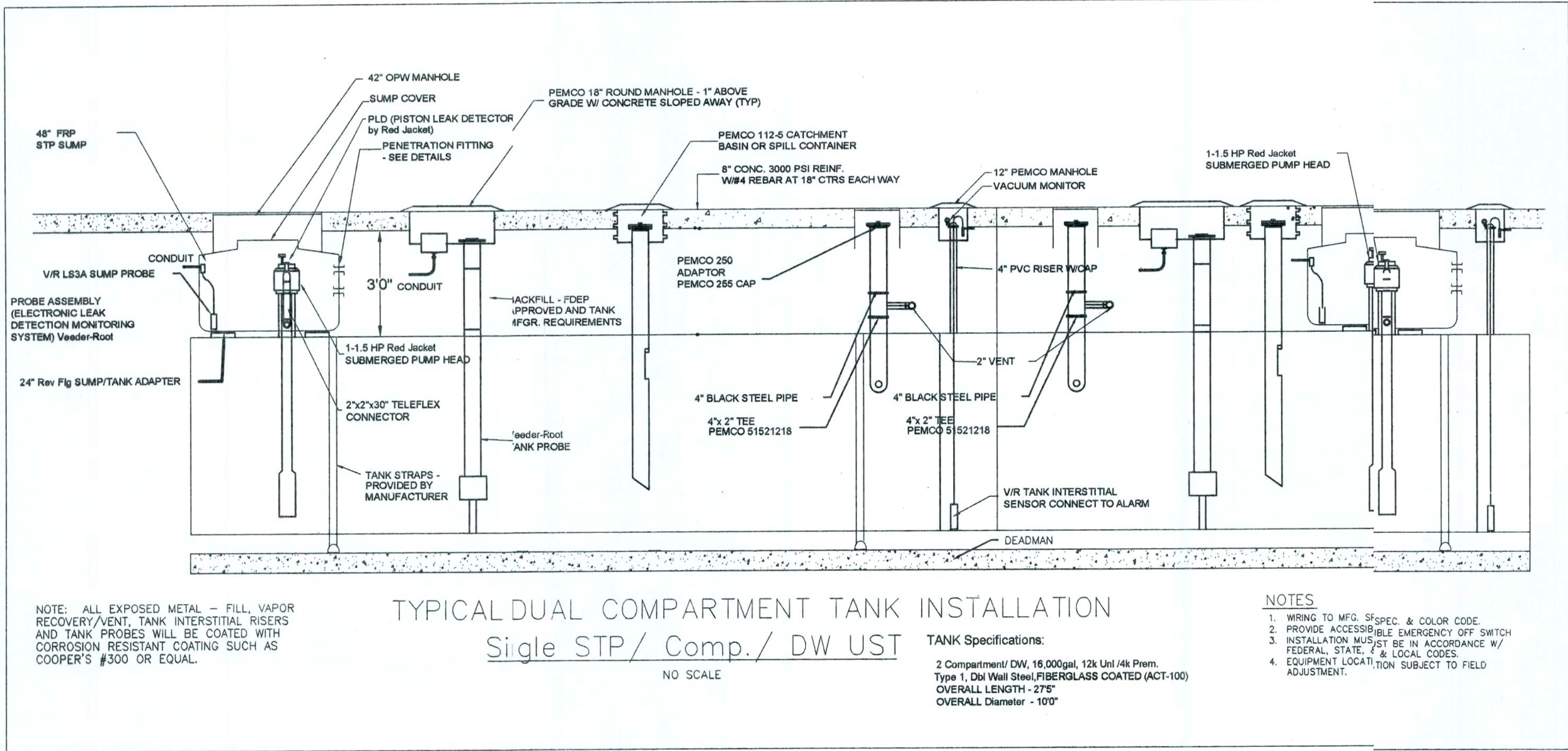




FLOATATION CALCULATIONS, Tank # 1

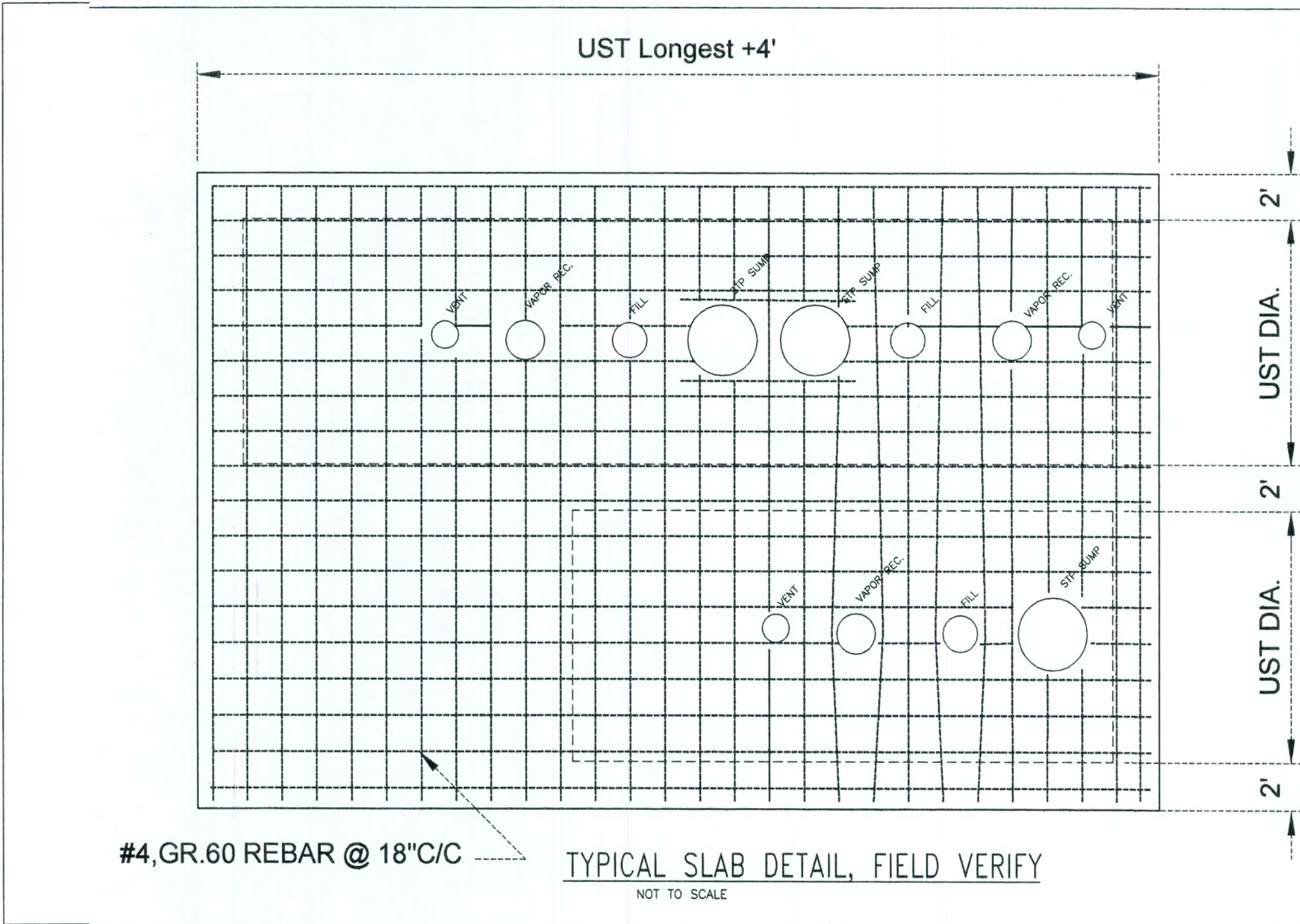
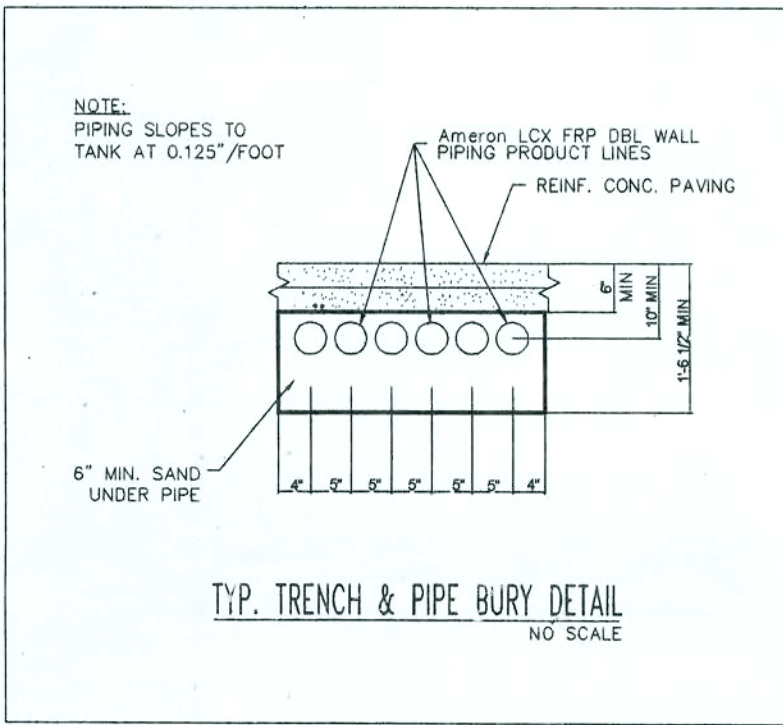
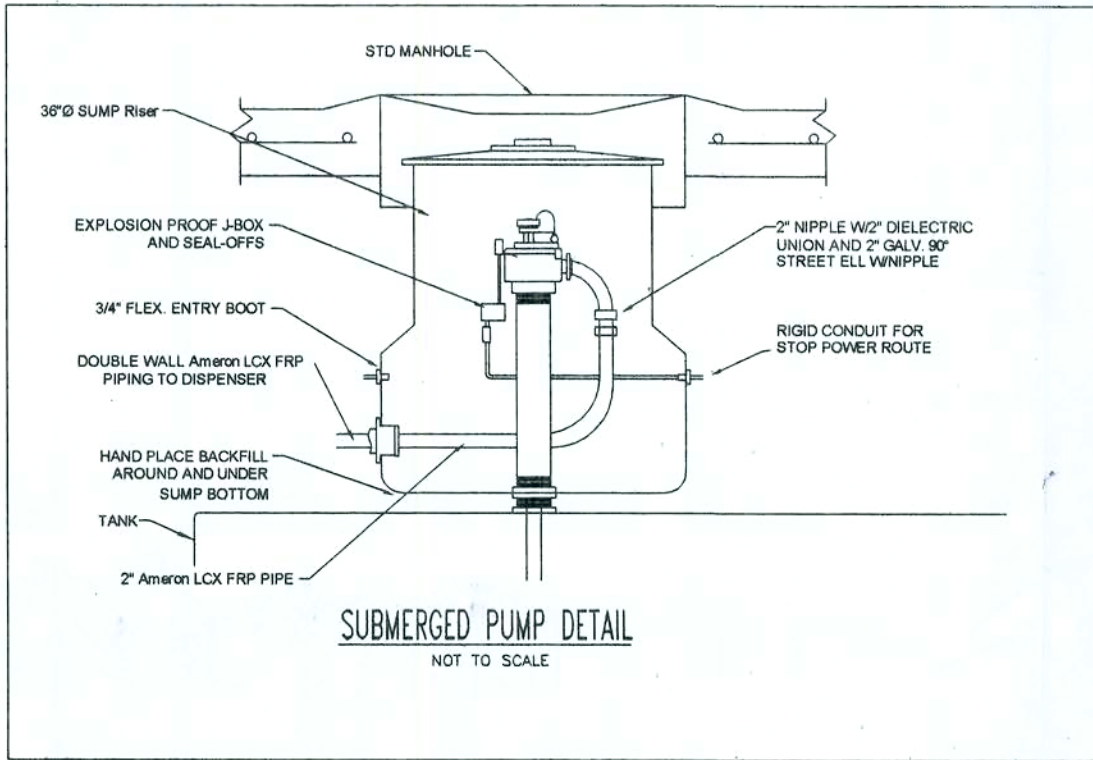
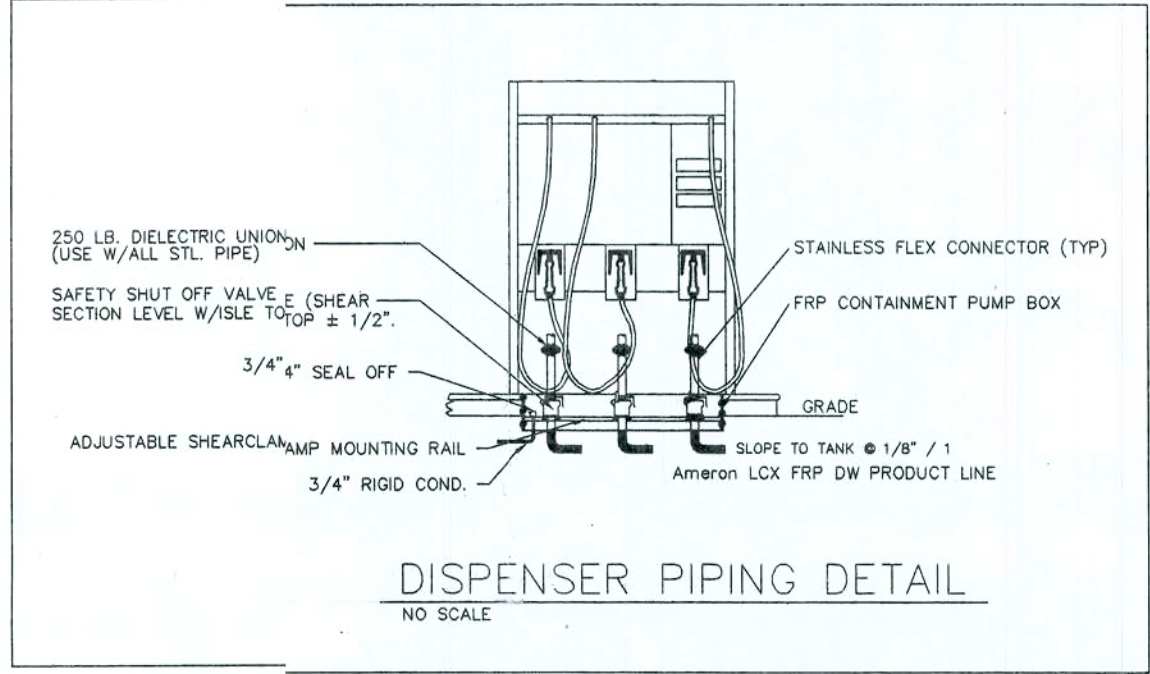
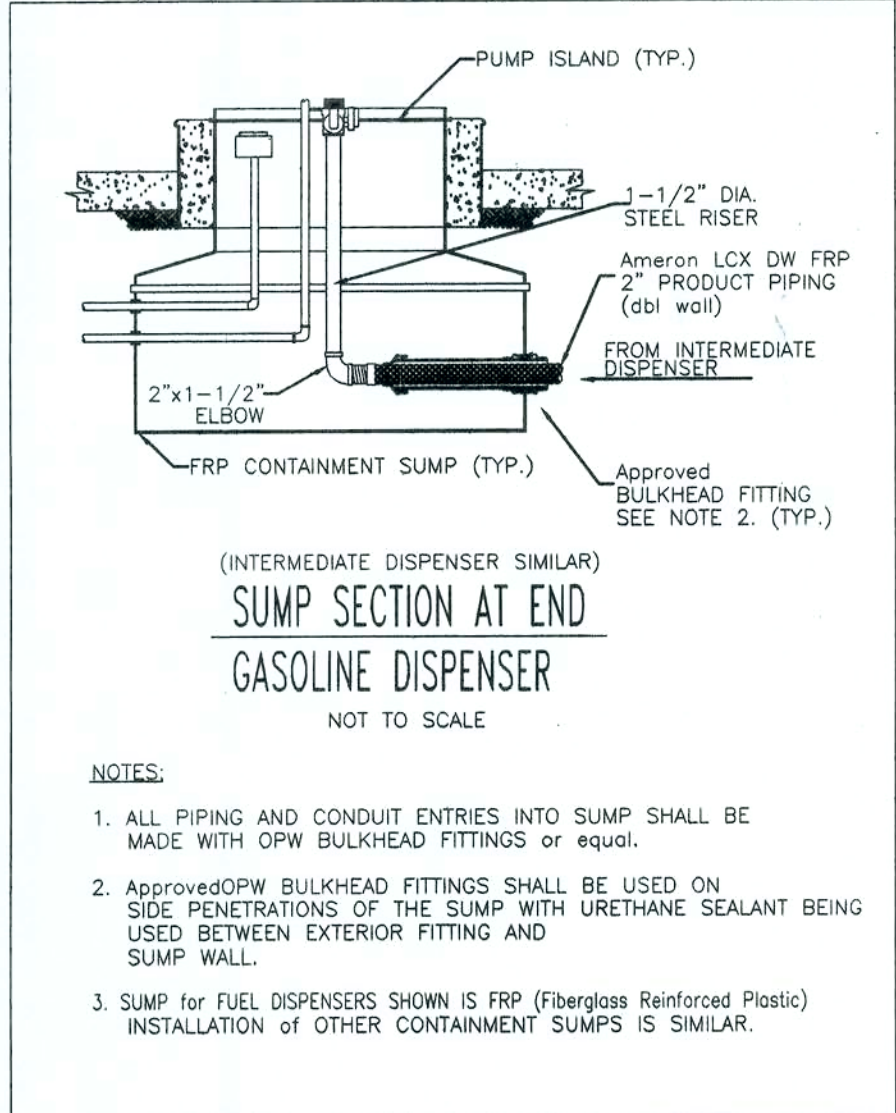
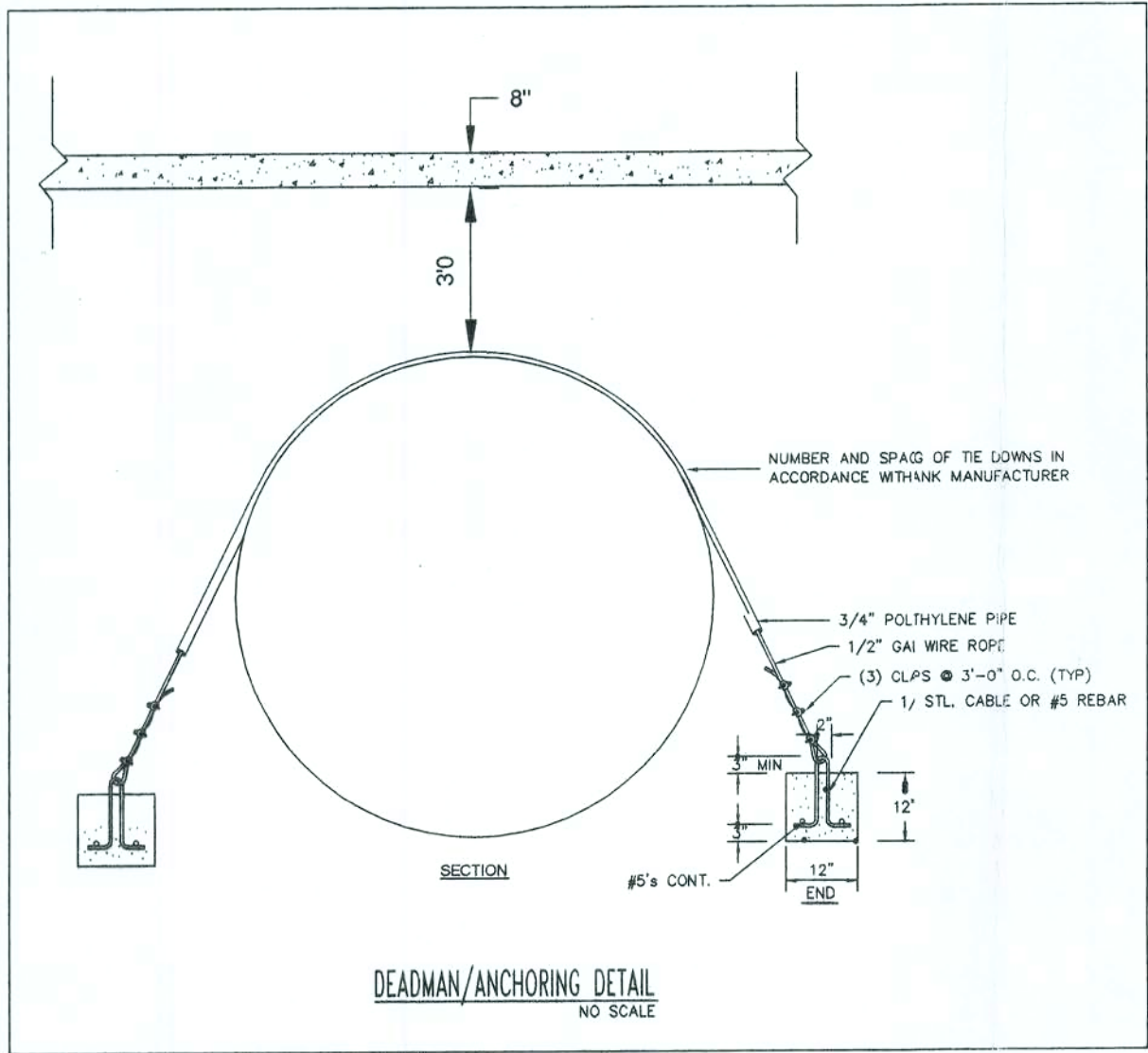
TANK SIZE (GAL)	16,000
DIAMETER (FT)	10.0'
LENGTH (FT)	27.42'
WEIGHT (LB)	19,800
SLAB THICKNESS (IN)	8
TOP OF TANK TO BOTTOM OF SLAB (FT)	3.0

UPWARD FORCES:	
BUOYANCY	16,000 x 8.33 = 133,280
TOTAL UP	= 133,280

DOWNWARD FORCES:	
TANK WEIGHT	19,800
CONCRETE SLAB (0+2)(TL+4) x 158.97.6 LB/CF	22,129
SAND ABOVE TANK DWT x 2.7/7.48 x 60LB/CF	61,978
DEADMEN (TANK LENGTH x 2) x 97.6LB/CF	4,804
SAND ABOVE DEADMEN TL x 1.34 x ((1+2)/2) x 2 x 60LB/CF	64,163
TOTAL DOWN	172,974

SAFETY FACTOR = 172,974 / 133,280 = 1.30

Above calculation ignores friction factors and internal shear of the soil both of which add to the safety margin



-Concrete is 8\"/>

-Manhole arrangement shown is typical. Optional services may require additional slab penetrations. See Site Plan for actual arrangement.

-Rebar may be bent to fit around manholes/penetrations.

-Slab dimensions are minimums, See Site Plan for actual paving dimensions.

PROJECT: Fast Track #240	CADD FILE: FuelComp/FastTrack
SCALE: No Scale	DRAWN BY: RAP
CHECKED BY: RAP	DATE: 06 Jun 2006
REVISION:	REVISION:

FUEL SYSTEM DETAILS
Fast Track # 240
Price Creek Road @ Hwy 100
Lake City, Florida 32055

SHEET NO.
1
OF 1

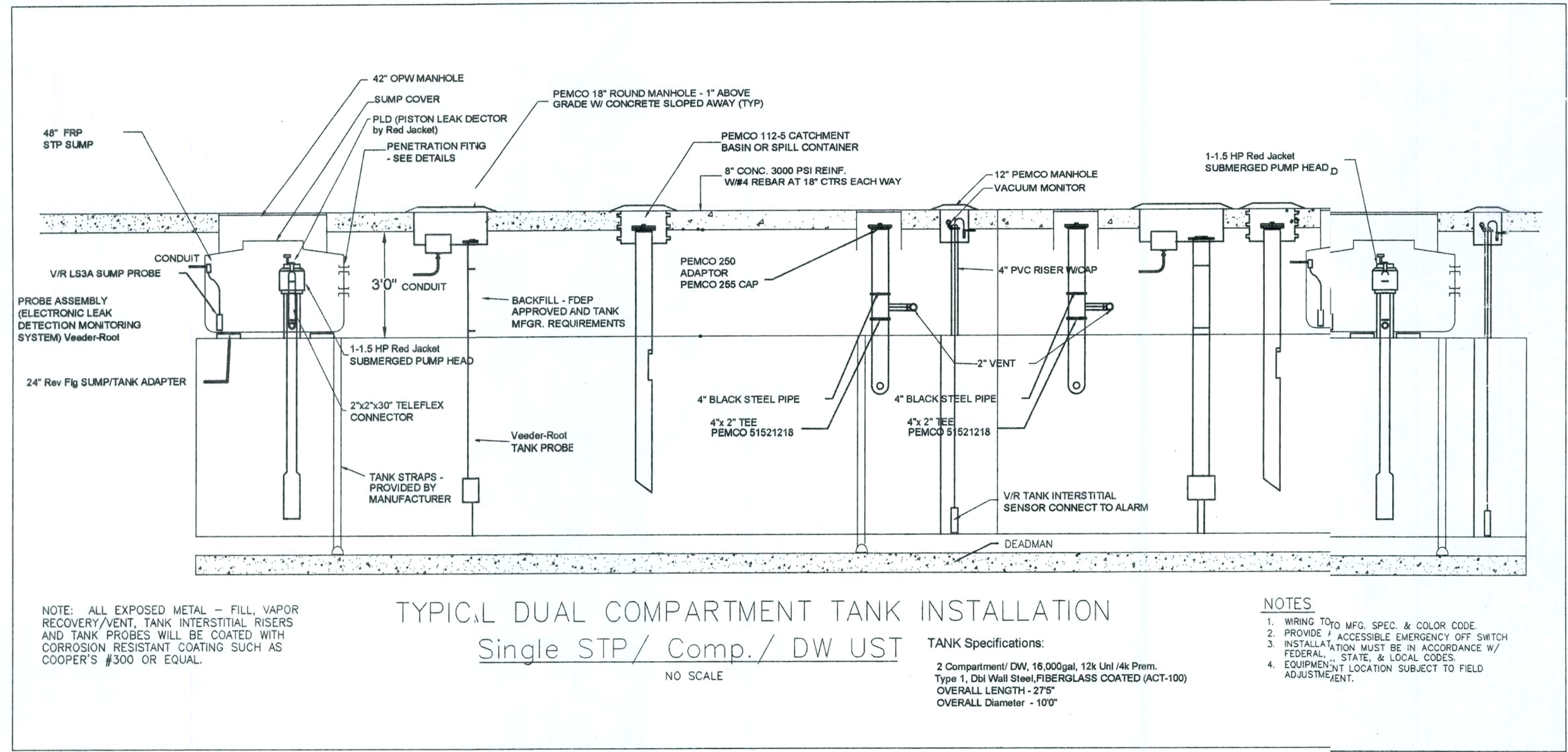
**NOTE: Substitution of Trade Name products is permitted so long as substituted product is FDEP approved and acceptable to customer.

FILE COPY

Richard A. Powell
4/10/2006

RICHARD A. POWELL
PROFESSIONAL ENGINEER
15 Williamsburg Avenue
Thomasville, Georgia 31757
FL PE # 40676 (229) 227-6511

SCANNED



FLOATATION CALCULATIONS, Tank # 1

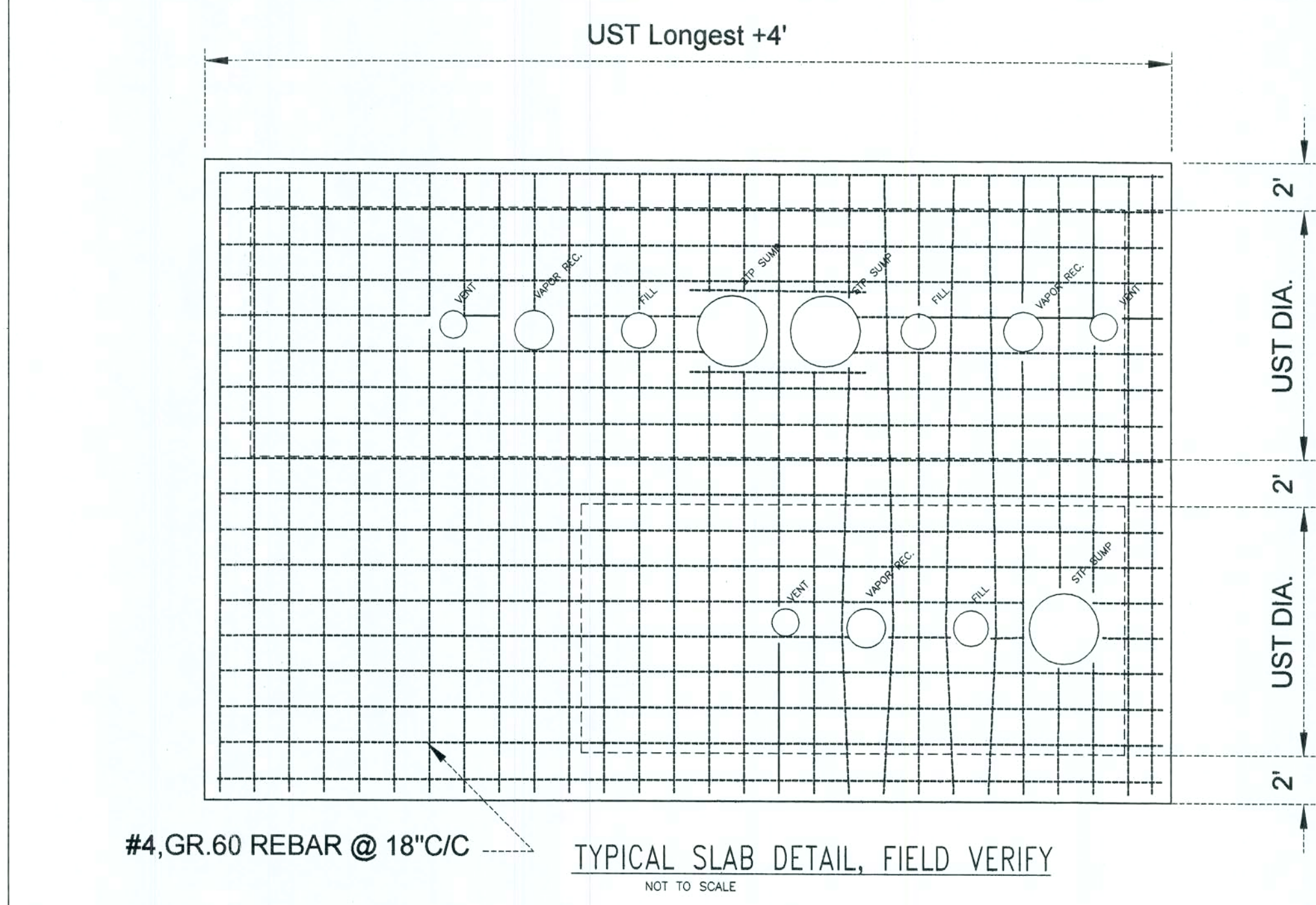
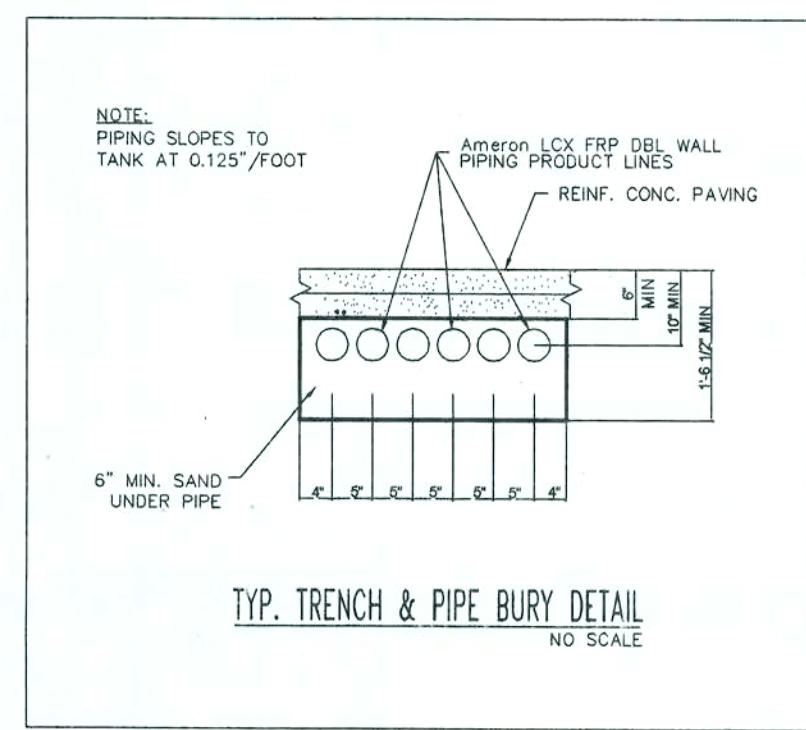
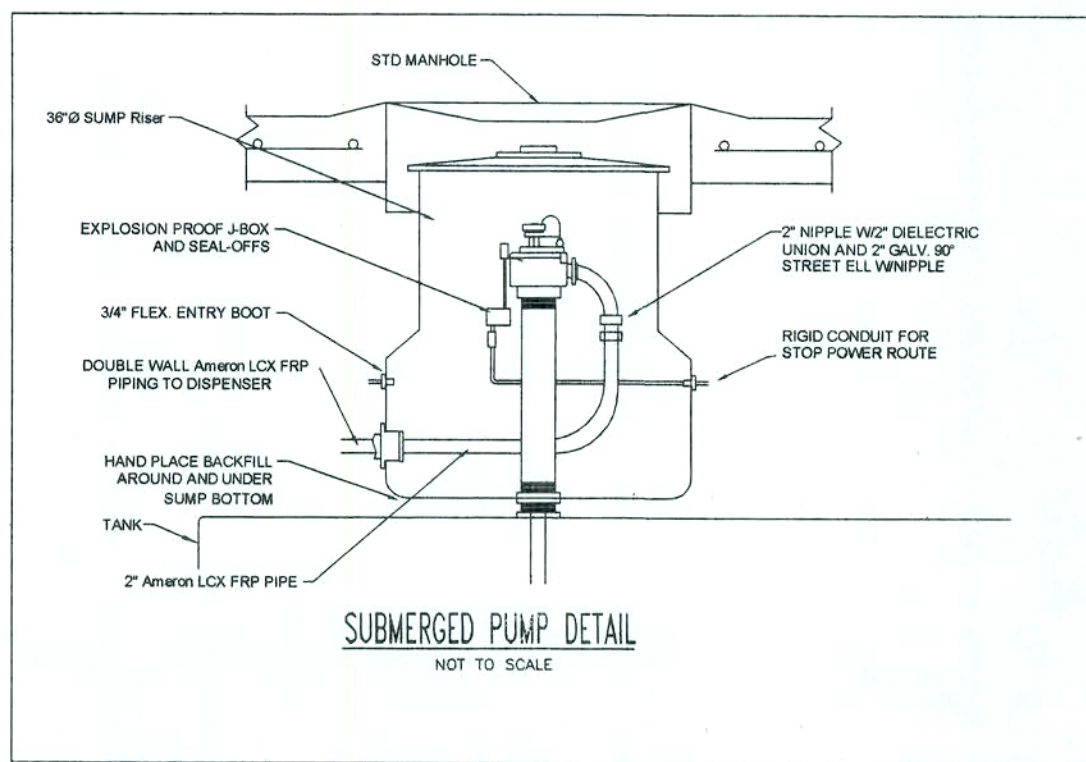
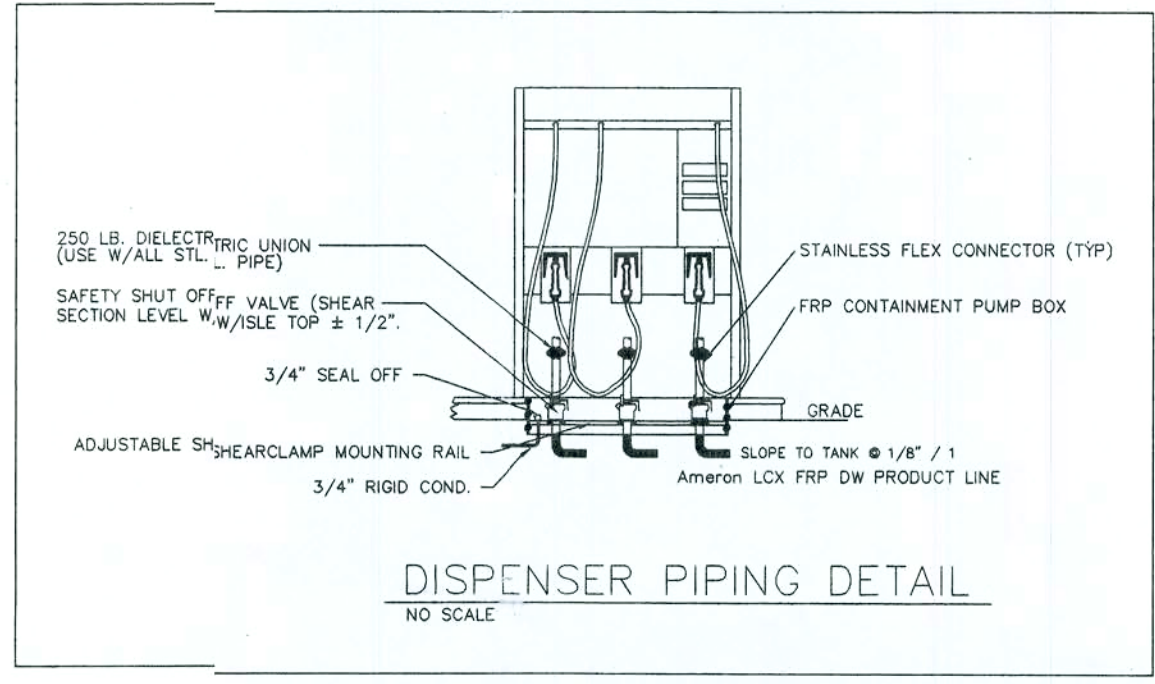
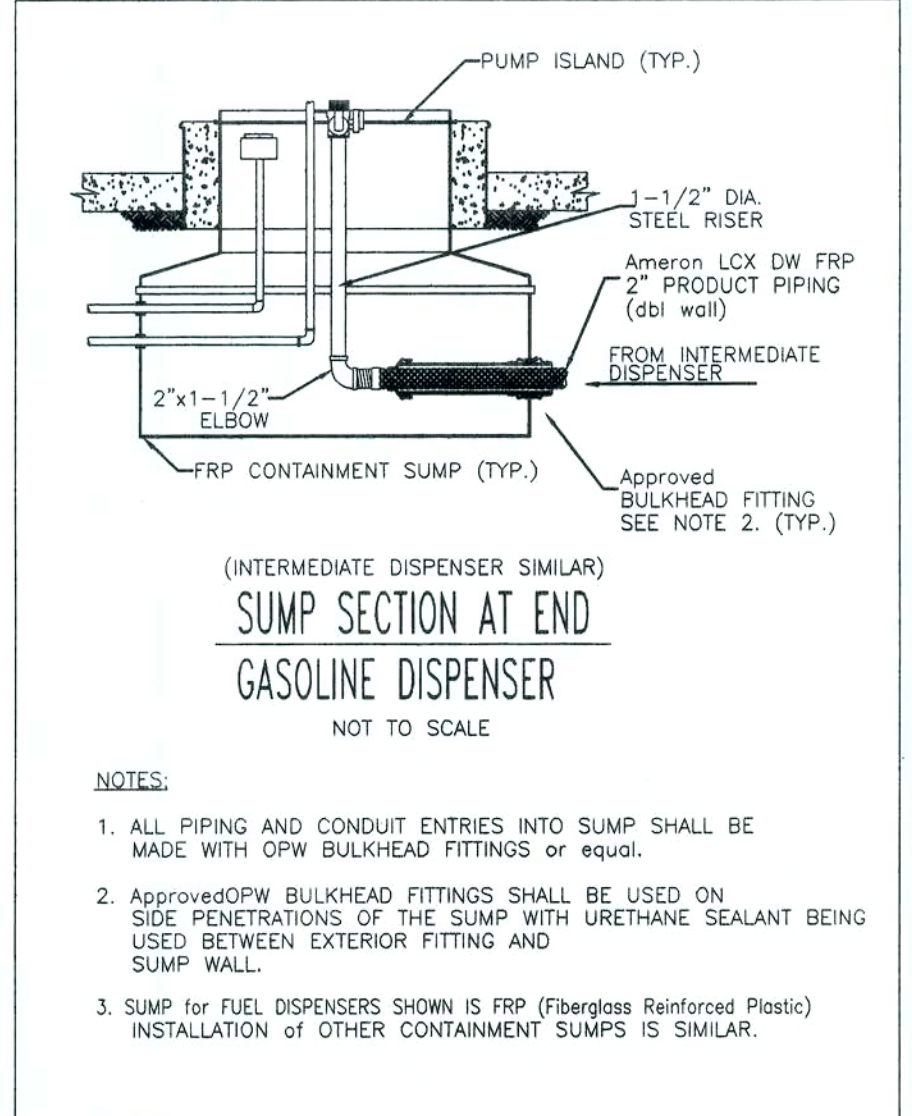
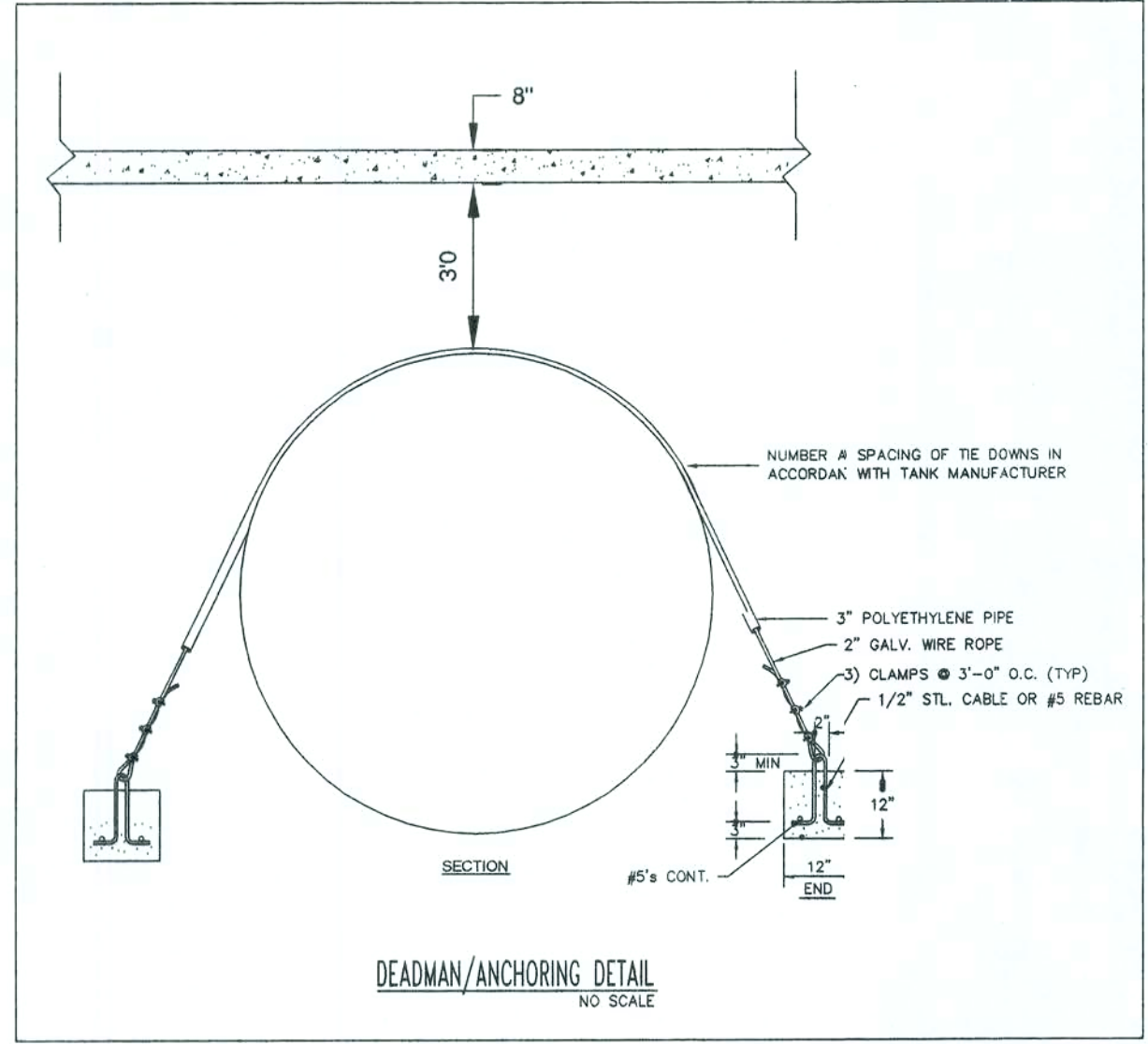
TANK SIZE (GAL)	16,000
DIAMETER (FT)	10.0'
LENGTH (FT)	27.42'
WEIGHT (LB)	19,800
SLAB THICKNESS (IN)	9
TOP OF TANK TO BOTTOM OF SLAB (FT)	3.0

UPWARD FORCES:	
BUOYANCY	$16,000 \times 8.33 = 133,280$
TOTAL UP	$= 133,280$

DOWNWARD FORCES:	
TANK WEIGHT	19,800
CONCRETE SLAB $(D+2)(L+4) \times 87.6 \text{ LB/CF}$	22,128
SAND ABOVE TANK $D \times L \times d \times 60 \text{ LB/CF}$	61,978
DEADMAN (TANK LENGTH $\times 2887 \text{ LB/L}$)	4,804
SAND ABOVE DEADMAN $L \times 1.5 \times (H+2) \times 2 \times 60 \text{ LB/CF}$	66,163
TOTAL DOWN	$= 172,874$

SAFETY FACTOR = $172,874 / 133,280 = 1.30$

Above calculation ignores friction factors and internal shear of the soil both of which add to the safety margin



-Concrete is 8\"/>



1/10/2016

RICHARD A. POWELL
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15 Williamsburg Avenue
Thomasville, Georgia 31757

FL PE # 40676 (229) 227-6511

PROJECT: Fast Track #240	CADD FILE: FastTrack
SCALE: No Scale	NO SCALE
DRAWN BY: RAP	CHECKED BY: RAP
DATE: 06 Jan 2016	REVISION:

FUEL SYSTEM DETAILS

Fast Track # 240

Price Creek Road @ Hwy 100

Lake City, Florida 32055

SHEET NO.

1

OF 1

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