EXISTING
SCHOOL
DEVELOPMENT

EXISTING
RESIDENTIAL
DEVELOPMENT

NARARA CREEK ROAD

WATER MAIN

SEWER MAIN

WATER
METER

SET DOWN & PICK UP

CAR PARK
13 SPACES

BASKETBALL
COURT

CAR PARK
1 SPACE

SPORTS FIELD

2(A) ZONE

EXISTING ST PHILIPS
CHRISTIAN COLLEGE
CAMPUS

PART OF LOT 102 DP 832279
AFFECTED BY RESTRICTION ON
USE AND POSITIVE COVENANT

BOUNDARY 39.88MS

MANNS ROAD

COOL SEA
BREEZES

EXISTING
RESIDENTIAL
DEVELOPMENT

BOUNDARY 318.23MS

LIBRARY

ACCESS
WC

FIRE
HYDRANT

ADMIN.

ACCESS
WC

JUNIOR
SCHOOL

CAR PARK
27 SPACES

ACCESS ROAD

SITE OF PROPOSED
JUNIOR SCHOOL BUILDING

SEE SURVEY DRAWING 14381E

DEMOUNTABLES

SCIENCE &
TECHNICS

STAFF &
SPECIAL ED.

EXISTING
RESIDENTIAL
DEVELOPMENT

DEMOUNTABLES

OOSH &
UNIFORM SHOP

BUFFER
BUSHFIRE PRONE LAND

CAR PARK
24 SPACES

FIRE
HYDRANT

CAR PARK
23 SPACES

EXISTING
HALL

FIRE
HYDRANT

BUILDING
D

BUILDING
1

BUILDING
2

CANTEEN

APPROXIMATE LINE
OF CHANGE IN ZONING

CATEGORY 1
BUSHFIRE PRONE LAND

FIRE
HYDRANT

CAR PARK
2 SPACES

BUILDINGS
3 & 4

PRESCHOOL

BOUNDARY 327.96MS

BUILDING
5

BUFFER
BUSHFIRE PRONE LAND

CATEGORY 1
BUSHFIRE PRONE LAND

BOUNDARY 254.70M

7(B) ZONE

EXISTING
BUSHLAND

1 PART SITE
1 : 500

NOTE:

EASEMENTS OVER POPERTY AS SHOWN
NO RIGHT OF WAY
NO WATERWAYS OR WATER COURSES
NO CUTS & FILL

TOTAL CAR PARKING = 90 SPACES

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ARN 4787 ABN 45 774 395 883

No.	DESCRIPTION	DATE

No.	DESCRIPTION	DATE

ST PHILIPS
CHRISTIAN COLLEGE,
GOSFORD CAMPUS
LOT 102 DP 832279, NARARA

PROPOSED
JUNIOR SCHOOL BUILDING

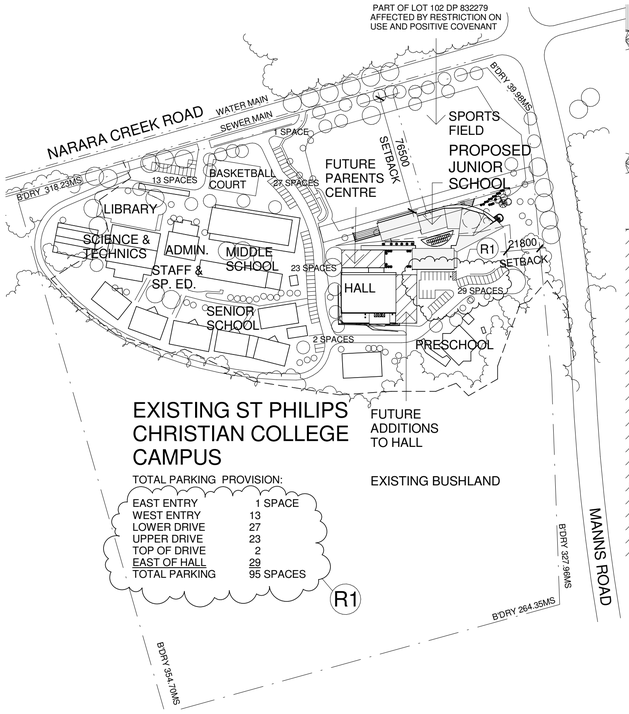
SITE ANALYSIS PLAN
438-M01

SCALE 1 : 500

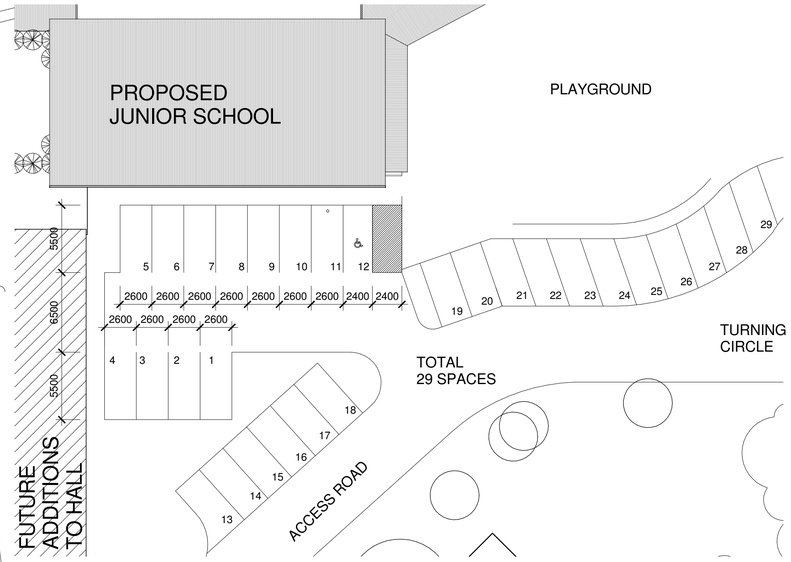
PROJECT NUMBER	416
DATE	APRIL 2014
DRAWN BY	IE
CHECKED BY	Checker

200mm ON ORIGINAL A1
100mm
25mm
0

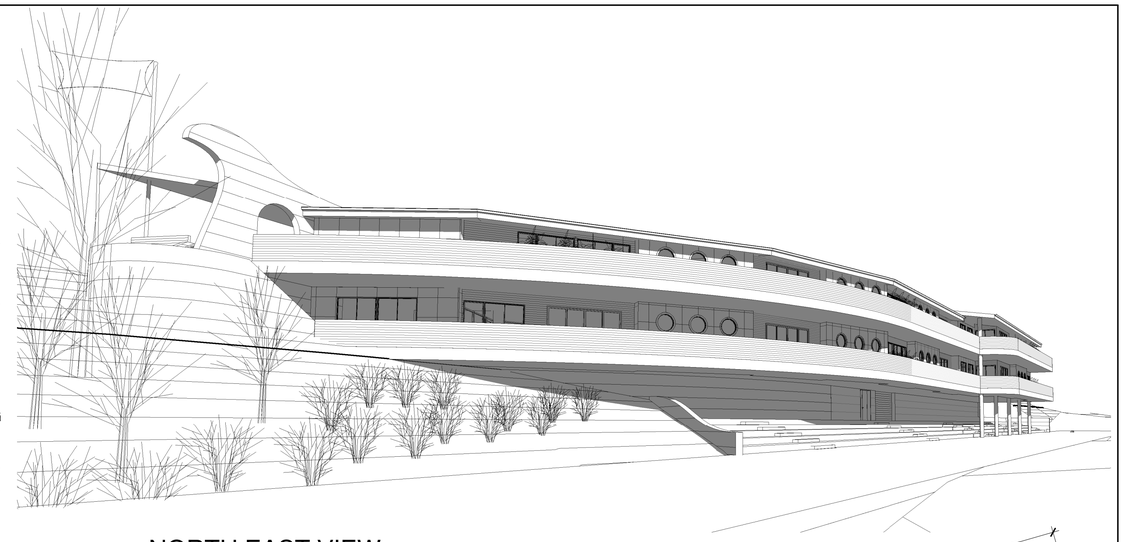
5/08/2015 12:51:46 PM



2 SITE
1 : 2000



4 CAR PARK
1 : 250



3 NORTH EAST VIEW

PLAYING FIELD

STAGE 1 AT ENTRY & LOWER LEVEL

STAGE 2 AT ENTRY & LOWER LEVEL

LINE OF PART OF LOT 102 DP 832279 AFFECTED BY RESTRICTION ON USE AND POSITIVE COVENANT

17800
44100
82250
20350
5500
4000
UP
STEPPED SEATING
483 m²
STORE 5
63 m²
RL 37.600
RAINWATER STORAGE TANKS
5
438-S12

1 LOWER LEVEL 2
1 : 100

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No.	DESCRIPTION	DATE
R1	ADDITIONAL CAR PARKING SPACES	29/02/16

No.	DESCRIPTION	DATE

ST PHILIPS CHRISTIAN COLLEGE
GOSFORD CAMPUS
NARARA CREEK ROAD, NARARA

PROPOSED JUNIOR SCHOOL BUILDING

LOWER LEVEL 2, SITE & NORTH EAST VIEW
438-S09R1

SCALE As indicated

PROJECT NUMBER	438
DATE	DECEMBER
DRAWN BY	IE
CHECKED BY	Checker

29/02/2016 10:28:45 AM

200mm ON ORIGINAL A1
100mm
25mm
0

PLAYING FIELD BELOW

STAGE 1 AT ENTRY & LOWER LEVEL

STAGE 2 AT ENTRY & LOWER LEVEL

STAGE 3 AT ENTRY & LOWER LEVEL

5
438-S12

600 6300 6300 6300 6300 6300 6300 44700

37.00 38.00 39.00 40.00

COVERED OUTDOOR 2
211 m²
RL 44.00

PLANT PLAY AREA
CUBBY

KINDER
184 m²
RL 44.100

QUIET 1
24 m²

QUIET 2
24 m²

YEAR 1
181 m²

QUIET 3
24 m²

QUIET 4
24 m²

YEAR 2
182 m²

ST 4 m²
ST 2 m²
ST 2 m²
ST 1 m²
ST 4 m²
ST 3 m²
ST 2 m²

ART 4 m²
ART 4 m²

WC 1 5 m²
WC 2 5 m²

ACCESS WC 8 m²
EDB & COM 6 m²
LIFT 8 m²

STAIR 1 19 m²
STAIR 2 19 m²
STAIR 3 20 m²

ACCESS WC 10 m²
CL 3 m²
CL 1

BOYS 28 m²
GIRLS 30 m²

AC PLANT

DN

TOP OF EXISTING BANK

GALLERY
270 m²
RL 44.100

TIERED SEATING
130 m²

43.30

COVERED OUTDOOR 1
188 m²

CIRCULATION

ENTRY/FOYER

ERL 43.90

COVERED ENTRY
61 m²

7340 14560 25680 80240 2200

2900 11800

RECEPTION
19 m²

INTERVIEW
19 m²

OFFICE 2
12 m²

OFFICE 1
15 m²

WORK ROOM
20 m²

ACCESS WC/SHR
10 m²

STORE 1
9 m²

PASSAGE
47 m²

CLINIC 12 m²
CLINIC 12 m²
ST 3 5 m²
STORE 2
28 m²

ADMINISTRATION STAGE 4
RL 44.100

STAFF STUDY
64 m²

WC 1 8 m²
WC 2 8 m²
ST 4 3 m²

ENTRY COURTYARD

FUTURE PARENTS CENTRE

DEMOLISH EXISTING DEMOUNTABLE

PLAYSCAPE OUTDOOR AREA
SEE LANDSCAPE PLAN US 50318 LP

22 CAR PARKING SPACES
2400 2400 5500 6700

EXISTING HALL | FUTURE ADDITIONS TO HALL

1 ENTRY LEVEL
1 : 100

200mm ON ORIGINAL A1
100mm
25mm
0

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No.	DESCRIPTION	DATE

No.	DESCRIPTION	DATE

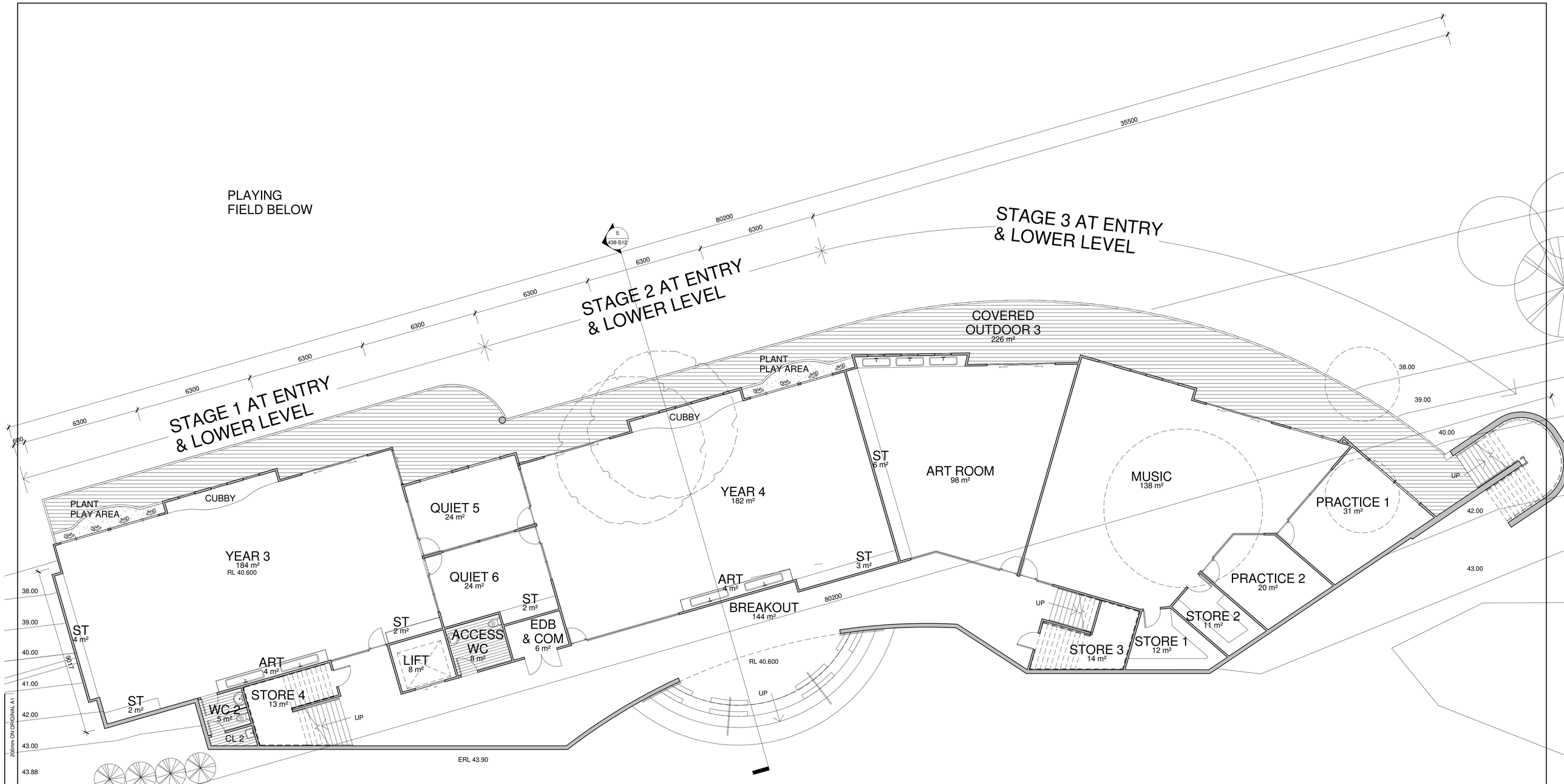
ST PHILIPS CHRISTIAN COLLEGE
GOSFORD CAMPUS
NARARA CREEK ROAD, NARARA

PROPOSED JUNIOR SCHOOL BUILDING

ENTRY LEVEL
438-S10
SCALE 1 : 100

PROJECT NUMBER	438
DATE	AUGUST
DRAWN BY	IE
CHECKED BY	Checker

14/09/2015 12:40:12 PM



1 LOWER LEVEL 1

1 : 100

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NOTES
WORK TO FIGURED DIMENSIONS IN PREFERENCE TO SCALE. CHECK ALL DIMENSIONS ON SITE PRIOR TO ORDERING MATERIALS & CONSTRUCTION.

No.	DESCRIPTION	DATE

No.	DESCRIPTION	DATE

ST PHILIPS CHRISTIAN COLLEGE
GOSFORD CAMPUS
NARARA CREEK ROAD, NARARA

PROPOSED
JUNIOR SCHOOL
BUILDING

LOWER LEVEL 1
438-S11

SCALE 1 : 100

PROJECT NUMBER	438
DATE	AUGUST
DRAWN BY	IE
CHECKED BY	Checker

14/09/2015 12:38:12 PM

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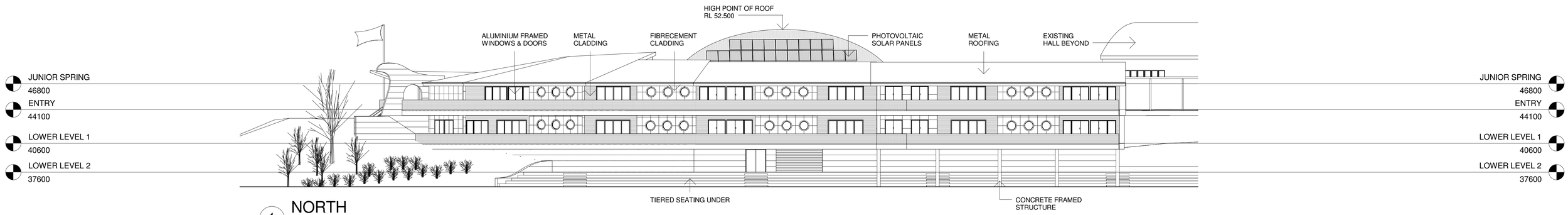
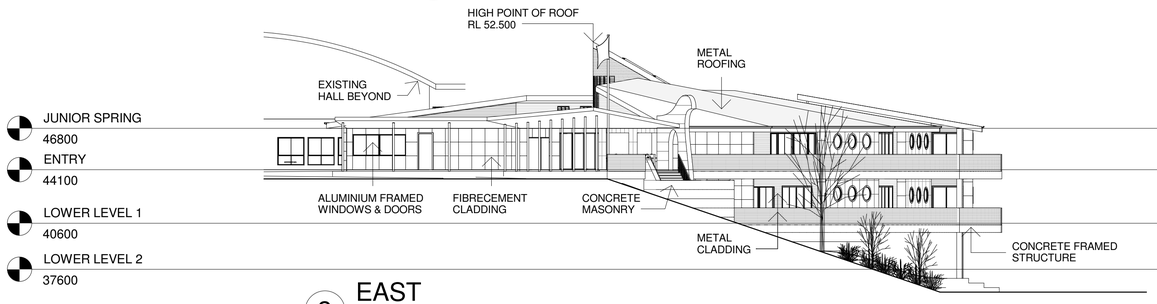
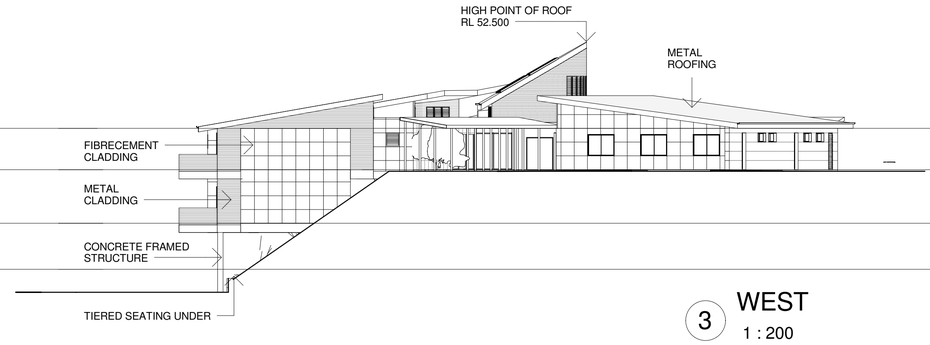
100mm
25mm
0



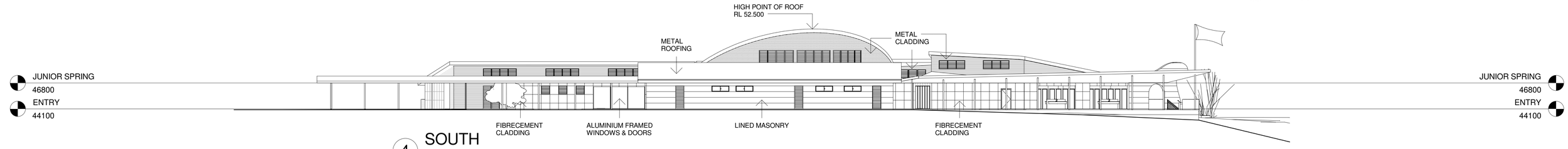
1 NORTH
1 : 200



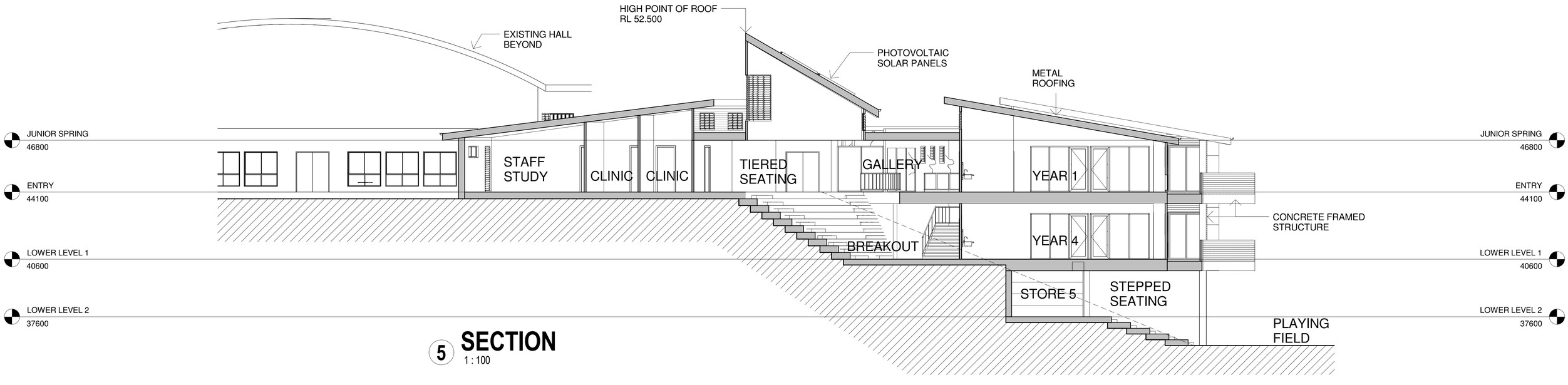
2 EAST
1 : 200



3 WEST
1 : 200



4 SOUTH
1 : 200



5 SECTION
1 : 100

200mm ON ORIGINAL A1
100mm
25mm
0

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No.	DESCRIPTION	DATE

No.	DESCRIPTION	DATE

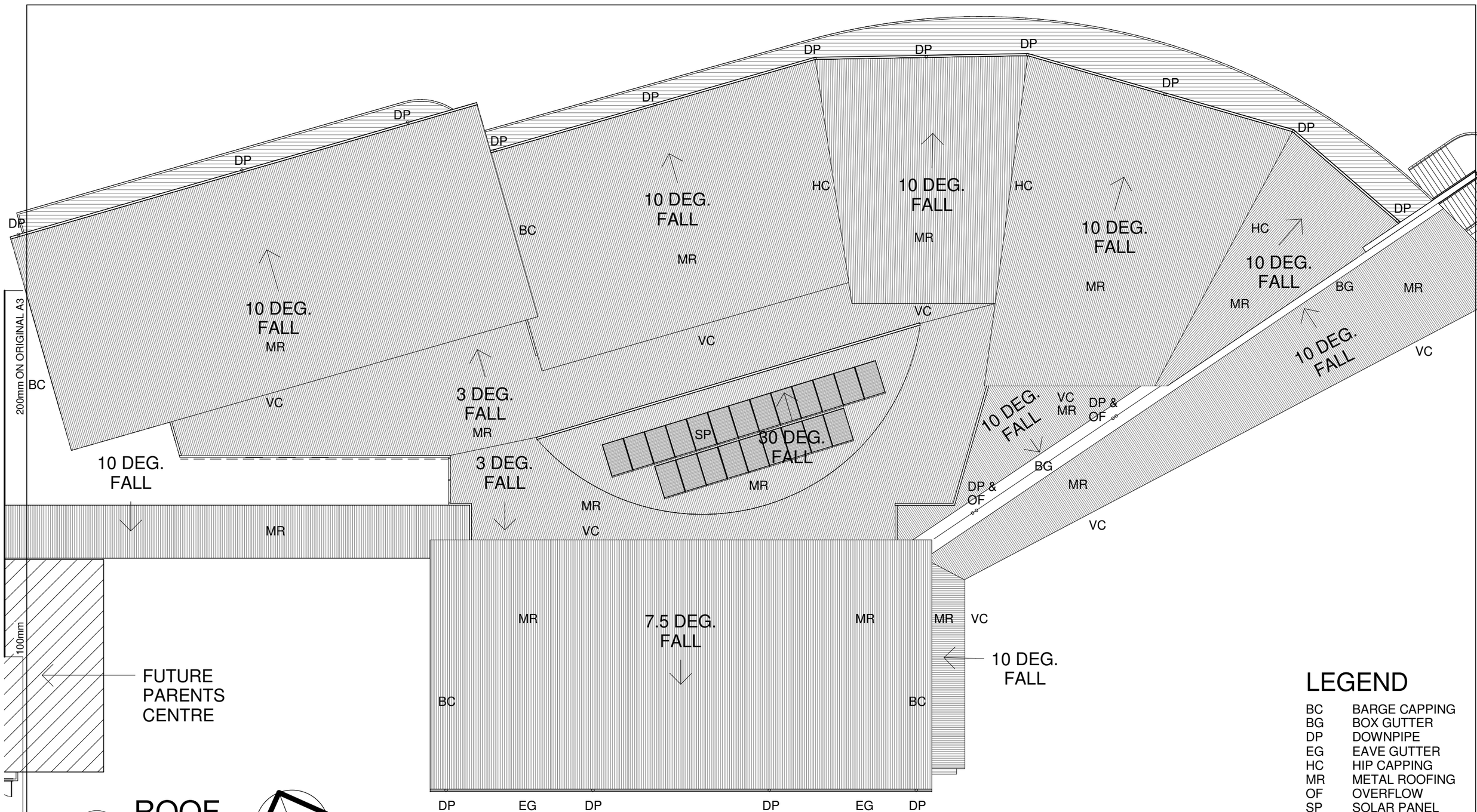
ST PHILIPS CHRISTIAN COLLEGE
GOSFORD CAMPUS
NARARA CREEK ROAD, NARARA

PROPOSED
JUNIOR SCHOOL
BUILDING

ELEVATIONS & SECTION
438-S12
SCALE As indicated

PROJECT NUMBER	438
DATE	AUGUST
DRAWN BY	IE
CHECKED BY	Checker

14/09/2015 12:41:58 PM



1 ROOF
1 : 200

LEGEND

BC	BARGE CAPPING
BG	BOX GUTTER
DP	DOWNPIPE
EG	EAVE GUTTER
HC	HIP CAPPING
MR	METAL ROOFING
OF	OVERFLOW
SP	SOLAR PANEL
SPR	SPREADER
VC	VERGE CAPPING

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ABN No. 45 774 395 883 Reg. No. 4787

No.	Description	Date

ST PHILIPS CHRISTIAN COLLEGE
GOSFORD CAMPUS
NARARA CREEK ROAD, NARARA
JUNIOR SCHOOL BUILDING

ROOF PLAN

Project number	438
Date	DECEMBER
Drawn by	IE
Checked by	Checker

438-S13

Scale: As indicated

22/12/2015 12:28:48 PM

PLAYING FILEDS

STAGE 1 AT ENTRY AND LOWER LEVEL

CUT TO GRADE OF SEATING

CUT RL 37.6

CUT RL 37.6
STORE/AC PLANT

0.4m

2.7m

TEMPORARY CUT BATTER

EXISTING LEVELS REMAIN

CUT RL 40.3

CUT RL 40.3
FOR PLANT ACCESS

3.5m

CUT TO GRADE OF SEATING

2.9m

TOP OF BANK

BTM OF BANK

LEVEL 1 OVER

SW PIT

BOUNDARY

CUT/FILL RL 43.8

CUT RL 43.8

EXISTING HALL FLOOR LEVEL 44.13

EXISTING CONCRETE DRIVEWAY

B
C1

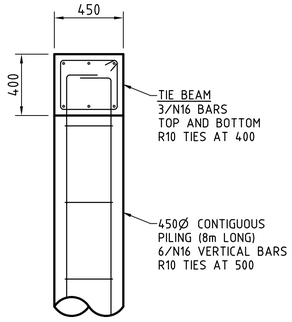
B.M.NAIL in T.K.
RL 44.60m A.H.D.

LEGEND

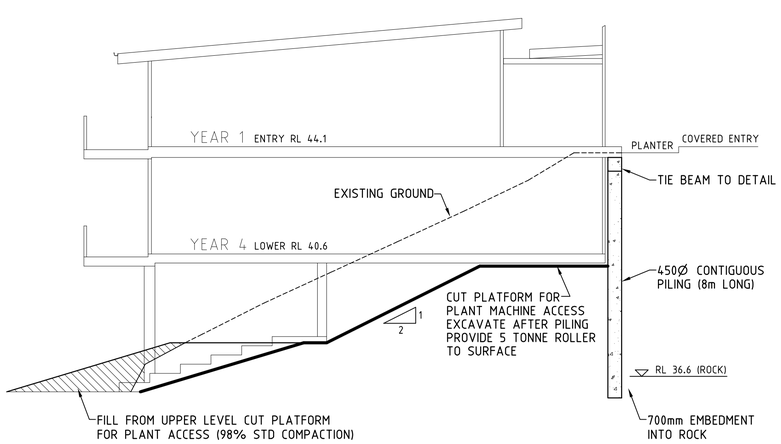
- 13.8 — FINISHED BULK EARTHWORKS LEVELS (+0/-30mm)
- 44 — EXISTING CONTOUR SURFACE LEVELS
- EXISTING BUILDING
- DIRECTION OF FALL TO FINISHED SURFACE FOR OVERLAND FLOW DURING CONSTRUCTION
- CUT BATTERS
- 450Ø CONTIGUOUS PILING x 8m LONG 6/N16 VERTICAL BARS, R10 TIES AT 500 FOUND AT RL 36.6 (ROCK)

NOTE

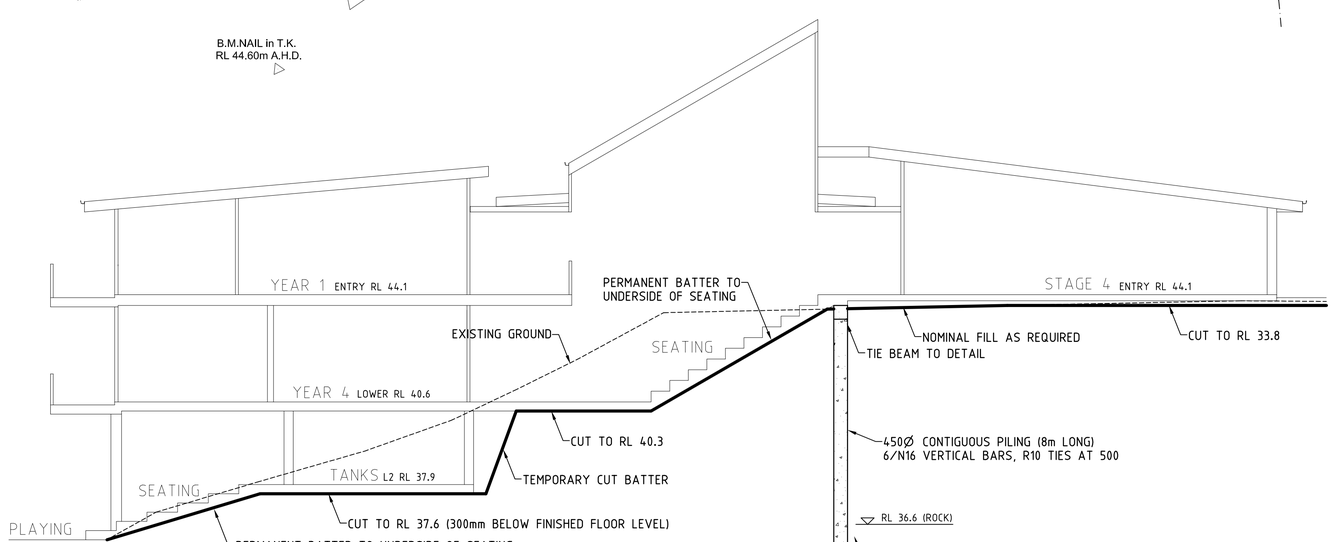
* ALL WORKS SHALL BE INSPECTED BY SUITABLY QUALIFIED GEOTECHNICAL ENGINEER TO LEVEL 1 SUPERVISION - AS3798-2007.



TYPICAL CONTIGUOUS WALL



SECTION A
SCALE 1.100



SECTION B
SCALE 1.100

issue	date	comment
2	17.08.2015	general revisions
1	01.05.2015	preliminary

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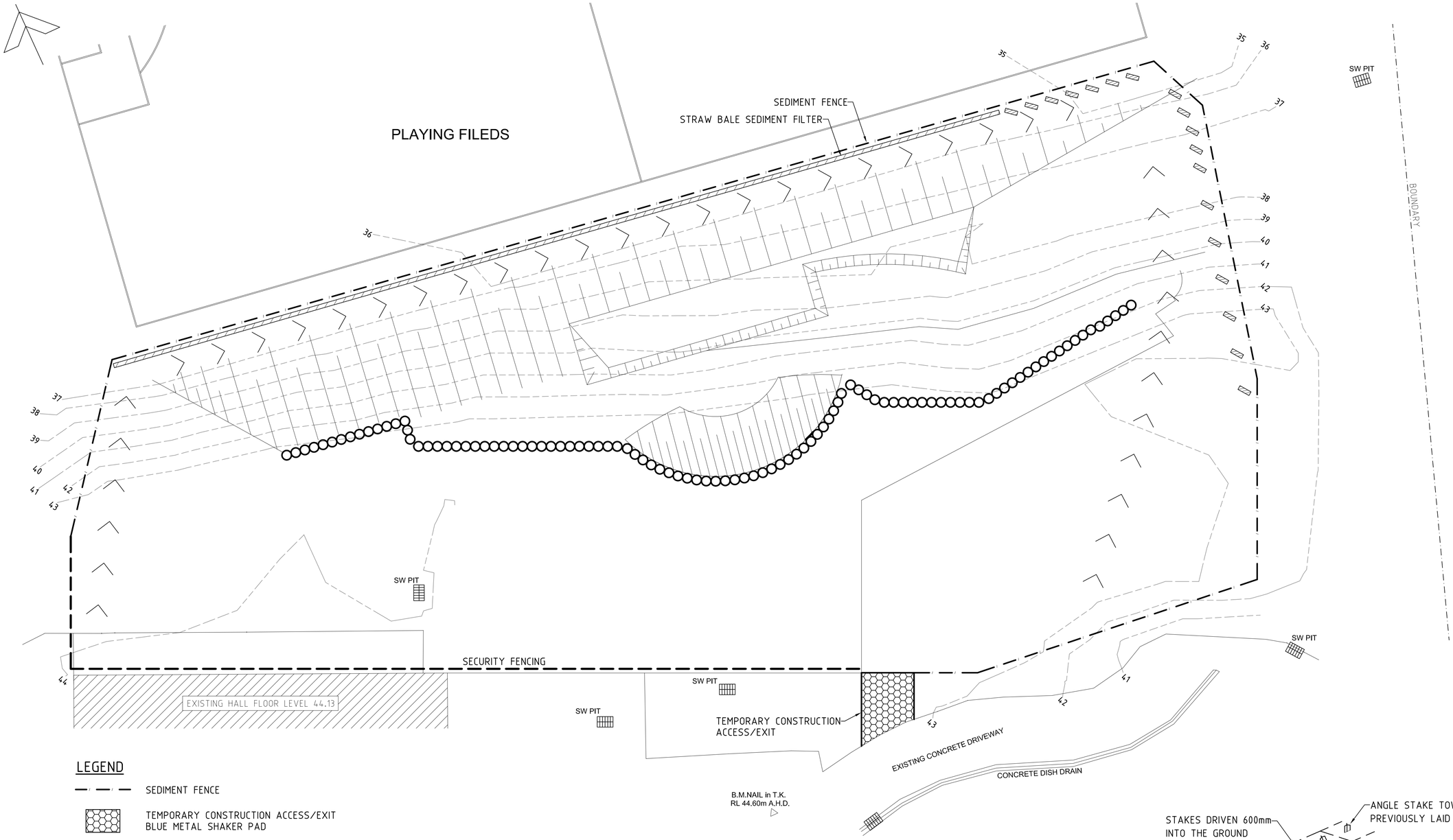
project
PROPOSED JUNIOR SCHOOL BUILDING
ST PHILLIPS CHRISTIAN COLLEGE
NARARA CREEK ROAD, NARARA

architect
IAN EASTON

drawing
BULK EARTHWORKS PLAN

date MAY 2015	scales 1.200,100	job no. 15-E186	
drawn L.TAPP	cad file 2015-025		
certified		drawing no. C1	issue 2



GENERAL NOTES

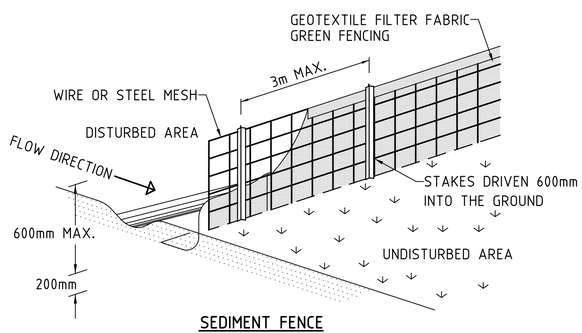
1. All excess excavated material to be removed from site.
2. Builder to landscape and revegitate the site immediately after building works construction.
3. All existing vegetation including trees (AS NOTED) to be cleared from site. Refer to landscape plan for details.
4. The developer is responsible for ongoing maintenance of erosion and siltation control measures.
5. It is the contractors responsibility to ensure that all works are carried out in strict accordance with the OCCUPATIONAL HEALTH AND SAFETY ACT.
6. All work is to be carried out in accordance with Councils specification for subdivision works and to the satisfaction of the director of development.
7. Council are to notified prior to the commencement of any works.
8. All public utilities are to be clearly identified in the field prior to any civil works. Council does not accept any responsibility for damage or relocation costs to public utilities during the construction of this development.
9. Permission to enter, construct works and discharge stormwater on adjoining properties shall be obtained and submitted to council prior to the commencement of any works.
10. All erosion and sediment control measures are to be carried out in accordance with Council's code of practice for erosion and sedimentation and must be implemented prior to the commencement of any building of civil works.
11. The rectification of all matters arising from insufficient information being shown on the submitted plans is to be carried out to the Engineer's satisfaction.
12. These plans are to be read in conjunction with the conditions stated in local Council's engineering plan approval correspondence.

SEDIMENT CONTROL NOTES

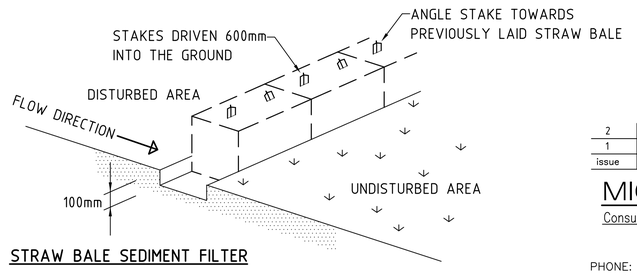
1. All sediment control devices are to be constructed, placed and maintained in accordance with 'Urban Erosion & Sediment Control', C.A.L.M. N.S.W.
2. All perimeter & siltation control measures are to be constructed as the first step in earthworks and/or cleaning.
3. All temporary earth berms, diversion & silt dam embankments are to be machine compated, seeded and mulched for temporary vegetation cover as soon as they have been formed.
4. All sediment trapping structures and devices are to be inspected after storms for structural damage or clogging. Trapped material is to be removed to a safe approved location.
5. All topsoil is to be stockpiled on site for re-use (away from trees and drainage lines) Measures shall be applied to prevent erosion of the stockpiles.
6. All cut and fill slopes are to be seeded and mulched within 10 days of completion of formation.
7. No disturbed area is to remain denuded longer than 14 days. Hydromulch or turf as required.
8. The area over all service lines not within road reserves is to be mulched and seeded or turfed where instructed within 14 days after backfill.
9. No more than 150 metres of trench is to be open at any one time.
10. All footpaths, berms and batters and site regrading area are to be topsoiled with minimum 100mm of selected site topsoil and grassed with seed.
11. Strips of turf are to be placed immediately behind the kerb of accessways 600mm wide minimum.
12. All landscaping measures including the establishment of grassing are to be completed prior to the final inspection. All erosion devices are to be maintained until the landscaping is completed and established.

LEGEND

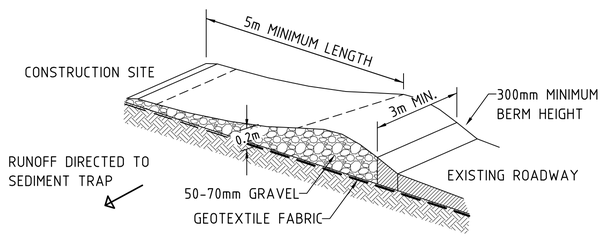
- SEDIMENT FENCE
- TEMPORARY CONSTRUCTION ACCESS/EXIT BLUE METAL SHAKER PAD
- STRAW BALE SEDIMENT FILTER
- EXISTING CONTOUR LEVELS
- OVERLAND FLOWPATH
- 450Ø CONTIGUOUS PILING x 8m LONG 6/N16 VERTICAL BARS, R10 TIES AT 500 FOUND AT RL 36.6 (ROCK)



SEDIMENT FENCE



STRAW BALE SEDIMENT FILTER



TEMPORARY CONSTRUCTION CROSSING

issue	date	comment
2	17.08.2015	general revisions
1	01.05.2015	preliminary

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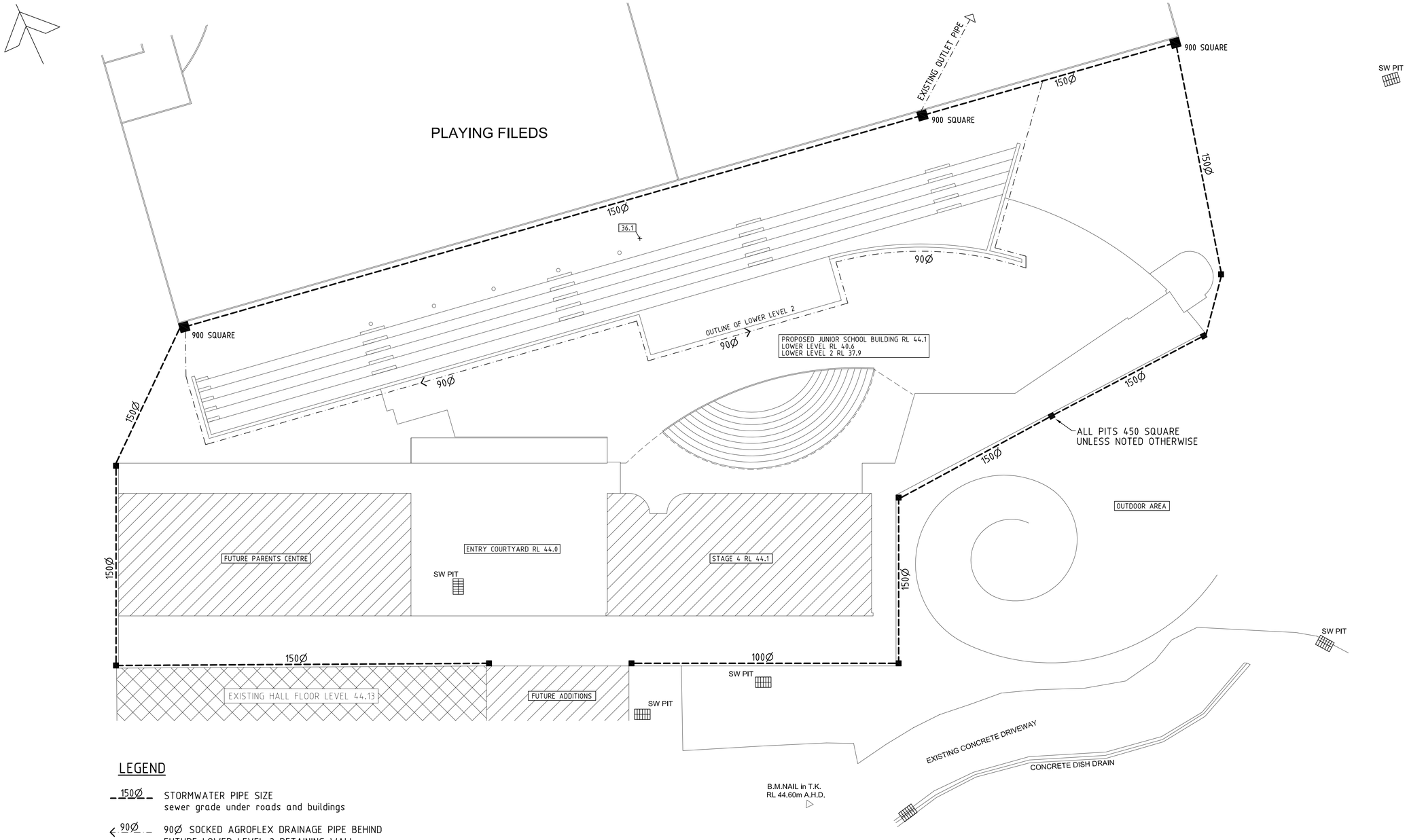
N.S.W. 2303.

project
PROPOSED JUNIOR SCHOOL BUILDING
ST PHILLIPS CHRISTIAN COLLEGE
NARARA CREEK ROAD, NARARA

architect
IAN EASTON

drawing
SEDIMENT AND EROSION CONTROL

date MAY 2015	scales 1.200	job no. 15-E186	
drawn L.TAPP	cad file 2015-025		
certified		drawing no. C2	issue 2



LEGEND

- 150Ø — STORMWATER PIPE SIZE
  sewer grade under roads and buildings
- 90Ø — 90Ø SOCKED AGROFLEX DRAINAGE PIPE BEHIND FUTURE LOWER LEVEL 2 RETAINING WALL
- ■ — PRECAST CONCRETE DRAINAGE PIT - REFER SCHEDULE
  HEAVY DUTY GALVANISED GRATE COVERS IN TRAFFICABLE AREAS AND OVERLAND FLOWPATH
  LIGHT DUTY STAINLESS STEEL 'ACO HEELGUARD' COVERS TO ACCESSIBLE PEDESTRIAN AREAS.
- 21.5 — FINISHED SURFACE LEVELS
- ← — DIRECTION OF FALL TO FINISHED GROUND
- °DP — DOWNPIPE - REFER ARCHITECTS DRAWINGS FOR SETOUT
- °IO — INSPECTION OPENING
- °FW — FLOOR WASTE IN DECK SLAB

STORMWATER DRAINAGE NOTES

1. ALL STORMWATER DRAINAGE INSTALLATION WORKS TO COMPLY WITH NATIONAL PLUMBING AND DRAINAGE CODE AS 3500, THE BCA, NSW CODE OF PRACTICE 1999, COUNCIL CONSENT CONDITIONS AND THE STATUTORY AUTHORITY'S REQUIREMENTS.
2. ALL PITS TO BE PRECAST CONCRETE STEEL REINFORCED.
3. ALL PIPES TO BE 90Ø UPVC UNLESS NOTED OTHERWISE.
4. ALL PIPE SIZES SHOWN ARE DN (DIAMETER NOMINAL) EQUIVALENT PIPE SIZES FOR THE SELECTED PIPE MATERIALS TO COMPLY WITH TABLE 1.1 AND 1.3 OF AS3500.
5. 100Ø PIPES TO BE CLASS SN6 UPVC LAID AT MINIMUM GRADE 1 IN 100.
6. 150Ø PIPES TO BE CLASS SN4 UPVC LAID AT MINMUM GRADE 1 IN 100.
7. 90Ø SUBSOIL DRAINAGE CLASS SN6 SLOTTED HARD TUBE LAID AT MINIMUM GRADE 1 IN 200.
8. ARROWS INDICATE DIRECTION OF GRADE 1.100 MINIMUM.
9. ALL LEVELS APPROXIMATE ONLY CONFIRM ON SITE
10. FLOOR LEVELS SHOWN ARE FINISHED FLOOR LEVELS.
11. COVER AND GRATE LEVELS TO BE MODIFIED AS NECESSARY ON SITE TO MATCH SURROUNDING AND ENSURE DRAINAGE TO GRATES.
12. MINIMUM COVER TO STORMWATER PIPES SHALL BE AS FOLLOWS:
    TRAFFICABLE AREAS 450mm.
    LANDSCAPED 300mm
    PIPES TO BE CONCRETE ENCASED IF MINIMUM COVERS CANNOT BE OBTAINED IN TRAFFICABLE AREAS, REFER TO CLAUSE 3.8 AS 3500.3. ALTERNATIVELY USE UPVC SEWER GRADE PIPES UNDER ROADS AND BUILDINGS.
13. ALL LANDSCAPED AREAS PROVIDE DN90 SUBSOIL DRAINS (AGROFLEX OR SIMILAR) LAID AT MINIMUM GRADE 1 IN 200. PROVIDE GEOFABRIC FILTER SOCK TO ALL PIPES.
14. USE 90Ø UPVC PIPES FROM ALL DOWNPIPES. FOR LOCATIONS OF DOWNPIPES REFER TO ARCHITECTURAL DRAWINGS.
15. ALL OUTLET PIPES TO HAVE 150 x 100 RHS HEAVY DUTY PLASTIC KERB ADAPTORS.

MAINTENANCE PROGRAMME

1. ALL STORMWATER PITS TO BE CLEANED ON A REGULAR BASIS AT MINIMUM 1 MONTH INTERVALS.
2. FLUSH SYSTEM ANNUALLY.

issue	date	comment
2	17.08.2015	general revisions
1	01.05.2015	preliminary

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147 PARKWAY AVENUE
HAMILTON SOUTH.
N.S.W. 2303.

project

PROPOSED JUNIOR SCHOOL BUILDING
ST PHILLIPS CHRISTIAN COLLEGE
NARARA CREEK ROAD, NARARA

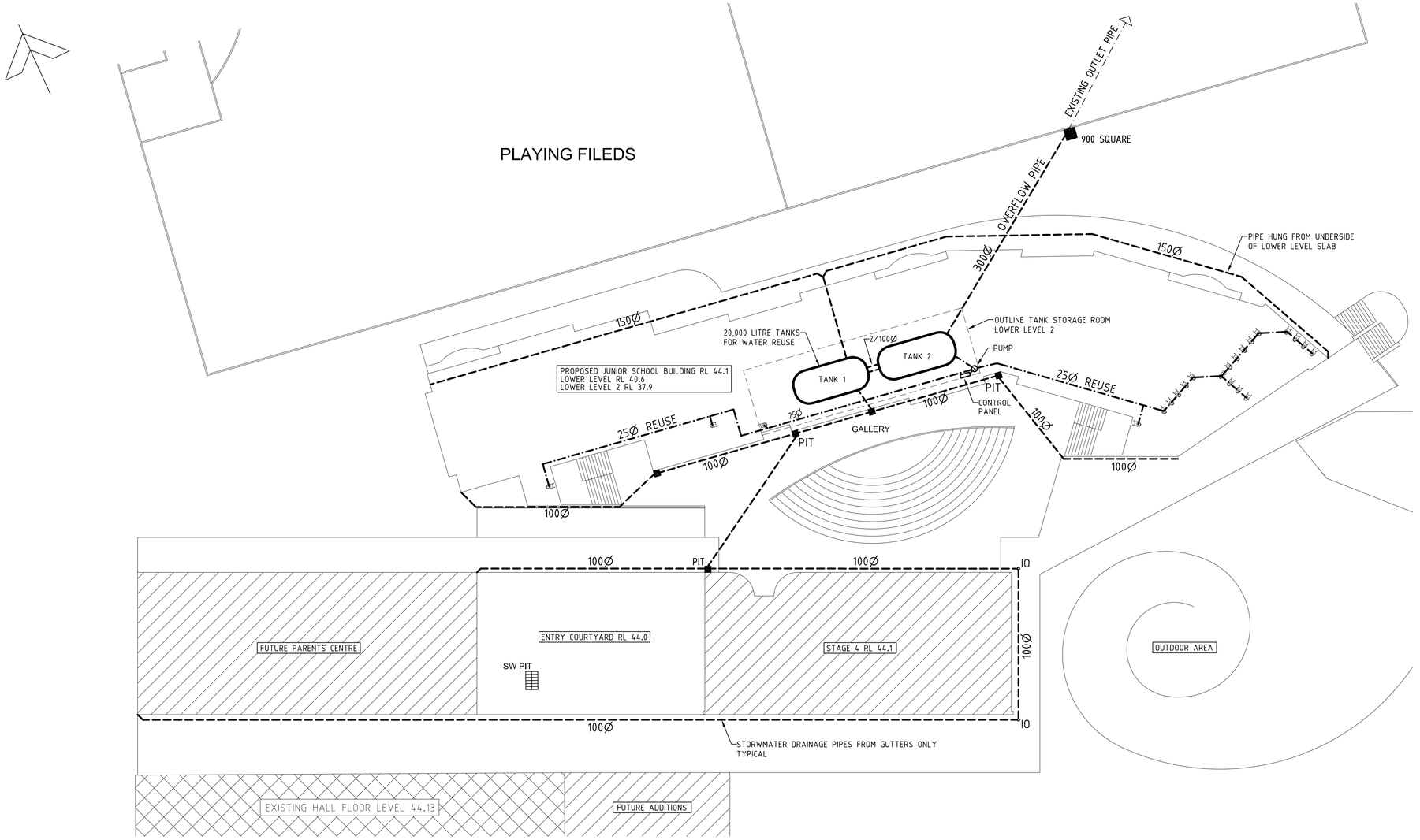
architect

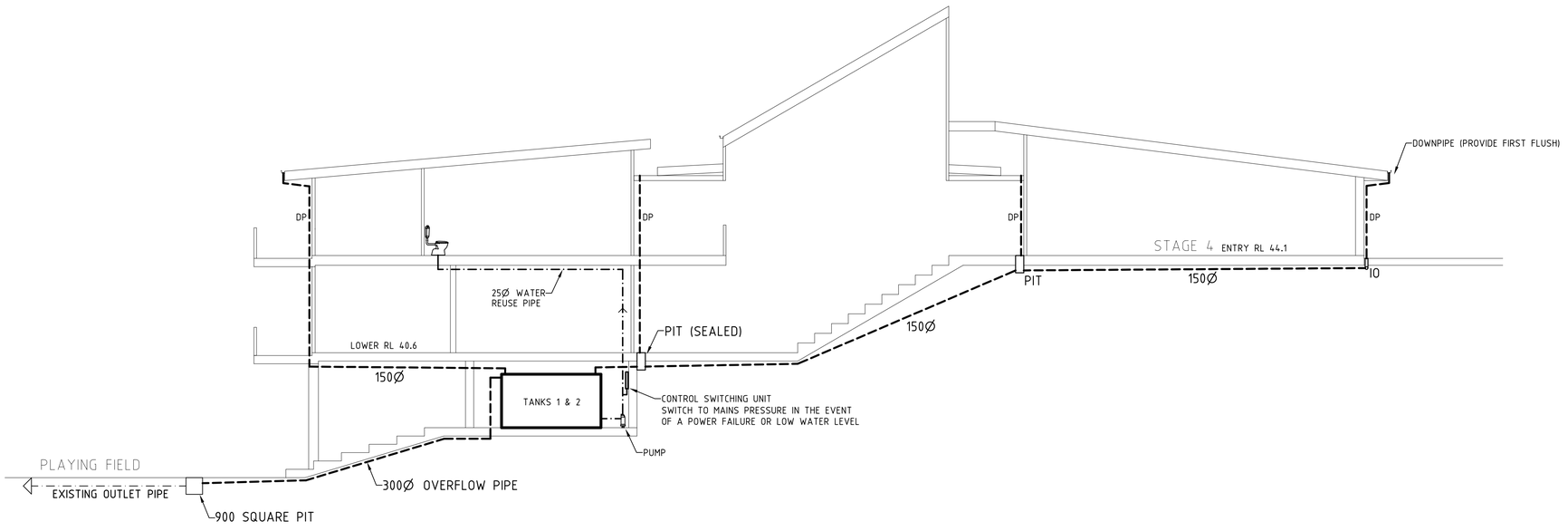
IAN EASTON

drawing

STORMWATER DRAINAGE - PAVED AREAS

date MAY 2015	scales 1.200	job no. 15-E186	
drawn L.TAPP	cad file 2015-025		
certified		drawing no. C3	issue 2





TYPICAL SECTION STORMWATER DRAINAGE REUSE

SCALE 1.100

LEGEND

- 150Ø — STORMWATER PIPE SIZE sewer grade under roads and buildings
- ■ PRECAST CONCRETE DRAINAGE PIT - REFER SCHEDULE LIGHT DUTY STAINLESS STEEL 'ACO HEELGUARD' COVERS TO ACCESSIBLE PEDESTRIAN AREAS.
- 21.5 FINISHED SURFACE LEVELS
- ← DIRECTION OF FALL TO FINISHED GROUND
- °DP DOWNPIPE - PROVIDE FIRST FLUSH REFER ARCHITECTS DRAWINGS FOR SETOUT
- °IO INSPECTION OPENING

issue	date	comment
2	17.08.2015	general revisions
1	01.05.2015	preliminary

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PROPOSED JUNIOR SCHOOL BUILDING
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drawing
STORMWATER DRAINAGE AND REUSE

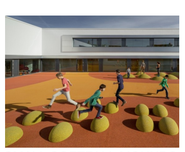
date MAY 2015	scales 1.200	job no. 15-E186	
drawn L.TAPP	cad file 2015-025		
certified		drawing no. C4	issue 2

Plant List

ID	Botanical Name	Common Name	Scheduled Size	Mature Height	Qty
Trees					
FG	Fraxinus grifithii	Evergreen Ash	75L	4 - 6m	8
LC	Lophostemon confertus	Box Brush	75L	10 - 15m	4
OE	Olea europa	Olive	75L	6m	11
PE	Prunus Elvins	Elvins Flowering Plum	45L	3m	2
TL	Tristaniopsis laurina	Water Gum	45L	6-8m	2
Shrubs					
CyC	Cyathea cooperi	Lacy Tree Fern	200mm	12m	5
HMH	Hardenbergia `Mini-Ha-Ha`	Mini-Ha-Ha	140mm	0.3 - 0.45m	19
SzR	Syzygium 'Resilience'	Resilience	200mm	3m	80
Ground Covers					
AN	Asplenium nidus	Bird's-Nest Fern	200mm	0.9 - 1.5m	15
TJ	Trachelospermum jasminoide	Star Jasmine	200mm	3 - 5m	25
Grasses					
IN	Isolepsis nodosa	Knobby Club Rush	tube	0.45 - 0.6m	102
LT	Lomandra 'Tanika'	Spiny-headed mat rush	140mm	0.45 - 0.6m	160
Climbers					


SOFTFALL MOUNDS WITH TUNNELS AND CLIMBING HOLDS


MOUND LADDERS


SMALL SOFTFALL MOUNDS


CLIMBING CUBBY


UNDULATING TRACK


AMPHITHEATRE/STAGE


CLIMBING LOGS



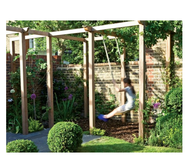

NETS ATTACHED TO CLIMBING LOGS


STONE SEATING/ CLIMBING AREA

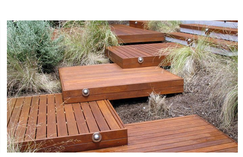

BRIDGE


RICKETTY BRIDGE


ROPE BRIDGE


SHADY ARBOUR


DRY RIVER BED


TIMBER PLATFORMS


WATER PUMP


INGROUND TRAMPOLINE

0m 5m 10m
SCALE 1:200

Client: ST PHILLIPS CHRISTIAN COLLEGE

Project:
Proposed JUNIOR SCHOOL - PHASE 1
ST PHILLIPS CHRISTIAN COLLEGE
GOSFORD CAMPUS
NARARA CREEK ROAD
NARARA

Drawing Name: Landscape Plan
Date: AUGUST 2015
Scale: 1:200 @ A1
Page no: 1/3
Drawn by: Lubov Pan BLARCH (UNSW)
Drawing No: US 50318 LP

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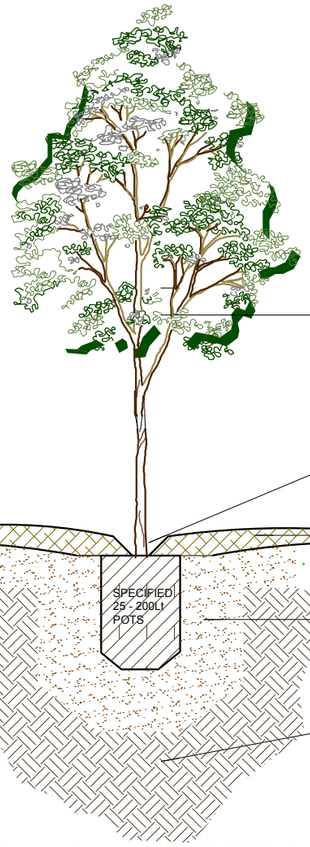


NOTE: DRIP IRRIGATION MAY BE REQUIRED AS NOMINATED BY CLIENT & DESIGNED BY LICENCED CONTRACTOR.
PLANT STOCK SHALL BE SOURCED FROM GROWERS CONFORMING TO NATSPEC. GUIDE 'SPECIFING TREES' BY ROSS CLARKE.
THOROUGHLY WATER IN ALL NEWLY PLANTED STOCK IMEADIATELY AFTER PLANTING.

QUALITY OF PLANT TO BE APPROVED BY PROJECT MANAGER OR LANDSCAPE ARCHITECT- IN GENERAL TREES TO BE FREESTANDING WITHOUT REQUIRING STAKING

PROVIDE SLIGHT DEPRESSION TO ALLOW FOR EFFECTIVE WATERING

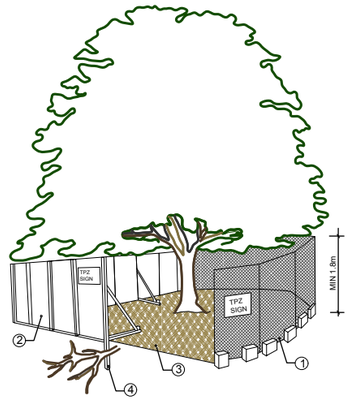
75mm FOREST FINES MULCH OR EQUAL

BACKFILL HOLE WITH CLEAN, TESTED SITE TOP-SOIL BLEND OR IMPORTED SOIL MIX APPROVED BY LANDSCAPE ARCHITECT

CULTIVATE/ RIP SUBGRADE

INDIVIDUAL TREE PLANTING DETAIL

approx 1:10



1. CHAIN WIRE MESH PANELS WITH SHADE CLOTH (IF REQUIRED) ATTACHED, HELD IN PLACE WITH CONCRETE FEET

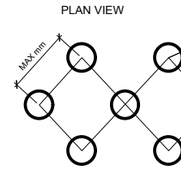
2. ALTERNATIVE PLYWOOD OR WOODEN PALING FENCE PANELS. THE FENCING MATERIAL ALSO PREVENTS BUILDING MATERIALS OR SOIL ENTERING THE TPZ

3. MULCH INSTALLATION ACROSS SURFACE OF TPZ (AT THE DISCRETION OF THE PROJECT ARBORIST). NO EXCAVATION, CONSTRUCTION ACTIVITY, GRADE CHANGES, SURFACE TREATMENT OR STORAGE OF MATERIALS OF ANY KIND IS PERMITTED WITHIN THE TPZ

4. BRACING IS PERMISSIBLE WITHIN THE TPZ. INSTALLATION OF SUPPORTS TO AVOID DAMAGING ROOTS

TREE PROTECTION ZONE

approx 1:10

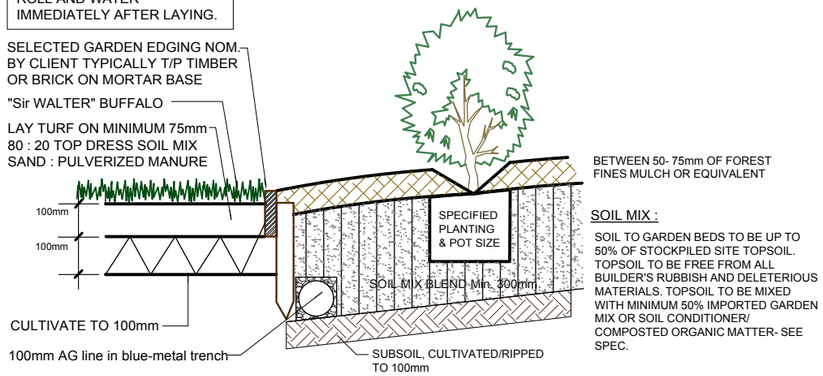


STAGGERED PLANTING TO SPECIFIED DENSITIES / RATES AS SHOWN

PLANTS AS PER PLANTING SCHEDULE

Planting Setout n.t.s

NOTE: TURF AREAS TO FINISH FLUSH WITH SURROUNDS. ROLL AND WATER IMMEDIATELY AFTER LAYING.



TYPICAL TURFING & GARDEN PREPARATION WITH GARDEN EDGE n.t.s

Amendments	Date	Approved

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Client: ST PHILLIPS CHRISTIAN COLLEGE

Project: Proposed JUNIOR SCHOOL - PHASE 1
ST PHILLIPS CHRISTIAN COLLEGE GOSFORD CAMPUS
NARARA CREEK ROAD
NARARA

Drawing Name: Details Sheet

Scale	Drawing No.	Page no.
as shown	US 50318 DS	2/3

Date: AUGUST 2015

Drawn by: *Lubov Pan BLARCH (UNSW)*

LANDSCAPE WORK SPECIFICATION
Project:

PRELIMINARIES

1.01 GENERAL

The following general conditions should be considered prior to the commencement of landscape works:

- The landscape plans should be read in conjunction with the architectural plans, hydraulic plans, service plans and survey prepared for the proposed development.
- All services including existing drainage should be accurately located prior to the commencement of landscape installation. Any proposed tree planting which falls close to services will be relocated on site under the instruction of the landscape architect.
- Installation of conduit for required irrigation, electrical and other services shall be completed prior to the commencement of hardscape works and hardstand pours.
- All outdoor lighting specified by architect or client to be installed by qualified electrician
- Anomalies that occur in these plans should be brought to our immediate attention.
- Where an Australian Standard applies for any landscape material testing or installation technique, that standard shall be followed.

1.02 PROTECTION OF ADJACENT FINISHES

The Contractor shall take all precautions to prevent damage to all or any adjacent finishes by providing adequate protection to these areas / surfaces prior to the commencement of the Works

1.03 PROTECTION OF EXISTING TREES

Existing trees identified to be retained shall be done so in accordance with AS 4970-2009. Where general works are occurring around such trees, or pruning is required, a qualified Arborist shall be engaged to oversee such works and manage tree health.
Existing trees designated on the drawing for retention shall be protected at all times during the construction period. Any soil within the drip-line of existing trees shall be excavated and removed by hand only. No stockpiling shall occur within the root zone of existing trees to be retained.

Any roots larger in diameter than 50mm shall only be severed under instruction by a qualified arborist. Roots smaller than 50mm diameter shall be cut cleanly with a saw.

1.8m high temporary fencing shall be installed around the base of all trees to be retained prior to the commencement of landscape works. The location of this fencing will be as per the TPZ defined by the consulting Arborist. If no Arborists report is available, install fence around the drip line of these trees, or a minimum of 3m from the trunk. The fencing shall be maintained for the full construction period.

1.04 EROSION & POLLUTION CONTROL

The Contractor shall take all proper precautions to prevent the erosion of soil from the subject site. The contractor shall install erosion & sediment control barriers and as required by council, and maintain these barriers throughout the construction period. Note that the sediment control measures adopted should reflect the soil type and erosion characteristics of the site.

Erosion & pollution control measures shall incorporate the following:
- Construction of a sediment trap at the vehicle access point to the subject site.
- Sediment fencing using a geotextile filter fabric in the location indicated on the erosion control plan or as instructed on site by the landscape architect.
- Earth banks to prevent scour of stockpiles
- Sandbag kerb sediment traps
- Straw bale & geotextile sediment filter.
- Exposed banks shall be pegged with an approved Jute matting in preparation for mass planting

Refer to “Sitewise Reference Kit” as prepared by DLWC & WSROC (1997) for construction techniques

SOIL WORKS

2.01 MATERIALS

Specified Soil Conditioner - Mass planting in natural ground
The specified soil conditioner for mass planting shall be an organic mix, equal to “Soil conditioner”, as supplied by Oz Landscaping Supplies.
Note that for sites where soil testing indicates toxins or extremes in pH, or soils that are extremely poor, allow to excavate and supply 300mm of imported soil mix.

Specified Soil Mix - Turf
The specified soil mix for all turf areas shall be a min 75mm layer of imported soil mix consisting of 80% washed river sand (reasonably coarse), and 20% composted organic matter equivalent to mushroom compost or soil conditioner, or other approved lawn top dress.

Site Topsoil
Site topsoil is to be clean and free of unwanted matter such as gravel, clay lumps, grass, weeds, tree roots, sticks, rubbish and plastics, and any deleterious materials and materials toxic to plants. The topsoil must have a pH of between 5.5 and 7.

2.02 INSTALLATION

a) Testing
All testing is to be conducted in accordance with AS 4419-2003 Soils for landscaping and garden use for an in depth soil analysis for pre-planting and diagnostic assessment of the soil.
Tests shall be taken in several areas where planting is proposed, and site soil modified to ensure conditions are appropriate for planting as stated above.

Note that a soil test conducted by "SESL Australia" or approved equal shall be prepared for all commercial, industrial and multi-unit residential sites. The successful landscape contractor shall implement the recommendations of this test.

b) Set Out of Individual Trees & Mass Planting Areas
All individual tree planting positions and areas designated for mass planting shall be set out with stakes or another form of marking, ready for inspection and approval. Locate all services.

c) Establishing Subgrade Levels
Subgrade levels are defined as the finished base levels prior to the placement of the specified material (i.e. soil conditioner). The following subgrade levels shall apply:
- Mass Planting Beds - 300mm below existing levels with specified imported soil mix.
- Turf areas - 100mm below finished surface level.

Note that all subgrades shall consist of a relatively free draining natural material, consisting of site topsoil placed previously by the Civil Contractor. No builders waste material shall be acceptable.

d) Subgrade Cultivation
Cultivate all subgrades to a minimum depth of 150mm in all planting beds and all turf areas, ensuring a thorough breakup of the subgrade into a reasonably coarse tilth. Grade subgrades to provide falls to surface and subsurface drains, prior to the placement of the final specified soil mix.

e) Drainage Works
Install surface and subsurface drainage where required and as detailed on the drawing. Drain subsurface drains to outlets provided, with a minimum fall of 1:100 to outlets and / or service pits.

f) Placement and Preparation of Specified Soil Conditioner & Mixes.
- Trees in turf & beds - Holes shall be twice as wide as root ball and minimum 100mm deeper - backfill hole with 50/50 mix of clean site soil and imported “Organic Garden Mix” as supplied by Oz Landscape Supplies or approved equal.
- Mass Planting Beds - Install specified soil conditioner to a compacted depth of 100mm

Place the specified soil conditioner to the required compacted depth and use a rotary hoe to thoroughly mix the conditioner into the top 300mm of garden bed soil. Ensure thorough mixing and the preparation of a reasonably fine tilth and good growing medium in preparation for planting.
- Turf Areas - Install specified soil mix to a minimum compacted depth of 75mm

Place the specified soil mix to the required compacted depth and grade to required finished soil levels, in preparation for planting and turfing.

PLANTING

3.01 MATERIALS

a) Quality and Size of Plant Material
In General, the principles & standards outlined in “Specifying Trees - a guide to assessment of tree quality” by Ross Clark will be demanded in the quality of all planting stock specified. These principles include, but are not limited to:
Above - Ground Assessment:
The following plant quality assessment criteria should be followed:
Plant true to type, Good vigour and health, free from pest & disease, free from injury, self-supporting, good stem taper, has been pruned correctly, is apically dominant, has even crown symmetry, free from included bark & stem junctions, even trunk position in pot, good stem structure Below - Ground Assessment:
Good root division & direction, rootball occupancy, rootball depth, height of crown, non-suckering For further explanation and description of these assessment criteria, refer to Ross Clark's book.

All Plant material shall be to the type and size specified. No substitutions of plant material shall be permitted without written prior approval by the Landscape Architect. No plant shall be accepted which does not conform to the standards listed above.

b) Fertilizers
Fertilizers shall be approved slow release fertilisers suitable for the proposed planting types. Note that for native plants, specifically Proteaceae family plants including Grevillea species, low phosphorus fertilizers shall be used.

c) Mulch
Mulch shall be leaf litter mulch equal to “Forest Blend” as supplied by ANL. Mulch shall be completely free from any soil, weeds, rubbish or other debris.

d) Turf
Turf shall be “Sir Walter” Buffalo or equivalent (unless stated otherwise), free from any weeds and other grasses, and be in a healthy growing condition.

3.02 INSTALLATION

a) Setting Out
All planting set out shall be in strict accordance with the drawings, or as directed. Note that proposed tree planting located near services should be adjusted at this stage. Notify Landscape Architect for inspection for approval prior to planting.

b) Planting
All plant material shall be planted as soon after delivery as possible. Planting holes for trees shall be excavated as detailed and specified. Plant containers shall be removed and discarded, and the outer roots gently teased from the soil mass. Immediately set plant in hole and backfill with specified soil mix, incorporating the approved quantity of fertiliser for each plant type. Ensure that plants are set plumb vertically and root balls set to the consolidated finished grades detailed on the drawings. Compact the backfilled soil and saturate by hand watering to expel any remaining air pockets immediately after planting.

c) Staking and Tying
Trees shall be of a quality that, when planted, are freestanding, without the aid of stakes or ties, else they will be rejected.

d) Mulching
Mulch should be spread so that a compacted thickness of 75mm is achieved after settlement in all planting beds and around each individual plant. Apply immediately following planting and watering in, ensuring that a 50mm radius is maintained around the trunk of each plant .
In all planter boxes, mulch to finish between 25-50mm below top of planter.
There shall be no mixing of soil and mulch material.

e) Turfing
Moisten soil prior to the turf being laid. Turf shall be neatly butt jointed and true to grade to finish flush with adjacent surfaces. Incorporate a lawn fertilizer and thoroughly water in. Keep turf moist until roots have taken and sods/rolls cannot be lifted. Keep all traffic off turf until this has occurred. Allow for top dressing of all turf areas. All turf shall be rolled immediately following installation.

f) Garden edging
The Contractor shall install garden edging to all mass planting beds adjoining turf or gravel mulched areas, and where required. The resultant edge shall be true to line and flush with adjacent surfaces.
Garden Edging: *to be Treated Pine Timber edging (Unless otherwise specified by Client).*

g) Root Barrier
Ensure root barrier is installed to all edges/junctions beween the garden bed and adjacent hard surfaces including but not limited to retaining walls, carparking, paths, underground pipes and tanks and buildings within a 3m radius of the trunk of any proposed trees.
Root barrier: *Equivalent to treemax root barrier.* Install root barrier to manufacturer's instructions.

h) Stepping Stones
Precast concrete slabs of 400-500mm SQ (or similar approved dimensions) shall be placed as indicated on plan at 200mm intervals. Finish and colour of stepping stones shall be nominated by the client. Install stepping stones as detail, flush with adjoining elements. Compact area under stepping stones locally where stepping stones occur in garden areas and generally where stepping stones occur in pea gravel/decorative pebble areas

i) Pea Gravel/Decorative Pebble
Compact area for pea gravel and Decorative Pebble installation with vibrating plate compactor before installation of pea gravel or Decorative Pebble.

Gravel/Pebbles are to be installed loose to the gap between the installed stepping stones. They are to finish flush with the adjacent paved surface and be topped up should they settle after installation. At the edges of a stepping stone and gravel/pebble area the gravel/pebble is to be retained by a garden edge.

Gravel Inlays: *Equivalent to 10mm Indo Cream pea gravel.*
Pebbles: *Equivalent to 20mm Indo Cream Pebble*

HARDSCAPE WORKS

4.01 GENERAL

The Contractor shall undertake the installation of all hardscape works as detailed on the drawing, or where not detailed, by manufacturers specification.
- Paving - refer to typical details provided, and applicable Australian Standards. *Permeable paving may be used as a suitable means of satisfying Council permeable surface requirements, while providing a useable, hardwearing, practical surface.* In most instances, the client shall nominate the appropriate paving material to be used.

Planters on-slab - refer to the details provided and the architectural plans for size & dimensions. Waterproof as detailed, and backfill with specified soil mix
Australian Standards shall be adhered to in relation to all concrete, masonry & metal work.
Some details are typical and may vary on site. All hardscape works shall be setout as per the drawings, and inspected and approved by the Landscape Architect prior to installation.
All workmanship shall be of the highest standard. Any queries or problems that arise from hardscape variations should be bought to the attention of the Landscape Architect.

IRRIGATION WORKS

5.01 GENERAL (PERFORMANCESPECIFICATION)

New irrigation systems to planting areas shall be a Commercial Grade Irrigation System conforming to AS 3500 & the latest Sydney Water Code

The irrigation system shall be installed prior to all planting works. It shall incorporate a commercially available irrigation system, with dripper lines for all trees, and suitable jet sprinkler heads for the shrub species specified. It shall also incorporate a suitable back flow prevention device for the scale of works, an in-line filter, check valves, and suitable high and low density poly hose fittings and PVC piping to achieve flow rates suitable for specified planting.

The landscape contractor shall check the existing pressure available from the ring mains and size irrigation piping to suit. Supply shall be from local hose cock where available. All piping and fittings are to be buried 50mm below the finished soil levels in garden bed areas, and secured in position at 5m centre with galv wire pins. Sizing of pipes shall be done so as to ensure that the working pressure at the end of the line does not decrease by more than 5%. Upon completion of installation, the system shall be tested and all components are to be satisfactorily functional and operational prior to approval. Should any defect develop, or the capacity or efficiency of the system decline during the agreed maintenance system, then these faults shall be immediately rectified.

Detailed drawings of the entire proposed irrigation system shall be made available to the client for records and future maintenance of the system.

CONSOLIDATION AND MAINTENANCE

6.01 GENERAL

The consolidation and maintenance period shall be 12 months beginning from the approved completion of the specified construction work (Practical Completion) except in the case of street trees, which shall be maintained for a period of 24 months. A qualified landscape maintenance contractor shall undertake the required landscape maintenance works. Consolidation and maintenance shall mean the care and maintenance of Contracted works by accepted landscaping or horticultural practices, ensuring that all plants are in optimum growing conditions and appearance at all times, as well as rectifying any defects that become apparent in the contracted works.

This shall include, but not be limited to, the following items where and as required:

- Watering all planting and lawn areas / irrigation maintenance.
- Clearing litter and other debris from landscaped areas.
- Removing weeds, pruning and general plant maintenance.
- Replacement of damaged, stolen or unhealthy plants.
- Make good areas of soil subsidence or erosion.
- Topping up of mulched areas.
- Spray / treatment for Insect and disease control.
- Fertilizing with approved fertilizers at correct rates.
- Mowing lawns & trimming edges each 14 days in summer or 18 days in winter
- Maintenance of all paving, retaining and hardscape elements.

On the completion of the maintenance period, the landscape works shall be inspected and at the satisfaction of the superintendent or landscape architect, the responsibility will be signed over to the client.

Amendments	Date	Approved

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Client	Drawing Name	Date	Drawing No.	Page no.
ST PHILLIPS CHRISTIAN COLLEGE	Specification Sheet	AUGUST 2015	US 50318 SS	3/3

Project: Proposed JUNIOR SCHOOL - PHASE 1
ST PHILLIPS CHRISTIAN COLLEGE GOSFORD CAMPUS
NARARA CREEK ROAD
NARARA

Scale: n/a

Drawn by: Lubov Pan BLARCH (UNSW)