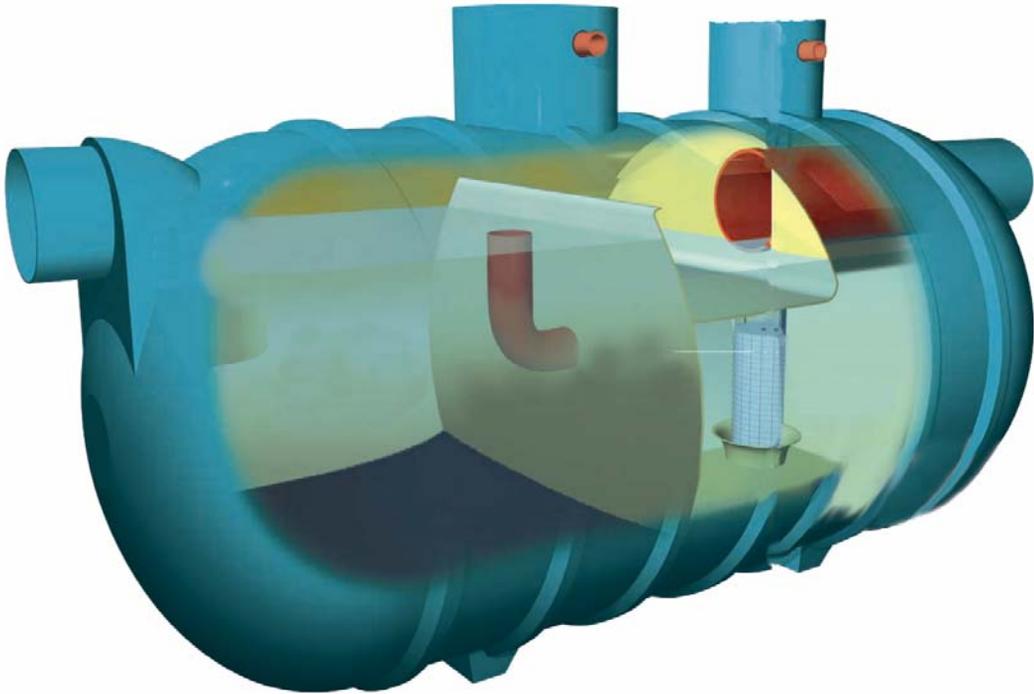


# **SPEL** SEPARATORS



## **INSTALLATION and MAINTENANCE MANUAL**

**Fluid-Tec / SPEL separators must be installed to these instructions. Local codes may apply, and must be adhered to. Failure to follow these installation instructions will make void our warranty and may result in tank failure.**

## PRELIMINARY

### Site access and conditions

It is the responsibility of the contractor to ensure suitable access to good hard ground that is safe and suitable for off-loading.

### Off-loading/handling

The contractor is responsible for off-loading. The tank must be handled with care to prevent accidental damage from impact or contact with sharp objects.

Tanks should be lifted with strop or chains through the lifting eyes provided.. Do not drag tanks along the ground for any distance and avoid jarring and bumps. Do not lift with water in the tank.

### Storage

Set the tank on smooth ground free of rocks and sharp objects. Chock/tie down to prevent movement in high winds.

### Installation procedures

Installation should be carried out by a competent contractor in accordance with prescribed procedures, Health and Safety legislation and good and safe work practice.

If in doubt as to any aspect of installation, contact us.

### Separator Specification

Check that you have the correct specification separator.

### Preliminary

Visually check the outside of the tank for damage.

## EXCAVATION

### Hole Size

Determine the size of the excavation allowing for the drain invert depth, site conditions and backfill material.

In stable soils, a minimum of 450mm is required between the separator sides and ends and the sides of the excavation.

For unstable soils, contact your engineer or the supplier.

### Hole Depth and Cover

#### Dry Conditions

This is usual conditions, ie no flooding of the pit. Hole must be deep enough to allow a minimum of 100mm of level, compacted base course for the separator to sit on, and cover as per Table A.

#### Wet Conditions

**Note; Standard Separator design is for maximum water table to 0.6m from the base of the unit for 1.2m diameter units, and 0.9m for 1.8m units. Should water table heights exceed these dimensions, contact the supplier for special design.**

In conditions where the hole subject to possible flooding, the need to anchor the Separators shall be the responsibility of the installer or the owner.

In these conditions, the Separator may be anchored by:

1. Strapping the Separator down to concrete anchors buried in the compacted fill on either side of the unit.
2. Tying the Separator down to a concrete slab suitably designed, poured under the unit.
3. Provide sufficient cover over the unit to overcome any buoyancy – see Table A for burial depths.
4. Using sufficient concrete ballast up to above the separator centre line – contact your engineer or the supplier for assistance.

For wet installations, it may be necessary to use fabric material to prevent aggregate migration – check with your engineer.

**Table A -Minimum Burial Depths**

<b>1.2m Diameter</b>	
Dry - Traffic	150mm Reinforced Concrete + 450mm
Dry - No Traffic Cover Only	600mm
Dry - No Traffic Concrete Slab	100mm Reinforced Concrete + 300mm
Wet - Concrete Slab*	600mm
Wet - Deadman Anchors*	600mm
Wet - Cover Only*	600mm
<b>1.8m Diameter</b>	
Dry - Traffic	150mm Reinforced Concrete + 450mm
Dry - No Traffic Cover Only	600mm
Dry - No Traffic Concrete Slab	100mm Reinforced Concrete + 300mm
Wet - Concrete Slab*	600mm
Wet - Deadman Anchors*	700mm
Wet - Cover Only*	1000mm
*Anti-flotation only.	

### Base and Cover Material

Replace excavated material with approved backfill.

Washed, crushed stone or gravel nominal size between 4.75mm and 13mm, or clean naturally rounded aggregate nominal size between 4.75mm and 19mm shall be used. All aggregates shall have a crushing resistance of 100kN and density greater than or equal to 1500kg/cu.m as per test NZS3111:1986 Sections 14 and 10 respectively. The aggregate shall have no more than 3% passing a 2.36mm (No.8) sieve and should be certified to meet this specification.

### Installation

Prepare base to correct depth and level off.

Lower tank into position, check for levels (including inlet/outlet inverts) and fill with water to 200mm.

Place backfill material up to the depth of the water in the tank ensuring backfill is properly consolidated under the tank to prevent voids. Consolidate by hand – do not use vibrating pokers.

Continue to fill with water to 200mm depths and backfill.

Connect up pipe work.

Continue backfilling with aggregate, at the same time filling the tank with water to equalise pressure and resist floatation. Ensure all chambers are filled equally. Continue until backfill is 200mm above the tank centerline.

Top up the tank with water to invert level.

### Extension Shafts

Place extension shafts as per the drawing, to necessary height. Install Manhole adjustment ring and manhole lid ring to correct ground level.

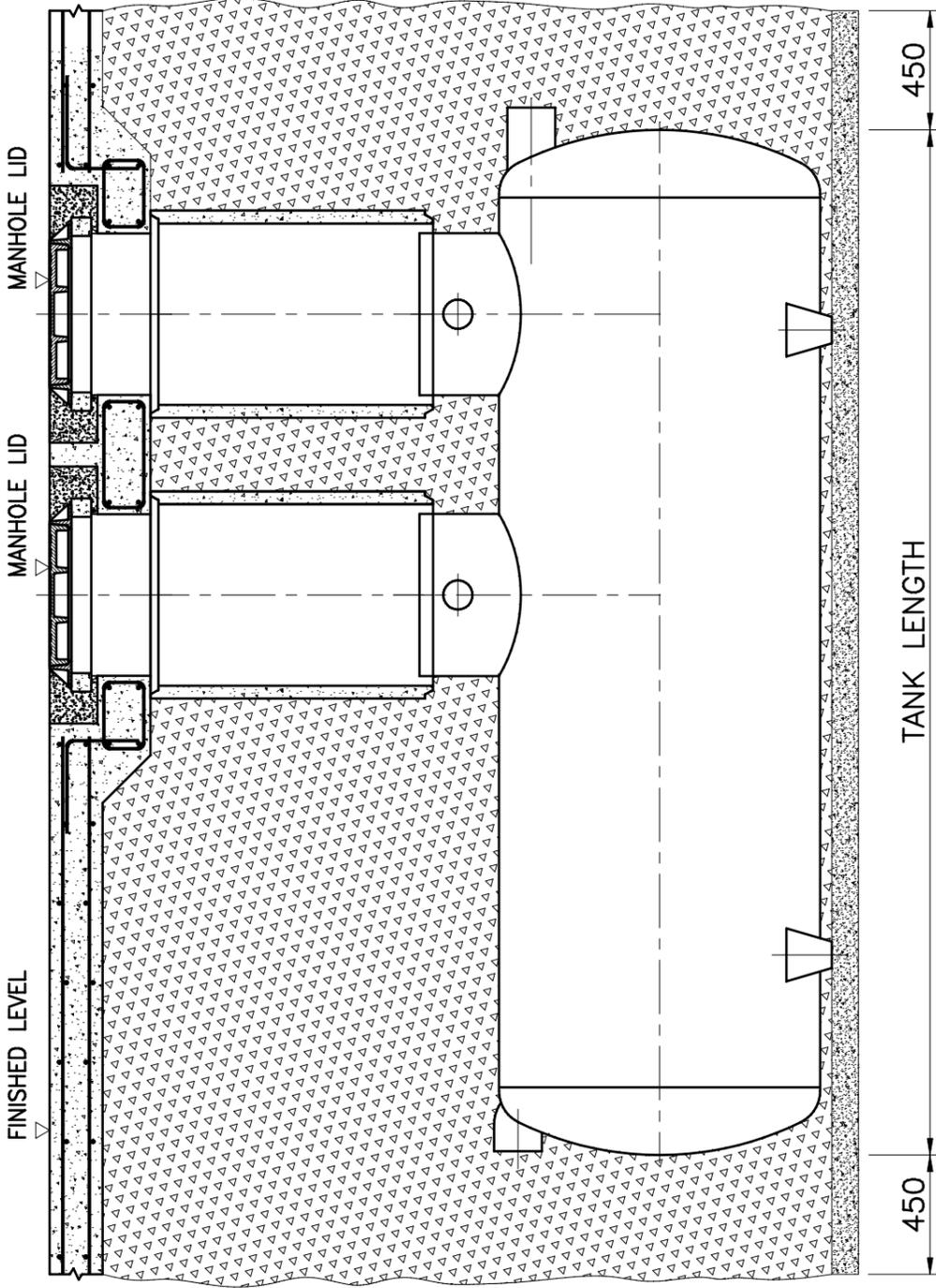
### Backfill

Continue backfill with appropriate material, gravel, crushed stone, etc. Support extension shafts with concrete to ensure no load is placed back on tank.

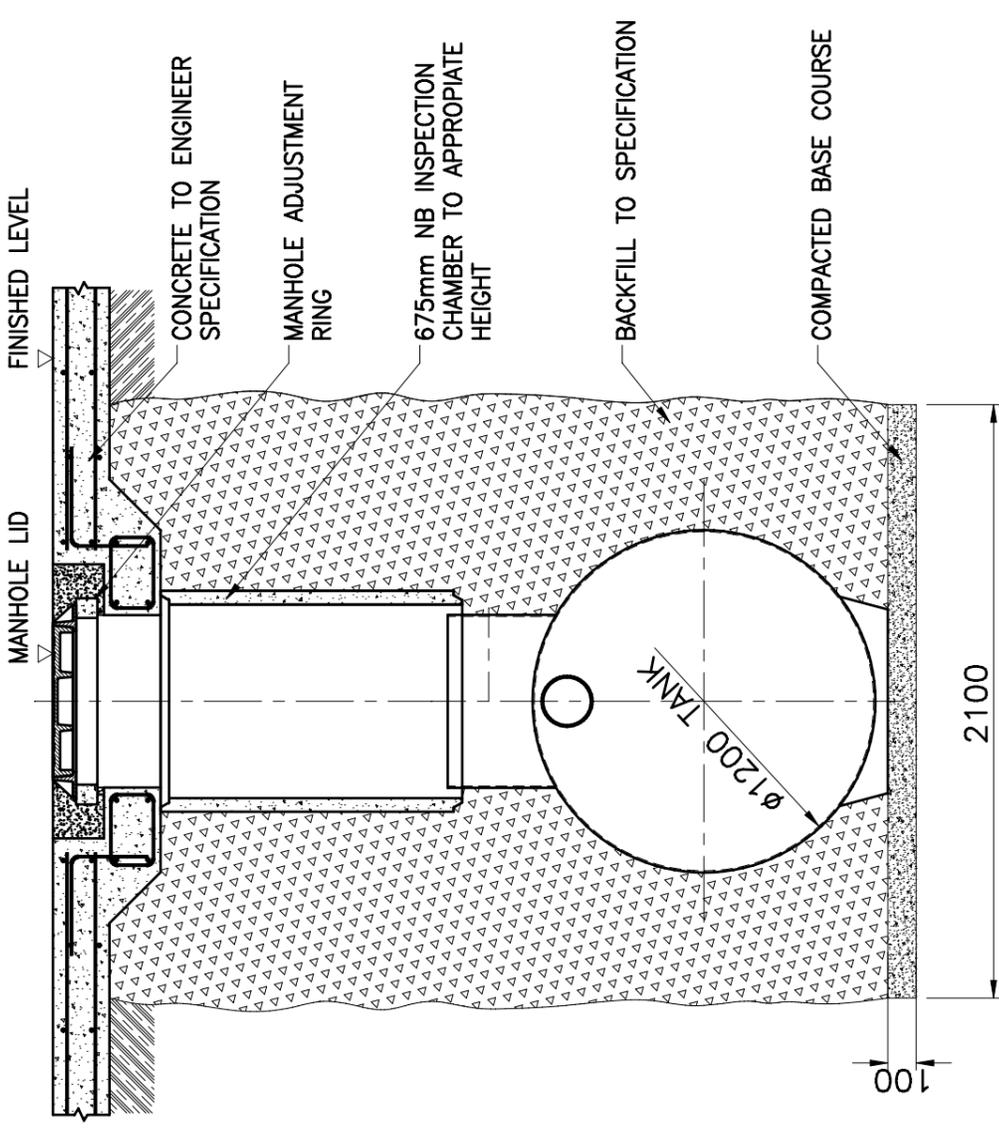
### Concrete Slab

Where concrete slab is placed over the tank to take vehicle loading, it should be reinforced, in accordance with good practice, to take the maximum load. The reinforcing should be extended onto unexcavated ground. It is important that vehicle loading is not transferred onto the tank itself.

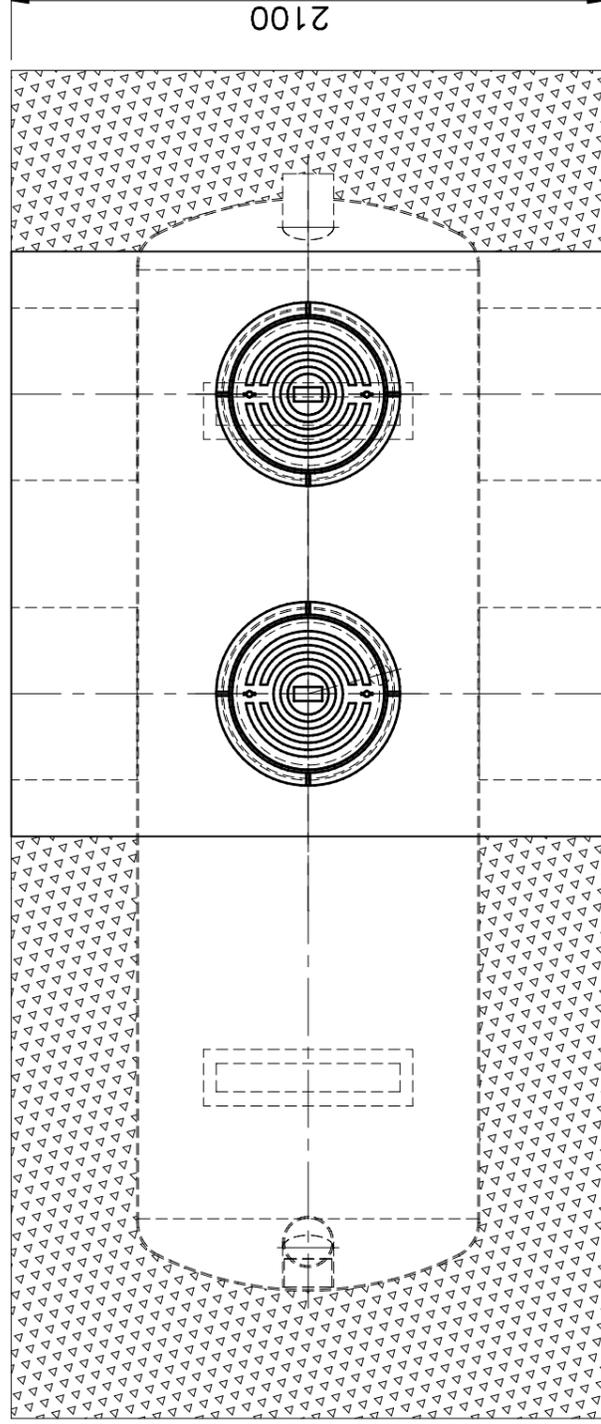
Cover slab design is the responsibility of the installer, ensuring that correct design calculations are performed and approved.



SECTIONAL ELEVATION



TYPICAL SECTIONAL VIEW  
500 LD MANHOLE FRAME & LID



TYPICAL SECTIONAL VIEW  
500 HD MANHOLE FRAME & LID

C				
B				
A	BACKFILL AREA & SIZE REVISED FOR TYPICAL USE ONLY	8/4/08		
	REVISION	DATE		

CONTRACTOR TO VERIFY ALL DIMENSIONS ON SITE.  
REFER ALL DISCREPANCIES TO FLUID-TEC DRAWING OFFICE.  
DO NOT SCALE IF IN DOUBT - ASK

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100 Montgomerie Road, Airport Oaks, Auckland PO Box 22688 Otahuhu, Auckland  
Phone: +64 9 276 9045 Fax: +64 9 270 4806

RETENTION SEPARATOR  
Ø1200 FRP PURCEPTOR CLASS 1  
TYPICAL TANK INSTALLATION ONLY  
DETAIL

JOB FILE NO. -	CAD FILE NO. PPS1200C01
DRAWN JOHN W	SCALE DRG. NO. -
CHECKED -	1:25 PPS-1200-C01
APPROVED -	
DATE 7/7/07	ISSUED
	SIZE A3
	REVISION A

## Maintenance

Fluid-Tec / SPEL separators are well proven, high quality factory made units, designed for long term performance and therefore lower maintenance costs.

### Maintenance Requirements

We recommend Full Retention Separators are checked at regular intervals to determine level of retained pollutants and silt in both chambers and the correct operation of the ACD (automatic closure device).

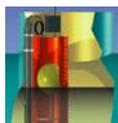
### Checking Procedures

On a monthly basis:

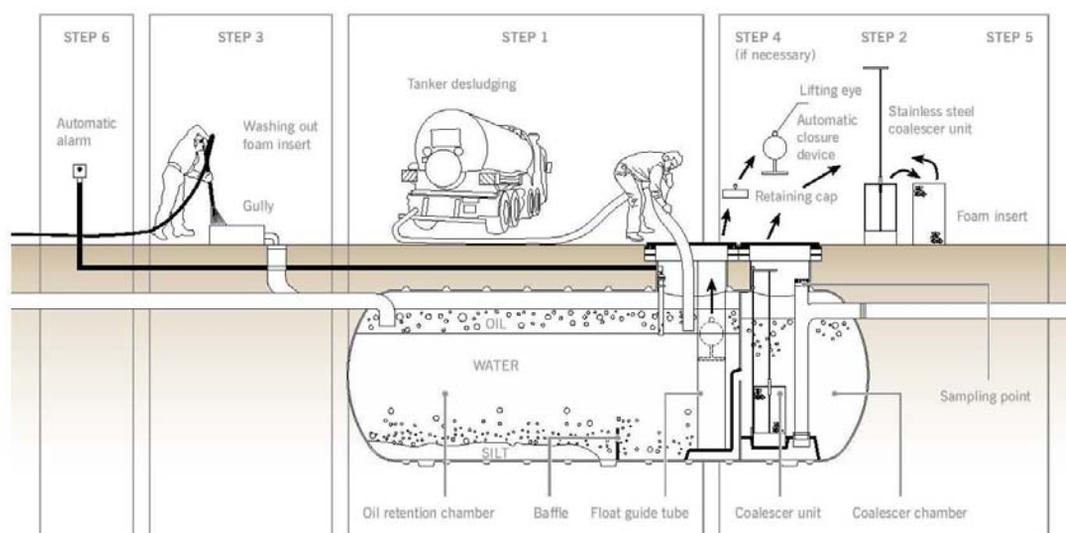
1. Lift the lids on the separator to check the contents. If there is any sign of oil or fuel on the waters surface, have the top layer skimmed from the separators contents. If this level is more than 3mm, have the separator cleaned.
2. Initially the unit should be evacuated every six months and the silt level checked. Log the results to set the time periods between cleaning out.
3. Check that the water level inside the separator is not above the pipework – this could indicate a blockage.

### Maintenance Procedures

1. Sucking out oil/fuel and silt  
Suck off the retained oil from both chambers and then the silt deposited on the bottom, leaving sufficient water to ensure the ACD remains floating.
2. Coalescer Unit  
Use the lifting handle or rope to lift the coalescer unit out of the separator.
3. Cleaning Foam Insert  
Remove foam insert and wash with normal water pressure ensuring dirty water runs into the separator.
4. Sucking out Complete contents (where necessary).  
If the quantity of pollutants exceeds recommended levels, the complete contents of the separator may need to be removed. After sucking out completely, remove the ACD using the lifting eye on the float.
5. Re-insert coalescer unit and ACD  
Re-insert the foam insert into the stainless steel coalescer unit and re-insert the coalescer unit into the separator.



Partially fill the separator with clean water to ensure that the ACD when re-inserted remains floating. Re-insert the ACD.



Important note; when emptying ensure both chambers are emptied equally starting with the oil retention chamber and then the coalescer chamber and back again until empty.