ADDENDUM TO COUNCIL ASSESSMENT REPORT

NORTHERN REGIONAL PLANNING PANEL

PANEL REFERENCE & DA NUMBER	PPSNTH-182 [0326/22DA, PAN-146201]

Background

A site visit was undertaken by panel members on Friday 10th March, 2023. At the site visit the Panel raised a number of matters that require further clarification to assist the Panel with their consideration of the development application.

These matters raised are as follows:

- ***Total school population***
  Clarification is sought on the total school population (existing and proposed). Note: A condition may be imposed which specifies the total school population (if approved).

- ***Water supply***
  It is requested that information be provided that demonstrates/confirms that the proposed water tanks will have sufficient capacity to service the school additions for the purpose of firefighting and potable water supply.

- ***Response to Transport for NSW (TfNSW) comments***
  Further clarification required to demonstrate that the advice provided by Transport for NSW (in their letter dated 29/9/22) has been taken into consideration and been addressed.

A response to each matter is provided below.

Total school population

The total school population is expected to be 1152 students, see attached letter from the school. Draft condition no. 32 could be altered to the following:

Student Population:

32. *The approved additions shall accommodate for up to 750 students. The total school population being 1152 students.*

Water supply:

The proposed development involves installing 2X 500KL water tanks to be used for both firefighting and potable water supplies. See attached letter from applicant detailing proposed water supply arrangements. The tanks will be required to meet AS2419.1 Fire Hydrant installation code. Each tank has a 144,000 litre supply for firefighting which is drawn from the base of the tanks.

This leaves 378,000 litres per tank for potable water supply. Potable water is drawn from the top of the tanks. Under AS1547:2012, the average use per person is in the range of 15-30 litres per day.

The wastewater report submitted with the development application anticipates 13.3 litres of water to be used per person per day (5 day school week) for toilet and hand wash basin use. So if each person uses 15 litres per day (drinking and toilet use), the full supply will last 66 school days without the need for rain or alternative methods of topping up the tanks.

Response to Transport for NSW (TfNSW) comments:

1. TfNSW reiterate previous advice regarding the need to understand the impact an increase of student population will have on current bus services. The application is not supported by a School Travel Plan (STP). Preparation of an STP setting objectives, targets and measures to reduce private car travel and encourage travel by active and school bus services. Additionally, resources to assist can be found here: https://www.mysydney.nsw.gov.au/travelchoices/tdm.

   TfNSW recommend Council condition the development of an STP to support the document prior to the issue of an Occupation Certificate (OC).

In response to the above advice provided by TfNSW, Council has included the following condition in the draft recommended conditions of consent:

Student Travel Plan:

30. ***Prior to the issue of an Occupation Certificate****, the applicant is to develop a Student Travel Plan (STP) or update any existing STP in consultation with TfNSW. The School Travel Plan should include, but not be limited to:*

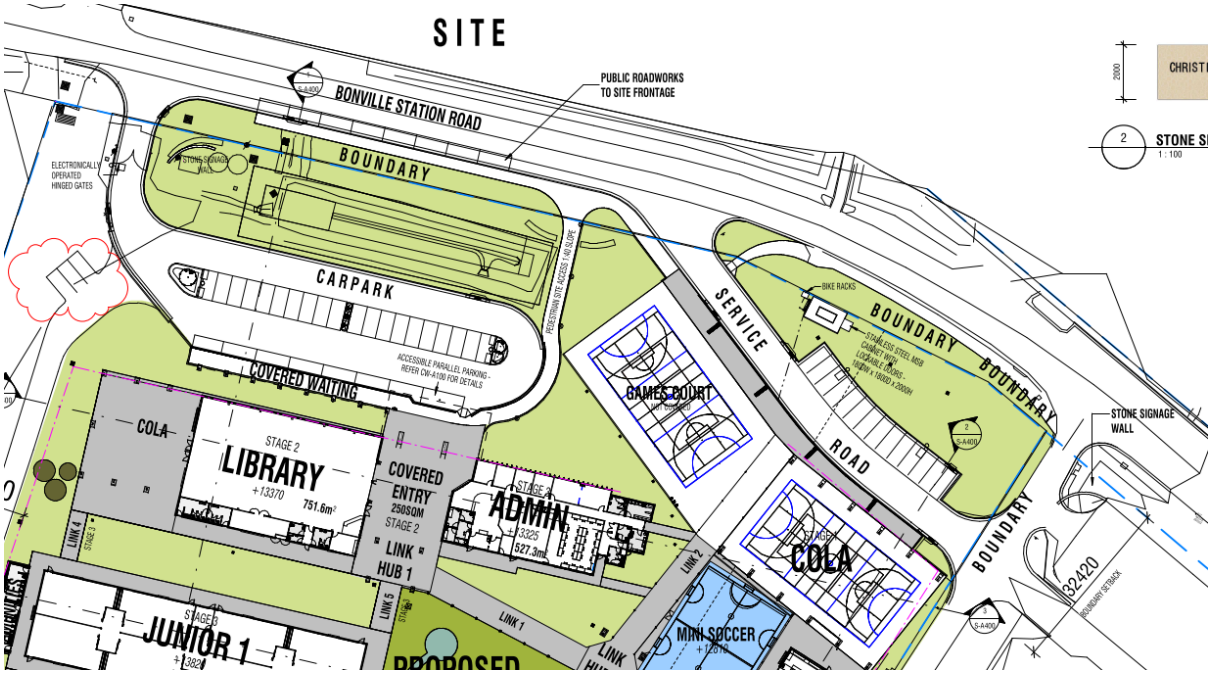
    - *Includes maps with the school catchment area, cycling infrastructure, isochrome lines for walking and cycling distances, staff suburb/location data;*
    - *Include staged aspirational mode share targets for staff and students;*
    - *Include the provision of existing and staged bicycle parking for students and staff, dedicated end of-trip facilities including but not limited to lockers, showers and change rooms and e-bike charging station(s) for staff and students to support an increase in the non-car mode share for travel to and from the site;*
    - *Considers incentives for staff to use active and public transport.*
    - *Considers incentives for students to use active and public transport.*
    - *Considers how educational material that explores the benefits and potential of sustainable transport can be incorporated into classes for different stages in the curriculum;*
    - *Includes an enhanced Travel Access Guide (TAG).*
    - *Explores different channels to communicate transport information.*
    - *Includes a comprehensive communication strategy which includes communications activities related to all the initiatives, the channels that will be used and who will be responsible; and*
    - *Include details regarding the methodology and monitoring/review program to measure the effectiveness of the objectives and mode share targets of the STP, including the frequency of monitoring and the requirement for travel surveys to identify travel behaviours of users of the development.*

    If requested by TfNSW, STP progress reports shall be submitted at an interval determined by TfNSW.

2. TfNSW note parking spaces have been increased in the amended application with all additional parking spaces being accommodated onsite. Notwithstanding, TfNSW reiterates previous advice regarding the car parking spaces within the Bus Service area. Council should consider how these car parking spaces introduce conflict between heavy vehicles (buses) and vulnerable road users in this area.

In response to the above advice provided by TfNSW, as shown the site plan below, the entry and exit for the kiss and ride car spaces are separate from the internal bus service road. This is intentional to prevent children and vulnerable road users conflicting with buses. The 14 car spaces located along the bus service road are for teachers and other staff that are familiar will the bus operations.

These spaces will be occupied throughout the day and will not be freely available by parents. Regulatory road signage will be introduced (as required by condition no.7) to address the advice provided by TfNSW.



3. Any regulatory signs and devices being proposed will require the endorsement of the Local Traffic Committee prior to Council approval. Please refer to A guide to the delegation to councils for the regulation of traffic.

In response to the above advice provided by TfNSW, Council has included the following condition in the draft recommended conditions of consent:

Regulatory Traffic Signage and Devices:

7. *Regulatory signage and devices required to facilitate the development must be in accordance AS1742.9 and shall be approved by the Local Traffic Committee* ***prior to the issue of a Construction Certificate****.*

4. TfNSW recommend Council be satisfied that the proponent has sufficiently addressed the traffic impacts of the development in particular the increase in students and how that will increase both private vehicle movements and the demand for bus services.

In response to the above advice provided by TfNSW, Council is satisfied that the proponent has sufficiently addressed the traffic impacts associated with the proposed development, caused by the increase in students and private vehicle movements and the demand for bus services. Any potential traffic safety, road congestion or parking implications are minimised through the design of on-site car parking, drop off area and bus parking. A further 20 car spaces are proposed in addition to the previously approved road frontage works under 0409/21DA.

These spaces are shown on the proposed plans under the current proposal.
The student kiss and ride area is west of the bus egress, as such the majority of traffic during peak periods will not travel past the access. Bonville Station Road is a dead end road with the only users east of the access being associated with the school. There is a substantial length

of road that can be utilised for queuing. It is a low speed environment (being 40km/hr during school bus drop off and pick up). The approved works under 0409/21DA and proposed 20 additional spaces improves maneuverability for the buses for the existing and proposed school additions. School bus parking along the internal bus service road is additional to the existing bus parking.

Coffs Harbour Christian Community School Limited

ACN 002 510 456

13 March 2023

Dear Planning Panel Members,

Re: Clarification of Coffs Harbour Christian Community School population

Please accept the following for clarification regarding the school's population. Our correspondence with Coffs Harbour City Council has referred to the population for the new development only, including both students who are transitioning from the current facilities and new students which will increase enrolment.

From our meeting on Friday, you indicated you would like to know the total school population figures, including both the existing and the new. We have not yet provided you with existing school students and would like to give you that clarification.

Please refer to the information below for clarification regarding total school population at the completion of the development.

Existing Students	672	Our current facilities cater for 672 students.
Additional Students	480	Upon the completion of the development there will be an additional 480 students enrol in the school.
Transitioning students	270	There will be 270 of our existing students transitioning from our current classrooms into the new classrooms. This will provide more space for the existing students.

New Development Population Summary

Additional Students (480) + Transitioning Students (270) = 750 students

There will be 750 Students in the new facilities on the proposed development.

Total School Population Summary

Existing Students (672) + Additional Students (480) = 1152 students

The total school population at the completion of the development will be 1152.

Yours Sincerely,

Andrew Lynn
Principal

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A ministry of Coffs Harbour Baptist Church

MIDDLE & SENIOR SCHOOL CAMPUS
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Bonville NSW 2450
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de Groot & Benson Pty Ltd
Consulting Engineers & Planners
ACN 052 300 571 | ABN 50 772 141 249

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PO Box 1908, Coffs Harbour NSW 2450
02 6652 1700 | email@dgb.com.au

13 March 2023

18093

Northern Region Planning Panel
c/- Coffs Harbour City Council
Locked Bag 155
COFFS HARBOUR NSW 2450

Dear Planning Panel

PPSNTH-182 – Coffs Harbour – PAN-146201

COFFS HARBOUR CHRISTIAN COMMUNITY SCHOOL 0326/22 DA

BONVILLE STATION ROAD- PROPOSED NEW SCHOOL

We write to provide supplementary information to provide a level of comfort for the determining Authority regarding water supply and fire fighting for the proposed school development.

We note that detailed information will be included in the construction certificate application(s) for the staged development of the site. However some of the construction certificate information has been prepared and we utilise that information in this submission.

Description of the water supply system

The site is not serviced by a town water supply, thus like the existing school development on adjacent land and on the opposite side of Bonville Station Rd, requires on site water supply.

Water is supplied by;

- Rainwater harvesting from roofs, stored in tanks
- Borewater
- Dam on the adjoining school site
- Water treatment facilities to provide safe drinking water

The proposed development will be serviced by 2 x 500 kilolitre water tanks, located at a tank farm proximate to the site pump house. In addition there will be a 3rd tank; a 37 kL irrigation tank for landscape watering. Thus landscape watering will not draw supply from potable water tanks and thus reduce demand on potable water supply.

- **Water tank description**

The 2 x 500 kL tanks provide for both fire fighting and potable water supplies.

- **Fire fighting**; Each tank has a 144,000 litre fire fighting supply drawn from the base of the tank. The volume corresponds to a fire hydrant supply of 10 litre/second for a 4 hour period in each tank. The requirement of AS2419.1 Fire hydrant installation code is met within each tank. The provision of 2 tanks allows for the maintenance of a tank such that there is at least 50% supply required by code, except there will be the full volume of water supply required in each tank. So the system water supply is extra safe. Tanks are an acceptable water supply for the fire fighting system.

- **Potable water**: potable water is drawn from the level in the tank above the fire fighting reserve, so that allows 390 kL in each tank for use as potable water, after filtration. Across 750 students and 38 staff two full tanks provide an average of 990 litres each person. From AS1547:2012 the average use is in the range 15-30 litre per person per day. From the wastewater report the measured flow is 13.3 litre per person per day. Thus for a 15 litre per person per day (5 day school week) the full supply will last 66 school days (13 weeks) without any supplementary rainwater harvesting or borewater top up.

The benefit of staged development is that, with both tanks installed initially and as the School development progresses and population increases, the performance of the system can be monitored over a number of years and additional supply tanks installed if the need arises before the population becomes too great.

- **Landscape watering**: a separate 37 kL tank is proposed for landscape watering, which means that garden watering will be controlled by automated irrigation system that does not draw water from the potable water supply. There is no need for manual hosing of gardens. Irrigation water consumption rates are controlled and supply is from bore water.

- **Fire fighting system**

The School will be supplied by a hire hydrant system supported by a booster assembly, with 2 x diesel fire fighting pumps and an electric jacking pump. The preliminary hydrant system drawings are attached for information.

- **Attached plans**

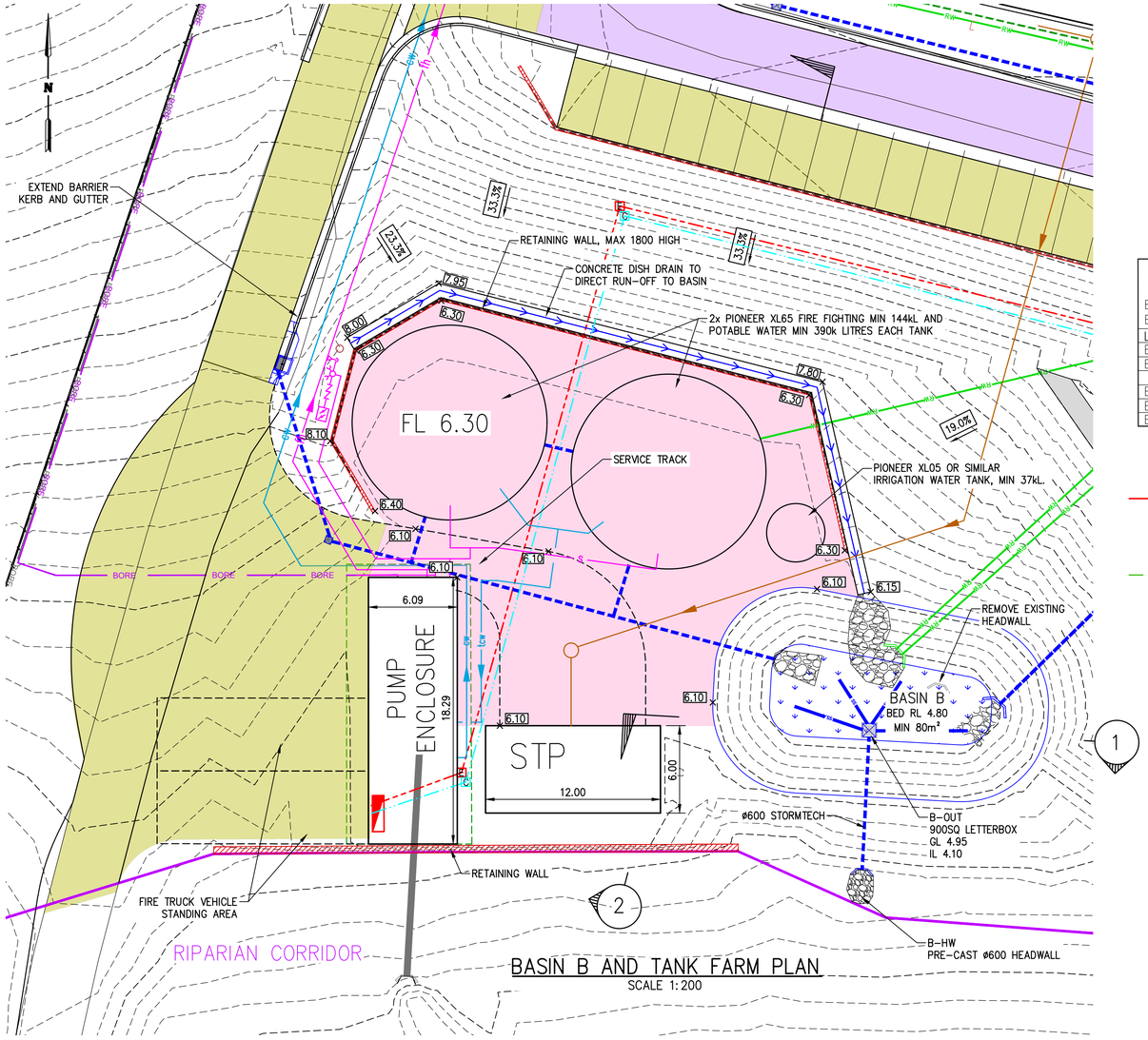
dGB plan 18093 D-401 provides details of the tank farm, including a cross section of a 500 kL tank. The cross section indicates 144,000 litre fire fighting supply and 390,000 litre potable water supply. The pump house pan shows the fire pumps and potable water filtration system.

Glenn Haigh Associates plans 213376 H000, H001, H002 and H101 indicate the design layout of fire mains and dual head hydrants, fire pump systems to service the development. These are preliminary construction certificate plans, not yet completed (as the DA is not yet consented) however the plans do indicate that a fire fighting system compliant with he requirements of the National Construction Code can be supplied for the development. Bore suction points are proposed for NSW Fire and rescue appliances fand for the small hoses used by Rural Fire service.

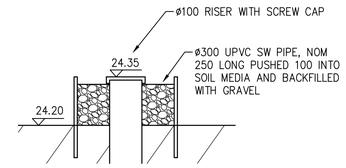
Yours sincerely

G P Benson

Director



BASIN B AND TANK FARM PLAN
SCALE 1:200

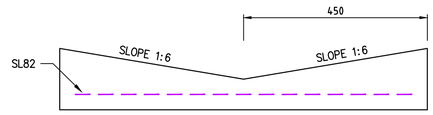


RISER PROTECTION DETAIL
NTS

BIO-RETENTION PLANTING SCHEDULE – BASIN B

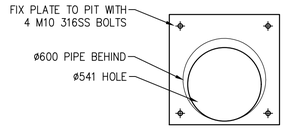
BIO-RETENTION BASE, 80m² @ 6 PLANTS/m²
BIO-RETENTION BATTERS (2.0m OFFSET FROM BASE), 90m² @ 4 PLANTS/m²

LOCATION	PLANTS SPECIES	FORM	No.
BASIN FLOOR	FICINIA NODOSA	TUBE	240
BASIN FLOOR	JUNCUS USITATUS	TUBE	240
BASIN BATTERS	CAREX APPRESSA	TUBE	120
BASIN BATTERS	JUNCUS USITATUS	TUBE	120
BASIN BATTERS	LOMANDRA HYSTRIX	TUBE	120



CONCRETE DISH DRAIN DETAIL
NTS

SAWCUT AT 3m CENTRES

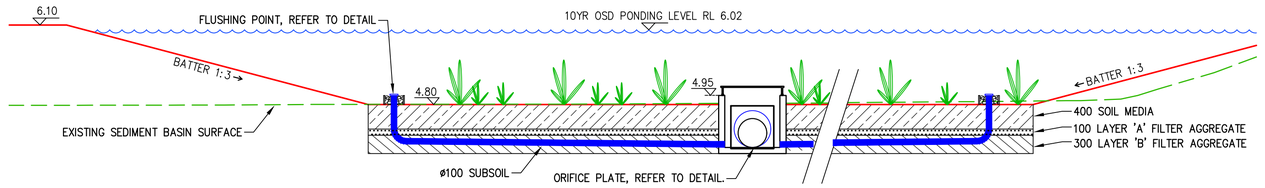


ORIFICE PLATE DETAIL
NTS

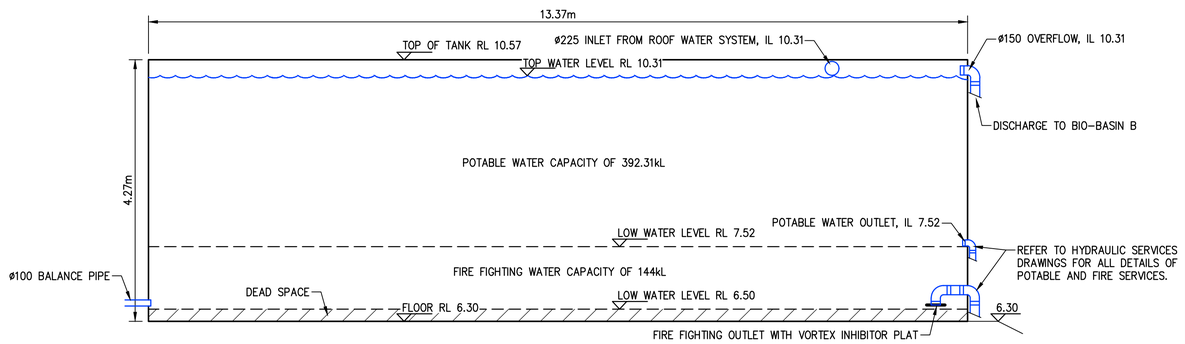
700 x 700 x 10 ALUMINIUM PLATE WITH MACHINE CUT ORIFICE FIX AND SEAL/GROUT TO FACE OF PIT OVER ø600 OUTLET.

LEGEND

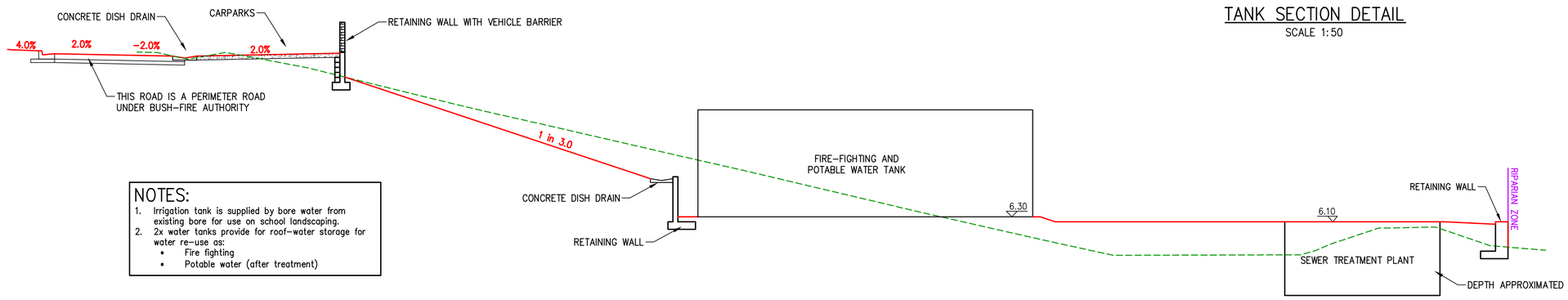
- PROPOSED STORMWATER LINE
- EXISTING STORMWATER LINE
- PROPOSED ROOFWATER LINE (RW)
- ROOFWATER LINE SEALED PIT
- BOREWATER TRANSFER LINE (BORE)
- 500x355 VALVE BOX
- FIRE SERVICE LINE
- TREATED/POTABLE WATER LINE
- COMMS CONDUIT
- ELECTRICAL CONDUIT
- CONCRETE PAVEMENT
- 150 THICK GRAVEL
- 2 COAT SEAL PAVEMENT TYPE



BIO-RETENTION BASIN B SECTION 1
SCALE 1:50



TANK SECTION DETAIL
SCALE 1:50



TANK FARM SECTION VIEW
SCALE 1:100

NOTES:
1. Irrigation tank is supplied by bore water from existing bore for use on school landscaping.
2. 2x water tanks provide for roof-water storage for water re-use as:
   - Fire fighting
   - Potable water (after treatment)

1 0 1 2 3 4 5
SCALE OF METRES 1:50 (A1) 1:100(A3)

2 0 2 4 6 8 10
SCALE OF METRES 1:100 (A1) 1:200(A3)

REV.	DATE	REVISION	DRN	DES	CHK	APP
1	12-12-22	FOR CONSTRUCTION APPROVAL	MLK	MLK	GPB	GPB

de Groot & Benson
Consulting Engineers & Planners
A.C.N. 052 300 571
236 Harbour Drive,
Coffs Harbour NSW 2450
Phone (02) 6652 1700
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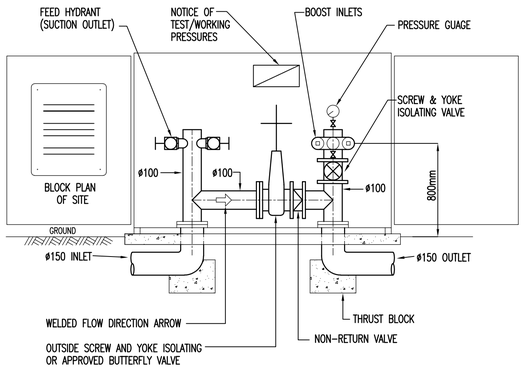
Scale: AS SHOWN	Cad File No.: 18093 Civil CC.dwg	Client: CHRISTIAN COMMUNITY	Project: MIDDLE SCHOOL BUILDING DA CHRISTIAN COMMUNITY BONVILLE STATION ROAD
Surveyed	Datum: AHD		
Drawn: MLK	Designed: MLK	Date: NOV 22	
Checked: GPB	Approved: GPB	No. of dwgs	Title: BIO-RETENTION BASIN B AND TANK

Project No. 18093
Drawing No. D-401
Amendment No. 1

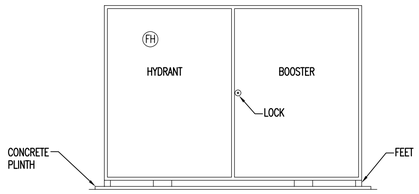
CHRISTIAN COMMUNITY JUNIOR SCHOOL CAMPUS
BONVILLE STATION ROAD, BONVILLE NSW 2450



CABINET WITH DOORS OPEN

TYPICAL BOOSTER ARRANGEMENT DETAILS

N.T.S.



CABINET WITH DOORS CLOSED

DRAWING SCHEDULE

HYDRAULIC SERVICES

SHEET	TITLE	SCALE
H000	DRAWING SCHEDULE & LEGEND	AS SHOWN
H001	SITE PLAN – PART 1	1:250
H002	SITE PLAN – PART 2	1:250
H101	DETAIL SHEET	1:100

LEGEND

LINE TYPES

- xcw — EX COLD WATER (XCW)
- s — SUCTION (S)
- tcw — TANK COLD WATER (TCW)
- cw — COLDWATER (CW)
- npcw — NON POTABLE COLDWATER (NPCW)
- fh — FIRE HYDRANT SERVICE (FH)

SYMBOLS

- THROUGH DROPPER / RISER
- BEND DOWN
- TEE UP
- TEE DOWN
- GATE VALVE (GV)
- NON RETURN VALVE (NRV)
- CONTROL VALVE (CV)
- HYDRANT VALVE (HV)
- HOSE COCK (HC)
- WATER METER (WM)
- REDUCER
- RISER
- SERVICE NAME
- SIZE
- DROPPER
- FLOW DIRECTION

ABBREVIATIONS

Cu	COPPER
EX.	EXISTING
PVC	POLYVINYL CHLORIDE
RPZD	REDUCED PRESSURE ZONE DEVICE

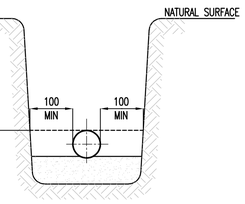
NOTES:

1 ALL WORKS TO BE INSTALLED IN ACCORDANCE WITH LOCAL COUNCIL REQUIREMENTS & AS3500 NATIONAL PLUMBING & DRAINAGE CODE.
2 THE CONTRACTOR IS TO CONFIRM LOCATION & DEPTH OF EXISTING SERVICES ON SITE PRIOR TO CONSTRUCTION. IF ANY CONFLICT EXISTS NOTIFY BUILDER IMMEDIATELY.
3 THE CONTRACTOR IS TO CONFIRM EXISTING & PROPOSED SURFACE LEVELS PRIOR TO INSTALLATION OF PIPEWORK, SUMPS, MANHOLES, PITS, ETC.
4 ALL PIPEWORK WHICH IS TO BE FIXED IN CEILING SPACE, ON WALLS OR SUSPENDED UNDER FLOORS SHALL BE SUPPORTED WITH 'UNISTRUT' BRACKETING SYSTEM OR EQUAL. PIPEWORK IS NOT TO BE FIXED IN DIRECT CONTACT WITH BUILDING STRUCTURE.
5 BACKFILLING
BACKFILL SERVICE TRENCHES AS SOON AS POSSIBLE AFTER SERVICE HAS BEEN LAID AND BEDDED. PLACE THE BACKFILL IN LAYERS <150mm THICK AND COMPACT TO THE DENSITY WHICH APPLIES TO THE LOCATION OF THE TRENCHES TO MINIMISE SETTLEMENT.
6 BACKFILL MATERIAL
GENERAL FILL WITH NO STONES GREATER THAN 25mm OCCURING WITHIN 150mm OF THE SERVICE UNDER ROADS AND PAVED AREAS AND WITHIN 4 METRES OF BUILDING: COARSE SAND, CONTROLLED LOW STRENGTH MATERIAL OR FINE CRUSHED ROCK.
7 ALL INGROUND COPPER RETICULATION PIPEWORK TO BE FITTED WITH POLYETHYLENE JACKET PRIOR TO INSTALLATION
8 ALL HOSE COCKS TO BE PROVIDED WITH VACUUM BREAK VALVES EQUAL TO WATTS/RMC HCVB (AQUAGUARD)
9 EXISTING SERVICES HAVE BEEN PLOTTED FROM SUPPLIED DATA, GLENN HAIG & PARTNERS & THE SUPERINTENDANT DO NOT GUARANTEE THEIR ACCURACY & IT IS THE PLUMBING CONTRACTORS RESPONSIBILITY TO ESTABLISH THE LOCATION OF ALL EXISTING SERVICES PRIOR TO COMMENCEMENT OF ANY WORK. CLEARANCES SHALL BE OBTAINED FROM THE RELEVANT AUTHORITY. LOCATION & NUMBERS ARE TO BE VERIFIED ON SITE.
10 ON COMPLETION OF PIPE INSTALLATION, ALL DISTURBED AREAS MUST BE RESTORED TO ORIGINAL CONDITION INCLUDING: KERBS, FOOTPATHS, CONCRETE AREAS, GRAVEL AREAS & ROAD PAVEMENTS.
11 CARE SHALL BE TAKEN WHEN EXCAVATING NEAR EXISTING SERVICES. EXCAVATE BY HAND IN THESE AREAS.
12 THE PLUMBING CONTRACTOR SHALL OBTAIN ALL AUTHORITY APPROVALS AND PAY ALL FEES
13 INVERT LEVELS SHOWN ARE INDICATIVE ONLY. CONFIRM ALL LEVELS ON SITE BEFORE COMMENCING CONSTRUCTION.
14 SUPPLY AND INSTALL A FIRE HYDRANT SERVICE TO THE LOCATIONS SHOWN ON THE DRAWINGS.
INCLUDE FOR ALL PIPING, FITTINGS, VALVES, AND HYDRANT VALVES TO THE LOCATIONS SHOWN ON THE DRAWINGS AND OTHER SUNDRY ITEMS OF EQUIPMENT AS REQUIRED FOR THE INSTALLATION.
THE HYDRANT SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH AS 2419.1 AND THE BUILDING CODE OF AUSTRALIA.
PIPEWORK SHALL BE:

LOCATION	MATERIAL
INGROUND	CLASS 16 & 18 MPVC S2 BLUE PIPE
ABOVE GROUND	GALVANISED MILD STEEL PIPE AND FITTINGS:

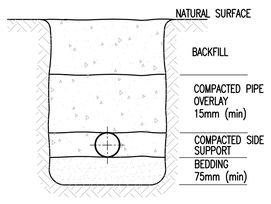
A. SHALL BE IN CONFORMITY WITH HEAVY GRADE AS 1074 – STEEL TUBES AND TUBULARS FOR ORDINARY SERVICE.
B. SHALL BE EQUAL TO TUBEMAKERS AUSTRALIA (ONE STEEL)
C. SHALL BE IN ACCORDANCE WITH AS 2419.1
D. SHALL BE 3.04MM WALL THICKNESS FOR PIPE DIAMETERS UP TO AND INCLUDING100MM AND A MINIMUM OF 3.4MM FOR PIPE DIAMETERS GREATER THEN 100MM AND UP TO 150MM.
E. SHALL BE HOT DIPPED GALVANIZED INTERNALLY AND EXTERNALLY AND AT THEIR ENDS IN ACCORDANCE WITH AS/NZS 4792. – THE GALVANIZED COATING SHALL HAVE A MINIMUM ZINC COATED MASS OF 300G/M2.
F. ARE TO BE CERTIFIED OR LISTED BY A TESTED AND CERTIFIED BY A RECOGNISED BODY AS BEING FIT FOR PURPOSE IN HYDRANT SYSTEMS IN ACCORDANCE WITH CLAUSE 8.2.4.3 OF AS 2419.1
G. SHALL NOT BE ON-SITE WELDED OR MODIFIED.
H. ANY CUTTING THAT EXPOSES THE BASE METAL OR DAMAGES THE GALVANIZED PROTECTIVE COATING SHALL BE REPAIRED IN ACCORDANCE WITH AS 2419.1
I. ANY DISTURBANCE OF THE PROTECTIVE COATING BY CUTTING, ROLL GROOVING OR HANDLING SHALL BE REPAIRED WITH A ZINC-RICH PRIMER OR EQUIVALENT IN ACCORDANCE WITH AS/NZS 4792.
J. SHALL BE SCREW JOINTED WITH APPROVED COMPOUND FOR THE SERVICE OR PATENTED APPROVED CALVANISED ROLLED GROOVED COUPLING.
K. SHALL BE POLYTEC COATED OR WRAPPED WITH APPROVED PROTECTIVE TAPE WHERE LOCATED UNDERGROUND.
L. PIPE MARKING SHALL BE IN ACCORDANCE WITH AS 2419.1

15 HYDRANTS: SUPPLY AND INSTALL LANDING VALVE HYDRANTS IN APPROVED LOCATIONS WITH THE CENTRE OF THE VALVE 750–mm ABOVE FINISHED GROUND LEVEL. ALL EXTERNAL HYDRANTS SHALL BE DOUBLE HEADED PILLAR TYPE AND BE SUPPORTED AT THEIR BASE WITH A 600 X 600 X 150 CONCRETE BASE.
16 TESTING OF PIPEWORK TEST ALL PIPEWORK 1700 KPA FOR A PERIOD OF TWO HOURS IN ACCORDANCE WITH AS 2419.1. SATISFACTION OF THE FIRE BRIGADE AND THE SUPERINTENDENT.
RECORD PRESSURE AND FLOW RESULTS AND ADVISE IN WRITING TO THE SUPERINTENDENT.
17 FORM 15: A FORM 15 – FLOW TEST SHALL BE UNDERTAKEN IN THE PRESENCE OF THE SUPERINTENDENT. FLOW TESTS SHALL BE WITH TWO MOST HYDRAULICALLY DISADVANTAGED HYDRANTS OPERATING. ON COMPLETION OF THE FLOW TEST, SUPPLY THE SUPERINTENDENT WITH A FORM 15 AND FA CERTIFICATE WITH THE FOLLOWING ITEMS:
FLOW RATE PRESSURE DATE TIME WITNESS NAME & SIGNATURE
18 BLOCK PLAN: A BLOCK PLAN SHALL BE PROVIDED AT THE BOOSTER LOCATION IN ACCORDANCE WITH AS2419.1
THE BLOCK PLAN IS TO INCORPORATE THE NEW SITE HYDRANT SERVICE.
19 TAGGING: ALL FIRE HYDRANTS SHALL BE TAGGED IN ACCORDANCE WITH AS 1851.4
THE PLUMBING CONTRACTOR SHALL MAINTAIN THE FIRE HYDRANTS FOR 12 MONTHS AND SHALL NOTIFY THE SUPERINTENDENT THAT ALL FIRE HYDRANTS HAVE TO BE INSPECTED AND TAGGED IN ACCORDANCE WITH AS 1851.4
AN INSTALLATION LOG SHALL BE KEPT ON-SITE FOR THE FIRE HYDRANTS.
20 ALL CHANGES IN DIRECTION ON UPVC PIPEWORK TO BE PROVIDED WITH CONCRETE 20 MPa THRUST BLOCKS DESIGNED IN ACCORDANCE WITH AS3500 "ANCHORAGE BELOW GROUND"
21 ALLOW TO SUBMIT A SET OF AS BUILT DWGS TO THE CLIENT IN ELECTRONIC (CAD) FORMAT AT THE COMPLETION OF THE INSTALLATION



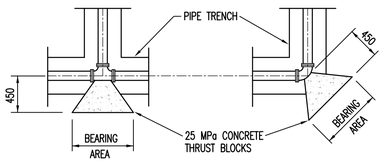
MINIMUM TRENCH WIDTH

N.T.S.



MINIMUM COVER REQUIREMENT

N.T.S.



NOTE:
REFER TO TABLE FOR THRUST BLOCK BEARING AREAS

TABLE 1

SOIL TYPE	TYPICAL HORIZONTAL BEARING PRESSURE kPa (600 DEPTH)	AREA FACTOR TABLE 1
SOFT CLAY	24	2
SAND OR SILTY CLAY	48	1
SAND & GRAVEL	72	0.66
SAND & GRAVEL BONDED WITH CLAY	96	0.5
SHALE	240	0.2

TABLE 2

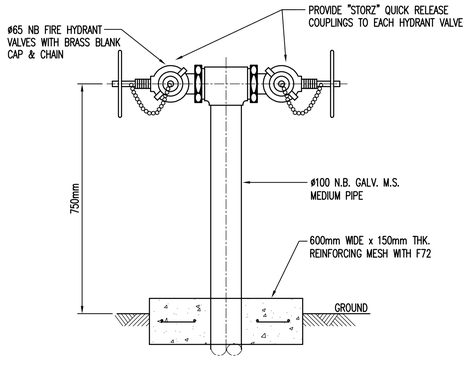
PIPE ø	90°C BENDS (SQ. m)	45°C BENDS (SQ. m)	TEES, HYDRANTS, CAPS, PLUGS (SQ. m)
100	0.4	0.4	0.4
150	1.0	0.6	0.8
200	1.4	1.0	1.2
250	2.4	1.4	1.6
300	3.4	1.8	2.4
350	4.6	2.6	3.4

NOTE:
TABLE VALUES ARE BASED ON 1700kPa INTERNAL WATER PRESSURE AND 48 kPa HORIZONTAL SOIL BEARING PRESSURE
FOR OTHER VALUES, MULTIPLY THE BEARING PRESSURE (TABLE 1) BY THE AREA OF BEARING FACE (TABLE 2)

ALLOWABLE SOIL BEARING PRESSURE TO BE 125kPa REFER TO GEOTECHNICAL REPORT FOR DETAILS ON SOIL CONDITIONS IF APPLICABLE

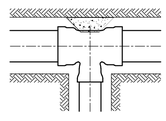
THRUST BLOCK DETAILS FOR BLUE BRUTE PIPE

SCALE N.T.S



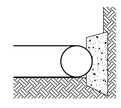
EXTERNAL HYDRANT VALVE DETAIL

(N.T.S.)



TEE PLAN

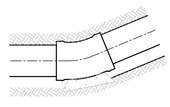
N.T.S.



TEE ELEVATION

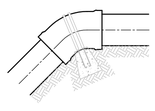
N.T.S.

NOTE:
THRUST BLOCKS TO EXTEND BEYOND EDGES OF TRENCH



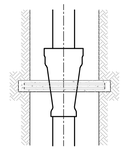
HORIZONTAL BEND–PLAN

N.T.S.



VERTICAL BEND–ELEVATION

N.T.S.



REDUCER–PLAN

N.T.S.

STANDARD THRUST BLOCK DETAIL

DATE	No.	AMENDMENT	ISSUE
23.09.21	1	ISSUE FOR COUNCIL APPROVAL	A

ARCHITECT :
DRA ARCHITECTS PTY LTD
133 PRINCE STREET,
GRAFTON NSW 2460

CLIENT :
COFFS HARBOUR CHRISTIAN COMMUNITY SCHOOL

PROJECT :
NEW JUNIOR CAMPUS
LOT 2, DP 1194621
BONVILLE STATION ROAD, BONVILLE NSW 2450

GLENN HAIG & PARTNERS
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Sydney
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office@glennhaig.com.au

TITLE : HYDRAULIC SERVICES
DRAWING DETAILS

Date : APR 2021		Drawn : DM	
Scales : AS SHOWN @ A1		Checked : GH	
Job No. : 213376	Cad File No. : 213376H000	Drawing No. : H000	

FOR CONTINUATION REFER TO DWG H002

PROPOSED SCHOOL

LOT 1
DP 1029853

JUNIOR 2
1040.6m²
FUTURE STAGE
AMENITIES
STORE
LINK 6
LINK 8
LINK 9
LINK 10
LINK 11
LINK HUB 2
INTERNAL ROAD
COVERED DROP OFF AREA
ACCESSIBLE PARALLEL PARKING - REFER LK8,DO-A100 FOR DETAILS
DUAL HV's MIN 10.0m SETBACK FROM BUILDINGS
SPEC.ED
508.9m²
FUTURE STAGE
FUTURE SKATE / SCOOTER / BIKE PARK
939 sqm
MIDDLE 2
604.8m²
STAGE 4
MIDDLE 3
604.8m²
FUTURE STAGE
COLD WATER SUPPLY TO BUILDING (TYPICAL)
PROPOSED COLD WATER RETICULATION
PROPOSED FIRE HYDRANT SERVICE RETICULATION
2 x 536KL RAINWATER TANKS. 144KL FOR FIRE FIGHTING PURPOSES AND 392KL FOR DOMESTIC WATER USE EACH.
PRESSURE GAUGE AT BOOSTER ASSEMBLY
ø150 HARD SUCTION POINT WITH STORZ COUPLING
ø100 H-PATTERN BOOSTER ASSEMBLY
PUMP AND FILTRATION SYSTEM ENCLOSURE. REFER TO DWG H101 FOR FURTHER DETAIL.
STP
MASS PLANTING TO STEEP SLOPES - TYPICAL
AMENITIES
STORE

DATE	No.	AMENDMENT	ISSUE
23.09.21	1	ISSUE FOR COUNCIL APPROVAL	A

ARCHITECT :
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133 PRINCE STREET,
GRAFTON NSW 2460

CLIENT :
COFFS HARBOUR CHRISTIAN COMMUNITY SCHOOL

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TITLE : HYDRAULIC SERVICES

SITE PLAN – PART 1

Date :	Drawn :
APR 2021	NG
Scales :	Checked :
1:250 @ A1	GH

Job No. :	Cad File No. :	Drawing No. :
213376	213376H001	H001


BOUNDARY
BONVILLE STATION ROAD
BOUNDARY SETBACK
CARPARK
PEDESTRIAN SITE ACCESS 1:40 SLOPE
13340+
13290+
SERVICE
BOUNDARY
STAINLESS STEEL CABINET WITH LOCKABLE DOORS - 1800W x 1800D x 2000
ACCESSIBLE PARALLEL PARKING - REFER CW-A100 FOR DETAILS
13620+
EX 13850
COVERED WAITING
+13115
+12930
GAMES COURT
NOT COVERED
+13040
ROAD
12980+
COLA
STAGE 2
LIBRARY
+13370
751.6m²
COVERED ENTRY
250SQM
STAGE 2
+13335
EX 13300
EX 13130
13290+
STAGE 3
ADMIN
+13325
527.3m²
EX 13250
+12980
+12980
DUAL HV's
MIN 10.0m SETBACK FROM BUILDINGS
EX 13400
BOUNDARY SETBACK
+13260
+13335
LINK HUB 1
EX 13500
+13215
13290+
+13290
EX 13300
LINK 2
+12730
STAGE 1
COLA
COLD WATER SUPPLY TO BUILDING (TYPICAL)
+EX 14200
AMENITIES
INTERNAL ROAD
+13260
+13260
+13710
+13785
STAGE 3
JUNIOR 1
+13820
1041.1m²
+13785
+13710
LINK 1
+13590
+EX 13700
PROPOSED SCHOOL
MINI SOCCER
+12810
+12730
12730+
+12890
LINK HUB 2
EX 13325+
+12890
DUAL HV's
MIN 10.0m SETBACK FROM BUILDINGS
STAGE 1
CAN STORE
+13000
216.8m²
EX 12600
LINK 6
+EX 14000
EX 14200
PROPOSED COLD WATER RETICULATION
PROPOSED FIRE HYDRANT SERVICE RETICULATION
EX 13500
13710
LINK 3
LINK 7
FUTURE STAGE
JUNIOR 2
+13490
+13565
+13600
1040.6m²
+13565
+13490
AMENITIES
STORE
+13490
+EX 13500
LOT 1
DP 1029853
EX 13250+
EX 13200+
LINK 9
STAGE 1
MIDDLE 1
+13000
680.7m²
+12965
+12890
AMENITIES
+12890
+12890
+12890
EX 12750
12250
cw
fh

FOR CONTINUATION REFER TO DWG H001

DATE	No.	AMENDMENT	ISSUE
23.09.21	1	ISSUE FOR COUNCIL APPROVAL	A

ARCHITECT :
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CLIENT :
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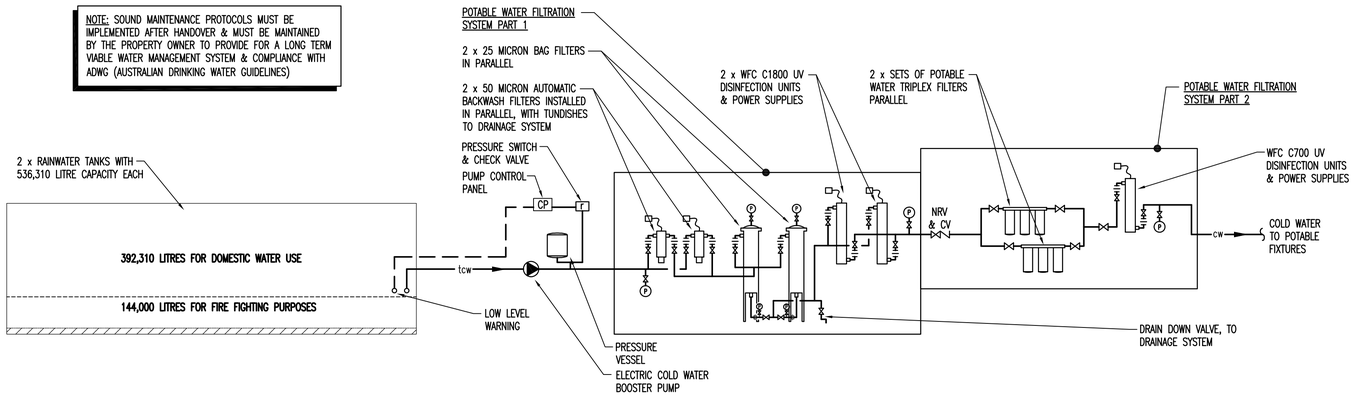
TITLE : HYDRAULIC SERVICES
SITE PLAN – PART 2

Date : APR 2021	Drawn : NG
Scales : 1:250 @ A1	Checked : GH

Job No. :	Cad File No. :	Drawing No. :
213376	213376H002	H002

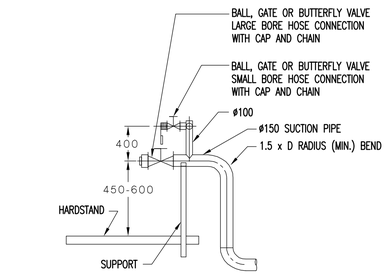
NOTE: PROVIDE SIGNAGE & OPERATIONAL INSTRUCTIONS ADJACENT TO FILTRATION & PUMP CONTROL PANEL ASSEMBLIES

NOTE: SOUND MAINTENANCE PROTOCOLS MUST BE IMPLEMENTED AFTER HANDOVER & MUST BE MAINTAINED BY THE PROPERTY OWNER TO PROVIDE FOR A LONG TERM VIABLE WATER MANAGEMENT SYSTEM & COMPLIANCE WITH ADWG (AUSTRALIAN DRINKING WATER GUIDELINES)



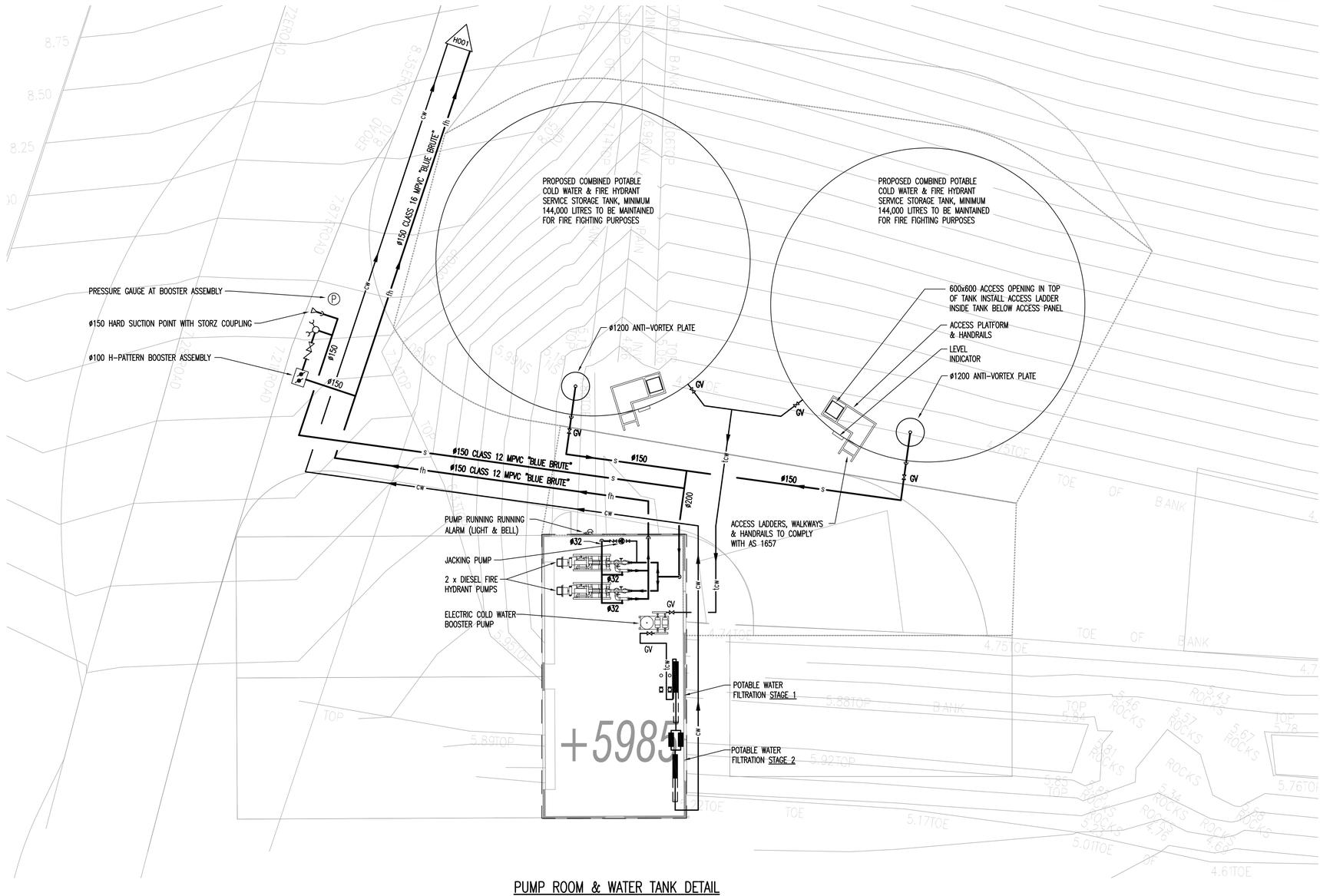
PUMPS & FILTRATION DETAIL

SCALE N.T.S.



LARGE AND SMALL BORE SUCTION POINT DETAIL

N.T.S.



PUMP ROOM & WATER TANK DETAIL

SCALE 1:100

DATE	No.	AMENDMENT	ISSUE
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133 PRINCE STREET,
GRAFTON NSW 2460

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TITLE : HYDRAULIC SERVICES
DETAIL SHEET

Date : APR 2021	Drawn : NG
Scales : AS SHOWN @ A1	Checked : GH
Job No. : 213376	Cad File No. : 213376H101
	Drawing No. : H101