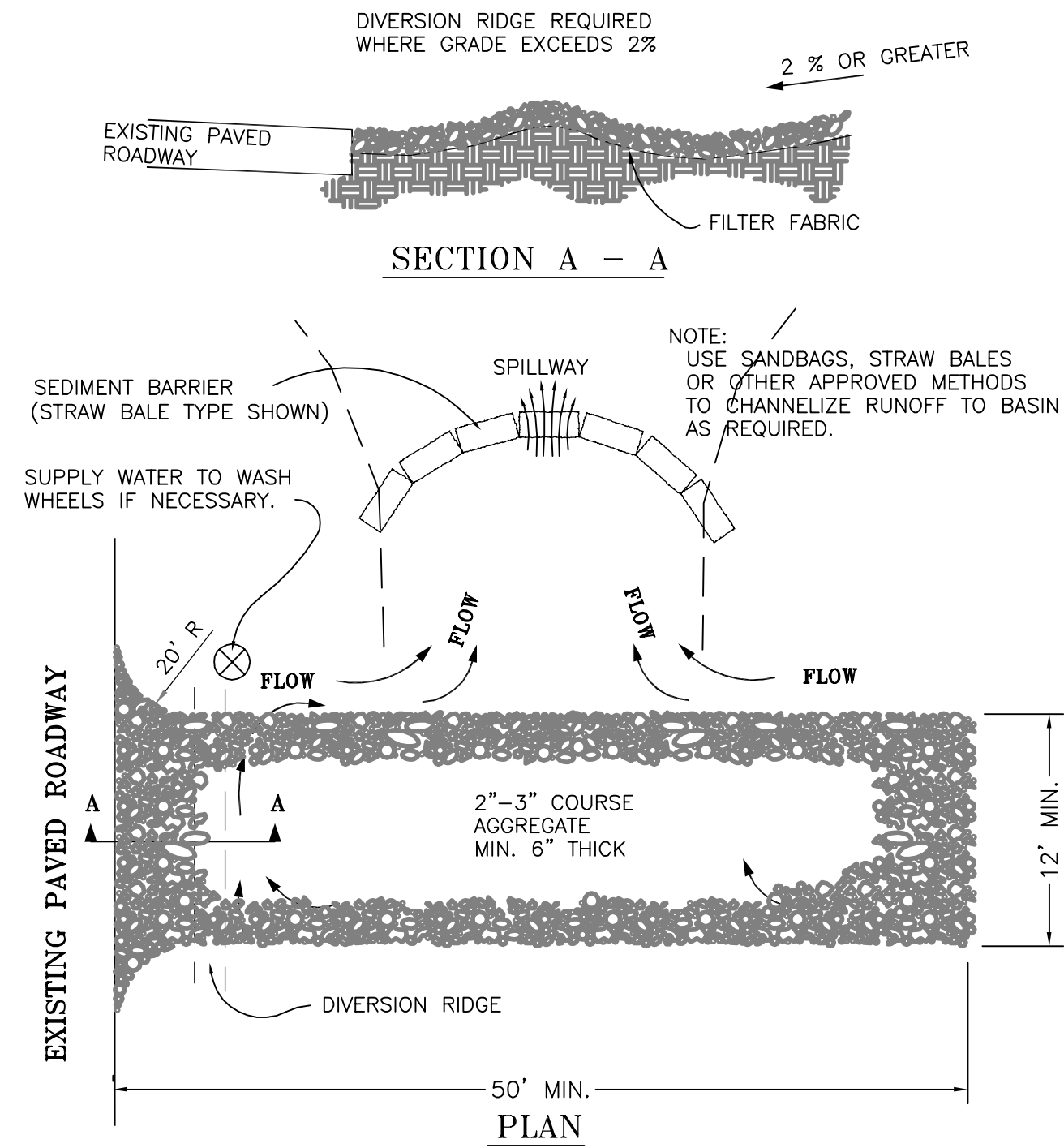


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- NOTES:
1. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.
 2. WHEN NECESSARY,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

1
C-2
DETAIL
NTS

TEMPORARY GRAVEL
CONSTRUCTION
ENTRANCE / EXIT

Construction Specifications

The aggregate size for construction of the pad shall be 2-to 3-inch stone. Place the gravel to the specific grade and dimensions shown on the plans, and smooth it.

The thickness of the pad shall not be less than 6 inches. Use geotextile fabrics, if necessary, to improve stability of the foundation in locations subject to seepage or high water table.

The width of the pad shall not be less than the full width of all points of ingress or egress and in any case shall not be less than 12 feet wide.

The length of the pad shall be as required, but not less than 50 feet.

Locate construction entrances and exits to limit sediment leaving the site and to provide for maximum utility by all construction vehicles. Avoid entrances which have steep grades and entrances at curves in public roads.

The entrance shall be maintained in a condition that will prevent tracking or flowing of sediment onto public rights-of-way. This may require periodic top dressing with additional stone as conditions demand, and repair and/or cleanout of any measures used to trap sediment.

All sediment spilled, dropped, washed or tracked onto public rights-of-way shall be removed immediately. Provide drainage to carry water to a sediment trap or other suitable outlet.

When necessary, wheels shall be cleaned to remove sediment prior to entrance onto public rights-of-way. When washing is required, it shall be done on an area stabilized with crushed stone that drains into an approved sediment trap or sediment basin.

All sediment shall be prevented from entering any storm drain, ditch or watercourse through use of sand bags, gravel, straw bales, or other approved methods.

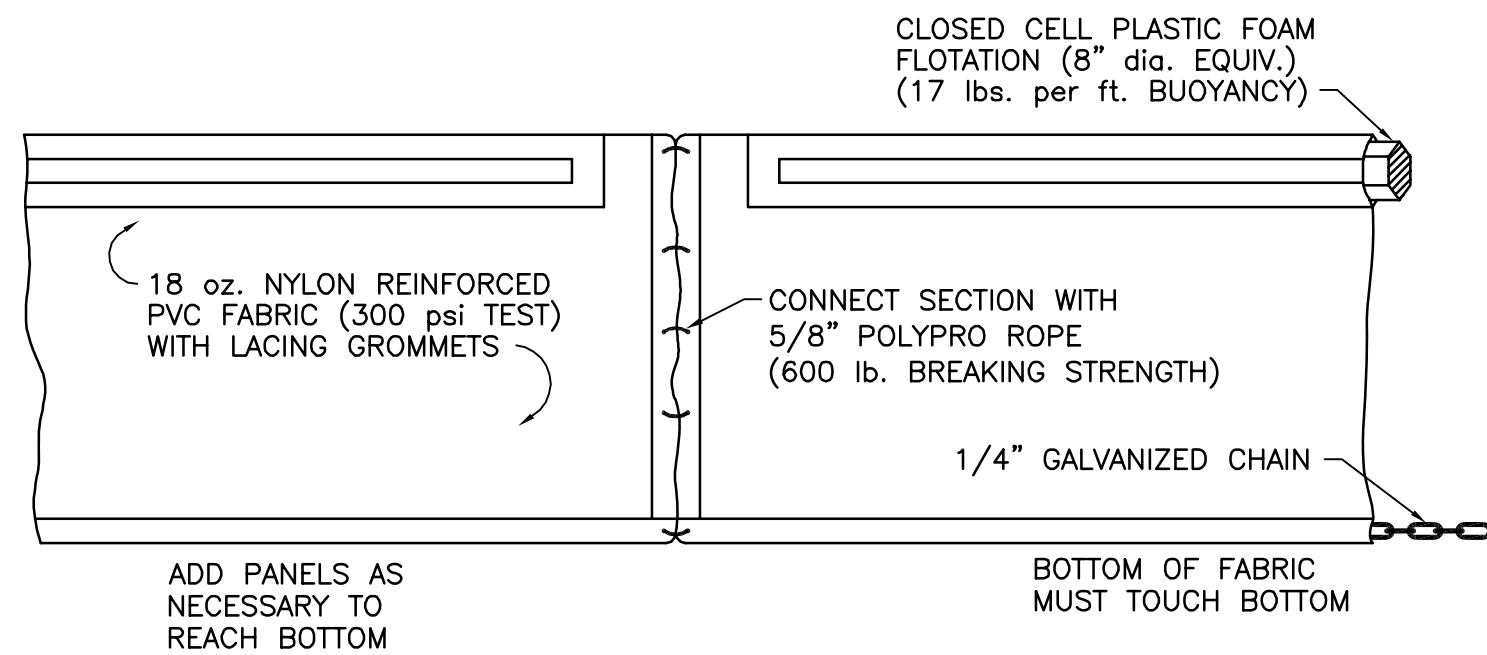
Maintenance

Maintain the gravel pad in a condition to prevent mud or sediment from leaving the construction site.

Replace gravel material when surface voids are visible.

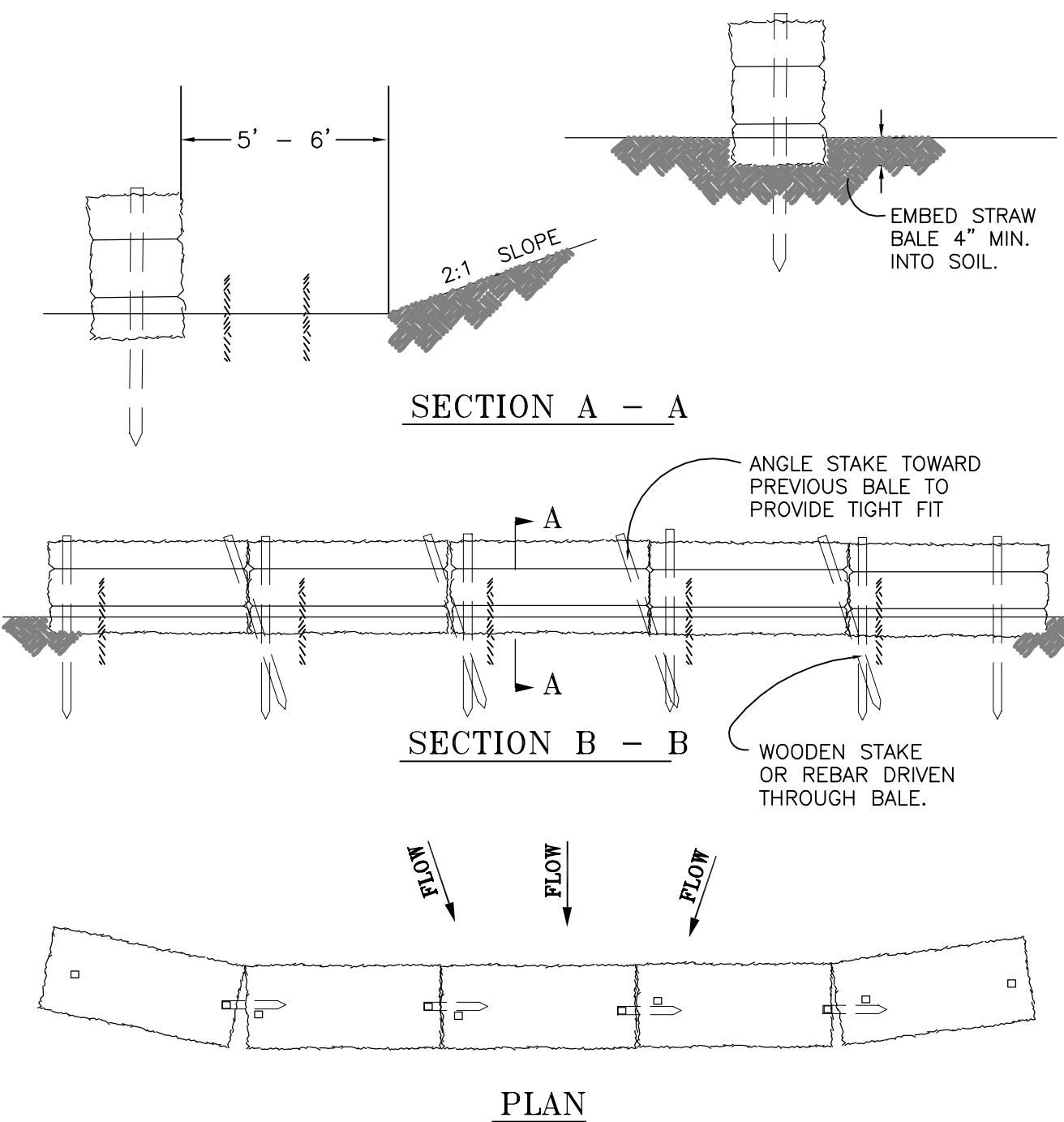
After each rainfall, inspect any structure used to trap sediment and clean it out as necessary.

Immediately remove all objectionable materials spilled, washed, or tracked onto public roadways. Remove all sediment deposited on paved roadways within 24 hours.



2
C-2
DETAIL
NTS

FLOATING TURBIDITY BARRIER



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

3
C-2
DETAIL
NTS

STRAW BALE DIKE

Construction Specifications

The bales shall be placed on the slope contour at the base of the slope or around the perimeter of the construction site. If the dike is constructed at the toe of a slope, place it 5 to 6 ft. away from the slope if possible.

Do not construct the dike more than one bale high.

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

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

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

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

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

The slope length is less than 100 feet;

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

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

Inspection and Maintenance

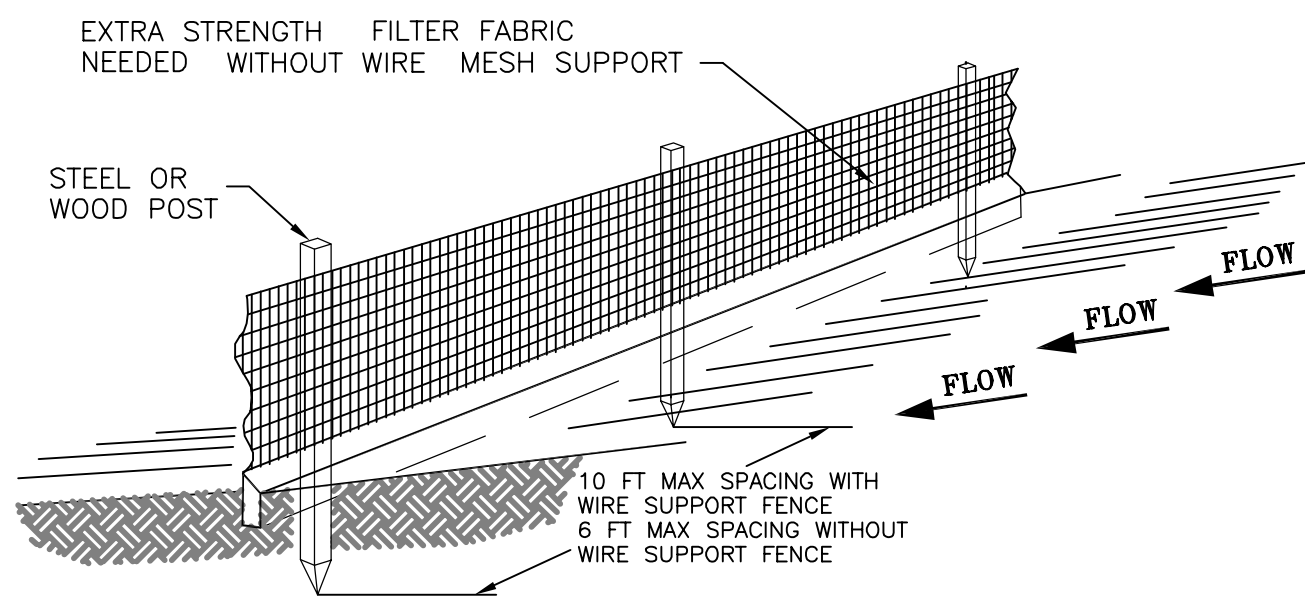
The straw bale dikes shall be inspected weekly and after each significant storm (1" in 24 hr.).

Repairs and/or replacement shall be made promptly.

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

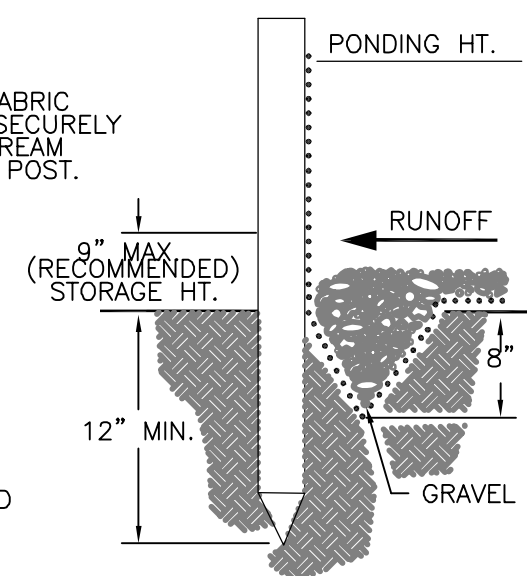
Remove sediment behind barrier when it reaches a depth of 6 inches.

Sediment shall be removed and deposited in an area that will not contribute sediment offsite.



STANDARD DETAIL
TRENCH WITH NATIVE BACKFILL

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



ALTERNATE DETAIL
TRENCH WITH GRAVEL

4
C-2
DETAIL
NTS

STAKED SILT FENCE

Construction Specifications

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

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

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

Posts shall be spaced a maximum of 10 feet apart and driven securely into the ground (minimum of 12 inches). When extra strength fabric is used without the wire support fence, post spacing shall not exceed 6 feet.

Turn the ends of the fence uphill.

A trench shall be excavated approximately 4 inches wide and 6 inches deep along the line of posts and upslope from the barrier.

When standard-strength filter fabric is used, a wire mesh support fence shall be fastened securely to the upslope side of the posts using heavy duty wire staples at least 1 inch long, tie wires or hog rings. The wire shall extend into the trench a minimum of 2 inches and shall not extend more than 36 inches above the original ground surface.

The standard-strength filter fabric shall be stapled or wired to the fence, and 6 inches of the fabric shall extend into the trench. The fabric shall not extend more than 36 inches above the original ground surface. Filter fabric shall not be stapled to existing trees.

When extra-strength filter fabric and closer post spacing are used, the wire mesh support fence may be eliminated. In such a case, the filter fabric is stapled or wired directly to the posts.

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

Silt fences placed at the toe of a slope shall be set at least 6 feet from the toe in order to increase ponding volume.

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

Inspection and Maintenance

Silt fences and filter barriers shall be inspected weekly and after each significant storm (0.25" in 24 hr.). Any required repairs shall be made immediately.

Sediment shall be removed when it reaches 1/3 height of the fence or 9 inches maximum.

The removed sediment shall vegetate or otherwise stabilized.

DESIGNED BY:	J. L. HERR	REV.	DATE	DESCRIPTION	APP'D. BY
DRAWN BY:	L. E. HEIGHT	1	2/20/07	PER. BUILDING DEPT. COMMENTS	HHH
CHECKED BY:	H. H. HARPER				
APPROVED BY:	H. H. HARPER				
DATE: Nov., 2007	SCALE: AS SHOWN				

ERD Environmental Research & Design, Inc.
EQ# 6244 Water Quality Engineering
3419 Trentwood Blvd • Suite 102 • Orlando, Florida 32812
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NUTRIENT REDUCTION FACILITY

LAKE COUNTY,

FLORIDA

EROSION AND TURBIDITY
CONTROL DETAILS

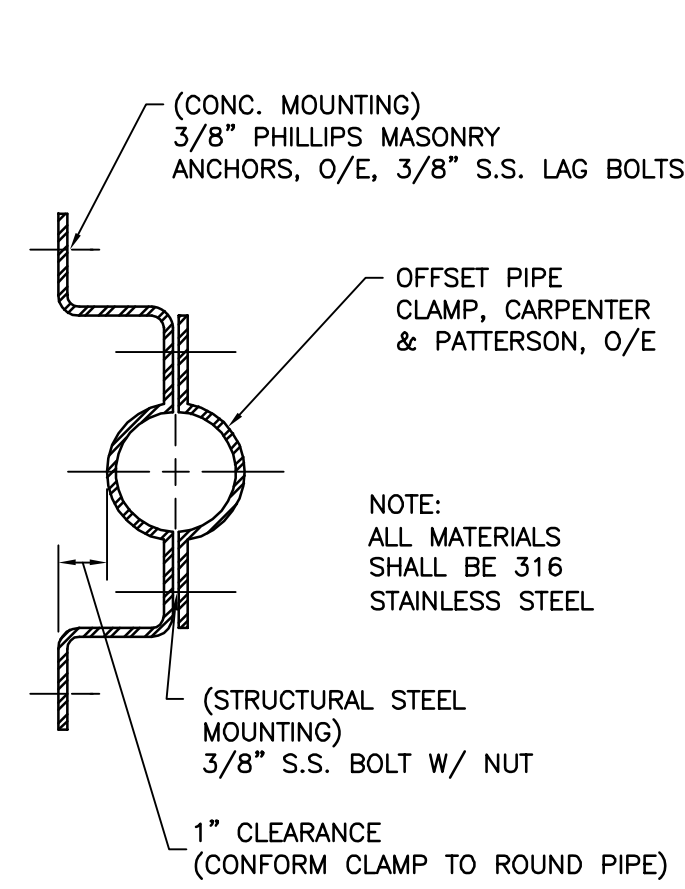
HARVEY H. HARPER, P.E.
PROFESSIONAL ENGINEER NO. 32595
STATE OF FLORIDA

PROJECT No.
04-007

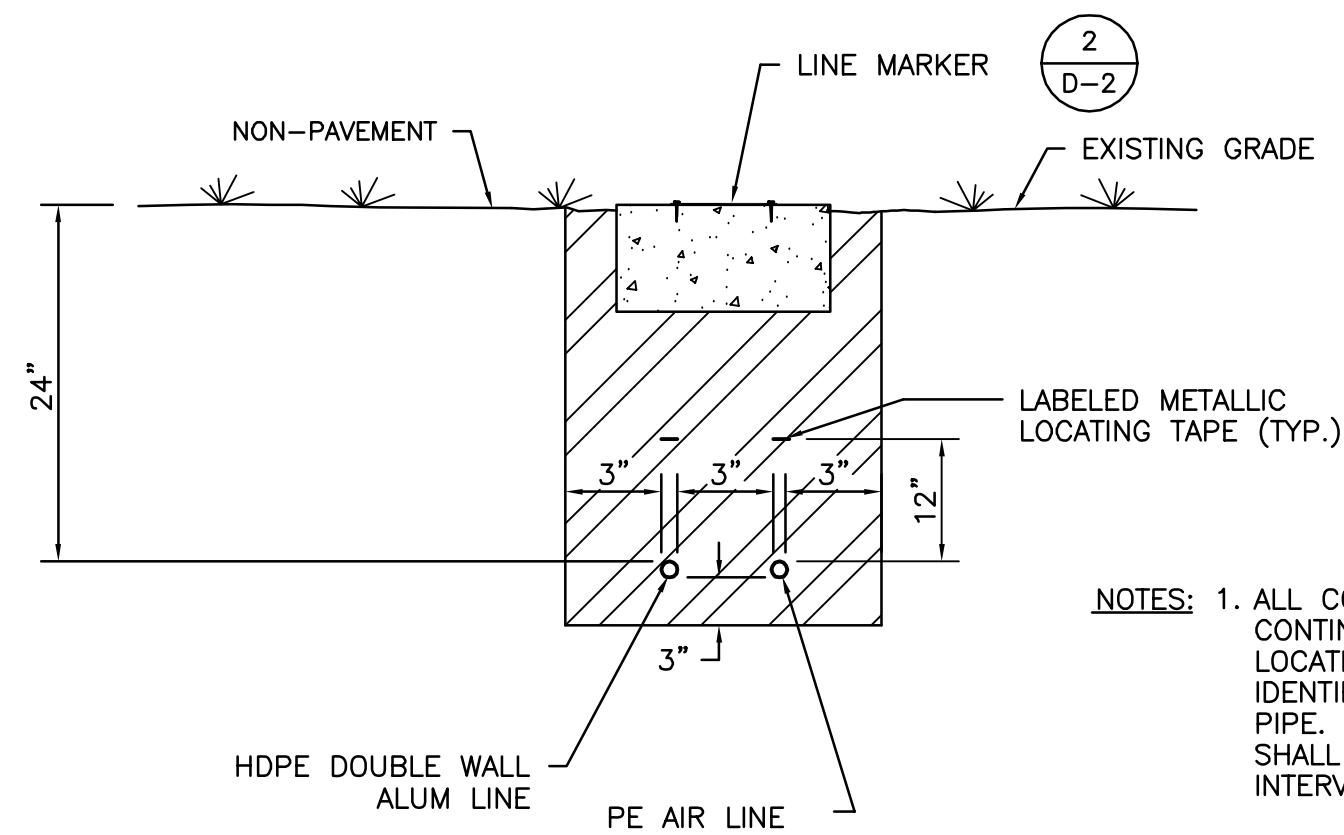
D-1

SHEET 17 OF 40

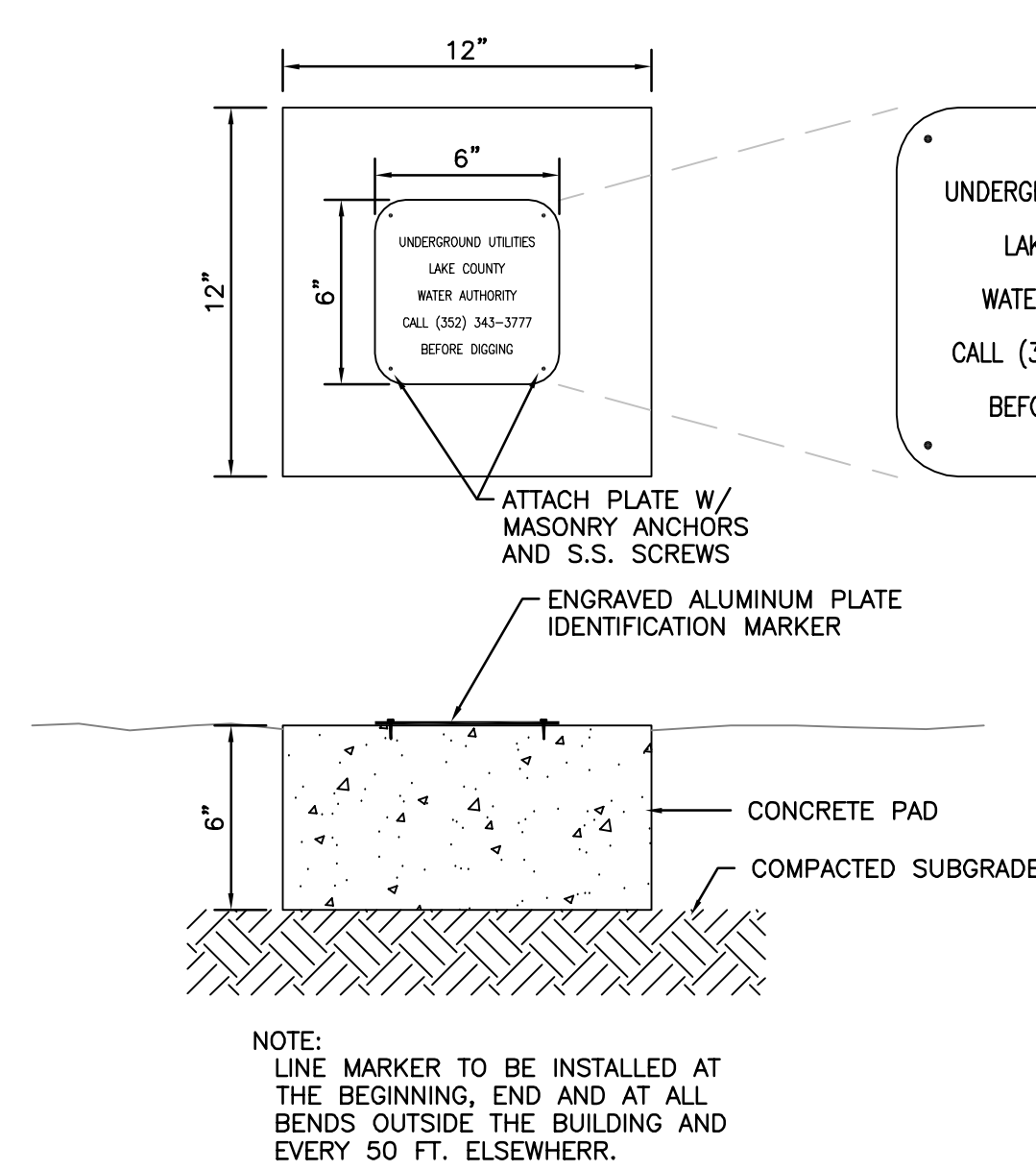
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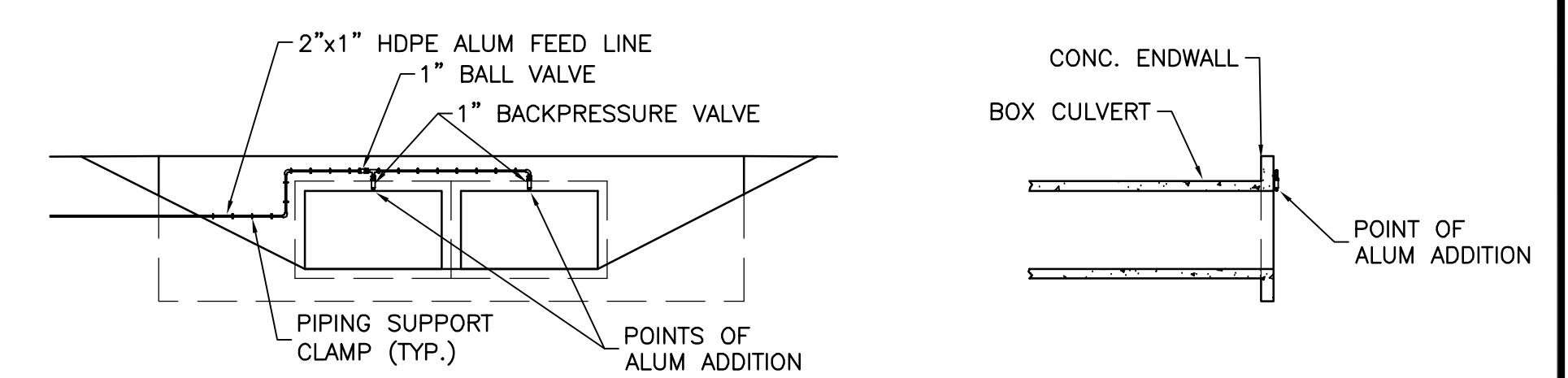
1
M-1
DETAIL
NTS
PIPING SUPPORT CLAMP



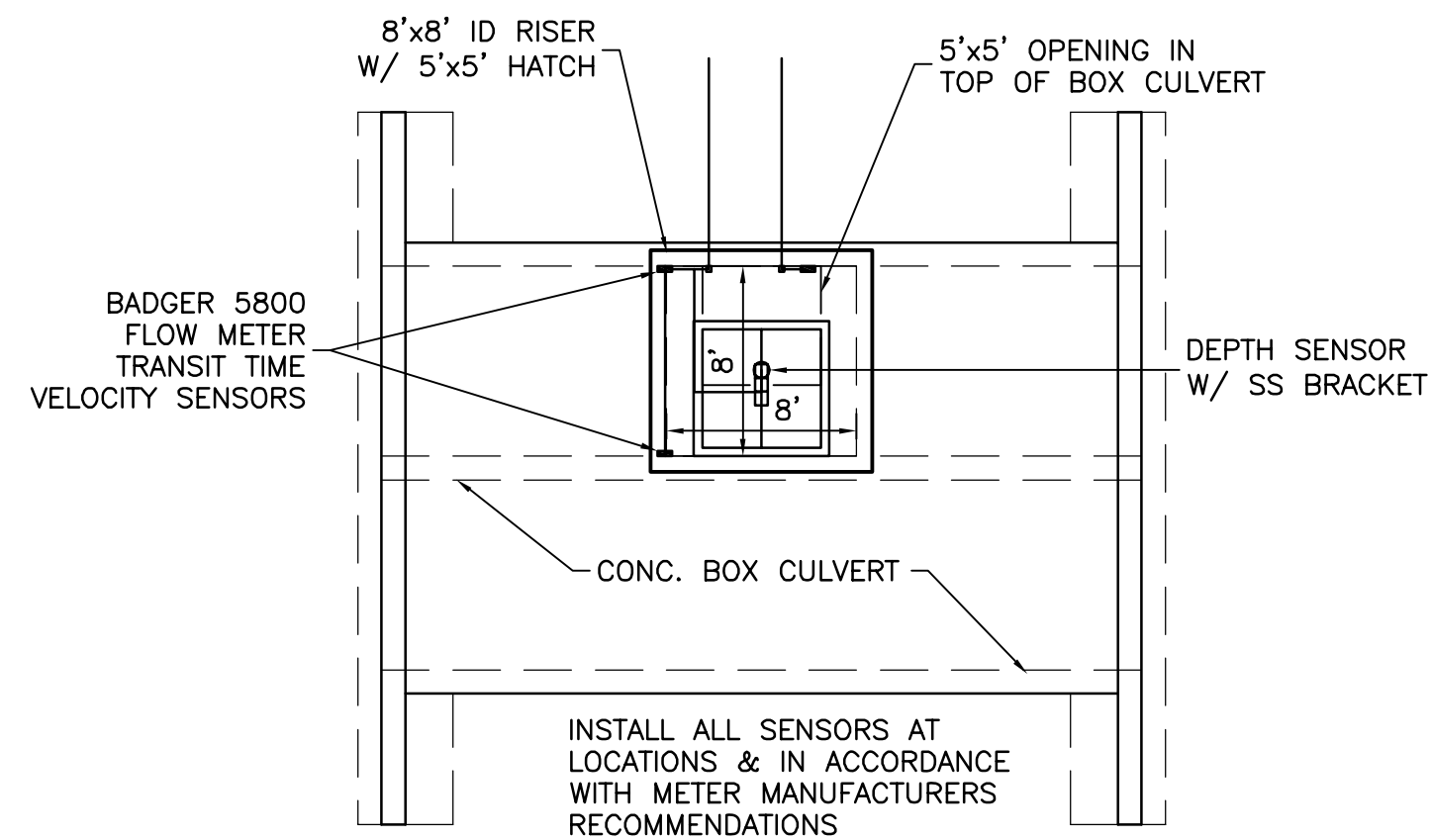
2
C-2
DETAIL
NTS
TRENCHING DETAIL



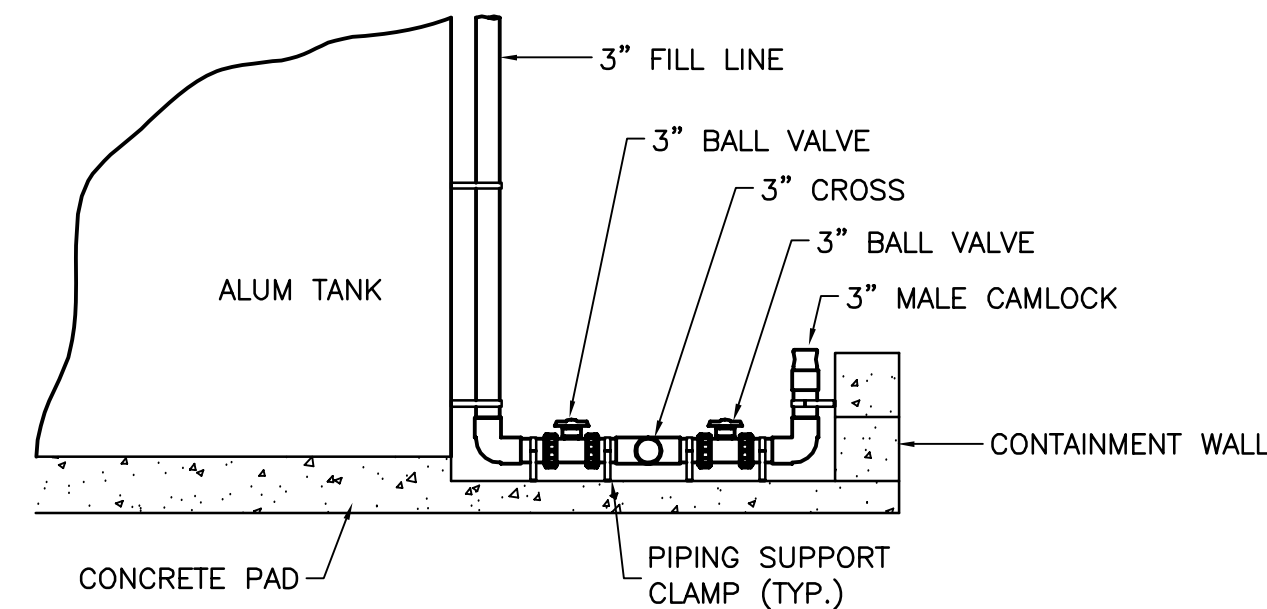
3
C-2
DETAIL
NTS
ALUM LINE MARKER



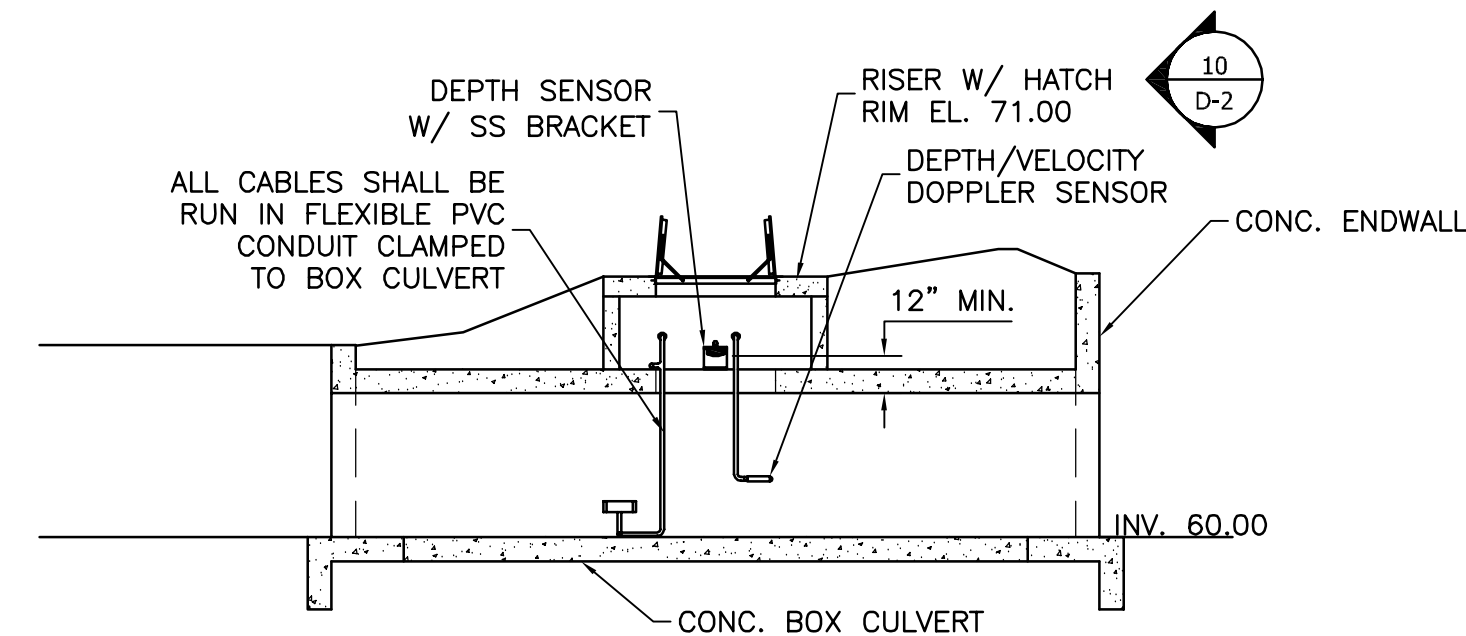
4
C-2
DETAIL
NTS
POINT OF ALUM ADDITION



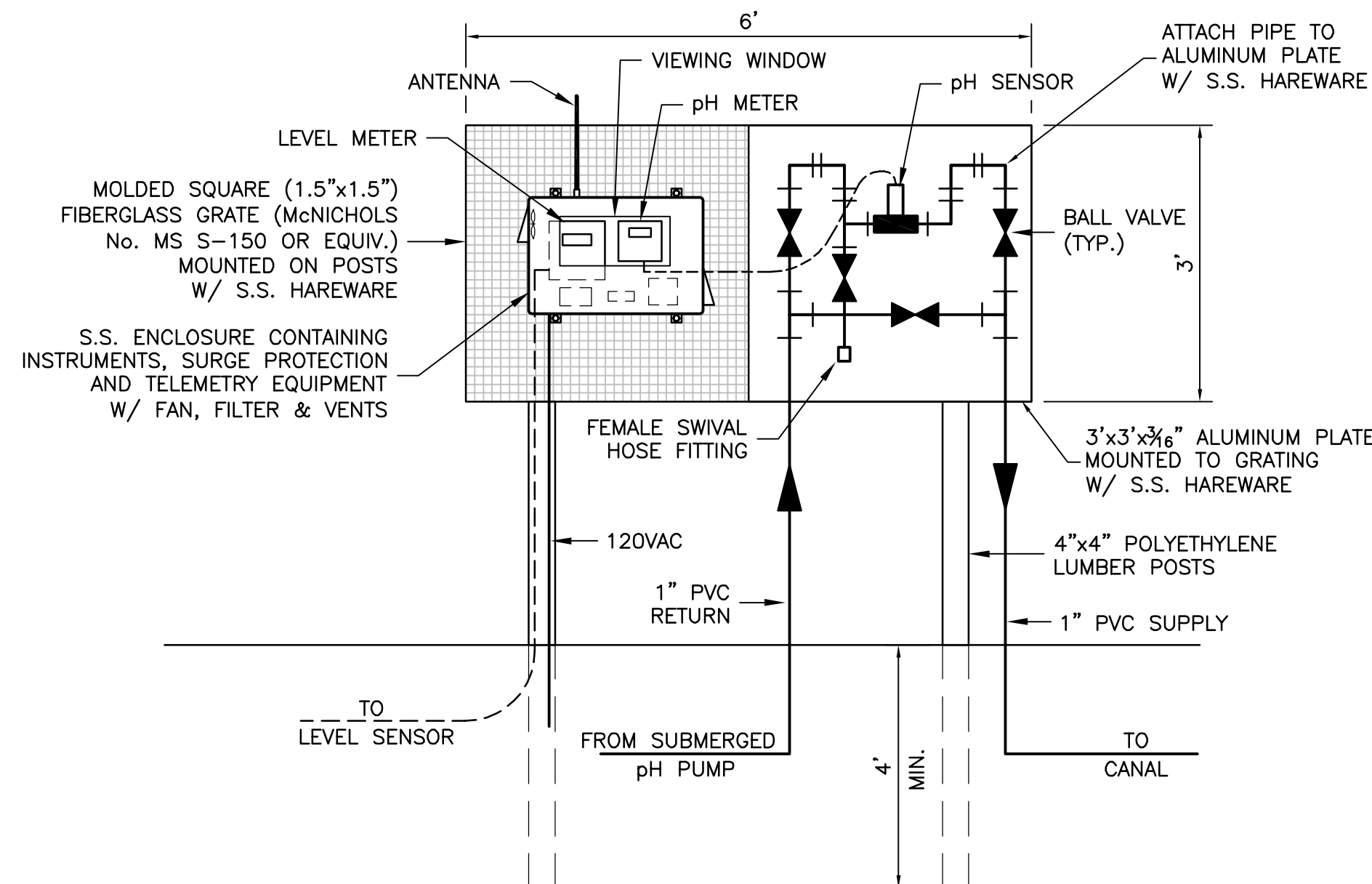
5
C-2
DETAIL
NTS
pH PUMP & DEPTH SENSOR INSTALLATION



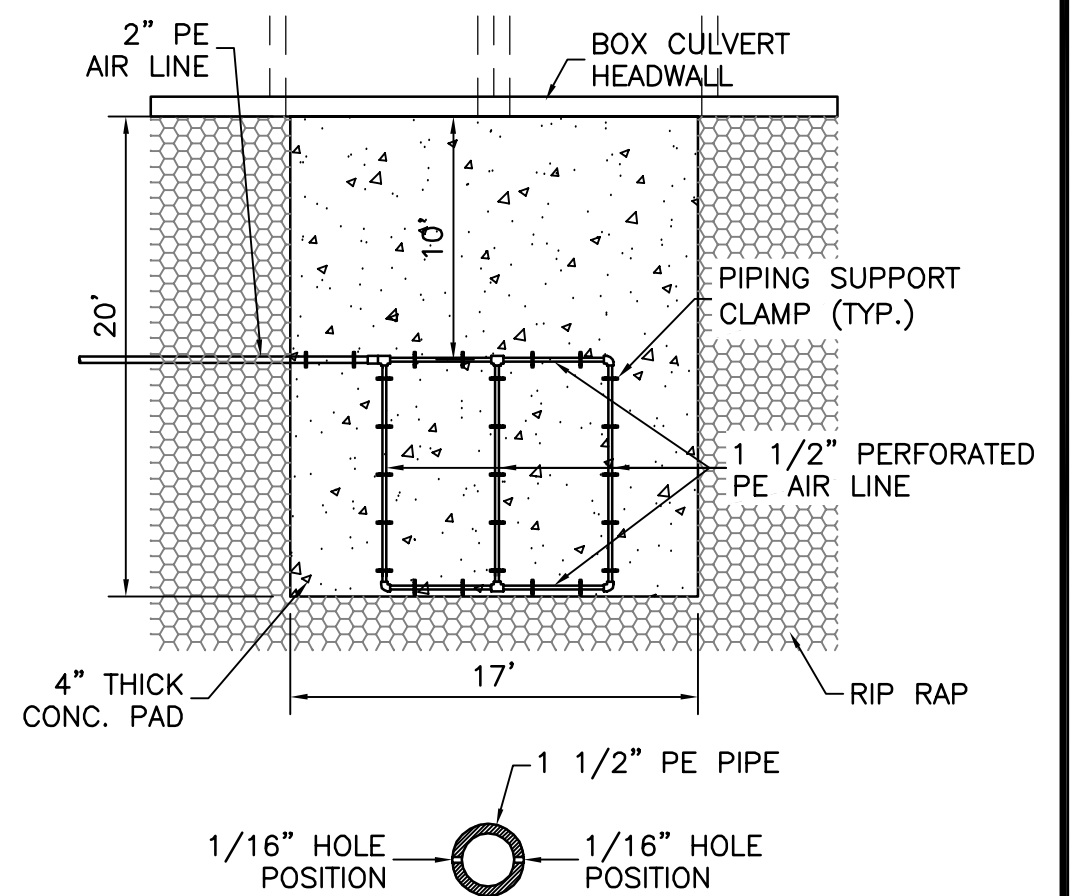
6
C-2
DETAIL
NTS
POINT OF FLOW MEASUREMENT



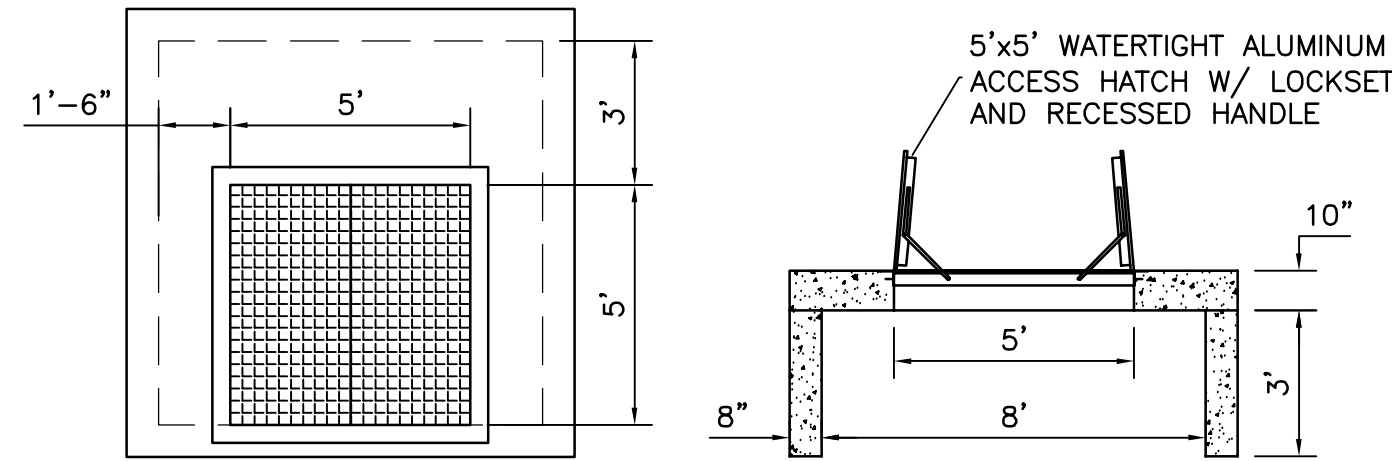
7
C-6
DETAIL
NTS
ALUM TANK FILL POINT



8
C-2
DETAIL
NTS
FLOW AND/OR LEVEL TRANSMITTER



9
C-2
DETAIL
NTS
POINT OF AIR ADDITION



10
D-2
DETAIL
NTS
FLOW MEASUREMENT RISER

DESIGNED BY:	J. L. HERR	REV.	DATE	DESCRIPTION	APP'D. BY
DRAWN BY:	L. E. HEIGHT	1	2/20/07	PER. BUILDING DEPT. COMMENTS	HHH
CHECKED BY:	H. H. HARPER	2	6/4/07	ADDED TANK FILL POINT DETAIL	HHH
APPROVED BY:	H. H. HARPER				
DATE:	Nov., 2007				
SCALE:	AS SHOWN				

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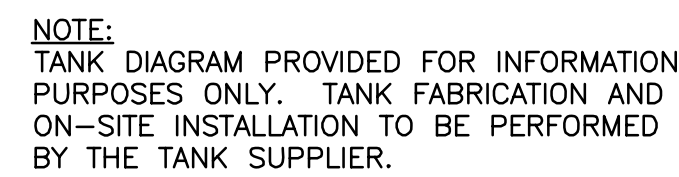
**CHEMICAL TREATMENT
SYSTEM DETAILS**

HARVEY H. HARPER, P.E.
PROFESSIONAL ENGINEER NO. 32595
STATE OF FLORIDA

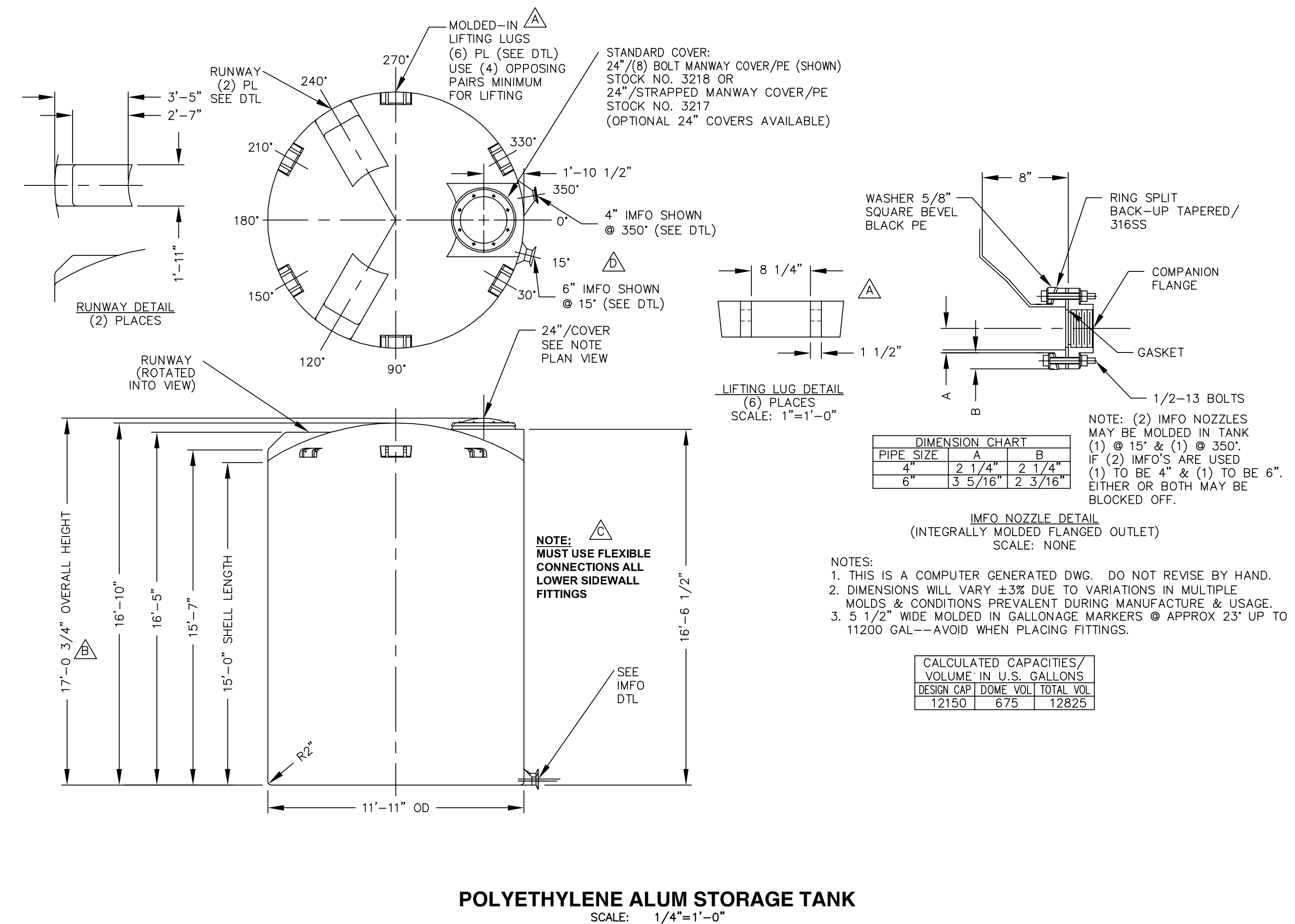
PROJECT No.
04-007

D-2

SHEET 18 OF 40



1. Tanks to be constructed of high-density cross-linked polyethylene (HDXLPE).
2. Tanks to include:
 - 24-inch LID
 - 16-ft ladder with molded-in attachment lugs
 - Integrally molded flanged outlet (IMFO)
 - Molded-in lifting lugs
3. Tanks to be Poly Processing Company, Model 1112150 or approved equal.
4. Tanks must meet ASTM D 1998 standards.
5. Gasket materials to be EPDM (Ethylene-Propylene Diene Monomer).
6. Bolt materials to be 316 SS.
7. Tanks to be compatible with aluminum sulfate (50% by weight) and have a minimum specific gravity rating of 1.9.



DESIGNED BY: J. L. HERR		REV.	DATE	DESCRIPTION	APP'D. BY
		1	5/9/07	ADDED OVERFLOW DRAIN LINE TO FLOC HOLDING TANK	HHH
DRAWN BY: L. E. HEIGHT		2	5/1/07	CHANGED ALUM STORAGE TANK	HHH
CHECKED BY: H. H. HARPER					
APPROVED BY: H. H. HARPER					
DATE: Nov., 2007	SCALE: AS SHOWN				

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ALUM TANK DETAIL

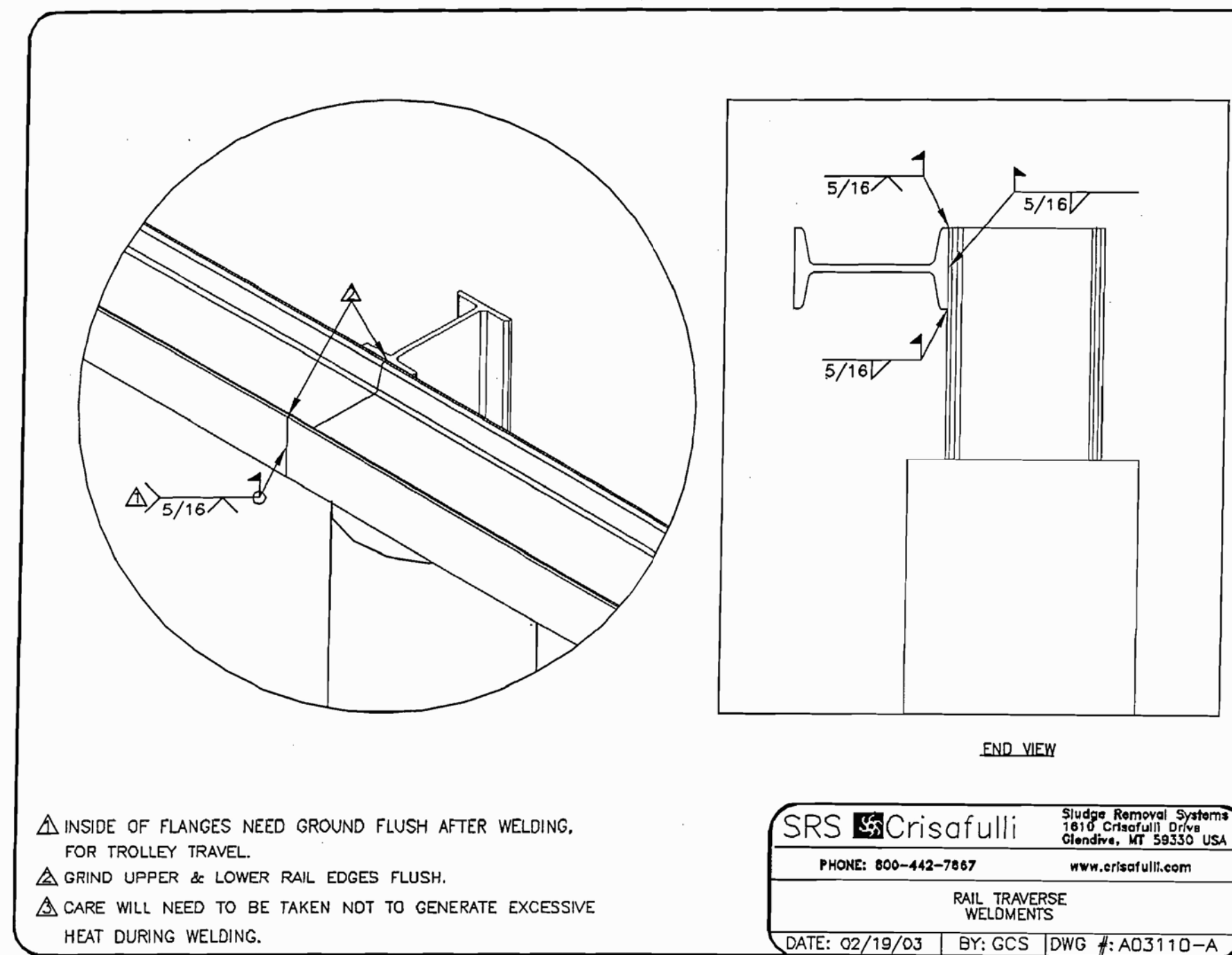
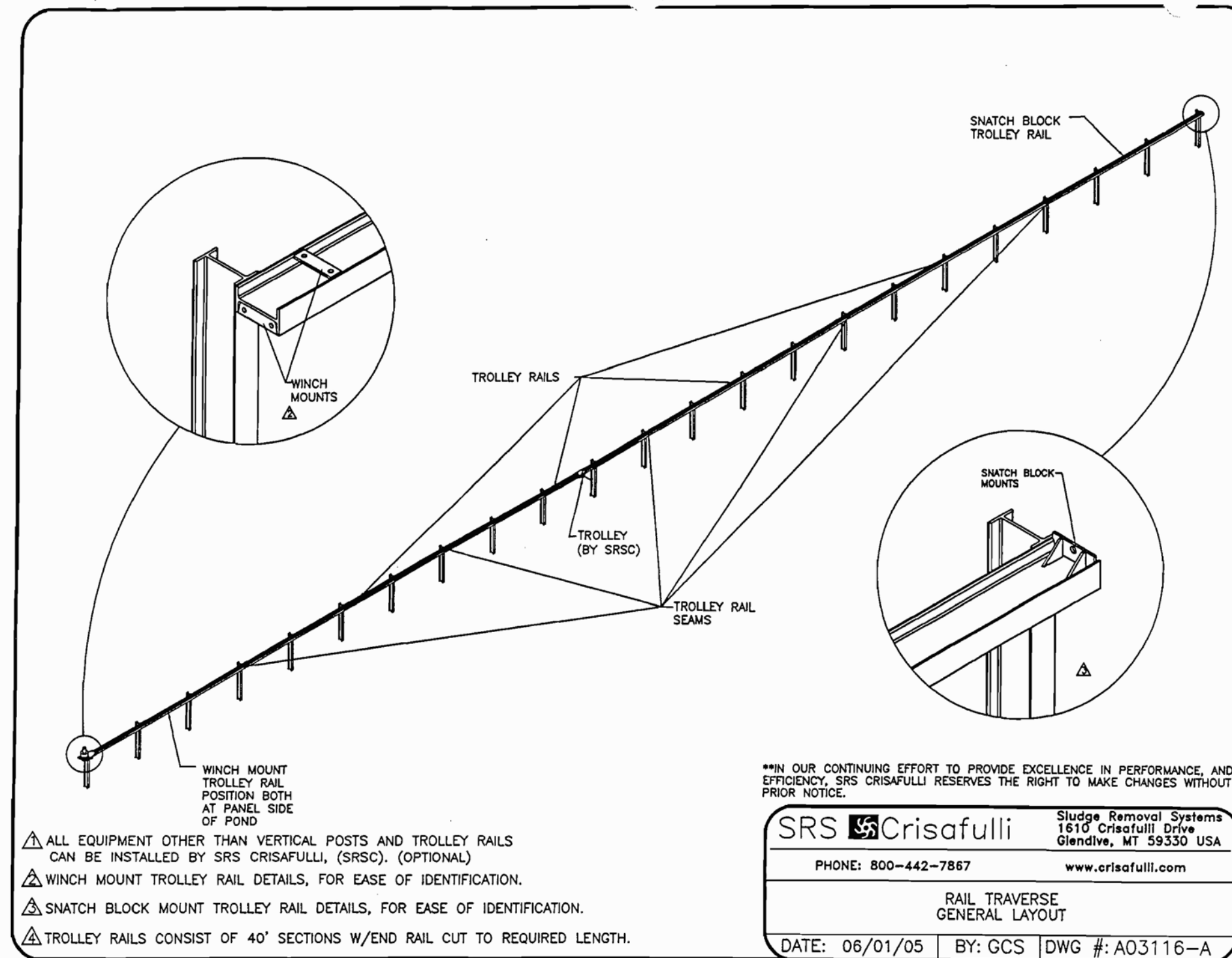
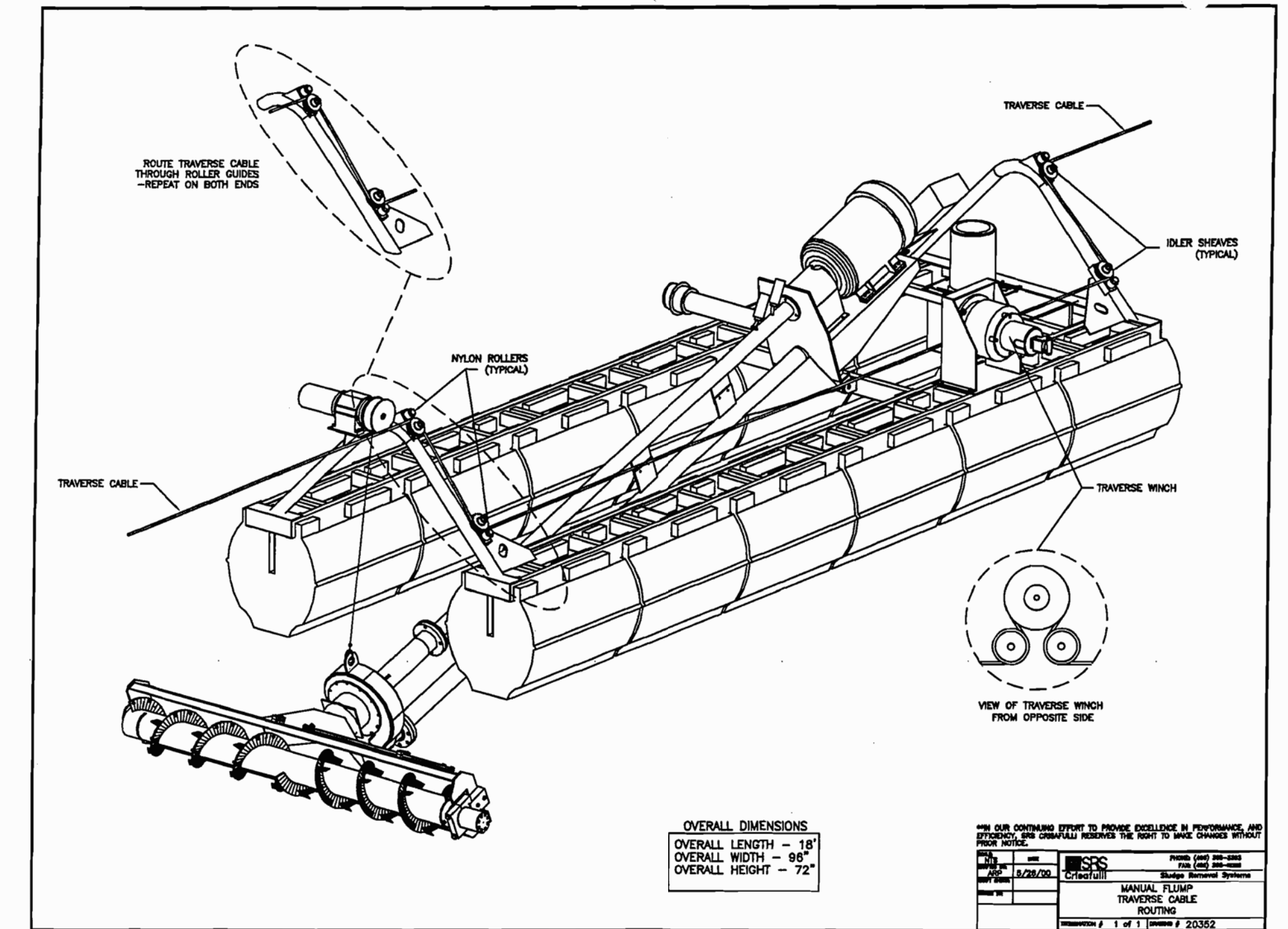
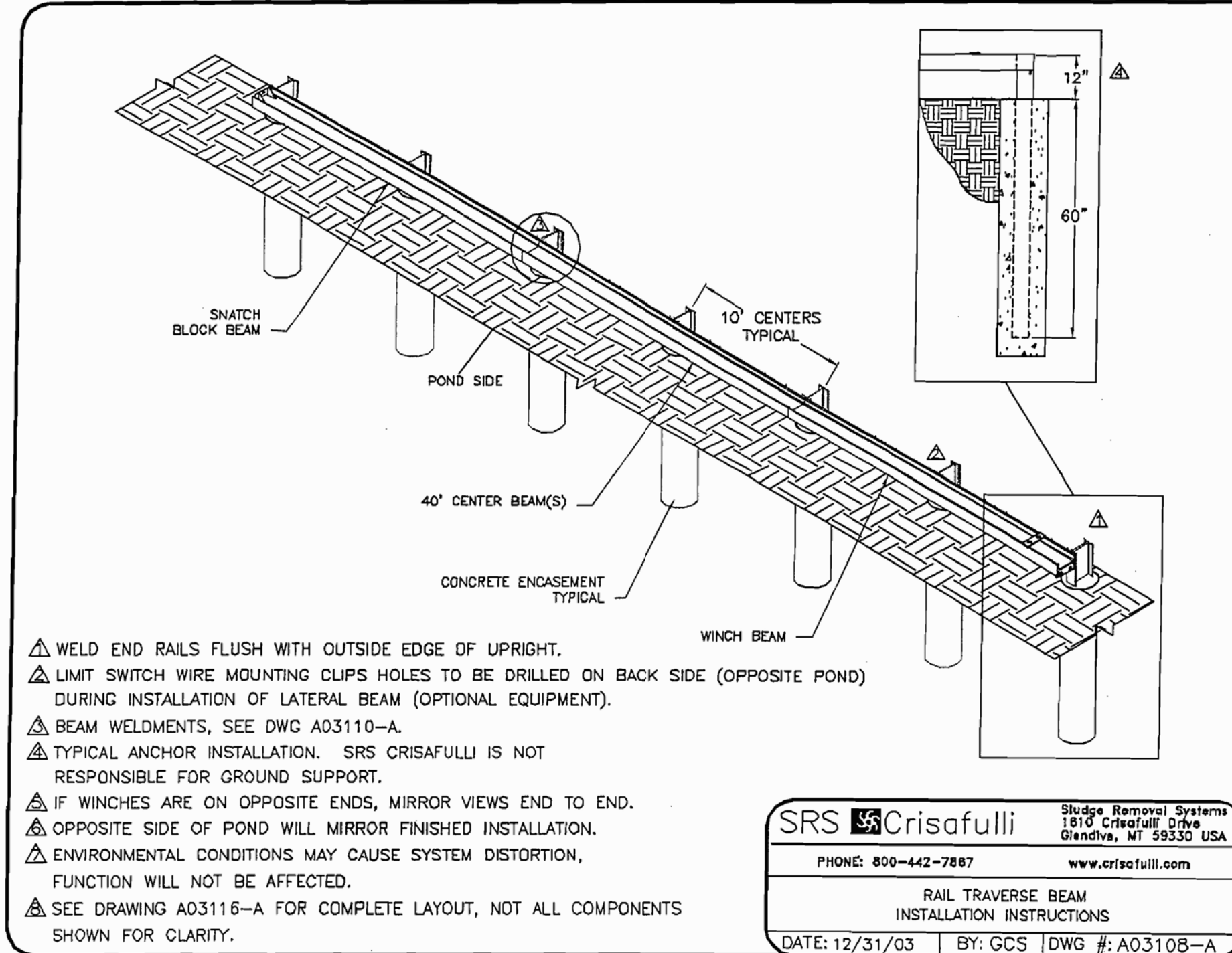
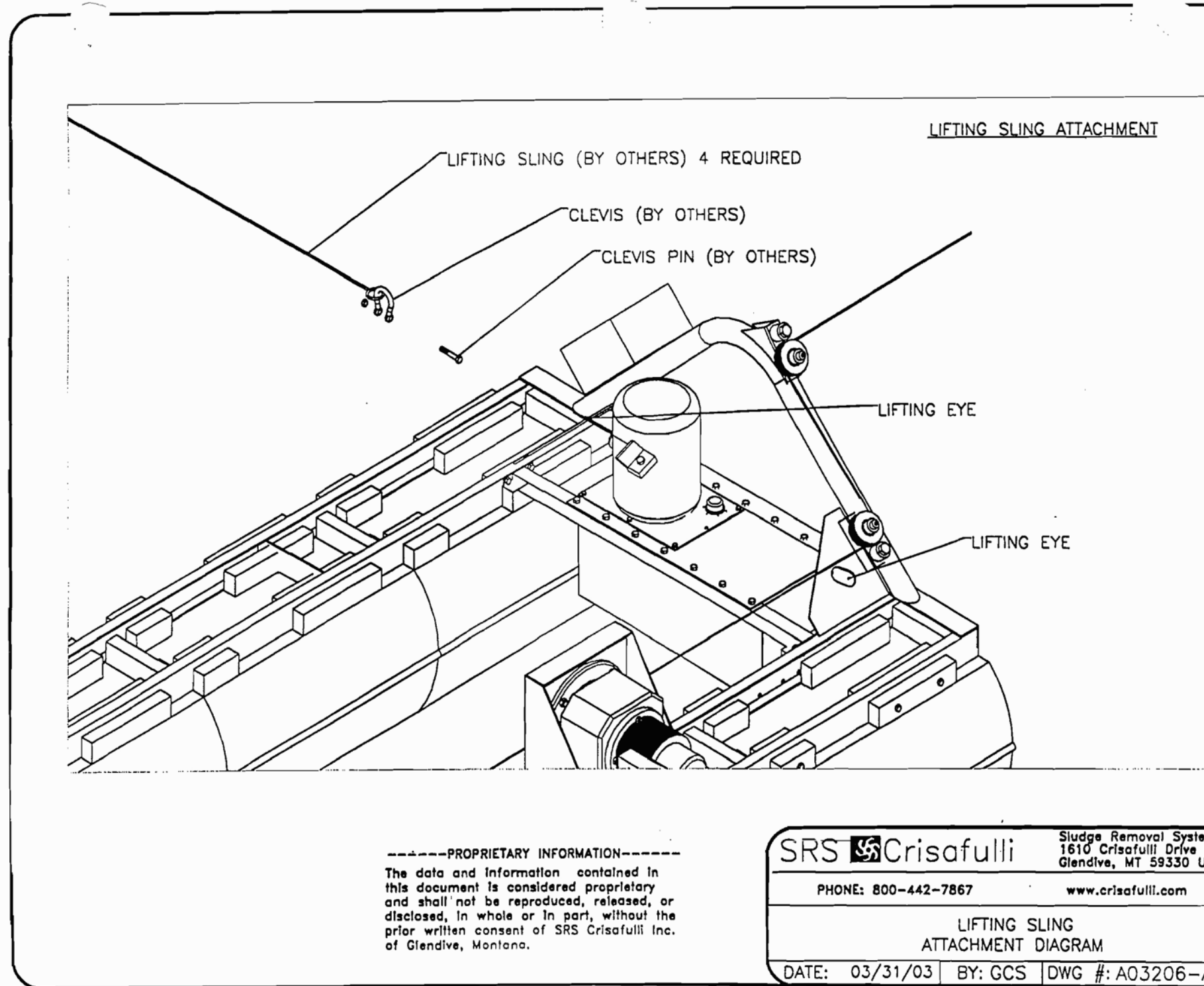
HARVEY H. HARPER, P.E.
PROFESSIONAL ENGINEER NO. 32595
STATE OF FLORIDA

PROJECT No.
04-007

D-4

SHEET 20 OF 40

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DESIGNED BY: J. L. HERR	REV. 1	DATE 2/20/07	DESCRIPTION PER. BUILDING DEPT. COMMENTS	APP'D. BY HHH
DRAWN BY: L. E. HEIGHT				
CHECKED BY: H. H. HARPER				
APPROVED BY: H. H. HARPER				
DATE: Nov., 2007	SCALE: AS SHOWN			

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LAKE COUNTY,

FLORIDA

**DREDGE
DETAILS**

PROJECT No.
04-007

D-5

SHEET 21 OF 40