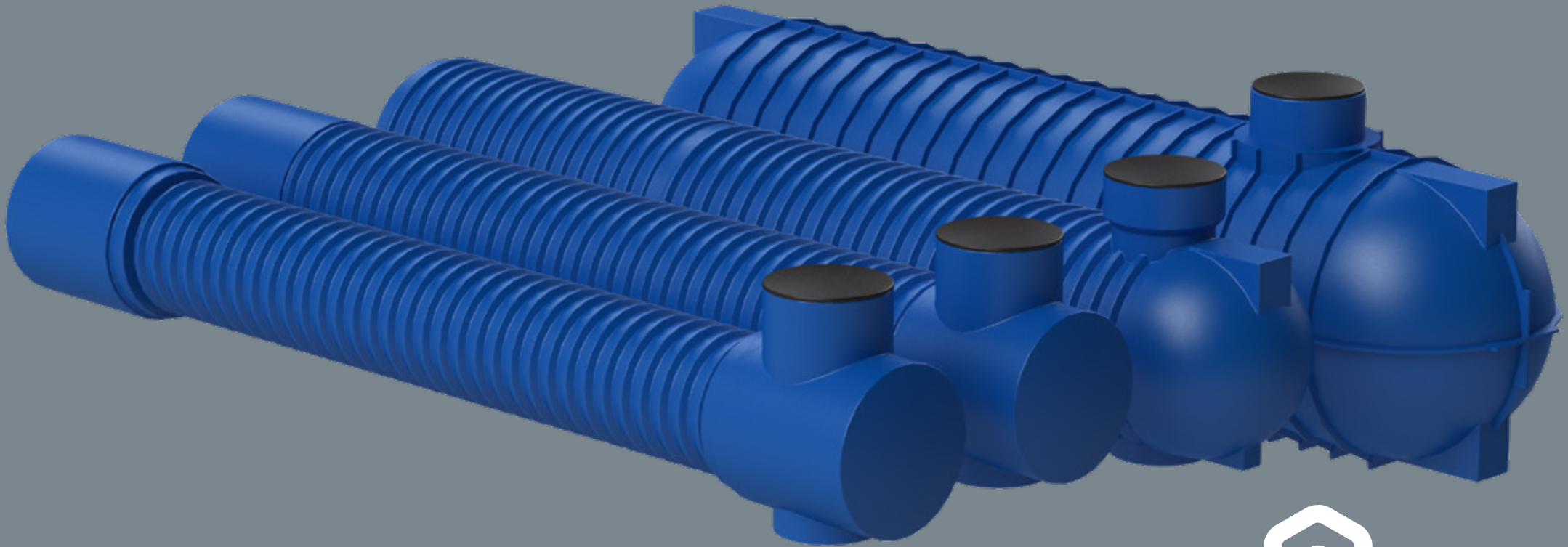


# Underground Tank Installation Guide 2020



**Promax**

LIQUID MANAGEMENT SOLUTIONS

FREephone 0800 77 66 29 | SALES@PROMAXPLASTICS.CO.NZ | WWW.PROMAXPLASTICS.CO.NZ

# Underground Tank Installation Specifications

## Promax polyethylene Underground Tanks must be installed according to these instructions.

Local Council regulations may apply and should be consulted. Failure to follow these installation instructions will void the warranty and may result in tank failure. Proper installation of underground tanks is required to prevent tank damage and insure long term trouble free service.

It is imperative to read and understand the instructions below prior to any installation commences.

Promax will not be held liable for any cost associated with poor installation. Customer must check all ground conditions and installation guide with an engineer before installation of tanks.

## 1. Handling

- Do not roll or drop tank.
- Only use appropriate lifting equipment with enough evenly spaced banded straps to unload, lift or move tanks - see handling diagram below
- Do not stand on tank while being lifted. Always place tanks on smooth ground, free of rocks and Harmful objects. Tanks must be secured in high wind areas to prevent damage before being installed.
- Any mishandling makes void all warranties given.

## 2. Tank Location

### Proximity To Nearby Structures:

- The location of the tank excavation is the responsibility of the contractor and the tank owner. The contractor is to follow the limitations of the diagrams shown or notify a chartered professional engineer for a site specific consultation.
- Contractor to ensure nearby foundations of new and/or existing structures are not undermined by the excavation for the tank.

### **If tank excavation location does not comply with the requirements below - contractor to notify chartered professional engineer for a site specific consultation:**

- Tank position near house: 45 degree line of influence to begin 1000mm min from edge of house foundations. Contractor to determine foundation depths/locations prior to excavation.

- Tank position near retaining wall: 45 degree line of influence to begin at a distance of a minimum of twice the height retaining away from the edge of the retaining wall posts.
- Contractor to determine prior to excavation.

## 3. Excavation Clearance

- Contractor to ensure a minimum of 150mm between edge of tank and edge of excavation wall at the narrowest location.

### Soil conditions:

- This design assumes site soils will meet the requirements of nzs3604:2011 classification of 'good ground'. Contractor to confirm site exhibits these properties or notify chartered Professional engineer for consultation.

# Underground Tank Installation Specifications

## 4. Backfill & Base Course

### Backfill and base course material to be either;

- Crushed stone or gravel: washed, with angular particle sizes no larger than 13.2mm with no more than 5% passing a 2.36mm sieve. Dry density must not be less than 1500kg/cubic meter.
- Approved backfill should not be mixed with sand or native soils and should always be brought up to at least the tank crown level. The use of non-specified backfill material could result in tank failure. (I.E. Gap 7).
- Naturally rounded gravel: clean naturally-rounded aggregate with particle sizes no larger than 19mm with no more than 5% passing a 2.36mm sieve. Dry density must not be less than 1500kg/ cubic meter.
- Contractor to work in maximum backfill lifts of 300mm. After each lift, contractor to use long handled probe to work the backfill material under the entire length of the tank and within any ribs.
- All voids and spaces should be filled to ensure adequate support of tank.

## 5. Backfill, Depth & Cover

### See attached relevant drawings

- See attached relevant drawings. Stated depths assume no hydraulic loads. Consult Promax if high water table is possible or expected.

## 6. Anchoring

- For tank burial where the need for anchoring has been evaluated and found advisable use the promax deadman anchor solution.
- The weight of overburden on top of the deadman and tank provides the anchoring force. Lay deadman along each side and parallel to tank. The tank must not 'overshadow' the deadman anchor. Deadman anchors are available from promax plastics.

### A) backfill

When using anchors, tanks must be backfilled with approved drainage metal to be effective

### B) hold down strapping

Use the hold-down straps provided in between ribs using 1m spacing (500mm with 1900mm dia tanks) straps should be snug but cause no tank deflection.

## 7. Manhole Access Points

- The standard manway is 600 mm in diameter and can be extended using addition manhole extension risers.
- Tank will come with standard polyethylene lid which is suitable for garden application only.
- If being used in a pedestrian or trafficable area a steel manhole lid is advisable.

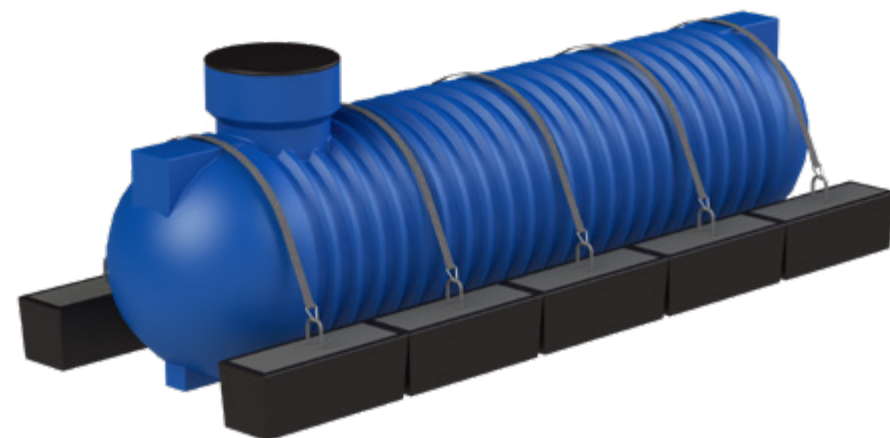
- Using the promax adjustable height riser makes this simple, it has a recess for concrete to eliminate direct traffic loading onto the tank from vehicles.

## 8. Refer to structural specifications sheet for concrete reinforcing & other notes

### See attached relevant drawings

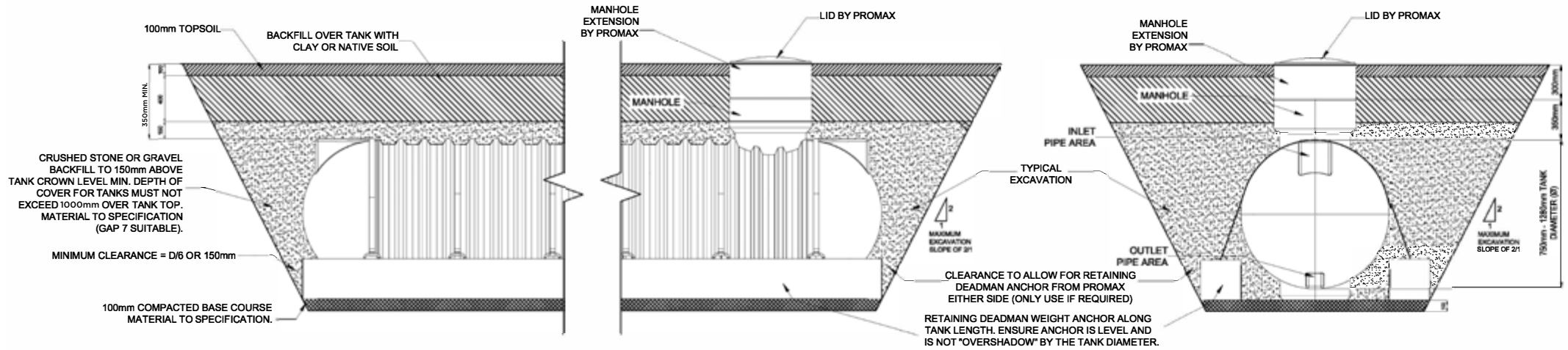
- See attached relevant drawings. Stated depths assume no hydraulic loads. Consult Promax if high water table is possible or expected.

Promax Deadman Anchor System



# UNDER LAWN INSTALLATION GUIDE

NTS



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ORIG. SCALE	NTS	XXX	X	XX XXX XXXX
DESIGNER		XXX	X	XX XXX XXXX
DETAIL:	UNDER LAWN INSTALLATION (ALL NEW ZEALAND LOCATIONS)	REMARKS		
PROJECT:	750mm - 1200mm DIAMETER TANK INSTALLATION GUIDE	ISS	DATE	
		<b>PROMAX ENGINEERED PLASTICS</b> 389 Waipapa Rd Kaitiaki 6255 Bay of Islands Phone (09) 407 3575 Free Phone 0800 778629		

# TANK INSTALLATION UNDER RESIDENTIAL DRIVEWAY (2500KG VEHICLE OR LESS)

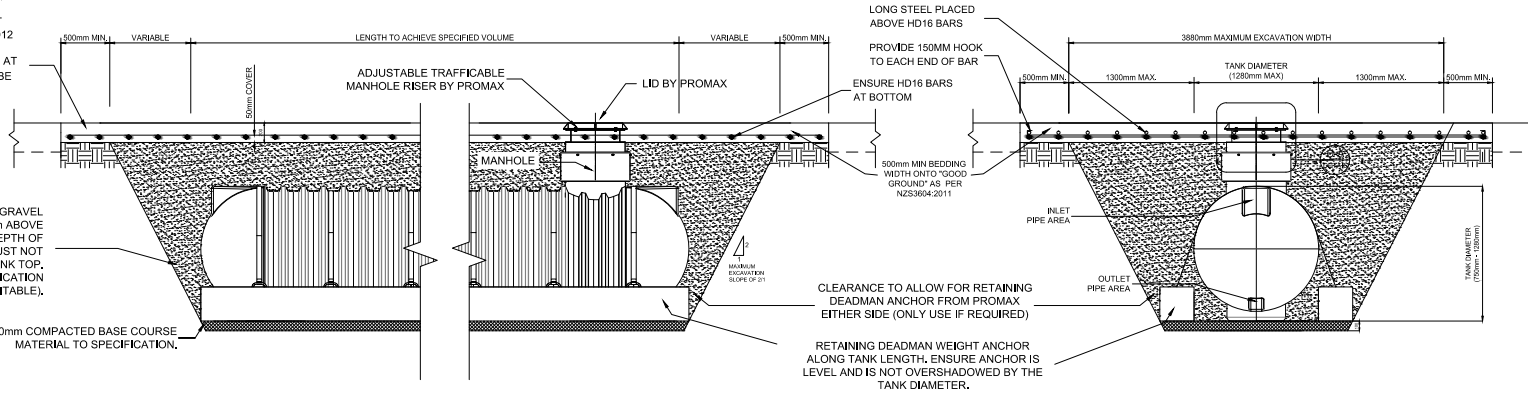
NTS

**NOTE ABOUT DESIGN CRITERIA (UNDER RESIDENTIAL DRIVEWAY):** SLAB DESIGNED FOR LIVE LOAD AS PER NZS1170.1 TABLE 3.1: "LIGHT VEHICLE TRAFFIC AREAS"; 2.5 kPA AND POINT LOAD OF 13 kN.

200mm REINFORCED CONCRETE SLAB, CONCRETE STRENGTH = 25MPA; SLAB REINFORCED WITH HD16 BARS AT 250MM CRS ACROSS THE TANK AND HD12 BARS AT 250MM CRS ALONG THE TANK. IMPORTANT: HD16 BARS TO BE PLACED AT 50MM BOTTOM COVER, HD12 BARS TO BE PLACED ABOVE HD16 BARS.

CRUSHED STONE OR GRAVEL BACKFILL TO 150mm ABOVE TANK CROWN LEVEL MIN. DEPTH OF COVER FOR TANKS MUST NOT EXCEED 1000mm OVER TANK TOP. MATERIAL TO SPECIFICATION (GAP 7 SUITABLE).

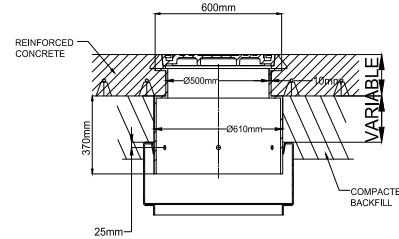
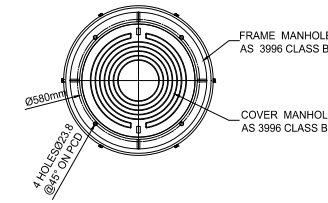
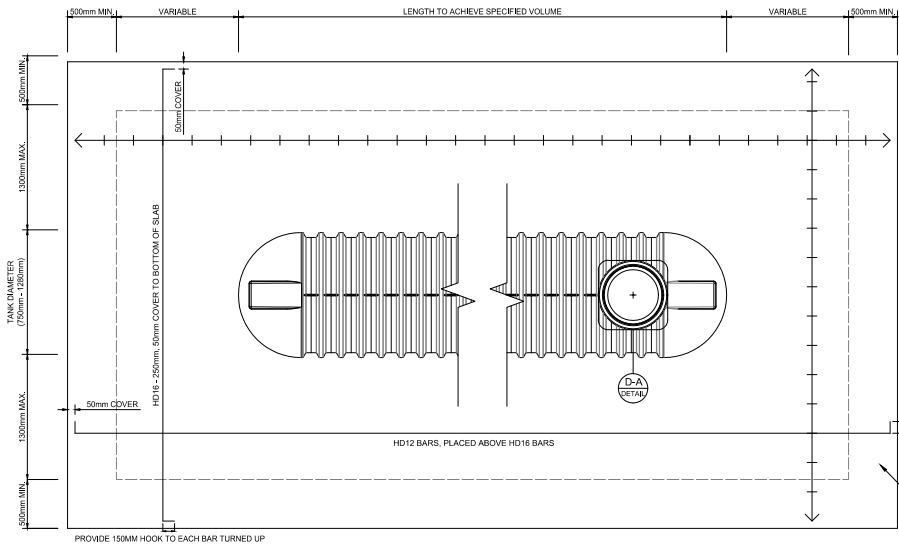
100mm COMPACTED BASE COURSE MATERIAL TO SPECIFICATION.



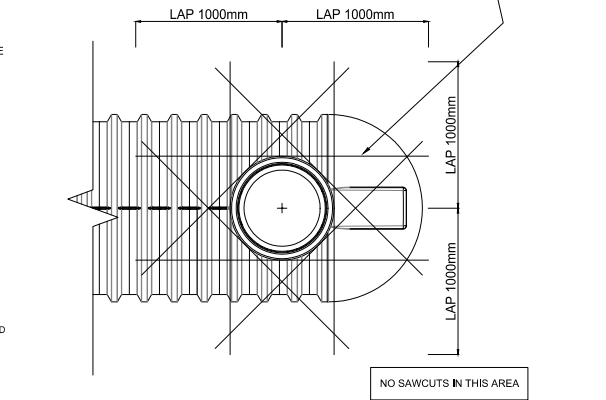
CLEARANCE TO ALLOW FOR RETAINING DEADMAN ANCHOR FROM PROMAX EITHER SIDE (ONLY USE IF REQUIRED)

RETAINING DEADMAN WEIGHT ANCHOR ALONG TANK LENGTH. ENSURE ANCHOR IS LEVEL AND IS NOT OVERSHADOWED BY THE TANK DIAMETER.

8/HD16 BARS ADDITIONAL TO SLAB REINFORCING. ARRANGE AS SHOWN. FULL 1000MM LAP EACH WAY.



**DETAIL - A**  
NTS



**SLAB STRENGTHENING AROUND MANHOLE OPENING**

200mm REINFORCED CONCRETE SLAB, CONCRETE STRENGTH = 25MPA; SLAB REINFORCED WITH HD16 BARS AT 250MM CRS ACROSS THE TANK AND HD12 BARS AT 250MM CRS ALONG THE TANK. IMPORTANT: HD16 BARS TO BE PLACED AT 50MM BOTTOM COVER, HD12 BARS TO BE PLACED ABOVE HD16 BARS.

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**SLAB SAWCUTS (SC):**  
1. SAWCUTS SHOULD BE PLACED AT 5m MAX CENTRES  
2. PLACE 25mm DEEP SAWCUTS WITHIN 24-48 HOURS AFTER POURING CONCRETE

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ORIG. SCALE	NTS	XXX	X	XX XXX XXXX
DESIGNER		XXX	X	XX XXX XXXX
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Bay of Island  
Phone (09) 407 3575  
Free Phone 0800 776629



# TANK INSTALLATION UNDER COMMERCIAL DRIVEWAY (VEHICLE NOT EXCEEDING 10000 KG)

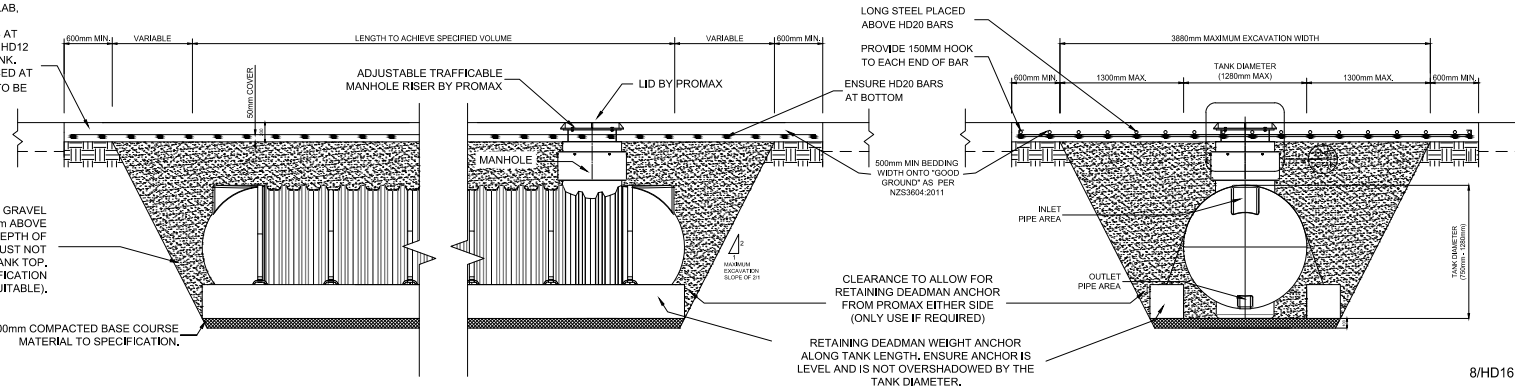
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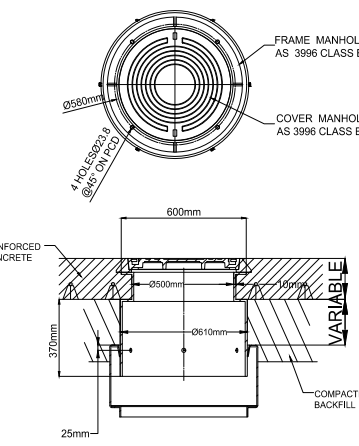
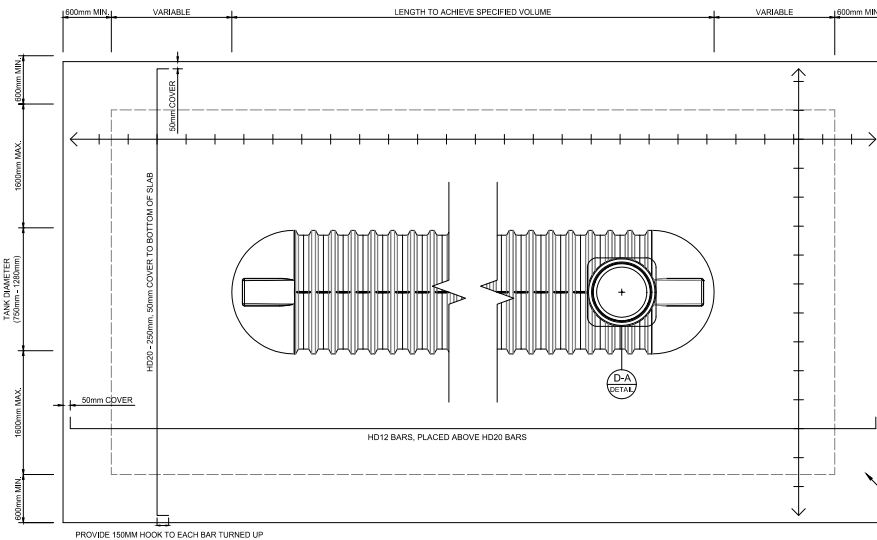
200mm REINFORCED CONCRETE SLAB, CONCRETE STRENGTH = 25MPA; SLAB REINFORCED WITH HD20 BARS AT 250MM CRS ACROSS THE TANK AND HD12 BARS AT 250MM CRS ALONG THE TANK; IMPORTANT: HD20 BARS TO BE PLACED AT 50MM BOTTOM COVER, HD12 BARS TO BE PLACED ABOVE HD20 BARS.

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100mm COMPACTED BASE COURSE MATERIAL TO SPECIFICATION.



8/HD16 BARS ADDITIONAL TO SLAB REINFORCING. ARRANGE AS SHOWN. FULL 1000MM LAP EACH WAY.



**DETAIL - A**  
NTS

## SLAB STRENGTHENING AROUND MANHOLE OPENING

NO SAWCUTS IN THIS AREA

**IF DRIVEWAY IS EXISTING:** SCABBLE EDGE AND TIE WITH D12 DRILL & EPOXY STARTERS AT 400MM CR'S. EMBED MIN OF 100MM INTO EXISTING AND LAP 600MM INTO NEW TOPPING SLAB.

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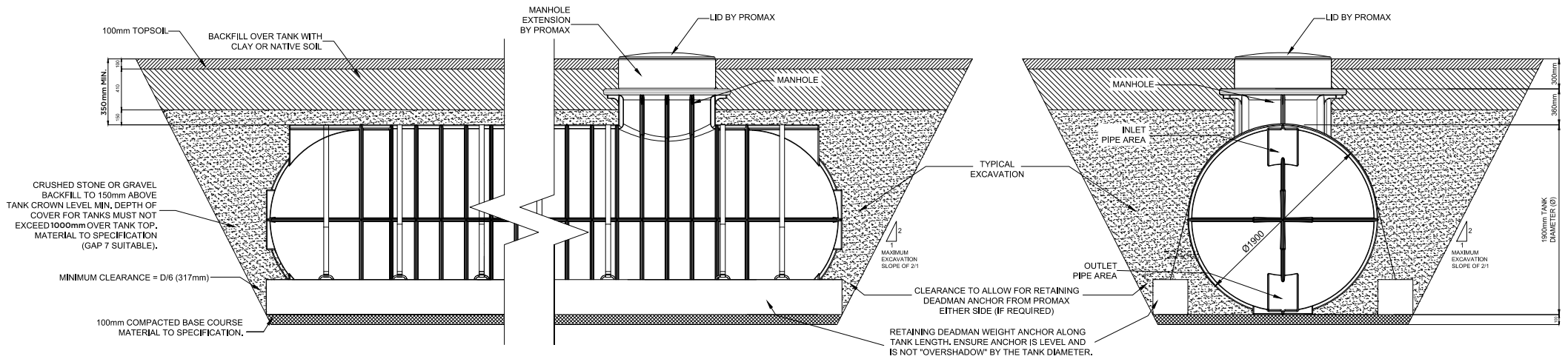
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1. SAWCUTS SHOULD BE PLACED AT 5m MAX CENTRES  
2. PLACE 25mm DEEP SAWCUTS WITHIN 24-48 HOURS AFTER POURING CONCRETE

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PROJECT:	750mm - 1200mm DIAMETER TANK INSTALLATION GUIDE		Phone (09) 407 3575 Free Phone 0800 776629	



# UNDER LAWN INSTALLATION GUIDE

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1.90m DIAMETER TANK - UNDER LAWN INSTALLATION

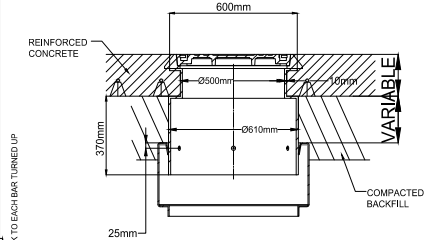
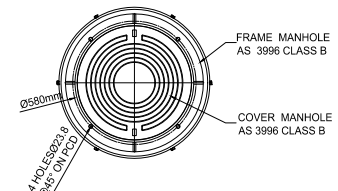
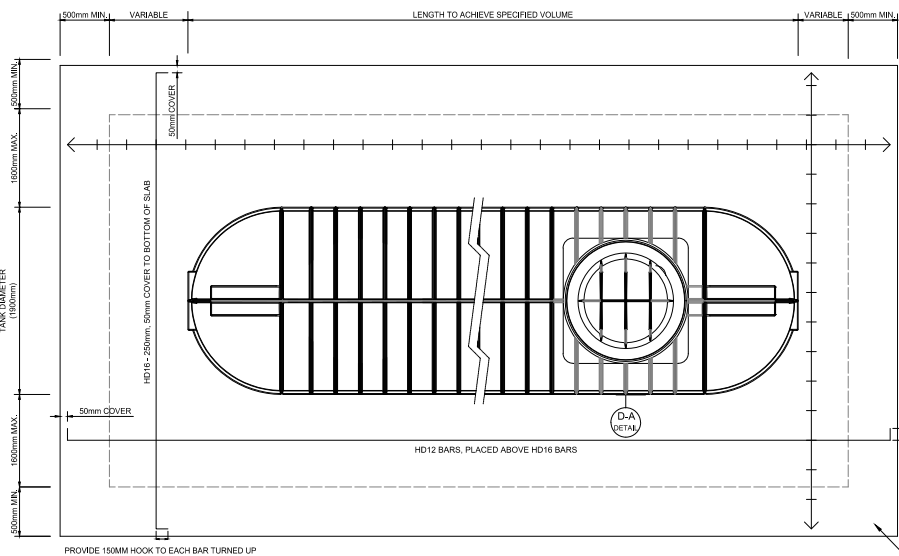
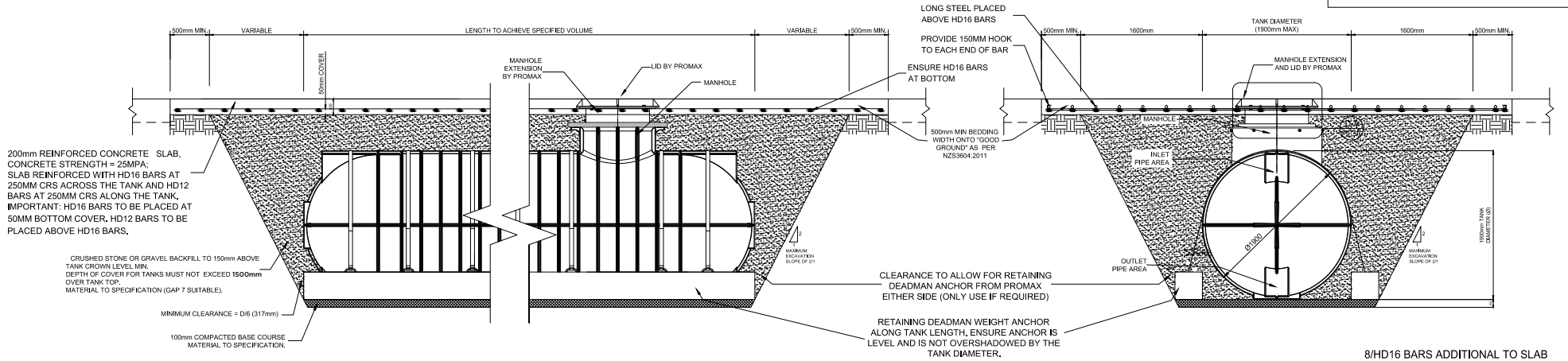
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DESIGNER		XXX	X	XX XXX XXXX
DETAIL:	UNDER LAWN INSTALLATION (ALL NEW ZEALAND LOCATIONS)	REMARKS	ISS	DATE
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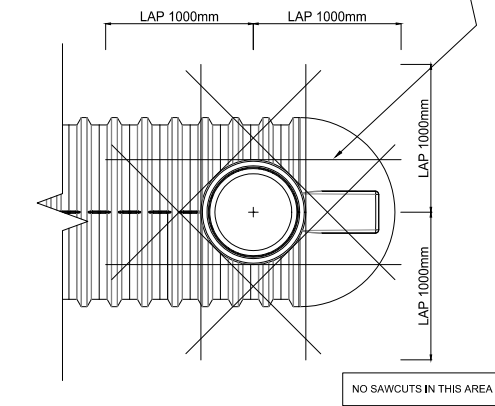
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DETAIL - A  
NTS

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DETAIL:			ISS	DATE
PROJECT:	1900mm DIAMETER TANK INSTALLATION GUIDE			

REMARKS

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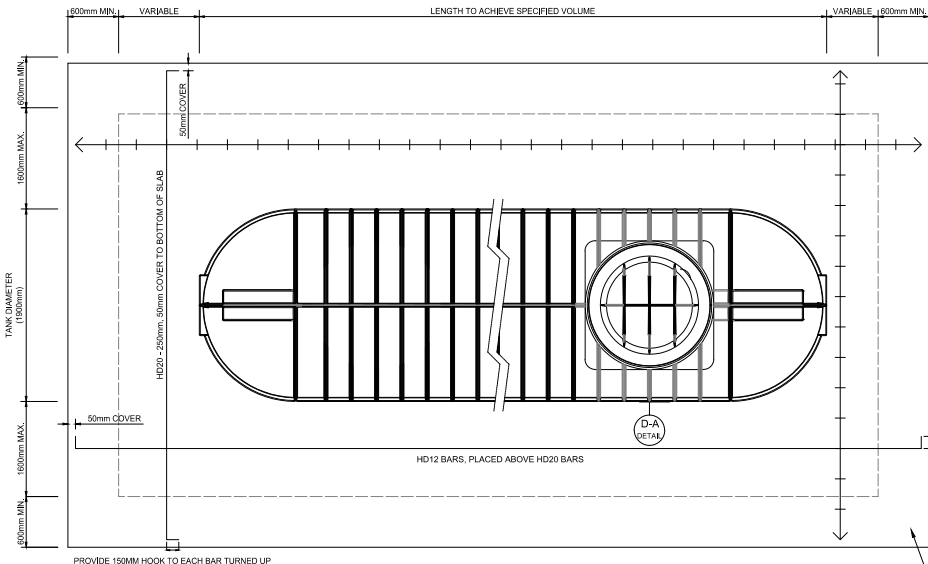
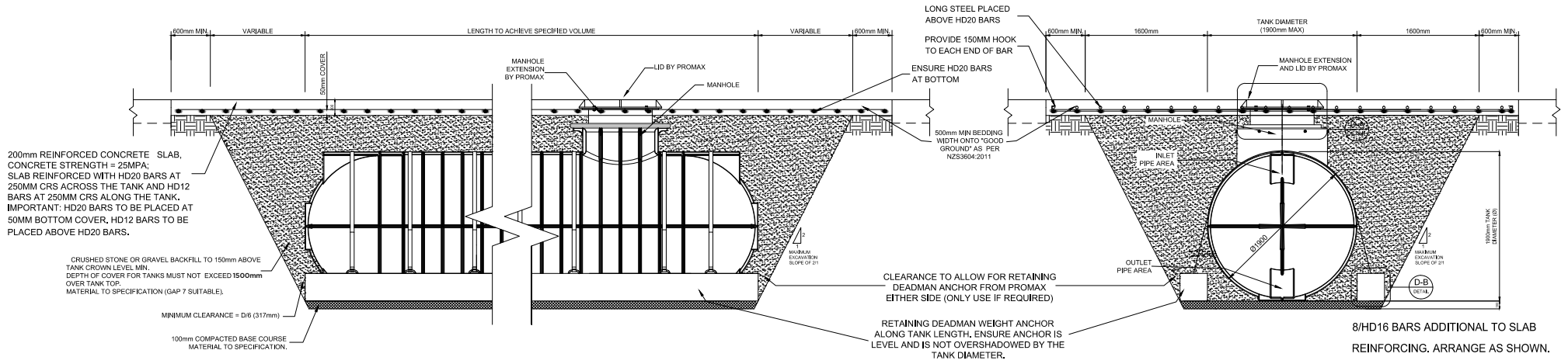
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# TANK INSTALLATION UNDER COMMERCIAL DRIVEWAY (VEHICLE NOT EXCEEDING 10000 KG)

NTS

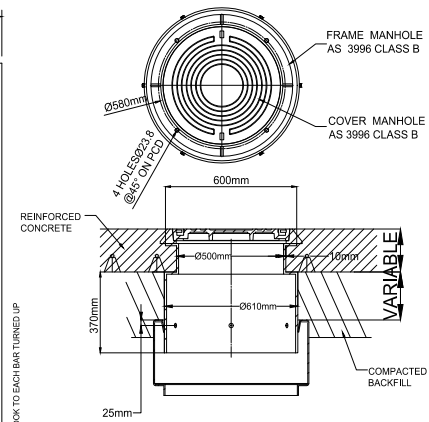
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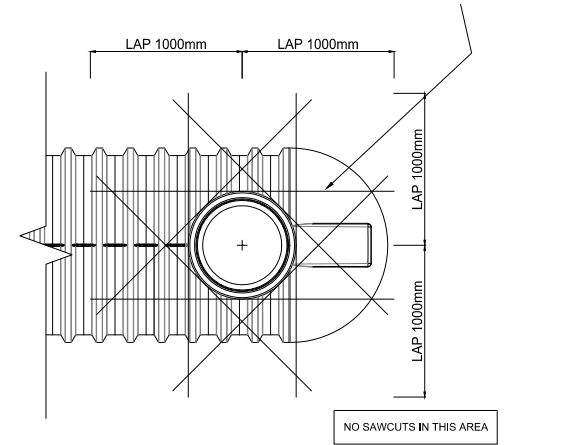
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**DETAIL - A  
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**SLAB STRENGTHENING AROUND MANHOLE OPENING**

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