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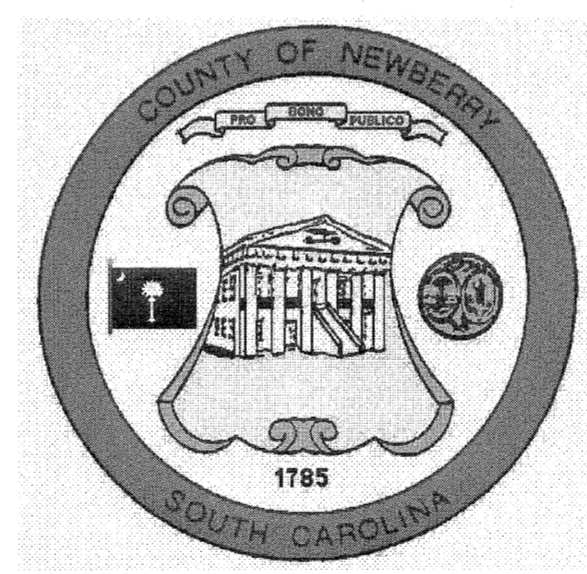


# NEWBERRY COUNTY CAPITAL SALES TAX PROJECT NO. 6

## TEN WATER POINT LOCATIONS FOR THE CONSOLIDATED FIRE DISTRICT

BID NO. 2019-13

— for —



COUNTY COUNCIL MEMBERS  
 HENRY H. LIVINGSTON, III. CHAIRMAN  
 KIRKSEY KOON, VICE-CHAIRMAN  
 JOHNNY MACK SCURRY  
 STEVEN C. STOCKMAN  
 SCOTT CAIN  
 TRAVIS D. REEDER  
 DR. HARRIET L. RUCKER

COUNTY ADMINISTRATOR  
 WAYNE ADAMS

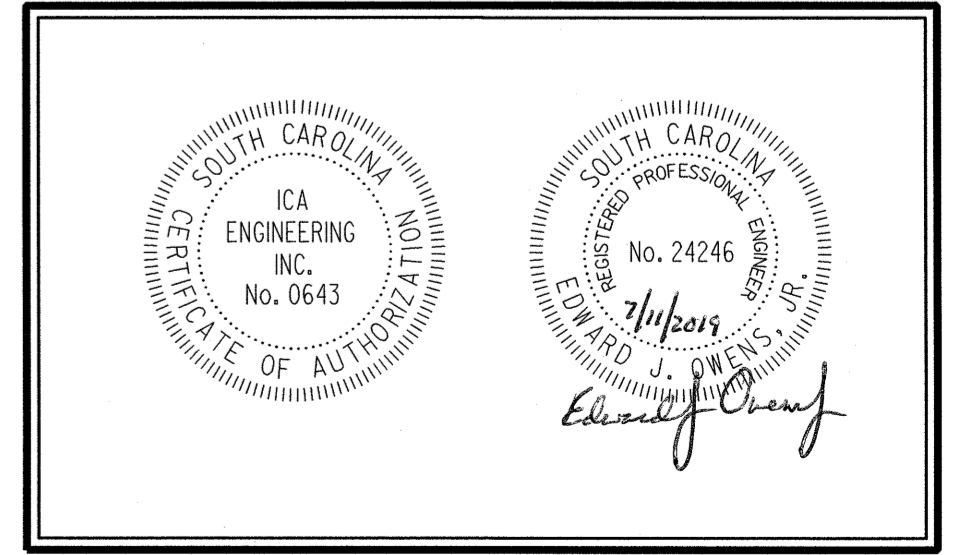
COUNTY ATTORNEY  
 A.J. TOTHACER, JR.

PROJECT OWNER: NEWBERRY COUNTY  
 OWNERS AGENT: TOMMY LONG - EMERGENCY SERVICES COORDINATOR  
 AGENT'S CONTACT: NEWBERRY COUNTY EMERGENCY MANAGEMENT  
 540 WILSON ROAD  
 NEWBERRY, SC 29108  
 PHONE: 803-405-7766



**HR ICA**  
 ICA Engineering Inc.  
 1122 Lady Street, Suite 1100, Columbia, SC 29201

CONSTRUCTION PLANS  
  
 JULY 11, 2019



NOTE: EXCEPT AS MAY OTHERWISE BE SPECIFIED ON THE PLANS OR IN THE SPECIAL PROVISIONS, ALL MATERIALS AND WORKMANSHIP ON THIS PROJECT SHALL CONFORM TO THE NEWBERRY COUNTY STANDARD SPECIFICATIONS, THE SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (2007) EDITION FOR WORK WITHIN RIGHT-OF-WAY.

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**GENERAL NOTES**

1. OWNER  
 NEWBERRY COUNTY  
 1309 COLLEGE STREET  
 NEWBERRY, SOUTH CAROLINA 29108

2. CONDUCT ALL CONSTRUCTION ACTIVITIES IN ACCORDANCE WITH ALL APPLICABLE O.S.H.A. REGULATIONS AND OTHER PREVAILING HEALTH AND SAFETY STANDARDS, INCLUDING THE USE OF TRENCH BOXES OR OTHER TRENCH SAFETY TECHNIQUES WHEN EXCAVATIONS EXCEED 4-FT IN DEPTH.

3. CONTRACTOR IS RESPONSIBLE FOR ALL MISCELLANEOUS ITEMS NOT LISTED BUT REQUIRED FOR CONSTRUCTION.

4. IMPLEMENT TRAFFIC CONTROL MEASURES IN ACCORDANCE WITH APPLICABLE STANDARDS AND REGULATIONS INCLUDING, BUT NOT LIMITED TO, STANDARD SCDOT DRAWINGS, "THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, (MUTCD) WHEN ANY OPERATION ADVERSELY AFFECTS TRAFFIC CONTROL. DEPLOY PROPER LIGHTING, BARRICADING, AND FLAGMEN AS NECESSARY FOR SITE SAFETY. FURNISH, ERECT, AND MAINTAIN TRAFFIC CONTROL DEVICES IN ACCORDANCE WITH THE ENCROACHMENT PERMIT(IF APPLICABLE), STANDARD SCDOT DRAWINGS, AND/OR MUTCD.

5. ALL UTILITIES SHOWN ARE IN THERE GENERAL LOCATION ONLY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE EXACT LOCATION OF ALL UNDERGROUND UTILITIES, AND ANY AND ALL DAMAGES RESULTING FROM FAILURE TO DO SO. CONTACT PALMETTO UTILITY PROTECTION SERVICE (PUPS) AT 811 AT LEAST SEVENTY-TWO (72) HOURS PRIOR TO CONSTRUCTION. EXPOSE UTILITIES LOCATED WITHIN THE DISTURBED LIMITS UTILIZING MANUAL EXCAVATION WHERE NEEDED TO AVOID DAMAGE TO THE UTILITY. NOTIFY THE ENGINEER OF CONFLICTS WHICH MAY AFFECT PROPER COMPLETION OF THE WORK ASSOCIATED WITH THIS PROJECT. TAKE MEASURES TO PROTECT THE UTILITIES FROM DAMAGE DURING CONSTRUCTION. COORDINATE REPAIRS OF DAMAGED UTILITIES WITH THE OWNERS.

6. THE CONTRACTOR SHALL CONTACT AND COORDINATE THE PROJECT SCHEDULE WITH NEWBERRY COUNTY AND THE ENGINEER. THE CONTRACTOR SHALL COORDINATE ANY CONSTRUCTION ACTIVITIES THAT MAY DISRUPT, ALTER, OR LIMIT ACCESS TO PROPERTY WITH THE PROPERTY OWNER.

7. THE FOLLOWING SITES ARE LOCATED AT EXISTING FIRE STATIONS. CONSTRUCTION ACTIVITY AT EACH SITE SHALL NOT DISRUPT THE ABILITY OF THE CONSOLIDATED FIRE DISTRICT FROM PROVIDING EMERGENCY SERVICES. COORDINATE ALL STAGING AND STOCKPILING AREAS AS WELL AS ANY TEMPORARY TRAFFIC CIRCULATION ISSUES WITH THE CONSOLIDATED FIRE DISTRICT PRIOR TO BEGINNING CONSTRUCTION. CONTACT TOMMY LONG (803) 405-7766.

SITE #1 - US 176 FIRE STATION  
 SITE #2 - TYGER RIVER ROAD FIRE STATION  
 SITE #3 - LEITSZY ROAD FIRE STATION  
 SITE #4 - HIGHWAY 34 FIRE STATION

8. SITE NUMBER 5 IS LOCATED AT AN EXISTING SOLID WASTE TRANSFER STATION. CONSTRUCTION ACTIVITY SHALL NOT DISRUPT NEWBERRY COUNTY WASTE COLLECTION OPERATIONS INCLUDING PROLONGED INTERRUPTION OF TRAFFIC CIRCULATION ON THE SITE. COORDINATE ALL STAGING AND STOCKPILING AREAS AS WELL AS ANY TEMPORARY TRAFFIC CIRCULATION ISSUES WITH NEWBERRY COUNTY PUBLIC WORKS, MICHAEL PISANO, DIRECTOR (803) 321-2180.

9. SEVERAL OF THE SITES ARE PRIVATELY OWNED PROPERTIES OR PLACES OF WORSHIP. THE CONTRACTOR IS TO TAKE THOSE PRECAUTIONS NECESSARY TO NOT INTERFERE WITH THE DAILY ROUTINE OF THE PROPERTY OWNERS AND THE OPERATION OF THE PLACES OF WORSHIP. PROPERTY OWNER INFORMATION OBTAINED FROM NEWBERRYCOUNTY.NET.

SITE #6 - SEEKWELL BAPTIST CHURCH  
 SITE #7 - BRENDA S. CHAPPELL LIFE ESTATE  
 SITE #8 - WILSON & SHELBY FELKER  
 SITE #10 - WILLIAM D. MORSE

PROJECT TERRAIN IS BASED ON PUBLICALLY AVAILABLE LIDAR DATA OBTAINED FROM THE SOUTH CAROLINA DEPARTMENT OF NATURAL RESOURCES GIS DATABASE FOR NEWBERRY COUNTY, SOUTH CAROLINA. LIDAR DATA WAS SUPPLEMENTED WITH SURVEYS PERFORMED BY ABRAHAM LAND SURVEYING IN THE VICINITY OF EACH STORAGE TANK. ALL SURVEYS ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM (NAVD88) AND SOUTH CAROLINA STATE PLANE COORDINATES.

**SUMMARY OF ESTIMATED QUANTITIES**

The following quantities are provided to assist the Contractor in developing the bid. It is the responsibility of the Contractor to verify the type and amount of each quantity prior to submitting a bid. The following quantities may not include all items necessary for completion of the project.

SITE 1 - US 176				SITE 2 - TYGER RIVER RD.			
ITEM NO.	DESCRIPTION	QUANTITY	UNIT	ITEM NO.	DESCRIPTION	QUANTITY	UNIT
1	FRP 10' Dia.- 40,000 gallon Water Storage Tank	1	EA	1	FRP 10' Dia.- 40,000 gallon Water Storage Tank	1	EA
2	Fiber Reinforced Concrete - 6"	96	SY	2	No. 57 Stone	12	CY
3	Unclassified Excavation	1502	CY	3	Geotextile Underlayment - (Class 2) Type C	71	SY
4	No. 789 Stone Backfill	299	CY	4	Unclassified Excavation	2224	CY
5	Temporary Diversion Berm	110	LF	5	No. 789 Stone Backfill	299	CY
6	Sediment Tubes	30	LF	6	Temporary Diversion Berm	150	LF
7	Rock Ditch Check	2	EA	7	Silt Fence	200	LF
8	Silt Fence	200	LF	8	Rock/Rip Rap	2	TON
9	4" Bollard & Concrete Anchor	2	EA	9	Asphalt Repair	18	SY
10	Rock/Rip Rap	2	TON	10	4" Bollard & Concrete Anchor	3	EA
11	6" Reinforced Concrete Slab	0.6	CY	11	6" Reinforced Concrete Slab	0.6	CY

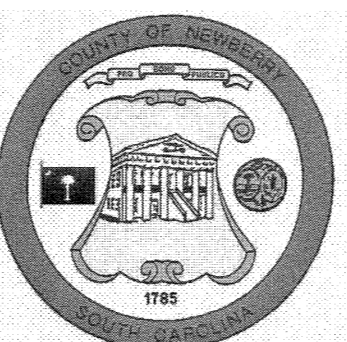

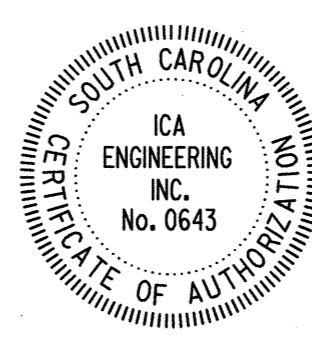
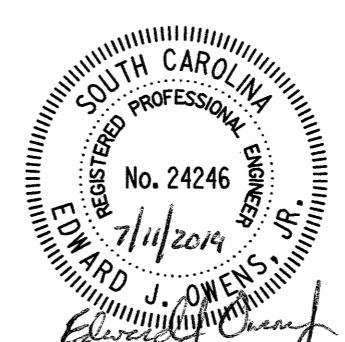
SITE 3 - LEITZSEY RD.				SITE 4 - HIGHWAY 34			
ITEM NO.	DESCRIPTION	QUANTITY	UNIT	ITEM NO.	DESCRIPTION	QUANTITY	UNIT
1	FRP 10' Dia.- 40,000 gallon Water Storage Tank	1	EA	1	FRP 10' Dia.- 40,000 gallon Water Storage Tank	1	EA
2	Fiber Reinforced Concrete - 6"	77	SY	2	Fiber Reinforced Concrete - 6"	96	SY
3	Unclassified Excavation	2276	CY	3	Unclassified Excavation	1414	CY
4	No. 789 Stone Backfill	299	CY	4	No. 789 Stone Backfill	299	CY
5	Temporary Diversion Berm	110	LF	5	Silt Fence	340	LF
6	Silt Fence	325	LF	6	4" Bollard & Concrete Anchor	3	EA
7	4" Bollard & Concrete Anchor	2	EA	7	6" Reinforced Concrete Slab	0.6	CY
8	Relocate Underground Electric	1	LS				
9	6" Reinforced Concrete Slab	0.6	CY				

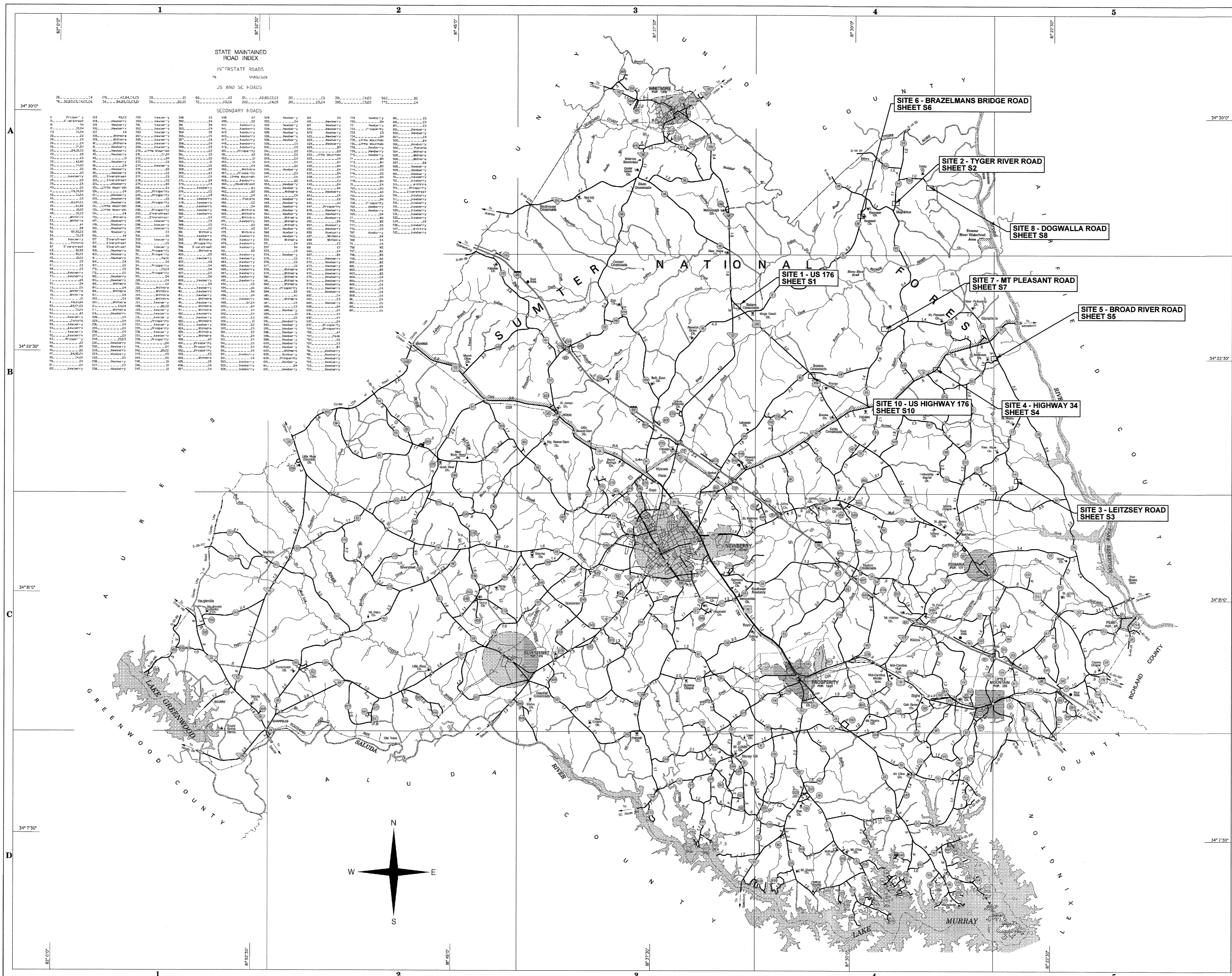
SITE 5 - BROAD RIVER ROAD COLLECTION CENTER				SITE 6 - BRAZELMANS BRIDGE RD.			
ITEM NO.	DESCRIPTION	QUANTITY	UNIT	ITEM NO.	DESCRIPTION	QUANTITY	UNIT
1	FRP 10' Dia.- 40,000 gallon Water Storage Tank	1	EA	1	FRP 10' Dia.- 40,000 gallon Water Storage Tank	1	EA
2	Repair Gravel	13	CY	2	Fiber Reinforced Concrete - 6"	97	SY
3	Unclassified Excavation	1882	CY	3	Unclassified Excavation	2126	CY
4	No. 789 Stone Backfill	299	CY	4	No. 789 Stone Backfill	299	CY
5	Silt Fence	200	LF	5	Silt Fence	350	LF
6	4" Bollard & Concrete Anchor	18	EA	6	4" Bollard & Concrete Anchor	3	EA
7	6" Reinforced Concrete Slab	0.6	CY	7	4" Red Striping	1460	LF
				8	12" Red Lettering- "FIRE LANE"	1	EA
				9	6" Reinforced Concrete Slab	0.6	CY

SITE 7 - MT. PLEASANT RD.				SITE 8 - DOGWALLA RD.			
ITEM NO.	DESCRIPTION	QUANTITY	UNIT	ITEM NO.	DESCRIPTION	QUANTITY	UNIT
1	FRP 10' Dia.- 40,000 gallon Water Storage Tank	1	EA	1	FRP 10' Dia.- 40,000 gallon Water Storage Tank	1	EA
2	No. 57 Stone	13	CY	2	No. 57 Stone	19	CY
3	Geotextile Underlayment - (Class 2) Type C	78	SY	3	Geotextile Underlayment - (Class 2) Type C	113	SY
4	Unclassified Excavation	1570	CY	4	Unclassified Excavation	2170	CY
5	No. 789 Stone Backfill	299	CY	5	No. 789 Stone Backfill	299	CY
6	Silt Fence	375	LF	6	Silt Fence	290	LF
7	4" Bollard & Concrete Anchor	2	EA	7	4" Bollard & Concrete Anchor	3	EA
9	6" Reinforced Concrete Slab	0.6	CY	9	6" Reinforced Concrete Slab	0.6	CY

SITE 10 - US 176			
ITEM NO.	DESCRIPTION	QUANTITY	UNIT
1	FRP 10' Dia.- 40,000 gallon Water Storage Tank	1	EA
2	No. 57 Stone	19	CY
3	Geotextile Underlayment - (Class 2) Type C	133	SY
4	Unclassified Excavation	1680	CY
5	No. 789 Stone Backfill	299	CY
6	Silt Fence	360	LF
7	Sediment Tubes	30	LF
8	Rock Ditch Check	1	EA
9	4" Bollard & Concrete Anchor	3	EA
11	Asphalt Driveway	29	SY
12	Asphalt Removal	34	SY
13	6" Reinforced Concrete Slab	0.6	CY

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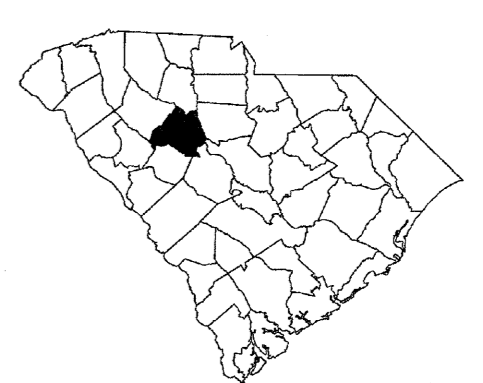
			HDR/ICA JOB NO.: 10059106	 NOT TO SCALE	 <b>ICA</b> ICA Engineering Inc. 1122 Lady Street, Suite 1100, Columbia, SC 29201	 SOUTH CAROLINA ENGINEERING INC. No. 0643	 SOUTH CAROLINA PROFESSIONAL ENGINEER No. 24246 7/11/2019	PROJECT: <b>NEWBERRY COUNTY CAPITAL SALES TAX PROJECT NO. 6 TEN WATER POINT LOCATIONS FOR THE CONSOLIDATED FIRE DISTRICT</b>	DRAWING NO.: <b>02</b>	
			DESIGNED BY: TM					DRAWN BY: TM	CHECKED BY: AA	DRAWING: PROJECT NOTES
ISSUE	DATE	DESCRIPTION								



**General Highway System  
NEWBERRY COUNTY  
South Carolina**

PREPARED BY THE  
SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION  
IN COOPERATION WITH THE  
**U.S. DEPARTMENT OF TRANSPORTATION**  
FEDERAL HIGHWAY ADMINISTRATION

JUNE 2005

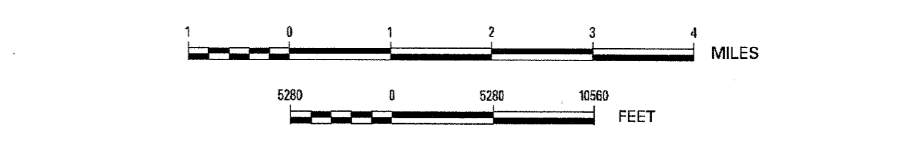


**SIGNIFICANT FACTS**  
EST. 1785  
THE ORIGIN OF THE NAME NEWBERRY IS UNKNOWN.  
COUNTY POPULATION 2000 CENSUS 36,108  
COUNTY AREA IN SQUARE MILES 631

**About This Map**  
This map was produced using digital technology incorporating the Department's 1:24000 scale, digital cartographic database and 1999 NAIP aerial photography.  
For ordering information or any comments concerning this map please contact:  
South Carolina Department of Transportation  
Engineering Publications Customer Service  
659 Park Street - Room C-108  
Columbia, SC 29201 Telephone: (803) 737-4833  
E-mail: enrgpubsales@sdot.org

**LEGEND**

<b>ROAD SYSTEM</b>	<b>BOUNDARIES</b>
INTERSTATE	STATE LINE
U.S. ROUTE	COUNTY LINE
S.C. ROUTE	INCORPORATED AREA
SECONDARY ROAD	EXTENT OF LARGE SCALE MAP
INTERSTATE	MILITARY INSTALLATIONS AND GOVERNMENT INSTITUTIONS
U.S. & S.C.	NATIONAL AND STATE FOREST
2 - LANE	STATE PARK AND NATURAL
MULTI-LANE	WILDLIFE REFUGES
DIVIDED	
UNPAVED	<b>BRIDGES</b>
PAVED	GENERAL HIGHWAY BRIDGE (BETWEEN 20' - 300')
COUNTY	BRIDGES OVER 300' SHOWN ACTUAL LENGTH
UNPAVED	
PAVED	<b>CITIES AND TOWNS</b>
ROADS IDENTIFIED ON LARGE SCALE MAP	STATE CAPITAL
	COUNTY SEATS
INTERCHANGE DETAIL	OTHER CITIES AND LOCALITIES
EXIT NUMBER	
	<b>MAP FEATURES</b>
MILES BETWEEN POINTS	PARK AND RECREATION
0 1 2 3 4	HOSPITAL
0 1 2 3 4	AMBIANCE
0 1 2 3 4	CHURCH
0 1 2 3 4	POINT OF INTEREST
0 1 2 3 4	CENETERY
0 1 2 3 4	COURT HOUSE
0 1 2 3 4	HISTORICAL SITE
0 1 2 3 4	PLANT
0 1 2 3 4	WELCOME CENTER/REST AREA
0 1 2 3 4	AGRICULTURE RESEARCH AND EXTENSION CENTER
0 1 2 3 4	SCOTT DISTRICT OFFICE
0 1 2 3 4	INDUSTRIAL ZONE



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ISSUE	DATE	DESCRIPTION

HDR/ICA JOB NO.: 10059106	<b>NOT TO SCALE</b>
DESIGNED BY: TM	
DRAWN BY: TM	
CHECKED BY: AA	

**NEWBERRY COUNTY**  
1309 COLLEGE STREET  
NEWBERRY, SC 29108

**ICA Engineering Inc.**  
1122 Lady Street, Suite 1100, Columbia, SC 29201

PROJECT: **NEWBERRY COUNTY CAPITAL SALES TAX PROJECT NO. 6**  
**TEN WATER POINT LOCATIONS FOR THE CONSOLIDATED FIRE DISTRICT**

DRAWING: PROJECT LOCATION/SHEET LAYOUT

DRAWING NO.: **03**

7/11/2019 10:22:48:03\_Sht3\_Layout.dgn

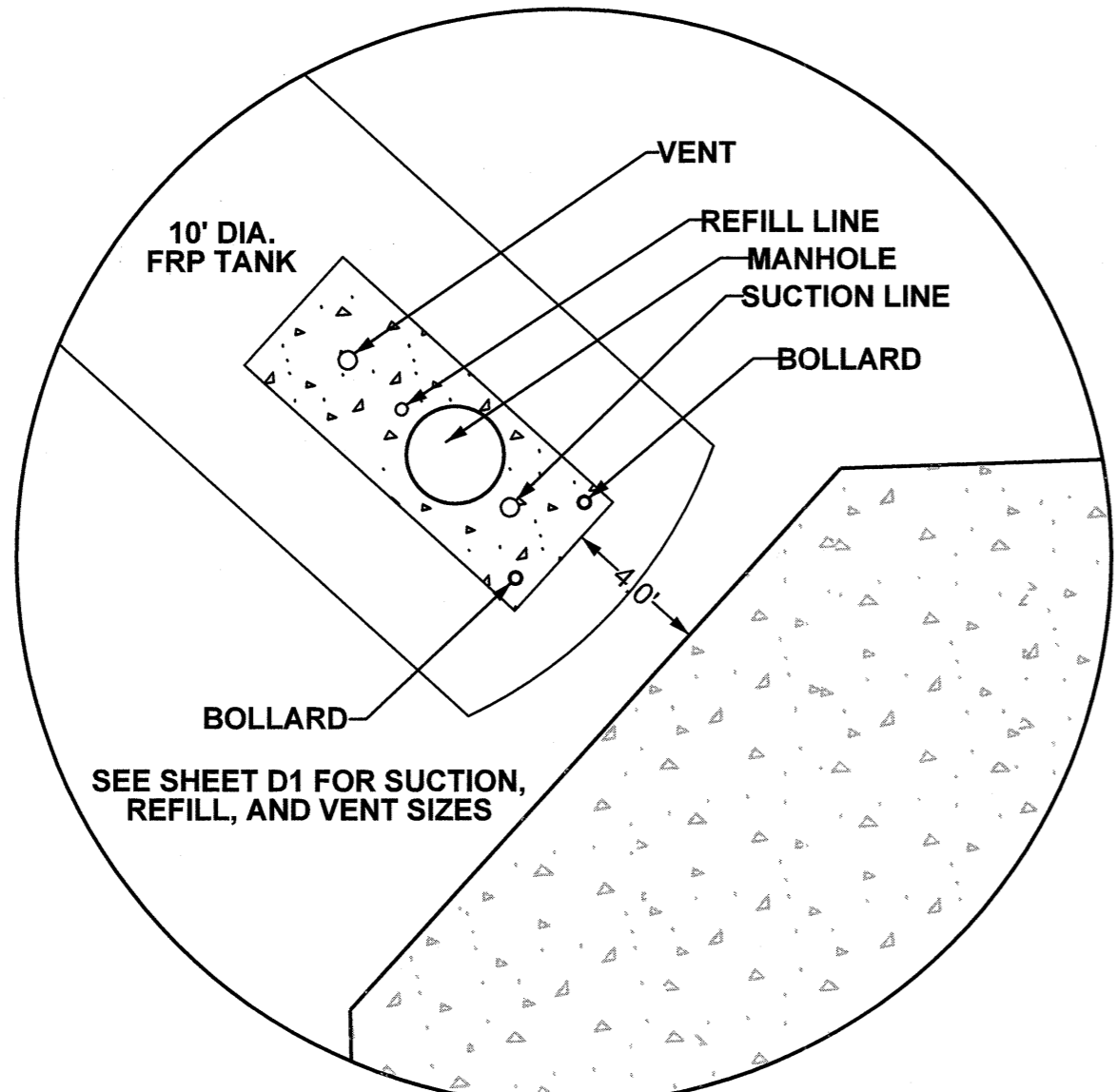
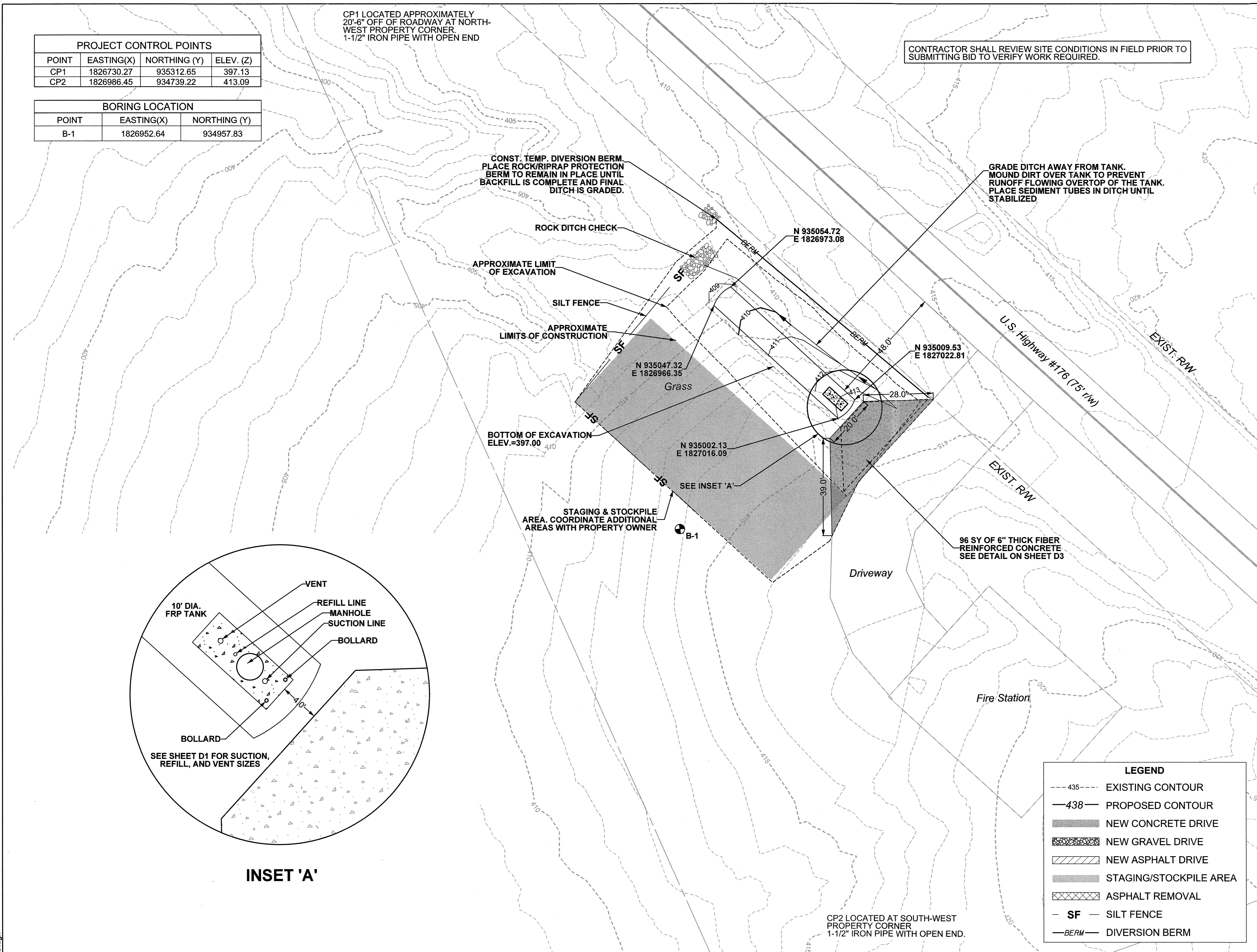
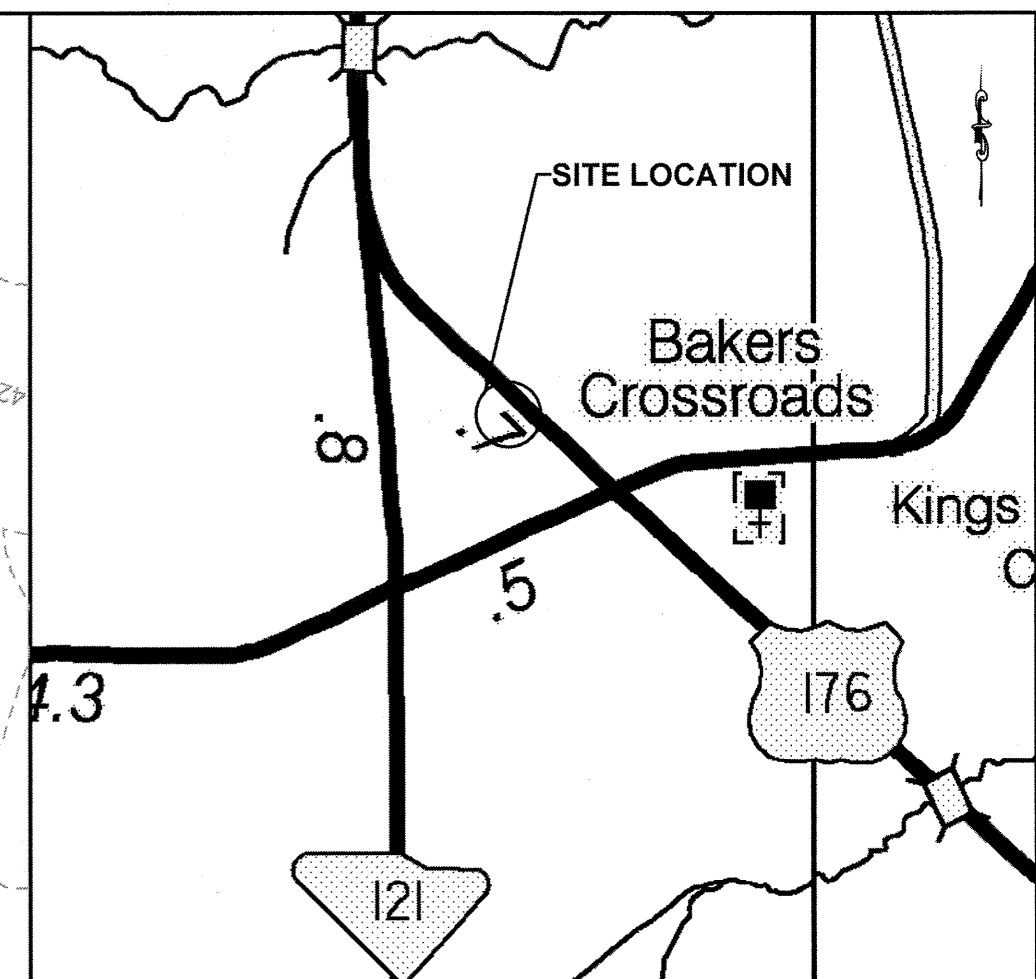
PROJECT CONTROL POINTS			
POINT	EASTING(X)	NORTHING (Y)	ELEV. (Z)
CP1	1826730.27	935312.65	397.13
CP2	1826986.45	934739.22	413.09

BORING LOCATION		
POINT	EASTING(X)	NORTHING (Y)
B-1	1826952.64	934957.83

CP1 LOCATED APPROXIMATELY 20'-6" OFF OF ROADWAY AT NORTH-WEST PROPERTY CORNER. 1-1/2" IRON PIPE WITH OPEN END

CONTRACTOR SHALL REVIEW SITE CONDITIONS IN FIELD PRIOR TO SUBMITTING BID TO VERIFY WORK REQUIRED.



INSET 'A'

- NOTES:
- CONTRACTOR SHALL STOCKPILE WASTE EXCAVATION ON-SITE. COORDINATE LOCATION WITH PROPERTY OWNER.
  - CONTRACTOR SHALL NOT DISRUPT THE NORMAL OPERATION OF THE SITE BY PLACEMENT OF STORED MATERIALS AND EQUIPMENT.
  - PERIMETER EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO BEGINNING LAND DISTURBING ACTIVITIES.
  - CONTRACTOR SHALL PROVIDE SEDIMENT AND EROSION CONTROL MEASURES IN ACCORDANCE WITH THE PERMITTING REQUIREMENTS AND MAINTAIN MEASURES THROUGHOUT CONSTRUCTION.
  - ALL EROSION CONTROL MEASURES SHALL BE INSPECTED ONCE EVERY CALENDAR WEEK. IF SITE INSPECTIONS IDENTIFY BMPs THAT ARE DAMAGED OR ARE NOT OPERATING EFFECTIVELY, MAINTENANCE SHALL BE PERFORMED AS SOON AS PRACTICAL AND BEFORE THE NEXT STORM EVENT.
  - THE CONTRACTOR MUST TAKE ALL PRECAUTIONS NECESSARY TO MINIMIZE THE TRACKING OF MUD ONTO PAVED SURFACES INCLUDING ROADWAYS FROM CONSTRUCTION AREAS AND THE GENERATION OF DUST. THE CONTRACTOR SHALL DAILY REMOVE MUD/SOIL FROM PAVEMENT AS MAY BE REQUIRED.
  - LITTER, CONSTRUCTION DEBRIS, OILS, FUELS, AND BUILDING PRODUCTS WITH SIGNIFICANT POTENTIAL FOR IMPACT (SUCH AS STOCKPILES OF FRESHLY TREATED LUMBER) AND CONSTRUCTION CHEMICALS THAT COULD BE EXPOSED TO STORM WATER MUST BE PREVENTED FROM BECOMING A POLLUTANT SOURCE IN STORM WATER DISCHARGES.
  - CONTRACTOR SHALL COORDINATE THE LOCATION OF STAGING & STOCKPILING AREAS AND OTHER TEMPORARY FACILITIES REQUIRED WITH THE PROPERTY OWNER. ALL STAGING & STOCKPILING AREAS SHALL BE PROTECTED FROM NON-CONSTRUCTION TRAFFIC BY TEMPORARY CHAIN LINK FENCE.
  - MINIMIZE THE DURATION OF OPEN EXCAVATIONS AS MUCH AS FEASIBLE. ANY OPEN EXCAVATIONS LEFT OVERNIGHT MUST BE PROTECTED FROM PEDESTRIAN AND VEHICULAR TRAFFIC, AT A MINIMUM, BY HIGH VISIBILITY SAFETY FENCING.
  - WHEN GRADING BETWEEN CONTOURS AND SPOT ELEVATIONS, THE CONTRACTOR SHALL GRADE ON A UNIFORM SLOPE.
  - UNLESS OTHERWISE SHOWN, PROPOSED GRADES SHALL MATCH EXISTING GRADES.

LEGEND

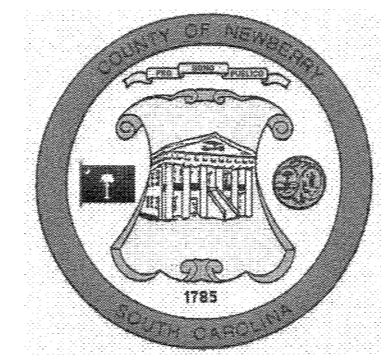
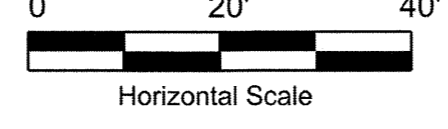
--- 435 ---	EXISTING CONTOUR
— 438 —	PROPOSED CONTOUR
[Solid Grey Box]	NEW CONCRETE DRIVE
[Stippled Box]	NEW GRAVEL DRIVE
[Diagonal Lines Box]	NEW ASPHALT DRIVE
[Cross-hatched Box]	STAGING/STOCKPILE AREA
[Dotted Box]	ASPHALT REMOVAL
- SF -	SILT FENCE
- BERM -	DIVERSION BERM

NPDES DISTURBED AREA  
AREA= 0.30 ACRES

7/11/2019 10:22:46:05/04 SHMS01\_Sheet1\_Layout\_2D.dgn

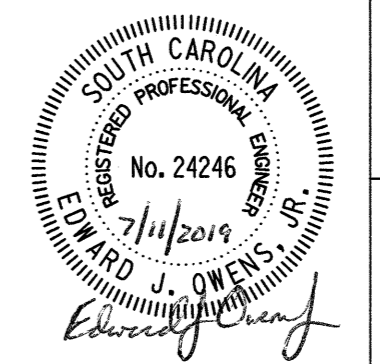
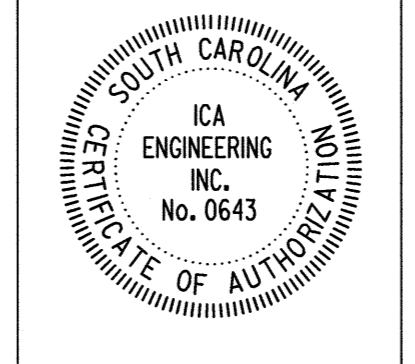
ISSUE	DATE	DESCRIPTION

HDR/ICA JOB NO.:	10059106
DESIGNED BY:	TM
DRAWN BY:	TM
CHECKED BY:	AA



NEWBERRY COUNTY  
1309 COLLEGE STREET  
NEWBERRY, SC 29108

**HR ICA**  
ICA Engineering Inc.  
1122 Lady Street, Suite 1100, Columbia, SC 29201



PROJECT:  
**NEWBERRY COUNTY CAPITAL SALES  
TAX PROJECT NO. 6  
TEN WATER POINT LOCATIONS  
FOR THE CONSOLIDATED FIRE DISTRICT**

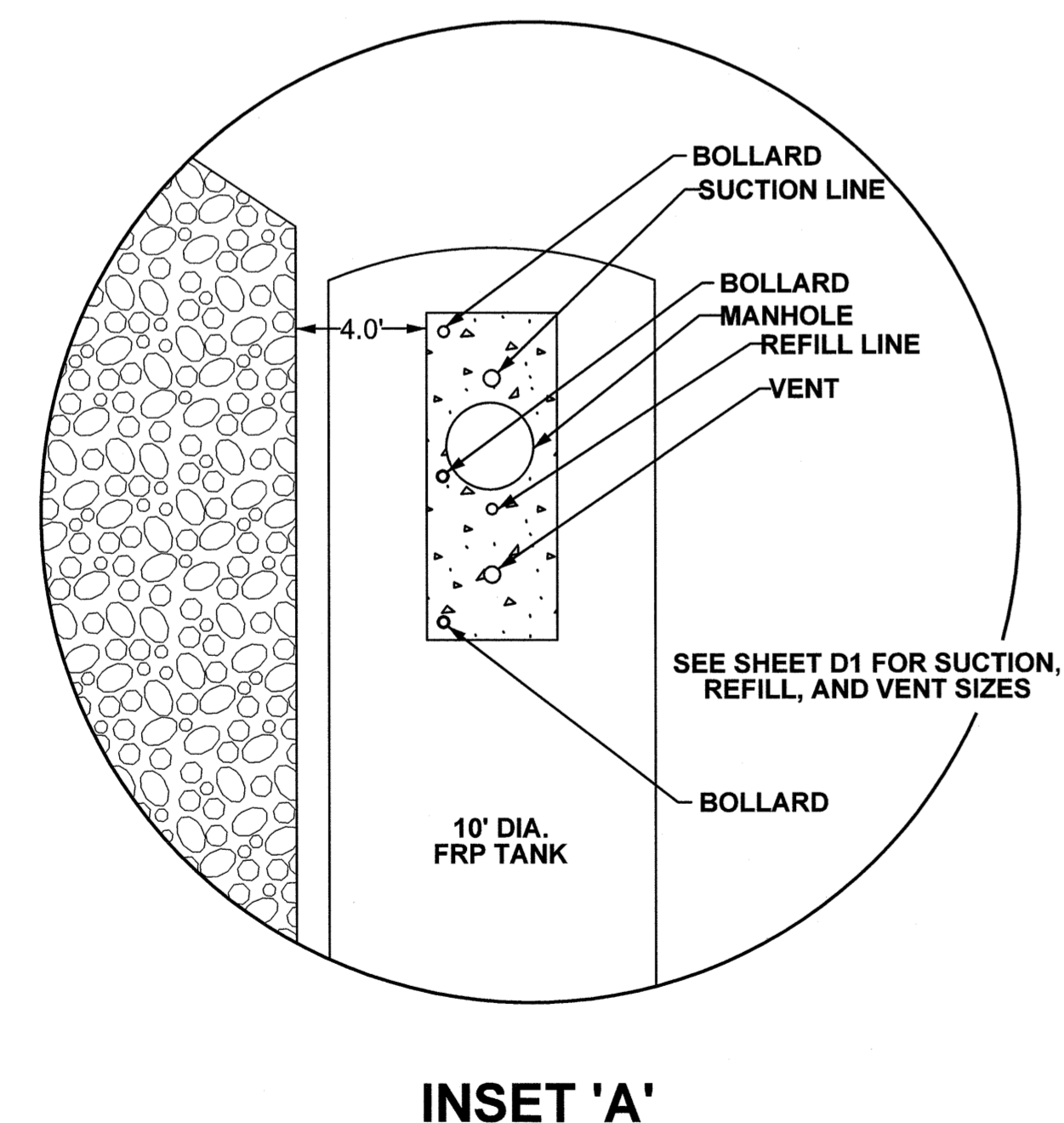
DRAWING:  
SITE LAYOUT  
SITE 1 - U.S. ROUTE 176  
TMS#382-17

DRAWING NO.:  
**S1**

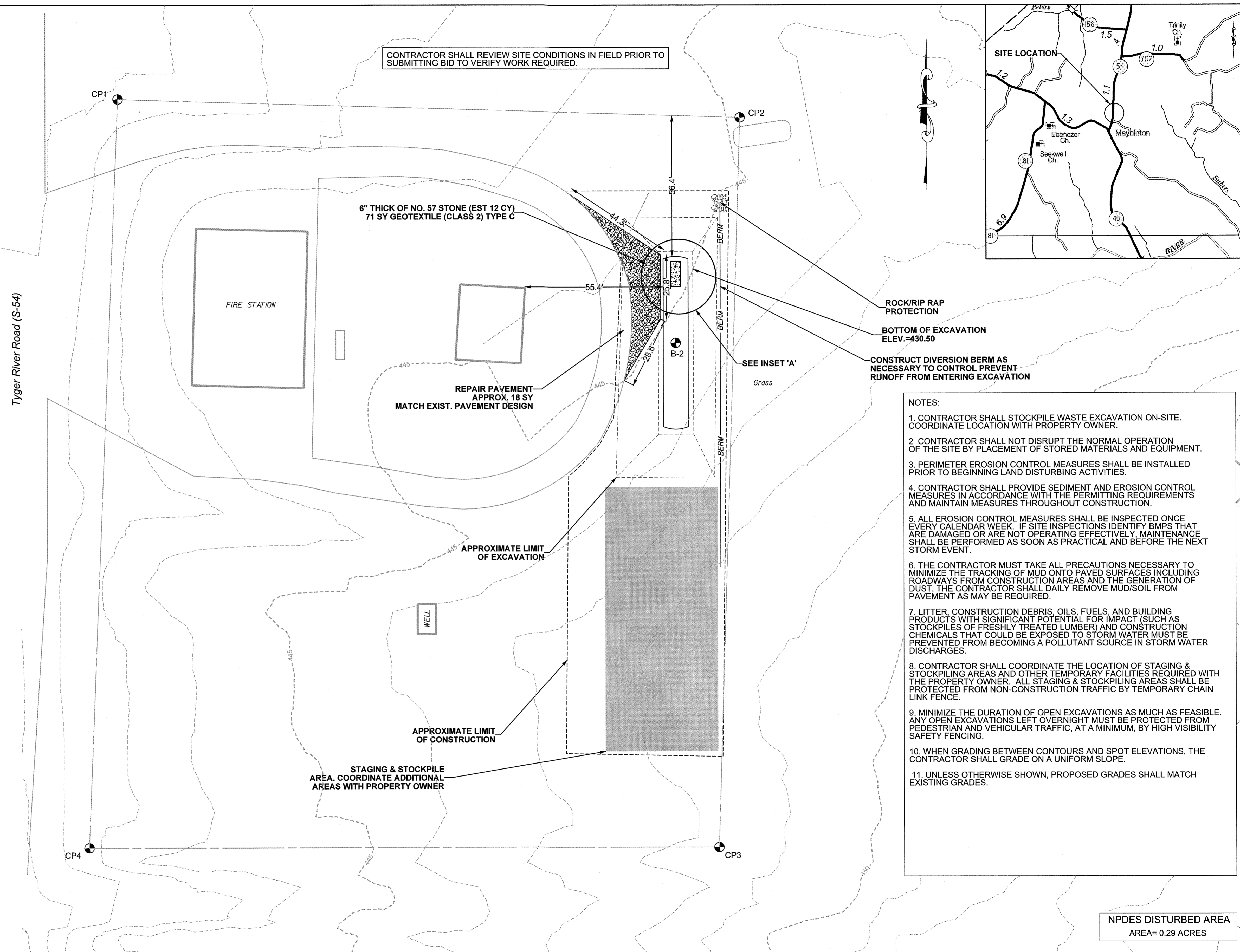
PROJECT CONTROL POINTS			
POINT	EASTING(X)	NORTHING (Y)	ELEV. (Z)
CP1	1856952.10	954722.59	441.63
CP2	1857201.78	954715.24	445.10
CP3	1857193.06	954423.01	447.79
CP4	1856940.32	954422.68	442.91

BORING LOCATION		
POINT	EASTING(X)	NORTHING (Y)
B-2	1857175.96	954625.04

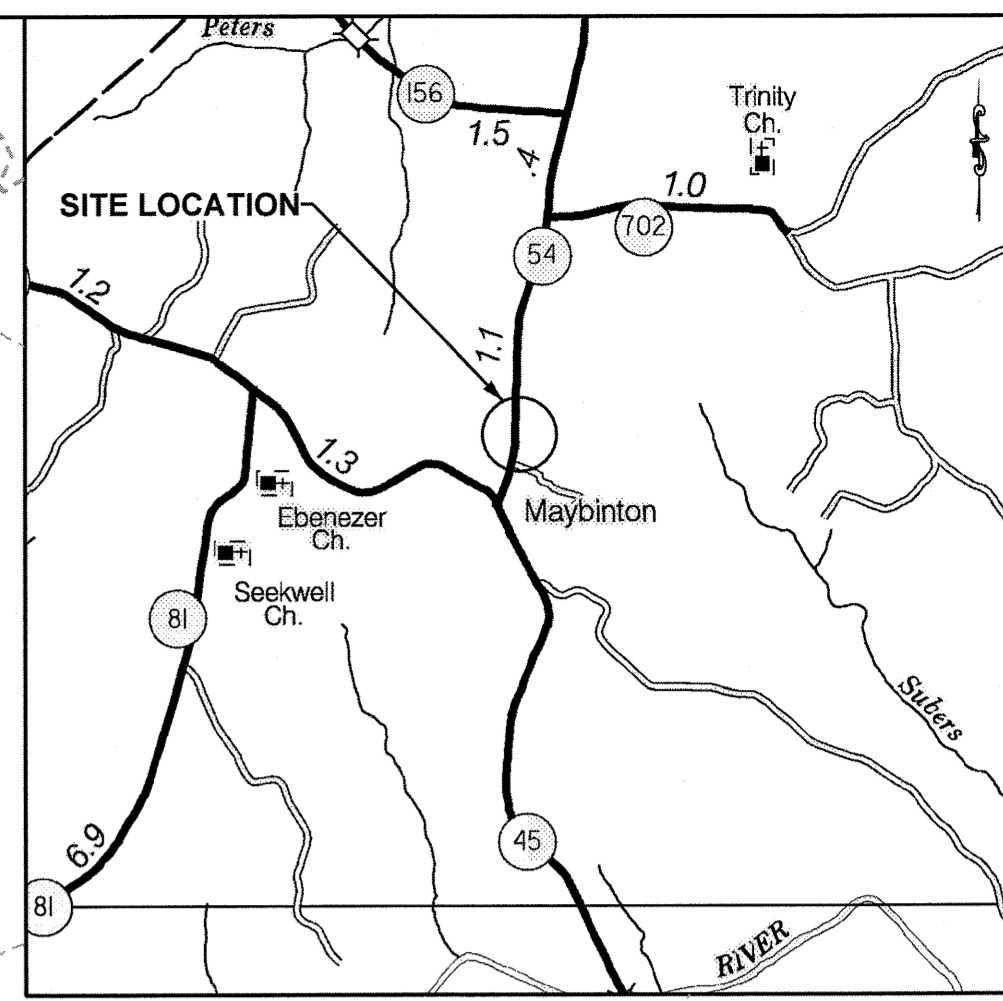
LEGEND	
--- 435 ---	EXISTING CONTOUR
— 438 —	PROPOSED CONTOUR
	NEW CONCRETE DRIVE
	NEW GRAVEL DRIVE
	NEW ASPHALT DRIVE
	STAGING/STOCKPILE AREA
	ASPHALT REMOVAL
—	SILT FENCE
— BERM —	DIVERSION BERM



INSET 'A'



CONTRACTOR SHALL REVIEW SITE CONDITIONS IN FIELD PRIOR TO SUBMITTING BID TO VERIFY WORK REQUIRED.



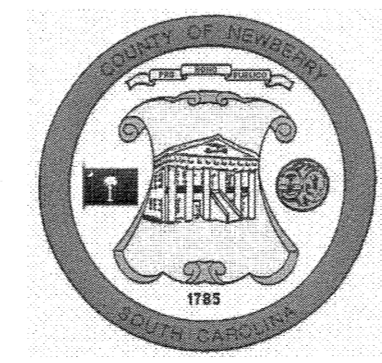
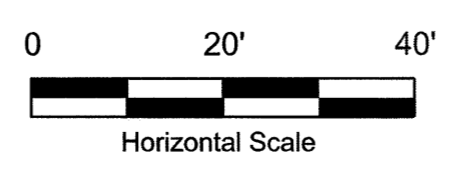
- NOTES:
- CONTRACTOR SHALL STOCKPILE WASTE EXCAVATION ON-SITE. COORDINATE LOCATION WITH PROPERTY OWNER.
  - CONTRACTOR SHALL NOT DISRUPT THE NORMAL OPERATION OF THE SITE BY PLACEMENT OF STORED MATERIALS AND EQUIPMENT.
  - PERIMETER EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO BEGINNING LAND DISTURBING ACTIVITIES.
  - CONTRACTOR SHALL PROVIDE SEDIMENT AND EROSION CONTROL MEASURES IN ACCORDANCE WITH THE PERMITTING REQUIREMENTS AND MAINTAIN MEASURES THROUGHOUT CONSTRUCTION.
  - ALL EROSION CONTROL MEASURES SHALL BE INSPECTED ONCE EVERY CALENDAR WEEK. IF SITE INSPECTIONS IDENTIFY BMPs THAT ARE DAMAGED OR ARE NOT OPERATING EFFECTIVELY, MAINTENANCE SHALL BE PERFORMED AS SOON AS PRACTICAL AND BEFORE THE NEXT STORM EVENT.
  - THE CONTRACTOR MUST TAKE ALL PRECAUTIONS NECESSARY TO MINIMIZE THE TRACKING OF MUD ONTO PAVED SURFACES INCLUDING ROADWAYS FROM CONSTRUCTION AREAS AND THE GENERATION OF DUST. THE CONTRACTOR SHALL DAILY REMOVE MUD/SOIL FROM PAVEMENT AS MAY BE REQUIRED.
  - LITTER, CONSTRUCTION DEBRIS, OILS, FUELS, AND BUILDING PRODUCTS WITH SIGNIFICANT POTENTIAL FOR IMPACT (SUCH AS STOCKPILES OF FRESHLY TREATED LUMBER) AND CONSTRUCTION CHEMICALS THAT COULD BE EXPOSED TO STORM WATER MUST BE PREVENTED FROM BECOMING A POLLUTANT SOURCE IN STORM WATER DISCHARGES.
  - CONTRACTOR SHALL COORDINATE THE LOCATION OF STAGING & STOCKPILING AREAS AND OTHER TEMPORARY FACILITIES REQUIRED WITH THE PROPERTY OWNER. ALL STAGING & STOCKPILING AREAS SHALL BE PROTECTED FROM NON-CONSTRUCTION TRAFFIC BY TEMPORARY CHAIN LINK FENCE.
  - MINIMIZE THE DURATION OF OPEN EXCAVATIONS AS MUCH AS FEASIBLE. ANY OPEN EXCAVATIONS LEFT OVERNIGHT MUST BE PROTECTED FROM PEDESTRIAN AND VEHICULAR TRAFFIC, AT A MINIMUM, BY HIGH VISIBILITY SAFETY FENCING.
  - WHEN GRADING BETWEEN CONTOURS AND SPOT ELEVATIONS, THE CONTRACTOR SHALL GRADE ON A UNIFORM SLOPE.
  - UNLESS OTHERWISE SHOWN, PROPOSED GRADES SHALL MATCH EXISTING GRADES.

NPDES DISTURBED AREA  
AREA= 0.29 ACRES

7/11/2019 10:22:46 AM S:\S02\_Site2\_Layout\_2D.dgn

ISSUE	DATE	DESCRIPTION

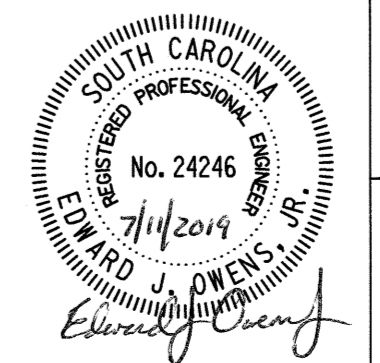
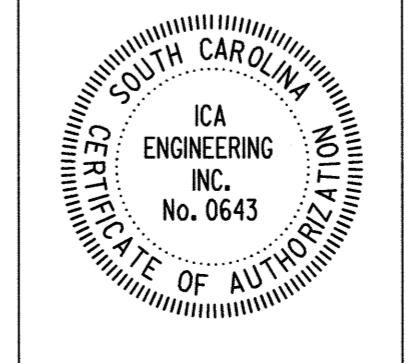
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DESIGNED BY:	TM
DRAWN BY:	TM
CHECKED BY:	AA



NEWBERRY COUNTY  
1309 COLLEGE STREET  
NEWBERRY, SC 29108

**HR ICA**

ICA Engineering Inc.  
1122 Lady Street, Suite 1100, Columbia, SC 29201



PROJECT:  
**NEWBERRY COUNTY CAPITAL SALES  
TAX PROJECT NO. 6  
TEN WATER POINT LOCATIONS  
FOR THE CONSOLIDATED FIRE DISTRICT**

DRAWING:  
SITE LAYOUT  
SITE 2 - 166 TYGER RIVER ROAD  
TMS#546-27

DRAWING NO.:

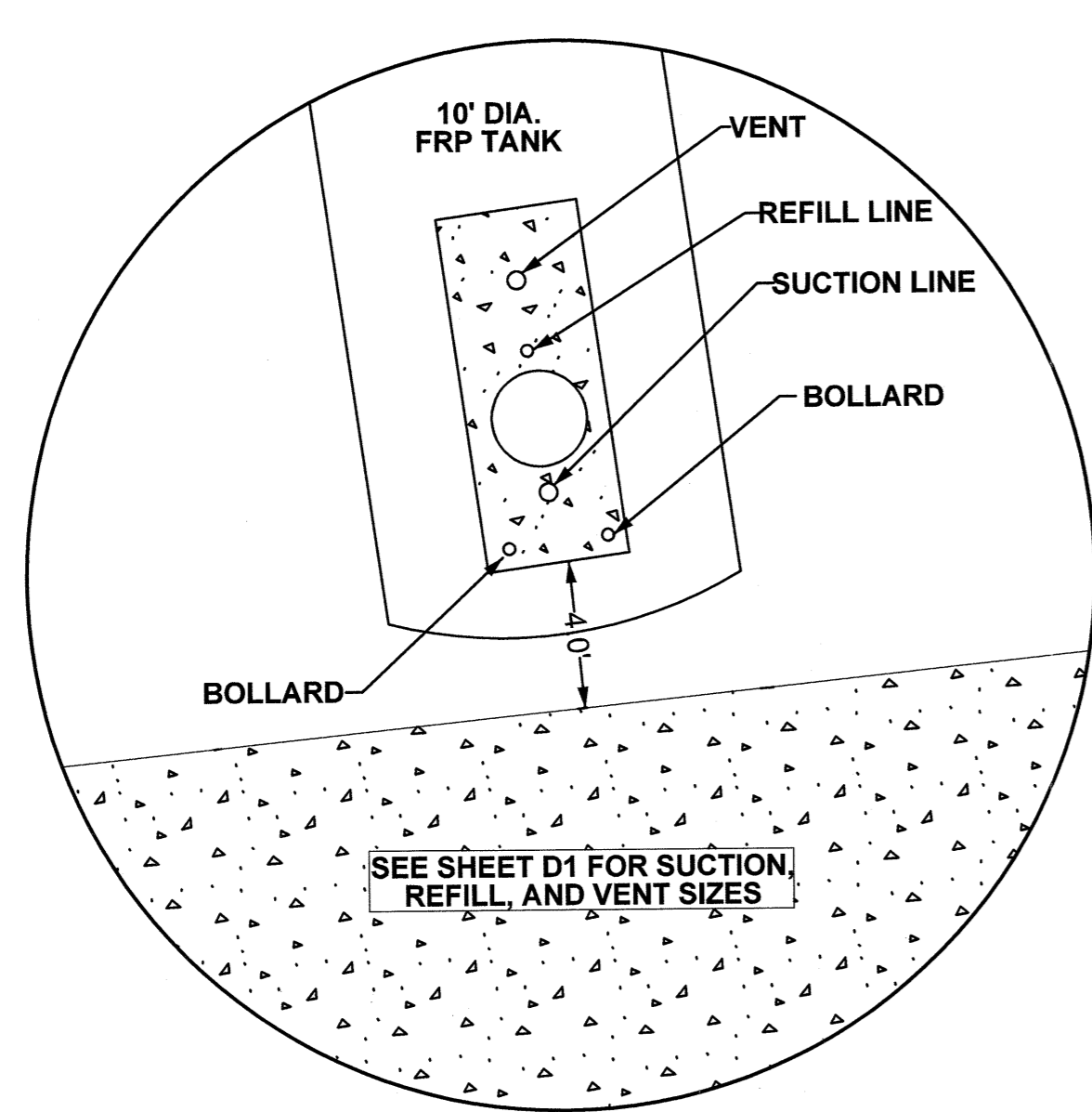
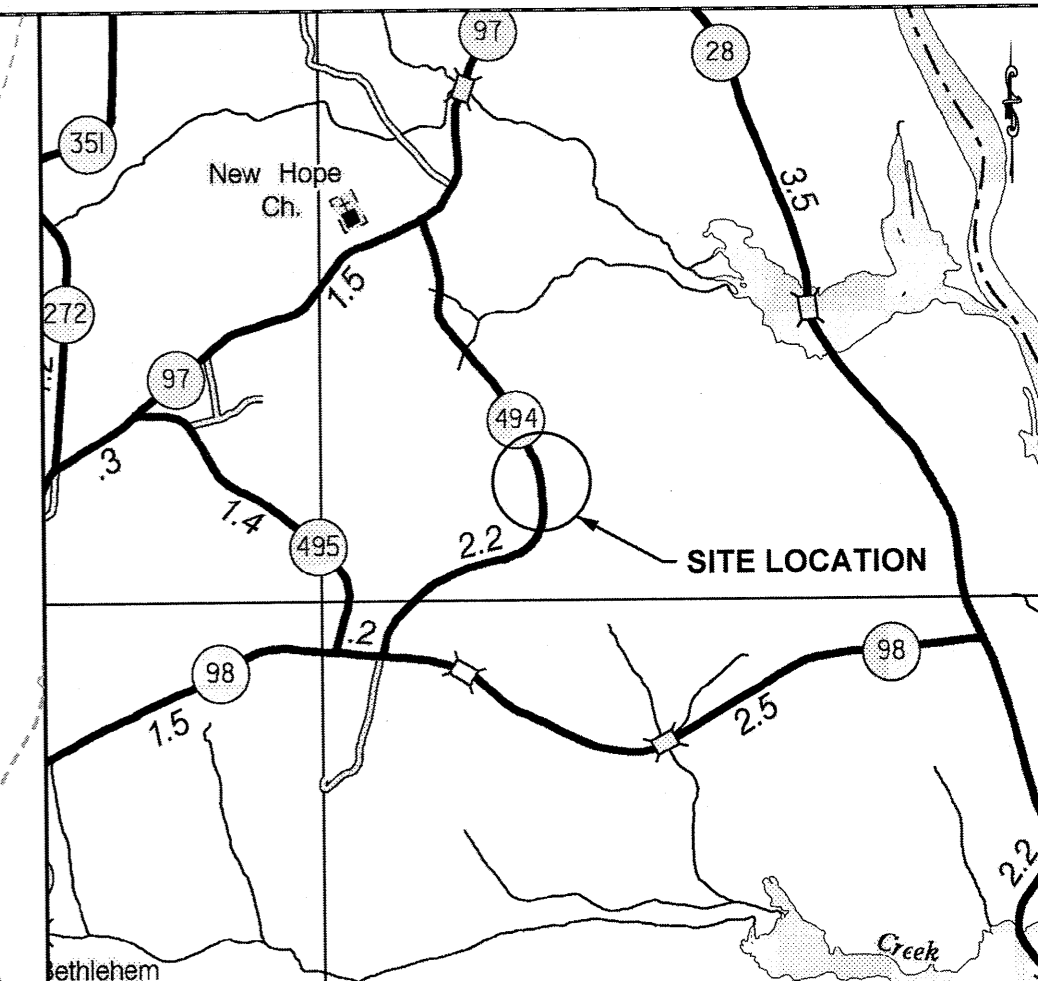
**S2**

PROJECT CONTROL POINTS			
POINT	EASTING(X)	NORTHING (Y)	ELEV. (Z)
CP1	1880218.61	902378.22	375.26
CP2	1880052.53	902150.20	-
CP3	1880077.30	901965.28	-

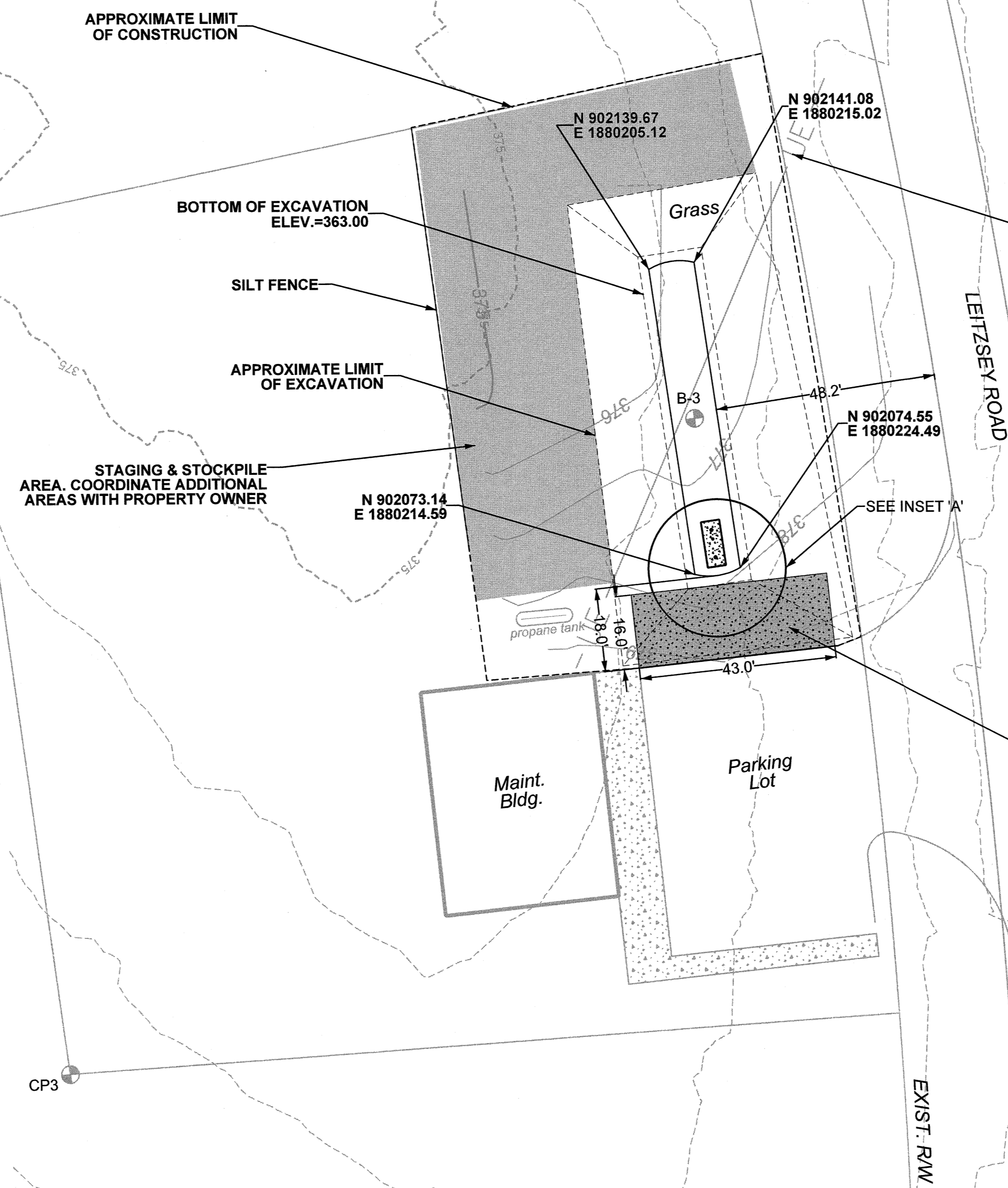
BORING LOCATION		
POINT	EASTING(X)	NORTHING (Y)
B-3	1880214.80	902107.11

CP1 LOCATED APPROXIMATELY 190 FEET FROM PROPERTY LINE IN CENTER OF ROADWAY. 3/4" IRON PIN WITH OPEN END

CONTRACTOR SHALL REVIEW SITE CONDITIONS IN FIELD PRIOR TO SUBMITTING BID TO VERIFY WORK REQUIRED.



INSET 'A'



APPROXIMATE LOCATION OF UNDERGROUND ELECTRIC LINE CONTRACTOR TO VERIFY LOCATION AND RELOCATE OR COORDINATE WITH UTILITY AS NECESSARY

77 SY OF 6" THICK FIBER REINFORCED CONCRETE SEE DETAIL ON SHEET D3

- NOTES:
- CONTRACTOR SHALL STOCKPILE WASTE EXCAVATION ON-SITE. COORDINATE LOCATION WITH PROPERTY OWNER.
  - CONTRACTOR SHALL NOT DISRUPT THE NORMAL OPERATION OF THE SITE BY PLACEMENT OF STORED MATERIALS AND EQUIPMENT.
  - PERIMETER EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO BEGINNING LAND DISTURBING ACTIVITIES.
  - CONTRACTOR SHALL PROVIDE SEDIMENT AND EROSION CONTROL MEASURES IN ACCORDANCE WITH THE PERMITTING REQUIREMENTS AND MAINTAIN MEASURES THROUGHOUT CONSTRUCTION.
  - ALL EROSION CONTROL MEASURES SHALL BE INSPECTED ONCE EVERY CALENDAR WEEK. IF SITE INSPECTIONS IDENTIFY BMPs THAT ARE DAMAGED OR ARE NOT OPERATING EFFECTIVELY, MAINTENANCE SHALL BE PERFORMED AS SOON AS PRACTICAL AND BEFORE THE NEXT STORM EVENT.
  - THE CONTRACTOR MUST TAKE ALL PRECAUTIONS NECESSARY TO MINIMIZE THE TRACKING OF MUD ONTO PAVED SURFACES INCLUDING ROADWAYS FROM CONSTRUCTION AREAS AND THE GENERATION OF DUST. THE CONTRACTOR SHALL DAILY REMOVE MUD/SOIL FROM PAVEMENT AS MAY BE REQUIRED.
  - LITTER, CONSTRUCTION DEBRIS, OILS, FUELS, AND BUILDING PRODUCTS WITH SIGNIFICANT POTENTIAL FOR IMPACT (SUCH AS STOCKPILES OF FRESHLY TREATED LUMBER) AND CONSTRUCTION CHEMICALS THAT COULD BE EXPOSED TO STORM WATER MUST BE PREVENTED FROM BECOMING A POLLUTANT SOURCE IN STORM WATER DISCHARGES.
  - CONTRACTOR SHALL COORDINATE THE LOCATION OF STAGING & STOCKPILING AREAS AND OTHER TEMPORARY FACILITIES REQUIRED WITH THE PROPERTY OWNER. ALL STAGING & STOCKPILING AREAS SHALL BE PROTECTED FROM NON-CONSTRUCTION TRAFFIC BY TEMPORARY CHAIN LINK FENCE.
  - MINIMIZE THE DURATION OF OPEN EXCAVATIONS AS MUCH AS FEASIBLE. ANY OPEN EXCAVATIONS LEFT OVERNIGHT MUST BE PROTECTED FROM PEDESTRIAN AND VEHICULAR TRAFFIC, AT A MINIMUM, BY HIGH VISIBILITY SAFETY FENCING.
  - WHEN GRADING BETWEEN CONTOURS AND SPOT ELEVATIONS, THE CONTRACTOR SHALL GRADE ON A UNIFORM SLOPE.
  - UNLESS OTHERWISE SHOWN, PROPOSED GRADES SHALL MATCH EXISTING GRADES.

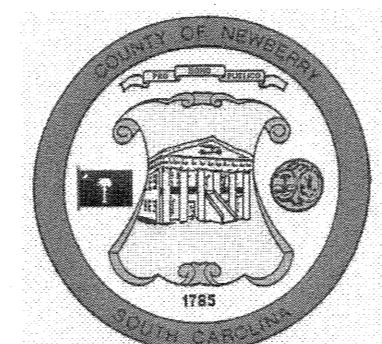
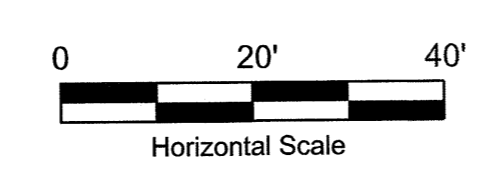
LEGEND	
--- 435 ---	EXISTING CONTOUR
— 438 —	PROPOSED CONTOUR
▒	NEW CONCRETE DRIVE
▨	NEW GRAVEL DRIVE
▧	NEW ASPHALT DRIVE
▩	STAGING/STOCKPILE AREA
▤	ASPHALT REMOVAL
- - -	SILT FENCE
- BERM -	DIVERSION BERM

NPDES DISTURBED AREA  
AREA= 0.23 ACRES

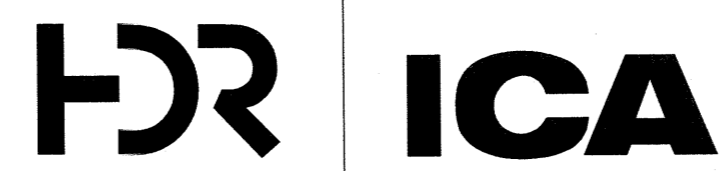
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ISSUE	DATE	DESCRIPTION

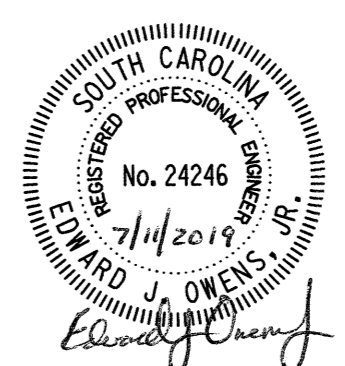
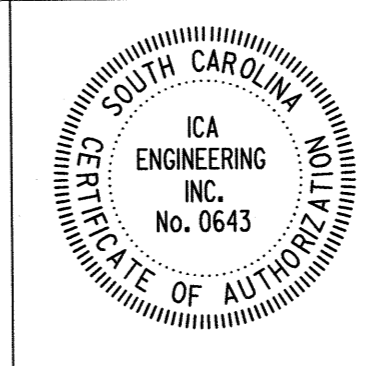
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DESIGNED BY:	TM
DRAWN BY:	TM
CHECKED BY:	AA



NEWBERRY COUNTY  
1309 COLLEGE STREET  
NEWBERRY, SC 29108



ICA Engineering Inc.  
1122 Lady Street, Suite 1100, Columbia, SC 29201



PROJECT:  
**NEWBERRY COUNTY CAPITAL SALES  
TAX PROJECT NO. 6  
TEN WATER POINT LOCATIONS  
FOR THE CONSOLIDATED FIRE DISTRICT**

DRAWING:  
SITE LAYOUT  
SITE 3 - 1163 LEITZSEY ROAD  
TMS#684-26

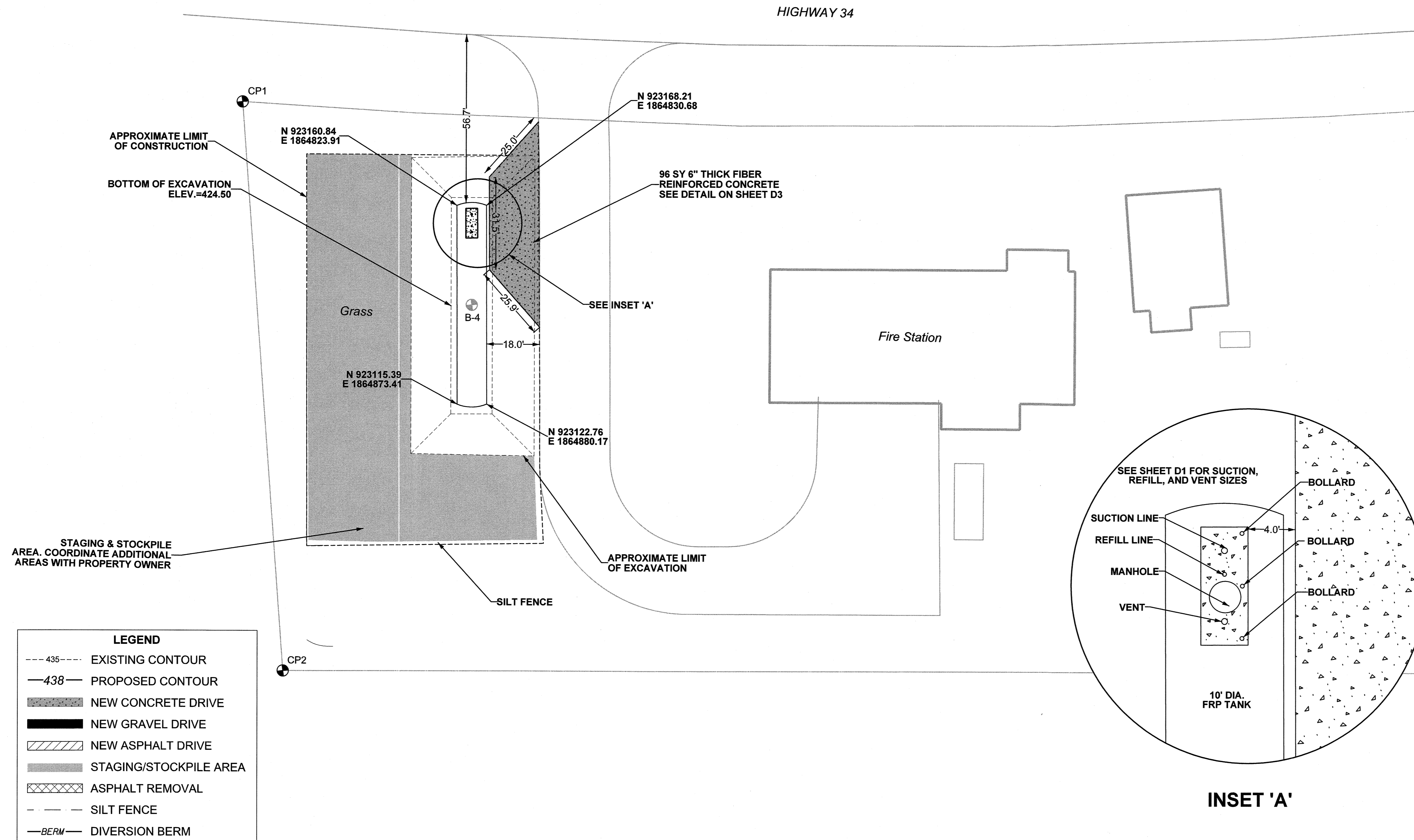
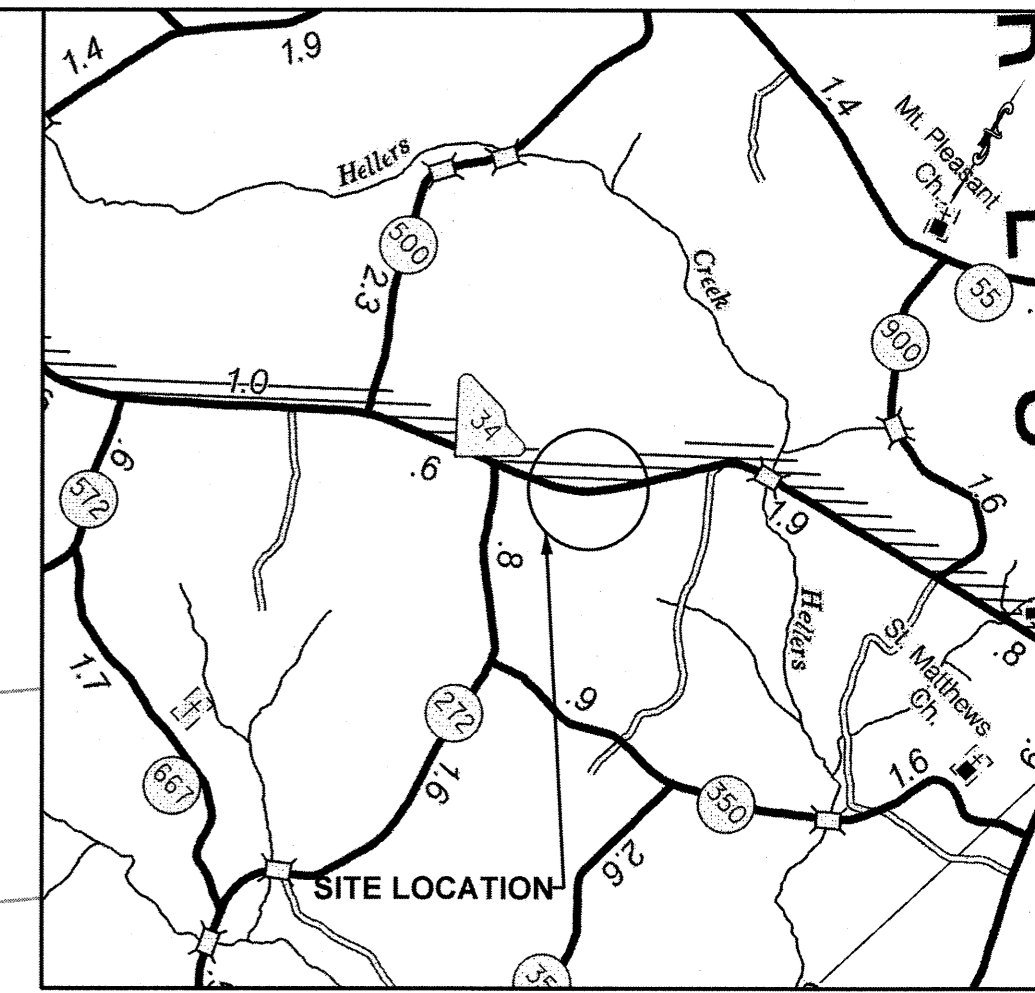
DRAWING NO.:

# S3

PROJECT CONTROL POINTS			
POINT	EASTING(X)	NORTHING (Y)	ELEV. (Z)
CP1	1864748.88	923131.26	438.42
CP2	1864899.78	923010.94	432.38

BORING LOCATION		
POINT	EASTING(X)	NORTHING (Y)
B-4	1864748.88	923131.26

CONTRACTOR SHALL REVIEW SITE CONDITIONS IN FIELD PRIOR TO SUBMITTING BID TO VERIFY WORK REQUIRED.



- NOTES:
- CONTRACTOR SHALL STOCKPILE WASTE EXCAVATION ON-SITE. COORDINATE LOCATION WITH PROPERTY OWNER.
  - CONTRACTOR SHALL NOT DISRUPT THE NORMAL OPERATION OF THE SITE BY PLACEMENT OF STORED MATERIALS AND EQUIPMENT.
  - PERIMETER EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO BEGINNING LAND DISTURBING ACTIVITIES.
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  - THE CONTRACTOR MUST TAKE ALL PRECAUTIONS NECESSARY TO MINIMIZE THE TRACKING OF MUD ONTO PAVED SURFACES INCLUDING ROADWAYS FROM CONSTRUCTION AREAS AND THE GENERATION OF DUST. THE CONTRACTOR SHALL DAILY REMOVE MUD/SOIL FROM PAVEMENT AS MAY BE REQUIRED.
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  - WHEN GRADING BETWEEN CONTOURS AND SPOT ELEVATIONS, THE CONTRACTOR SHALL GRADE ON A UNIFORM SLOPE.
  - UNLESS OTHERWISE SHOWN, PROPOSED GRADES SHALL MATCH EXISTING GRADES.

**LEGEND**

- 435--- EXISTING CONTOUR
- 438--- PROPOSED CONTOUR
- NEW CONCRETE DRIVE
- NEW GRAVEL DRIVE
- NEW ASPHALT DRIVE
- STAGING/STOCKPILE AREA
- ASPHALT REMOVAL
- SILT FENCE
- BERM--- DIVERSION BERM

NPDES DISTURBED AREA  
AREA= 0.24 ACRES

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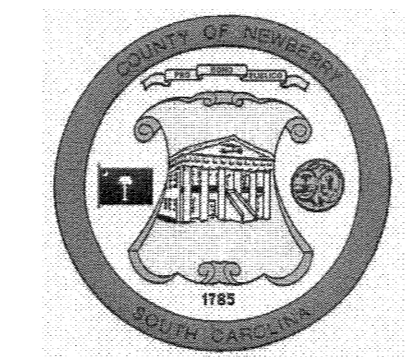
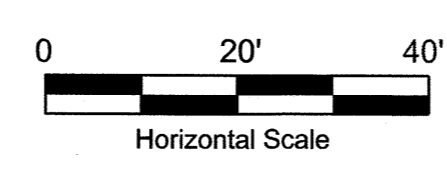
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HDR/ICA JOB NO.:  
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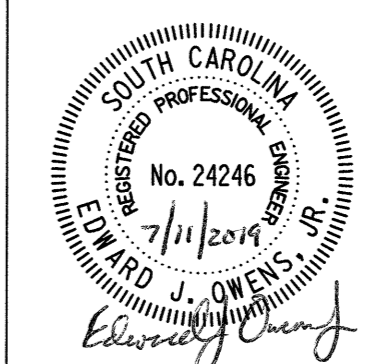
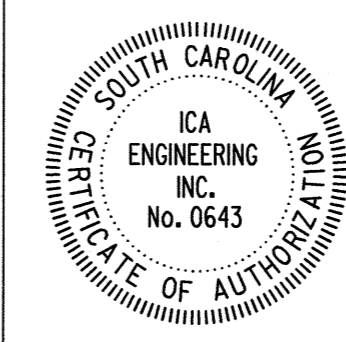
DESIGNED BY: TM

DRAWN BY: TM

CHECKED BY: AA



NEWBERRY COUNTY  
1309 COLLEGE STREET  
NEWBERRY, SC 29108



PROJECT:  
**NEWBERRY COUNTY CAPITAL SALES  
TAX PROJECT NO. 6  
TEN WATER POINT LOCATIONS  
FOR THE CONSOLIDATED FIRE DISTRICT**

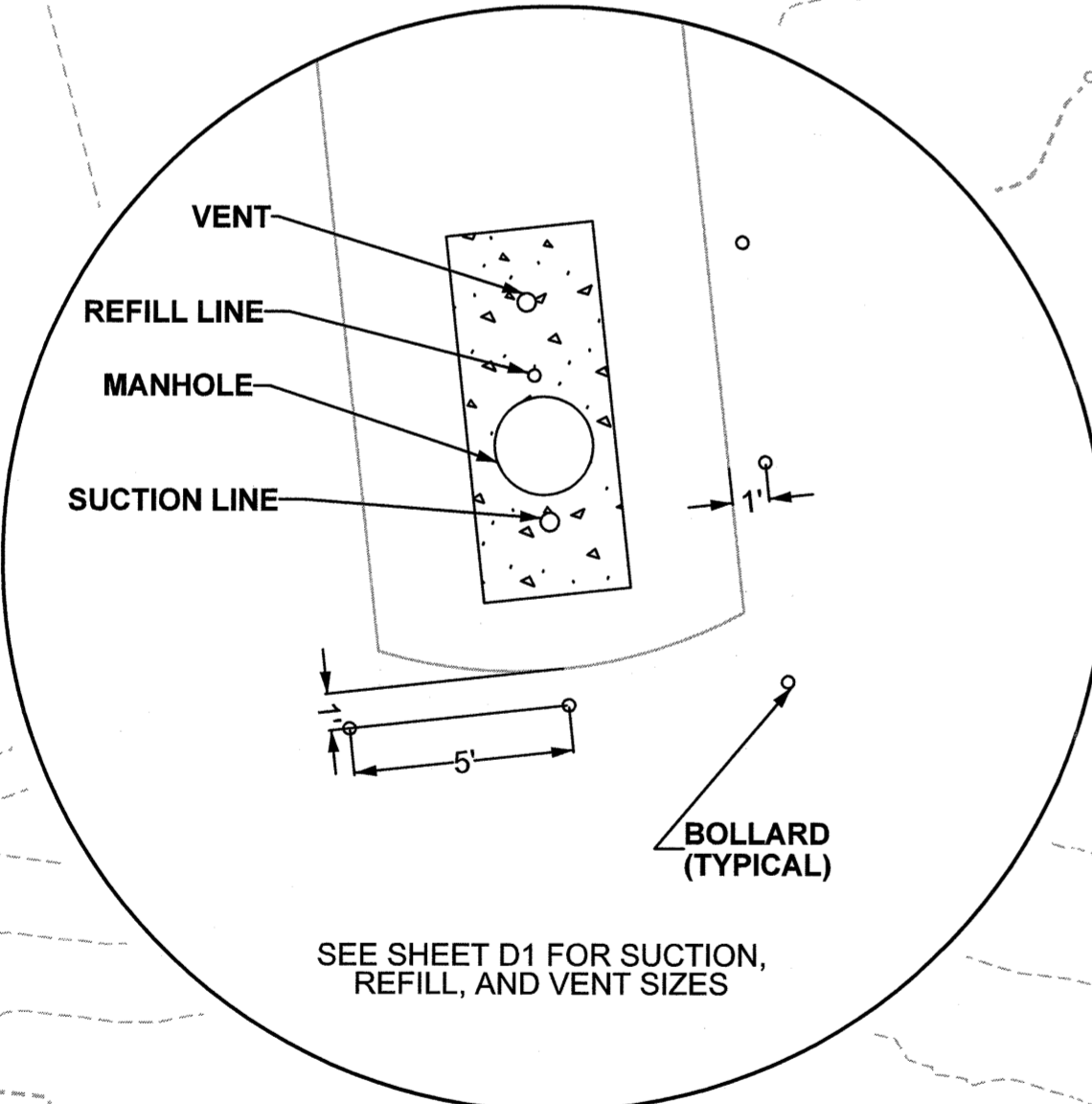
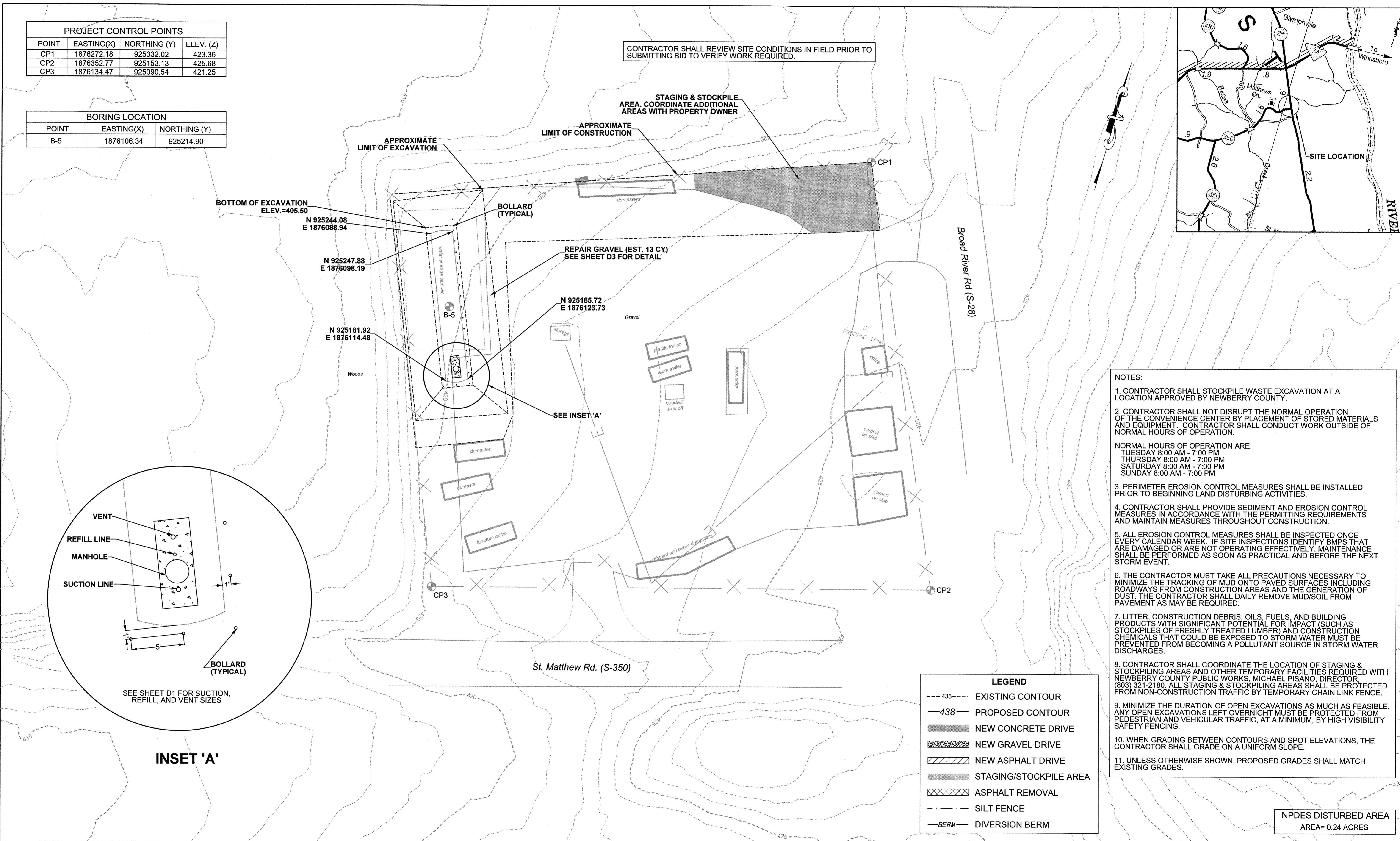
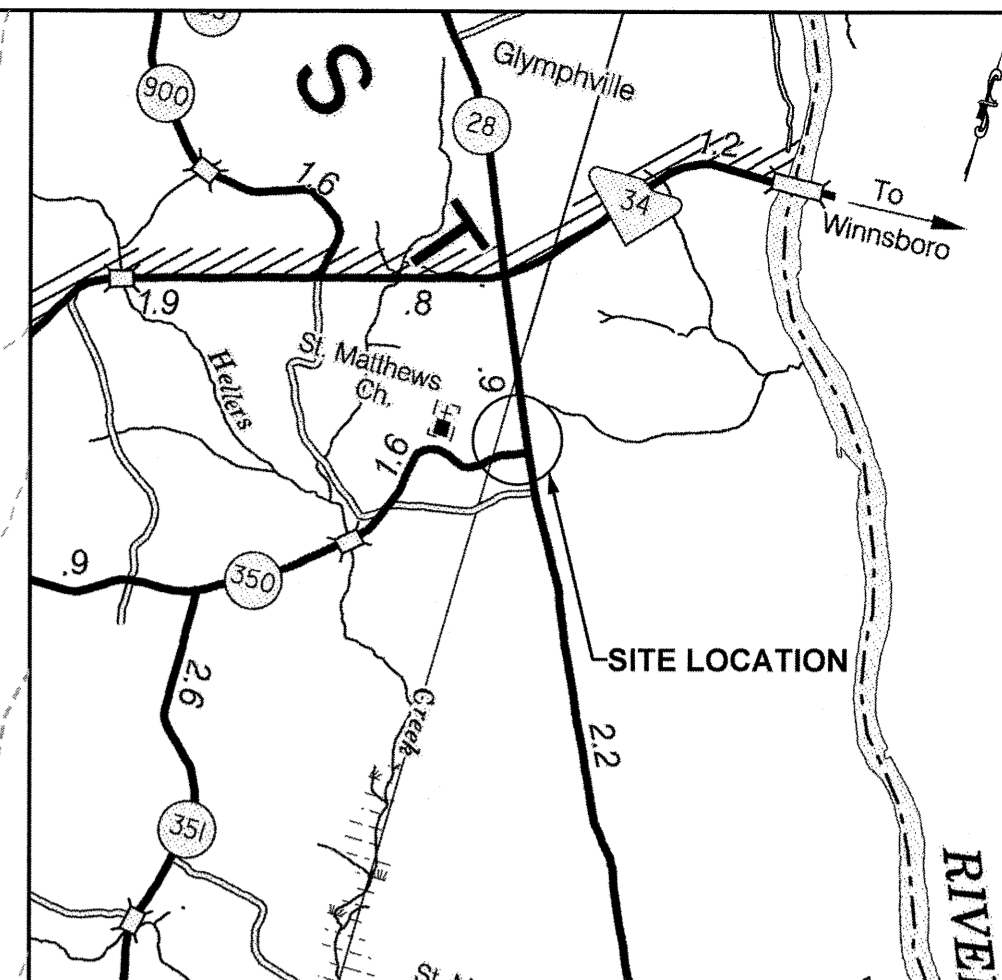
DRAWING:  
SITE LAYOUT  
SITE 4 - 3464 HIGHWAY 34  
TMS# 615-10

DRAWING NO.:  
**S4**

PROJECT CONTROL POINTS			
POINT	EASTING(X)	NORTHING (Y)	ELEV. (Z)
CP1	1876272.18	925332.02	423.36
CP2	1876352.77	925153.13	425.68
CP3	1876134.47	925090.54	421.25

BORING LOCATION		
POINT	EASTING(X)	NORTHING (Y)
B-5	1876106.34	925214.90

CONTRACTOR SHALL REVIEW SITE CONDITIONS IN FIELD PRIOR TO SUBMITTING BID TO VERIFY WORK REQUIRED.



INSET 'A'

- NOTES:**
- CONTRACTOR SHALL STOCKPILE WASTE EXCAVATION AT A LOCATION APPROVED BY NEWBERRY COUNTY.
  - CONTRACTOR SHALL NOT DISRUPT THE NORMAL OPERATION OF THE CONVENIENCE CENTER BY PLACEMENT OF STORED MATERIALS AND EQUIPMENT. CONTRACTOR SHALL CONDUCT WORK OUTSIDE OF NORMAL HOURS OF OPERATION.
  - NORMAL HOURS OF OPERATION ARE:  
TUESDAY 8:00 AM - 7:00 PM  
THURSDAY 8:00 AM - 7:00 PM  
SATURDAY 8:00 AM - 7:00 PM  
SUNDAY 8:00 AM - 7:00 PM
  - PERIMETER EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO BEGINNING LAND DISTURBING ACTIVITIES.
  - CONTRACTOR SHALL PROVIDE SEDIMENT AND EROSION CONTROL MEASURES IN ACCORDANCE WITH THE PERMITTING REQUIREMENTS AND MAINTAIN MEASURES THROUGHOUT CONSTRUCTION.
  - ALL EROSION CONTROL MEASURES SHALL BE INSPECTED ONCE EVERY CALENDAR WEEK. IF SITE INSPECTIONS IDENTIFY BMPs THAT ARE DAMAGED OR ARE NOT OPERATING EFFECTIVELY, MAINTENANCE SHALL BE PERFORMED AS SOON AS PRACTICAL AND BEFORE THE NEXT STORM EVENT.
  - THE CONTRACTOR MUST TAKE ALL PRECAUTIONS NECESSARY TO MINIMIZE THE TRACKING OF MUD ONTO PAVED SURFACES INCLUDING ROADWAYS FROM CONSTRUCTION AREAS AND THE GENERATION OF DUST. THE CONTRACTOR SHALL DAILY REMOVE MUD/SOIL FROM PAVEMENT AS MAY BE REQUIRED.
  - LITTER, CONSTRUCTION DEBRIS, OILS, FUELS, AND BUILDING PRODUCTS WITH SIGNIFICANT POTENTIAL FOR IMPACT (SUCH AS STOCKPILES OF FRESHLY TREATED LUMBER) AND CONSTRUCTION CHEMICALS THAT COULD BE EXPOSED TO STORM WATER MUST BE PREVENTED FROM BECOMING A POLLUTANT SOURCE IN STORM WATER DISCHARGES.
  - CONTRACTOR SHALL COORDINATE THE LOCATION OF STAGING & STOCKPILING AREAS AND OTHER TEMPORARY FACILITIES REQUIRED WITH NEWBERRY COUNTY PUBLIC WORKS, MICHAEL PISANO, DIRECTOR, (803) 321-2180. ALL STAGING & STOCKPILING AREAS SHALL BE PROTECTED FROM NON-CONSTRUCTION TRAFFIC BY TEMPORARY CHAIN LINK FENCE.
  - MINIMIZE THE DURATION OF OPEN EXCAVATIONS AS MUCH AS FEASIBLE. ANY OPEN EXCAVATIONS LEFT OVERNIGHT MUST BE PROTECTED FROM PEDESTRIAN AND VEHICULAR TRAFFIC, AT A MINIMUM, BY HIGH VISIBILITY SAFETY FENCING.
  - WHEN GRADING BETWEEN CONTOURS AND SPOT ELEVATIONS, THE CONTRACTOR SHALL GRADE ON A UNIFORM SLOPE.
  - UNLESS OTHERWISE SHOWN, PROPOSED GRADES SHALL MATCH EXISTING GRADES.

**LEGEND**

--- 435 ---	EXISTING CONTOUR
— 438 —	PROPOSED CONTOUR
■	NEW CONCRETE DRIVE
▨	NEW GRAVEL DRIVE
▩	NEW ASPHALT DRIVE
■	STAGING/STOCKPILE AREA
▨	ASPHALT REMOVAL
- - -	SILT FENCE
— BERM —	DIVERSION BERM

NPDES DISTURBED AREA  
AREA= 0.24 ACRES

7/11/2019 1:40:22:48:50:8 Shms05 Site 5 Layout.dgn

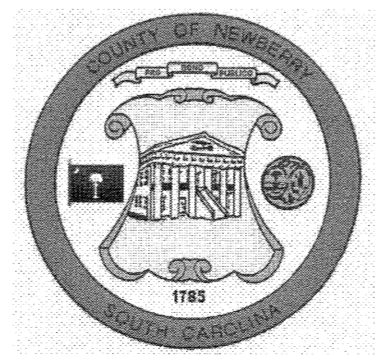
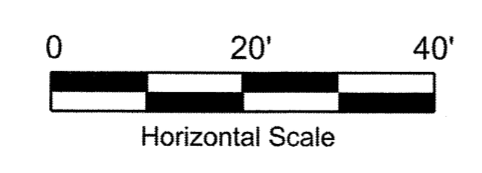
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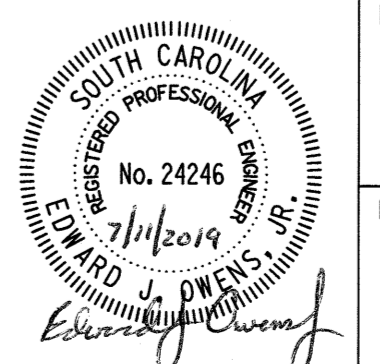
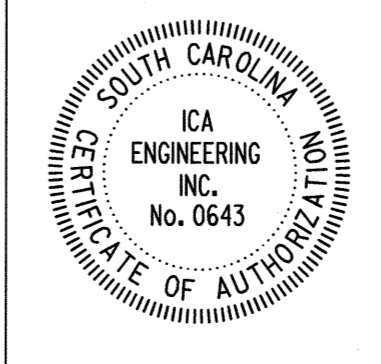
DESIGNED BY: TM

DRAWN BY: TM

CHECKED BY: AA



NEWBERRY COUNTY  
1309 COLLEGE STREET  
NEWBERRY, SC 29108



PROJECT: **NEWBERRY COUNTY CAPITAL SALES TAX PROJECT NO. 6 TEN WATER POINT LOCATIONS FOR THE CONSOLIDATED FIRE DISTRICT**

DRAWING: **SITE LAYOUT SITE 5 - 10671 BROAD RIVER ROAD RECYCLING CENTER TMS# 673-18**

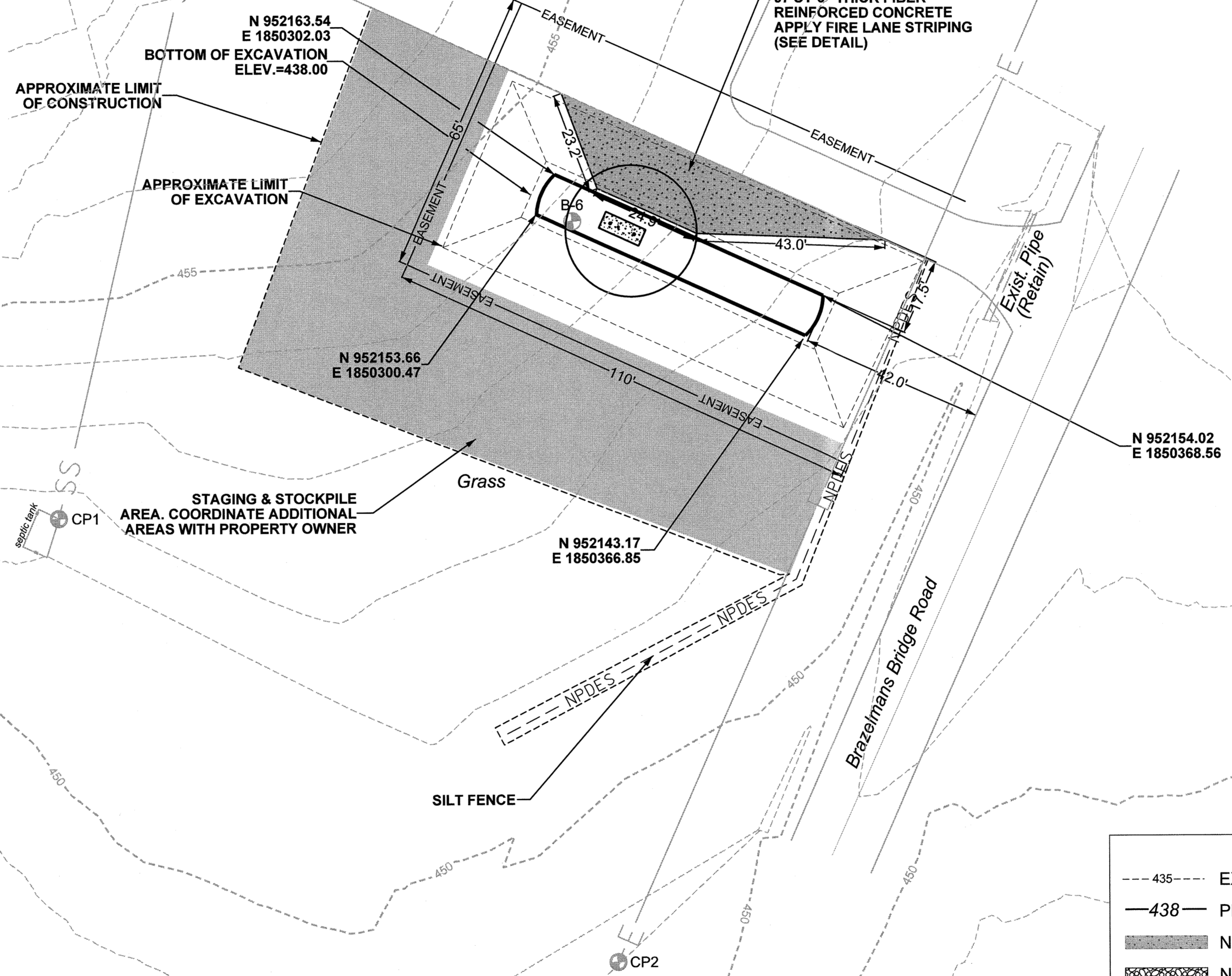
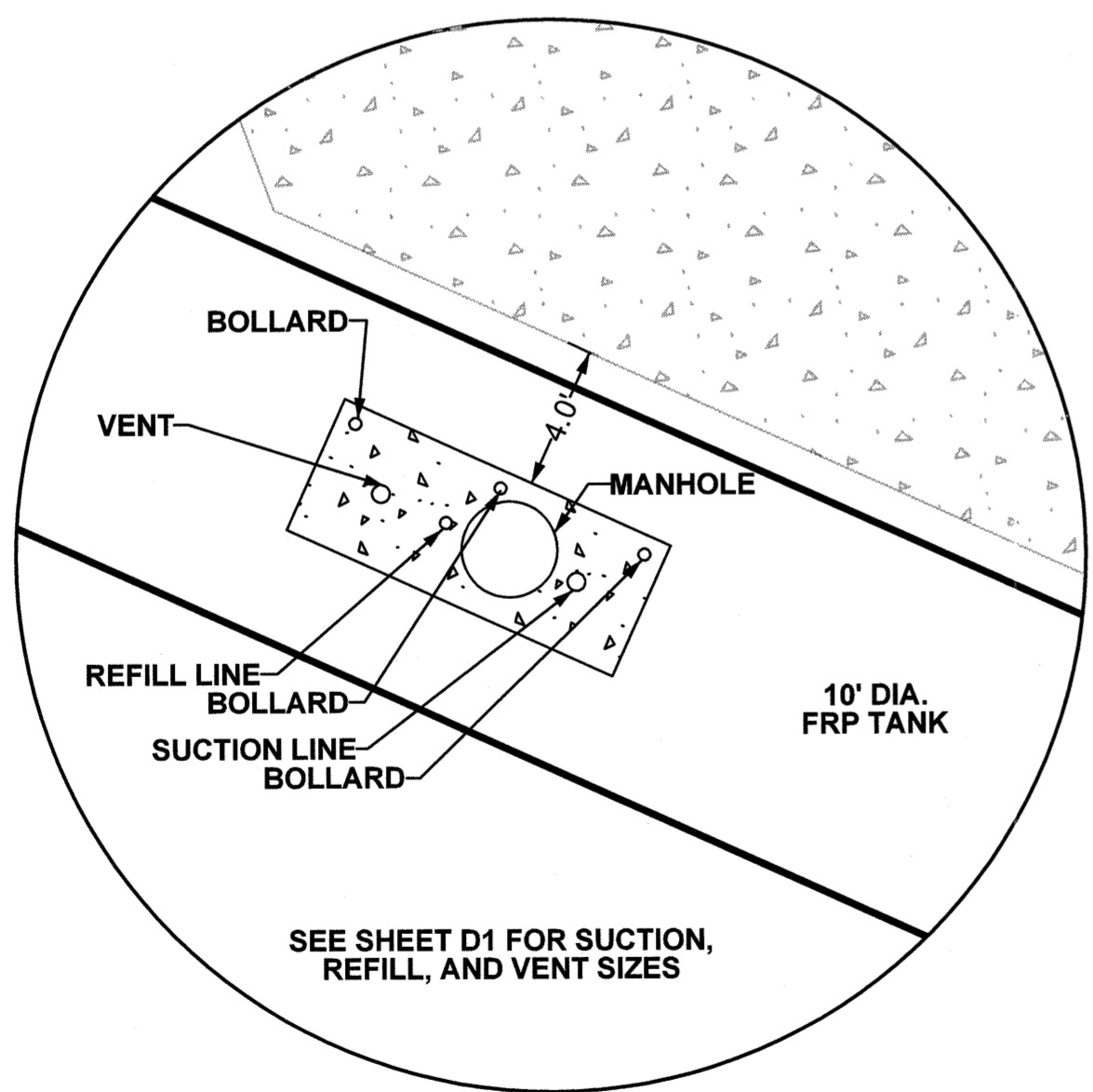
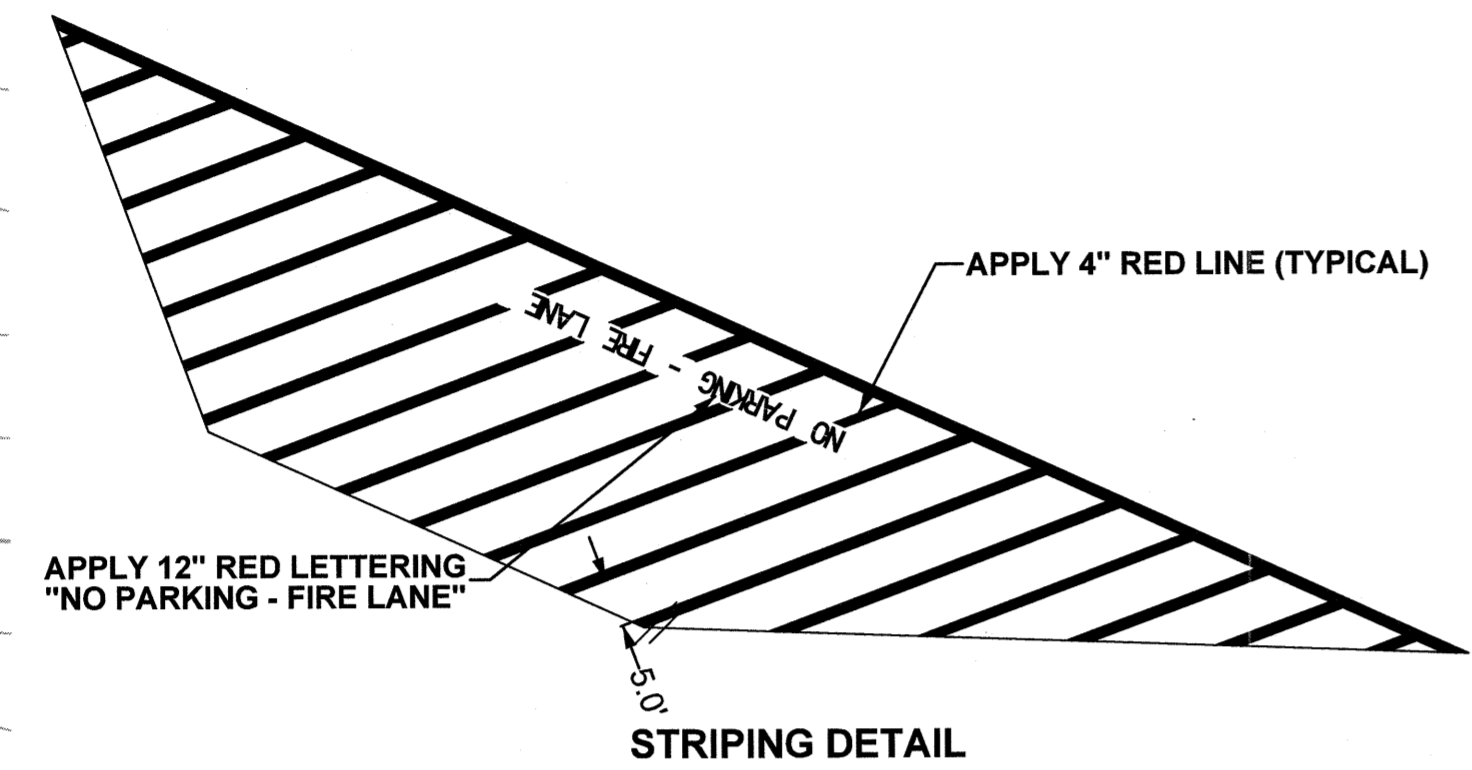
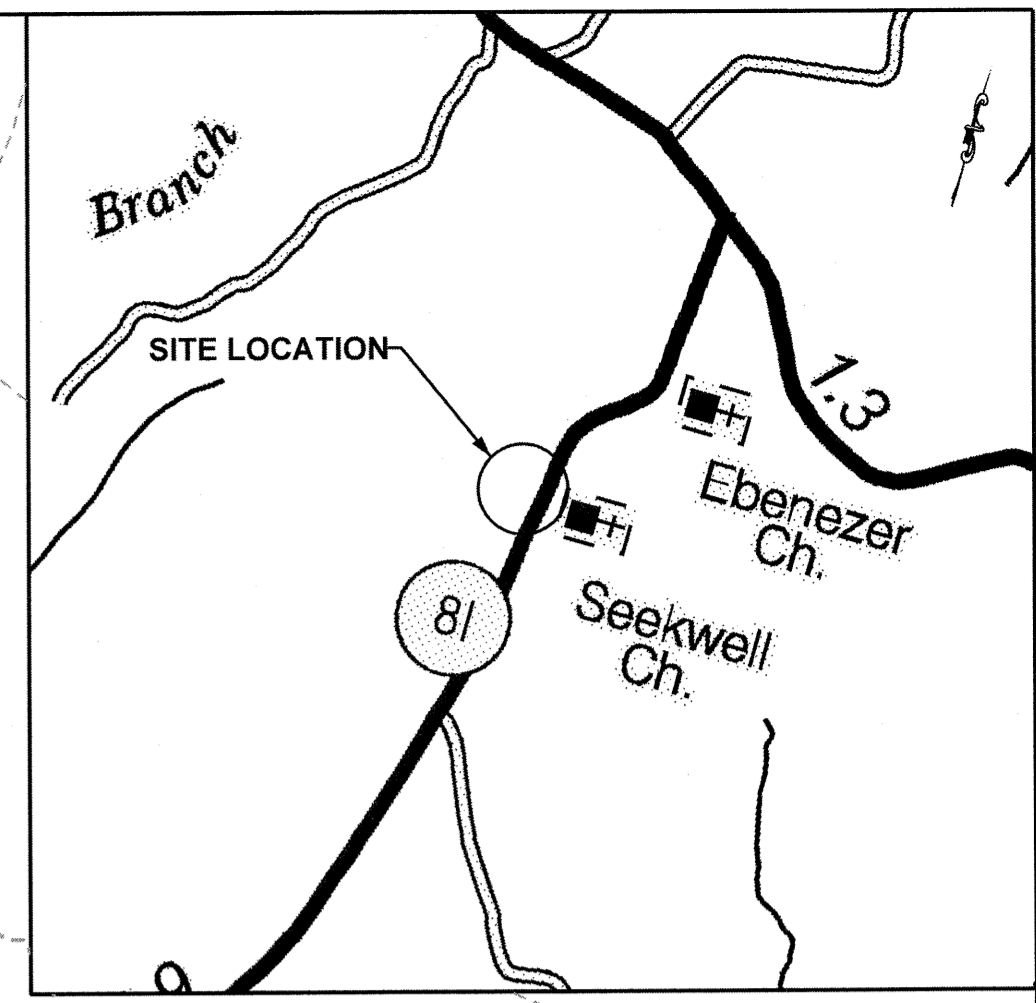
DRAWING NO.: **S5**



PROJECT CONTROL POINTS			
POINT	EASTING(X)	NORTHING (Y)	ELEV. (Z)
CP1	1850214.90	952056.96	451.63
CP2	1850365.27	951995.12	449.12
CP3	1850397.88	952238.54	452.21

BORING LOCATION		
POINT	EASTING(X)	NORTHING (Y)
B-6	1850308.83	952154.46

CONTRACTOR SHALL REVIEW SITE CONDITIONS IN FIELD PRIOR TO SUBMITTING BID TO VERIFY WORK REQUIRED.



- NOTES:
- CONTRACTOR SHALL COORDINATE SCHEDULE WITH CHURCH OFFICIALS SO AS NOT TO DISRUPT CHURCH OPERATIONS.
  - CONTRACTOR SHALL STOCKPILE WASTE EXCAVATION ON-SITE. COORDINATE LOCATION WITH CHURCH OFFICIALS.
  - CONTRACTOR SHALL LOCATE STAGING & STOCKPILING SO AS NOT TO DISRUPT TRAFFIC CIRCULATION ON-SITE. CONTRACTOR SHALL KEEP MACHINERY OFF OF PAVED SURFACES. CONTRACTOR IS RESPONSIBLE FOR REPAIR OF ANY PAVED SURFACES DAMAGED DURING CONSTRUCTION.
  - PERIMETER EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO BEGINNING LAND DISTURBING ACTIVITIES.
  - CONTRACTOR SHALL PROVIDE SEDIMENT AND EROSION CONTROL MEASURES IN ACCORDANCE WITH THE PERMITTING REQUIREMENTS AND MAINTAIN MEASURES THROUGHOUT CONSTRUCTION.
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  - UNLESS OTHERWISE SHOWN, PROPOSED GRADES SHALL MATCH EXISTING GRADES.

LEGEND

--- 435 ---	EXISTING CONTOUR
— 438 —	PROPOSED CONTOUR
[Solid Grey Box]	NEW CONCRETE DRIVE
[Hatched Box]	NEW GRAVEL DRIVE
[Diagonal Lines Box]	NEW ASPHALT DRIVE
[Dotted Box]	STAGING/STOCKPILE AREA
[Cross-hatched Box]	ASPHALT REMOVAL
---	SILT FENCE
—BERM—	DIVERSION BERM

7/11/2019 1:02:48 PM Site 6 Layout.dgn

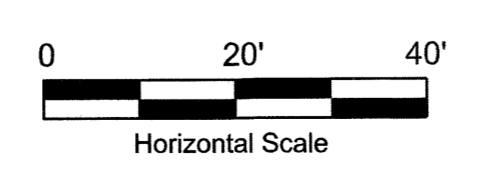
ISSUE	DATE	DESCRIPTION

HDR/ICA JOB NO.:  
10059106

DESIGNED BY: TM

DRAWN BY: TM

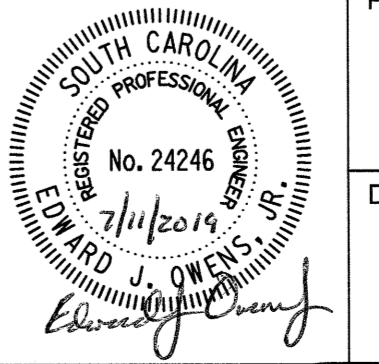
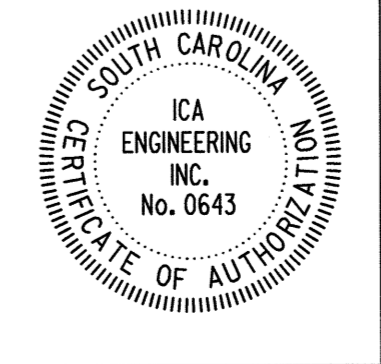
CHECKED BY: AA



NEWBERRY COUNTY  
1309 COLLEGE STREET  
NEWBERRY, SC 29108

**HR ICA**

ICA Engineering Inc.  
1122 Lady Street, Suite 1100, Columbia, SC 29201



PROJECT:  
**NEWBERRY COUNTY CAPITAL SALES  
TAX PROJECT NO. 6  
TEN WATER POINT LOCATIONS  
FOR THE CONSOLIDATED FIRE DISTRICT**

DRAWING:  
SITE LAYOUT  
SITE 6 - 6167 BRAZELMANS BRIDGE RD  
TMS# 486-4

DRAWING NO.:  
**S6**

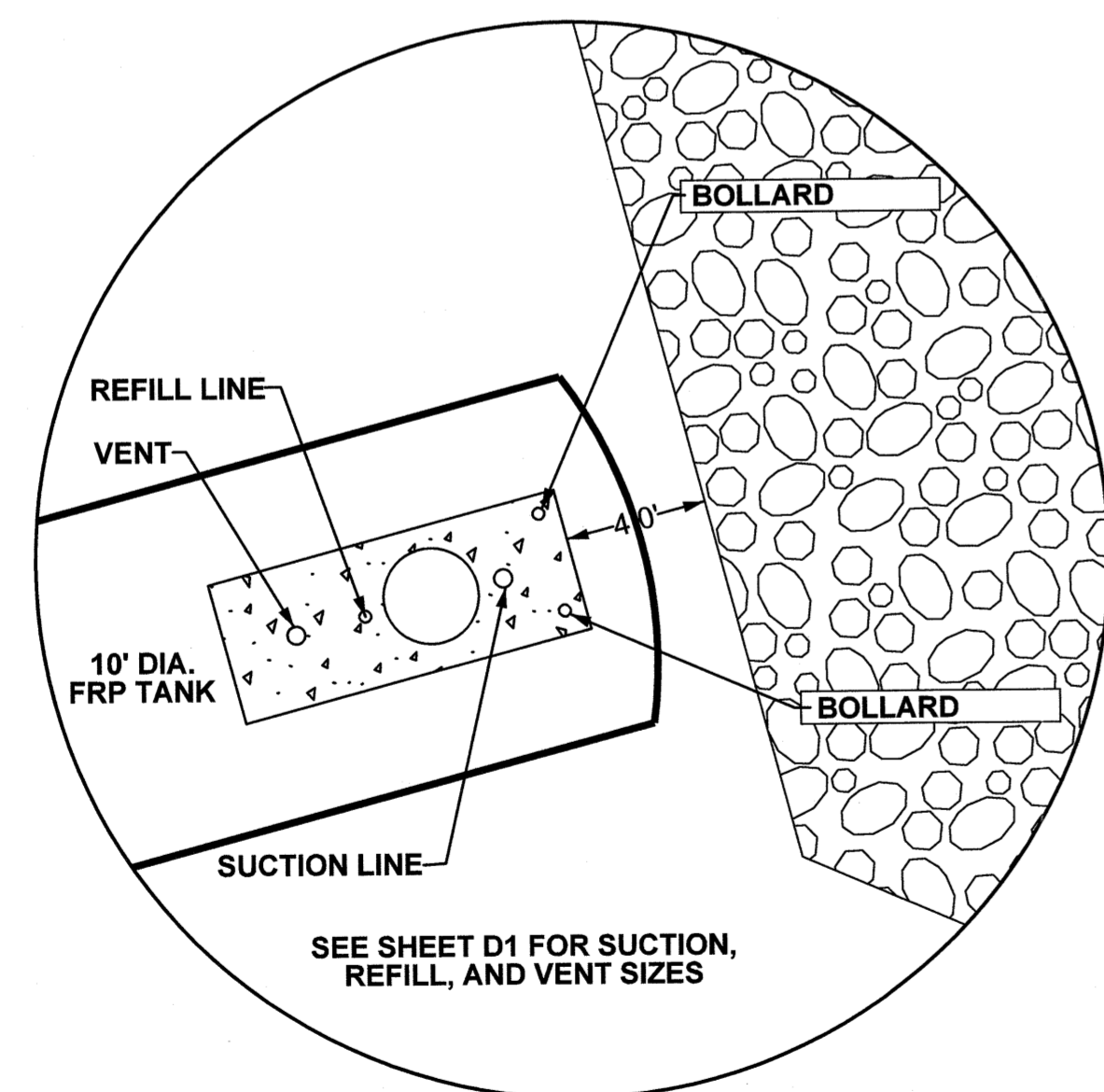
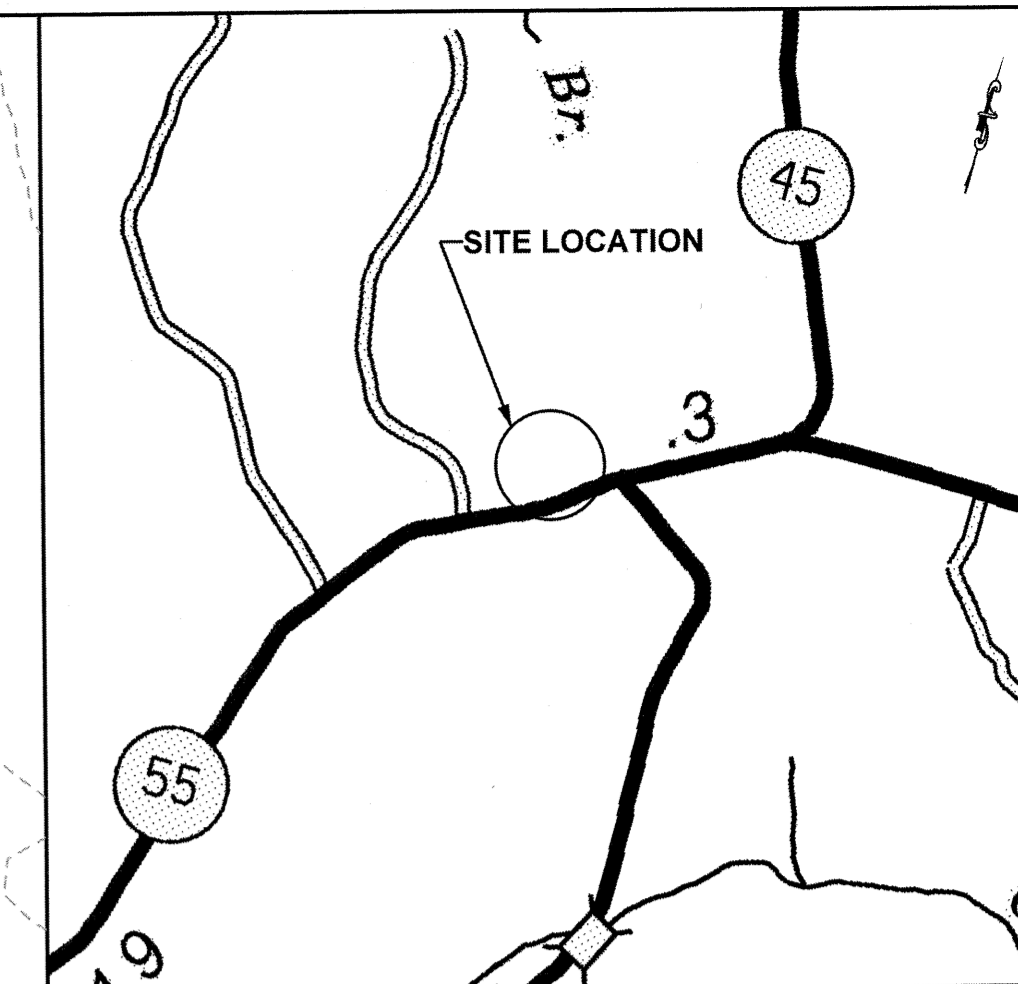
PROJECT CONTROL POINTS			
POINT	EASTING(X)	NORTHING (Y)	ELEV. (Z)
CP1	1856969.76	931001.87	447.83
CP2	1856301.02	931463.06	448.14
CP3	1856464.33	931578.56	453.57

BORING LOCATION		
POINT	EASTING(X)	NORTHING (Y)
B-7	1856876.90	930993.70

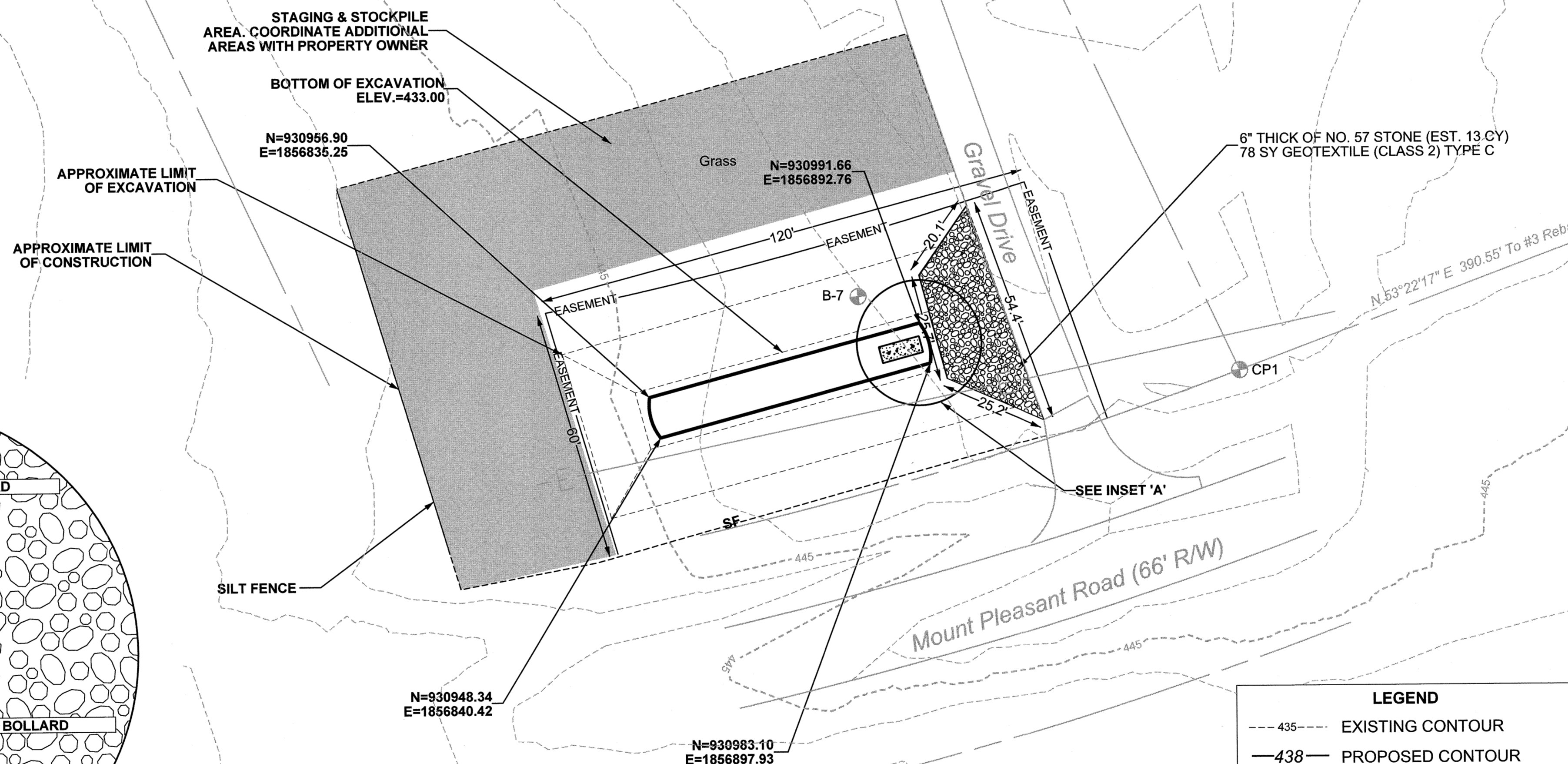
CP2 LOCATED AT NORTHWEST PROPERTY CORNER  
APPROXIMATELY 770-FT FROM EDGE OF ROADWAY  
1.25" IRON PIPE

CP3 LOCATED AT NORTHEAST PROPERTY CORNER  
APPROXIMATELY 790-FT FROM EDGE OF ROADWAY  
1.25" IRON PIPE

CONTRACTOR SHALL REVIEW SITE CONDITIONS IN FIELD PRIOR TO  
SUBMITTING BID TO VERIFY WORK REQUIRED.



INSET 'A'



LEGEND	
--- 435 ---	EXISTING CONTOUR
--- 438 ---	PROPOSED CONTOUR
[Pattern]	NEW CONCRETE DRIVE
[Pattern]	NEW GRAVEL DRIVE
[Pattern]	NEW ASPHALT DRIVE
[Pattern]	STAGING/STOCKPILE AREA
[Pattern]	ASPHALT REMOVAL
---	SILT FENCE
--- BERM ---	DIVERSION BERM

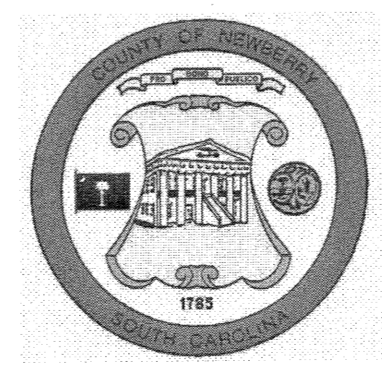
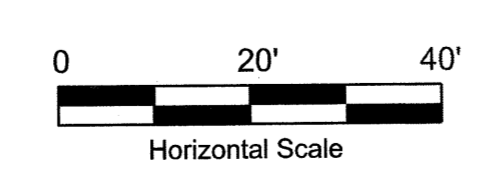
- NOTES:
- CONTRACTOR SHALL STOCKPILE WASTE EXCAVATION ON-SITE. COORDINATE LOCATION WITH PROPERTY OWNER.
  - CONTRACTOR SHALL NOT DISRUPT THE NORMAL OPERATION OF THE SITE BY PLACEMENT OF STORED MATERIALS AND EQUIPMENT.
  - PERIMETER EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO BEGINNING LAND DISTURBING ACTIVITIES.
  - CONTRACTOR SHALL PROVIDE SEDIMENT AND EROSION CONTROL MEASURES IN ACCORDANCE WITH THE PERMITTING REQUIREMENTS AND MAINTAIN MEASURES THROUGHOUT CONSTRUCTION.
  - ALL EROSION CONTROL MEASURES SHALL BE INSPECTED ONCE EVERY CALENDAR WEEK. IF SITE INSPECTIONS IDENTIFY BMPs THAT ARE DAMAGED OR ARE NOT OPERATING EFFECTIVELY, MAINTENANCE SHALL BE PERFORMED AS SOON AS PRACTICAL AND BEFORE THE NEXT STORM EVENT.
  - THE CONTRACTOR MUST TAKE ALL PRECAUTIONS NECESSARY TO MINIMIZE THE TRACKING OF MUD ONTO PAVED SURFACES INCLUDING ROADWAYS FROM CONSTRUCTION AREAS AND THE GENERATION OF DUST. THE CONTRACTOR SHALL DAILY REMOVE MUD/SOIL FROM PAVEMENT AS MAY BE REQUIRED.
  - LITTER, CONSTRUCTION DEBRIS, OILS, FUELS, AND BUILDING PRODUCTS WITH SIGNIFICANT POTENTIAL FOR IMPACT (SUCH AS STOCKPILES OF FRESHLY TREATED LUMBER) AND CONSTRUCTION CHEMICALS THAT COULD BE EXPOSED TO STORM WATER MUST BE PREVENTED FROM BECOMING A POLLUTANT SOURCE IN STORM WATER DISCHARGES.
  - CONTRACTOR SHALL COORDINATE THE LOCATION OF STAGING & STOCKPILING AREAS AND OTHER TEMPORARY FACILITIES REQUIRED WITH THE PROPERTY OWNER. ALL STAGING & STOCKPILING AREAS SHALL BE PROTECTED FROM NON-CONSTRUCTION TRAFFIC BY TEMPORARY CHAIN LINK FENCE.
  - MINIMIZE THE DURATION OF OPEN EXCAVATIONS AS MUCH AS FEASIBLE. ANY OPEN EXCAVATIONS LEFT OVERNIGHT MUST BE PROTECTED FROM PEDESTRIAN AND VEHICULAR TRAFFIC, AT A MINIMUM, BY HIGH VISIBILITY SAFETY FENCING.
  - WHEN GRADING BETWEEN CONTOURS AND SPOT ELEVATIONS, THE CONTRACTOR SHALL GRADE ON A UNIFORM SLOPE.
  - UNLESS OTHERWISE SHOWN, PROPOSED GRADES SHALL MATCH EXISTING GRADES.

NPDES DISTURBED AREA  
AREA= 0.34 ACRES

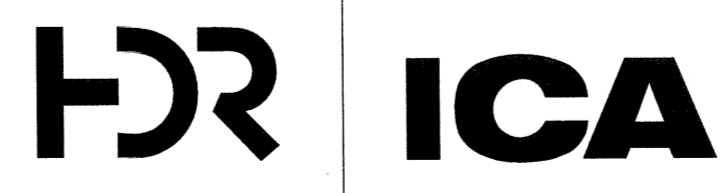
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ISSUE	DATE	DESCRIPTION

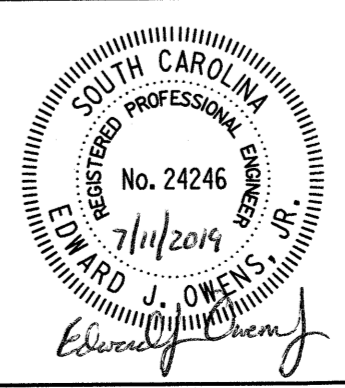
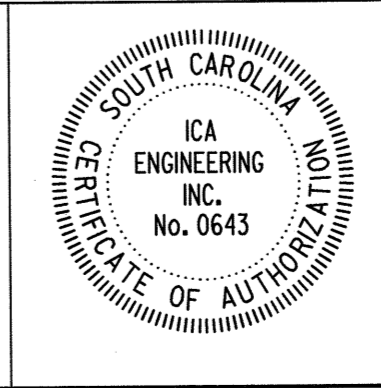
HDR/ICA JOB NO.:	10059106
DESIGNED BY:	TM
DRAWN BY:	TM
CHECKED BY:	AA



NEWBERRY COUNTY  
1309 COLLEGE STREET  
NEWBERRY, SC 29108



ICA Engineering Inc.  
1122 Lady Street, Suite 1100, Columbia, SC 29201



PROJECT:  
**NEWBERRY COUNTY CAPITAL SALES  
TAX PROJECT NO. 6  
TEN WATER POINT LOCATIONS  
FOR THE CONSOLIDATED FIRE DISTRICT**

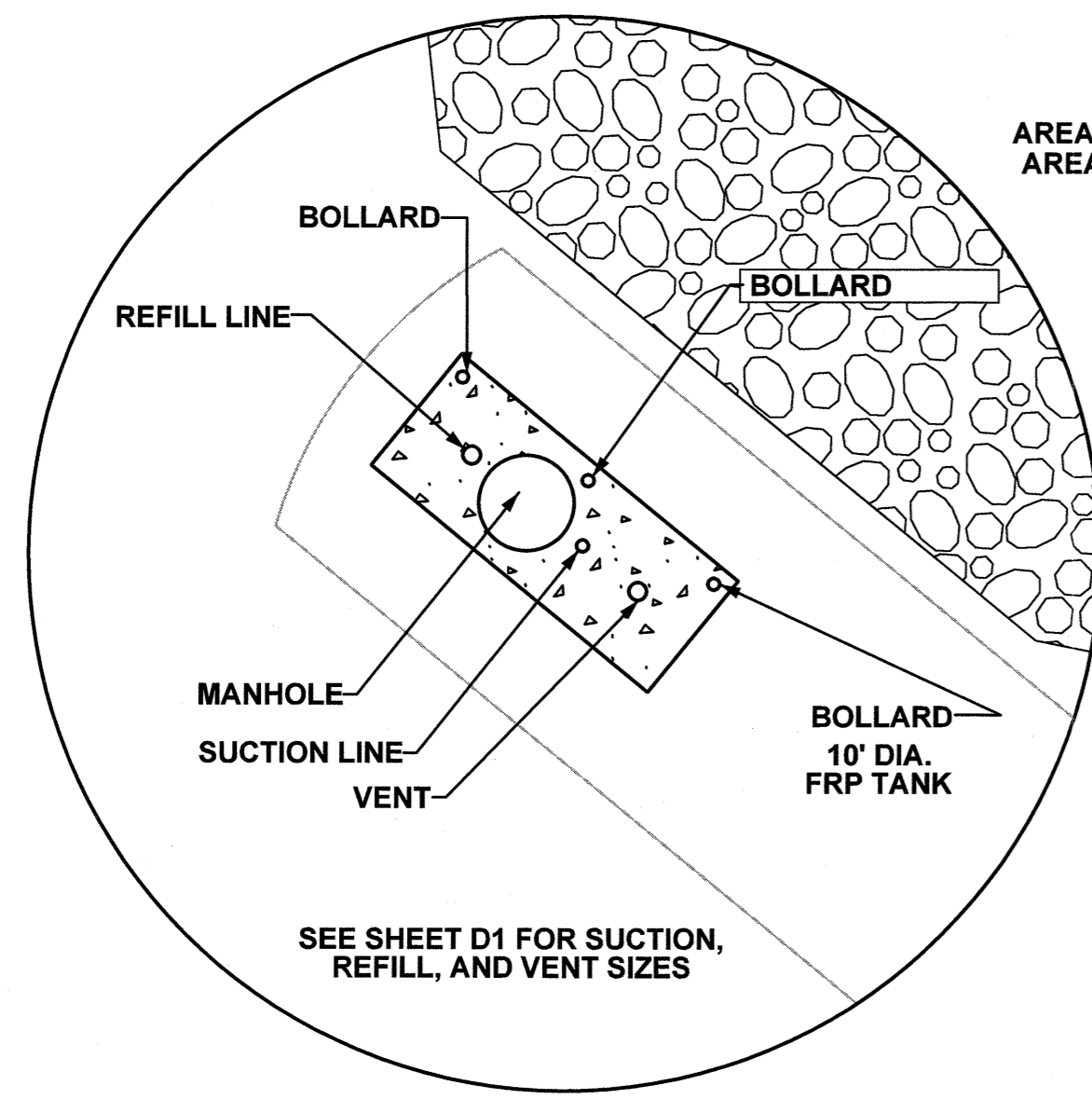
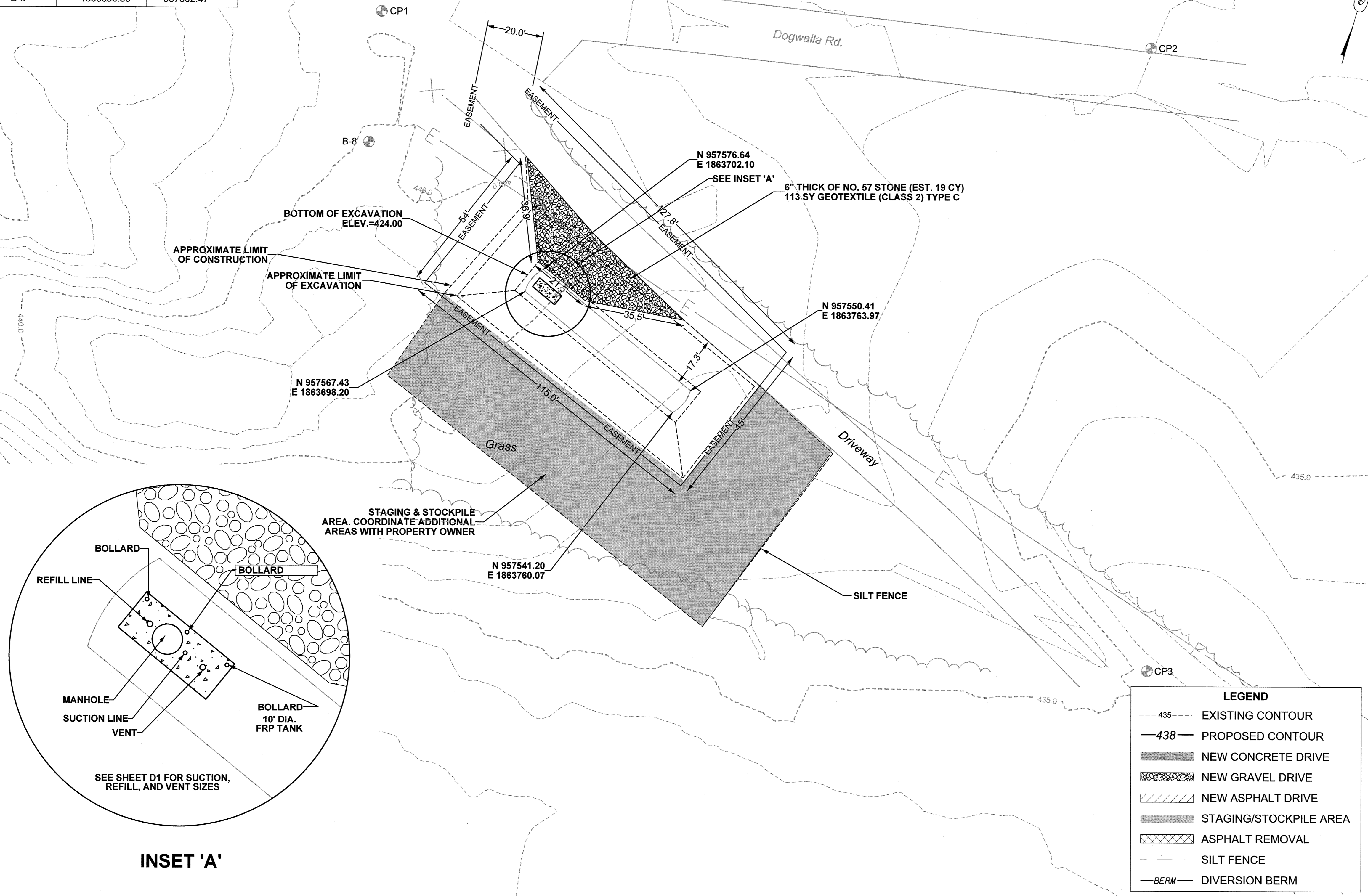
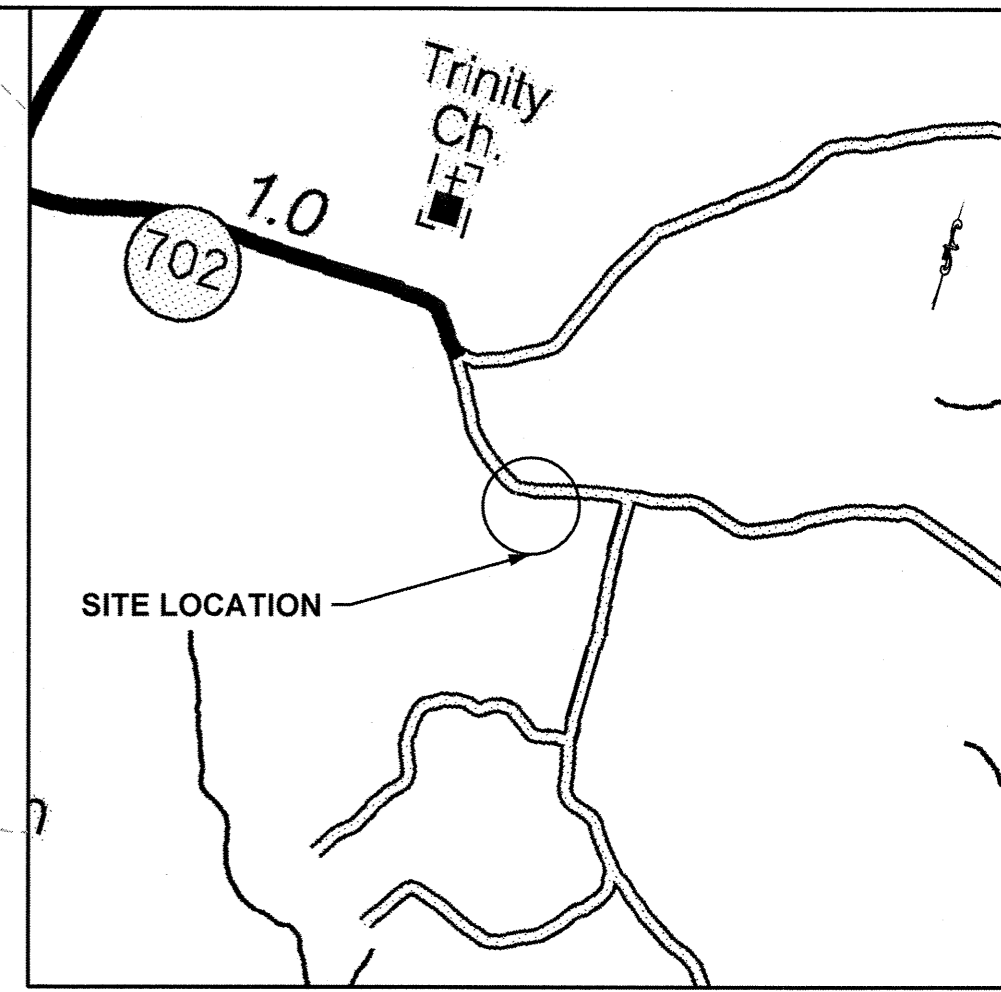
DRAWING:  
SITE LAYOUT  
SITE 7 - 4126 MT. PLEASANT ROAD  
TMS# 553-2

DRAWING NO.:  
**S7**

PROJECT CONTROL POINTS			
POINT	EASTING(X)	NORTHING (Y)	ELEV. (Z)
CP1	1863621.94	957647.87	439.39
CP2	1863885.88	957711.86	437.54
CP3	1863946.03	957501.15	434.47

BORING LOCATION		
POINT	EASTING(X)	NORTHING (Y)
B-8	1863630.55	957602.47

CONTRACTOR SHALL REVIEW SITE CONDITIONS IN FIELD PRIOR TO SUBMITTING BID TO VERIFY WORK REQUIRED.



- NOTES:**
- CONTRACTOR SHALL STOCKPILE WASTE EXCAVATION ON-SITE. COORDINATE STOCKPILE LOCATION WITH PROPERTY OWNER.
  - CONTRACTOR SHALL NOT DISRUPT THE NORMAL OPERATION OF THE SITE BY PLACEMENT OF STORED MATERIALS AND EQUIPMENT.
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  - THE CONTRACTOR MUST TAKE ALL PRECAUTIONS NECESSARY TO MINIMIZE THE TRACKING OF MUD ONTO PAVED SURFACES INCLUDING ROADWAYS FROM CONSTRUCTION AREAS AND THE GENERATION OF DUST. THE CONTRACTOR SHALL DAILY REMOVE MUD/SOIL FROM PAVEMENT AS MAY BE REQUIRED.
  - LITTER, CONSTRUCTION DEBRIS, OILS, FUELS, AND BUILDING PRODUCTS WITH SIGNIFICANT POTENTIAL FOR IMPACT (SUCH AS STOCKPILES OF FRESHLY TREATED LUMBER) AND CONSTRUCTION CHEMICALS THAT COULD BE EXPOSED TO STORM WATER MUST BE PREVENTED FROM BECOMING A POLLUTANT SOURCE IN STORM WATER DISCHARGES.
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  - WHEN GRADING BETWEEN CONTOURS AND SPOT ELEVATIONS, THE CONTRACTOR SHALL GRADE ON A UNIFORM SLOPE.
  - UNLESS OTHERWISE SHOWN, PROPOSED GRADES SHALL MATCH EXISTING GRADES.
  - CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY TO PROTECT ON-SITE WELL FROM DAMAGE DURING CONSTRUCTION. ANY REPAIR TO WELL OR APPURTENANCES SHALL BE AT THE EXPENSE OF THE CONTRACTOR.

**LEGEND**

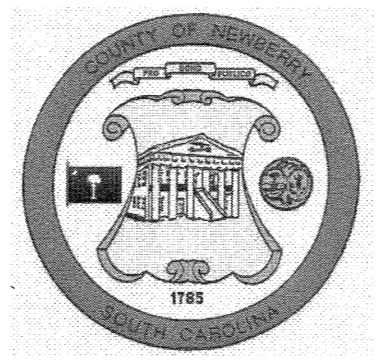
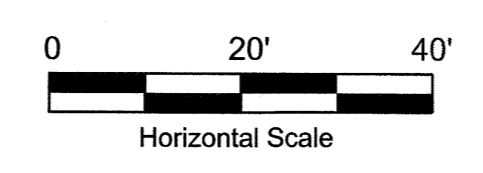
--- 435 ---	EXISTING CONTOUR
— 438 —	PROPOSED CONTOUR
[Pattern]	NEW CONCRETE DRIVE
[Pattern]	NEW GRAVEL DRIVE
[Pattern]	NEW ASPHALT DRIVE
[Pattern]	STAGING/STOCKPILE AREA
[Pattern]	ASPHALT REMOVAL
- - - -	SILT FENCE
— BERM —	DIVERSION BERM

NPDES DISTURBED AREA  
 AREA= 0.27 ACRES

7/11/2019 1:40:22:60511\_Sht8 Site 8 Layout.dgn

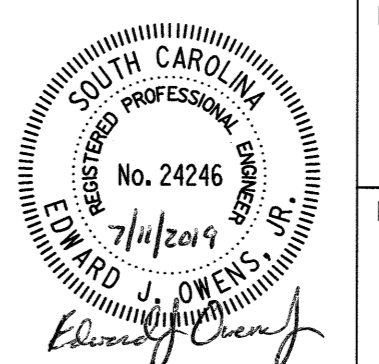
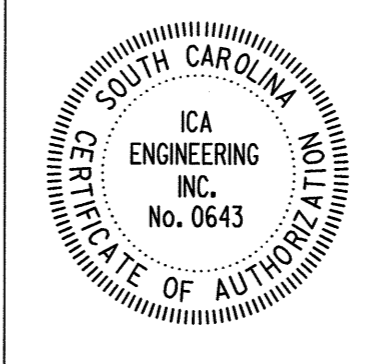
ISSUE	DATE	DESCRIPTION

HDR/ICA JOB NO.:	10059106
DESIGNED BY:	TM
DRAWN BY:	TM
CHECKED BY:	AA



NEWBERRY COUNTY  
 1309 COLLEGE STREET  
 NEWBERRY, SC 29108

**HR ICA**  
 ICA Engineering Inc.  
 1122 Lady Street, Suite 1100, Columbia, SC 29201



PROJECT: **NEWBERRY COUNTY CAPITAL SALES TAX PROJECT NO. 6 TEN WATER POINT LOCATIONS FOR THE CONSOLIDATED FIRE DISTRICT**

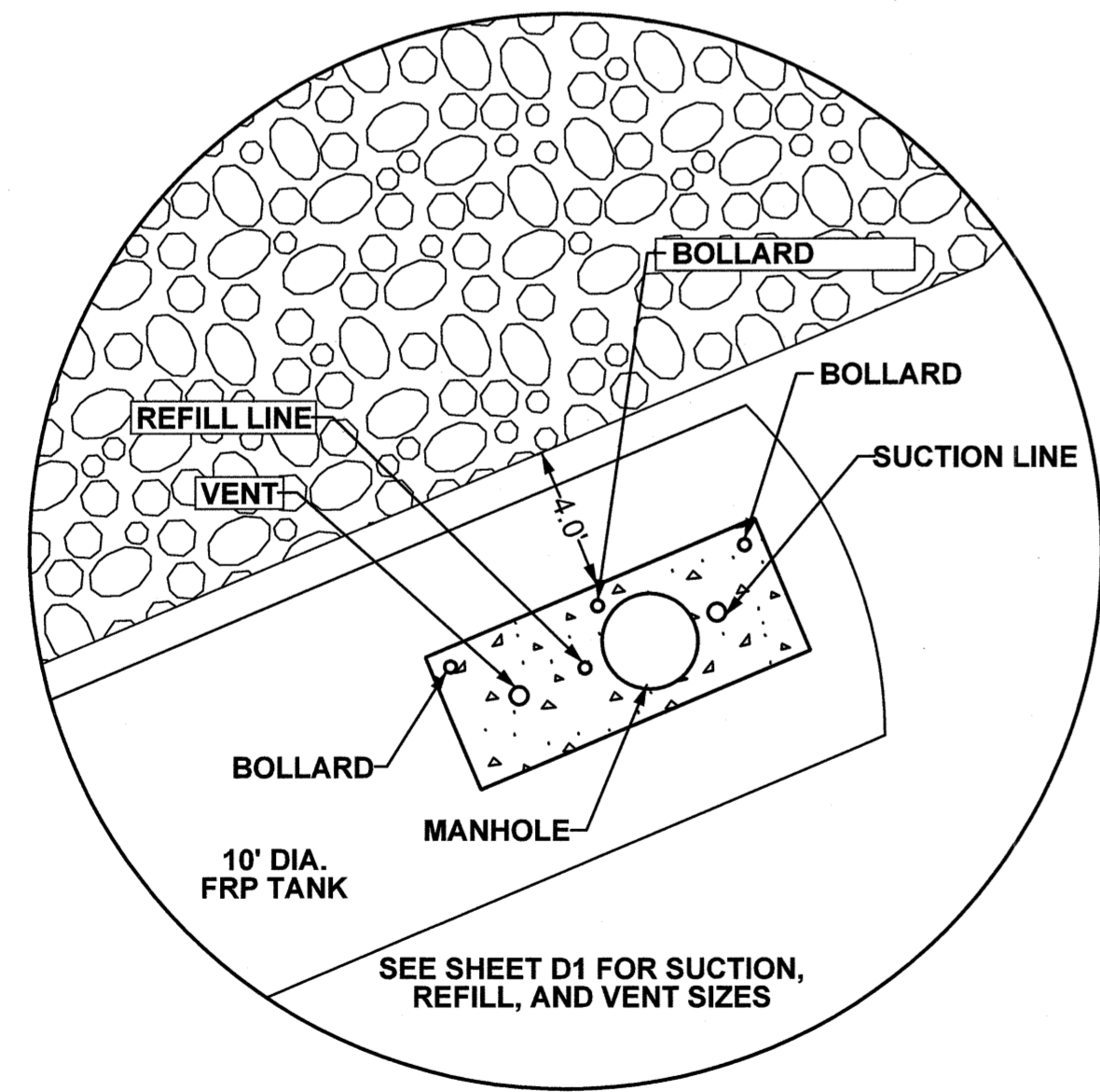
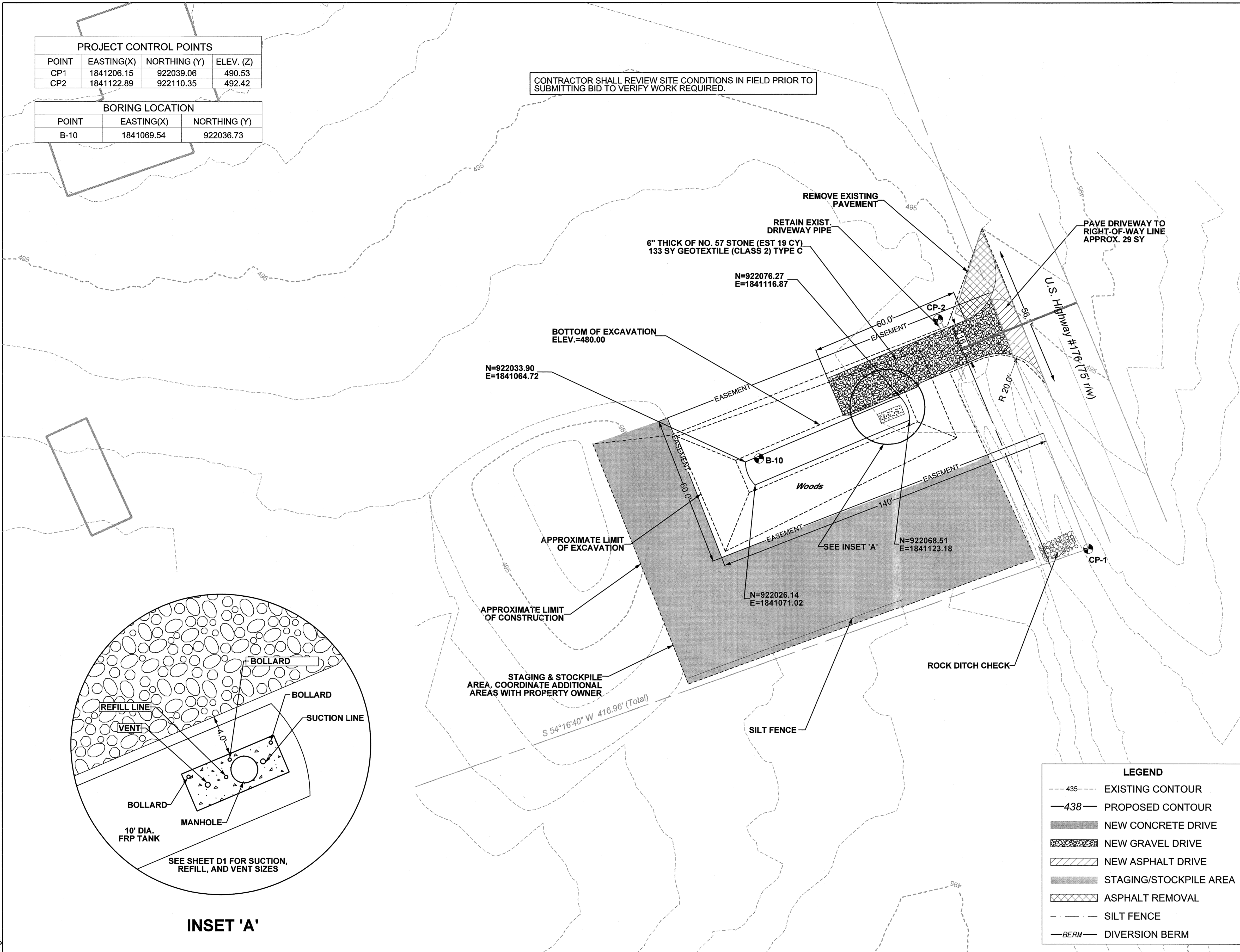
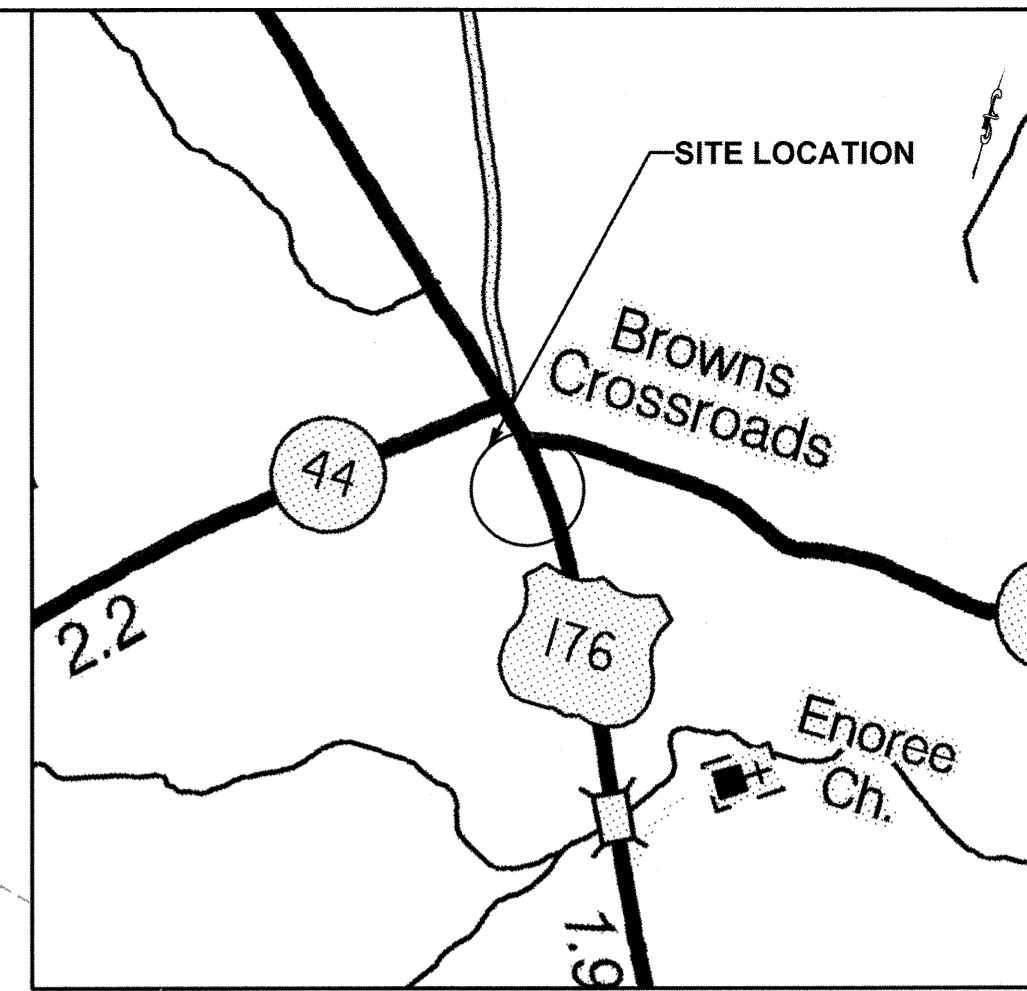
DRAWING: **SITE LAYOUT SITE 8 - 5725 DOGWALLA RD TMS# 603-5**

DRAWING NO.: **S8**

PROJECT CONTROL POINTS			
POINT	EASTING(X)	NORTHING (Y)	ELEV. (Z)
CP1	1841206.15	922039.06	490.53
CP2	1841122.89	922110.35	492.42

BORING LOCATION		
POINT	EASTING(X)	NORTHING (Y)
B-10	1841069.54	922036.73

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INSET 'A'

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  - WHEN GRADING BETWEEN CONTOURS AND SPOT ELEVATIONS, THE CONTRACTOR SHALL GRADE ON A UNIFORM SLOPE.
  - UNLESS OTHERWISE SHOWN, PROPOSED GRADES SHALL MATCH EXISTING GRADES.
  - TRAFFIC CONTROL DEVICES FOR DRIVEWAY INSTALLATION SHALL BE IN ACCORDANCE WITH THE SCDOT STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, LATEST EDITION, THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), LATEST EDITION AND ANY SPECIAL PROVISIONS OF THE SCDOT ENCROACHMENT PERMIT, TEMPORARY LANE CLOSURES, FLAGGING OPERATIONS, AND PLACEMENT OF TRAFFIC CONTROL DEVICES SHALL BE COORDINATED WITH SCDOT DISTRICT OFFICE.

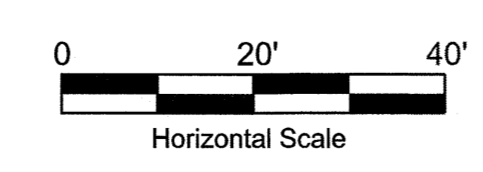
NPDES DISTURBED AREA  
AREA= 0.35 ACRES

LEGEND	
--- 435 ---	EXISTING CONTOUR
— 438 —	PROPOSED CONTOUR
[Solid Grey Box]	NEW CONCRETE DRIVE
[Cross-hatched Box]	NEW GRAVEL DRIVE
[Diagonal Line Box]	NEW ASPHALT DRIVE
[Stippled Box]	STAGING/STOCKPILE AREA
[X-hatched Box]	ASPHALT REMOVAL
- - -	SILT FENCE
— BERM —	DIVERSION BERM

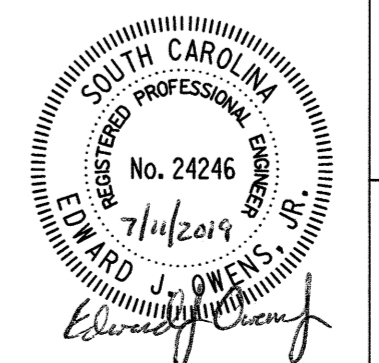
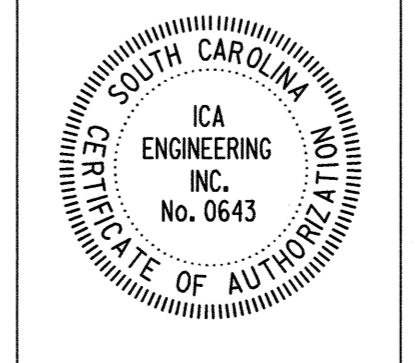
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ISSUE	DATE	DESCRIPTION

HDR/ICA JOB NO:	10059106
DESIGNED BY:	TM
DRAWN BY:	TM
CHECKED BY:	AA



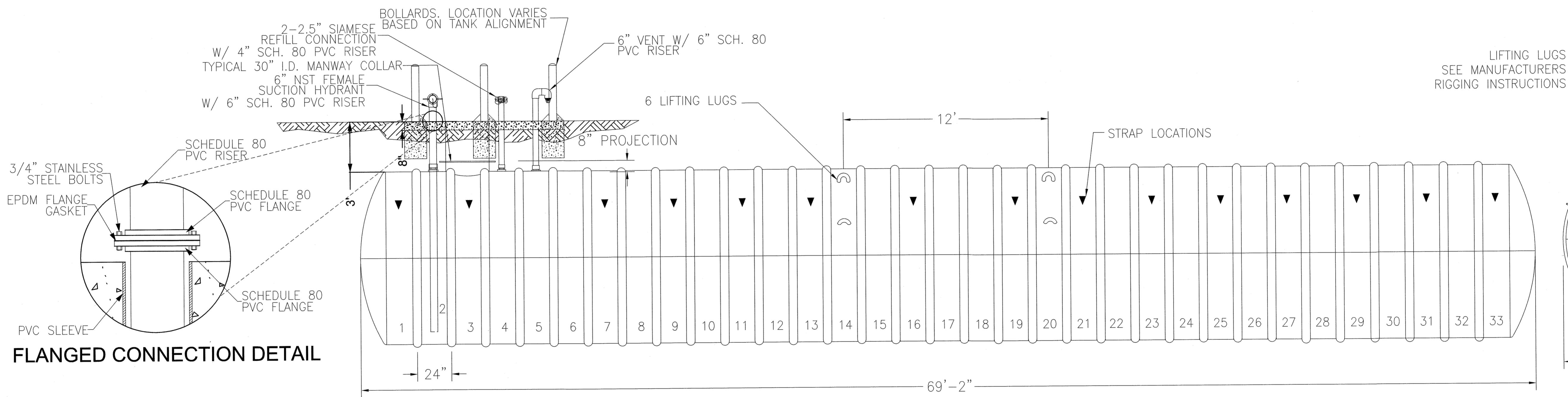
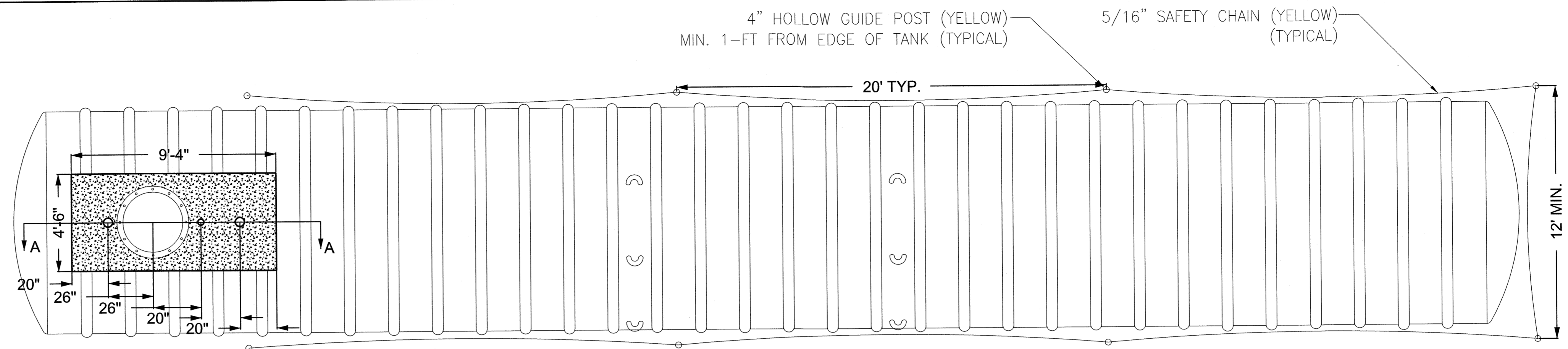
NEWBERRY COUNTY  
1309 COLLEGE STREET  
NEWBERRY, SC 29108



PROJECT:  
**NEWBERRY COUNTY CAPITAL SALES  
TAX PROJECT NO. 6  
TEN WATER POINT LOCATIONS  
FOR THE CONSOLIDATED FIRE DISTRICT**

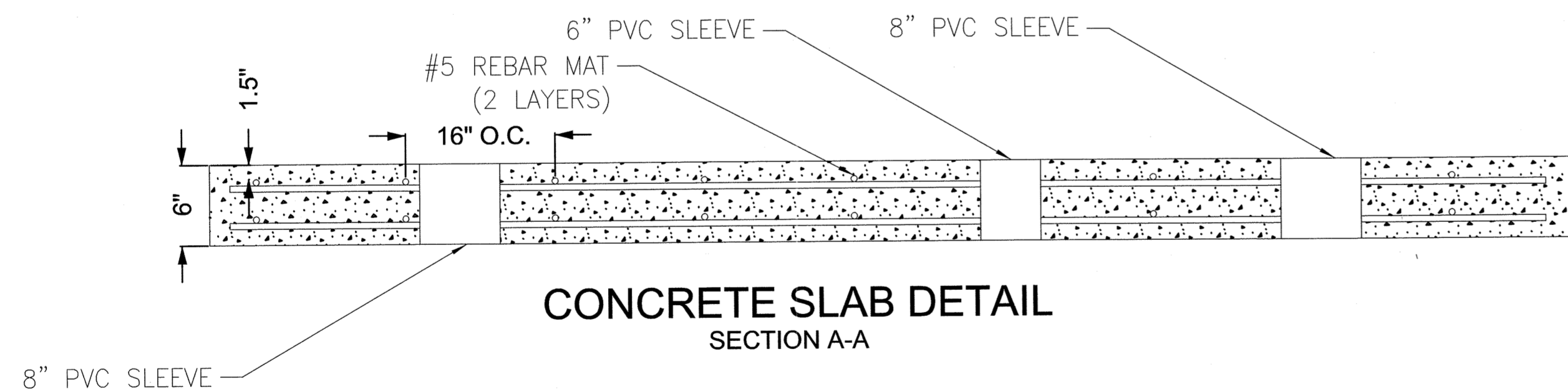
DRAWING:  
SITE LAYOUT  
SITE 10 - 15804 U.S. ROUTE 176  
TMS#442-1

DRAWING NO.:  
**S10**



**FLANGED CONNECTION DETAIL**

**40,000 GALLON FRP TANK DETAIL**



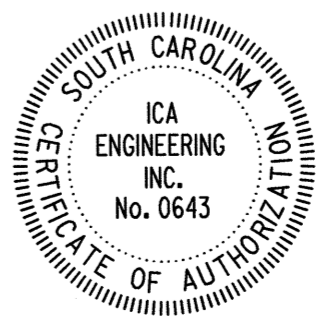


**CONCRETE SLAB DETAIL  
SECTION A-A**

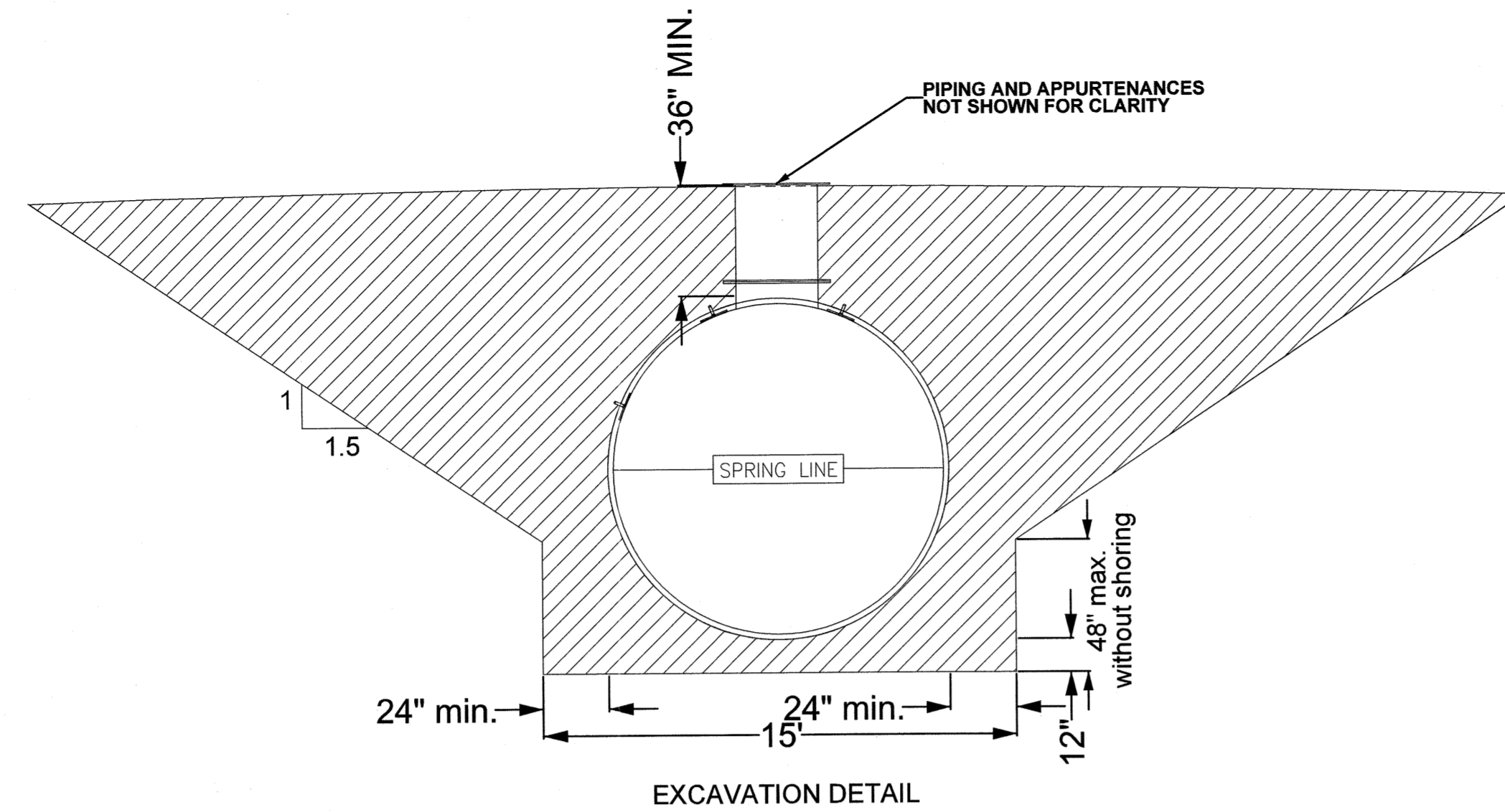
**NOTES:**

1. CONTRACTOR TO SUPPLY 10' DIAMETER FIBERGLASS TANK PROVIDING A MINIMUM 40,000 GALLONS STORAGE CAPACITY MANUFACTURED BY DARCO, INC. OR APPROVED EQUAL.
2. DRAWING PROVIDED FOR INFORMATION ONLY. REFER TO MANUFACTURER DRAWINGS AND SPECIFICATIONS REGARDING TANK GEOMETRY, LOCATION OF ACCESS MANHOLES, FITTINGS & ACCESSORIES, AND ANCHORING SYSTEMS.
3. CONTRACTOR TO PROVIDE SHOP DRAWINGS SHOWING THE LOCATION AND CONFIGURATION OF ACCESS MANHOLES, FITTINGS & ACCESSORIES, ANCHORING SYSTEMS, ETC. FOR NEWBERRY COUNTY APPROVAL PRIOR TO PURCHASE OF TANK.

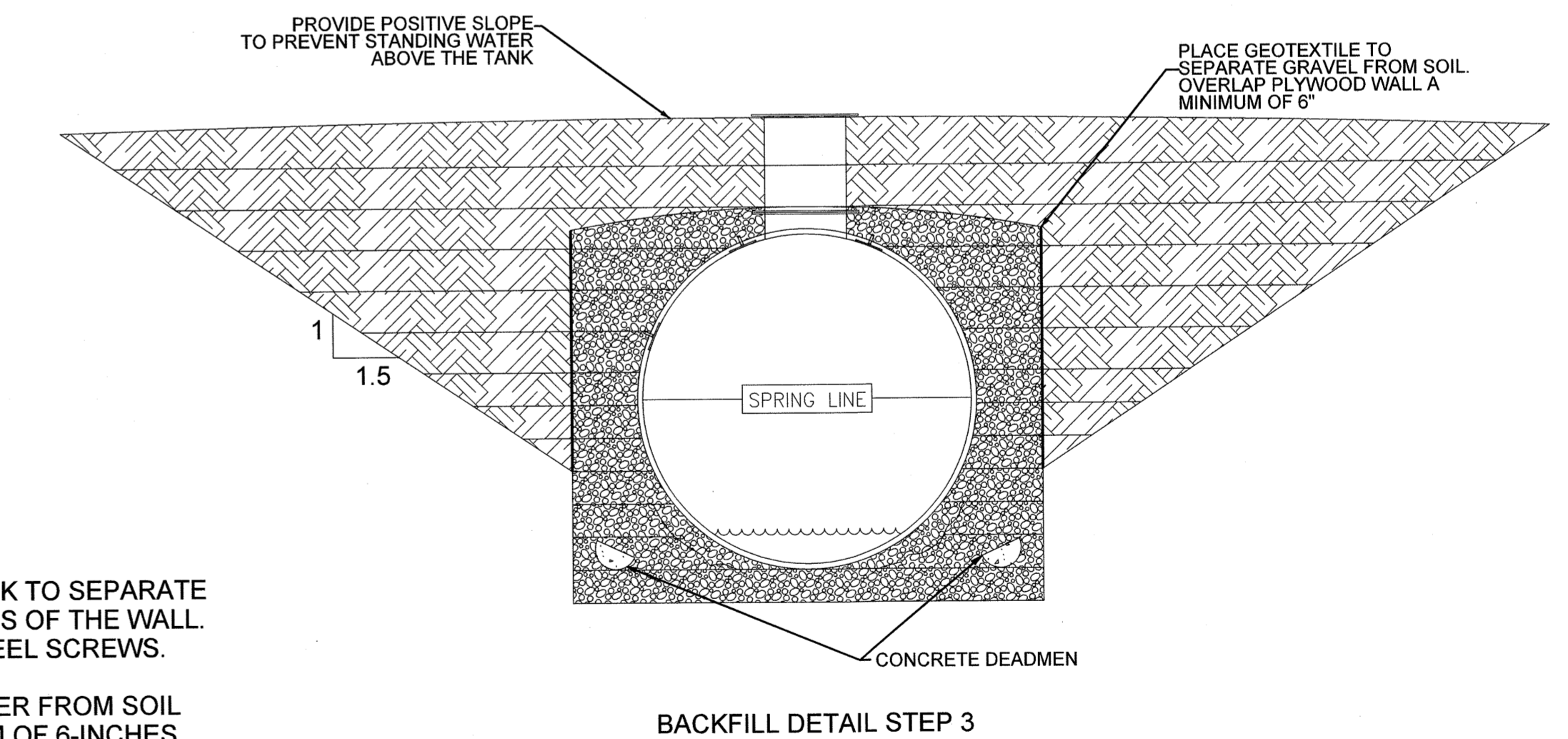
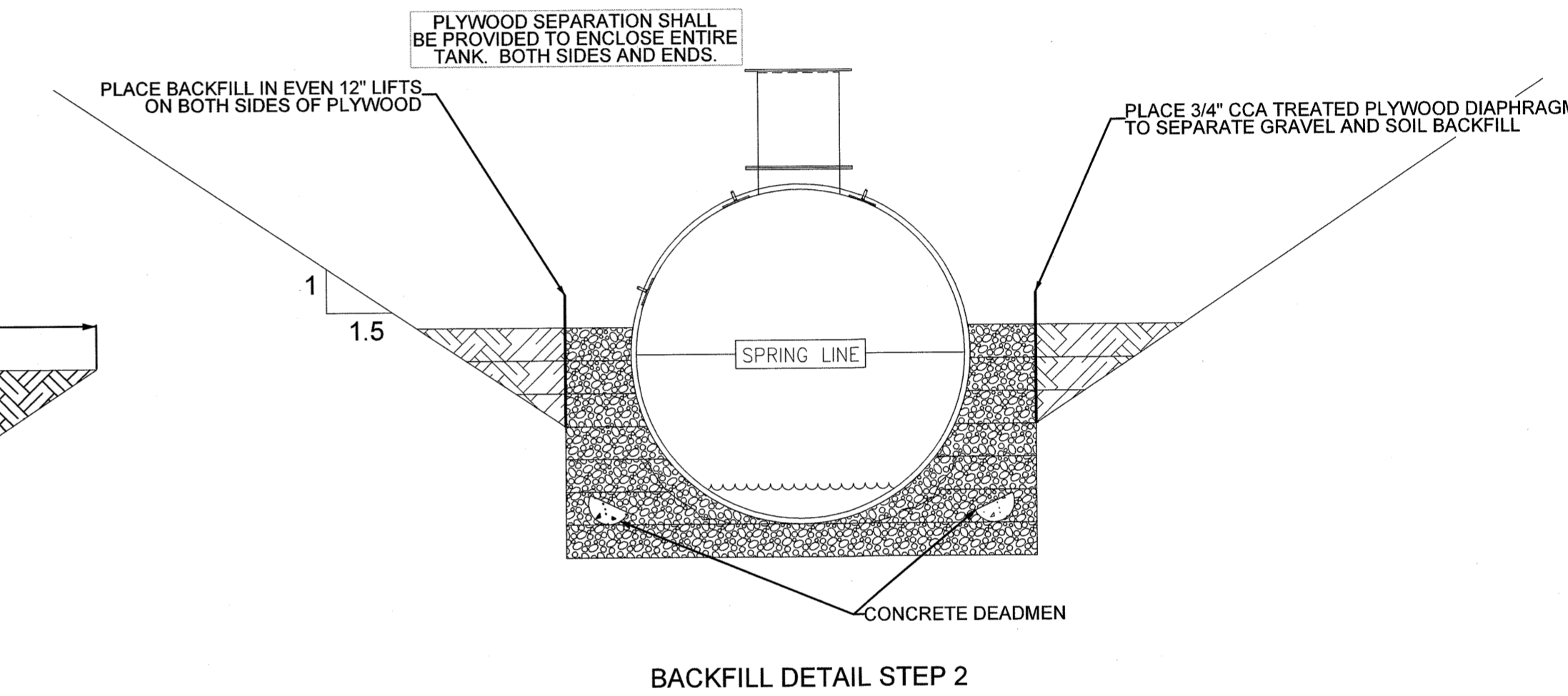
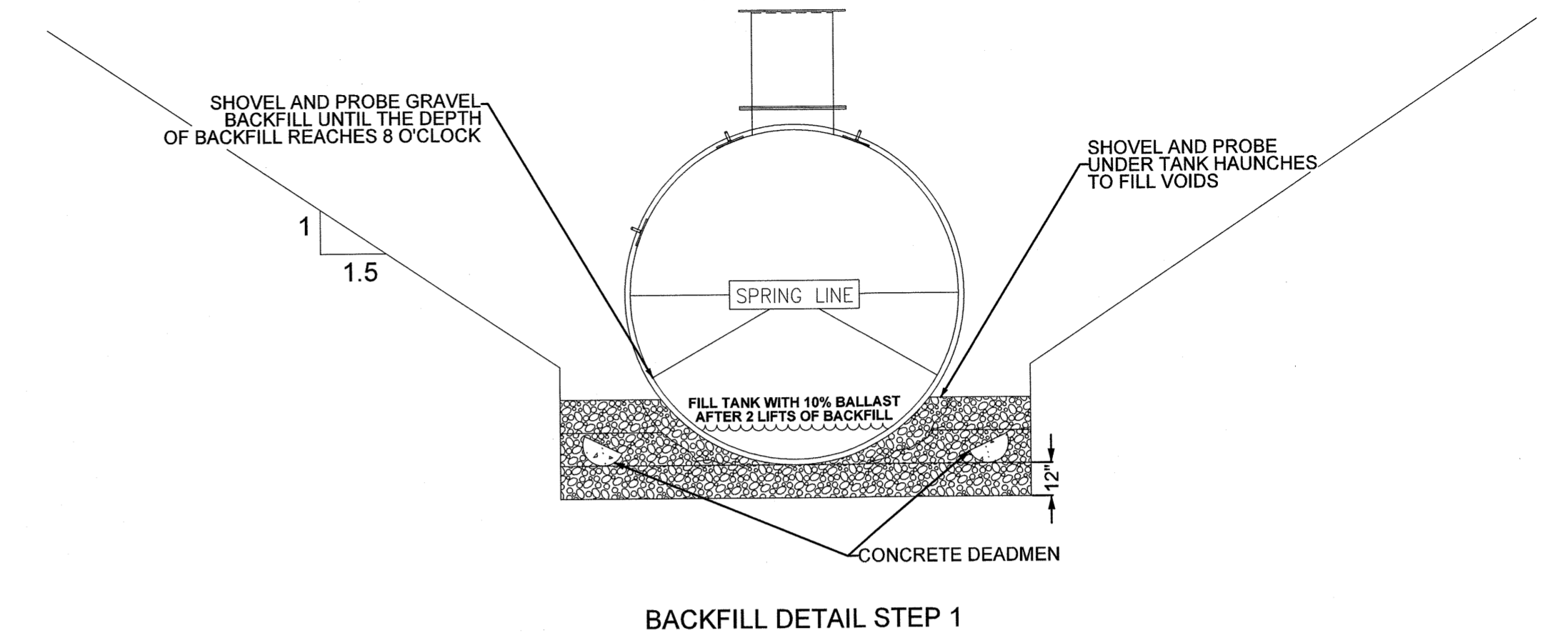
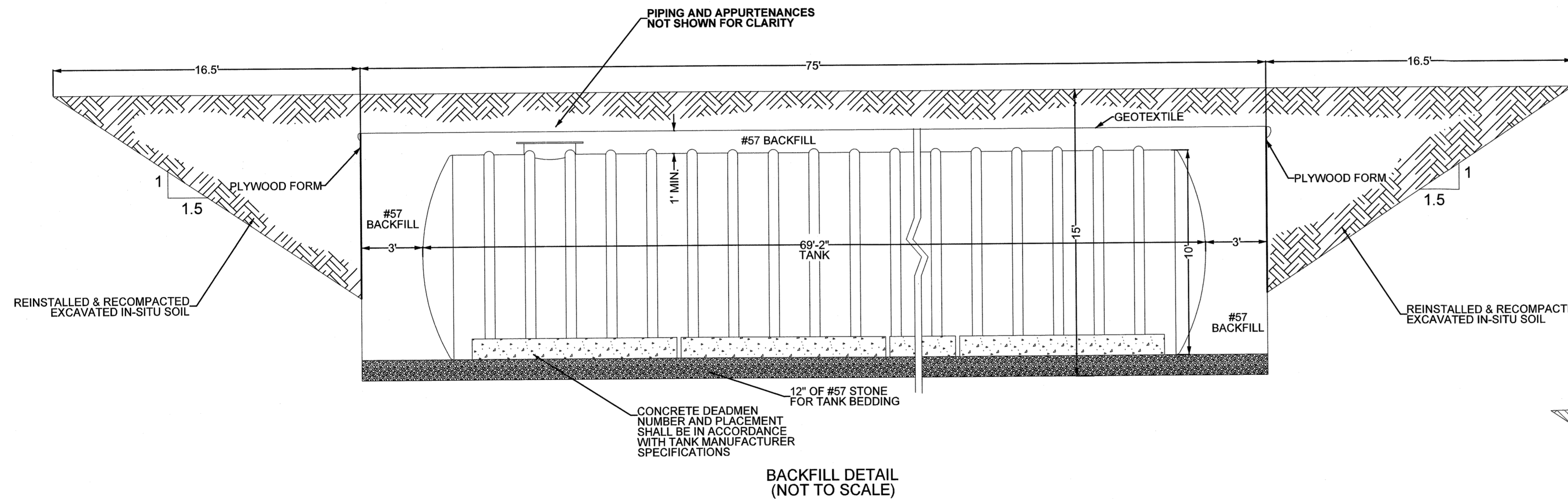
7/11/2019 1022480514\_Sht01 WaterTank Details.dgn

		HDR/ICA JOB NO.: 10059106	NOT TO SCALE	 NEWBERRY COUNTY 1309 COLLEGE STREET NEWBERRY, SC 29108	 <b>ICA</b>	 ICA ENGINEERING INC. No. 0643 7/11/2019 Edward Owens, PE	PROJECT: <b>NEWBERRY COUNTY CAPITAL SALES TAX PROJECT NO. 6 TEN WATER POINT LOCATIONS FOR THE CONSOLIDATED FIRE DISTRICT</b>	DRAWING NO.:
		DESIGNED BY: TM					CONSTRUCTION DETAILS	D1
		DRAWN BY: TM						
ISSUE	DATE	DESCRIPTION	CHECKED BY: AA					

# TANK EXCAVATION & BACKFILL DETAIL



NOTES:  
 CONTRACTOR SHALL FOLLOW ALL APPLICABLE O.S.H.A. GUIDELINES REGARDING TRENCH SAFETY.  
 MAXIMUM SLOPE OF EXCAVATED EMBANKMENT IS 1.5:1.



**BACKFILL NOTES:**

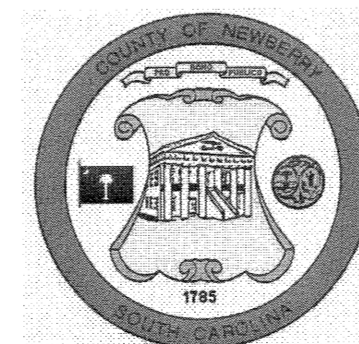
1. FILL TANK WITH WATER BALLAST UP TO 10%. PLACEMENT OF BACKFILL WITHOUT BALLAST MAY CAUSE TANK TO RISE OR SHIFT AS GRAVEL IS COMPACTED. DO NOT ADD BALLAST TO TANK UNTIL 2 LIFTS ARE PROVIDED TO SUPPORT THE TANK.
2. PLACE BACKFILL IN LIFTS NO GREATER THAN 12 INCHES.
3. HAND SHOVEL GRAVEL BACKFILL UNDER THE TANK BELLY AND HAUNCHES AND BETWEEN ALL RIBS.
4. WORK EVENLY AROUND THE TANK TO AVOID SHIFTING OF THE TANK. SHOVEL AND PROBE BACKFILL UNDER THE TANK UNTIL GRAVEL FILLS ALL OF THE VOIDS UNDER THE TANK. CONTINUE PROBING TO A DEPTH EQUAL TO THE 8 O'CLOCK POSITION OF THE TANK. (SEE DETAIL STEP 1).
5. PROVIDE 3/4" CCA TREATED PLYWOOD "WALL" AROUND ALL SIDES OF THE TANK TO SEPARATE GRAVEL BACKFILL FROM NATIVE SOIL BACKFILL. FILL EVENLY ALONG BOTH SIDES OF THE WALL. SECURE PLYWOOD JOINTS WITH 2X8 CCA TREATED LUMBER AND STAINLESS STEEL SCREWS.
6. PROVIDE 12" OF GRAVEL BACKFILL ABOVE THE TANK. SEPARATE GRAVEL LAYER FROM SOIL USING GEOTEXTILE FABRIC. EXTEND FABRIC OVER PLYWOOD WALLS A MINIMUM OF 6-INCHES.
7. SLOPE SURFACE AWAY FROM THE TANK TO PREVENT WATER FROM PONDING ABOVE THE TANK.
8. SEE SHEET D3 FOR CONCRETE DEADMAN DETAILS.

7/11/2019 10:24:05 AM S:\D2 WaterTank Details.dgn

ISSUE	DATE	DESCRIPTION

HDR/ICA JOB NO.:	10059106
DESIGNED BY:	TM
DRAWN BY:	TM
CHECKED BY:	AA

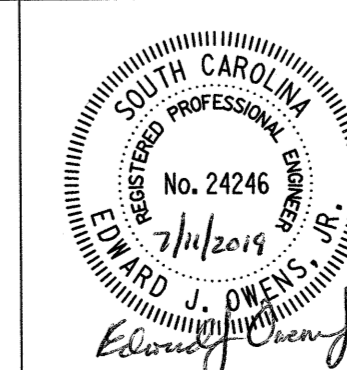
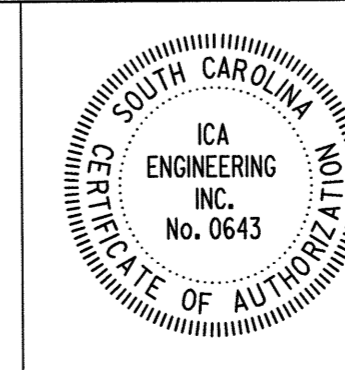
NOT TO SCALE



NEWBERRY COUNTY  
 1309 COLLEGE STREET  
 NEWBERRY, SC 29108



ICA Engineering Inc.  
 1122 Lady Street, Suite 1100, Columbia, SC 29201

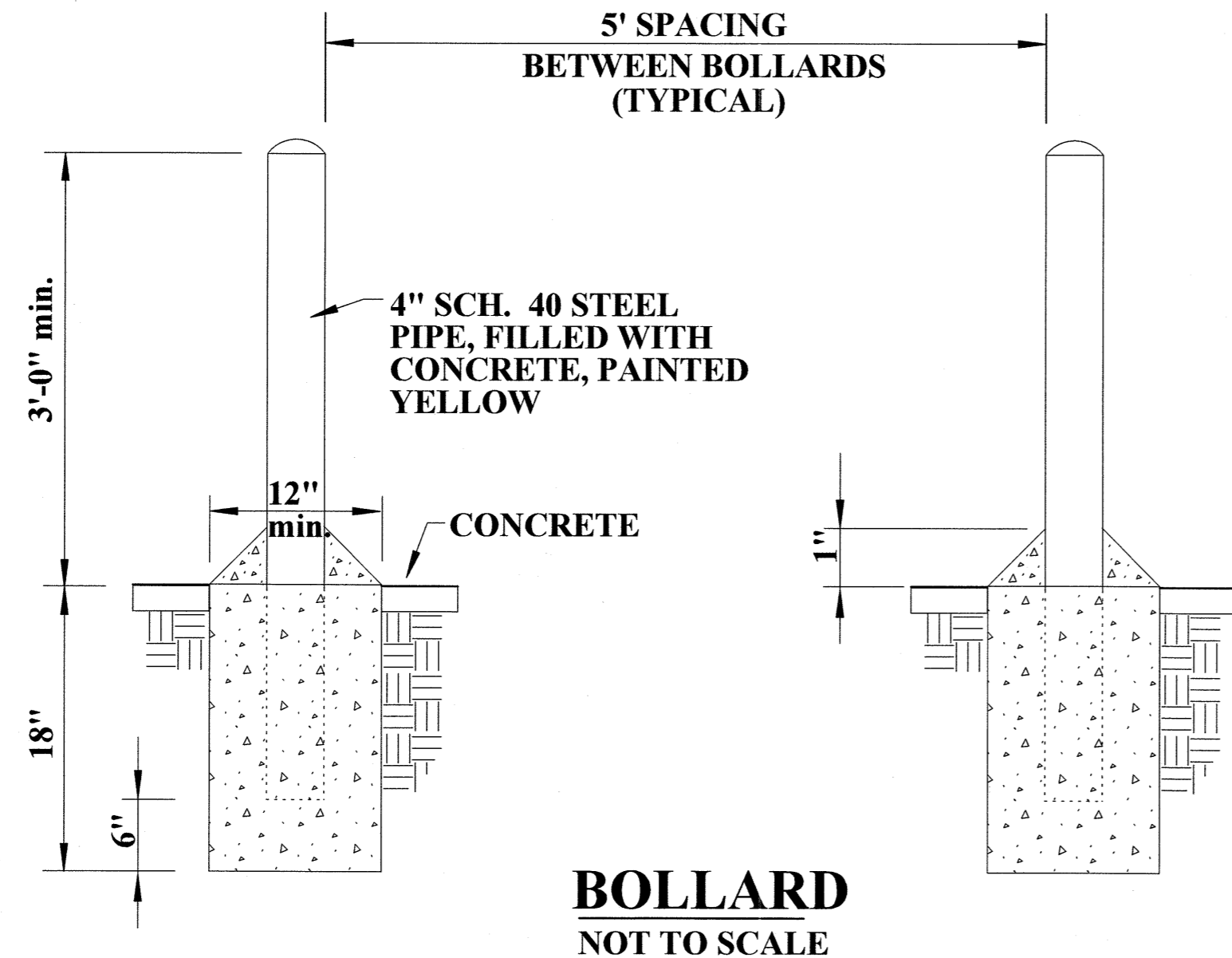


PROJECT: **NEWBERRY COUNTY CAPITAL SALES TAX PROJECT NO. 6 TEN WATER POINT LOCATIONS FOR THE CONSOLIDATED FIRE DISTRICT**

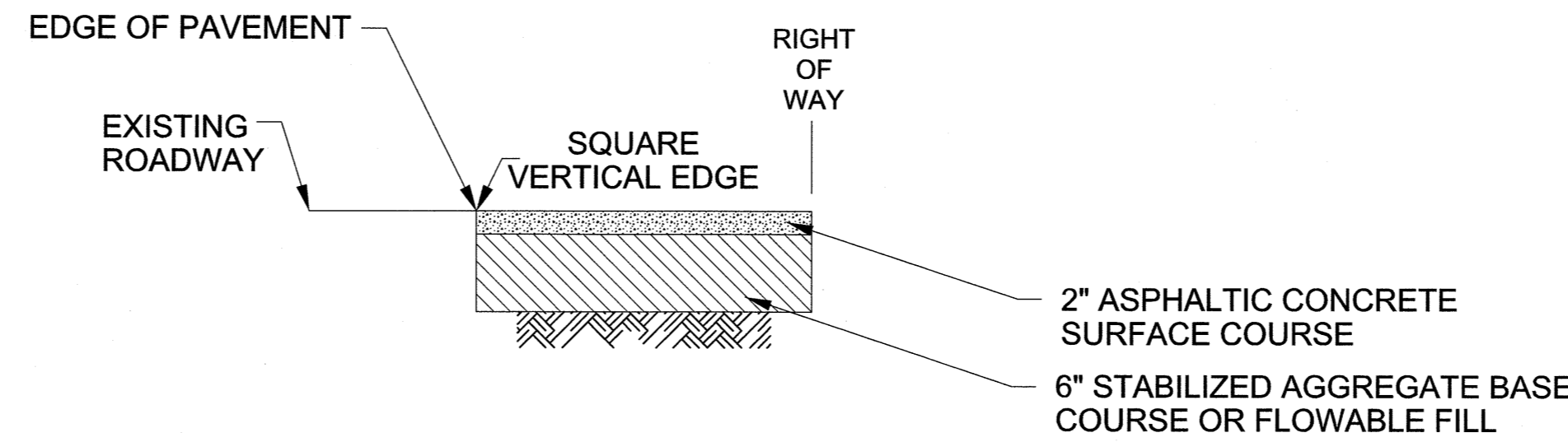
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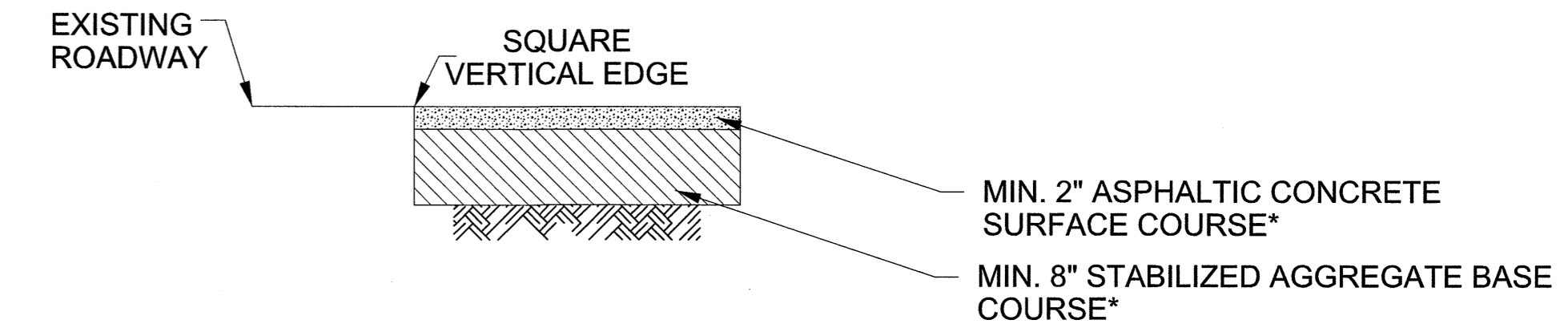
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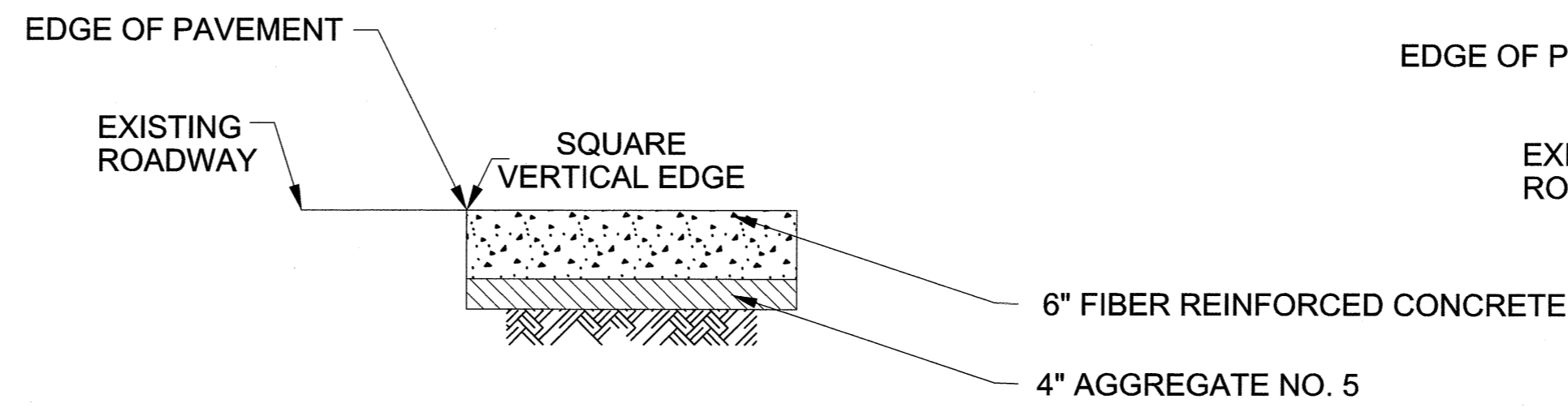


**DRIVEWAY PAVING DETAIL**  
**SCDOT RIGHT-OF-WAY**

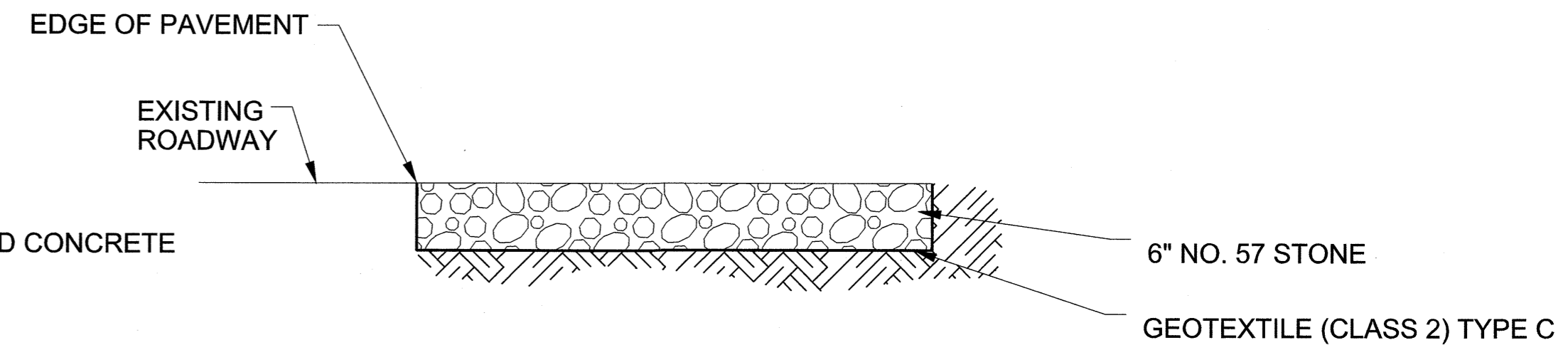


**ASPHALT REPAIR DETAIL**

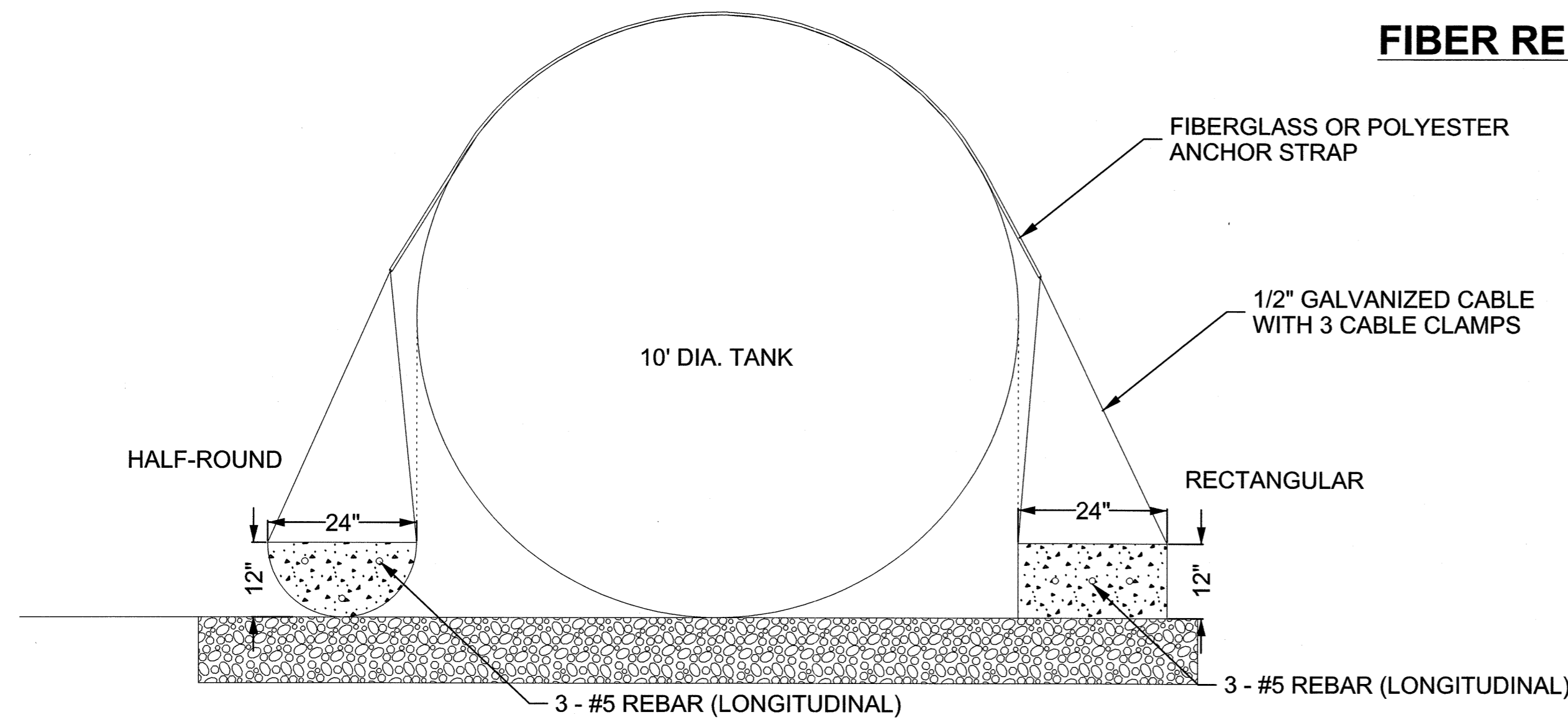
\* CONTRACTOR SHALL PROVIDE AT A MINIMUM SURFACE COURSE OF 2" AND BASE COURSE OF 8". IF EXISTING ASPHALT THICKNESSES EXCEED THE MINIMUM VALUES, THE CONTRACTOR SHALL MATCH EXISTING PAVEMENT CONDITIONS.



**FIBER REINFORCED CONCRETE PAVING DETAIL**



**GRAVEL DETAIL**



**DEADMAN ANCHOR DETAILS**


CONTRACTOR MAY USE EITHER HALF-ROUND OR RECTANGULAR DEADMAN ANCHORS.

7/11/2019 0:\hd02480516\_ShtD3 Site Details.dgn


ISSUE	DATE	DESCRIPTION

HDR/ICA JOB NO.:	10059106
DESIGNED BY:	TM
DRAWN BY:	TM
CHECKED BY:	AA

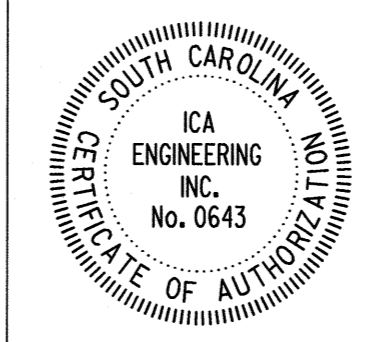
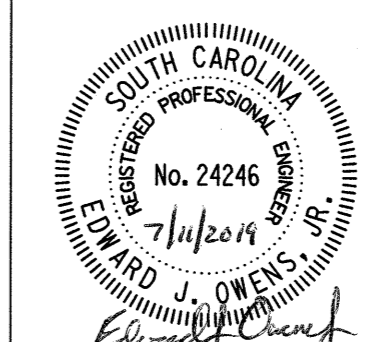
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NEWBERRY COUNTY  
1309 COLLEGE STREET  
NEWBERRY, SC 29108



ICA Engineering Inc.  
1122 Lady Street, Suite 1100, Columbia, SC 29201

PROJECT: **NEWBERRY COUNTY CAPITAL SALES TAX PROJECT NO. 6 TEN WATER POINT LOCATIONS FOR THE CONSOLIDATED FIRE DISTRICT**

DRAWING: CONSTRUCTION DETAILS

DRAWING NO.: **D3**

REFERENCES

WORK ZONE TRAFFIC CONTROL ENGINEER



*W. McConnell*  
SIGNATURE  
7/27/15  
DATE

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0	1-14-15	JCS NEW DRAWING
#	DATE	CHK DESCRIPTION

**SCDOT**  
SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION  
DESIGN STANDARDS OFFICE  
955 PARK STREET  
ROOM 405  
COLUMBIA, SC 29201

STANDARD DRAWING

FLAGGING OPERATIONS  
TWO-LANE TWO-WAY  
PRIMARY &  
SECONDARY ROUTES

610-005-00  
EFFECTIVE LETTING DATE | JAN 2016

FLAGGING OPERATIONS  
GENERAL NOTES

( ALL NOTES, SPECIFICATIONS AND REQUIREMENTS ON THIS STANDARD DRAWING APPLY TO ALL SUBSEQUENT STANDARD DRAWINGS REGARDING FLAGGING OPERATIONS UNLESS OTHERWISE NOTED )

FLAGGING OPERATIONS -

1. KEY FEATURES RELEVANT TO FLAGGING OPERATIONS:
- APPROACH TAPER** - THIS IS A ONE-LANE TWO-WAY TAPER PLACED IN THE TRAVEL LANE WHERE THE WORK ACTIVITY TAKES PLACE. THIS TAPER PRECEDES THE BUFFER SPACE AND THE WORK ACTIVITY AREA. THE LENGTH OF THIS TAPER MAY VARY FROM 50 FEET TO 100 FEET. INSTALL AND MAINTAIN NO LESS THAN FIVE (5) TRAFFIC CONTROL DEVICES EQUALLY SPACED AT 10' TO 25' INTERVALS AS NECESSARY TO CORRESPOND WITH THE LENGTH OF THE TAPER.
  - DOWNSTREAM TAPER** - THIS TAPER, PLACED IN THE TRAVEL LANE WHERE THE WORK ACTIVITY TAKES PLACE, FOLLOWS THE WORK ACTIVITY AREA AND SERVES AS THE TERMINATION AREA FOR THE CLOSURE OF THE TRAVEL LANE. THE LENGTH OF THIS TAPER MAY VARY FROM 50 FEET TO 100 FEET. INSTALL AND MAINTAIN NO LESS THAN FIVE (5) TRAFFIC CONTROL DEVICES IN THIS TAPER.
  - FLAGGER STATION** - THIS IS THE SPECIFIC LOCATION OF THE FLAGGER.
  - CLOSED LANE FLAGGER** - THIS FLAGGER IS STATIONED ADJACENT TO THE FIRST TRAFFIC CONTROL DEVICE IN THE APPROACH TAPER WHO CONTROLS THE TRAFFIC THAT REQUIRES RELOCATION FROM THE TRAVEL LANE BEING CLOSED TO TRAFFIC.
  - OPEN LANE FLAGGER** - THIS FLAGGER IS STATIONED 100 FEET BEYOND THE LAST TRAFFIC CONTROL DEVICE IN THE DOWNSTREAM TAPER WHO CONTROLS THE TRAFFIC OPERATING IN THE TRAVEL LANE REMAINING OPEN TO TRAFFIC.
  - BUFFER SPACE** - THIS AREA IS LOCATED BETWEEN THE DOWNSTREAM END OF THE APPROACH TAPER AND THE NEAREST LIMITS OF THE WORK ACTIVITY AREA AND MAY PROVIDE SOME RECOVERY SPACE FOR AN ERRANT VEHICLE. THE PRESENCE OF PERSONNEL, TOOLS, MATERIALS, EQUIPMENT, WORK VEHICLES, ETC. WITHIN THE LIMITS OF THE BUFFER SPACE IS PROHIBITED. HOWEVER, WHEN THE MINIMUM DISTANCE REQUIREMENTS FOR THE BUFFER SPACE ARE UNAVAILABLE, A TRUCK MOUNTED ATTENUATOR MAY TEMPORARILY ENCR OACH UPON THE BUFFER SPACE IN ACCORDANCE WITH THE REQUIREMENTS SPECIFIED IN THE SECTION BELOW ENTITLED, "BUFFER SPACE", WHEN APPROVED BY THE ENGINEER.
  - WORK ACTIVITY AREA** - PERSONNEL, MATERIALS, EQUIPMENT, WORK VEHICLES, ETC. ARE PRESENT WITHIN THIS AREA TO CONDUCT THE WORK.
  - LIMITS OF THE WORK ACTIVITY AREA** - THIS IS THE BOUNDARY OF THE WORK ACTIVITY AREA FIRST ENCOUNTERED, FROM EITHER DIRECTION, BY MOTORISTS PASSING BY THE WORK ACTIVITY AREA IN THE ADJACENT TRAVEL LANE OPEN TO TRAFFIC AND CONTROLLED BY THE FLAGGERS.

- APPROACH LANE** - TRAFFIC APPROACHES AN INTERSECTION OR A SPECIFIC LOCATION IN THIS TRAVEL LANE.
- DEPARTURE LANE** - TRAFFIC DEPARTS FROM AN INTERSECTION OR A SPECIFIC LOCATION IN THIS TRAVEL LANE.
- MAINLINE APPROACH** - THIS IS AN APPROACH TO THE WORK ACTIVITY AREA ON THE ROADWAY WHERE THE WORK ACTIVITY AREA IS LOCATED.
- SIDE ROADS** - THESE ROADS INTERSECT THE ROADWAY ON WHICH THE WORK ACTIVITY AREA IS LOCATED.
- LIMITS OF THE INTERSECTION** - THE LIMITS OF OR THE PHYSICAL AREA WITHIN AN INTERSECTION IS DEFINED BY THE LOCATION OF STOP BARS WHEN PRESENT, WHEN STOP BARS ARE ABSENT, THE LIMITS OF OR THE PHYSICAL AREA WITHIN AN INTERSECTION IS DEFINED BY THE LOCATION POINTS WHERE THE CORNER ROAD BETWEEN ADJACENT ROADWAY APPROACHES TIE TO THE EDGE OF PAVEMENT OR THE EDGE OF TRAVEL LANE ADJACENT TO THE EDGE OF PAVEMENT OF EACH ROADWAY.

- INSTALL, CONDUCT AND MAINTAIN FLAGGING OPERATIONS IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS, THE STANDARD DRAWINGS, THE MUTCD AND THE "SOUTH CAROLINA FLAGGER'S HANDBOOK" UNLESS OTHERWISE DIRECTED BY THE DEPARTMENT. INSTALL ALL SIGNS RELATIVE TO A FLAGGING OPERATION PRIOR TO INITIATION OF THE OPERATION AND REMOVE OR COVER ALL SIGNS IMMEDIATELY UPON TERMINATION OF THE OPERATION. EQUIP EACH FLAGGER WITH A 24" x 24" STOP/SLOW PADDLE MOUNTED ON A RIGID HANDLE WITH A MINIMUM LENGTH OF 7 FEET. THE DEPARTMENT PROHIBITS THE USE OF FLAGS EXCEPT DURING EMERGENCY SITUATIONS.
- LANE CLOSURES FOR FLAGGING OPERATIONS ARE RESTRICTED TO A MAXIMUM DISTANCE OF 2 MILES UNLESS OTHERWISE APPROVED BY THE ENGINEER. THE WORK LIMITS WILL COMPLY WITH THE CONTRACT AND SHALL REQUIRE THE ENGINEER'S APPROVAL PRIOR TO BEGINNING THE WORK.
- INSTALL AND MAINTAIN THE PROPER ARRAY OF ADVANCE WARNING SIGNS FOR EACH "MAINLINE APPROACH" WHEN A FLAGGING OPERATION IS IN PLACE AND ACTIVE. WHEN NECESSARY TO RELOCATE THE "FLAGGER STATION" WHILE ACTIVELY MAINTAINING THE FLAGGING OPERATION, INSTALL AN ADDITIONAL ARRAY OF ADVANCE WARNING SIGNS AT THE LOCATION RELATIVE TO THE NEW "FLAGGER STATION" AND REMOVE THE ORIGINAL ARRAY OF ADVANCE WARNING SIGNS IMMEDIATELY UPON COMPLETION OF THE RELOCATION OF THE FLAGGER TO THE NEW "FLAGGER STATION".
- INSTALL ALL ADVANCE WARNING SIGNS IMMEDIATELY PRIOR TO INITIATING A FLAGGING OPERATION AND REMOVE OR COVER ALL SIGNS IMMEDIATELY UPON TERMINATION OF THE OPERATION.
- MAINTAIN TWO-WAY RADIO COMMUNICATIONS BETWEEN ALL FLAGGERS.

NIGHTTIME FLAGGING OPERATIONS -

- EACH FLAGGER SHALL WEAR SAFETY APPAREL IN COMPLIANCE WITH THE REQUIREMENTS OF ANSI/ISEA 107 STANDARD PERFORMANCE FOR CLASS 3 RISK EXPOSURE, LATEST REVISION, WHEN CONDUCTING NIGHTTIME FLAGGING OPERATIONS.
- ILLUMINATE EACH "FLAGGER STATION" WITH ANY COMBINATION OF PORTABLE LIGHTS, STANDARD ELECTRIC LIGHTS, EXISTING STREET LIGHTS, ETC. THAT WILL PROVIDE A MINIMUM ILLUMINATION LEVEL OF 108 Lx OR 10 fc WHEN CONDUCTING NIGHTTIME FLAGGING OPERATIONS.
- SUPPLEMENT EACH ARRAY OF ADVANCE WARNING SIGNS ON EACH "MAINLINE APPROACH" WITH A TRAILER MOUNTED CHANGEABLE MESSAGE SIGN. THESE CHANGEABLE MESSAGE SIGNS ARE NOT REQUIRED ON THE "SIDE ROADS" INTERSECTING THE ROADWAY WHERE THE "WORK ACTIVITY AREA" IS LOCATED. ALSO, THESE CHANGEABLE MESSAGE SIGNS ARE NOT REQUIRED DURING DAYTIME FLAGGING OPERATIONS UNLESS OTHERWISE DIRECTED BY THE STANDARD DRAWINGS. INSTALL THE CHANGEABLE MESSAGE SIGNS IN ADVANCE OF THE ADVANCE WARNING SIGN ARRAYS. THE MESSAGES SHOULD BE "PREPARE TO STOP", "FLAGGER AHEAD", A TRUCK MOUNTED CHANGEABLE MESSAGE SIGN IS NOT AN ACCEPTABLE ALTERNATIVE TO A TRAILER MOUNTED CHANGEABLE MESSAGE SIGN DURING NIGHTTIME FLAGGING OPERATIONS.
- UTILIZE PORTABLE PLASTIC DRUMS OR 42" OVERSIZED TRAFFIC CONES IN PLACE OF 36" STANDARD TRAFFIC CONES DURING NIGHTTIME FLAGGING OPERATIONS.

BUFFER SPACE -

- THE MINIMUM DISTANCE REQUIREMENTS FOR THE "BUFFER SPACE" ARE BASED UPON THE LEGAL POSTED REGULATORY SPEED LIMIT OF THE ROADWAY PRIOR TO BEGINNING THE WORK.

SPEED LIMIT	DISTANCES
LOW SPEED ≤ 35 MPH	200 FEET
INTERMEDIATE SPEED 40 - 50 MPH	300 FEET
HIGH SPEED 55 MPH	400 FEET

- THE PRESENCE OF PERSONNEL, TOOLS, MATERIALS, EQUIPMENT, WORK VEHICLES, ETC. WITHIN THE LIMITS OF THE "BUFFER SPACE" IS PROHIBITED. A TRUCK MOUNTED ATTENUATOR IS THE ONLY WORK VEHICLE THAT MAY TEMPORARILY ENCR OACH UPON THE "BUFFER SPACE" IN ACCORDANCE WITH THE CONDITIONS SPECIFIED IN THE FOLLOWING NOTE WHEN APPROVED BY THE ENGINEER. SEE NOTE NO. 3.
- WHEN THE MINIMUM DISTANCE REQUIREMENTS FOR THE "BUFFER SPACE" ARE UNAVAILABLE DUE TO FIELD CONDITIONS, IT MAY BE NECESSARY FOR A TRUCK MOUNTED ATTENUATOR TO TEMPORARILY ENCR OACH UPON THE "BUFFER SPACE" WHEN APPROVED BY THE ENGINEER. A TRUCK MOUNTED ATTENUATOR IS THE ONLY VEHICLE PERMITTED TO TEMPORARILY ENCR OACH UPON THE "BUFFER SPACE" AND THIS ENCR OACHMENT IS ONLY PERMITTED WHEN ALL REASONABLE OPTIONS TO AVOID DOING SO HAVE BEEN EXHAUSTED. WHEN ENCR OACHMENT UPON THE "BUFFER SPACE" IS APPROVED BY THE ENGINEER, MINIMIZE THE TIME DURATION OF THE ENCR OACHMENT BY REMOVAL OF THE TRUCK MOUNTED ATTENUATOR FROM THE "BUFFER SPACE" AT THE FIRST OPPORTUNITY THE MINIMUM DISTANCE REQUIREMENTS FOR THE "BUFFER SPACE" BECOME AVAILABLE.

SIGNS AND TRAFFIC CONTROL DEVICES -

- MEASURE THE ADVANCE TO FLAGGING SIGN LOCATIONS FOR EACH APPROACH FROM THE "FLAGGER STATION" LOCATED ON THAT APPROACH.
- INSTALL THE ADVANCE WARNING SIGNS AS SPACING INTERVALS BASED UPON THE POSTED REGULATORY SPEED LIMIT OF THE ROADWAY PRIOR TO BEGINNING ANY WORK. THE ADVANCE WARNING SIGN SPACING INTERVALS INDICATED ARE FOR NORMAL CONDITIONS. ADJUSTMENTS TO THESE DISTANCES MAY BE NECESSARY DUE TO EXISTING SIGNS, INTERSECTING ROADWAYS, HORIZONTAL AND/OR VERTICAL ALIGNMENTS OR OTHER SIGHT DISTANCE RESTRICTIONS. SEE TABLE A.
- INSTALL ADVANCE WARNING SIGNS MOUNTED ON PORTABLE SIGN SUPPORTS NO LESS THAN 4 FEET FROM THE NEAR EDGE OF THE SIGN TO THE NEAR EDGE OF AN ADJACENT TRAVEL LANE ON ROADWAYS WITH EARTH SHOULDERS AND NO LESS THAN 6 FEET FROM THE NEAR EDGE OF THE SIGN TO THE NEAR EDGE OF AN ADJACENT TRAVEL LANE ON ROADWAYS WITH PAVED SHOULDERS. WHEN CURB & GUTTER IS PRESENT, INSTALL THE SIGN NO LESS THAN 2 FEET FROM THE NEAR EDGE OF THE SIGN TO THE FACE OF THE CURB.
- ALL SIGNS MOUNTED ON PORTABLE SIGN SUPPORTS SHALL HAVE A MINIMUM MOUNTING HEIGHT OF 5 FEET FROM THE GROUND TO THE BOTTOM OF THE SIGN. ALL SIGNS MOUNTED ON GROUND MOUNTED U-CHANNEL OR SQUARE STEEL TUBE POSTS SHALL HAVE A MINIMUM MOUNTING HEIGHT OF 7 FEET FROM THE GRADE ELEVATION OF THE NEAR EDGE OF THE ADJACENT TRAVEL LANE TO THE BOTTOM OF THE SIGN UNLESS OTHERWISE DIRECTED BY THE DEPARTMENT. MOUNT ALL SIGNS STRAIGHT AND LEVEL AND WITH THE FACE OF THE SIGNS PERPENDICULAR TO THE SURFACE OF THE ROADWAY.
- REFLECTORIZE ORANGE ADVANCE WARNING SIGNS AND ANY ORANGE AREAS OF A MULTI-COLORED ADVANCE WARNING SIGN WITH A FLUORESCENT ORANGE COLORED PRISMATIC RETROREFLECTIVE SHEETING. REFLECTORIZE WHITE REGULATORY SIGNS AND ANY WHITE AREAS OF A MULTI-COLORED ADVANCE WARNING SIGN WITH A WHITE COLORED PRISMATIC RETROREFLECTIVE SHEETING.
- ALL TRAFFIC CONTROL DEVICES SHALL COMPLY WITH THE REQUIREMENTS OF NCHRP REPORT 350 OR THE AASHTO MANUAL FOR ASSESSING SAFETY HARDWARE (MASH) AND SHALL REQUIRE APPROVAL BY THE DEPARTMENT. ONLY THOSE TRAFFIC CONTROL DEVICES INCLUDED ON THE "APPROVED PRODUCTS LIST FOR TRAFFIC CONTROL DEVICES IN WORK ZONES" ARE CONSIDERED ACCEPTABLE FOR USE. THIS LIST MAY BE ACCESSED ON THE DEPARTMENT'S WEB SITE AT: [www.scdot.org](http://www.scdot.org).
- REFLECTORIZATION OF 36" TRAFFIC CONES USED DURING DAYLIGHT HOURS IS NOT REQUIRED. IN THE EVENT A DAYTIME FLAGGING OPERATION EXTENDS INTO THE NIGHTTIME HOURS, REPLACE ALL 36" TRAFFIC CONES WITH EITHER PORTABLE PLASTIC DRUMS OR 42" OVERSIZED TRAFFIC CONES. REFLECTORIZE ALL PORTABLE PLASTIC DRUMS AND 42" OVERSIZED TRAFFIC CONES WITH TYPE II OR GREATER FLEXIBLE MICROPRISMATIC RETROREFLECTIVE SHEETING UNLESS OTHERWISE DIRECTED BY THE DEPARTMENT.
- DELINEATE THE TANGENT AREA OF THE LANE CLOSURE WITH THE NECESSARY TRAFFIC CONTROL DEVICES TO MINIMIZE ENCR OACHMENT BY MOTORISTS INTO THE CLOSED TRAVEL LANE UNLESS OTHERWISE DIRECTED BY THE ENGINEER. ON ROADWAYS WITH POSTED REGULATORY SPEED LIMITS OF 35 MPH OR LESS, INSTALL THE TRAFFIC CONTROL DEVICES AT SPACING INTERVALS OF 25 FEET. ON ROADWAYS WITH POSTED REGULATORY SPEED LIMITS OF 40 MPH OR GREATER, INSTALL THE TRAFFIC CONTROL DEVICES AT SPACING INTERVALS OF 50 FEET. SEE TABLE B.

ADVANCE WARNING ARROW PANEL -

- DURING FLAGGING OPERATIONS, AN ADVANCE WARNING ARROW PANEL SHALL OPERATE IN THE "FOUR CORNERS" CAUTION MODE WHEN LOCATED WITHIN OR IN BETWEEN THE LIMITS OF THE ADVANCE WARNING SIGN ARRAYS SPECIFIC TO A FLAGGING OPERATION. OPERATION OF AN ADVANCE WARNING ARROW PANEL IN AN ARROW, CHEVRON, OR ANY OTHER TYPE OF CAUTION MODE OTHER THAN THE "FOUR CORNERS" CAUTION MODE WHEN LOCATED WITHIN OR IN BETWEEN THE LIMITS OF THE ADVANCE WARNING SIGN ARRAYS AS SPECIFIED HEREBEFORE IS PROHIBITED.
- ALL ADVANCE WARNING ARROW PANELS SHALL COMPLY WITH THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, LATEST EDITION. THE SPECIFIC LOCATION OF AN ADVANCE WARNING ARROW PANEL MAY REQUIRE ADJUSTMENTS DUE TO HORIZONTAL AND/OR VERTICAL ALIGNMENT OR OTHER SIGHT DISTANCE RESTRICTIONS.

TRUCK MOUNTED ATTENUATOR -

- A TRUCK MOUNTED ATTENUATOR IS OPTIONAL. UTILIZATION OF A TRUCK MOUNTED ATTENUATOR SHOULD BE CONSIDERED WHEN THE MINIMUM DISTANCE REQUIREMENTS FOR THE "BUFFER SPACE" ARE UNAVAILABLE DUE TO FIELD CONDITIONS. HOWEVER, A TRAILER MOUNTED ADVANCE WARNING ARROW PANEL MAY BE UTILIZED IN PLACE OF A TRUCK MOUNTED ATTENUATOR DURING TRAFFIC CONTROL SETUPS FOR WORK ACTIVITIES SUCH AS ASPHALT CONCRETE PLACEMENT OPERATIONS WHEN APPROVED BY THE ENGINEER.
- WHEN UTILIZING A TRUCK MOUNTED ATTENUATOR, ENSURE THE TRUCK HAS THE CORRECT GROSS VEHICULAR WEIGHT (GVW) REQUIRED FOR THE TYPE OF TRUCK MOUNTED ATTENUATOR BEING UTILIZED. A DIRECT TRUCK MOUNTED TRUCK MOUNTED ATTENUATOR, A UNIT MOUNTED AND ATTACHED TO BRACKETS OR SIMILAR DEVICES CONNECTED TO THE FRAME OF THE TRUCK, REQUIRES A TRUCK WITH A MINIMUM GVW OF 15,000 POUNDS (ACTUAL WEIGHT) UNLESS OTHERWISE DIRECTED BY THE DEPARTMENT. A TRAILER TOWED TRUCK MOUNTED ATTENUATOR, A TRAILER TYPE UNIT TOWED FROM BEHIND AND ATTACHED TO THE FRAME OF THE TRUCK VIA A PINLE HOOK / HITCH, REQUIRES A TRUCK WITH A MINIMUM GVW OF 10,000 POUNDS (ACTUAL WEIGHT) UNLESS OTHERWISE DIRECTED BY THE DEPARTMENT. IF THE ADDITION OF SUPPLEMENTAL WEIGHT TO THE VEHICLE AS BALLAST IS NECESSARY, CONTAIN THE MATERIAL WITHIN A STRUCTURE CONSTRUCTED OF STEEL. CONSTRUCT THIS STEEL STRUCTURE TO HAVE A MINIMUM OF FOUR (4) SIDES AND A BOTTOM. A TOP IS OPTIONAL. BOLT THIS STRUCTURE TO THE FRAME OF THE TRUCK. UTILIZE A SUFFICIENT NUMBER OF FASTENERS FOR ATTACHMENT OF THE STEEL STRUCTURE TO THE FRAME OF THE TRUCK TO ENSURE THE STRUCTURE WILL NOT SEPARATE FROM THE FRAME OF THE TRUCK DURING AN IMPACT UPON THE TRUCK MOUNTED ATTENUATOR. UTILIZE EITHER DRY LOOSE SAND OR STEEL REINFORCED CONCRETE FOR BALLAST MATERIAL WITHIN THE STEEL STRUCTURE TO ACHIEVE THE NECESSARY WEIGHT. THE BALLAST MATERIAL SHALL REMAIN CONTAINED WITHIN THE CONFINES OF THE STEEL STRUCTURE IN ITS ENTIRETY AND SHALL NOT PROTRUDE FROM THE STEEL STRUCTURE IN ANY MANNER.
- LOCATE THE TRUCK MOUNTED ATTENUATOR APPROXIMATELY 100 FEET IN ADVANCE OF THE "WORK ACTIVITY AREA" UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
- PROVIDE, INSTALL AND MAINTAIN THE TRUCK MOUNTED ATTENUATOR AS SPECIFIED BY THE STANDARD SPECIFICATIONS AND AS DIRECTED BY THE ENGINEER.

GENERAL -

- CONDUCT THE WORK IN SUCH A MANNER SO AS NOT TO ENCR OACH ONTO THE ADJACENT TRAVEL LANE OPEN TO TRAFFIC. INSTALL, MAINTAIN AND ADJUST THE TRAFFIC CONTROL DEVICES AS NECESSARY TO ENSURE PROPER DELINEATION OF THE WORK AREA.
- IF WORK IS BEING CONDUCTED AT TWO DIFFERENT LOCATIONS AT THE SAME TIME, SEPARATE THE TWO LOCATIONS BY NO LESS THAN 2 MILES FROM THE LAST TRAFFIC CONTROL DEVICE IN THE "DOWNSTREAM TAPER" OF THE FIRST LANE CLOSURE TO THE FIRST TRAFFIC CONTROL DEVICE IN THE "APPROACH TAPER" OF THE SECOND LANE CLOSURE ENCOUNTERED BY A MOTORIST UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
- THE DEPARTMENT RESERVES THE RIGHT TO RESTRICT WORK OPERATIONS AND/OR WITHHOLD THE MONTHLY ESTIMATE IF THE TRAFFIC CONTROL IS NOT PROPERLY INSTALLED AND MAINTAINED AS DIRECTED BY THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, THE STANDARD DRAWINGS, THE PLANS AND/OR THE ENGINEER.

TABLE A

SIGN PLACEMENT INTERVALS	
SPEED LIMIT	*
# ≤ 35 MPH LOW SPEED	200
# 40 - 50 MPH INTERMEDIATE SPEED	350
# 55 MPH HIGH SPEED	500

\* REGULATORY POSTED SPEED LIMIT PRIOR TO BEGINNING WORK

TABLE B

TRAFFIC CONTROL DEVICE SPACING INTERVALS WORK ACTIVITY / BUFFER SPACE AREAS	
SPEED LIMIT	SPACING INTERVALS
≤ 35 MPH	25 FEET
40 - 55 MPH	50 FEET

FOR INFORMATION ONLY

THIS DRAWING IS NOT TO SCALE

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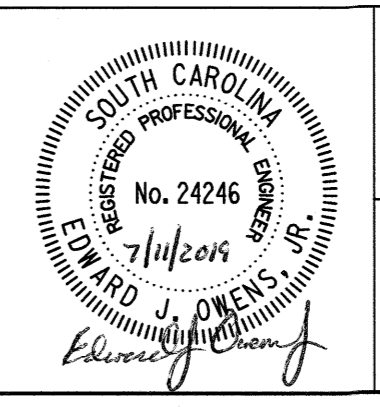
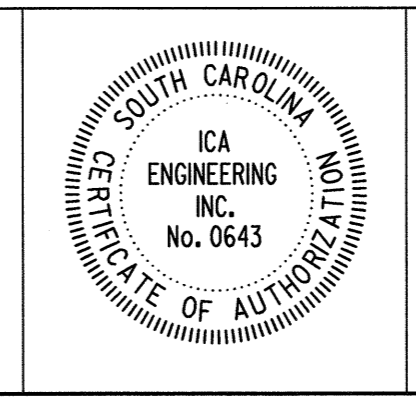
ISSUE	DATE	DESCRIPTION

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10059106  
DESIGNED BY: TM  
DRAWN BY: TM  
CHECKED BY: AA

NOT TO SCALE

NEWBERRY COUNTY  
1309 COLLEGE STREET  
NEWBERRY, SC 29108

ICA Engineering Inc.  
1122 Lady Street, Suite 1100, Columbia, SC 29201



PROJECT:  
**NEWBERRY COUNTY CAPITAL SALES  
TAX PROJECT NO. 6  
TEN WATER POINT LOCATIONS  
FOR THE CONSOLIDATED FIRE DISTRICT**

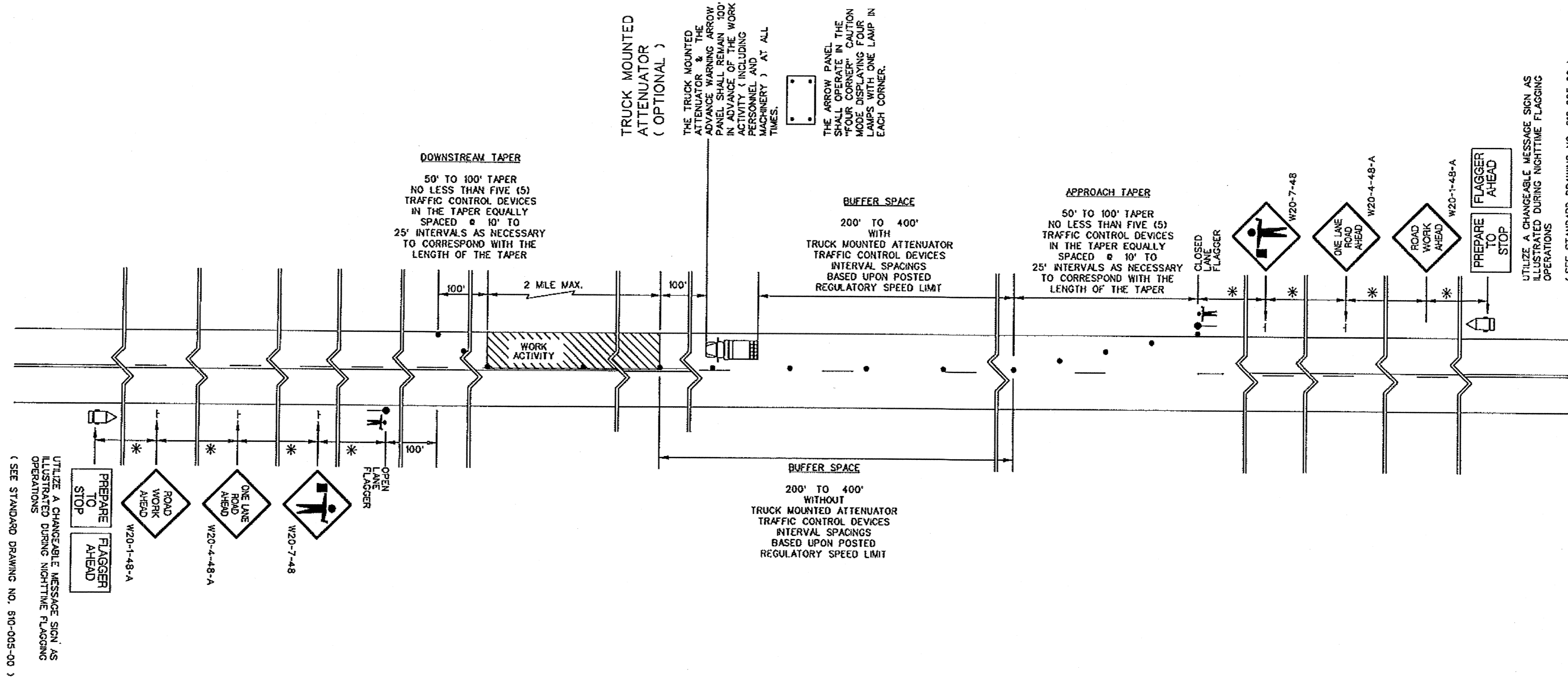
DRAWING:  
SCDOT TRAFFIC CONTROL DETAILS

DRAWING NO.:  
**D4**



**DRAWING 610-005-10 NOTES**

1. SEE STANDARD DRAWING NO. 610-005-00 FOR ALL GENERAL NOTES AND REQUIREMENTS.



UTILIZE A CHANGEABLE MESSAGE SIGN AS ILLUSTRATED DURING NIGHTTIME FLAGGING OPERATIONS (SEE STANDARD DRAWING NO. 610-005-00)

**TRUCK MOUNTED ATTENUATOR (OPTIONAL)**  
 THE TRUCK MOUNTED ATTENUATOR & THE ADVANCE WARNING ARROW PANEL SHALL REMAIN 100' IN ADVANCE OF THE WORK AREA INCLUDING PERSONNEL, INCLUDING MACHINERY, AT ALL TIMES.  
 THE ARROW PANEL SHALL OPERATE IN THE FOUR CORNER CAUTION POSITION WITH ONE LAMP IN EACH CORNER.

**DOWNSTREAM TAPER**  
 50' TO 100' TAPER  
 NO LESS THAN FIVE (5) TRAFFIC CONTROL DEVICES IN THE TAPER EQUALLY SPACED @ 10' TO 25' INTERVALS AS NECESSARY TO CORRESPOND WITH THE LENGTH OF THE TAPER

**BUFFER SPACE**  
 200' TO 400' WITH TRUCK MOUNTED ATTENUATOR TRAFFIC CONTROL DEVICES INTERVAL SPACINGS BASED UPON POSTED REGULATORY SPEED LIMIT

**APPROACH TAPER**  
 50' TO 100' TAPER  
 NO LESS THAN FIVE (5) TRAFFIC CONTROL DEVICES IN THE TAPER EQUALLY SPACED @ 10' TO 25' INTERVALS AS NECESSARY TO CORRESPOND WITH THE LENGTH OF THE TAPER

UTILIZE A CHANGEABLE MESSAGE SIGN AS ILLUSTRATED DURING NIGHTTIME FLAGGING OPERATIONS (SEE STANDARD DRAWING NO. 610-005-00)

TABLE A

SIGN PLACEMENT INTERVALS	
SPEED LIMIT	*
≤ 35 MPH # LOW SPEED	200
40 - 50 MPH # INTERMEDIATE SPEED	350
55 MPH # HIGH SPEED	500

\* REGULATORY POSTED SPEED LIMIT PRIOR TO BEGINNING WORK

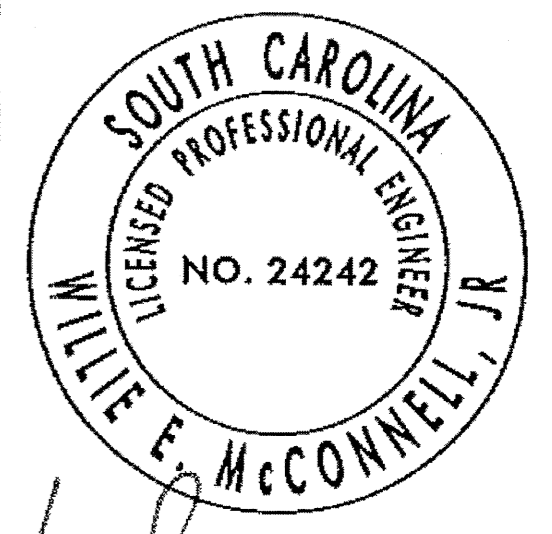
TABLE B

TRAFFIC CONTROL DEVICE SPACING INTERVALS WORK ACTIVITY / BUFFER SPACE AREAS	
SPEED LIMIT	SPACING INTERVALS
≤ 35 MPH	25 FEET
40 - 55 MPH	50 FEET

THIS DRAWING IS NOT TO SCALE

**REFERENCES**

WORK ZONE TRAFFIC CONTROL ENGINEER



*Willie E. McConnell*  
 SIGNATURE  
 7/27/15  
 DATE

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0	1-15-15	JCS	NEW DRAWING
#	DATE	CHK	DESCRIPTION

**SCDOT**  
 SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION  
 DESIGN STANDARDS OFFICE  
 955 PARK STREET  
 ROOM 405  
 COLUMBIA, SC 29201

STANDARD DRAWING

FLAGGING OPERATIONS  
 TWO-LANE TWO-WAY ROADWAYS WITHOUT INTERSECTIONS

610-005-10  
 EFFECTIVE LETTING DATE: JAN 2016

FOR INFORMATION ONLY

7/11/2019 14:02:48 610118 Traffic Control Details.dgn

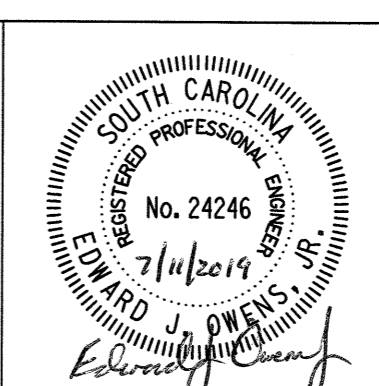
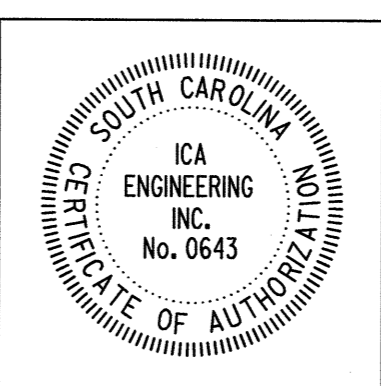
ISSUE	DATE	DESCRIPTION

HDR/ICA JOB NO.:	10059106
DESIGNED BY:	TM
DRAWN BY:	TM
CHECKED BY:	AA

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NEWBERRY COUNTY  
 1309 COLLEGE STREET  
 NEWBERRY, SC 29108

ICA Engineering Inc.  
 1122 Lady Street, Suite 1100, Columbia, SC 29201



PROJECT: **NEWBERRY COUNTY CAPITAL SALES TAX PROJECT NO. 6 TEN WATER POINT LOCATIONS FOR THE CONSOLIDATED FIRE DISTRICT**

DRAWING: **SCDOT TRAFFIC CONTROL DETAILS**

DRAWING NO.: **D5**

**SCDHEC STANDARD NOTES**

1. IF NECESSARY, SLOPES, WHICH EXCEED EIGHT (8) VERTICAL FEET SHOULD BE STABILIZED WITH SYNTHETIC OR VEGETATIVE MATS, IN ADDITION TO HYDROSEEDING. IT MAY BE NECESSARY TO INSTALL TEMPORARY SLOPE DRAINS DURING CONSTRUCTION. TEMPORARY BERMS MAY BE NEEDED UNTIL THE SLOPE IS BROUGHT TO GRADE.
2. STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICABLE IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, BUT IN NO CASE MORE THAN FOURTEEN (14) DAYS AFTER WORK HAS CEASED, EXCEPT AS STATED BELOW.
  - WHERE STABILIZATION BY THE 14th DAY IS PRECLUDED BY SNOW COVER OR FROZEN GROUND CONDITIONS STABILIZATION MEASURES MUST BE INITIATED AS SOON AS PRACTICABLE.
  - WHERE CONSTRUCTION ACTIVITY ON A PORTION OF THE SITE IS TEMPORARILY CEASED, AND EARTH-DISTURBING ACTIVITIES WILL BE RESUMED WITHIN 14 DAYS, TEMPORARY STABILIZATION MEASURES DO NOT HAVE TO BE INITIATED ON THAT PORTION OF THE SITE.
3. ALL SEDIMENT AND EROSION CONTROL DEVICES SHALL BE INSPECTED ONCE EVERY CALENDAR WEEK. IF PERIODIC INSPECTION OR OTHER INFORMATION INDICATES THAT A BMP HAS BEEN INAPPROPRIATELY OR INCORRECTLY INSTALLED, THE PERMITTEE MUST ADDRESS THE NECESSARY REPLACEMENT OR MODIFICATION REQUIRED TO CORRECT THE BMP WITHIN 48 HOURS OF IDENTIFICATION.
4. PROVIDE SILT FENCE AND/OR OTHER CONTROL DEVICES, AS MAY BE REQUIRED, TO CONTROL SOIL EROSION DURING UTILITY CONSTRUCTION. ALL DISTURBED AREAS SHALL BE CLEANED, GRADED, AND STABILIZED WITH GRASSING IMMEDIATELY AFTER THE UTILITY INSTALLATION. FILL, COVER, AND TEMPORARY SEEDING AT THE END OF EACH DAY ARE RECOMMENDED. IF WATER IS ENCOUNTERED WHILE TRENCHING, THE WATER SHOULD BE FILTERED TO REMOVE ANY SEDIMENTS BEFORE BEING PUMPED BACK INTO ANY WATERS OF THE STATE.
5. ALL EROSION CONTROL DEVICES SHALL BE PROPERLY MAINTAINED DURING ALL PHASES OF CONSTRUCTION UNTIL THE COMPLETION OF ALL CONSTRUCTION ACTIVITIES AND ALL DISTURBED AREAS HAVE BEEN STABILIZED. ADDITIONAL CONTROL DEVICES MAY BE REQUIRED DURING CONSTRUCTION IN ORDER TO CONTROL EROSION AND/OR OFFSITE SEDIMENTATION. ALL TEMPORARY CONTROL DEVICES SHALL BE REMOVED ONCE CONSTRUCTION IS COMPLETE AND THE SITE IS STABILIZED.
6. THE CONTRACTOR MUST TAKE NECESSARY ACTION TO MINIMIZE THE TRACKING OF MUD ONTO PAVED ROADWAY(S) FROM CONSTRUCTION AREAS AND THE GENERATION OF DUST. THE CONTRACTOR SHALL DAILY REMOVE MUD/SOIL FROM PAVEMENT AS MAY BE REQUIRED.
7. TEMPORARY DIVERSION BERMS AND/OR DITCHES WILL BE PROVIDED AS NEEDED DURING CONSTRUCTION TO PROTECT WORK AREAS FROM UPSLOPE RUNOFF AND/OR TO DIVERT SEDIMENT-LADEN WATER TO APPROPRIATE TRAPS OR STABLE OUTLETS.
8. ALL WATERS OF THE STATE (WOS), INCLUDING WETLANDS, ARE TO BE FLAGGED OR OTHERWISE CLEARLY MARKED IN THE FIELD. A DOUBLE ROW OF SILT FENCE IS TO BE INSTALLED IN ALL AREAS WHERE A 50-FOOT BUFFER CAN'T BE MAINTAINED BETWEEN THE DISTURBED AREA AND ALL WOS. A 10-FOOT BUFFER SHOULD BE MAINTAINED BETWEEN THE LAST ROW OF SILT FENCE AND ALL WOS.
9. LITTER, CONSTRUCTION DEBRIS, OILS, FUELS, AND BUILDING PRODUCTS WITH SIGNIFICANT POTENTIAL FOR IMPACT (SUCH AS STOCKPILES OF FRESHLY TREATED LUMBER) AND CONSTRUCTION CHEMICALS THAT COULD BE EXPOSED TO STORM WATER MUST BE PREVENTED FROM BECOMING A POLLUTANT SOURCE IN STORM WATER DISCHARGES.
10. A COPY OF THE SWPPP, INSPECTIONS RECORDS, AND RAINFALL DATA MUST BE RETAINED AT THE CONSTRUCTION SITE OR A NEARBY LOCATION EASILY ACCESSIBLE DURING NORMAL BUSINESS HOURS, FROM THE DATE OF COMMENCEMENT OF CONSTRUCTION ACTIVITIES TO THE DATE THAT FINAL STABILIZATION IS REACHED.
11. INITIATE STABILIZATION MEASURES ON ANY EXPOSED STEEP SLOPES (3H:1V OR GREATER) WHERE LAND-DISTURBING ACTIVITIES HAVE PERMANENTLY OR TEMPORARILY CEASED, AND WILL NOT RESUME FOR A PERIOD OF 7 CALENDAR DAYS.
12. MINIMIZE SOIL COMPACTION AND, UNLESS INFEASIBLE, PRESERVE TOPSOIL.
13. MINIMIZE THE DISCHARGE OF POLLUTANTS FROM EQUIPMENT AND VEHICLE WASHING. WHEEL WASH WATER, AND OTHER WASH WATERS, WASH WATERS MUST BE TREATED IN A SEDIMENT BASIN OR ALTERNATIVE CONTROL THAT PROVIDES EQUIVALENT OR BETTER TREATMENT PRIOR TO DISCHARGE.
14. MINIMIZE THE DISCHARGE OF POLLUTANTS FROM DEWATERING OF TRENCHES AND EXCAVATED AREAS. THESE DISCHARGES ARE TO BE ROUTED THROUGH APPROPRIATE BMPS (SEDIMENT BASIN, FILTER BAG, ETC.).
15. THE FOLLOWING DISCHARGES FROM THE SITE ARE PROHIBITED:
  - \*WASTEWATER FROM WASHOUT OF CONCRETE, UNLESS MANAGED BY AN APPROPRIATE CONTROL;
  - \*WASTEWATER FROM WASHOUT AND CLEANOUT OF STUCCO, PAINT, FORM RELEASE OILS, CURING COMPOUNDS AND OTHER CONSTRUCTION MATERIALS;
  - \* FUELS, OILS, OR OTHER POLLUTANTS USED IN VEHICLE AND EQUIPMENT OPERATION AND MAINTENANCE; AND
  - \* SOAPS OR SOLVENTS USED IN VEHICLE AND EQUIPMENT WASHING.
16. AFTER CONSTRUCTION ACTIVITIES BEGIN, INSPECTIONS MUST BE CONDUCTED AT A MINIMUM OF AT LEAST ONCE EVERY CALENDAR WEEK AND MUST BE CONDUCTED UNTIL FINAL STABILIZATION IS REACHED ON ALL AREAS OF THE CONSTRUCTION SITE.
17. IF EXISTING BMPS NEED TO BE MODIFIED OR IF ADDITIONAL BMPS ARE NECESSARY TO COMPLY WITH THE REQUIREMENTS OF THIS PERMIT AND/OR SC'S WATER QUALITY STANDARDS, IMPLEMENTATION MUST BE COMPLETED BEFORE THE NEXT STORM EVENT WHENEVER PRACTICABLE. IF IMPLEMENTATION BEFORE THE NEXT STORM EVENT IS IMPRACTICABLE, THE SITUATION MUST BE DOCUMENTED IN THE SWPPP AND ALTERNATIVE BMPS MUST BE IMPLEMENTED AS SOON AS REASONABLY POSSIBLE.
18. A PRE-CONSTRUCTION CONFERENCE MUST BE HELD FOR EACH CONSTRUCTION SITE WITH AN APPROVED ON-SITE SWPPP PRIOR TO THE IMPLEMENTATION OF CONSTRUCTION ACTIVITIES. FOR NON-LINEAR PROJECTS THAT DISTURB 10 ACRES OR MORE THIS CONFERENCE MUST BE HELD ON-SITE UNLESS THE DEPARTMENT HAS APPROVED OTHERWISE.

**SEDIMENT AND EROSION CONTROL CONSTRUCTION SEQUENCE**

1. RECEIVE NPDES COVERAGE FROM DHEC.
2. PRE-CONSTRUCTION MEETING (ON-SITE IF MORE THAN 10 ACRES DISTURBED AND NON-LINEAR).
3. NOTIFY DHEC EQC REGIONAL OFFICE OR OCRM OFFICE 48 HOURS PRIOR TO BEGINNING LAND-DISTURBING ACTIVITIES.
4. INSTALLATION OF CONSTRUCTION ENTRANCE(S).
5. CLEARING AND GRUBBING ONLY AS NECESSARY FOR INSTALLATION OF PERIMETER CONTROLS.
6. INSTALLATION OF PERIMETER CONTROLS (E.G. SILT FENCE).
7. CLEARING AND GRUBBING ONLY IN AREAS OF BASINS/TRAPS/PONDS. CLEARING AND GRUBBING MAY COMMENCE IN OTHER AREAS IF PERIMETER CONTROL DEVICES ARE INSTALLED AND PROVIDING PROTECTION FOR THOSE AREAS.
8. INSTALLATION OF BASINS/TRAPS/PONDS AND INSTALLATION OF DIVERSIONS TO THOSE STRUCTURES. (OUTLET STRUCTURES MUST BE COMPLETELY INSTALLED AS SHOWN ON THE DETAILS BEFORE PROCEEDING TO NEXT STEP. AREAS DRAINING TO THESE STRUCTURES CANNOT BE DISTURBED UNTIL THE STRUCTURES AND DIVERSIONS TO THE STRUCTURES ARE INSTALLED).
9. CLEARING AND GRUBBING OF SITE OR DEMOLITION. (SEDIMENT AND EROSION CONTROL MEASURES FOR THESE AREAS MUST ALREADY BE INSTALLED).
10. EXCAVATE PIT FOR WATER TANK. PROTECT STOCKPILES FROM BECOMING A SOURCE OF POLLUTANT.
11. INSTALLATION OF UNDERGROUND STORAGE TANK.
12. BACKFILL, FINE GRADING, PAVING, ETC.
13. PERMANENT/FINAL STABILIZATION.
14. CLEAN-OUT OF ANY DETENTION BASINS THAT WERE USED AS SEDIMENT CONTROL STRUCTURES AND RE-GRADING OF DETENTION POND BOTTOMS; IF NECESSARY, MODIFICATION OF SEDIMENT BASIN RISER TO CONVERT TO DETENTION BASIN OUTLET STRUCTURE.
15. REMOVAL OF TEMPORARY SEDIMENT AND EROSION CONTROL MEASURES AFTER ENTIRE AREA DRAINING TO THE STRUCTURE IS FINALLY STABILIZED. (IT IS RECOMMENDED THAT THE PROJECT OWNER/OPERATOR HAVE THE SWPPP PREPARER OR REGISTRATION EQUIVALENT APPROVE THE REMOVAL OF TEMPORARY STRUCTURES).
16. PERFORM AS-BUILT SURVEYS.
17. SUBMIT NOTICE OF TERMINATION (NOT) TO DHEC AS APPROPRIATE.

**CONSTRUCTION SEQUENCE NOTES**

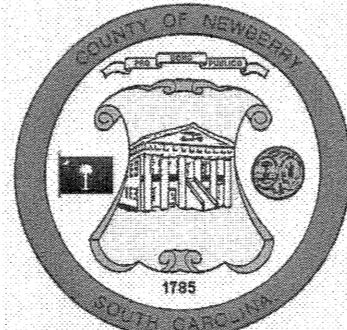
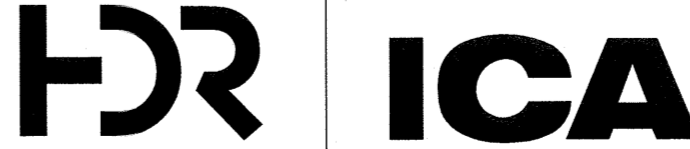
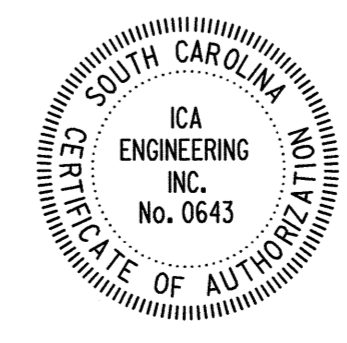
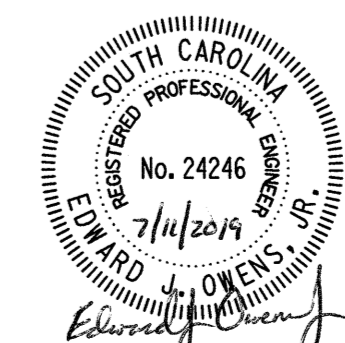
IF NPDES COVERAGE IS BEING ISSUED AFTER LAND-DISTURBING ACTIVITIES HAVE ALREADY STARTED (E.G. IN RESPONSE TO A NOTICE TO COMPLY, NOTICE OF VIOLATION, OR ENFORCEMENT ACTION), THEN THE CONSTRUCTION SEQUENCE MUST SPECIFICALLY INDICATE THE ITEMS THAT HAVE ALREADY OCCURRED AND THE ITEMS THAT WILL BE OCCURRING AFTER NPDES COVERAGE IS ISSUED.

IF FLOWS FROM OFFSITE AREAS WILL BE DIVERTED AROUND THE SITE AND THE ON-SITE STRUCTURES ARE NOT DESIGNED TO HANDLE FLOWS FROM OFFSITE AREAS, THE DIVERSIONS/PIPING FOR THE OFFSITE FLOWS MUST BE INSTALLED BEFORE LAND-DISTURBING ACTIVITIES BEGIN ON THE SITE. SEDIMENT AND EROSION CONTROL MEASURES FOR THE DISTURBED AREAS FOR THE DIVERSION/PIPING MUST BE INSTALLED BEFORE THOSE AREAS ARE DISTURBED AND SHOULD BE SHOWN ON THE PLANS.

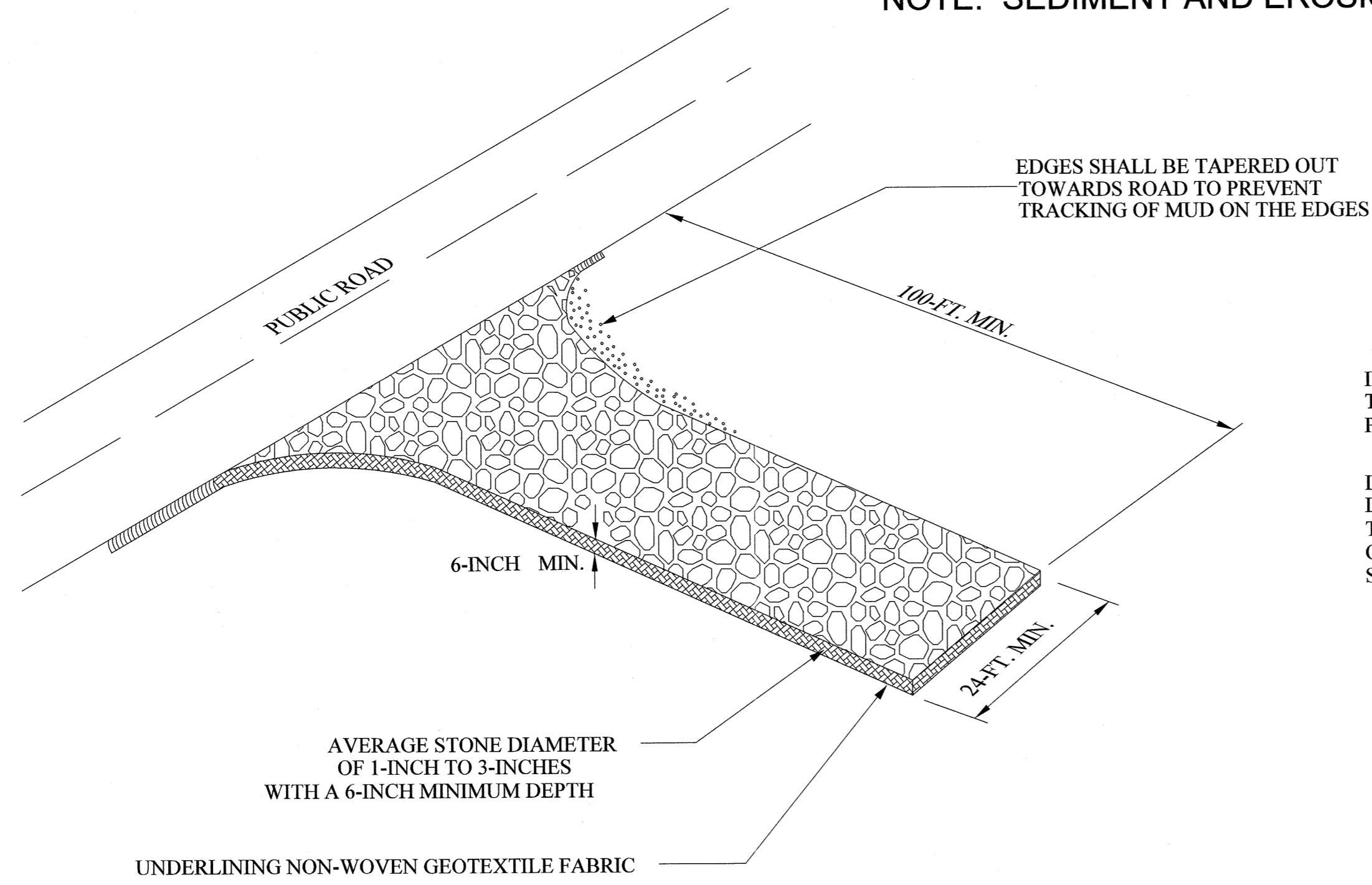
INSTALLATION OF SOME PERMANENT WATER QUALITY DEVICES, IF NECESSARY, SHOULD OCCUR AFTER THE SITE IS STABILIZED; INCLUDE THIS IN THE SEQUENCE. CLEANOUT OF OTHER WATER QUALITY DEVICES THAT WERE USED DURING CONSTRUCTION SHOULD OCCUR AFTER SITE STABILIZATION.

MAINTENANCE OF SEDIMENT AND EROSION CONTROL MEASURES MUST CONTINUE UNTIL THE SITE IS PERMANENTLY STABILIZED AND THE CONTROLS ARE REMOVED.

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			HDR/ICA JOB NO.: 10059106	 <p>NEWBERRY COUNTY 1309 COLLEGE STREET NEWBERRY, SC 29108</p>	 <p>ICA Engineering Inc. 1122 Lady Street, Suite 1100, Columbia, SC 29201</p>			PROJECT: <b>NEWBERRY COUNTY CAPITAL SALES TAX PROJECT NO. 6 TEN WATER POINT LOCATIONS FOR THE CONSOLIDATED FIRE DISTRICT</b>	DRAWING NO.:			
			DESIGNED BY: TM									<b>EC1</b>
			DRAWN BY: TM									
ISSUE	DATE	DESCRIPTION	CHECKED BY: AA	EROSION CONTROL NOTES								

NOTE: SEDIMENT AND EROSION CONTROL MEASURES DETAILED ON THIS SHEET MAY NOT BE REQUIRED AT EACH SITE.  
 DETAIL PROVIDED FOR USE AS NECESSARY



INSTALL A CULVERT PIPE ACROSS THE ENTRANCE WHEN NEEDED TO PROVIDE POSITIVE DRAINAGE.

DIVERT ALL SURFACE RUNOFF AND DRAINAGE FROM THE STONE PAD TO A SEDIMENT TRAP OR BASIN OR OTHER SEDIMENT TRAPPING STRUCTURE.

**STABILIZED CONSTRUCTION ENTRANCE**

**When and Where to Use It:**

Stabilized construction entrances should be used at all points where traffic will be leaving a construction site and moving directly onto a public road.

**Important Considerations:**

If washing is used, provisions must be made to intercept the wash water and trap the sediment before it is carried offsite. Washdown facilities shall be required as directed by SCDHEC as needed. Washdown areas in general must be established with crushed gravel and drain into a sediment trap or sediment basin. Construction entrances should be used in conjunction with the stabilization of construction roads to reduce the amount of mud picked up by vehicles.

**Installation:**

Remove all vegetation and any objectionable material from the foundation area.

Divert all surface runoff and drainage from stones to a sediment trap or basin.

Install a non-woven geotextile fabric prior to placing any stone.

Install a culvert pipe across the entrance when needed to provide positive drainage.

The entrance shall consist of 1-inch to 3-inch D50 stone placed at a minimum depth of 6-inches.

Minimum dimensions of the entrance shall be 24-feet wide by 100-feet long, and may be modified as necessary to accommodate site constraints.

The edges of the entrance shall be tapered out towards the road to prevent tracking of mud at the edge of the entrance.

**Inspection and Maintenance:**

Inspect construction entrances every seven (7) calendar days. Check for mud and sediment buildup and pad integrity. Make daily inspections during periods of wet weather. Maintenance is required more frequently in wet weather conditions. Reshape the stone pad as needed for drainage and runoff control.

Wash or replace stones as needed and as directed by the inspector. The stone in the entrance should be washed or replaced whenever the entrance fails to reduce mud being carried off-site by vehicles. Frequent washing will extend the useful life of stone.

Immediately remove mud and sediment tracked or washed onto public roads by brushing or sweeping. Flushing should only be used when the water can be discharged to a sediment trap or basin.

Repair any broken pavement immediately.

**SILT FENCE DETAIL**

**When and Where to Use It**

Silt fence is applicable in areas:

Where the maximum sheet or overland flow path length to the fence is 100-feet. Where the maximum slope steepness (normal [perpendicular] to fence line) is 2H:1V. That do not receive concentrated flows greater than 0.5 cfs.

Do not place silt fence across channels or use it as a velocity control BMP.

**Materials**

**Steel Posts**

Use 48-inch long steel posts that meet the following minimum physical requirements:

Composed of high strength steel with minimum yield strength of 50,000 psi.

Have a standard "I" section with a nominal face width of 1.38-inches and nominal "I" length of 1.48-inches.

Weigh 1.25 pounds per foot (± 8%).

Have a soil stabilization plate with a minimum cross section area of 17-square inches attached to the steel posts.

Painted with a water based baked enamel paint.

Use steel posts with a minimum length of 4-feet, weighing 1.25 pounds per linear foot (± 8%) with projections to aid in fastening the fabric. Except when heavy clay soils are present on site, steel posts will have a metal soil stabilization plate welded near the bottom such that when the post is driven to the proper depth, the plate will be below the ground level for added stability.

The soil plates should have the following characteristics:

Be composed of minimum 15 gauge steel.

Have a minimum cross section area of 17-square inches.

**Geotextile Filter Fabric**

Filter fabric is:

Composed of fibers consisting of long chain synthetic polymers composed of at least 85% by weight of polyolefins, polyesters, or polyamides. Formed into a network such that the filaments or yarns retain dimensional stability relative to each other. Free of any treatment or coating which might adversely alter its physical properties after installation. Free of defects or flaws that significantly affect its physical and/or filtering properties. Cut to a minimum width of 36 inches.

Use only fabric appearing on SCDOT Approval Sheet #34 meeting the requirements of the most current edition of the SCDOT Standard Specifications for Highway Construction.

**SILT FENCE DETAIL**

**Installation**

Excavate a trench approximately 6-inches wide and 6-inches deep when placing fabric by hand. Place 12-inches of geotextile fabric into the 6-inch deep trench, extending the remaining 6-inches towards the upslope side of the trench. Backfill the trench with soil or gravel and compact. Bury 12-inches of fabric into the ground when pneumatically installing silt fence with a slicing method. Purchase fabric in continuous rolls and cut to the length of the barrier to avoid joints. When joints are necessary, wrapped the fabric together at a support post with both ends fastened to the post, with a 6-inch minimum overlap. Install posts to a minimum depth of 24-inches. Install posts a minimum of 1- to 2- inches above the fabric, with no more than 3-feet of the post above the ground. Space posts to maximum 6-foot centers. Attach fabric to wood posts using staples made of heavy-duty wire at least 1½-inch long, spaced a maximum of 6-inches apart. Staple a 2-inch wide lathe over the filter fabric to securely fasten it to the upslope side of wooden posts. Attach fabric to the steel posts using heavy-duty plastic ties that are evenly spaced and placed in a manner to prevent sagging or tearing of the fabric. In call cases, ties should be affixed in no less than 4 places. Install the fabric a minimum of 24-inches above the ground. When necessary, the height of the fence above ground may be greater than 24-inches. In tidal areas, extra silt fence height may be required. The post height will be twice the exposed post height. Post spacing will remain the same and extra height fabric will be 4-, 5-, or 6-foot tall. Locate silt fence checks every 100 feet maximum and at low points. Install the fence perpendicular to the direction of flow and place the fence the proper distance from the toe of steep slopes to provide sediment storage and access for maintenance and cleanout.

**Inspection and Maintenance**

Inspect every seven calendar days and within 24-hours after each rainfall event that produces ½-inches or more of precipitation. Check for sediment buildup and fence integrity. Check where runoff has eroded a channel beneath the fence, or where the fence has sagged or collapsed by fence overtopping.

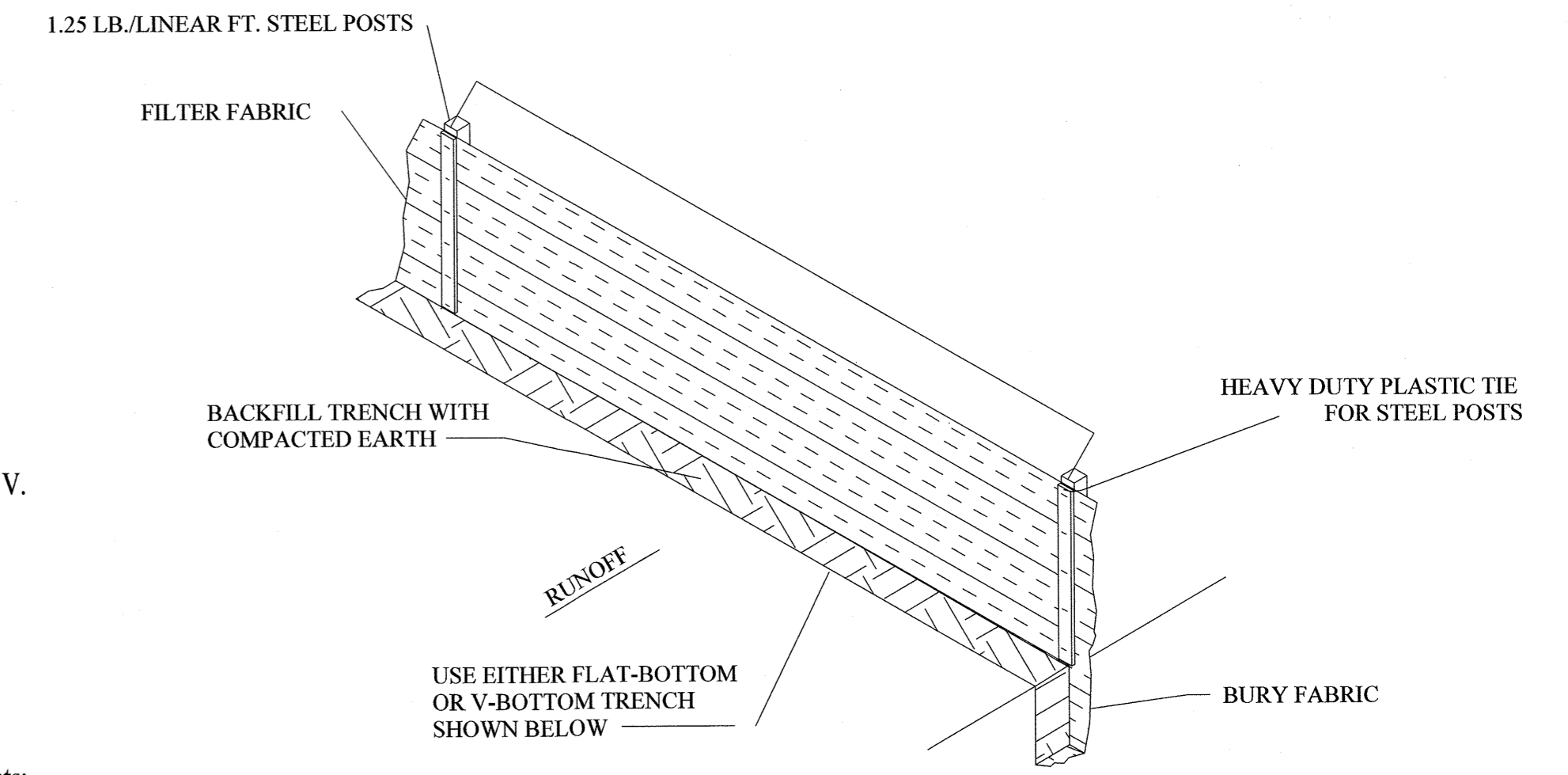
If the fence fabric tears, begins to decompose, or in any way becomes ineffective, replace the section of fence immediately.

Remove sediment accumulated along the fence when it reaches 1/3 the height of the fence, especially if heavy rains are expected.

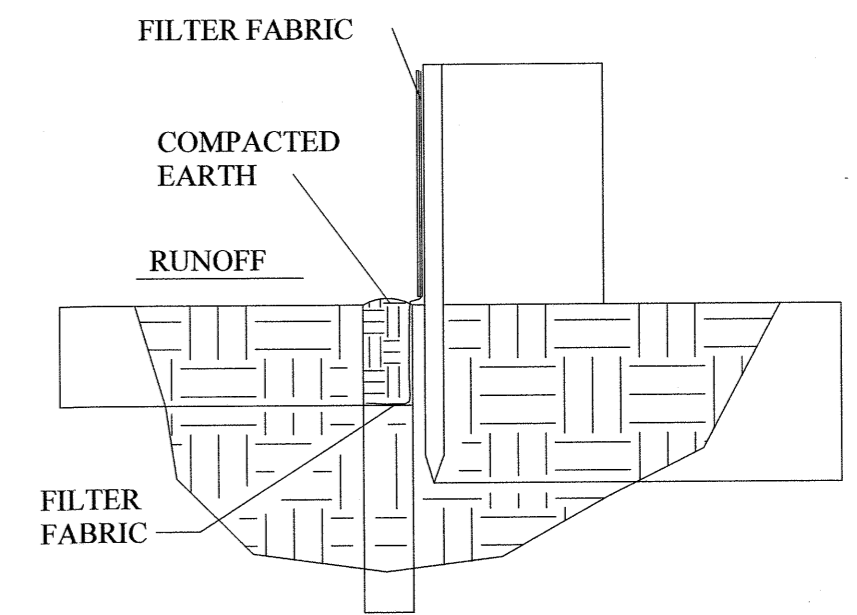
Remove trapped sediment from the site or stabilize it on site.

Remove silt fence within 30 days after final stabilization is achieved or after temporary best management practices (BMPs) are no longer needed.

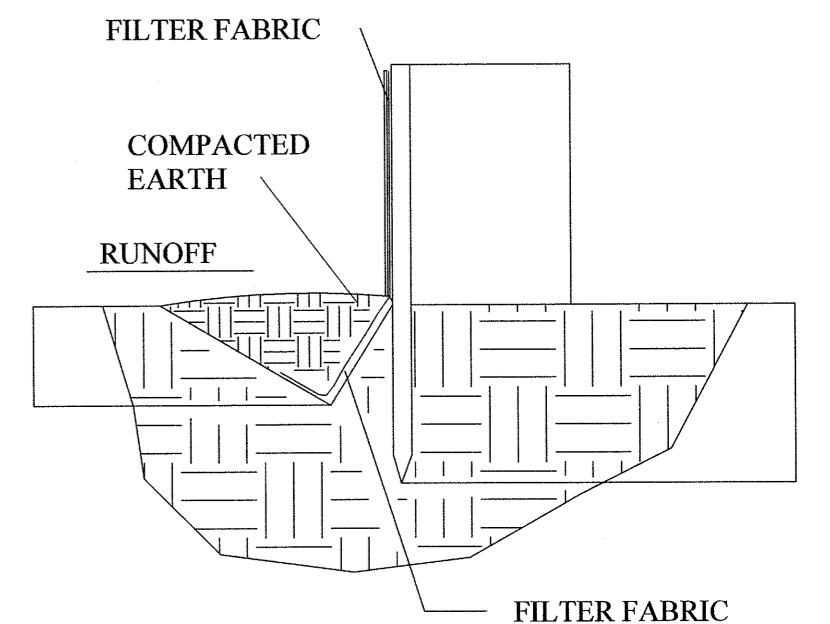
Permanently stabilize disturbed areas resulting from fence removal.



**SILT FENCE INSTALLATION**



**FLAT-BOTTOM TRENCH DETAIL**



**V-SHAPED TRENCH DETAIL**

7/11/2019 2480520-SHEC2 Erosion Control Details.dgn

ISSUE	DATE	DESCRIPTION

HDR/ICA JOB NO.:	10059106
DESIGNED BY:	TM
DRAWN BY:	TM
CHECKED BY:	AA

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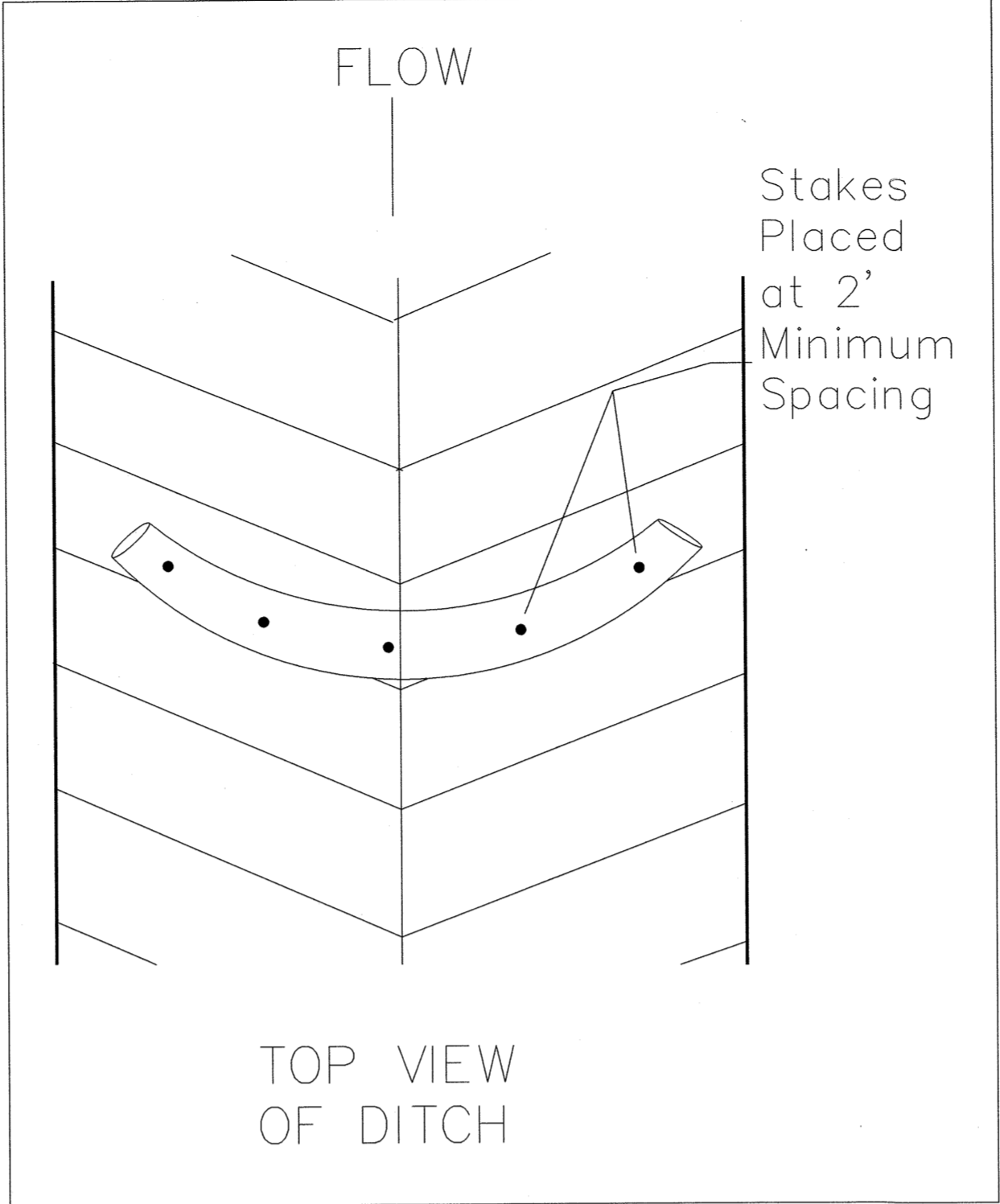
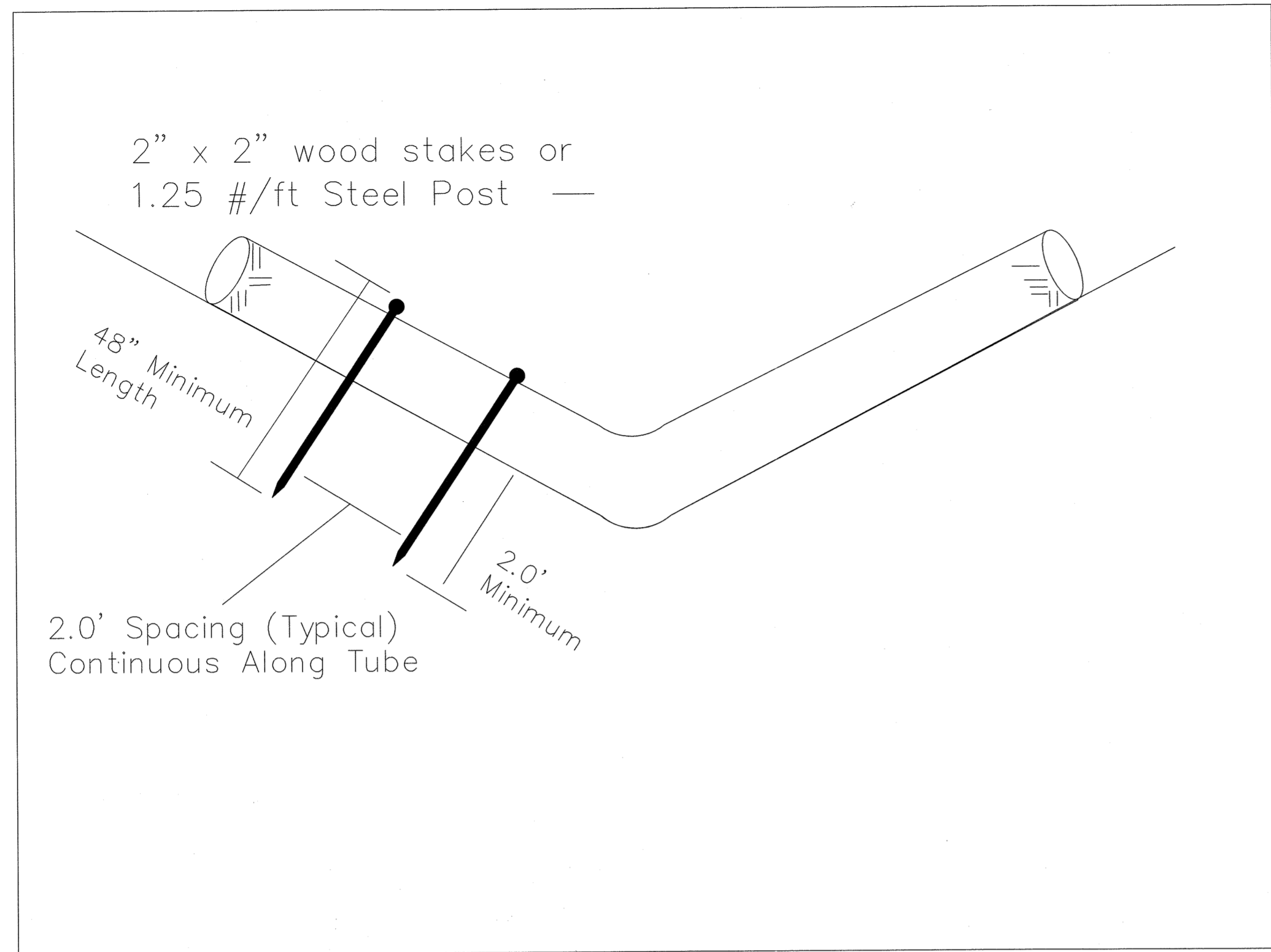
NEWBERRY COUNTY  
 1309 COLLEGE STREET  
 NEWBERRY, SC 29108

ICA Engineering Inc.  
 1122 Lady Street, Suite 1100, Columbia, SC 29201

PROJECT: **NEWBERRY COUNTY CAPITAL SALES TAX PROJECT NO. 6 TEN WATER POINT LOCATIONS FOR THE CONSOLIDATED FIRE DISTRICT**

DRAWING: **EROSION CONTROL DETAILS**

DRAWING NO.: **EC2**



NOTE: SEDIMENT AND EROSION CONTROL MEASURES DETAILED ON THIS SHEET MAY NOT BE REQUIRED AT EACH SITE. DETAIL PROVIDED FOR USE AS NECESSARY

**SEDIMENT TUBE SPACING**

SLOPE	MAXIMUM SEDIMENT TUB SPACING
LESS THAN 2%	150-FEET
2%	100-FEET
3%	75-FEET
4%	50-FEET
5%	40-FEET
6%	30-FEET
GREATER THAN 6%	25-FEET

**SEDIMENT TUBE**

**Description**  
Sediment tubes are elongated tubes of compacted geotextiles, curled excelsior wood, natural coconut fiber or hardwood mulch. Straw, pine needle and leaf mulch-filled sediment tubes are not permitted under this specification.

**When and Where to Use It:**  
Install sediment tubes along contours, in drainage conveyance swales, and around inlets to help reduce the effects of soil erosion by energy dissipation and retain sediment.

**Materials**  
Sediment tubes for ditch checks and Type A Inlet Structure Filters exhibit the following properties:  
Produced by a Manufacturer experienced in sediment tube manufacturing.  
Composed of compacted geotextiles, curled excelsior wood, natural coconut fibers, hardwood mulch or a mix of these materials enclosed by a flexible netting material. Straw, straw fiber, straw bales, pine needles and leaf mulch are not allowed under this specification.  
Utilizes outer netting that consists of seamless, high-density polyethylene photodegradable materials treated with ultraviolet stabilizers or a seamless, high-density polyethylene non-degradable materials. Diameter ranging from 18-inches to 24-inches.  
Curled excelsior wood, or natural coconut rolled erosion control products (RECPs) that are rolled up to create a sediment tube are not allowed under this specification.

**Installation:**  
Install over bare soil, mulched areas or erosion control blankets.  
Be composed of geotextiles, curled excelsior wood, natural coconut fiber or hardwood mulch enclosed by a flexible netting material. Straw, straw fiber, straw bales, pine needles and leaf mulch are not allowed.

The minimum diameter should be 18 inches.  
Sediment tubes should be staked using wooden stakes (2-inch x 2-inch) or steel posts (standard "U" or "T" sections with a minimum weight of 1.25 pounds per foot) a minimum of 48-inches in length placed on 2-foot centers.

Stakes should be intertwined with the outer mesh on the downstream side and driven in the ground to a minimum depth of 1.5 feet leaving less than 1 foot of stake exposed above the sediment tube. Always refer to the Manufacturer's recommendations for the staking detail.  
Install all sediment tubes insuring that no gaps exist between the soil and the bottom of the sediment tube. The ends of adjacent sediment tubes should be lapped 6-inch to prevent flow and sediment from passing through the field joint. In no situations should sediment tubes be stacked on top of one another.

Construct a trench that is 20% of the tube diameter to install the tube in.  
Avoid damage to sediment tubes while installing them. If the sediment tube becomes damaged during installation, a stake should be placed on both sides of the damaged area terminating the tube segment and a new tube segment should be installed. Should be installed in swales or drainage ditches perpendicular to the flow of water. Sediment tubes should continue up the side slopes a minimum of 1 foot above the design flow depth. Sediment tubes should be spaced according to the following table.

**SEDIMENT TUBE**

Sediment tube length selected should minimize the number of sediment tubes needed to span the width of the drainage conveyance. If the ditch check length (perpendicular to the water flow) is 15 feet, then one 15 foot sediment tube is preferred compared to two overlapping 10 foot sediment tubes.

Sediment tubes for ditch checks should remain in place until fully established vegetation and root systems have completely developed and can survive on their own.

**Inspection and Maintenance:**

Check dams should be inspected every 7 calendar days and within 24-hours after each storm that produces ½-inches or more of rain to ensure continued effectiveness.

Large debris, trash, and leaves should be removed.

If erosion causes the edges to fall to a height equal to or below the height of the center, repairs should be made immediately.

Remove accumulated sediment from the upstream side of the sediment tube when the sediment has reached a height of approximately one-third of the exposed height of the tube (measured at the center).

Accumulated sediment should be removed prior to removing sediment tubes.

Sediment Tube removal should be completed only after the contributing drainage area has been completely stabilized. Permanent vegetation should replace areas from which gravel, stone, sediment tubes, or other materials have been removed.

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ISSUE	DATE	DESCRIPTION

HDR/ICA JOB NO.:	10059106
DESIGNED BY:	TM
DRAWN BY:	TM
CHECKED BY:	AA

NOT TO SCALE

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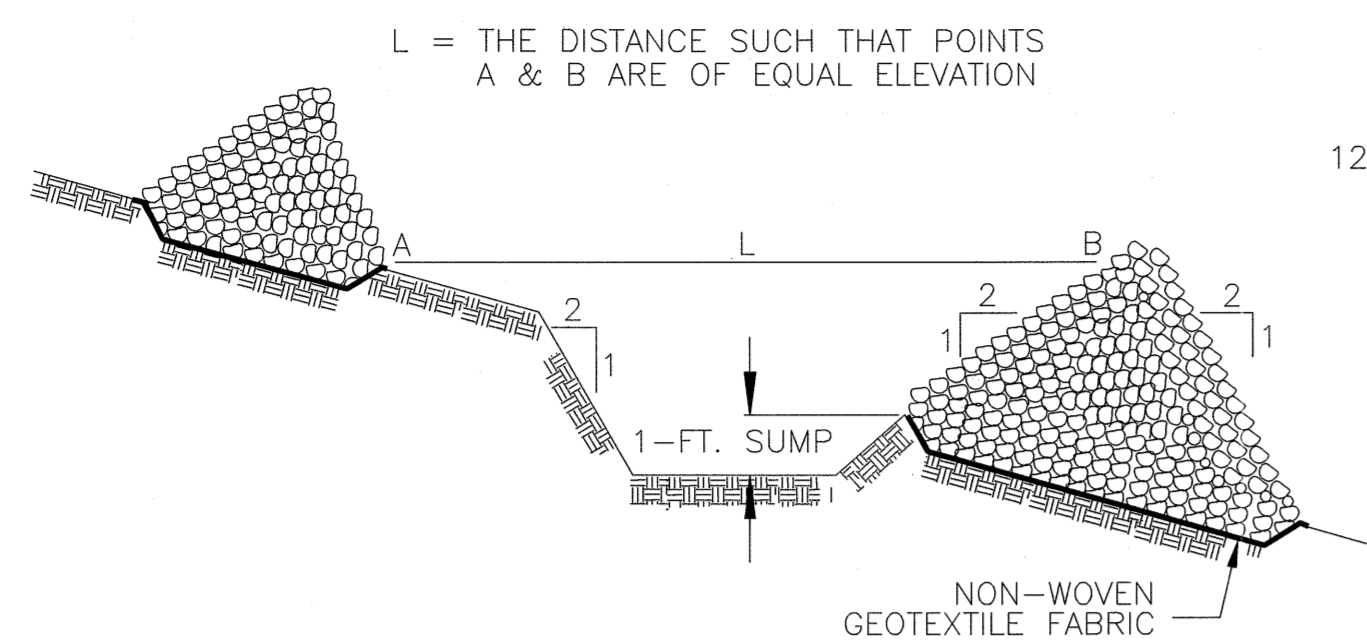
PROJECT: **NEWBERRY COUNTY CAPITAL SALES TAX PROJECT NO. 6 TEN WATER POINT LOCATIONS FOR THE CONSOLIDATED FIRE DISTRICT**

DRAWING: **EROSION CONTROL DETAILS**

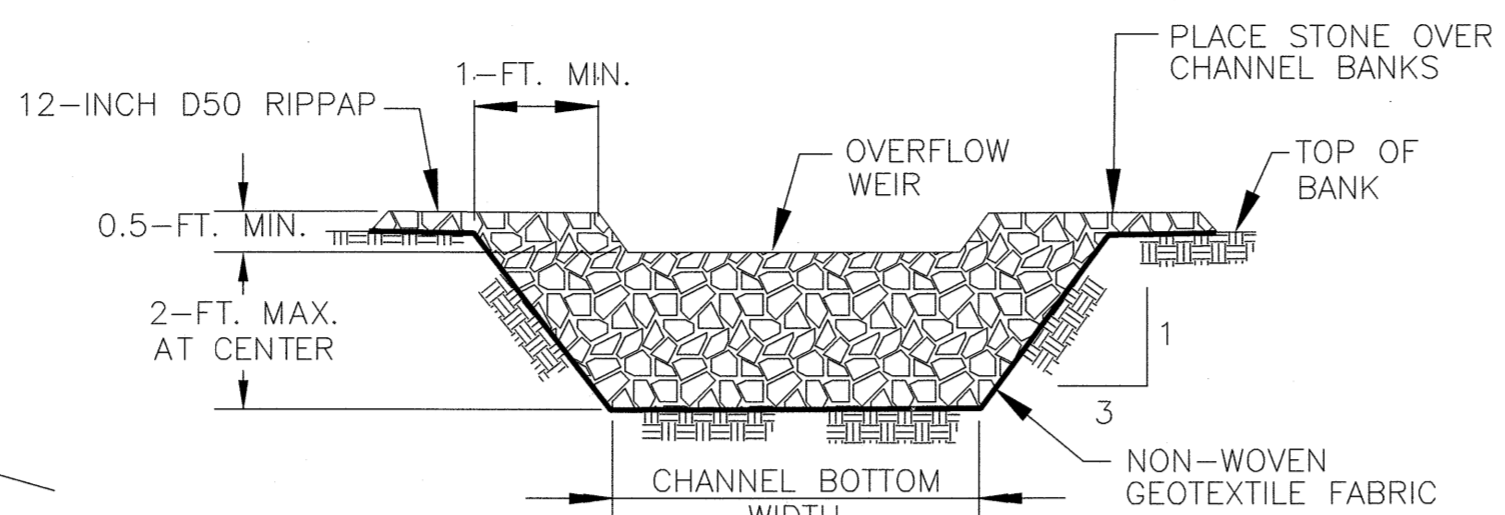
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NOTE: SEDIMENT AND EROSION CONTROL MEASURES DETAILED ON THIS SHEET MAY NOT BE REQUIRED AT EACH SITE. DETAIL PROVIDED FOR USE AS NECESSARY

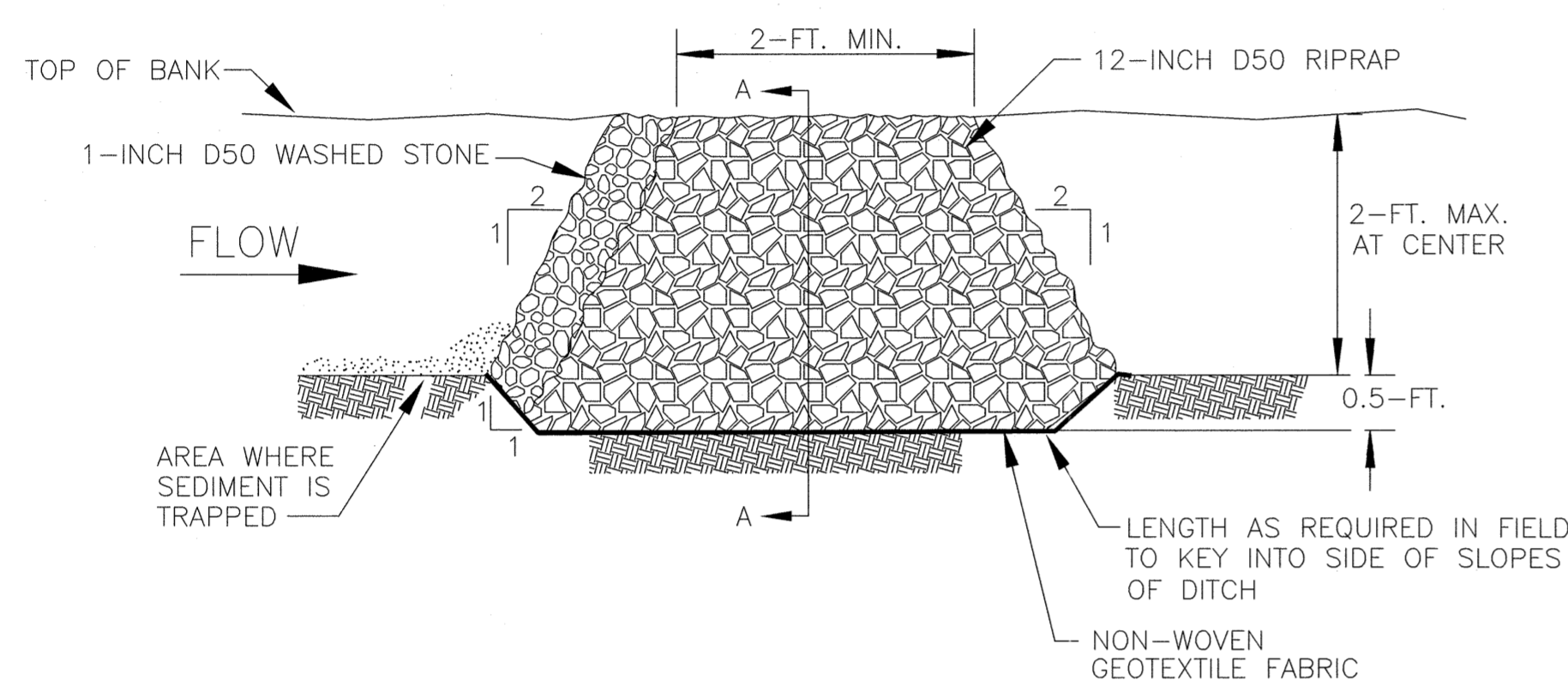
**SPACING BETWEEN DITCH CHECK**



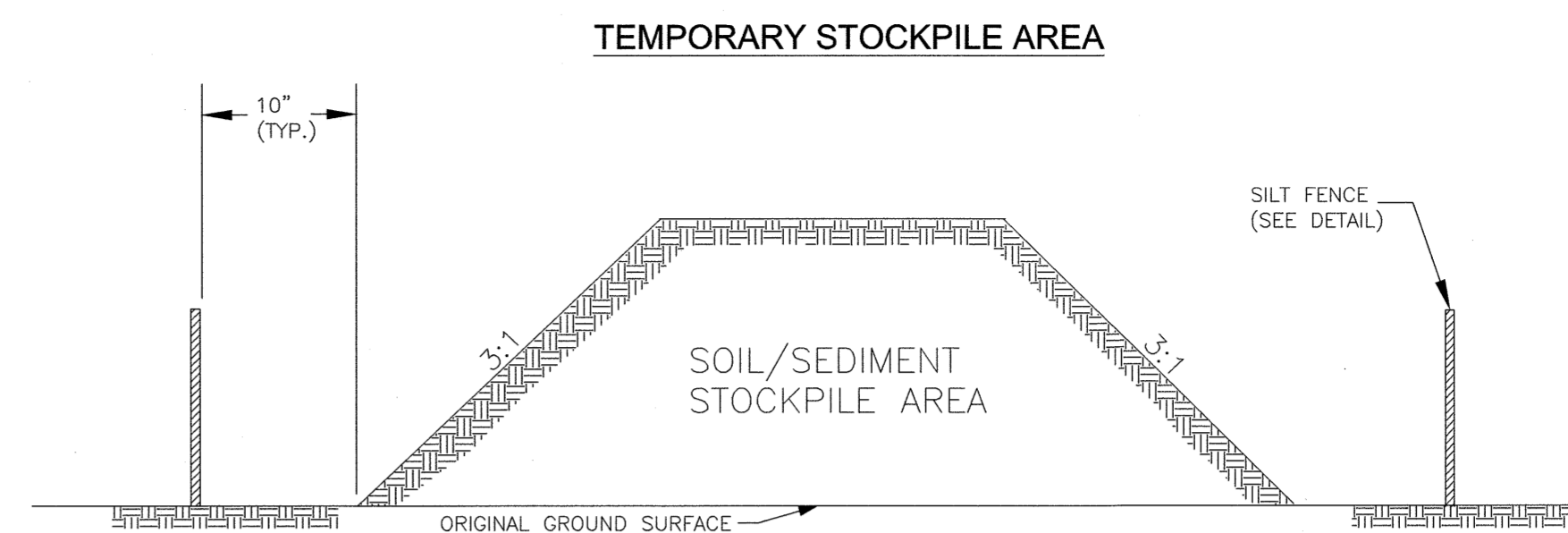
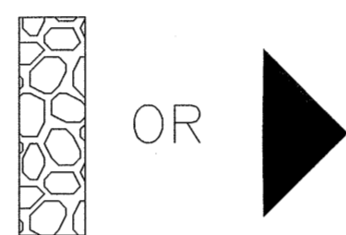
**CROSS SECTION A-A THRU STONE DITCH CHECK**



**TYPICAL DITCH CHECK SECTION**



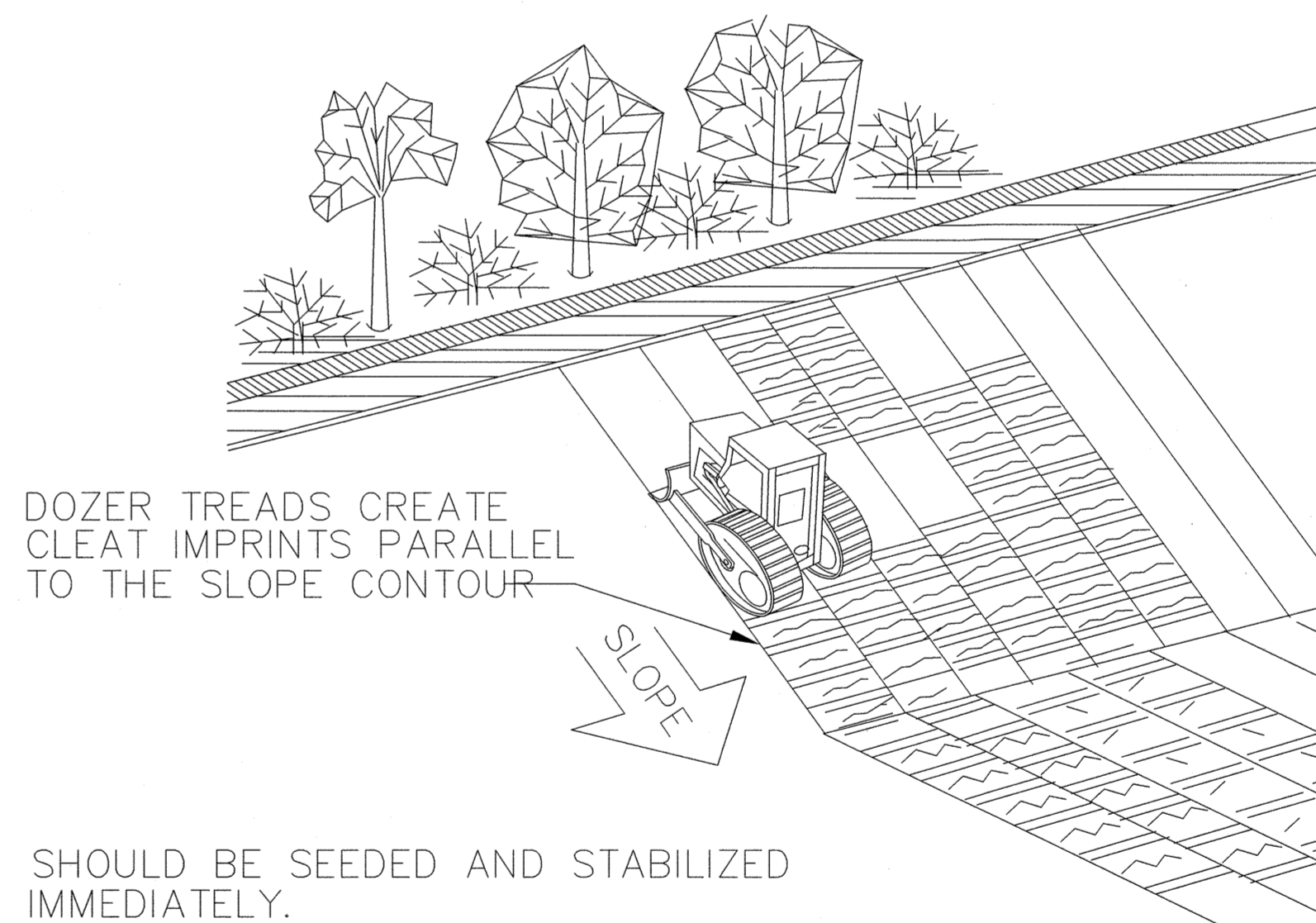
**PLAN SYMBOL**



**NOTES:**


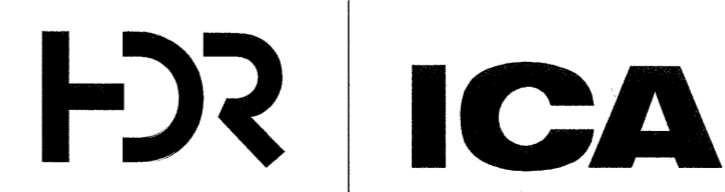
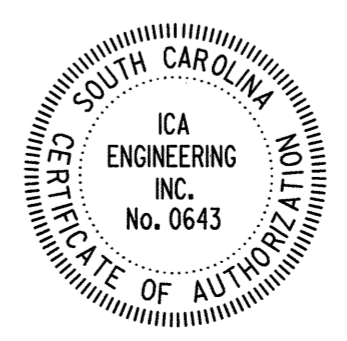
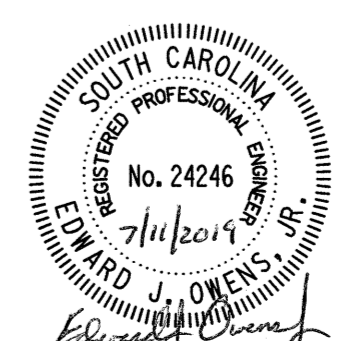
1. SILT FENCE TO EXTEND AROUND ENTIRE PERIMETER OF STOCKPILE. OR IF STOCKPILE AREA IS LOCATED ON/NEAR A SLOPE THE SILT FENCE IS TO EXTEND ALONG CONTOURS OF THE DOWN-GRADIENT AREA.
2. IF STOCKPILE IS TO REMAIN FOR MORE THAN 14 DAYS, TEMPORARY STABILIZATION MEASURES MUST BE IMPLEMENTED.
3. SILT FENCE SHALL BE MAINTAINED UNTIL STOCKPILE AREA HAS EITHER BEEN REMOVED OR PERMANENTLY STABILIZED.
4. THE KEY TO FUNCTIONAL TEMPORARY STOCKPILE AREAS IS WEEKLY INSPECTIONS, ROUTINE MAINTENANCE, AND REGULAR SEDIMENT REMOVAL.

1. Rock Ditch Checks should not be placed in Waters of the State or USGS blue-line streams (unless approved by Federal Authorities).
2. Rock Ditch Checks should be installed in steeply sloped channels where adequate vegetation cannot be established. This BMP measure should only be used in small open channels.
3. A non-woven geotextile fabric shall be installed over the soil surface where the rock ditch check is to be placed.
4. The body of the rock ditch check shall be composed of 12-inch D50 Riprap. The upstream face may be composed of 1-inch D50 washed stone.
5. Rock Ditch Checks should not exceed a height of 2-feet at the centerline of the channel.
6. Rock Ditch Checks should have a minimum top flow length of 2-feet.
7. Riprap should be placed over channel banks to prevent water from cutting around the ditch check.
8. The riprap should be placed by hand or mechanical placement (no dumping of rock to form dam) to achieve complete coverage of the channel. Doing so will also ensure that the center of the check is lower than the edges.
9. The maximum spacing between the dams should be such that the toe of the upstream check is at the same elevation as the top of the downstream check.
10. The key to functional rock ditch check is weekly inspections, routine maintenance, and regular sediment removal.
11. Regular inspections of rock ditch checks shall be conducted once every calendar week and, as recommended, within 24-hours after each rainfall even that produces 1/2-inch or more of precipitation.
12. Attention to sediment accumulations in front of the rock ditch check is extremely important. Accumulated sediment should be continually monitored and removed when necessary.
13. Remove accumulated sediment when it reaches 1/3 the height of the rock ditch check.
14. Removed sediment shall be placed in stockpile storage areas or spread thinly across disturbed area. Stabilize the removed sediment after it is relocated.
15. Inspect Rock Ditch Checks' edges for erosion and evidence of runoff bypassing the installed check. If evident repair promptly as necessary to prevent erosion and bypassing.
16. In the case of grass-lined ditches, channels, and swales, rock ditch checks should be removed when the grass has matured sufficiently to protect the ditch or swale unless the slope of the swale is greater than 4%.
17. After construction is completed and final stabilization is reached, the entirety of the rock ditch check should be removed if vegetation will be used for permanent erosion control measures. The area beneath the removed rock ditch check must be addressed with permanent stabilization measures.



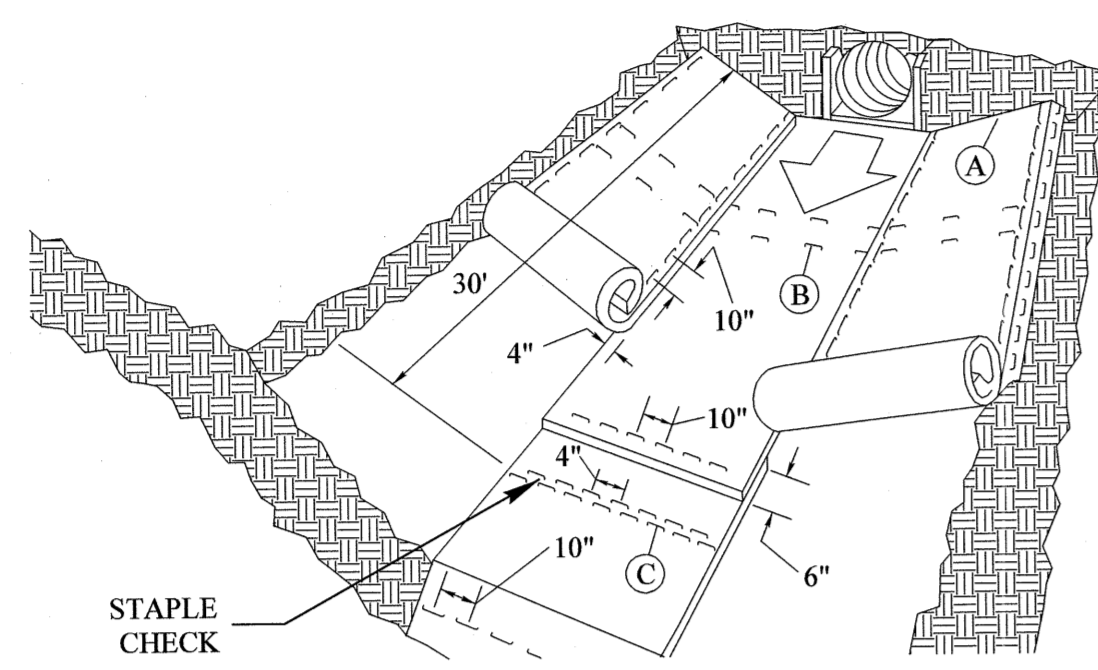
**TRACKING**

7/11/2019 2480522\_SHEC4 Erosion Control Details.dgn

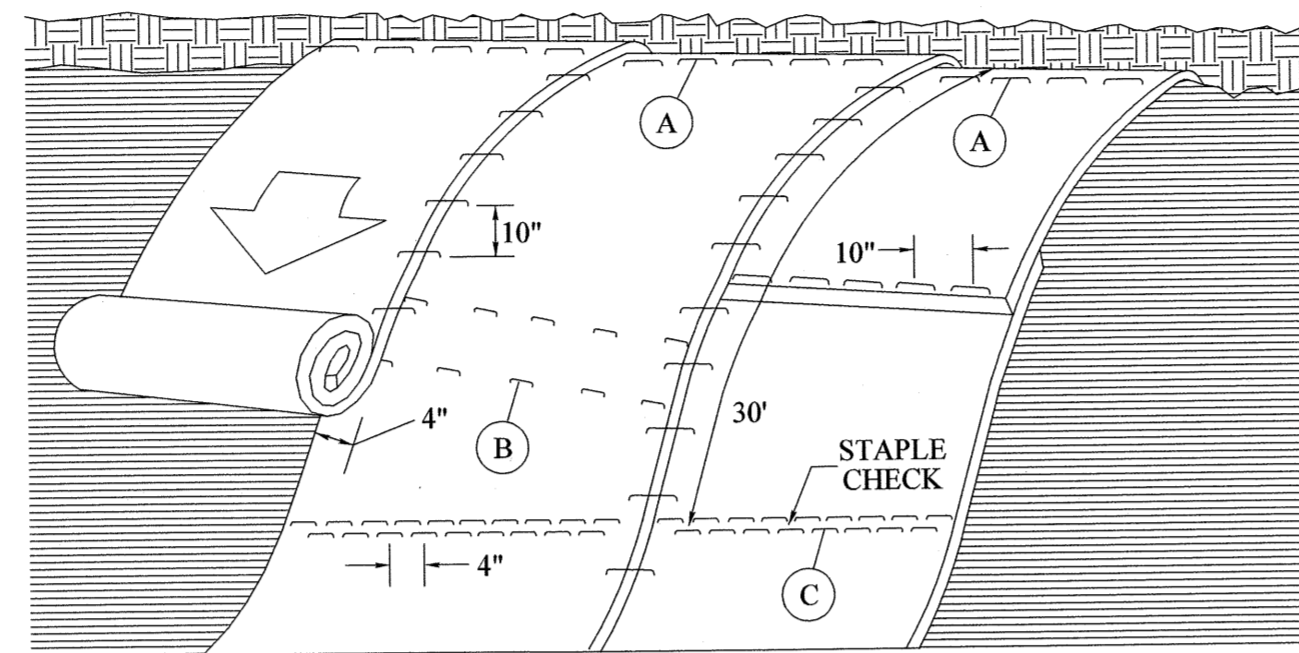
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			DESIGNED BY: TM						EC4	
			DRAWN BY: TM							
			CHECKED BY: AA							
ISSUE	DATE	DESCRIPTION							DRAWING: EROSION CONTROL DETAILS	

NOTE: SEDIMENT AND EROSION CONTROL MEASURES DETAILED ON THIS SHEET MAY NOT BE REQUIRED AT EACH SITE.  
 DETAIL PROVIDED FOR USE AS NECESSARY

MATTING INSTALLATION DETAIL



MATTING IN DITCHES



MATTING ON SLOPES

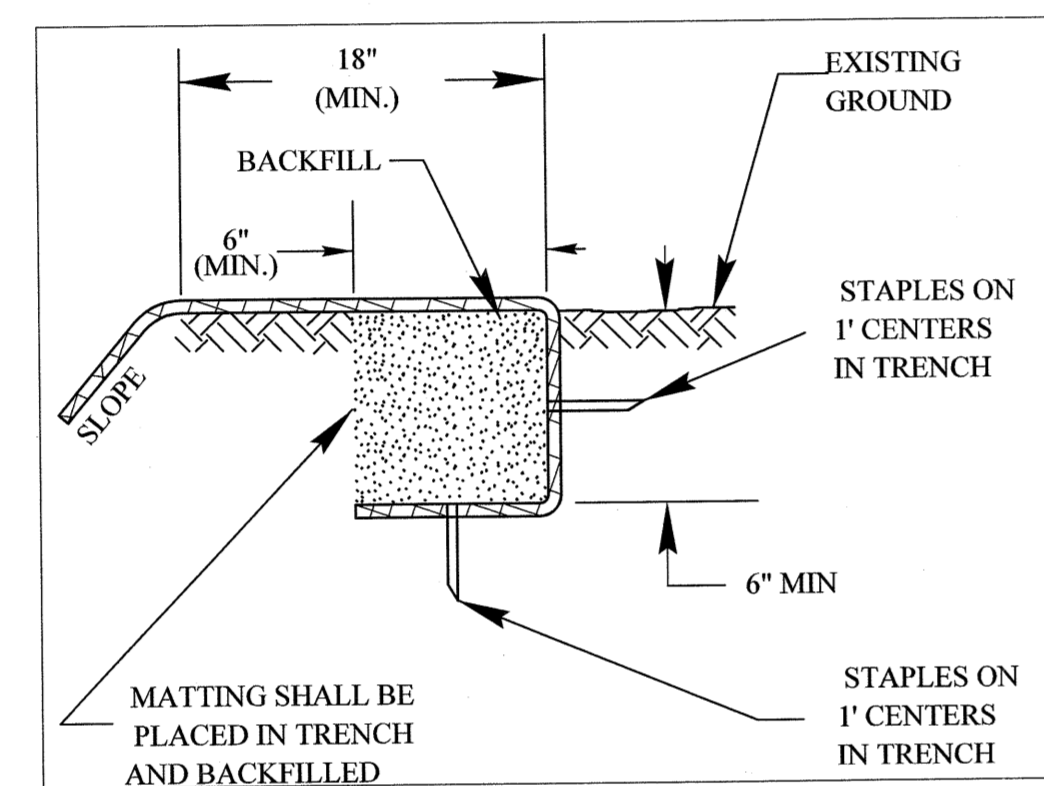


DIAGRAM (A)

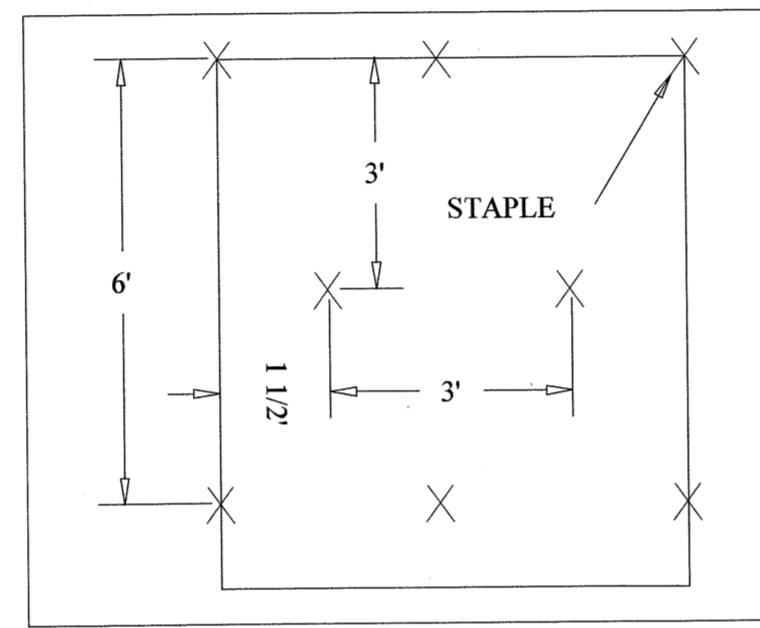


DIAGRAM (B)

STAPLE CHECK PATTERN

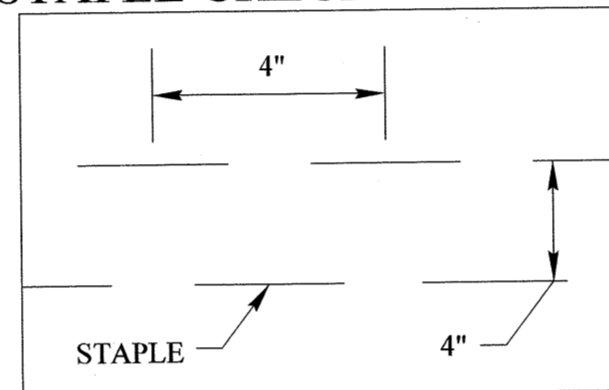
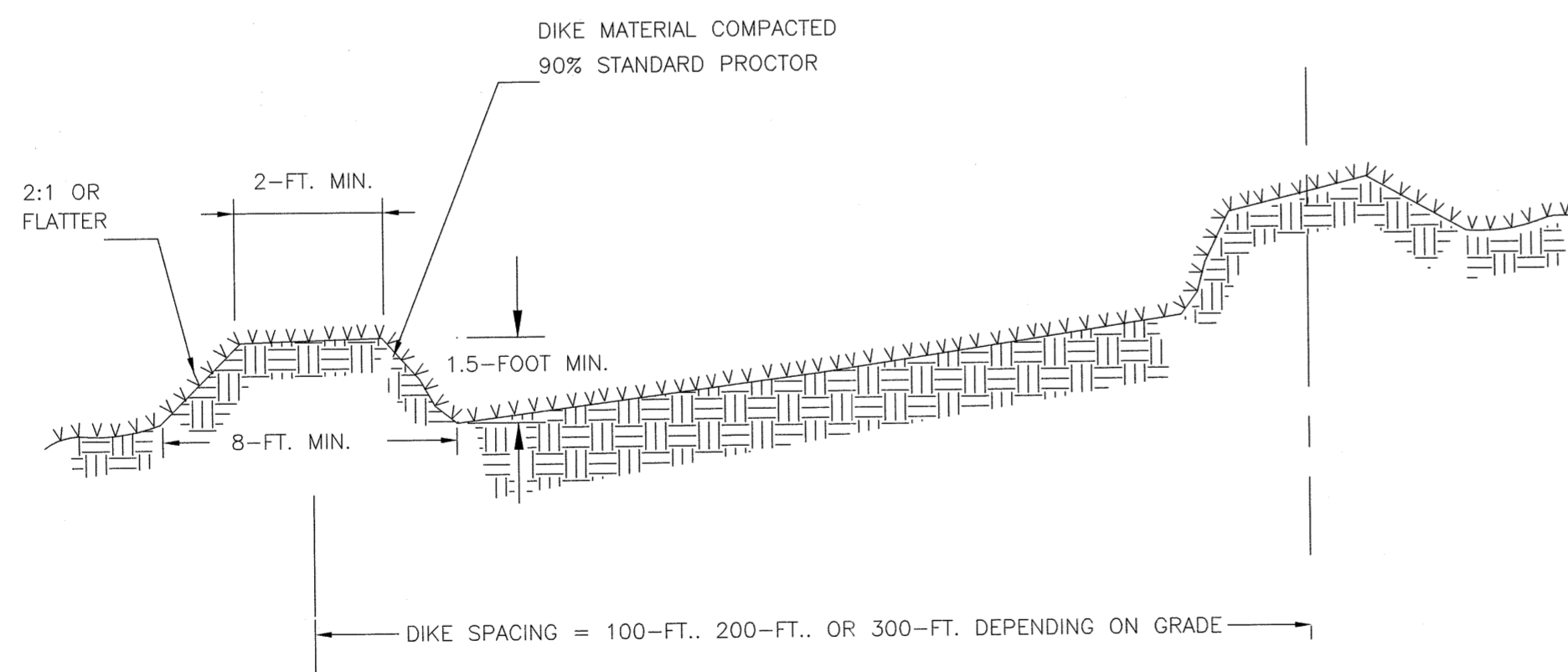


DIAGRAM (C)

NOTES:

- THIS DETAIL APPLIES TO EROSION CONTROL BLANKET(ECB) AND TURF REINFORCEMENT MAT(TRM) INSTALLATION.
- STAPLES SHALL BE NO. 11 GAUGE STEEL WIRE FORMED INTO A "U" SHAPE WITH A MINIMUM THROAT WIDTH OF 1 INCH AND NOT LESS THAN 6 INCHES IN LENGTH.
- MATTING ON SLOPES SHALL BE TIED IN AT THE TOP OF THE SLOPE ACCORDING TO DIAGRAM A AND EXTEND BEYOND THE TOE OF SLOPE.



DIVERSION BERM DETAIL

DIVERSION DIKS AND BERMS

Installation

Slopes shall be stabilized immediately using vegetation, sod, and erosion control blankets or turf reinforcement mats to prevent erosion.  
 The upslope side of the dike should provide positive drainage so no erosion occurs at the outlet. Provide energy dissipation measures as necessary.  
 Sediment-laden runoff must be released through a sediment trapping facility.  
 Sediment-laden runoff shall be directed to a sediment trapping facility.  
 Minimize construction traffic over diversion dikes and berms.

Inspection and Maintenance:

Dikes and Berms should be inspected, every seven (7) calendar days and within 24-hours after each rainfall event that produces 1/2-inches or more of precipitation and repairs made as necessary.  
 Damage caused by construction traffic or other activity must be repaired before the end of each working day.

SEEDING SCHEDULE

TABLE 1: PERENNIALS \* Months shaded in gray represent applicable planting dates.

COMMON NAME	BOTANICAL NAME	APPROVED SITE(S)	PLANTING RATE (lbs/acre)	PLANTING LOCATION	Planting Dates*													
					JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC		
<b>TURF-TYPE GRASSES (SELECT ONE)</b>																		
Bahiagrass	Paspalum notatum	Slopes	30	Upper State Lower State														
Common Bermudagrass* (hulled = hull absent)	Cynodondactylon	Shoulders, Slopes, or Medians	25	Upper State Lower State														
Common Bermudagrass* (unhulled = hull present)	Cynodondactylon	Shoulders, Slopes, or Medians	30	Upper State Lower State														
Carpet Grass	Axonopus affinis	Shoulders, Slopes or Medians	15	Upper State Lower State														
Tall Fescue	Festuca arundinacea	Shoulders, Slopes, or Medians	50	Upper State Lower State														
Centipede grass	Eremochloa phylloides	Shoulders, Medians	10	Upper State Lower State														
<b>GRASSES</b>																		
Weeping Lovegrass	Eragrostis curvula	Slopes	5	Upper State Lower State														
Indiangrass	Sorghastrum nutans	Slopes	10	Upper State Lower State														
Little Bluestem	Andropogon scoparius	Slopes	10	Upper State Lower State														
Coastal Panicgrass	Panicum amarum	Slopes	20	Upper State Lower State														
Switchgrass	Panicum virgatum	Slopes	10	Upper State Lower State														
Perennial Rye Grass*	Lolium perenne	Shoulders, Slopes, or Medians	15	Upper State Lower State														
Virginia Wild Rye	Elymus virginicus	Shoulders, Slopes, or Medians	6	Upper State Lower State														
<b>LEGUMES</b>																		
White Clover	Trifolium repens	Shoulders, Slopes	5	Upper State Lower State														
Sericea Lespedeza (Scarified seed)	Lespedeza cunata	Slopes	50	Upper State Lower State														
Sericea Lespedeza (Unscarified seed)	Lespedeza cunata	Slopes	80	Upper State Lower State														

\* Bahia grass: Bahia grass may be used as an optional turf-type permanent cover at the discretion of the RCE. \* Months shaded in gray represent applicable planting dates.  
 \* Common Bermudagrass: Do not use Giant Bermudagrass (NK-17).  
 \* Perennial Rye Grass: Do not use Annual Italian Rye Grass (Lolium multiflorum).  
 \* Only use pre-inoculated legumes or use an appropriate inoculant with the seed at planting.  
 \* If the Common Name of the seed listed in Table 1 is not available, use seed with the listed Botanical Name.

TABLE 2: ANNUALS \* Months shaded in gray represent applicable planting dates.


COMMON NAME	BOTANICAL NAME	APPROVED SITE(S)	NURSE CROP RATE (lbs/acre)	TEMP COVER RATE (lbs/acre)	PLANTING LOCATION	Planting Dates*												
						JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	
Crimson Clover	Trifolium incarnatum	Shoulders, Slopes, or Medians	20	20	Upper State Lower State													
Korean Lespedeza	Lespedeza stipulacea	Shoulders, Slopes	30	NA	Upper State Lower State													
Korean Lespedeza* (unhulled = hull present)	Lespedeza stipulacea	Shoulders, Slopes	30	60	Upper State Lower State													
Kobe Lespedeza	Lespedeza striata	Shoulders, Slopes	30	NA	Upper State Lower State													
Kobe Lespedeza* (unhulled = hull present)	Lespedeza striata	Shoulders, Slopes	30	60	Upper State Lower State													
Browntop Millet	Panicum ramosum	Shoulders, Slopes, or Medians	10	50	Upper State Lower State													
German Millet (Foxtail Millet)	Setaria italica	Shoulders, Slopes, or Medians	25	40	Upper State Lower State													
Japanese Millet	Echinochloa crusgalli	Slopes	10	50	Upper State Lower State													
Oats	Avena sativa	Slopes	65	110	Upper State Lower State													
Hairy Vetch	Vicia villosa	Shoulders, Slopes, or Medians	15	50	Upper State Lower State													
Pearl Millet	Pennisetum glaucum	Slopes	15	50	Upper State Lower State													
Sudangrass	Sorghum bicolor	Shoulders, Slopes, or Medians	30	60	Upper State Lower State													
Barley	Hordeum vulgare	Shoulders, Slopes	55	110	Upper State Lower State													
Wheat	Triticum spp.	Shoulders, Slopes	75	110	Upper State Lower State													
Rye Grain*	Secale cereale	Shoulders, Slopes	75	110	Upper State Lower State													


\* Only use pre-inoculated legumes or an appropriate inoculant with the seed at planting.  
 \* Rye Grain: Do not use Annual Italian Rye Grass (Lolium multiflorum).  
 \* If the Common Name of the seed listed in Table 2 is not available, use seed with the listed Botanical Name.

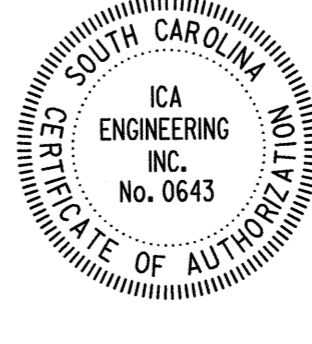
7/11/2019 24805/23 SH/EC5 Erosion Control Details.dgn

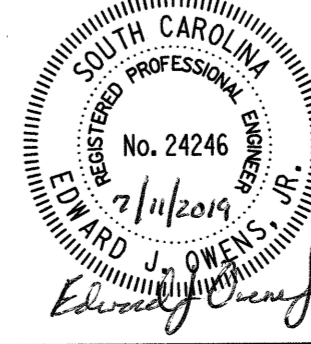
ISSUE	DATE	DESCRIPTION

HDR/ICA JOB NO.: 10059106	NOT TO SCALE
DESIGNED BY: TM	
DRAWN BY: TM	
CHECKED BY: AA	


  
 NEWBERRY COUNTY  
 1309 COLLEGE STREET  
 NEWBERRY, SC 29108


  
 ICA Engineering Inc.  
 1122 Lady Street, Suite 1100, Columbia, SC 29201


  
 EDWARD J. OWENS, P.E.  
 No. 24246  
 1/12/2019


  
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PROJECT:  
**NEWBERRY COUNTY CAPITAL SALES  
 TAX PROJECT NO. 6  
 TEN WATER POINT LOCATIONS  
 FOR THE CONSOLIDATED FIRE DISTRICT**  
 DRAWING:  
 EROSION CONTROL DETAILS

DRAWING NO.:  
**EC5**