench as wide as a straw bale in order to embed the bales properly.
Orient the straw bales with the bindings around the sides of the bales so the wire does not come in contact with the soil.

Place bales lengthwise around the inlet and press the ends of adjacent bales together. The bales may be loosely joined if more gravel is utilized.

Drive two 2-by 2-inch stakes through each bale to anchor the bale securely in place.

Utilize 3/4 inch to 2 inch gravel to fill the void spaces between the bales if necessary to dewater the ponded area more rapidly.

Silt Fence Sediment Barrier

Support posts for a silt fence must be steel fence posts or 2 by 4-inch wood, length 3' minimum, spacing 3' maximum, with a top frame support recommended.
Excavate a trench 4 inches wide and 8 inches deep and bury the bottom of the silt fence in the trench.

Backfill the trench with gravel or soil. Compact backfill well.

The height of the silt fence shall be a maximum of 1.5' measured from the top of the inlet.

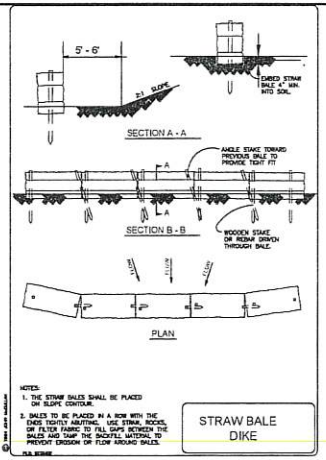
Inspection and Maintenance

Inspect the barrier after each rain and promptly make repairs as needed.

Sediment shall be removed after each significant storm (3/4" in 24 hours) to provide adequate storage volume for the next rain.

The removed sediment shall be deposited in an area that will not contribute sediment off-site and can be permanently stabilized.

For gravel filters: if the gravel becomes clogged with sediment it must be carefully removed from the inlet and either cleaned or replaced.



STRAW BALE DIKE

NOTES:
1. THE STRAW BALES SHALL BE PLACED ON SLOPE CONTOUR.
2. BALES TO BE PLACED IN A ROW WITH THE ENDS TIGHTLY ABUTTING. USE STRAW, ROCKS, OR FILTER FABRIC TO FILL GAPS BETWEEN THE BALES AND TAMP THE BACKFILL MATERIAL TO PREVENT EROSION OR FLOW AROUND BALES.

STRAW BALE DIKE

Construction Specifications:

The bales shall be placed on the slope contour at the base of the slope or around the perimeter of the construction site. If the dike is constructed at the toe of a slope, place at least 10 ft. away from the slope if possible.

Do not construct the dike more than one bale high.

Bales shall be placed in a row with the ends tightly abutting.

Each bale shall be embedded in the soil a minimum of 4 inches. Use straw, rocks, or filter fabric to fill any gaps between the bales and tamp the backfill material to prevent erosion under or around the bales.

If the bales are wire bound, they should be oriented so the bindings are around the sides rather than along the top and bottom. Wire bindings that are placed in contact with the soil soon disintegrate and may allow the bale to fall apart.

The bales shall be securely anchored in place by two wooden stakes or rebar driven through the bales. The first stake in each bale shall be driven toward the previously laid bale to force the bales tightly together. Drive the stakes at least 18 inches into the ground.

The slope length should be less than 75 feet.

The bales are to be used on a relatively flat construction area and the straw bale dike is to be inspected regularly.

The straw bales do not need to be anchored if all of the following conditions apply:

The trapped sediment is removed when required, and repairs are made promptly;
and
If the bales are to be removed and replaced daily to facilitate construction.

Inspection and Maintenance:

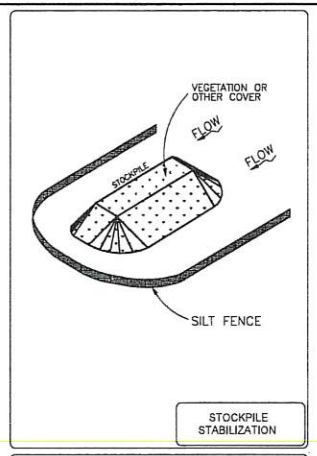
The straw bale dikes shall be inspected weekly and after each significant storm (3/4" in 24 hr).

Repairs and/or replacement shall be made promptly.

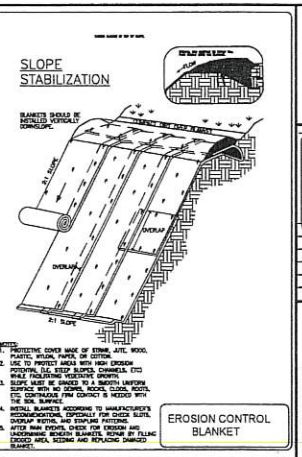
Remove the straw bales when the upslope areas have been permanently stabilized.

Remove sediment behind barrier when it reaches a depth 1/2 the height of the bale.

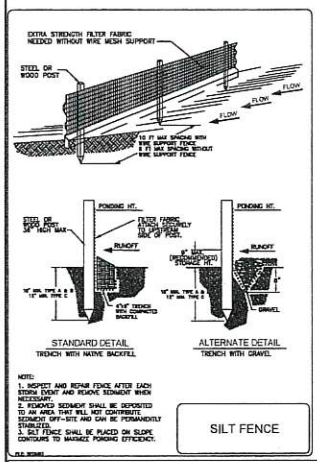
Sediment shall be removed and deposited in an area that will not contribute to sediment off-site.



STOCKPILE STABILIZATION



EROSION CONTROL BLANKET



SILT FENCE

NOTE:
1. INSPECT AND REPAIR FENCE AFTER EACH STORM EVENT AND REMOVE SEDIMENT WHEN NECESSARY.
2. REMOVED SEDIMENT SHALL BE DEPOSITED TO AN AREA THAT WILL NOT CONTRIBUTE SEDIMENT OFF-SITE AND CAN BE PERMANENTLY STABILIZED.
3. SILT FENCE SHALL BE PLACED ON SLOPE CONTOURS TO MANAGE PONDING EFFICIENCY.

SILT FENCE

Construction Specifications:

The height of a silt fence shall not exceed 36 inches. Storage height shall never exceed 18".

The fence line shall follow the contour as closely as possible.

If possible, the filter fabric shall be cut from a continuous roll to avoid the use of joints. When joints are necessary, filter cloth shall be spliced only at a support post, with a minimum 6-inch overlap and both ends securely fastened to the post.

Posts shall be spaced a maximum of 10 feet apart and driven securely into the ground (minimum of 16 inches). When extra strength fabric is used without the wire support fence, post spacing shall not exceed 6 feet.

Turn the ends of the fence uphill.

A trench shall be excavated approximately 4 inches wide and 8 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 1/2 inch long, tie wires or hog rings. The wire shall extend into the trench a minimum of 8 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 extend 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.

The trench shall be backfilled and the soil compacted over the toe of the filter fabric.

Silt fences placed at the toe of a slope shall be set at least 8 feet from the toe in order to increase ponding volume.

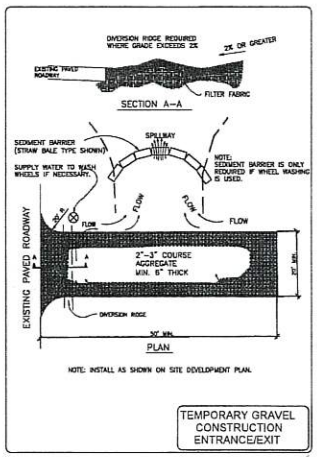
Silt fences shall be removed when they have served their useful purpose, but not before the upslope area has been permanently stabilized, and any sediment stored behind the silt fence has been removed.

Inspection and Maintenance:

Silt fences and filter barriers shall be inspected weekly and after each significant storm (3/4" in 24 hr.). Any required repairs shall be made immediately.

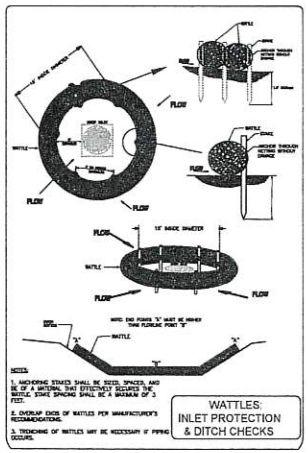
Sediment shall be removed when it reaches 1/2 the height of the fence or 8 inches maximum.

The removed sediment shall be regraded or otherwise stabilized.



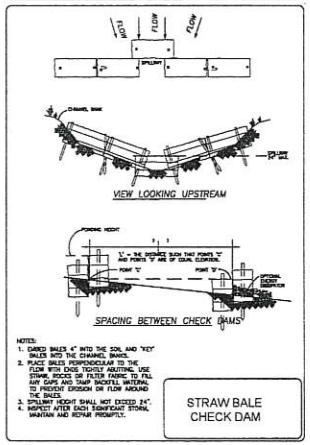
NOTE: INSTALL AS SHOWN ON SITE DEVELOPMENT PLAN.

TEMPORARY GRAVEL CONSTRUCTION ENTRANCE/EXIT



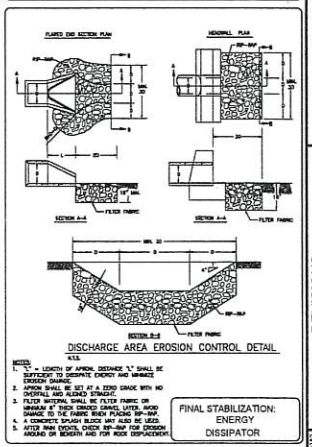
NOTES:
1. ANCHORING STAKES SHALL BE SIZED, SPACED, AND BE OF A MATERIAL THAT EFFECTIVELY SECURES THE BATTLE. STAKE SPACING SHALL BE A MAXIMUM OF 3 FEET.
2. OVERLAP ENDS OF WATTLES PER MANUFACTURER'S RECOMMENDATIONS.
3. TRENCHING OF WATTLES MAY BE NECESSARY IF PIPING OCCURS.

WATTLES: INLET PROTECTION & DITCH CHECKS



NOTES:
1. EMBED BALES 4" INTO THE SOIL AND "KEY" BALES INTO THE CHANNEL BANKS.
2. PLACE BALES PERPENDICULAR TO THE FLOW WITH ENDS TIGHTLY ABUTTING. USE STRAW, ROCKS OR FILTER FABRIC TO FILL ANY GAPS AND TAMP BACKFILL MATERIAL TO PREVENT EROSION OR FLOW AROUND THE BALES.
3. SPILLWAY HEIGHT SHALL NOT EXCEED 24".
4. INSPECT AFTER EACH SIGNIFICANT STORM, MAINTAIN AND REPAIR PROMPTLY.

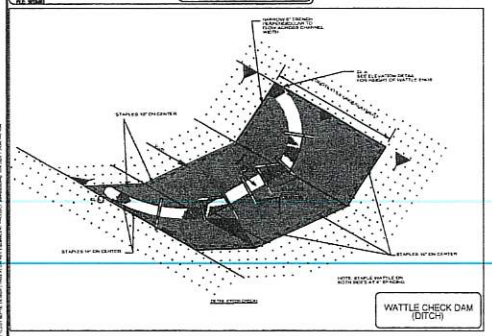
STRAW BALE CHECK DAM



DISCHARGE AREA EROSION CONTROL DETAIL

NOTES:
1. "L" = LENGTH OF APRON. DISTANCE "L" SHALL BE SUFFICIENT TO DISSIPATE ENERGY AND MINIMIZE EROSION DOWNSTREAM.
2. APRON SHALL BE SET AT A ZERO GRADE WITH NO OVERFALL AND ALIGNED STRAIGHT.
3. FILTER MATERIAL SHALL BE FILTER FABRIC OR GRANULAR FILTER MEETING THE CRITERIA LISTED IN TABLE 6.30.1.C(1) OF THE ESM-MAP.
4. CONCRETE SPLASH BLOCK MAY ALSO BE USED.
5. AFTER RAIN EVENTS, CHECK RIP-RAP FOR EROSION AROUND OR BENEATH AND FOR ROCK DISPLACEMENT.

FINAL STABILIZATION: ENERGY DISSIPATOR



WATTLE CHECK DAM (DITCH)

NOTES:
1. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEAN OUT OF ANY MEASURES USED TO TRAP SEDIMENT.
2. WHEN NECESSARY, WHEELS SHALL BE CLEANED PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY.
3. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN.

GENERAL NOTES

1. The Contractor shall be responsible for planning, coordinating and performing the work of protecting the project and the adjoining properties from soil erosion and siltation by constructing berms, silt fences, diversion ditches, settling basins, etc., as they become necessary to correct or prevent such problems (No direct payment unless noted otherwise)

2. Erosion of this site shall be controlled as follows:
   1. Selective disturbance of the site will minimize possible erosion.
   2. Diversion ditches & berms shall be placed around the site as needed to divert water away from the area of actual construction.
   3. Techniques such as the use of haybales, silt fence, check dams, gravel filter berms, terraces, etc.
   4. A settling basin may serve as a final method of preventing eroded material from leaving the site if necessary.

3. Should the Contractor fail to implement the necessary measures to control siltation /erosion on the site all construction activities shall be stopped until the appropriate measures are taken as directed by the Engineer or Local Authorities.

4. To maintain erosion control measures the Contractor shall
   1. Inspect all control measures at least once each week and following any storm event of 0.5 inches or more.
   2. Repair any defects noted within 24 hours of report.
   3. Sediment buildup shall be closely monitored at silt fences, sediment basins, etc. and removed accordingly.
   4. Diversion dikes and swales shall be inspected and repaired as necessary.
   5. Temporary and permanent seeding and planting areas will be inspected for bare spots, washouts & healthy growth.

LARRY E. SPEAKS ASSOCIATES, INC.
CIVIL ENGINEERS
LAND SURVEYORS
MONTGOMERY, ALABAMA
TELEPHONE (334) 265-1000

PROPOSED SANITARY SEWER TREATMENT & DISPOSAL SYSTEM FOR
ALABAMA DEPARTMENT OF TRANSPORTATION
SOUTHEAST REGION - MONTGOMERY AREA
LOCATED IN THE NW 1/4 OF SECTION 2,
T-17-N, R-24-E
MACON COUNTY, ALABAMA

REVISIONS

No.	DATE	DESCRIPTION

Project No.	2033
Drawing No.	2533-17-N-24-E
Scale	N.T.S.
Drawn By	BLK
Checked By	BLK
Date Issued	11/7/2024

DRAWING TITLE: EROSION CONTROL

SHEET 8 OF 8

ALABAMA DEPARTMENT OF PUBLIC HEALTH

PERMIT TO INSTALL(REPAIR) AN ONSITE SEWAGE DISPOSAL SYSTEM

Macon County Health Department
Phone (334) 727-1800

Permit Number
92

FLOW TYPE: Large **SYSTEM TYPE:** Engineered **INSTALLATION TYPE:** New **PERMITTEE PHONE:** 332-261-3234

PERMITTEE NAME: RANDALL HARRELL ALDOT SE REGION **ADDRESS:** I-85 SD Mile marker 44, Notasulga, Alabama, 36866

DEVELOPMENT NAME: I-85 Rest Areas Macon County

INSTALLATION CRITERIA

Disposal Type:	Pad - 108 Inch Width @ 8 Inch Depth Below natural ground		
Distribution:	Distribution Box	***Treatment:***	Engineer Specified
Square Feet:		***Disposal Product:***	Engineer Specified
Linear Feet:	1354	***Tank Capacity:***	14500

Approved Condition: Notify engineer prior to installation. Requires Joint HD and PE Approval. See attached engineer's construction plans and engineer design specifications details for system.

Other Requirements:

Comment:

Follow engineer's specific design for each pad within each zone. FOLLOW THE ENGINEER'S PLOT PLAN AND SPECIFIC DESIGN. INSTALL THE TIME DOSING PANEL PER THE ENGINEER'S INSTRUCTIONS FOR ALL LPP SYSTEMS. Install during dry conditions. Landscape for adequate drainage.

ISSUE DATE: 02-12-2025
EXPIRATION DATE: 02-12-2030

Ashley Thomas
Public Health Environmentalist Signature

Any person who installs, repairs, manages, and/or certifies an Onsite Sewage Disposal System (OSS) shall be licensed by the Alabama Onsite Wastewater Board (AOWB) or be exempt from such licensure pursuant to § 34-21A-1 et seq., Code of Alabama 1975. Call the local county health department (LHD) PRIOR to beginning the installation at (334) 727-1800.

Except as allowed in Rule 420-3-1 Onsite Treatment and Disposal, no part of any installation shall be covered or used until the LHD is afforded an opportunity to inspect and any necessary changes are made. Any part of the installation which has been covered prior to inspection or authorization by the LHD shall be uncovered, if necessary, upon direction by the LHD.

No changes shall be made to the design of the system without prior written approval from the professional engineer. This Permit to Install (Repair) is null and void if: (a) conditions are changed from those shown on the application or the approved plot/ construction plan; and/or (b) conditions of this permit are not followed.

Issuance of the Permit to Install (Repair) an Onsite Sewage Disposal System, and subsequent approval (if any) of same by representatives of the Alabama Department of Public Health or county health departments, shall not be construed as a guarantee that such systems will function satisfactorily for any given period of time; furthermore, the health department does not assume any liability for damages which are caused, or may be caused, by the malfunction of such a system.

STRUCTURAL NOTES

GENERAL

ALL DESIGN, CONSTRUCTION, AND INSPECTION SHALL BE IN CONFORMANCE WITH THE LATEST EDITION OF THE INTERNATIONAL BUILDING CODE (2021).

THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS AT THE SITE. ALL DIMENSIONS SHALL BE VERIFIED WITH EQUIPMENT MANUFACTURER(S).

GRANT ENGINEERING IS ONLY RESPONSIBLE FOR TANK STRUCTURAL DESIGN. ALL PENETRATIONS, EMBEDS, ANCHORAGE, OPENINGS, HYDRAULIC DESIGN, ETC. ARE TO BE DESIGNED BY OTHERS.

ALL OMISSIONS OR CONFLICTS BETWEEN THE VARIOUS ELEMENTS OF THE WORKING DRAWINGS AND/OR SPECIFICATIONS SHALL BE BROUGHT TO THE ATTENTION OF THE STRUCTURAL ENGINEER BEFORE PROCEEDING WITH ANY WORK INVOLVED.

CONTRACTOR SHALL BE RESPONSIBLE FOR SAFETY AND PROTECTION WITHIN AND ADJACENT TO THE JOB SITE.

TEMPORARY SHORING AND BRACING SHALL BE PROVIDED WHEREVER NECESSARY TO TAKE CARE OF ALL LOADS TO WHICH THE STRUCTURE MAY BE SUBJECTED INCLUDING WIND. SUCH BRACING SHALL BE LEFT IN PLACE AS LONG AS MAY BE REQUIRED FOR SAFETY OR UNTIL ALL THE STRUCTURAL ELEMENTS ARE COMPLETE.

DURING AND AFTER CONSTRUCTION THE CONTRACTOR AND/OR OWNER SHALL KEEP LOADS ON THE STRUCTURE WITHIN THE LIMITS OF THE DESIGN LOADS.

THE GENERAL CONTRACTOR SHALL HAVE SHOP DRAWINGS REVIEWED BY THE STRUCTURAL ENGINEER PRIOR TO THE FABRICATION OR ERECTION FOR THE FOLLOWING ITEMS: REINFORCING STEEL.

ALL DETAILS, SECTIONS, AND NOTES ARE INTENDED TO BE TYPICAL AND SHALL APPLY TO SIMILAR SITUATIONS UNLESS NOTED OR SHOWN OTHERWISE.

OBSERVATION VISITS TO THE JOB SITE BY FIELD REPRESENTATIVES OF THE ENGINEER SHALL NEITHER BE CONSTRUED AS INSPECTION NOR APPROVAL OF CONSTRUCTION.

SIZES, LOCATIONS, AND ANCHORAGES OF EQUIPMENT SHALL BE VERIFIED IN THE FIELD WITH EQUIPMENT MANUFACTURERS (SUPPLIERS) PRIOR TO PLACING CONCRETE OR FABRICATING STEEL.

THE TOP OF THE TANK SHALL EXTEND A MINIMUM OF 12" ABOVE THE FINISH GRADE.

FOOTINGS

TANK SHALL BEAR ON 12" MINIMUM OF COMPACTED CRUSH STONE PLACED OVER HAND COMPACTED, FIRM, IN-SITU SOIL OR ON ENGINEERED FILL COMPACTED TO 98% OF STANDARD DENSITY BASED ON ASTM D698. SUCH FILL SHALL BE PLACED IN LAYERS NOT TO EXCEED 6" IN DEPTH AFTER COMPACTION AND SHALL EXTEND DOWN TO IN-SITU FIRM, STABLE SOILS.

DIFFERENT OR UNUSUAL CONDITIONS SHALL BE REPORTED TO THE ENGINEER.

NO FOOTINGS SHALL BE PLACED IN WATER OR ON FROZEN GROUND.

ANY SOIL CONDITION ENCOUNTERED DURING EXCAVATION THAT IS CONTRARY TO THE CONDITIONS USED FOR DESIGN OF FOOTINGS AS OUTLINED IN THESE NOTES OR ON THE DRAWINGS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER BEFORE PROCEEDING.

DO NOT BACK FILL BEHIND WALLS UNTIL CONCRETE HAS CURED FOR 3 DAYS, MINIMUM.

BACK FILL BOTH SIDES OF FOUNDATION WALLS AT SAME TIME TO PREVENT MOVEMENT.

ALL FOOTING EXCAVATIONS SHALL BE EXAMINED BY A GEOTECHNICAL ENGINEER FOR VERIFICATION OF ADEQUATE BEARING CONDITIONS BEFORE PLACING CONCRETE.

CONCRETE

CONCRETE SHALL ATTAIN THE FOLLOWING MINIMUM COMPRESSIVE STRENGTHS AT 28 DAYS:
ALL CONCRETE . . . . . 4000 PSI

A STATEMENT OF MIX DESIGN FOR ALL CONCRETE SHALL BE SUBMITTED TO AND REVIEWED BY THE STRUCTURAL ENGINEER PRIOR TO COMMENCING WORK. CONCRETE MIX EXPOSED TO WEATHER SHALL HAVE A MINIMUM OF 4% AIR ENTRAINMENT, U.N.O. CONCRETE MIX SHALL BE DESIGNED BY SUPPLIER TO WITHSTAND THE CORROSIVE ELEMENTS OF THE SEWAGE CONTENTS OF THE TANK.

ALL CONCRETE WORK SHALL BE PLACED, CURED, STRIPPED, AND PROTECTED AS DIRECTED BY THE SPECIFICATIONS AND ACI STANDARDS AND PRACTICES.

DOWEL VERTICAL BARS 36 DIAMETERS INTO STRUCTURE ABOVE AND FOOTINGS BELOW. PROVIDE 90 DEG. HOOK WHERE 36 DIAMETER IS NOT POSSIBLE. IN ADDITION, BEFORE CONCRETE IS POURED CHECK WITH ALL TRADES TO ENSURE PROPER PLACEMENT OF ALL OPENINGS, SLEEVES, CURBS, CONDUITS, BOLTS, INSERTS, ETC. RELATIVE TO WORK.

ADD 2-#5 BARS MINIMUM AROUND ALL OPENINGS (UNLESS OTHERWISE NOTED) AND EXTEND FULL LENGTH.

WHERE OPENINGS LARGER THAN 16" IN ANY DIRECTION OCCUR IN WALLS OR SLABS, PROVIDE SAME SIZE ADDITIONAL, FULL LENGTH REINFORCING AT EACH SIDE OF OPENING EQUAL TO 1/2 THE NUMBER OF BARS INTERRUPTED BY THE OPENING. SPACE ADDITIONAL BARS AT 4 X BAR DIAMETER.

REFER TO DRAWINGS FOR TYPICAL CONSTRUCTION JOINT DETAILS. UNLESS NOTED IN DRAWINGS, ALL REINFORCEMENT SHALL BE CONTINUOUS THRU JOINTS AND EACH CONSTRUCTION JOINT SHALL BE KEYED. ANY COLD JOINTS SHALL BE SEALED WITH CONTINUOUS WATERSTOP PLACED ON THE SIDE OF THE REBAR CLOSEST TO THE TANK CONTENTS.

FORMS, SCREEDS, AND BEAMS SUPPORTING SUSPENDED CONCRETE SHALL BE CAMBERED 1/4 INCHES PER 10 FEET OF SPAN TO COMPENSATE FOR DEAD LOAD DEFLECTIONS.

REINFORCING STEEL

ALL REINFORCEMENT SHALL BE DETAILED AND PLACED IN ACCORDANCE WITH ACI DETAILING MANUAL 315-92 AND ACI STANDARD 318-95.

REINFORCING STEEL SHALL BE ASTM A615 GRADE 60.

ALL REINFORCEMENT SHALL BE SECURELY TIED AND HELD IN PLACE.

REINFORCING BARS THAT ARE TO BE WELDED, INCLUDING DEFORMED BAR ANCHORS (D.B.A.) SHALL BE OF A WELDABLE GRADE AND SHALL BE WELDED IN ACCORDANCE WITH THE A.W.S. RECOMMENDATIONS.

ALL CONTINUOUS REINFORCEMENT SHALL TERMINATE WITH A 90 DEG. TURN OR A SEPARATE CORNER BAR. ALL SPLICES SHALL LAP A MINIMUM OF 36 BAR DIAMETERS (12" MINIMUM) IN CONCRETE.

COVER TO MAIN REINFORCEMENT FROM ADJACENT SURFACES SHALL BE AS FOLLOWS UNLESS SHOWN OTHERWISE:

A. UNFORMED SURFACES IN CONTACT WITH GROUND OR EXPOSED TO THE WEATHER (BOTTOM OF FOOTINGS). . . . . 3 INCHES
B. SLABS ON GRADE. . . . . 2 INCHES
C. FORMED SURFACES IN CONTACT WITH THE GROUND OR EXPOSED TO THE WEATHER (GRADE BMS, WALLS, ETC.). . . 2 INCHES

STRUCTURAL DESIGN LOADS

SOILS: NET ALLOWABLE SOIL PRESSURE = 1500 PSF, ASSUMED.

TANK TOP LL = 100 PSF

TANK IS DESIGNED TO RESIST HYDROSTATIC UPLIFT PRESSURE.

ALABAMA REGISTERED NO. 16466 PROFESSIONAL ENGINEER TERRANCE W. GRANT

07-XX-25

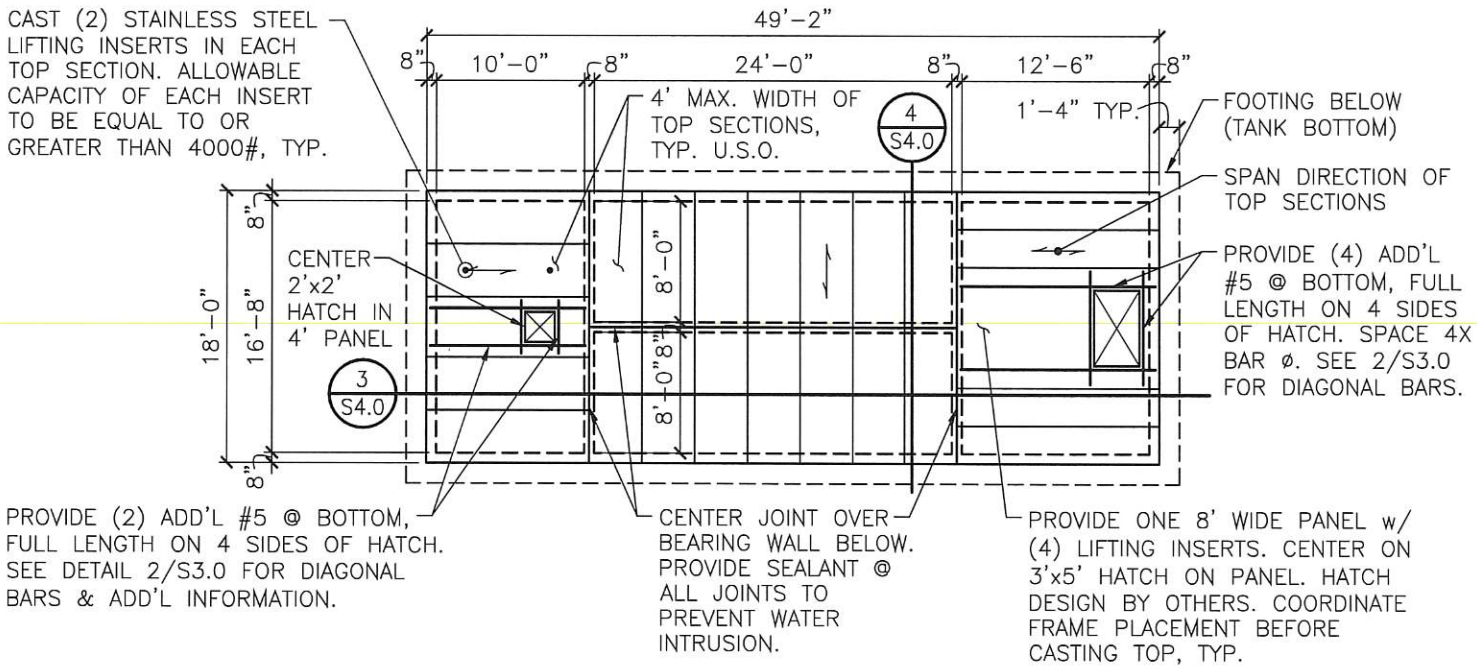
GRANT ENGINEERING L.L.C.
Consulting Structural Engineers
2590 County Road 26
Hope Hall, Alabama 36043
(334) 546-8818

Project Title: I-85 SEPTIC TANK
??
??, AL

Project Number: 2500X
Scale: AS NOTED
Revised:
Drawn By: TAW
Checked By: TWG
Date: JULY XX, 2025

Sheet Title: GENERAL STRUCTURAL NOTES

Sheet Number: S1.0



PLAN VIEW OF TANK

SCALE: 1/8 = 1'-0"

PLAN NOTES:

◯ – CIRCLED NOTES ARE KEYED TO PLAN.

1. SEE SHEET S1.0 FOR GENERAL STRUCTURAL NOTES.
2. SEE CIVIL DRAWINGS FOR DIMENSIONS NOT SHOWN.
3. COORDINATE ALL WALL & TOP PENETRATIONS, OPENINGS, EMBEDS, ETC. w/ CIVIL DRAWINGS. THESE ARE NOT ALL SHOWN ON STRUCTURAL DRAWINGS.

ALABAMA REGISTERED NO. 16466 PROFESSIONAL ENGINEER TERRANCE W. GRANT

07-22-25

GRANT ENGINEERING L.L.C.
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(334) 546-8818

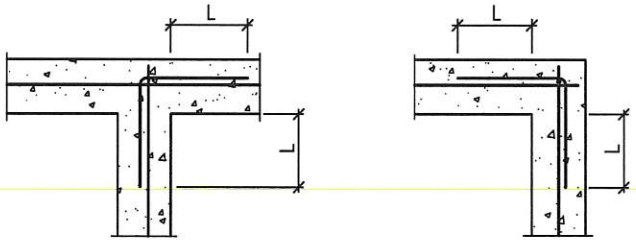
Project Title: I-85 SEPTIC TANK ALDOT SE REGION MACON COUNTY, AL

Project Number: 25005
Scale: AS NOTED
Drawn By: TAW
Checked By: TWG
Date: JULY 22, 2025
Revised:

Sheet Title: PLAN VIEW OF TANK

Sheet Number: S2.0

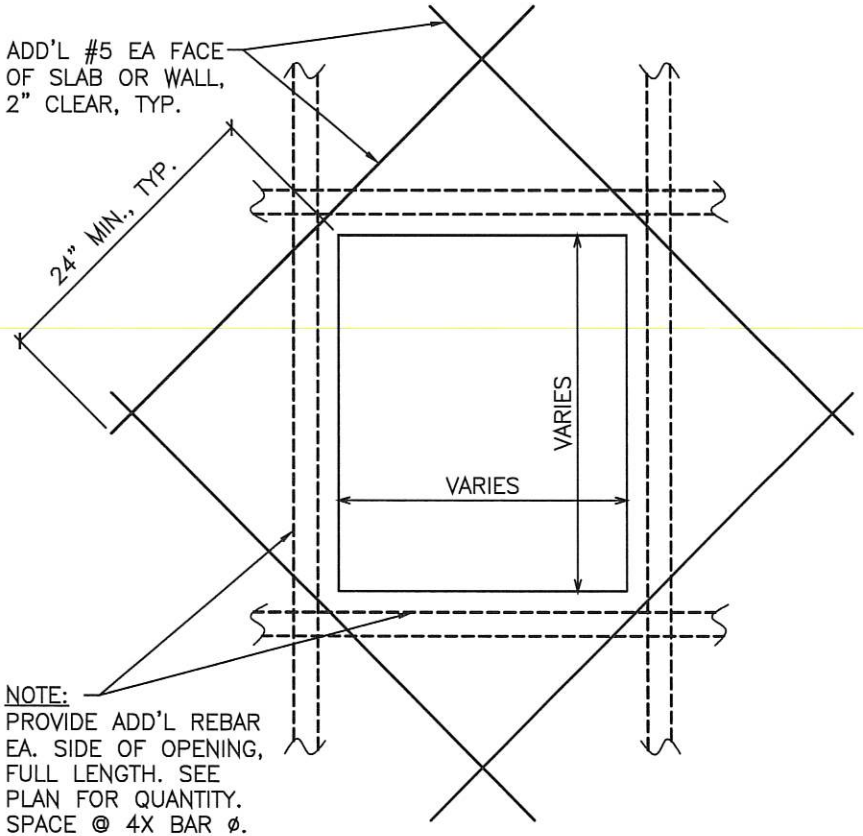
NOTE:
PLACE WALLS @ CORNERS
WITHOUT VERTICAL JOINTS.



L=36 BAR DIA. MIN. FOR CONCRETE
(USE 24" MIN.)

WALL INTERSECTION DOWELS
(PLAN VIEW)

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



NOTE:
PROVIDE ADD'L REBAR
EA. SIDE OF OPENING,
FULL LENGTH. SEE
PLAN FOR QUANTITY.
SPACE @ 4X BAR ø.

TYPICAL OPENING DETAILS

DETAIL 2 SCALE: 3/4" = 1'-0"

ALABAMA
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Project Title
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ALDOT SE REGION
MACON COUNTY, AL

Project Number 25005
Scale AS NOTED
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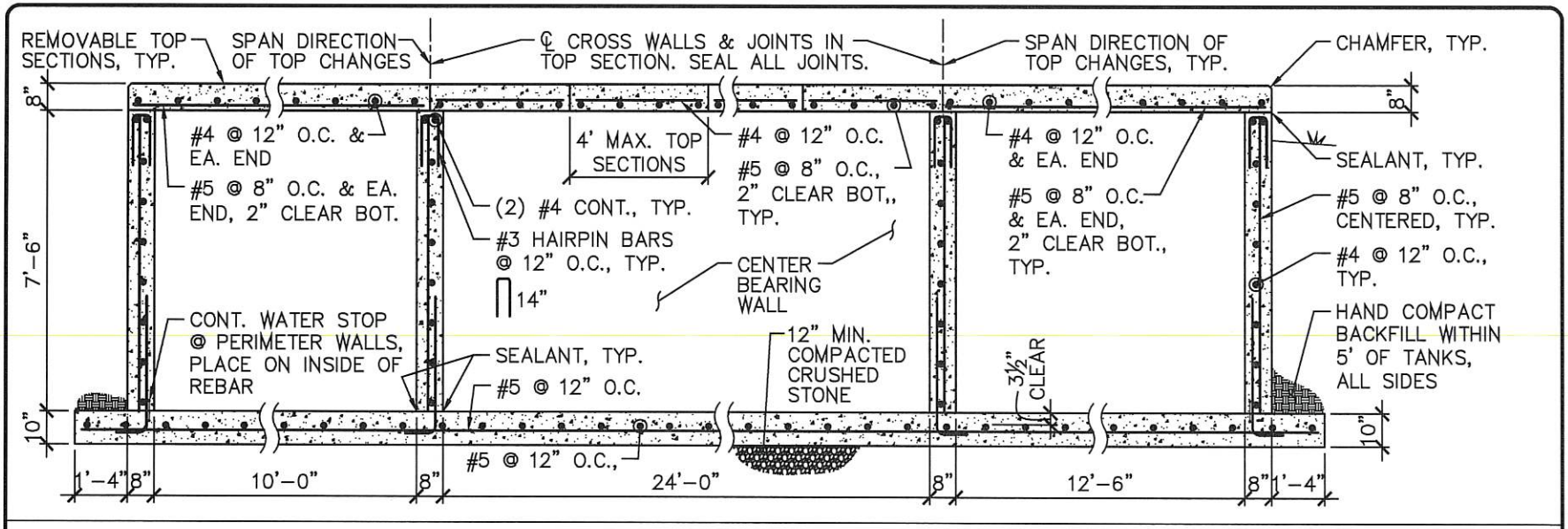
Checked By TWG
Date JULY 22, 2025
Revised

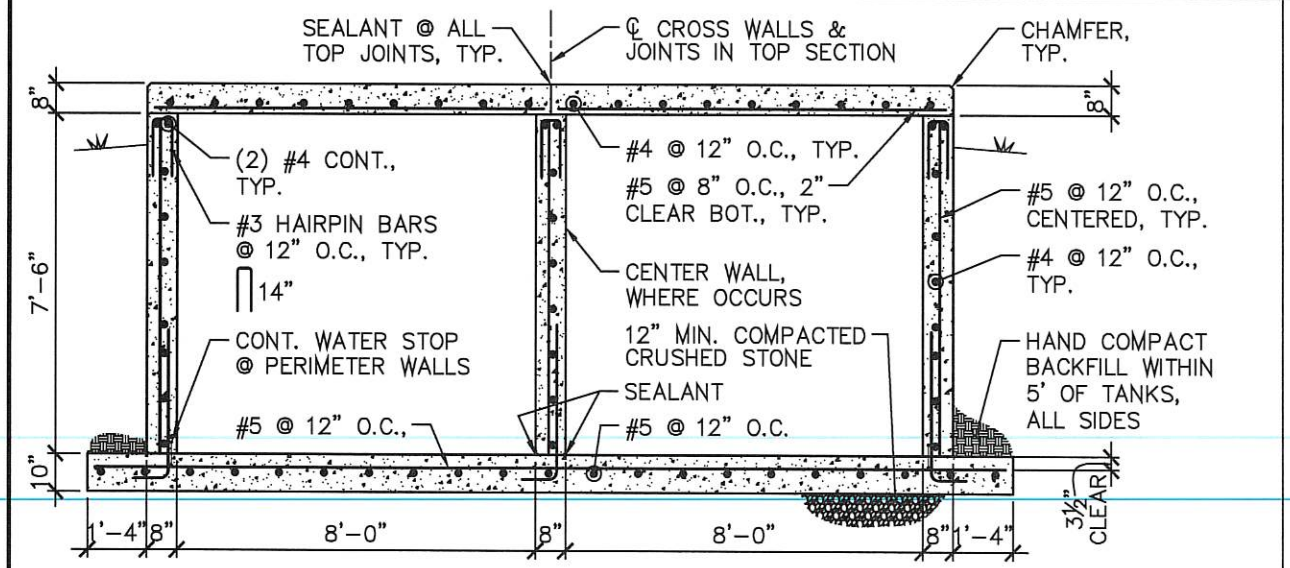
Sheet Title
DETAILS

Sheet Number
S3.0



SECTION 3

SCALE ⅜"=1'-0"



SECTION 4

SCALE ⅜"=1'-0"

07-22-25

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Project Title
I-85 SEPTIC TANK
ALDOT SE REGION
MACON COUNTY, AL

Project Number 25005
Scale AS NOTED
Revised
Drawn By TAW
Checked By TWG
Date JULY 22, 2025

Sheet Title
DETAILS

Sheet Number
S4.0