

LOT 13 & 14 DP786575, LOT 2 DP1243702 - ICETON PLACE, YASS

71 LOT RURAL RESIDENTIAL SUBDIVISION

NON-POTABLE WATER SUPPLY CONCEPT PLANS

FOR DEVELOPMENT APPLICATION

CLIENT: ICETON INVESTMENTS PTY LTD
DEVELOPER: ICETON INVESTMENTS PTY LTD
DA: TBC
LGA: YASS VALLEY COUNCIL

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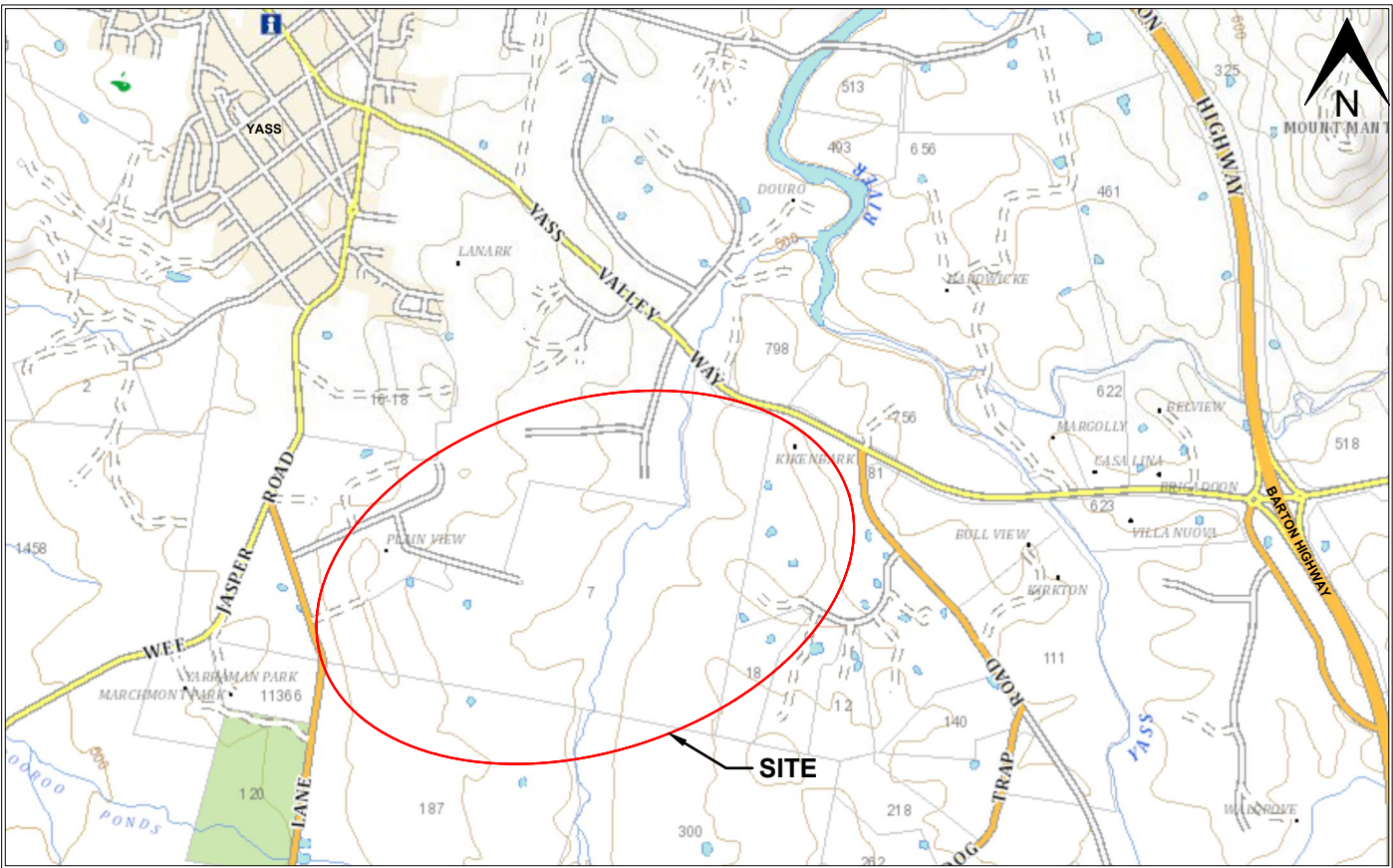
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DRAWING SCHEDULE

| | |
|-------------|-------------------------------------|
| 2117-P00TTL | TITLE SHEET & DRAWING SCHEDULE |
| 2117-P01GA | GENERAL ARRANGEMENT |
| 2117-P02NTS | NOTES & LEGEND |
| 2117-P80WAT | WATER SUPPLY CONCEPT PLAN - SHEET 1 |
| 2117-P81WAT | WATER SUPPLY CONCEPT PLAN - SHEET 2 |
| 2117-P82WAT | HYDRAULIC ANALYSIS RESULTS |
| 2117-P85WAT | BORE GENERAL ARRANGEMENT |
| 2117-P86WAT | HEADER TANK GENERAL ARRANGEMENT |
| 2117-P87WAT | ON LOT WATER TANK - TYPICAL DETAILS |



LOCALITY PLAN
N.T.S



NOTES:
1. REFER TO DWG 0000-02NTS FOR NOTES & LEGEND.

| | | | | | |
|-----|---------------|----------|-------|---------|------------|
| D | | | | | |
| C | | | | | |
| B | | | | | |
| A | | | | | |
| - | INITIAL ISSUE | VAO | WP | VAO | 28/10/2021 |
| No. | REVISION | DESIGNED | DRAWN | CHECKED | APPROVED |

Date: Thursday, 28 October 2021 3:43:44 PM
User: Priddle
File: H:\2021\2117_Iceton\PI\ass099_2117Sync061_dwgSync02117-P01GA.dwg

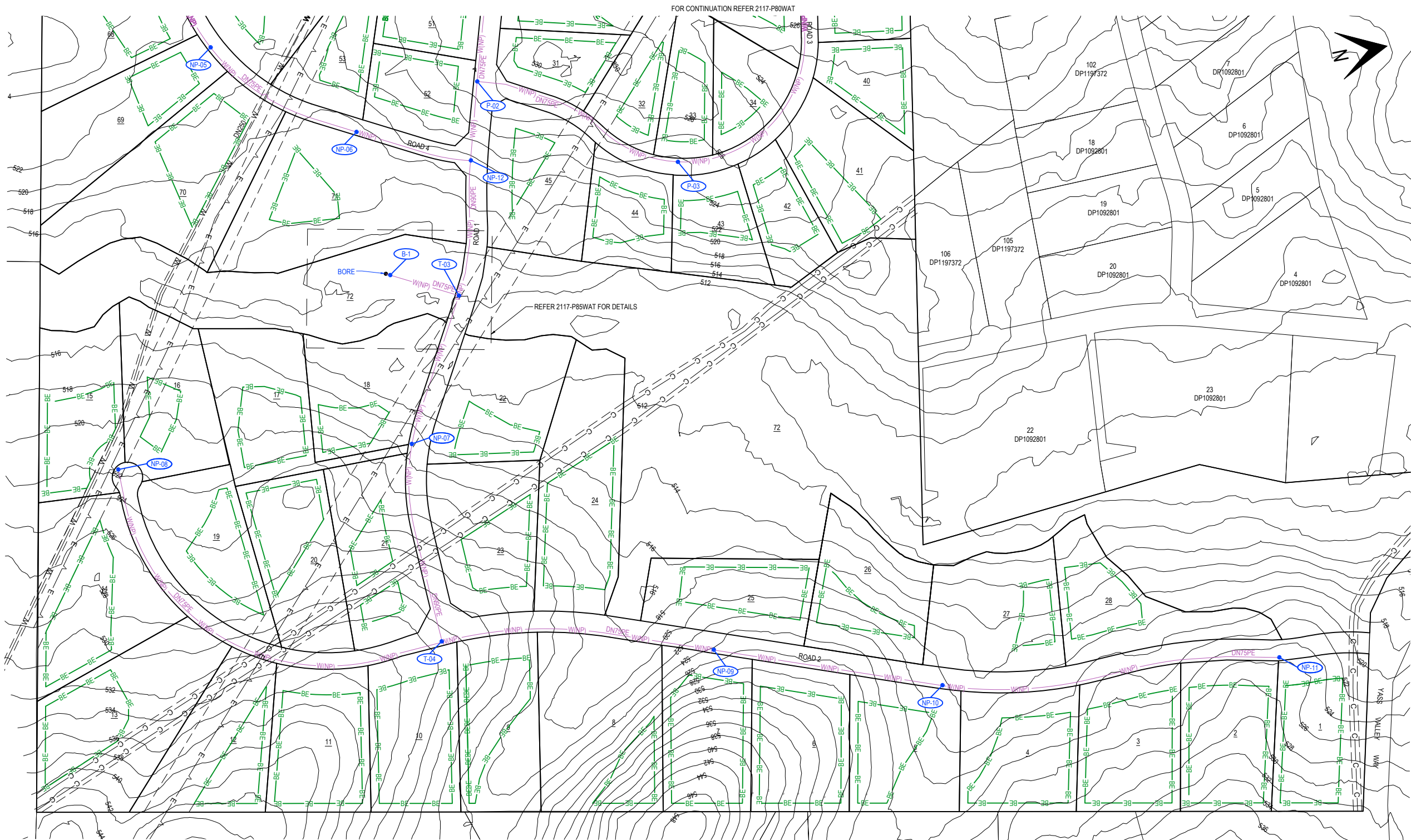
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Survey source: GENIUM
Survey datum: XXXXXXXX
Date: 26/8/2021
Coordinate system: XXXXXXXX



| | |
|----------------|---|
| CLIENT | ICETON INVESTMENTS PTY LTD |
| PROJECT | 7 ICETON PL, YASS - RURAL RESIDENTIAL DEVELOPMENT |
| TITLE | GENERAL ARRANGEMENT |
| DRAWING NUMBER | 2117-P01GA |
| AMENDMENT: | |



- NOTES:
1. REFER TO DWG 2117-P02NTS FOR NOTES & LEGEND.
 2. REFER TO DWG 2117-P82WAT FOR HYDRAULIC ANALYSIS.
 3. REFER TO DWG 2117-P87WAT FOR TYPICAL ON LOT WATER SERVICE/TANK DETAILS.

- LEGEND:
- | | |
|--|--|
| | STAGE BOUNDARY |
| | NODE |
| | PROPOSED WATER MAIN - DIAMETER |
| | PROPOSED NON-POTABLE WATER MAIN - DIAMETER |
| | STOP VALVE, AIR VALVE, HYDRANT |
| | EXISTING WATER RISING MAIN - DIAMETER |
| | EXISTING WATER MAIN - DIAMETER |
| | CONTOUR (INTERVAL AS SHOWN) |

| | | | | | | |
|-----|-----------------------------------|----------|-------|---------|----------|------------|
| D | | | | | | |
| C | | | | | | |
| B | | | | | | |
| A | POTABLE REPLACED WITH NON POTABLE | VAO | WP | VAO | VAO | 17/11/2021 |
| - | INITIAL ISSUE | VAO | WP | VAO | VAO | 28/10/2021 |
| No. | REVISION | DESIGNED | DRAWN | CHECKED | APPROVED | DATE |

Date: Wednesday, 17 November 2021 9:44:12 AM
User: Priddle
File: H:\2021\2117_Iceton\Yass\099_2117Sync\061_dwg\Sync\2117-P80WAT.dwg

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| | |
|----------------|---|
| CLIENT | ICETON INVESTMENTS PTY LTD |
| PROJECT | 7 ICETON PL, YASS - RURAL RESIDENTIAL DEVELOPMENT |
| TITLE | WATER SUPPLY CONCEPT PLAN - SHEET 2 |
| DRAWING NUMBER | 2117-P81WAT |
| AMENDMENT: | A |

| PID | | | | | | | | | | | | |
|--------------------------------------|------------|---------------|-------------|----------------------|---------------------|----------------|-------------------|------------------|------------|----------------|-------------------------|-----|
| NON-POTABLE - 0.075 L/s/ET | | | | | | | | | | | | |
| Label | Is Active? | Elevation (m) | Zone | Demand (L/s) | Hydraulic Grade (m) | Pressure (kPa) | Pressure Head (m) | | | | | |
| NP-01 | TRUE | 553.0 | Non Potable | 0.15 | 554.14 | 11.10 | 1.14 | MIN | | | | |
| NP-02 | TRUE | 542.0 | Non Potable | 0.23 | 551.19 | 90.00 | 9.19 | | | | | |
| NP-03 | TRUE | 532.0 | Non Potable | 0.08 | 548.45 | 161.00 | 16.45 | | | | | |
| NP-04 | TRUE | 529.0 | Non Potable | 0.30 | 547.61 | 182.10 | 18.61 | | | | | |
| NP-05 | TRUE | 521.0 | Non Potable | 0.30 | 545.75 | 242.30 | 24.75 | | | | | |
| NP-06 | TRUE | 518.0 | Non Potable | 0.15 | 544.32 | 257.60 | 26.32 | | | | | |
| NP-07 | TRUE | 517.0 | Non Potable | 0.23 | 542.33 | 247.90 | 25.33 | | | | | |
| NP-08 | TRUE | 522.0 | Non Potable | 0.37 | 541.49 | 190.70 | 19.49 | | | | | |
| NP-09 | TRUE | 524.0 | Non Potable | 0.37 | 540.99 | 166.30 | 16.99 | | | | | |
| NP-10 | TRUE | 518.0 | Non Potable | 0.30 | 540.76 | 222.70 | 22.76 | | | | | |
| NP-11 | TRUE | 525.5 | Non Potable | 0.30 | 540.67 | 148.40 | 15.17 | | | | | |
| NP-12 | TRUE | 519.0 | Non Potable | 0.00 | 543.58 | 240.60 | 24.58 | | | | | |
| P-01 | TRUE | 531.0 | Non Potable | 0.37 | 545.16 | 138.60 | 14.16 | | | | | |
| P-02 | TRUE | 527.0 | Non Potable | 0.37 | 543.63 | 162.70 | 16.63 | | | | | |
| P-03 | TRUE | 523.5 | Non Potable | 0.53 | 543.09 | 191.70 | 19.59 | | | | | |
| P-04 | TRUE | 531.0 | Non Potable | 0.45 | 542.93 | 116.80 | 11.93 | | | | | |
| T-01 | TRUE | 539.0 | Non Potable | 0.08 | 551.21 | 119.50 | 12.21 | | | | | |
| T-02 | TRUE | 537.0 | Non Potable | 0.15 | 550.42 | 131.40 | 13.42 | | | | | |
| T-03 | TRUE | 512.0 | Non Potable | 0.00 | 543.02 | 303.60 | 31.02 | MAX | | | | |
| T-04 | TRUE | 531.0 | Non Potable | 0.53 | 541.67 | 104.40 | 10.67 | | | | | |
| | | | | | | | | | | | | |
| CONNECTIONS TO EXISTING/STARTING HGL | | | | | | | | | | | | |
| Label | Is Active? | Elevation (m) | Zone | Flow (Out net) (L/s) | Hydraulic Grade (m) | | | | | | | |
| R1-P | TRUE | 538.00 | Potable | (N/A) | (N/A) | | | | | | | |
| R2-NP | TRUE | 554.75 | Non Potable | 5.25 | 554.75 | | | | | | | |
| | | | | | | | | | | | | |
| PIPES | | | | | | | | | | | | |
| Label | Is Active? | Length (m) | Zone | Start Node | Stop Node | Diameter (mm) | Material | Hazen-Williams C | Flow (L/s) | Velocity (m/s) | Headloss Gradient (m/m) | |
| P-194 | TRUE | 241 | Non Potable | P-01 | P-02 | 61 | PE100 | 155 | 1.80 | 0.60 | 0.006 | MIN |
| P-195 | TRUE | 262 | Non Potable | P-02 | P-03 | 61 | PE100 | 155 | 0.98 | 0.30 | 0.002 | |
| P-196 | TRUE | 319 | Non Potable | P-03 | P-04 | 61 | PE100 | 155 | 0.45 | 0.20 | 0.000 | |
| P-198 | TRUE | 159 | Non Potable | NP-01 | T-01 | 73 | PE100 | 155 | 5.10 | 1.20 | 0.018 | |
| P-199 | TRUE | 165 | Non Potable | T-01 | NP-02 | 61 | PE100 | 155 | 0.23 | 0.10 | 0.000 | |
| P-200 | TRUE | 48 | Non Potable | T-01 | T-02 | 73 | PE100 | 155 | 4.80 | 1.10 | 0.016 | |
| P-201 | TRUE | 205 | Non Potable | T-02 | NP-03 | 61 | PE100 | 155 | 2.25 | 0.80 | 0.010 | |
| P-202 | TRUE | 258 | Non Potable | T-02 | NP-04 | 61 | PE100 | 155 | 2.40 | 0.80 | 0.011 | |
| P-203 | TRUE | 218 | Non Potable | NP-04 | NP-05 | 61 | PE100 | 155 | 2.10 | 0.70 | 0.009 | |
| P-204 | TRUE | 224 | Non Potable | NP-05 | NP-06 | 61 | PE100 | 155 | 1.80 | 0.60 | 0.006 | |
| P-205(1) | TRUE | 135 | Non Potable | NP-06 | NP-12 | 61 | PE100 | 155 | 1.65 | 0.60 | 0.005 | |
| P-205(2) | TRUE | 158 | Non Potable | NP-12 | T-03 | 73 | PE100 | 155 | 2.10 | 0.50 | 0.004 | |
| P-206 | TRUE | 195 | Non Potable | T-03 | NP-07 | 73 | PE100 | 155 | 2.10 | 0.50 | 0.004 | |
| P-207 | TRUE | 231 | Non Potable | NP-07 | T-04 | 73 | PE100 | 155 | 1.88 | 0.40 | 0.003 | |
| P-208 | TRUE | 512 | Non Potable | T-04 | NP-08 | 61 | PE100 | 155 | 0.37 | 0.10 | 0.000 | |
| P-209 | TRUE | 329 | Non Potable | T-04 | NP-09 | 61 | PE100 | 155 | 0.98 | 0.30 | 0.002 | |
| P-210 | TRUE | 278 | Non Potable | NP-09 | NP-10 | 61 | PE100 | 155 | 0.60 | 0.20 | 0.001 | |
| P-211 | TRUE | 401 | Non Potable | NP-10 | NP-11 | 61 | PE100 | 155 | 0.30 | 0.10 | 0.000 | MIN |
| P-212 | TRUE | 32 | Non Potable | R2-NP | NP-01 | 73 | PE100 | 155 | 5.25 | 1.30 | 0.019 | MAX |
| P-213 | TRUE | 96 | Non Potable | P-02 | NP-12 | 61 | PE100 | 155 | 0.45 | 0.20 | 0.000 | |
| P-214 | TRUE | 364 | Non Potable | P-01 | NP-03 | 61 | PE100 | 155 | -2.17 | 0.70 | 0.009 | |

NOTES:

1.

REFERENCE DOCUMENTS:
D11 WATER RETICULATION, AUSSPEC, YASS VALLEY COUNCIL
WSA-03-2011.3.1 WATER CODE OF AUSTRALIA.
WATER DIRECTORATE – MAY 2009.
2.

POTABLE MAINS ARE DN100 UNLESS NOTED OTHERWISE.
PVC (O or M) - HAZEN WILLIAMS FRICTION COEFFICIENT = 150.
NON POTABLE MAINS ARE DIAMETER AS NOTED.
PE100 SDR11 – HAZEN WILLIAMS FRICTION COEFFICIENT = 155.
3.

RESERVOIR PRESSURES:
P.I.D. PRESSURE AT CONNECTION POINT R1-P DETERMINED
FROM EXISTING O'CONNELL TOWN RESERVOIR – DETAILS PROVIDED BY YVC).
T.W.L = 578.62m AHD
B.W.L = 576.80m AHD (@ 80% CAPACITY)
STARTING WATER ELEVATION = 574.07m (50% CAPACITY – CALCULATED)
LESS x m MAIN WITH HEAD LOSS OF 3m/km

EG. STARTING WATER ELEVATION @ R1-P = 574.07m - 3.9 x 3
= 562.37m

HEADLOSS UNDER LOW FLOW/STATIC SCENARIO 0.25m/km
4.

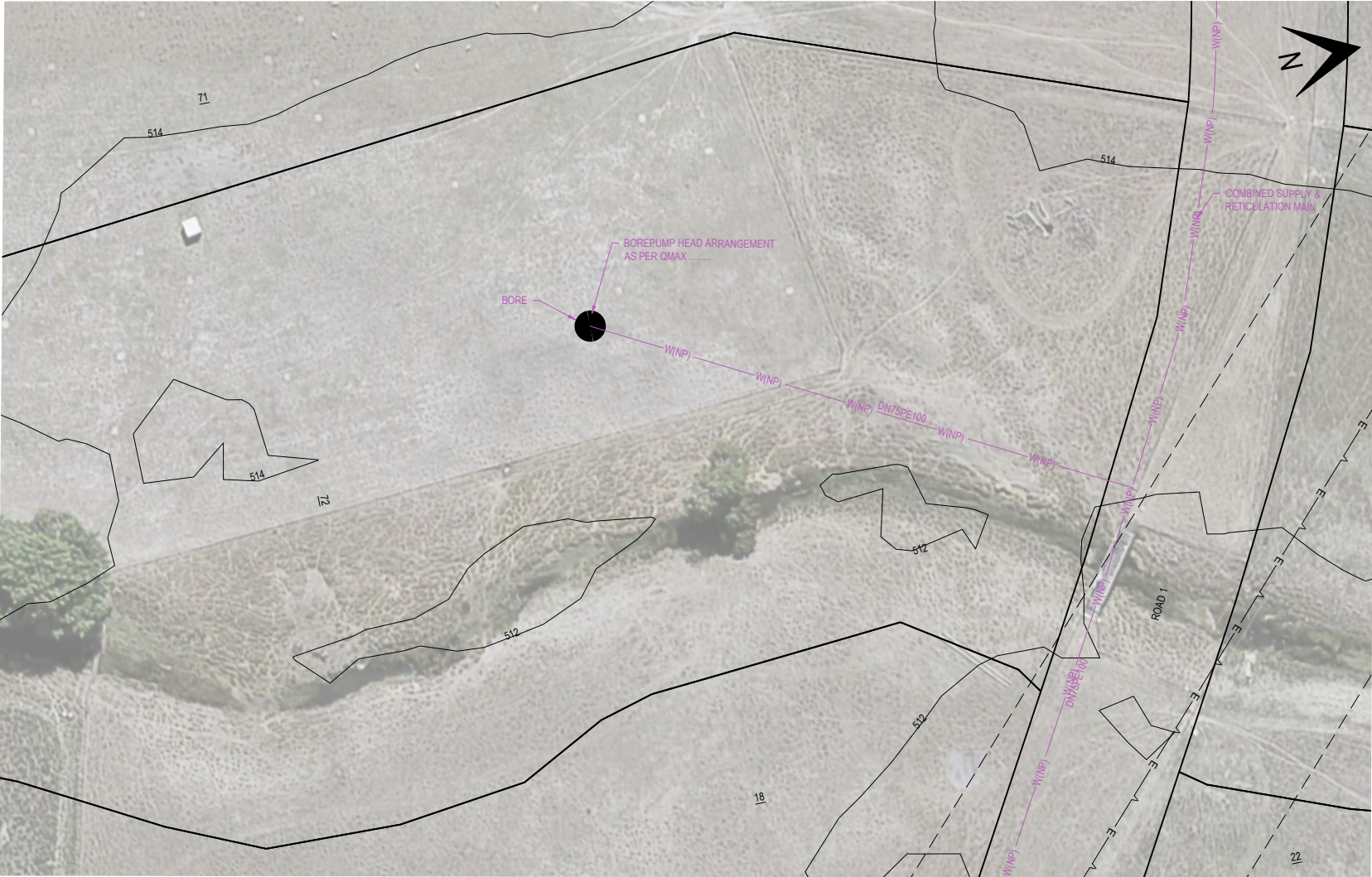
POTABLE
MINIMUM (DESIRABLE) PRESSURE: 20m HEAD
MINIMUM (ABSOLUTE) PRESSURE: 15m HEAD
MAXIMUM PRESSURE PERMISSIBLE: 60m HEAD
NON-POTABLE
MINIMUM PRESSURE: 5m HEAD @ MAIN IN ROAD (BREAK TANKS PROPOSED FOR EACH LOT)
MAXIMUM PRESSURE PERMISSIBLE: 60m HEAD
5.

DEMANDS:
POTABLE: P.I.D. 0.15 L/s/ET, YVC AUSSPEC
NON-POTABLE: P.I.D. 0.075L/s/ET (GIVEN TANKS ARE PROPOSED FOR EACH LOT)
6.

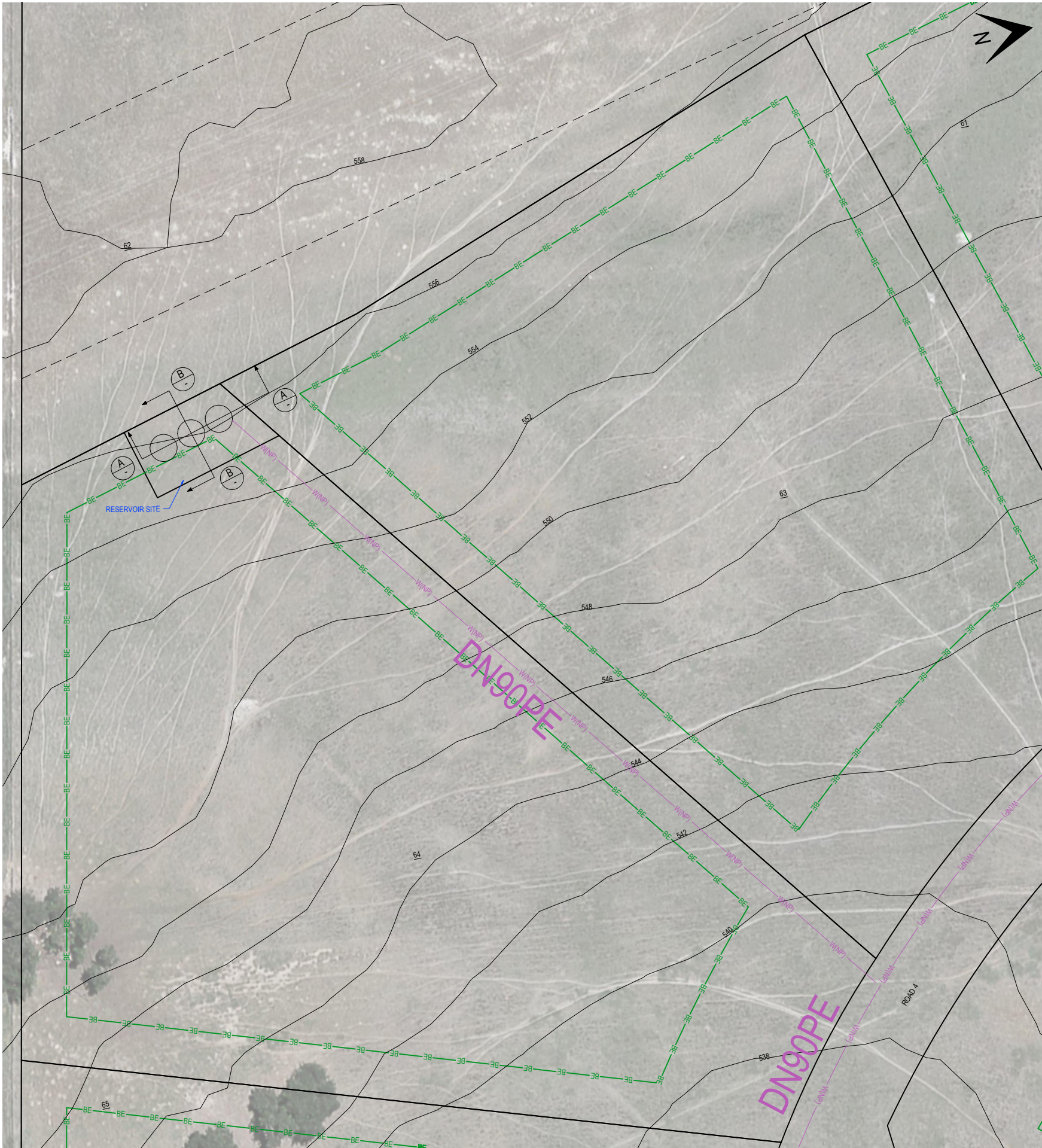
NETWORK ANALYSED UNDER STEADY STATE CONDITIONS USING WATERCAD.
8.

FLOW VELOCITIES:
MAXIMUM 2.0 m/s (PID)
MAXIMUM 4.0 m/s (PID+FIRE)
9.

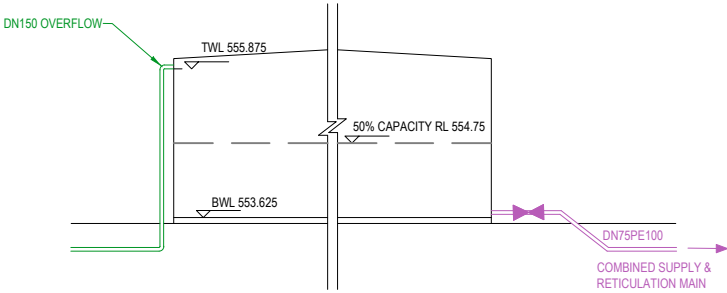
FIRE FLOW MODELLED:
+25 l/s @ ONE FIRE FRONT ON POTABLE NETWORK
FIRE SCENARIO'S MODELLED @ P-04
FIRE FLOW NOT MODELLED ON NON-POTABLE SYSTEM.



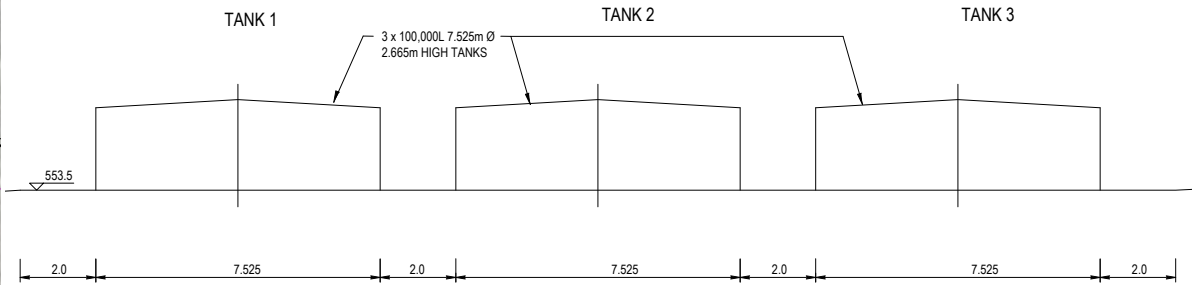
- NOTES:
- REFER TO DWG 2117-P02NTS FOR NOTES & LEGEND.
 - REFERENCE DOCUMENTS:
D11 WATER RETICULATION, AUSSPEC, YASS VALLEY COUNCIL
WSA-03-2011.3.1 WATER CODE OF AUSTRALIA
WATER DIRECTORATE – MAY 2009.
 - DEMAND PARAMETERS
PEAK DAY DEMAND (PDD) = 70 LOT X 4KL/D/LOT
= 280KL
 - PEAK DAY PARAMETERS
PEAK DAY DEMAND (PDD) = 280KL
PUMP TIME = 22 HOURS/DAY
PUMP FLOW RATE = 280KL/22HR
= 3.54L/S
 - BORE TEST PARAMETERS
REFER SUMMARY OF RESULTS OF A 40-HOUR DRAWDOWN & RECOVERY TEST –
PROPOSED ICETON SUBDIVISION, YASS NSW (HYDROLEX REPORT HG21.9.2CA) –
DRAFT 29 SEPTEMBER 2021.
RECOMMENDED FLOW RATE = 2.0L/S
RECOMMENDED PUMP TIME = 12 HOURS/DAY
RECOMMENDED DAILY VOLUME = 2.0L/S X 12 HOURS
= 86.4KL/D
 - BORE PUMP
BORE HEAD RL = RL 513
TANK TWL = RL 556
BORE PUMP SET LEVEL = RL 433 (80M BELOW BORE HEAD RL)
STATIC HEAD = 123M
FLOW RATE = 2.0L/S
 - RISING MAIN
SELECT DN75 PE100 (SDR11)
FRICTION HEAD LOSS @ 2.0L/S = 0.9M/100M
FLOW VELOCITY = 0.7M/S <1.0M/S
TOTAL FRICTION HEAD LOSS = 1300M X 0.9/100
= 11.7M
FITTINGS FRICTION HEAD LOSS = 0.25M (ALLOWANCE)
 - SYSTEM REQUIREMENTS
TOTAL PUMP HEAD REQUIRED = 123 + 11.7 + 0.25
= 134.95M SAY 135M
PUMP DUTY 2.0L/S @ 135M
 - PUMP SELECTION
PUMP: QMAX
GRUNDFOS SP 7-31 4.0KW 3"415V 50HZ
PUMP DUTY: 2.0L/S @ 135.25M
CONTROL MECHANISM: START – TIME CLOCK
STOP – NO FLOW
(FLOAT VALVES SHUT ON ALL TANKS)
BORE CAP: GRUNDFOS CAST IRON
DN50 STAINLESS STEEL MANIFOLD



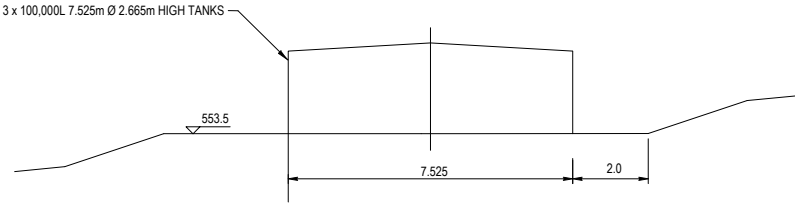
- NOTES:
- REFERENCE DOCUMENTS:
D11 WATER RETICULATION, AUSSPEC, YASS VALLEY COUNCIL
WSA-03-2011.3.1 WATER CODE OF AUSTRALIA
WATER DIRECTORATE – MAY 2009.
 - FLOW PARAMETERS:
70 LOTS – NON-POTABLE COMMUNITY BORE WATER SYSTEM OUTDOOR USE ONLY
(1 LOT – POTABLE YASS TOWN WATER SUPPLY SYSTEM)
PEAK DAY DEMAND – 4KL/ET/DAY (ASSUMED)
 - VOLUME PARAMETERS
4KL/D/LOT – PWD
PEAK DAILY DEMAND 46LOT @ 4KL/D =184KL/D
 - RESERVOIRS:
PROPOSED RESERVOIRS 3 X 100,000L – 7.525MØ, 2.665M (H).
TOTAL VOLUME PROVIDED = 300KL
TWL = RL 555.875
50% CAPACITY HGL = RL 554.750
BWL = RL 553.625
 - ON LOT POTABLE STORAGE:
22,500L/LOT
70 LOTS
TOTAL STORAGE = 1575KL OR 5.6 DAYS PEAK DAY DEMAND



TANK INLET/OUTLET
SCHEMATIC
N.T.S.



SECTION A-A
SCALE 1:100 (A1)



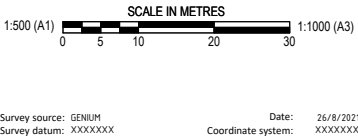
SECTION B-B
SCALE 1:100 (A1)

| | | | | | |
|-----|-----------------|----------|-------|---------|----------|
| D | | | | | |
| C | | | | | |
| B | | | | | |
| A | ADDITIONAL TANK | VAO | WP | VAO | VAO |
| - | INITIAL ISSUE | VAO | WP | VAO | VAO |
| No. | REVISION | DESIGNED | DRAWN | CHECKED | APPROVED |

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| CLIENT | ICETON INVESTMENTS PTY LTD |
| PROJECT | 7 ICETON PL, YASS - RURAL RESIDENTIAL DEVELOPMENT |
| TITLE | HEADER TANK GENERAL ARRANGEMENT |
| DRAWING NUMBER | 2117-P86WAT |
| AMENDMENT: | A |

-
- The diagram illustrates a water service layout for a 2ha property. Key features include:
- Water Main (WWP):** Represented by purple lines, running along Road 2 and connecting to the property.
 - BE (Borehole/Well):** Represented by green lines, showing the distribution network from the WWP to various points on the property.
 - Components:**
 - TANK:** A purple circle representing a storage tank.
 - PROPERTY OWNER PRESSURE PUMP:** A purple circle representing a pump.
 - COMMUNITY WATER METER:** A purple circle representing a meter.
 - INTERNAL NON-POTABLE PLUMBING:** Indicated by a purple line connecting the pump to the tank.
 - Location Determination:** A note states "LOCATION OF WATER SERVICE DETERMINED WHEN ENTRANCE LOCATION IS KNOWN".
 - Topography:** Contour lines are shown, with elevations ranging from 530 to 540.
 - Road 2:** A black line representing the main road.
 - North Arrow:** A black arrow pointing towards the top right of the diagram.

22,500 L TANK OR EQUAL,
PLACED BY PROPERTY OWNER.

LOT OWNER
RESPONSIBILITY

DEVELOPER
RESPONSIBILITY

PROPERTY LINE

TO OUTDOOR WATER USE

SUPPLY FROM MAINS

| | | | |
|----------------|---|--|------------|
| CLIENT | ICETON INVESTMENTS PTY LTD | | |
| PROJECT | 7 ICETON PL, YASS - RURAL RESIDENTIAL DEVELOPMENT | | |
| TITLE | ON LOT WATER TANK - TYPICAL DETAILS | | |
| DRAWING NUMBER | 2117-P87WAT | | AMENDMENT: |