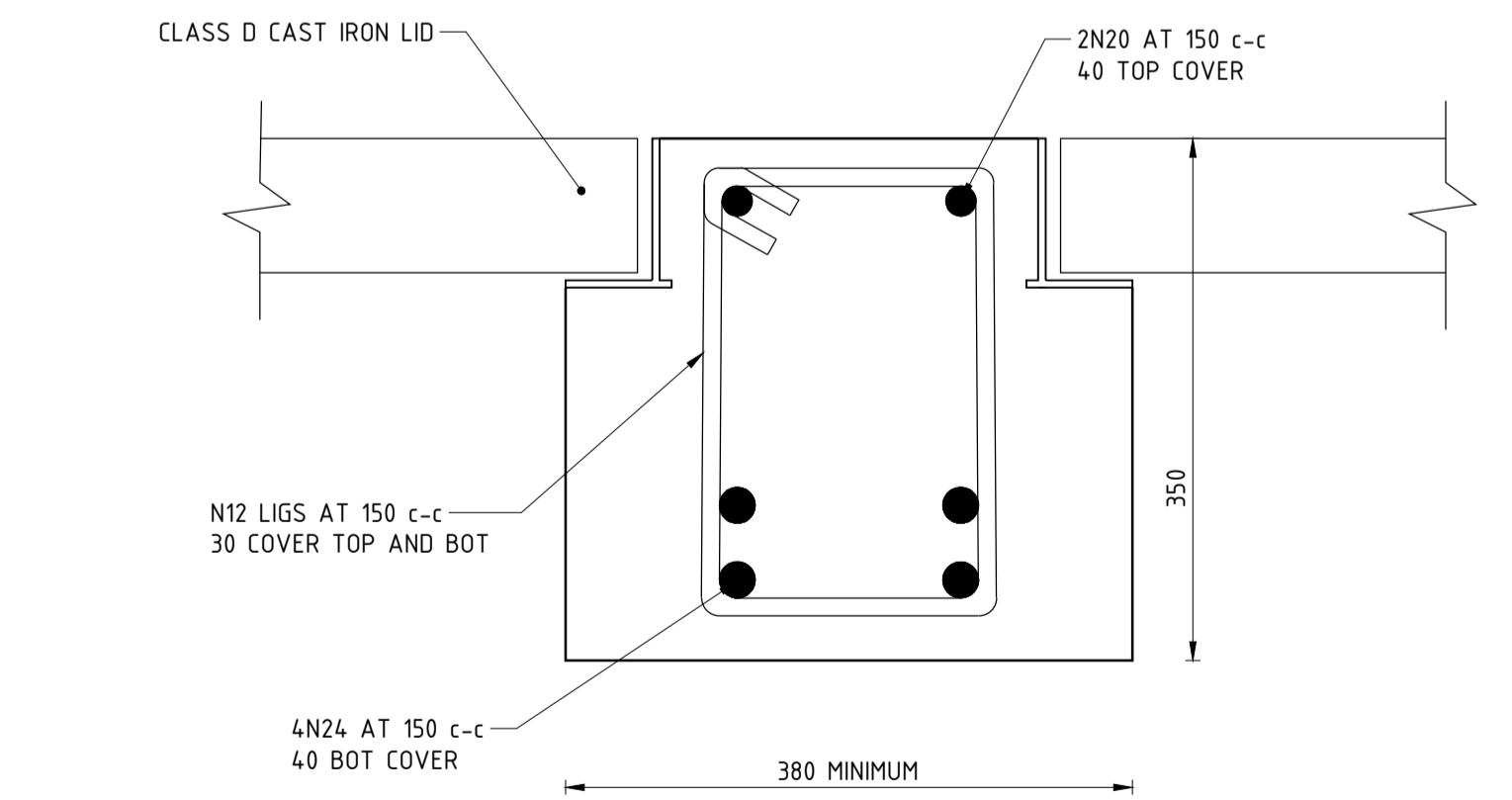
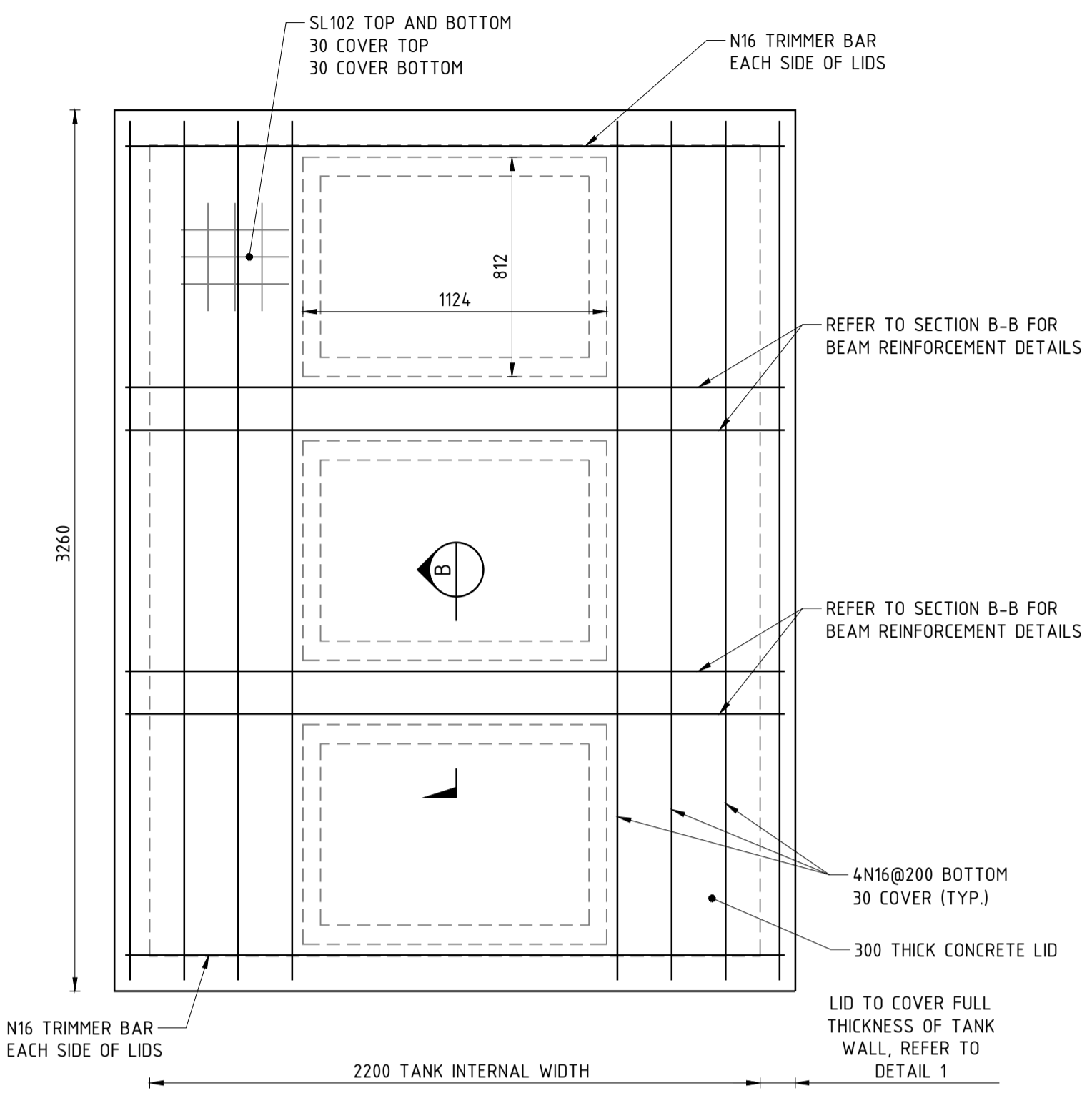


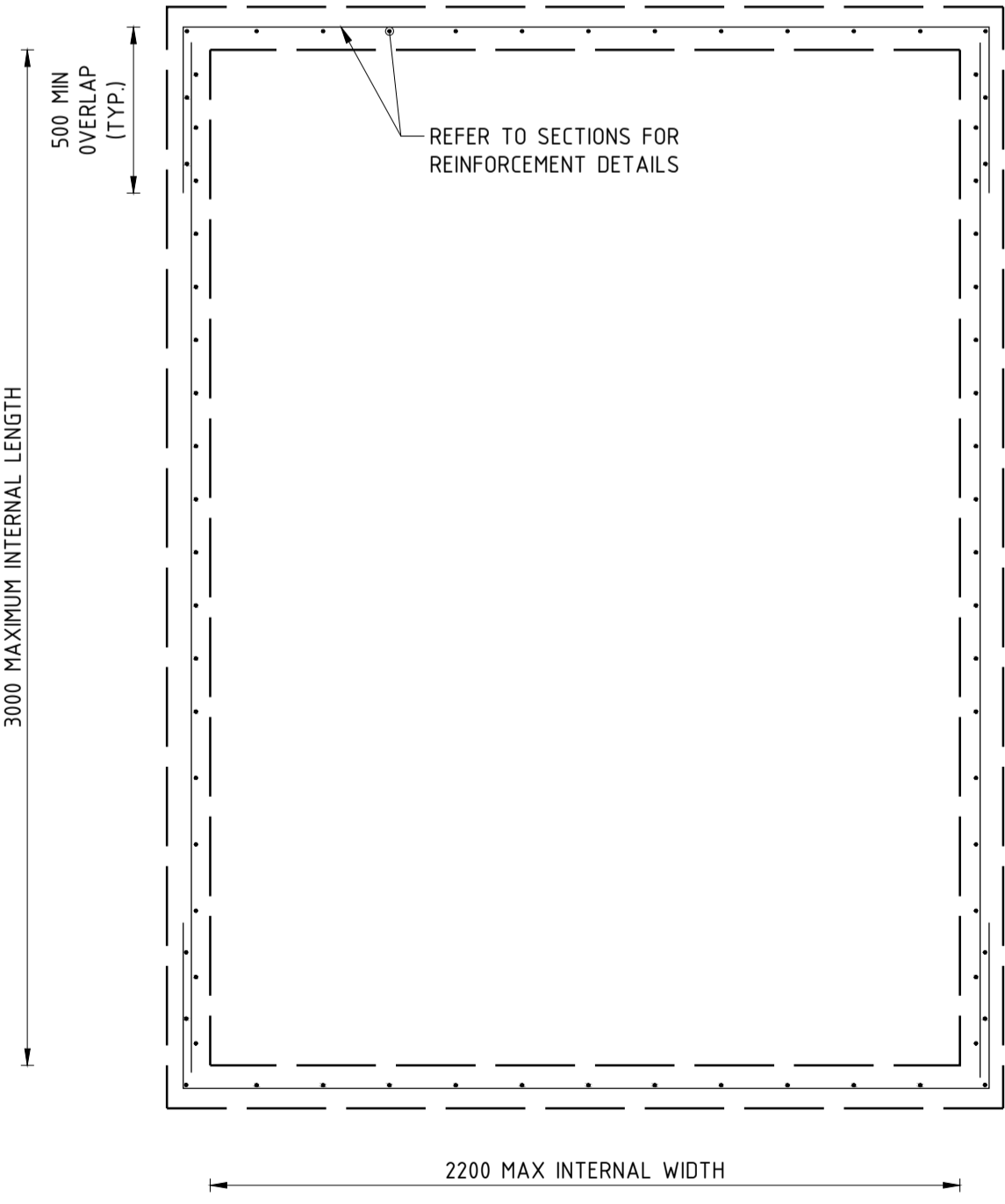
STORAGE TANK DESIGN
SCALE 1:20



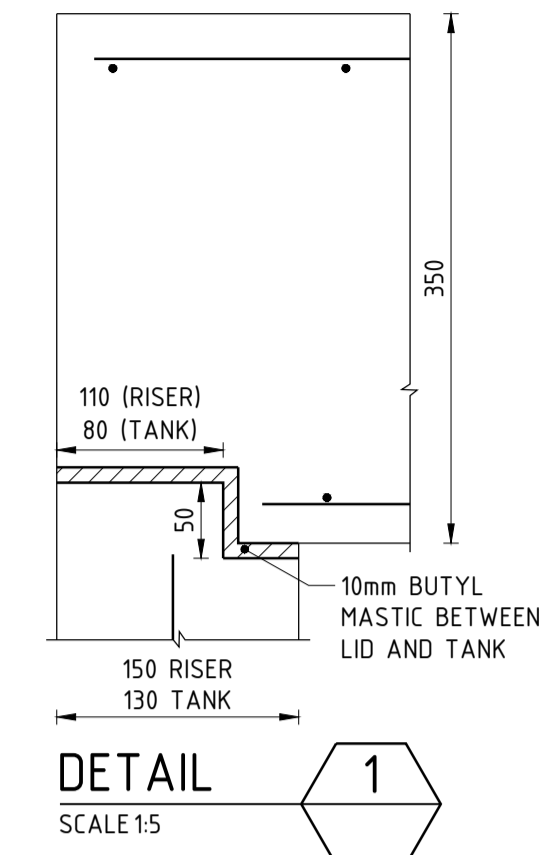
SECTION B
SCALE 1:5



TANK LID REINFORCEMENT DETAILS
SCALE 1:20



SECTION A
SCALE 1:20



DETAIL 1
SCALE 1:5

GENERAL NOTES:

- TANK DIMENSION NOTES
1. MAXIMUM TANK INTERNAL LENGTH WITH RISER = 3.0m
 2. TANK NOT SUITABLE TO BE INSTALLED BELOW THE MAXIMUM GROUNDWATER TABLE LEVEL (THE MAXIMUM GROUNDWATER TABLE SHALL BE BELOW THE BASE OF THE TANK).
 3. MAXIMUM TANK DEPTH WITH RISERS (GROUNDWATER TABLE BELOW BASE OF TANK) = 5.0m
 4. TANK SUITABLE TO BE INSTALLED AT GROUND LEVEL.
 - 4.1. TANK LID SHALL BE INSTALLED BEFORE TRAFFIC LOADING ADJACENT TO THE TANK.

- BACKFILL REQUIREMENTS
1. TANKS SHALL BE INSTALLED IN SANDS ONLY (CLASS A SITE).
 2. SAND BACKFILL SURROUNDING TANKS SHALL BE COMPACTED TO A MINIMUM 5 BLOW AND MAXIMUM 12 BLOWS WHEN TESTED WITH A PERTH SANDS FALLING WEIGHT PENETROMETER.
 3. TEMPORARY PROPS SHALL BE INSTALLED TO SUPPORT LONG SPAN TANK WALLS DURING COMPACTION, TO PREVENT INWARDS DEFLECTION FROM ADJACENT GROUND COMPACTION.
 - 3.1. THERE SHALL BE A MINIMUM OF 1 PROP INSTALLED AGAINST THE SHORT SPAN WALLS (2.2m SPAN) LOCATED AT MID-SPAN.
 - 3.2. THERE SHALL BE A MINIMUM OF 1 PROP INSTALLED AGAINST THE LONG SPAN WALLS (3.0m SPAN) INSTALLED AT MID-SPAN.

- DESIGN NOTES
1. ALL DESIGN CASES ALLOW FOR CLASS D WHEEL LOADS ABOVE AND ADJACENT TO TANK.
 2. CONCRETE LIDS SHALL BE INSTALLED PRIOR TO TRAFFIC LOADS ADJACENT TO TANKS.
 3. MINIMUM CONCRETE STRENGTH OF 40MPa.
 4. ALL WORKMANSHIP AND MATERIALS TO BE IN ACCORDANCE WITH AS3600 - CONCRETE STRUCTURES.
 5. REINFORCEMENT TYPE N DENOTES GRADE 500 DEFORMED BARS TO AS 4671.
 6. EFFECTIVE TANK VOLUME = 10KL

WEIGHT OF COMPONENTS

1. TANK (3m LENGTH)	12.0 TONNES
2. LID (3m LENGTH)	4.5 TONNES
3. RISER (0.5m HIGH)	4.5 TONNES
4. RISER (1.0m HIGH)	9.0 TONNES

- CONCRETE
1. ALL MATERIALS AND WORKMANSHIP TO COMPLY WITH AS3600 - CONCRETE STRUCTURES INCLUDING AMENDMENTS AND SPECIFICATIONS AND ANY OTHER CODES QUOTED THEREIN.
 2. DO NOT USE BLENDED CEMENTS. USE ONLY TYPE GP PORTLAND CEMENT UNLESS NOTED OTHERWISE WITH PRIOR APPROVAL OF THE ENGINEER. MINIMUM CEMENT CONTENT OF CONCRETE 320kg/m³ (TYPE GP) W/C RATIO 0.66 UNLESS NOTED OTHERWISE.
 3. CONCRETE STRENGTHS TO BE AS PER FOLLOWING TABLE:

ELEMENT	CONCRETE GRADE	MAX. AGGREGATE SIZE (MM)	MAX. SLUMP (MM)
INSITU FOOTINGS, SLABS AND WALLS	N40	20	80

4. MINIMUM STRENGTH AND CURING REQUIREMENTS FOR CONCRETE:
- | CONCRETE GRADE | MINIMUM INITIAL CONTINUOUS CURING TIME REQUIREMENT | MINIMUM AVERAGE COMPRESSIVE STRENGTH AT TIME OF STRIPPING FORMWORK OR MOULDS |
|----------------|--|--|
| N40 | 7 DAYS | 24MPa |
5. ALL CONCRETE SHALL BE VIBRATED USING AN IMMERSION TYPE VIBRATOR.
 6. THE MAXIMUM FREE FALL OF CONCRETE DURING PLACEMENT SHALL NOT EXCEED 1.5m. BEYOND THIS APPROPRIATE CHUTES SHALL BE USED.
 7. POUR SLABS MONOLITHICALLY UNLESS SHOWN ON DRAWINGS UNLESS APPROVED OTHERWISE BY THE ENGINEER.
 8. WHERE CONCRETE IS DAMAGED AND/OR HONEY COMBED NOTIFY THE ENGINEER FOR REPAIR REQUIREMENTS, OR REMOVAL.

- REINFORCEMENT
1. ALL REINFORCEMENT SHALL COMPLY WITH AS/NZS.4671 - STEEL REINFORCING MATERIALS.
 2. ALL REINFORCEMENT TO BE FREE OF SCALE, RUST AND OTHER FOREIGN MATTER.
 3. ALL FABRIC SHALL BE SUPPLIED IN FLAT SHEETS.
 4. THE CONTRACTOR SHALL SUPPLY CERTIFICATION BY AN AUSTRALIAN BASED NATA REGISTERED COMPANY TO CERTIFY THAT REINFORCING STEEL HAS BEEN MANUFACTURED IN ACCORDANCE WITH AS/NZS.4671. REINFORCEMENT SHALL CONFORM TO:
 - SL/RL - 500MPa MESH TO AS/NZS.4671
 - N - 500MPa REINFORCING BARS TO AS/NZS.4671
 5. SPLICE REINFORCEMENT IN ACCORDANCE WITH AS.3600 OR THE FOLLOWING:
 - a. DEFORMED BARS: LAP LENGTH NO LESS THAN 40x BAR DIAMETER.
 - b. FABRIC: LAP AT LEAST THE SPACING OF THE TRANSVERSE WIRES. (I.E. LAST TWO TRANSVERSE WIRES ON EACH SHEET).
 - * WHEN LAPPING BARS OF DIFFERENT SIZE THE LAP LENGTH FOR THE SMALLER BAR SHALL APPLY.
 6. SPLICES IN REINFORCEMENT SHALL BE PROVIDED IN THOSE POSITIONS SHOWN ON THE DRAWINGS. IN SLABS AND BEAM WITH LONG CONTINUOUS BARS, SPLICES SHALL BE STAGGERED IN ADJACENT BARS BY 48x DIAMETERS MINIMUM.
 7. COG LENGTHS SHALL BE 300mm.
 8. SUPPORT AND TIE ALL REINFORCEMENT TO MAINTAIN CORRECT COVER ON APPROVED PLASTIC OR PLASTIC TIPPED STEEL CHAIRS. WHILE PLACING CONCRETE, PROVIDE CHAIR TRAYS FOR FOOTING REINFORCEMENT.
 9. UNLESS SHOWN ON DRAWINGS, DISPLACE REINFORCEMENT PASSING THROUGH SMALL PENETRATIONS EITHER SIDE OF THE OPENING WITH APPROPRIATE COVER AND LAP LENGTH.
 10. REINFORCEMENT CLASHES TO BE REPORTED TO ENGINEER FOR DIRECTION.
 11. EXPLANATION OF NOTATION FOR REINFORCING USED ON DRAWINGS:
 - EXAMPLE; 5/N24@300/c/c UT
 - a. 5 NUMBER OF REINFORCING BARS
 - b. N24 BAR GRADE AND DIAMETER
 - c. 300 DISTANCE BETWEEN BAR CENTRES
 - d. UT LAYER NOTATION USED;
 - UT : UPPER TOP BARS
 - LT : LOWER TOP BARS
 - UB : UPPER BOTTOM BARS
 - LB : LOWER BOTTOM BARS
 12. BEFORE PLACING CONCRETE THE CONTRACTOR SHALL VERIFY REQUIREMENT FOR ALL RELEVANT SERVICES, EMBEDDED ITEMS, BOLTS, HOLES ETC.
 13. NO HOLES, CHASES OR EMBEDMENTS OTHER THAN THOSE SHOWN ON THE DRAWINGS SHALL BE MADE IN THE CONCRETE WITHOUT THE APPROVAL OF THE ENGINEER.

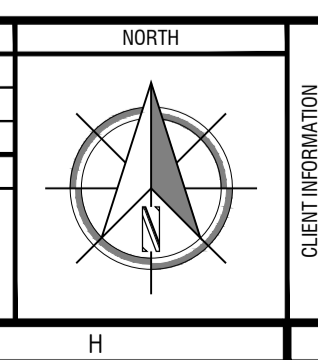
GREASE ARRESTOR INSTALLATION PREAPPROVAL BY WATER CORPORATION IS REQUIRED AT THE TRADE WASTE PERMIT APPLICATION STAGE.

FOR APPROVAL ONLY

REV	DATE	ISSUE / REVISION DESCRIPTION	DRN	CHK	APP
A	28/08/2018	ISSUED FOR APPROVAL	NJ	MR	DW
B	10/01/2020	ISSUED FOR APPROVAL	NJ	BD	AR

DRAWING NUMBER	DRAWING TITLE / DESCRIPTION

TITLE	NAME	DATE
DRAFTER	ZC	01/03/19
DESIGNER	HR	01/03/19
ENG. CHECK	NF	14/03/19



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NAVAL BASE CONCRETE
10,000 L GREASE TRAP DESIGN

STRUCTURAL DETAILS

AUTHORISED BY:
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Nima Foomani
BEng MEng MIEAust CPENG NER

CLIENT REF: ... SCALE: 1:5, 1:20 @A1

DRAWING No: **18150.02-S-100 B**

SHEET SIZE: A1