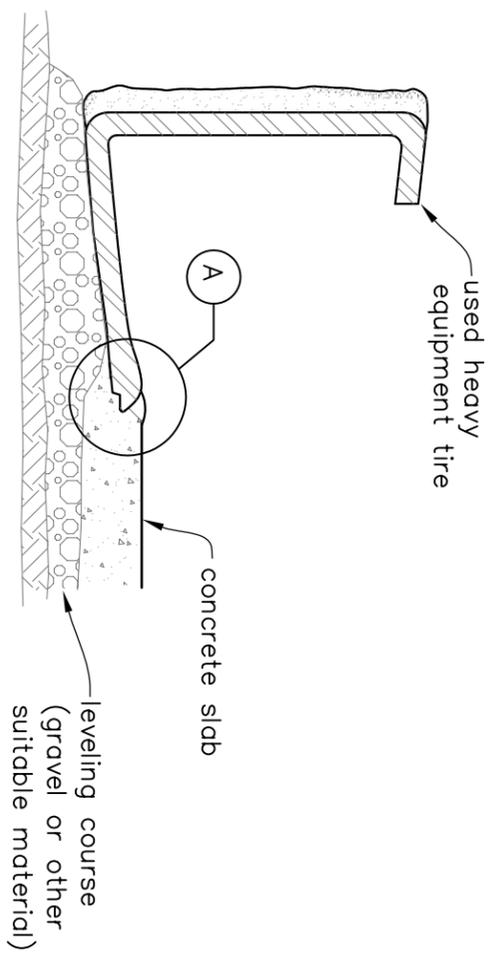


used heavy equipment tire (with section broken out to show construction)

*To reduce freezing, point the inflow in the direction that will cause the most water movement

USED HEAVY EQUIPMENT TIRE WATERING TROUGH

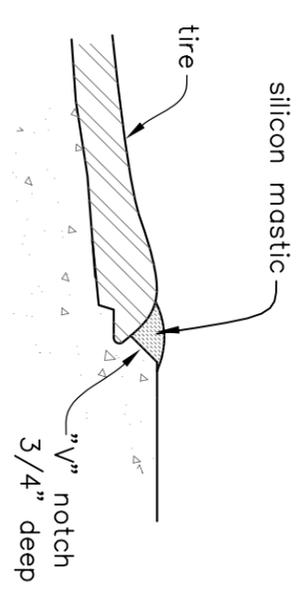


SECTION THROUGH TIRE

STEP BY STEP INSTRUCTIONS

1. Cut away part of sidewall. This will be the top of the trough.
2. Use gravel to fill around pipes and to level tire.
3. Pour concrete around water supply and overflow pipes and work under edge of tire. Form a "V" notch in the concrete (see detail A) after the top surface is smooth.
4. Fill "V" notch with mastic.
5. Provide an escape device for small birds and animals that may become entrapped. A ramp constructed of a piece of expanded metal extending from the water surface to the top sidewall or a float consisting of a piece of lumber are two devices that could be used.

Site Specific Notes:



DETAIL A

This drawing requires supporting technical documentation prior to use and must be adapted to the specific site.

Drawing not to scale.

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Drawn _____	8/05
Checked _____	_____
Approved _____	_____
Title _____	_____

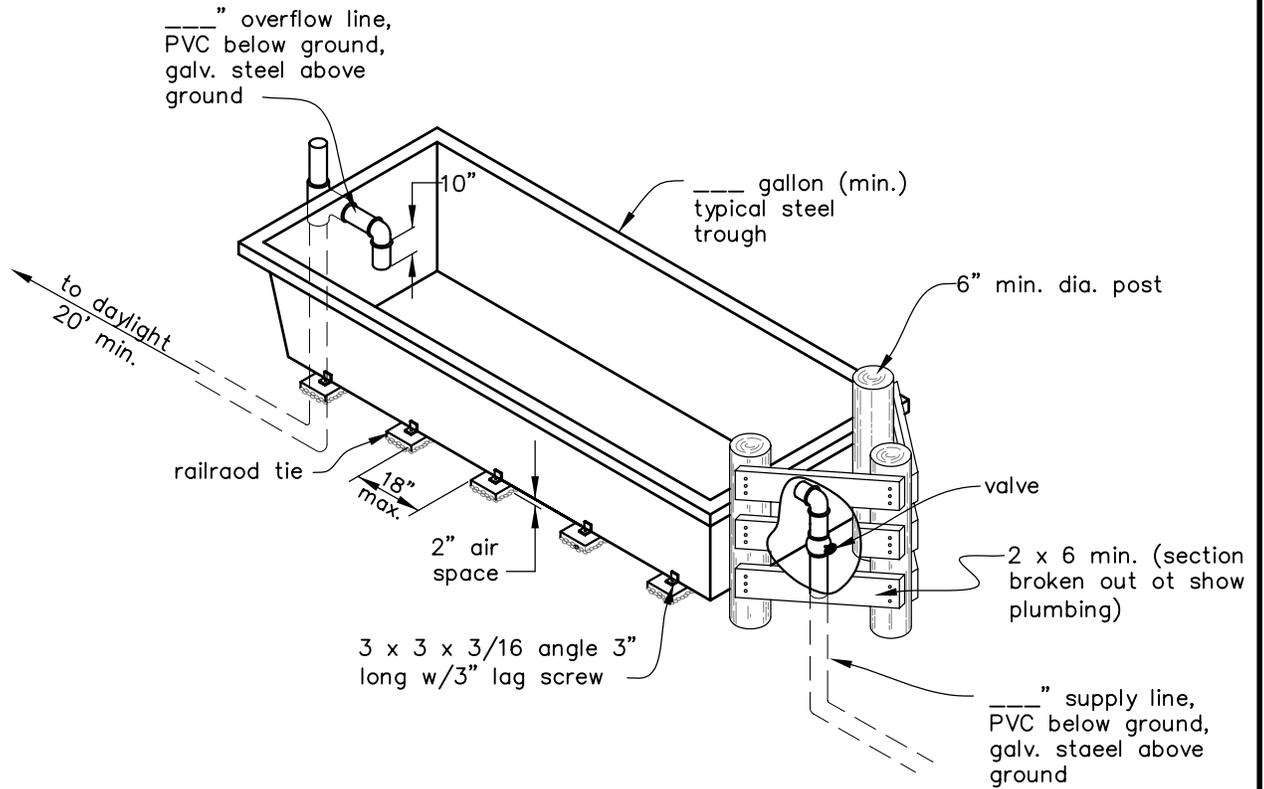
WATERING TROUGH (EQUIPMENT TIRE)

LIVESTOCK FACILITIES



File Name
or_lsk_tire_trough.dwg
Drawing No.

Sheet _____ of _____



TROUGH INSTALLATION

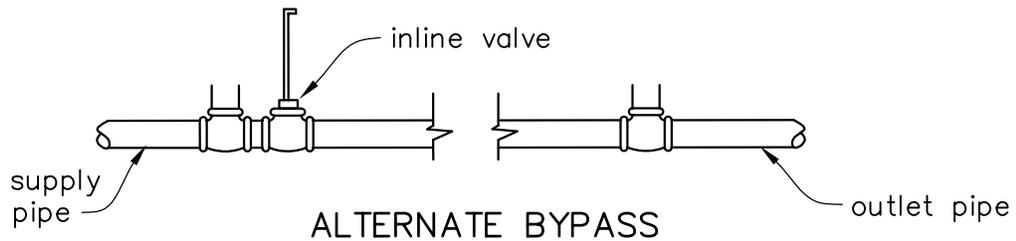
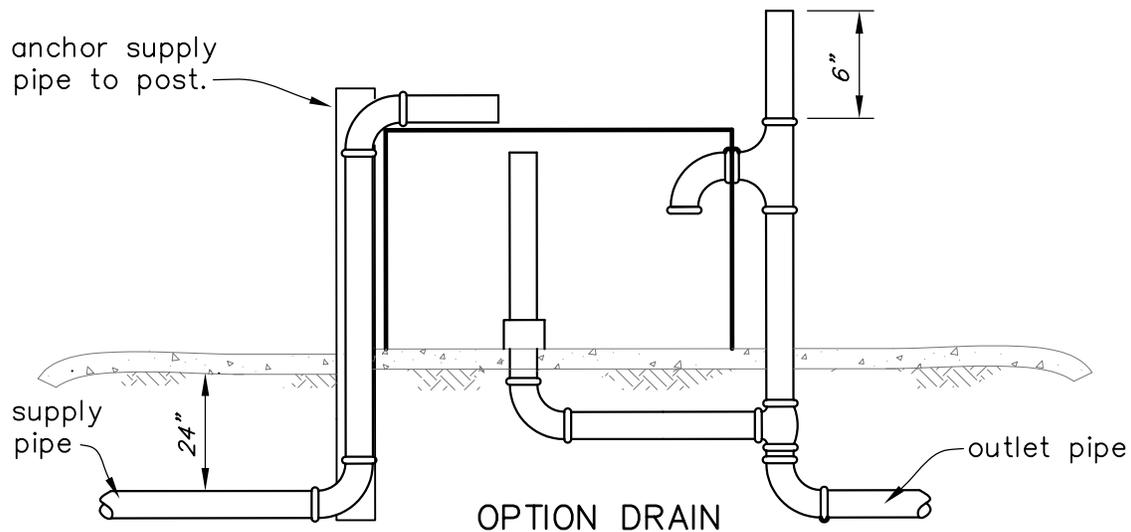
Note: The rock or gravel pad will extend out a min. of 6 ft. in all directions. Route over- flow to natural drainage or non-erosive area.

This drawing requires supporting technical documentation prior to use and must be adapted to the specific site.

Drawing not to scale.

Designed _____ Drawn _____ 8/05 Checked _____ Approved _____	Date _____ 8/05	CAD FILE NAME or_lsk_tub_trough.dwg DRAWING NO. SHEET OF	<h1 style="margin: 0;">TROUGH</h1> <p style="margin: 0;">LIVESTOCK FACILITIES</p> <p style="margin: 0;">NRCS U.S.D.A. NATURAL RESOURCES CONSERVATION SERVICE</p>
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TROUGH PIPING DETAIL

VALVE OPTIONS

1. hydrant with float valve.
2. frost free hydrant.
3. in-line gate valve w/well & cap.
4. unrestricted flow as shown.

SPECIAL PROVISIONS

1. All pipe installed above ground shall be galvanized steel. All pipe installed below ground shall be schedule 40 PVC.
2. Compacted rock pad for trough to be 4"-minus pit-run gravel. Grade to drain away from trough.

This drawing requires supporting technical documentation prior to use and must be adapted to the specific site.

Practice Code _____ Job Class _____

Drawing not to scale.

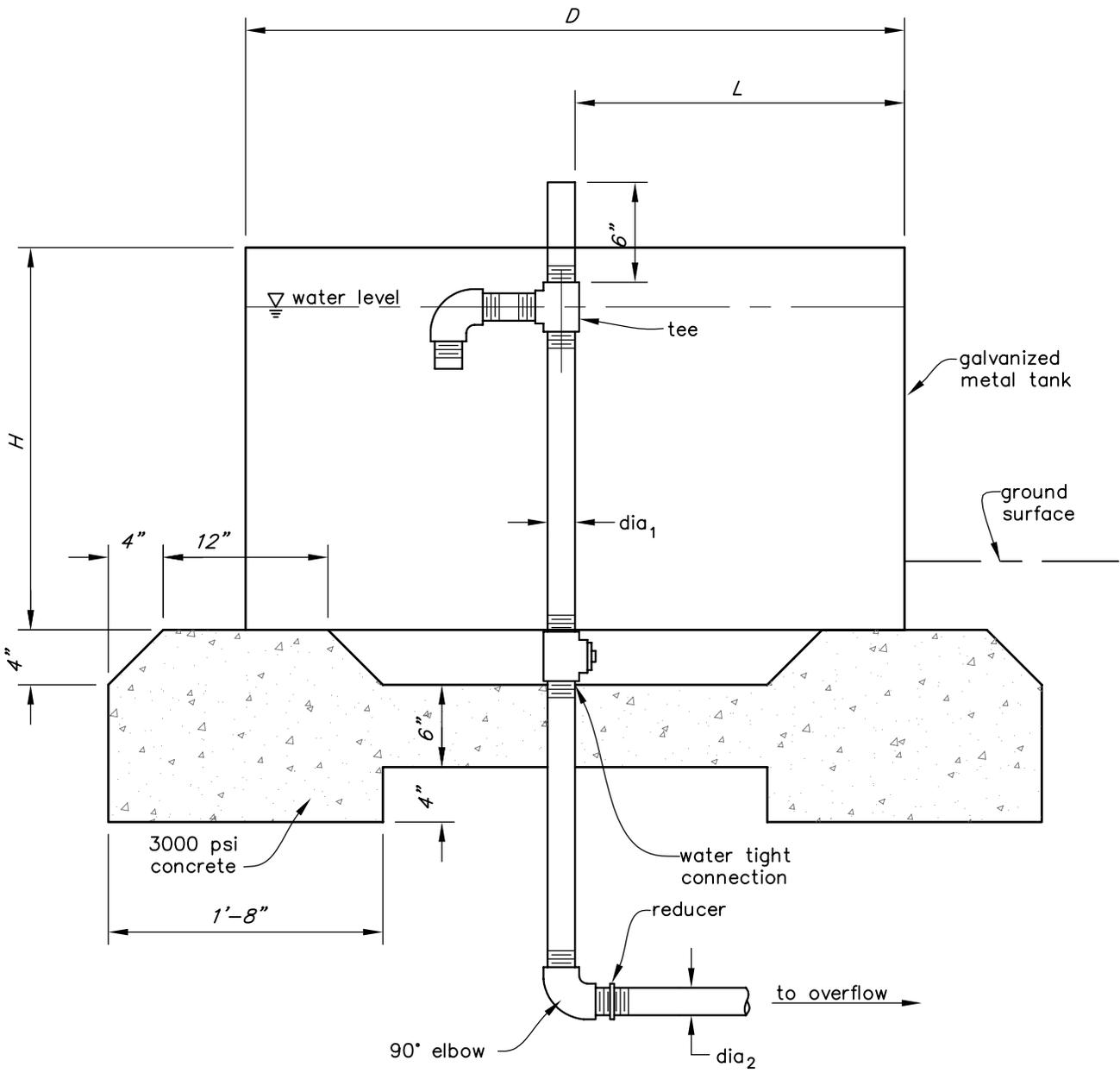
Designed _____	Date _____	CAD FILE NAME or_lsk_trough_pipe.dwg
Drawn _____	8/05	DRAWING NO.
Checked _____		SHEET OF
Approved _____		

TROUGH PIPING

LIVESTOCK FACILITIES



U.S.D.A. NATURAL RESOURCES CONSERVATION SERVICE



SECTION VIEW

DIMENSIONS

- D = _____ ft
- L = _____ ft
- H = _____ ft
- dia₁ = _____ in
- dia₂ = _____ in
- _____ gallons

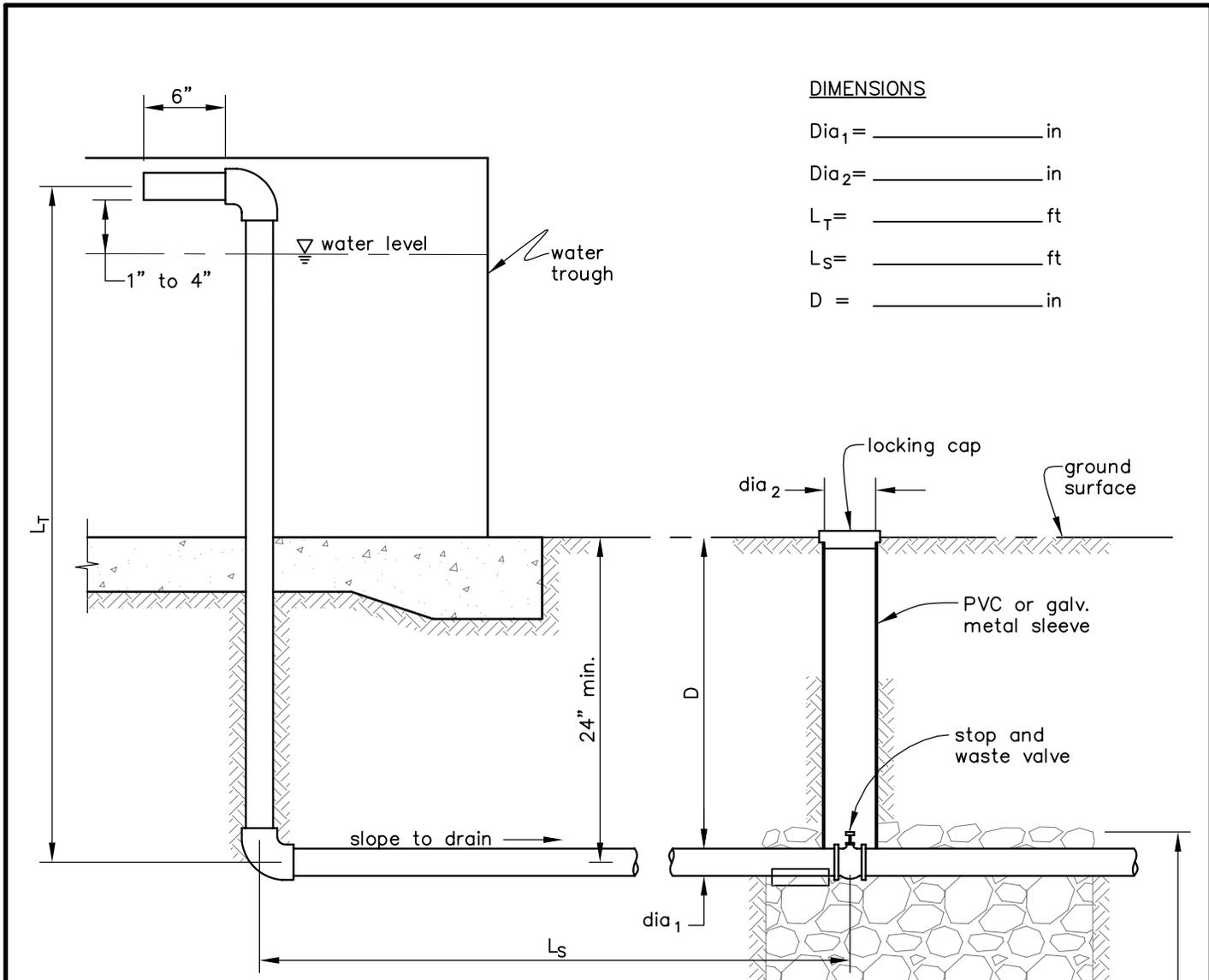
Supply line may enter trough from above ground or through tank floor. For above ground installation, protect the pipe from livestock and/or cold weather damage. Maximum diameter of supply line shall be 1 inch. All pipe and fittings shall be schedule 40 galvanized metal.

This drawing requires supporting technical documentation prior to use and must be adapted to the specific site.

Drawing not to scale.

Designed _____ Drawn _____ 8/05 Checked _____ Approved _____	Date _____ CAD FILE NAME or_lsk_overflow_trough2 DRAWING NO. _____ SHEET _____ OF _____	<h2 style="margin: 0;">TROUGH OVERFLOW</h2> <h3 style="margin: 0;">(GALVANIZED METAL TANK)</h3> <p style="margin: 0;">LIVESTOCK FACILITIES</p> <p style="margin: 0;">NRCS U.S.D.A. NATURAL RESOURCES CONSERVATION SERVICE</p>
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DIMENSIONS

Dia₁ = _____ in
 Dia₂ = _____ in
 L_T = _____ ft
 L_S = _____ ft
 D = _____ in

SECTION VIEW

ROCK GRADATION

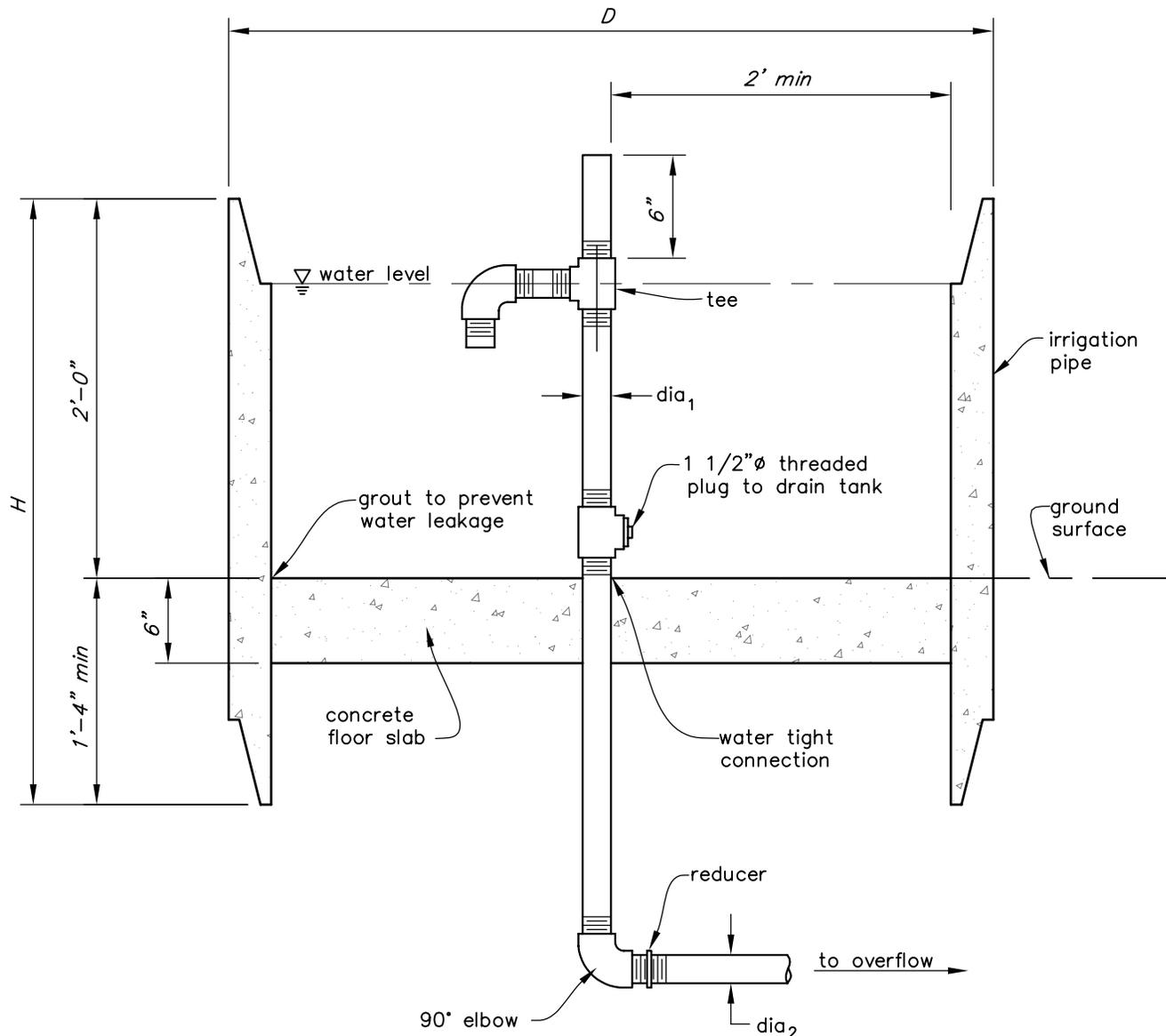
D₁₀₀ = _____
 D₇₅ = _____
 D₅₀ = _____

This drawing requires supporting technical documentation prior to use and must be adapted to the specific site.

Drawing not to scale.

Designed _____	Date _____	CAD FILE NAME or _Jsk_trough_supply	TROUGH OVERFLOW (WITH DRAINFILL) LIVESTOCK FACILITIES
Drawn _____	8/05	DRAWING NO.	
Checked _____		SHEET OF	
Approved _____		U.S.D.A. NATURAL RESOURCES CONSERVATION SERVICE	

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SECTION VIEW

DIMENSIONS

- D = _____ ft
- L = _____ ft
- H = _____ ft
- dia₁ = _____ in
- dia₂ = _____ in
- _____ gallons

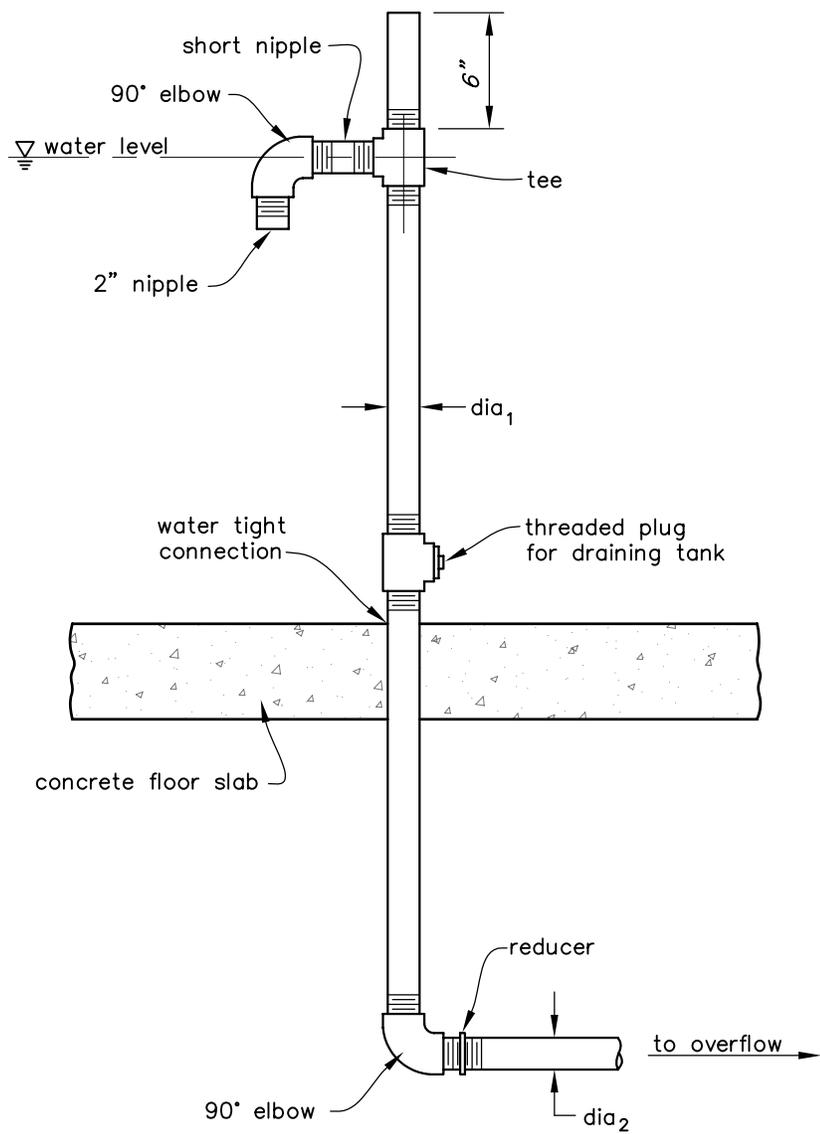
Supply line may enter trough from above ground or through tank floor. For above ground installation, protect the pipe from livestock and/or cold weather damage. Maximum diameter of supply line shall be 1 inch. All pipe and fittings shall be schedule 40 galvanized metal.

This drawing requires supporting technical documentation prior to use and must be adapted to the specific site.

Drawing not to scale.

Designed _____	Date _____	CAD FILE NAME or_1sk_overflow_trough3	TROUGH OVERFLOW (CONC. IRRIGATION PIPE)
Drawn _____	8/05	DRAWING NO.	
Checked _____		SHEET OF _____	
Approved _____		LIVESTOCK FACILITIES	
NRC U.S.D.A. NATURAL RESOURCES CONSERVATION SERVICE			

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This drawing requires supporting technical documentation prior to use and must be adapted to the specific site.

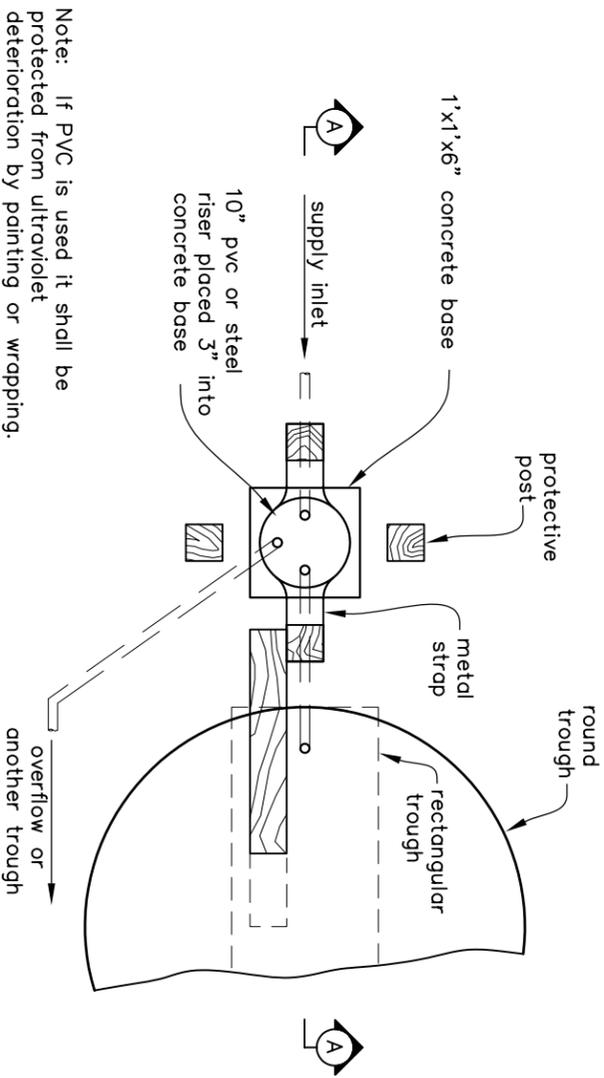
DIMENSIONS

dia₁ = _____ (in)
 dia₂ = _____ (in)

Drawing not to scale.

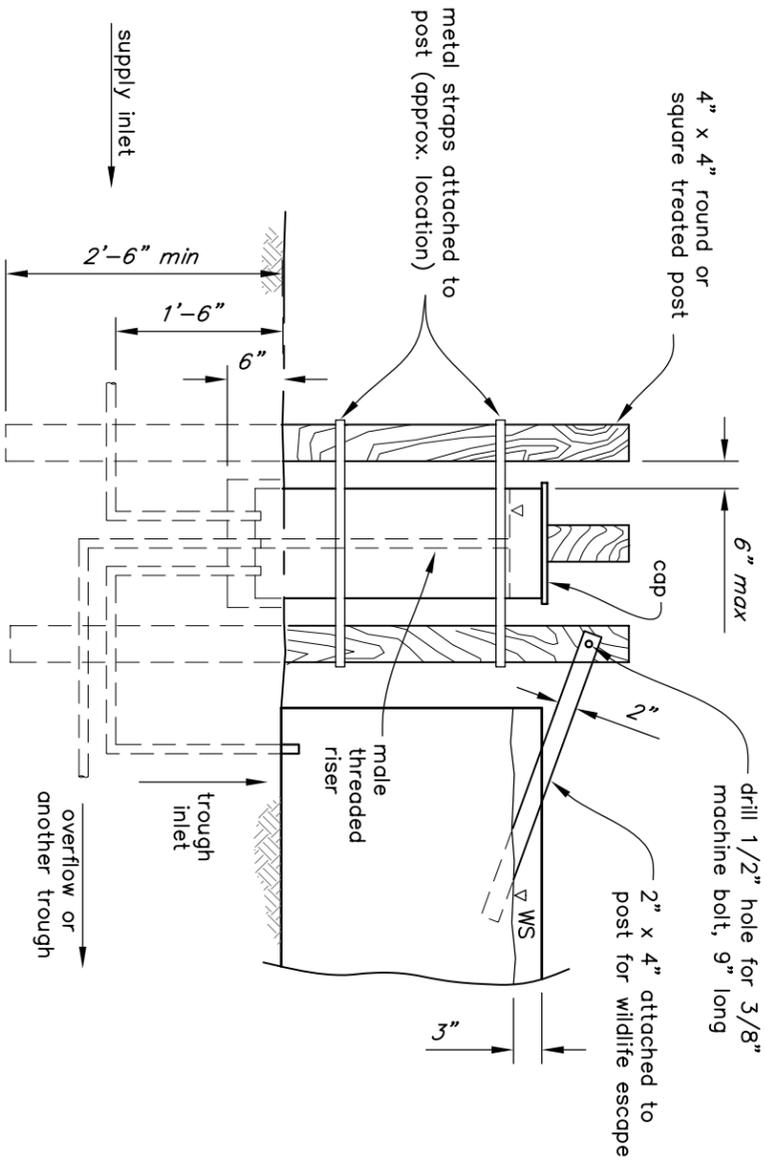
Designed _____	Date _____	CAD FILE NAME or_lsk_overflow_trough1	TROUGH OVERFLOW
Drawn _____	8/05	DRAWING NO.	
Checked _____	_____	SHEET OF _____	
Approved _____	_____	LIVESTOCK FACILITIES	
NRC U.S.D.A. NATURAL RESOURCES CONSERVATION SERVICE			

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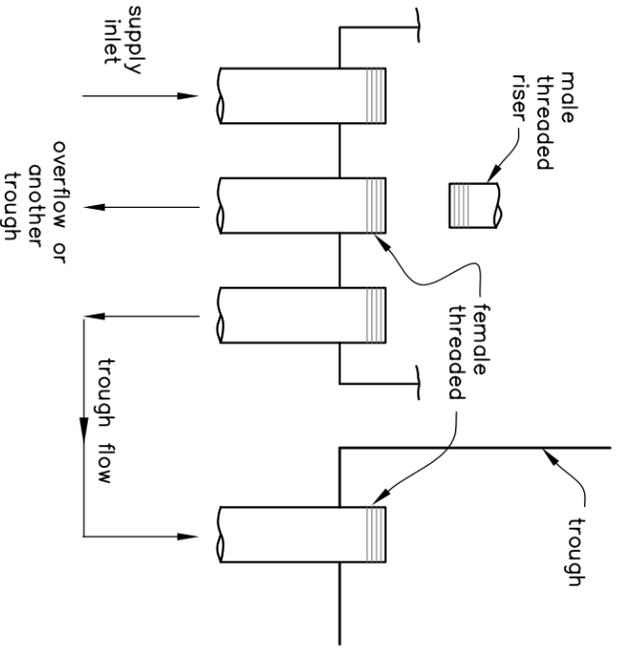


Note: If PVC is used it shall be protected from ultraviolet deterioration by painting or wrapping.

PLAN



SECTION A



PIPE DETAIL

NOTES:

1. NRCS Specifications 516, Pipeline and 614, Trough and Tank shall apply.
2. Minimum pipe size shall be 1 inch I.D.
3. Operating procedure (see pipe detail)
4. Riser is coupled to overflow pipe to fill trough
Riser is removed to drain trough
Riser is coupled to the trough flow pipe to bypass trough
5. Troughs may be connected in series by using overflow pipe as supply inlet for next trough in the series.
6. The two protective posts may be deleted if device is placed at a location away from the trough that is not accessible by livestock.
Steel troughs should be placed on treated timbers or concrete to minimize rusting.

This drawing requires supporting technical documentation prior to use and must be adapted to the specific site.

Drawing not to scale.

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Drawn	_____	8/05	_____
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Title	_____		_____

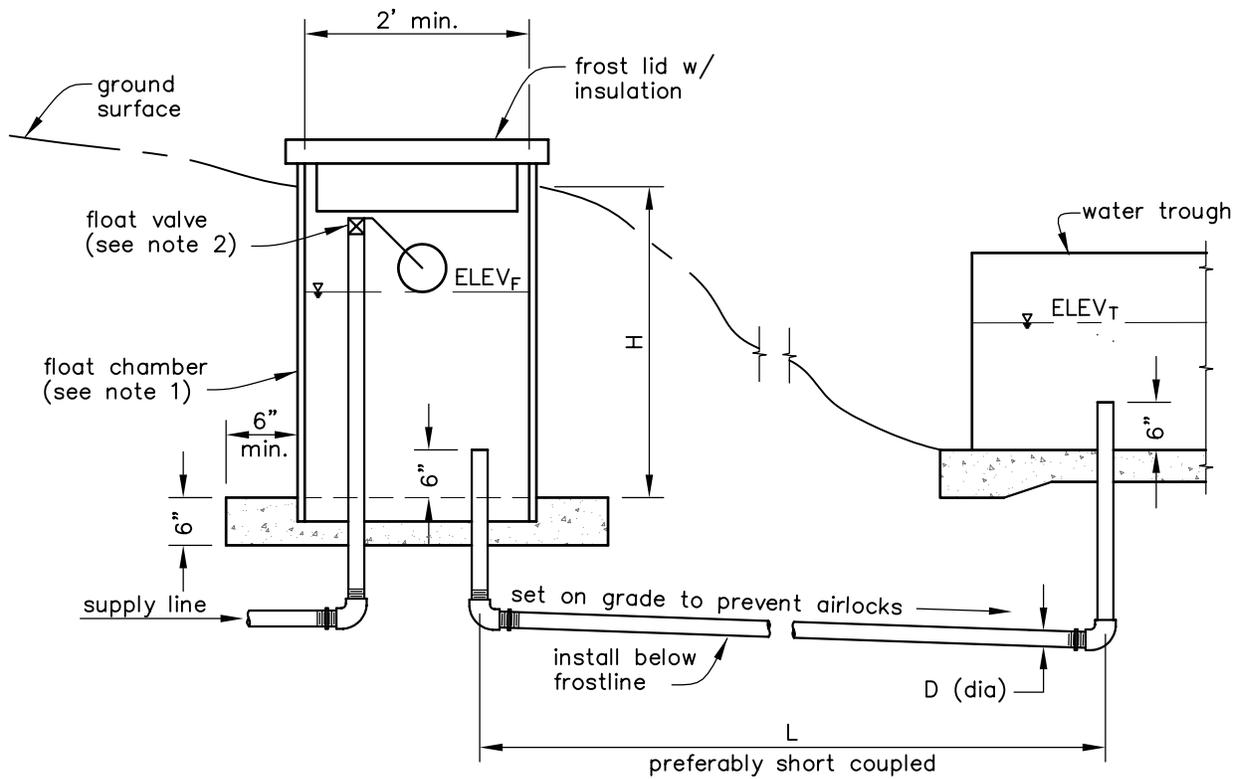
INLET/OVERFLOW DEVICE

LIVESTOCK FACILITIES



File Name
pr_lsk_oflow_trough
Drawing No.

Sheet _____ of _____



NOTE 1:

The float chamber shall be constructed of reinforced concrete pipe, welded steel pipe, corrugated steel pipe, cast-in-place concrete or other suitable material. It shall be sized to provide ready access for repair and/or replacement of plumbing fixtures.

NOTE 2:

Discharge outlet of float valve shall be placed 2 times the diameter of the inlet conduit above rim of tank.

DIMENSIONS

D (dia) = _____ in

L = _____ ft

H = _____ ft

ELEV_F = _____ ft

ELEV_T = _____ ft

This drawing requires supporting technical documentation prior to use and must be adapted to the specific site.

or_1sk_frostfree_float

Drawing not to scale.

Designed _____	Date _____	CAD FILE NAME or_1sk_ff_float_valve.dwg
Drawn _____	8/05	DRAWING NO.
Checked _____		SHEET OF
Approved _____		

FROST FREE FLOAT VALVE

LIVESTOCK FACILITIES

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