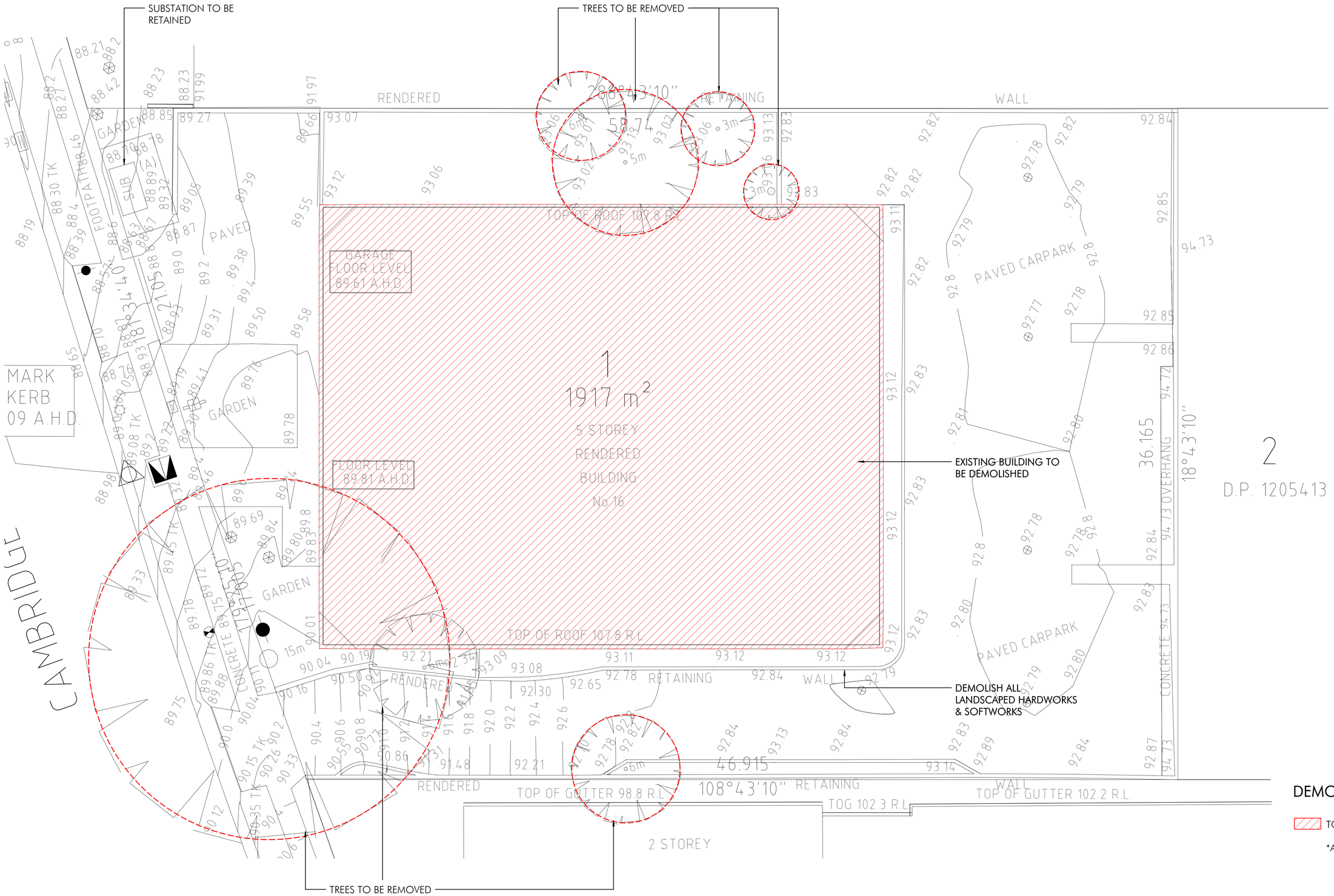


# DEMOLITION PLAN

TO BE DEMOLISHED

*ALL EXISTING TREES TO BE REMOVED

Client

**Just Properties Group**

| Issue | Description | Date |
|---|---|---|
| A | FOR DA SUBMISSION | 18.07.2018 |

Project Name
**MIXED USE DEVELOPMENT**

Project Address
**16 - 18 Cambridge Street, Epping**

0 2000 5000

Drawing Title:
DEMOLITION / SITE PLAN

Sheet Size: A1
Scale: 100
Drawing Number: **4479_DA002**
Issue: **A**

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117 Willoughby Road, Crows Nest, NSW 2065
t +61 2 9431 6431
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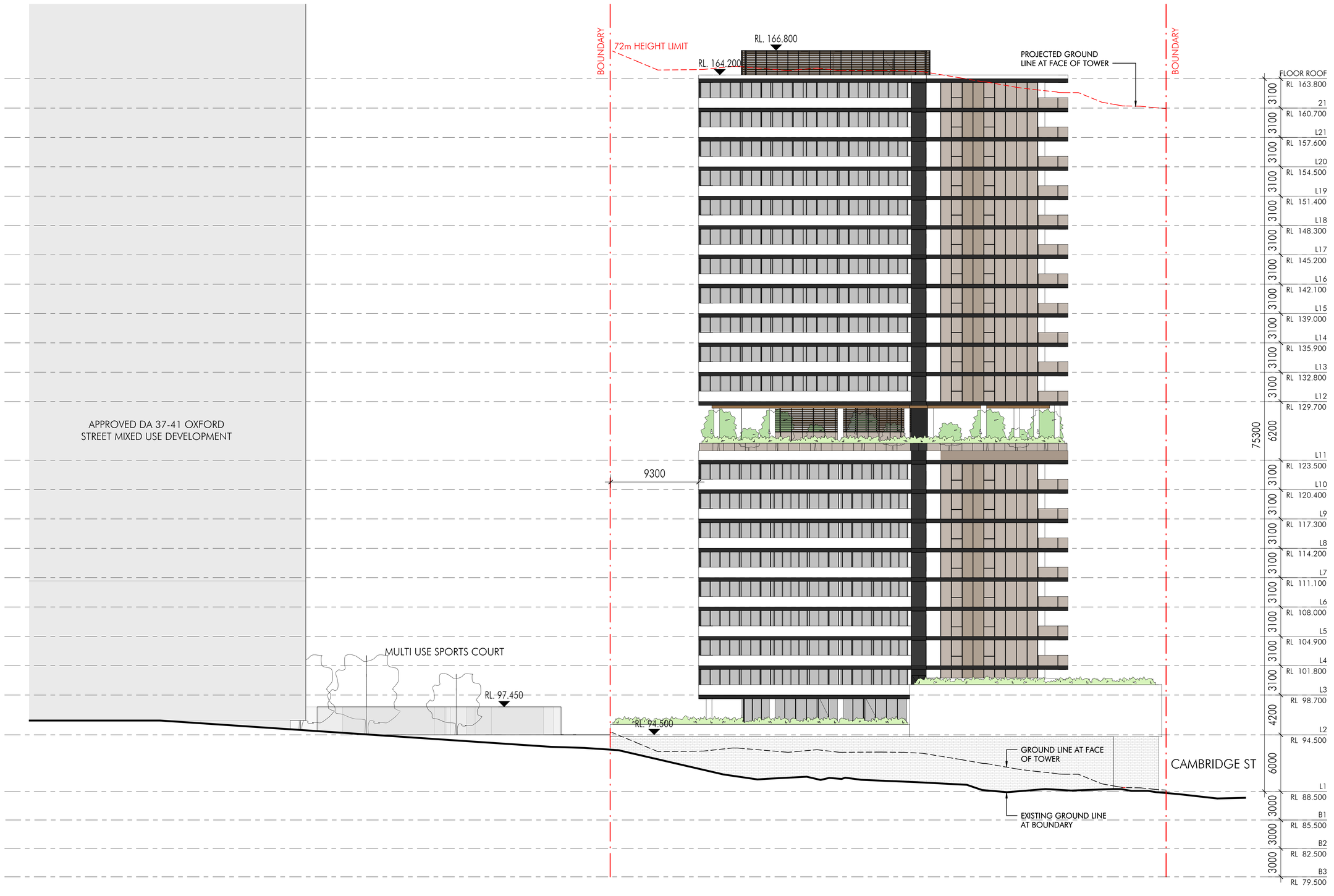


Client

**Just Properties Group**

| Issue | Description | Date |
|---|---|---|
| A | FOR DA SUBMISSION | 18.07.2018 |

Project Name
**MIXED USE DEVELOPMENT**

Project Address
**16 - 18 Cambridge Street, Epping**

0 4000 10000

Drawing Title:
NORTH ELEVATION

Sheet Size: A1

Scale: 200

Drawing Number: **4479_DA201**

Issue: **A**

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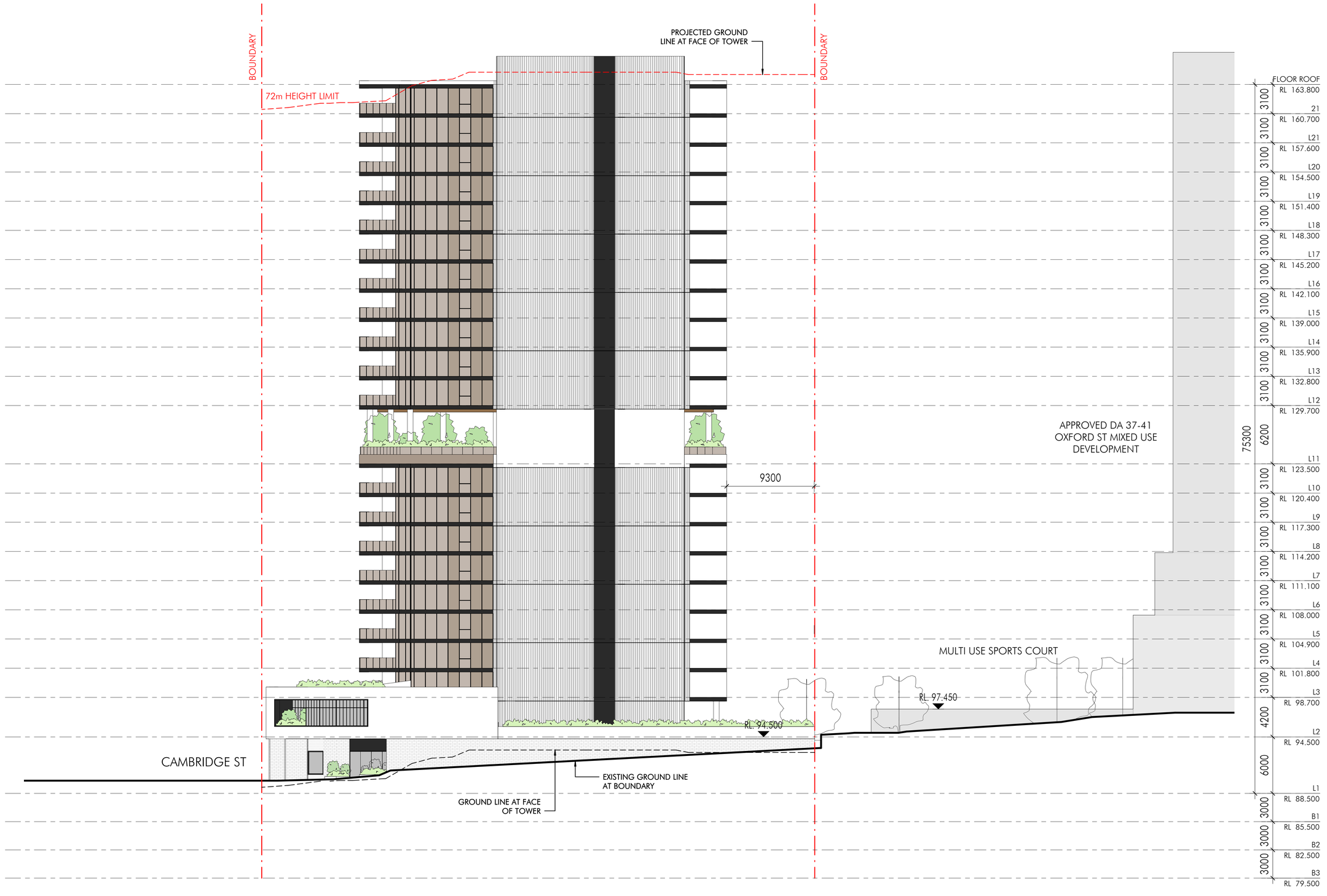


Client

**Just Properties Group**

| Issue | Description | Date |
|---|---|---|
| B | FOR DA SUBMISSION | 20.07.2018 |
| A | FOR DA SUBMISSION | 18.07.2018 |

Project Name
**MIXED USE DEVELOPMENT**

Project Address
**16 - 18 Cambridge Street, Epping**

0 4000 10000

Drawing Title:
SOUTH ELEVATION

Sheet Size: A1

Scale: 200

Drawing Number: **4479_DA202**

Issue: **B**


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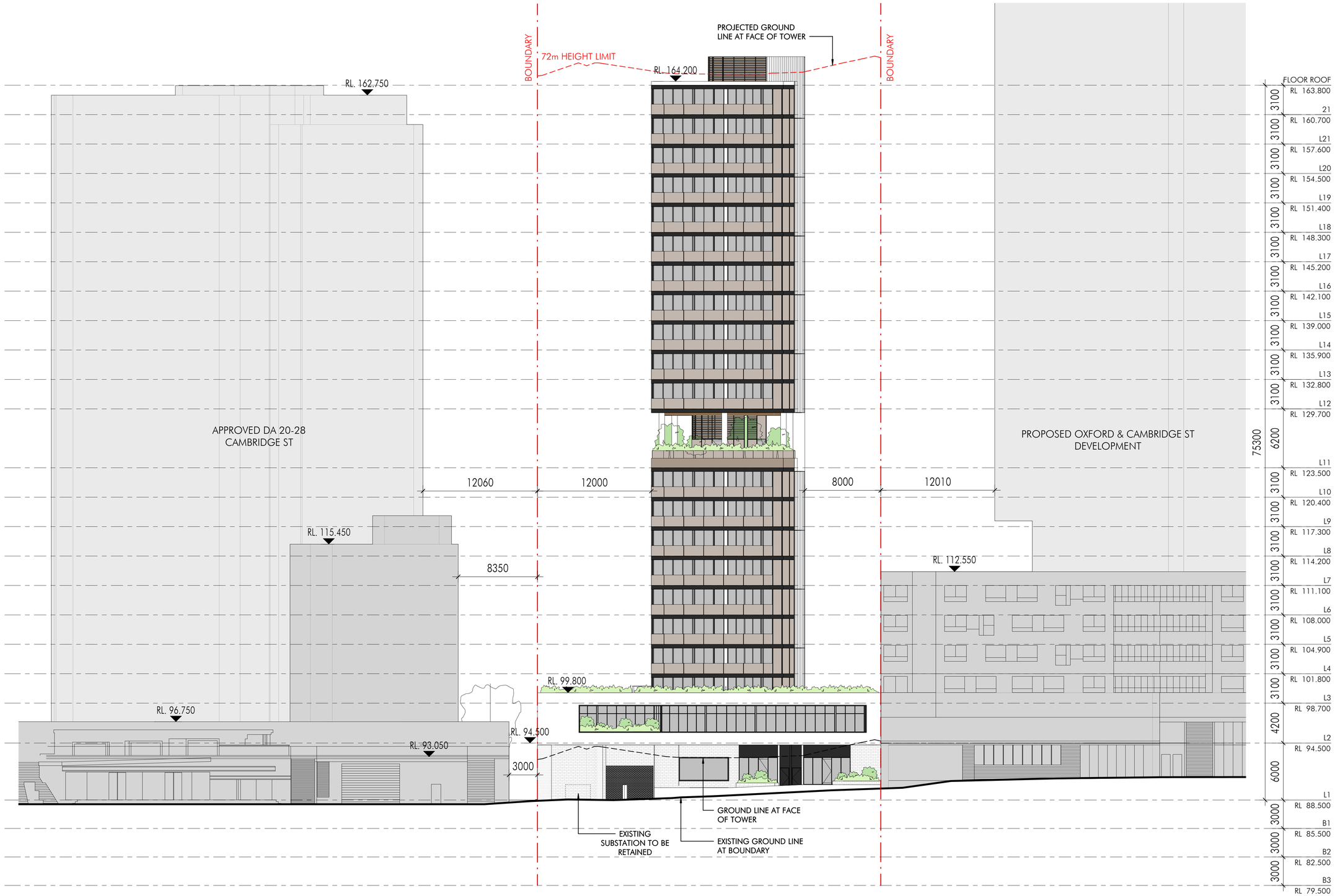


Client

**Just Properties Group**

| Issue | Description | Date |
|---|---|---|
| A | FOR DA SUBMISSION | 18.07.2018 |

Project Name
**MIXED USE DEVELOPMENT**

Project Address
**16 - 18 Cambridge Street, Epping**

0 4000 10000

Drawing Title:
WEST ELEVATION

Sheet Size: A1

Scale: 200

Drawing Number: **4479_DA203**

Issue: **A**

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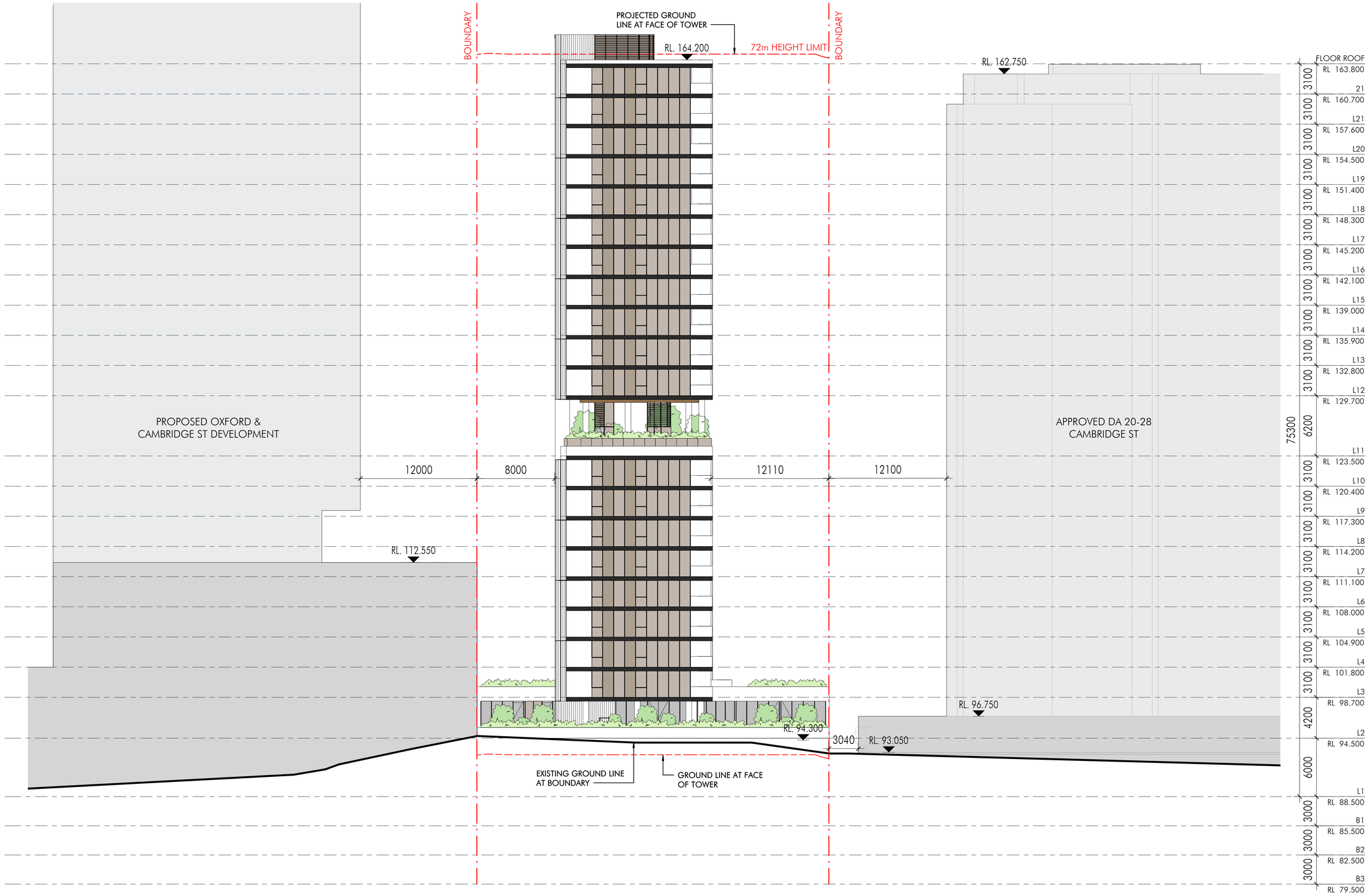


Client

**Just Properties Group**

| Issue | Description | Date |
|---|---|---|
| A | FOR DA SUBMISSION | 18.07.2018 |

Project Name
**MIXED USE DEVELOPMENT**

Project Address
**16 - 18 Cambridge Street, Epping**

0 4000 10000

Drawing Title:
EAST ELEVATION

Sheet Size: A1
Scale: 200
Drawing Number: **4479_DA204**
Issue: **A**

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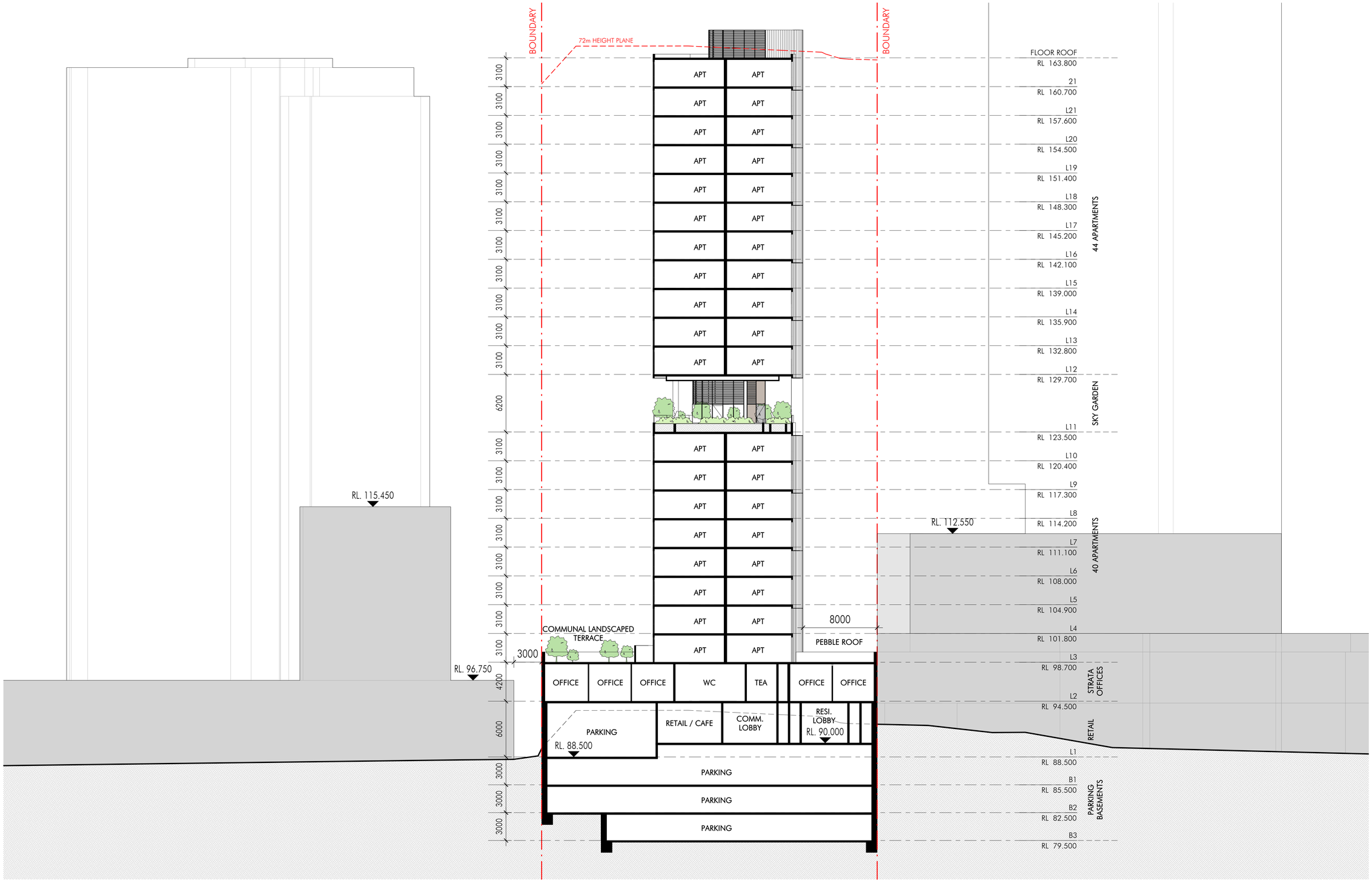


Client

**Just Properties Group**

| Issue | Description | Date |
|---|---|---|
| A | FOR DA SUBMISSION | 18.07.2018 |
| P2 | CONCEPT DESIGN | 08.02.2018 |
| P1 | CONCEPT DESIGN | 19.12.2017 |

Project Name

**MIXED USE DEVELOPMENT**

Project Address

**16 - 18 Cambridge Street, Epping**

0 4000 10000

Drawing Title:

SECTION A-A

Sheet Size: A1

Scale: 200

Drawing Number: **4479_DA301**

Issue: **A**


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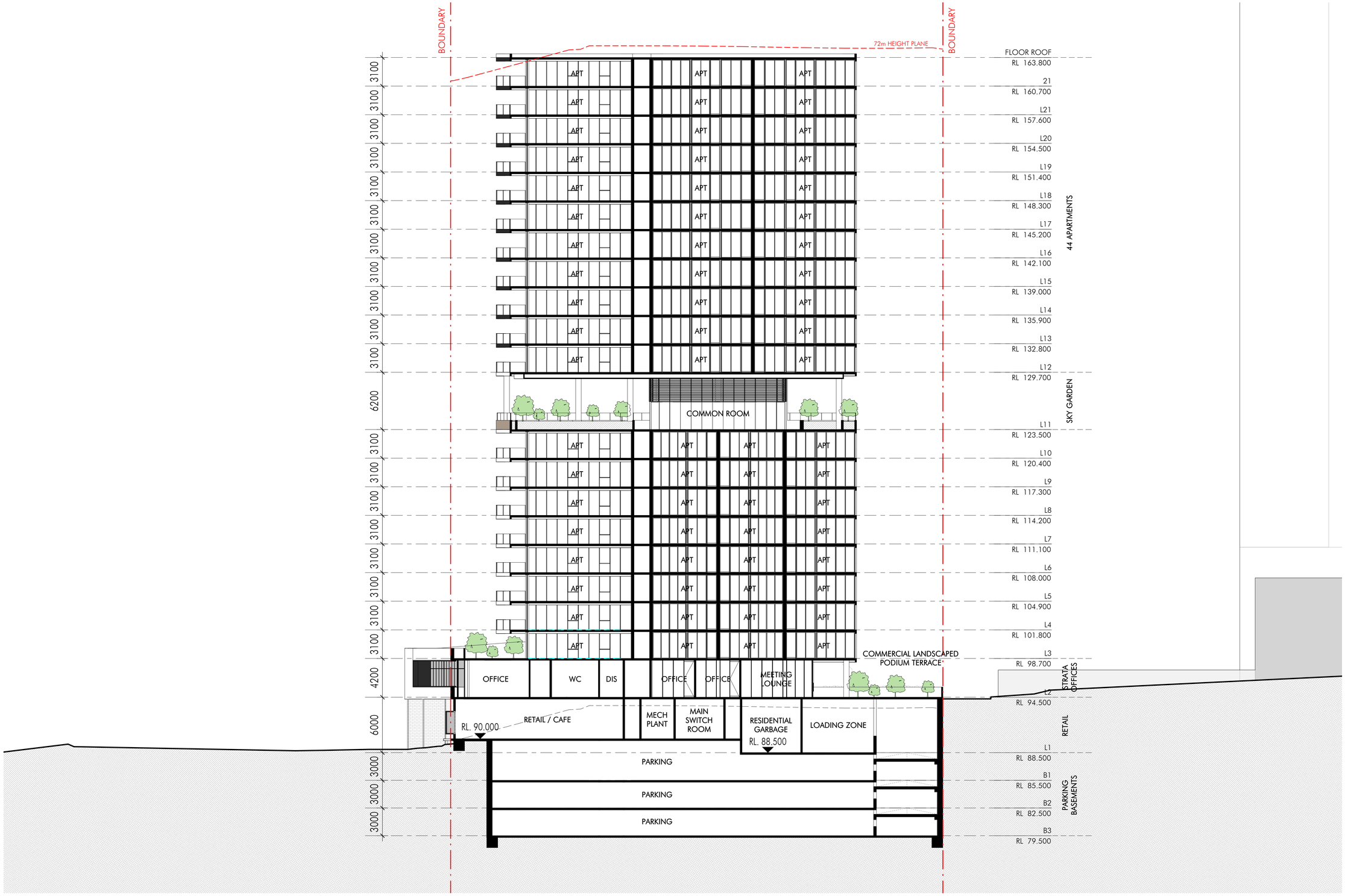


Client

**Just Properties Group**

| Issue | Description | Date |
|---|---|---|
| A | FOR DA SUBMISSION | 18.07.2018 |

Project Name

**MIXED USE DEVELOPMENT**

Project Address

**16 - 18 Cambridge Street, Epping**

0 4000 10000

Drawing Title:

SECTION B-B

Sheet Size: A1

Scale: 200

Drawing Number: **4479_DA302**

Issue: **A**


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# 16 CAMBRIDGE STREET, EPPING

## CIVIL DEVELOPMENT APPLICATION


**LOCALITY AERIAL**
NOT TO SCALE

*SOURCE : SIXMAPS*

| Sheet List Table | | |
|---|---|---|
| Sheet Number | Sheet Title | Rev. |
| C1.00 Arrangement and Overview Plans | | |
| C1.01 | Cover Sheet | 3 |
| C1.02 | Specification Notes | 3 |
| C1.03 | General Arrangement Plan | 1 |
| C2.00 Sediment and Erosion Control | | |
| C2.01 | Sediment and Erosion Control Plan | 2 |
| C2.02 | Sediment and Erosion Control Details | 2 |
| C5.00 Road Longitudinal and Cross Sections | | |
| C5.01 | Plan and Long Section Cambridge Street | 1 |
| C5.02 | Cross Sections | 1 |
| C5.03 | Site Sections | 1 |
| C6.00 Stormwater Drainage | | |
| C6.01 | Stormwater Layout Plan - Ground Level | 2 |
| C6.02 | Stormwater Layout Plan - Roof Level | 1 |
| C6.03 | Stormwater Layout Plan - Basement Level 1 & 2 | 1 |
| C6.04 | Stormwater Layout Plan - Basement Level 3 | 1 |
| C6.05 | On-Site Detention (OSD) Plan and Sections | 2 |
| C6.06 | Stormwater360 Treatment Device Typical Details | 2 |

CLIENT
JUSTPROPERTY

PROJECT MANAGER
MARTIN HILLIER

ARCHITECT
nettletontribe

Warren Smith & Partners

**Warren Smith & Partners Pty Ltd**
Level 9, 233 Castlereagh Street, Sydney 2000 NSW Australia
02 9299 1312 wsp@warrensmith.com.au
**www.warrensmith.com.au** **ABN** 36 300 430 126

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Hydraulic Services Fire Services Civil Services
Sydney Water Accredited Water Servicing Co-ordinator and Designer

GLOBAL COMPLIANCE CERTIFICATION GCC ISO 9001 Certified

**Serving the Construction Industry since 1981.**

TITLE
**COVER SHEET**

| SCALE | DRAWN | DESIGNED | CHECKED | APPROVED |
|---|---|---|---|---|
| AS SHOWN | N.M. | N.M. | M.C. | M.C. |

| JOB No. | DRAWING No. | ISSUE |
|---|---|---|
| 6165000 | C1.01 | 3 |

| DATE | STATUS |
|---|---|
| MARCH 2019 | DEVELOPMENT APPLICATION |

Plot Date

Civil File: T:\6165000\Drawings\AutoCAD\Civil\Design\Civil 2D\C1.01 Cover Sheet.dwg
Login Name: tKong
Xrefs
Plot Date: 26.03.2019@14:04:38

## GENERAL

G1. DESIGN HEREIN HAS BEEN PREPARED BY
WARREN SMITH AND PARTNERS PTY LTD
CONSULTING CIVIL ENGINEERS,
LEVEL 9, 233 CASTLEREAGH ST, SYDNEY NSW 2000.
TEL: (02) 9299 1312, FAX:- (02) 9290 1295.

G2. THE DRAWINGS HEREIN SHALL BE READ AS REQUIRED IN CONJUNCTION WITH ARCHITECT:
NETTLETON TRIBE
117 WILLOUGHBY ROAD, CROWS NEST NSW 2065
TEL: (02) 9431 6431.

G3. ALL DIMENSIONS IN MILLIMETRES UNO. REDUCED LEVELS AND CHAINAGES ARE IN METRES. DO NOT SCALE DRAWINGS. USE FIGURED DIMENSIONS.

G4. THE PROPOSED WORKS DETAILED HEREIN SHALL BE CONSTRUCTED TO THE REQUIREMENTS OF COUNCIL GENERALLY AS DETAILED HEREUNDER.

G5. ALL EXISTING SERVICES SHALL BE VERIFIED FOR DEPTH AND HORIZONTAL POSITION BY PHYSICAL MEANS PRIOR TO EXCAVATION. ANY DISCREPANCIES SHALL BE BROUGHT FORTHWITH TO THE PROJECT MANAGER'S ATTENTION.

## STORMWATER AND SUBSOIL DRAINAGE

MATERIALS:

STW1. PIPES AND FITTINGS FOR STORMWATER DRAINAGE SHALL BE AS FOLLOWS UNO ON THE DRAWINGS:

A. SEWER GRADE uPVC (SN8) WITH SOLVENT WELDED JOINTS FOR BELOW GROUND DRAINAGE UP TO 225mm.

B. FIBRE REINFORCED CEMENT / REINFORCED CONCRETE CLASS 3 WITH RUBBER RINGS FOR PIPE DIA'S GREATER THAN 225mm. UNO.

C. REINFORCED CONCRETE WHERE REQUIRED BY AS 3500 FOR EXCESSIVE DEPTH.

D. INSTALL IN ACCORDANCE WITH AUSTRALIAN STANDARD AS3500 EXCEPT WHERE VARIED BY THE CONTRACT DOCUMENTS.

STW2. PIPES & FITTINGS FOR SUBSOIL DRAINAGE SHALL BE SLOTTED POLYVINYL CHLORIDE (PVC) WITH SOLVENT WELDED JOINTS, MIN. 150mm DIAMETER.

STW3. IN GROUND DRAINAGE PIPEWORK SERVING DP's SHALL BE MINIMUM 150mm DIA. UNO.

STW4. STORMWATER PITS ARE AS SHOWN & SPECIFIED ON THE PLANS . PRECAST TYPE ACCEPTABLE WITH STEP IRONS FOR DEPTH GREATER THAN 1200. BENCH ALL PITS MIN. 30mm & FORM SMOOTH TRANSITION FROM INLET TO OUTLET, ALL INTERNAL PIT DIMENSIONS TO CONFORM TO TABLE 8.2 AS - 3500.3

STW5. SELECT FILL SHALL BE MATERIAL OBTAINED FROM EXCAVATION OF THE PIPE TRENCH OR IMPORTED WITH A PARTICLE SIZE FOR ROCK NOT GREATER THAN 75mm OR FOR OTHER THAN ROCK NOT GREATER THAN 150mm.

STW6. IMPORTED FILL SHALL BE EITHER, AND GENERALLY CONSIST OF SINGLE SIZED AGGREGATE WITH PARTICLE SIZE NOT GREATER THAN 5mm WRAPPED ALL ROUND WITH GEOTEXTILE FILTER FABRIC OR APPROVED HIGH COMPACTION SAND OR APPROVED CRUSHED ROAD GRAVEL CONFORMING TO RTA FORM 3051 OR SIMILAR.

STW7. STORMWATER PITS AND GRATES TO CONFORM WITH STANDARD COUNCIL REQUIREMENTS, WHERE ON PUBLIC LAND. GRATES TO BE SUPPLIED IN CLASS SHOWN ON THE DRAWINGS.

INSTALLATION REQUIREMENTS:

STW8. PIPES SHALL BE TRUE TO GRADES SHOWN AND ALIGNED SO THAT THE CENTRES OF THE INLET PIPES INTERSECT WITH THE CENTRE OF THE OUTLET PIPE AT THE DOWNSTREAM FACE OF THE PIT.

STW9. MINIMUM GRADES FOR GRAVITY STORMWATER DRAINAGE SHALL CONFORM TO AS3500 PART3 AS FOLLOWS, UNO:
1% FOR 100 AND 150 mm DIA.
0.5% FOR 225 mm DIA
0.5% FOR 300 mm DIA
0.4% FOR 375 mm DIA

STW10. MINIMUM DEPTH OF COVER SHALL BE :-
- 300mm IN PRIVATE PROPERTY (NON VEHICULAR TRAFFIC).
- 450mm IN PUBLIC AREAS.
- 600mm IN VEHICULAR TRAFFICABLE AREAS (FOOTWAY/ROADWAY)

STW11. BED ALL PIPES FIRMLY AND EVENLY ONTO IMPORTED BEDDING FILL MATERIAL.

STW12. LAY AND JOINT ALL PIPES IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS AND
AS 3725-1989 BURIED FLEXIBLE PIPELINES
AS 2566-1998 LOADS ON BURIED FLEXIBLE PIPELINES
AS 1597.2-1996 PRECAST REINFORCED CONCRETE BOX CULVERTS.
AS 3500-1990 NATIONAL PLUMBING & DRAINAGE CODE. PART 2, SANITARY PLUMBING AND SANITARY DRAINAGE. SYDNEY WATER REQUIREMENTS.

STW13. ALLOW TO TEST ALL PIPES AND PITS TO MANUFACTURERS REQUIREMENTS.

## CONCRETE WORKS

C1. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH AS3600, THE STANDARDS ASSOCIATION AUSTRALIA, STANDARDS CITED IN AS3600, THE DRAWINGS AND THE SPECIFICATION.

C2. ALL CONCRETE SHALL BE 80mm NOMINAL SLUMP, 20mm MAXIMUM AGGREGATE WITH NO ADMIXTURES OR FLY ASH, UNLESS OTHERWISE APPROVED. ALL CONCRETE WORK IN CONTACT WITH SEWER TO HAVE TYPE SL PORTLAND CEMENT, OTHERWISE TYPE A CEMENT FOR BRIDGE WORKS, A MAXIMUM 56 DAYS SHRINKAGE OF 600 MICROSTRAIN, A MINIMUM CEMENT CONTENT 350kg/m3 AND MAXIMUM WATER:CEMENT RATIO OF 0.40

C3. STRENGTH GRADE OF CONCRETE SHALL BE : 25 MPa (KERBS, EDGE STRIPS & CONCRETE ENCASEMENT) AND 32 MPa ELSEWHERE.

C4. CONSTRUCTION JOINTS SHALL BE PROPERLY FORMED AND USED ONLY WHERE SHOWN OR APPROVED. GENERALLY FOR HAND PLACED KERB & GUTTER 6mm THICK APPROVED BITUMINOUS MASTIC JOINTING MATERIAL SHALL BE PROVIDED AT INTERVALS NOT EXCEEDING 6m. FOR MACHINE PLACED KERB & GUTTER 6mm THICK APPROVED BITUMIOUS MASTIC JOINTING MATERIAL SHALL BE PROVIDED AT INTERVALS NOT EXCEEDING 12m & GUILLOTINED DUMMY GROOVED JOINTS, 25mm IN DEPTH, SHALL BE FORMED EVERY 3m OF GUTTER. JOINTS ARE ALSO REQUIRED AT EACH END OF GUTTER CROSSING AND GULLY PITS. JOINTS SHALL BE SET VERTICAL AND SQUARE TO THE KERB.

C5. CONCRETE CURING SHALL BE IN ACCORDANCE WITH AS3600. CURING SHALL BE COMMENCED WITHIN TWO HOURS OF FINISHING OPERATIONS AND SHALL BE CONTINUED FOR A MINIMUM OF SEVEN DAYS BY AN APPROVED PROPRIETARY COMPOUND OR BY KEEPING CONTINUOUSLY WET.

C6. FORMWORK SHALL BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH AS3610. FORMWORK SHALL NOT BE STRIPPED NOR PROPS REMOVED WITHOUT APPROVAL.

REINFORCEMENT:

R1. REINFORCEMENT IS REPRESENTED DIAGRAMMATICALLY AND IS NOT NECESSARILY SHOWN IN TRUE PROJECTION.

R2. WELDING OR SPLICES IN REINFORCEMENT SHALL BE USED ONLY IN POSITIONS APPROVED BY THE ENGINEER.

R3. FABRIC LAP DETAILS SHALL BE IN ACCORDANCE WITH FIG.13.2.4 OF AS3600.

R4. HOOKS, LAPS AND BENDS SHALL BE IN ACCORDANCE WITH AS3600 UNO.

R5. ALL CHEMICAL ANCHORS SHALL BE EITHER 'CHEMSET' BY "RAMSET" WITH THE GLASS CAPSULE SYSTEM INSTALLED IN STRICT ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS OR HILTI HVU ADHESIVE ANCHOR WITH FOIL CAPSULE SYSTEM INSTALLED IN STRICT ACCORDANCE WITH MANUFACTURERS INSTRUCTION. ALL CHEMICAL ANCHORS SHALL BE HOT DIPPED GALVANIZED AND BE MIN M16 DIA. U.N.O.

## GENERAL EARTHWORKS, SITEWORKS & FILLING:

FILLING:

SGE1. THESE CLAUSES SHALL BE READ IN CONJUNCTION WITH ANY AVAILABLE GEOTECHNICAL REPORT UNDERTAKEN FOR THE SITE.

SGE2. THE RECOMMENDATIONS CONTAINED IN THE GEOTECH REPORT SHALL OVERRIDE THE CLAUSES PRESENTED HEREIN.

SGE3. STRIP ALL TOPSOIL AND UNDERLYING FILL AND STOCKPILE TOPSOIL FOR LATER REUSE FOR LANDSCAPING PURPOSES.

SGE4. NEW FILL REQUIRED TO REINSTATE CUT LEVELS TO PROPOSED BENCHING LEVELS SHALL BE SOURCED FROM OTHER PARTS OF THE EXCAVATION AS SELECT FILL OR IMPORTED FILL AS SPECIFIED BELOW IN SGE 5 AND SGE 6.

SGE5. SELECT FILL SHALL CONSIST OF LOCALLY DERIVED OR CUT NATURAL CLAYS.

SGE6. IMPORTED FILL SHALL CONSIST OF RIPPED SANDSTONE OR SHALE OR SIMILAR MATERIAL WITH MAXIMUM PARTICLE SIZE NOT GREATER THAN 120mm AND A MOISTURE CONTENT WITHIN 2-3% OF STANDARD OPTIMUM.

SGE7. ALL FILL (COHESIVE SOIL) SHALL BE PLACED IN LAYERS OF 200mm MAXIMUM THICKNESS, COMPACTED BY MACHINE ROLLING TO ACHIEVE A DRY DENSITY RATIO OF NOT LESS THAN 98% STANDARD MAXIMUM AT A CORRESPONDING MOISTURE CONTENT WITHIN 2-3% OF STANDARD OPTIMUM.

SGE8. IN AREAS WHERE HIGH IMPACT ROLLING IS USED TEST EACH FINAL LAYER OF NOT GREATER THAN 300mm TO 400mm TO ACHIEVE A DRY DENSITY SGE8. RATIO OF NOT LESS THAN 98% STANDARD MAXIMUM AT A CORRESPONDING MOISTURE CONTENT WITHIN 2-3% OF STANDARD OPTIMUM.

EXCAVATION BATTERS:

SGE9. ALL TEMPORARY BATTERS CUT IN CLAY SUBSTRATE SHALL BE 1 HORIZ : 1 VERT. ALL LONG TERM EXPOSED BATTERS CUT IN CLAY SUBSTRATE SHALL BE 2 HORIZ : 1 VERT. ALL DETENTION BASIN BATTERS IN CLAY SUBSTRATE SHALL BE 3 HORIZ : 1 VERT. ALL DETENTION BASIN BATTERS IN ROCK SUBSTRATE SHALL BE NEAR VERTICAL.

SGE10. GEOTECHNICAL TESTING IS TO BE UNDERTAKEN TO AT LEAST LEVEL 2 CONTROL OF FILL COMPACTION STANDARD, AS DEFINED IN AS. 3738 AS FOLLOWS

- FOR GENERAL FILL OR CUT AREAS OVER THE AREA PROVIDE ONE (1) TEST PER 200mm LAYER, OVER AN AREA NOT GREATER THAN 500 $m^2$

- FOR GENERAL FILL AREAS IN CONCENTRATED AREAS ADJACENT TO AND BEHIND THE STRUCTURE AND ADJACENT TO AND BEHIND RETAINING WALLS PROVIDE ONE (1) TEST PER 200mm LAYER, OVER AN AREA NOT GREATER THAN 50$m^2$

SGE11. SUBMIT ALL GEOTECHNICAL TEST RESULTS TO WARREN SMITH & PARTNERS FOR REVIEW PRIOR TO CONTINUATION WITH SUBSEQUENT SECTION OF WORK.

## EARTH WORKS FOR SERVICES

E1. EXCAVATE TRENCHES AND STOCKPILE ALL MATERIAL FOR INSPECTION WITH REGARD TO RE-USE FOR TRENCH BACKFILL. REMAINING MATERIAL TO BE REMOVED FROM SITE.

E2. BEDDING MATERIAL SHALL CONSIST OF IMPORTED FILL ONLY. THICKNESS OF BEDDING LAYER SHALL BE 75mm IN O.T.R. AND 200mm IN ROCK.

E3. EMBED ALL PIPES WITH IMPORTED FILL. PROVIDE 200mm SIDE SUPPORT AND 150mm OVERLAY ABOVE PIPE CROWN.

E4. TRENCH FILL ABOVE THE EMBEDMENT ZONE TO THE UNDERSIDE OF THE ROAD PAVEMENT OR FOOTWAY FILL MATERIAL SHALL BE AS FOLLOWS :

UNDER ROADWAY

TRENCH FILL MATERIAL SHALL CONSIST OF IMPORTED FILL AS SPECIFIED HEREIN OF EITHER HIGH GRADE COMPACTION SAND OR APPROVED CRUSHED ROAD GRAVEL CONFORMING TO RTA FORM 3051 OR SIMILAR.

OTHER THAN ROADWAY

TRENCH FILL MATERIAL EXCAVATED SHALL CONSIST OF SELECT FILL AS SPECIFIED HEREIN AND SHALL NOT CONTAIN MORE THAN 20% OF STONES OF SIZE BETWEEN 75mm & 150mm AND NONE LARGER THAN 150mm. PRIOR TO THE USE OF THE EXCAVATED MATERIAL IT SHALL BE INSPECTED AND APPROVED BY THE CONSULTANT.

E5. COMPACT BEDDING, EMBEDMENT AND TRENCH FILL MATERIALS AS FOLLOWS:

EMBEDMENT:-
FOR GRANULAR FILL MATERIAL (NON-COHESIVE SOILS) EG. COARSE AGGREGATE FILL, HIGH GRADE COMPACTION SAND, THE DENSITY INDEX (ID) SHALL BE NOT LESS THAN 70%.

TRENCH FILL:-
FOR GRANULAR MATERIAL (NON-COHESIVE SOILS), THE DENSITY INDEX (ID) SHALL BE NOT LESS THAN 70%.

FOR NON-GRANULAR FILL MATERIAL (COHESIVE SOILS), THE DRY DENSITY RATIO (RD) SHALL BE NOT LESS THAN 95%.

E6. MEASURE OF COMPACTION:-
THE DEGREE OF COMPACTION SHALL BE MEASURED BY ONE OF THE FOLLOWING PARAMETERS :-

GRANULAR FILL (NON-COHESIVE SOILS). THE DENSITY INDEX (ID) DETERMINED IN ACCORDANCE WITH AS 1289.E6.1 BASED ON THE MAXIMUM AND MINIMUM DRY DENSITIES IN ACCORDANCE WITH AS 1289.E5.1 AND THE FIELD DRY DENSITY IN ACCORDANCE WITH AS 1289.5.3.2, AS 1289.E3.5 OR AS 1289.E8.1.

NON-GRANULAR FILL (COHESIVE SOILS). THE DRY DENSITY RATION (RD) DETERMINED IN ACCORDANCE WITH AS 1289.5.4.1 BASED ON THE FIELD DRY DENSITY IN ACCORDANCE WITH AS 1289.5.3.2 AND THE MAXIMUM DRY DENSITY IN ACCORDANCE WITH AS 1289.5.1.1

E7. GEOTECHNICAL TESTING IS TO BE UNDERTAKEN TO AT LEAST LEVEL 2 CONTROL OF FILL COMPACTION STANDARD, AS DEFINED IN AS. 3738 AS FOLLOWS

- TEST EACH 300mm LAYER ABOVE PIPE CROWN.
- TEST BASE & SUB-BASE LAYERS WHERE APPLICABLE.
- TESTS SHALL BE REQUIRED AT EACH 50m CENTRES WHERE THE LENGTH OF TRENCH IS WITHIN THE 50m REQUIREMENT.

E8. SUBMIT ALL GEOTECHNICAL TEST RESULTS TO WARREN SMITH & PARTNERS FOR REVIEW PRIOR TO CONTINUATION WITH SUBSEQUENT SECTION OF WORK.

## RESTORATION:

RES1. RESTORE ALL TRAFFIC AREAS TO PRE EXISTING CONDITION.

RES2. FOR ALL SURFACES OTHER THAN IN TRAFFIC AREAS RESTORE DISTURBED SURFACES TO PRE-EXISTING CONDITIONS AND COMPACT AS SPECIFIED.

RES3. RESTORE ALL AUTHORITY OWNED AREAS TO COUNCIL STANDARDS

## ROAD WORKS, DRIVEWAYS & CARPARKS

R1. ALLOW FOR LEVEL 2 TESTING AND SUB-GRADE CONDITIONS & PAVEMENT THICKNESS TO BE VERIFIED BY GEOTECHNICAL CONSULTANT AFTER INSPECTION OF PRELIMINARY BOXING.

R2. ALLOW FOR ANY SUB-GRADE REPLACEMENT WORK TO BE DETERMINED AS REQUIRED BY GEOTECHNICAL CONSULTANT AT THE TIME OF PAVEMENT CONSTRUCTION.

R3. MINIMUM DRY DENSITY RATIOS (AS 1289 3.4.1-1993) TO BE:

| | |
|---|---|
| BASE COURSE: | 98% MODIFIED |
| SUB-BASE: | 95% MODIFIED |
| SUB-GRADE: | 100% STANDARD |
| SUB-GRADE REPLACEMENT: | 100% STANDARD |

R4. PAVEMENT MATERIALS TO COMPLY WITH RMS SPECIFICATION No. 3051 OR SIMILAR AS APPROVED BY GEOTECHNICAL CONSULTANT.

R5. PROVIDE (1) TEST FOR EACH LAYER NOT EXCEEDING 250mm THICK BEING BASECOURSE, SUB-BASE & SUB-GRADE OVER AN AREA NOT GREATER THAN 500$m^2$

R6. SUBMIT ALL GEOTECHNICAL TEST RESULTS TO WARREN SMITH & PARTNERS FOR REVIEW PRIOR TO CONTINUATION WITH SUBSEQUENT SECTION OF WORK.

## APPROVALS

A1. THE AS CONSTRUCTED WORKS SHALL BE INSPECTED BY DESIGN CONSULTANT. MINIMUM 48 HOURS NOTICE SHALL APPLY TO ALL INSPECTIONS.

A2. THE DESIGN PLANS HEREIN ARE SUBJECT TO COUNCIL APPROVAL PRIOR TO CONSTRUCTION. OBTAIN EXPRESS (WRITTEN) ADVICE TO PROCEED FROM PROJECT MANAGER PRIOR TO COMMENCEMENT.

A3. SUBMIT WORK-AS-EXECUTED DRAWINGS IN DWG OR DXF DIGITAL FORMAT AND HARD COPY FORMAT. VERIFY ALL CONSTRUCTION WORKS SHOWN HEREON.

A4. CERTIFY THAT THE AS CONSTRUCTED SYSTEM HAS BEEN BUILT IN ACCORDANCE WITH THE APPROVED PLANS ISSUED FOR CONSTRUCTION.

## SERVICES UNDER ROAD SURFACES

S1. ALL OTHER SERVICES INCLUDING BUT NOT LIMITED TO WATER, HYDRANT, GAS, SEWER, ELECTRICAL AND COMMUNICATIONS CONDUITS OR CABLES SHALL BE LAID WITH MINIMUM 600mm U.N.O. COVER BELOW PROPOSED ROAD SURFACE OR APPROVED OTHER MEANS TO PROTECT DURING CONSTRUCTION.

## ROAD SIGNS & LINE MARKING

RS1. ALL SIGNS AND LINEMARKING SHALL BE TO RMS STANDARDS AND SPECIFICATIONS AND AS.1742, MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES

RS2. ALL LINEMARKING SHALL BE AUGMENTED BY RETROREFLECTIVE RAISED PAVEMENT MARKERS (RRPMs) AND ALL SHALL BE TO AS 1742.2 - 1994 AND AS 1742.2 /AMDT 1/1997-10-05

RS3. ALL ROAD SIGNS AND POSTS SHALL BE TO AS 1742.2 - 1994 AND AS 1742.2 /AMDT 1/1997-10-05

## PROTECTION OF FLORA - REFER SPECIFICATION

1. ANY TRENCHES WITHIN 3m OF TREES SHALL BE HAND DUG TO AVOID DAMAGE TO TREE ROOTS.

2. THE SEWERAGE WORKS HAVE BEEN LOCATED TO MINIMISE CLEARING AND DAMAGE TO THE EXISTING FLORA ENVIRONMENT. NO TREES ARE PERMITTED TO BE REMOVED OR DAMAGED UNO. CONSTRUCTION OF THE SEWER GRAVITY OR RISING MAIN IN THE VICINITY OF EXISTING TREES SHALL BE HAND EXCAVATED ONLY, ENSURING IRREVERSIBLE DAMAGE OF THE ROOT SYSTEM DOES NOT OCCUR.

3. IF IT IS CONSIDERED NECESSARY TO PERFORM ANY WORK ON TREES, INCLUDING TRIMMING, LOPPING, ROOT CUTTING, REPAIR AND REMOVAL, APPLICATION IN WRITING SHALL BE MADE BY THE CONTRACTOR TO THE SUPERINTENDENT. ANY WORK PERMITTED TO BE DONE ON TREES TO BE RETAINED SHALL BE PERFORMED BY AN APPROVED TREE SURGEON.

4. NO MATURE TREES OR SHRUBS ARE TO BE REMOVED FOR THE PURPOSES OF THE WORKS WITHOUT PRIOR APPROVAL FROM CITY OF PARRAMATTA CITY COUNCIL.

## AUTHORITY STANDARDS

LGA 1. THE DRAWINGS HEREIN SHALL BE READ IN CONJUNCTION WITH LOCAL AUTHORITY'S STANDARDS & SPECIFICATIONS WHICH SHALL OVERRIDE SPECIAL DETAILS SHOWN ON THE DRAWINGS.

## CLOSED CIRCUIT COLOUR TV (CCTV)

CCTV1. UNDERTAKE A CCTV INSPECTION OF ALL THE COMPLETED DRAINAGE IN ACCORDANCE WITH THE GUIDELINES OF THE THE AUSTRALIAN CONDUIT CONDITION EVALUATION MANUAL (ACCEM)

CCTV2. APPLY THE FOLLOWING REQUIREMENTS TO THE CCTV INSPECTION:-
A. USE DATA CAPTURE SOFTWARE APPROVED BY SYDNEY WATER

B. USE CERTIFIED CCTV OPERATORS

C. THE CCTV VIDEOTAPE SHALL BE OF QUALITY TO ALLOW ACCURATE ASSESSMENT OF THE INTERNAL CONDITION OF THE PIPE.

CCTV3. FURNISH TO THE DESIGN OF THE CONSULTANT:-
A. VIDEOS IN MPG FORMAT FOR VIEWING
B. CCTV REPORT AND SURVEY DATA IN PDF FORMAT
C. ONE HARD COPY PRINTOUT OF THE SURVEY DATA

## PROTECTION OF TREES

T1. WHERE STORMWATER DRAINAGE IS LAID IN THE VICINITY OF TREES / CANOPIES OF TREES, PARTICULARLY IN THE NORTH EAST CORNER OF THE SITE, ALLOW THE CONSULTANT ARBORIST TO INSPECT PROGRESSIVELY THE EXCAVATION AND CONSTRUCTION WORKS.

PRELIMINARY - NOT FOR CONSTRUCTION

DO NOT SCALE FROM DRAWINGS, CHECK & VERIFY ALL DIMENSIONS & LEVELS BEFORE COMMENCEMENT OF ANY WORK.

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| REVISION | AMENDMENT | DATE | REVISION | AMENDMENT | DATE |
|---|---|---|---|---|---|
| 1 | ISSUE FOR DA | 03/07/18 | | | |
| 2 | RE-ISSUE FOR DA | 24/08/18 | | | |
| 3 | RE-ISSUE FOR DA | 25/03/19 | | | |

CLIENT: JUSTPROPERTY

PROJECT: 16 CAMBRIDGE STREET, EPPING

PREPARED BY
Warren Smith & Partners
Warren Smith & Partners Pty Ltd
1st Floor, 123 Clarence Street, Sydney 2000 NSW Australia
T 02 9299 1312 F 02 9290 1295 wsp@warrensmith.com.au
www.warrensmith.com.au ABN 36 300 430 126
CONSULTING ENGINEERS
Hydraulic Services Fire Protection Civil Engineering
Sydney Water Accredited Water Servicing Co-ordinator
- Design Project Management - Building Plan Approvals
SERVING THE CONSTRUCTION INDUSTRY SINCE 1981.
Lic No: QAC/8610771

TITLE: SPECIFICATION NOTES

| SCALE | DRAWN | DESIGNED | CHECKED | APPROVED |
|---|---|---|---|---|
| AS SHOWN | N.M. | N.M. | M.C. | M.C. |

| JOB No. | DRAWING No. | ISSUE |
|---|---|---|
| 6165000 | C1.02 | 3 |

DATE: MARCH 2019 STATUS: DEVELOPMENT APPLICATION

Cad File: T:\6165000\Drawings\AutoCAD\Civil\Design\Civil 2D\C1.02 Specification Notes.dwg
Login Name: lKong
Xrefs: K-6165000-TB, ATH
Plot Date: 25.03.2019@14:05:18

0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

PROVIDE TREATED PINE RETAINING STRUCTURE ALONG BOUNDARY AT ELECTRICAL SUB-STATION.

MAKE SMOOTH CONNECTION WITH EXISTING DRAINAGE PIT.

CHAINAGE 22.8. LIMIT OF KERB AND GUTTER CONSTRUCTION.

CONSTRUCT HEAVY DUTY VEHICLE CROSSING TO CITY OF PARRAMATTA STD DS9.

BENCH MARK CUT IN KERB R.L. 89.09 (AHD).

REFER TO DRAWING C6.01 FOR DRAINAGE PIT DETAILS.

CHAINAGE 58.5 LIMIT OF KERB AND GUTTER CONSTRUCTION.

1:4 BATTER.

GARAGE FLOOR LEVEL 89.61 AHD.

F.F.L. 89.81 AHD.

**NOTE:**
**REFER TO DRAWING C5.03 FOR SITE SECTIONS.**

PRELIMINARY - NOT FOR CONSTRUCTION

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NORTH

PLAN SCALE 1:100 A1 SHEET

| REVISION | AMENDMENT | DATE | REVISION | AMENDMENT | DATE |
|---|---|---|---|---|---|
| 1 | ISSUE FOR DA | 25/03/19 | | | |

CLIENT: JUSTPROPERTY

PROJECT: 16 CAMBRIDGE STREET, EPPING


PREPARED BY

Warren Smith & Partners

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**CONSULTING ENGINEERS**
Hydraulic Services Fire Protection Civil Engineering
Sydney Water Accredited Water Servicing Co-ordinator
- Design Project Management - Building Plan Approvals

**SERVING THE CONSTRUCTION INDUSTRY SINCE 1981.**

Lic No: QAC/RB1/0771

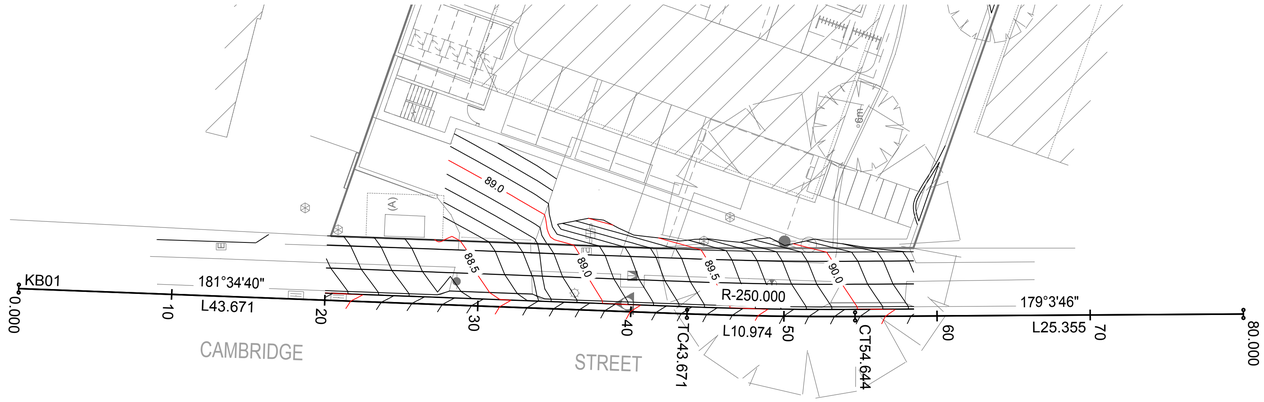

TITLE: **GENERAL ARRANGEMENT PLAN**

| SCALE | DRAWN | DESIGNED | CHECKED | APPROVED |
|---|---|---|---|---|
| AS SHOWN | I.K. | P.M. | M.C. | M.C. |

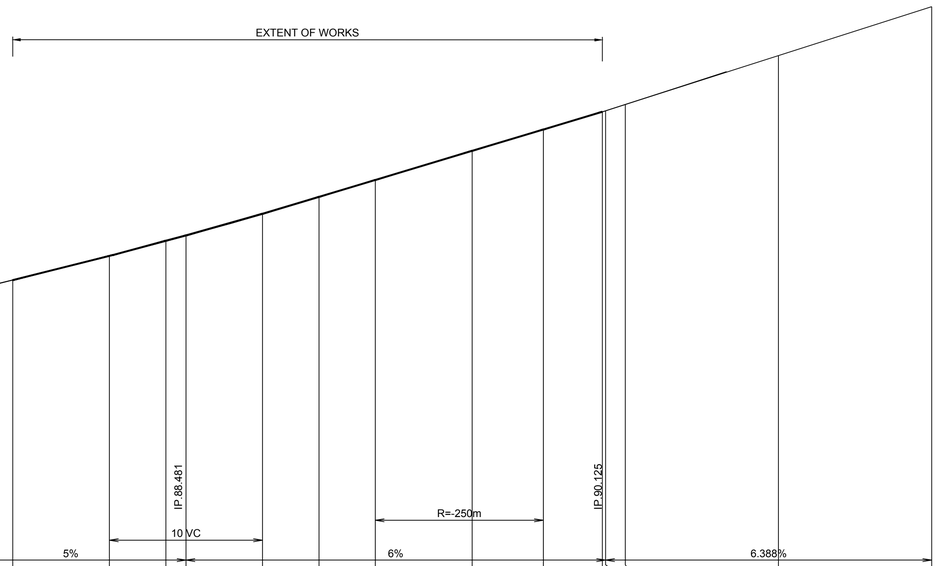
| JOB No. | DRAWING No. | ISSUE |
|---|---|---|
| 6165000 | C1.03 | 1 |

| DATE | STATUS |
|---|---|
| MARCH 2019 | DEVELOPMENT APPLICATION |


Xrefs: X:\6165000-TB_A1H_X-6165000-AR_Level B1_X-6165000-SU_Ground_X-6165000-SW_Layout
Plot Date: 26.03.2019@08:38:31 Login Name: MKong Cad File: T:\6165000\Drawings\AutoCAD\Civil\Design\Civil 2D\C1.03 General Arrangement Plan.dwg




**PLAN**
SCALE 1:200




| | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DESIGN LEVEL | 87.120 | | 87.442 | 87.480 | 87.629 | 87.735 | 87.854 | 87.916 | 88.231 | 88.422 | 88.494 | 88.781 | 89.002 | 89.223 | 89.602 | 89.881 | 90.113 | 90.125 | 90.207 | 90.846 | | 91.485 | | | |
| EXISTING LEVEL | | | 87.442 | 87.480 | 87.630 | 87.734 | 87.857 | 87.918 | 88.232 | 88.429 | 88.499 | 88.777 | 88.995 | 89.221 | 89.604 | 89.881 | 90.111 | 90.125 | 90.208 | | | | | | |
| DEPTHS | | | 0.000 | -0.000 | -0.000 | 0.001 | -0.004 | -0.003 | -0.001 | -0.006 | -0.005 | 0.004 | 0.007 | 0.002 | -0.001 | 0.001 | 0.001 | 0.000 | -0.001 | | | | | | |
| CHAINAGE | 0.000 | | 9.048 | 10.000 | 13.767 | 16.267 | 18.767 | 20.000 | 26.311 | 30.000 | 31.311 | 36.311 | 40.000 | 43.671 | 50.000 | 54.644 | 58.500 | 58.712 | 60.000 | 70.000 | | 80.000 | | | |

## LONGITUDINAL SECTION OF KB01 - LIP OF KERB

HORIZONTAL SCALE 1:200
VERTICAL SCALE 1:40

PRELIMINARY - NOT FOR CONSTRUCTION

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NORTH

PLAN SCALE 1:40 A1 SHEET
SCALE 1:200

| REVISION | AMENDMENT | DATE | REVISION | AMENDMENT | DATE |
|---|---|---|---|---|---|
| 1 | ISSUE FOR DA | 25/03/19 | | | |

CLIENT: JUSTPROPERTY

PROJECT: 16 CAMBRIDGE STREET, EPPING


PREPARED BY

Warren Smith & Partners

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**www.warrensmith.com.au ABN** 36 300 430 126

**CONSULTING ENGINEERS**
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- Design Project Management - Building Plan Approvals

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Lic No: QAC/8610771


TITLE: **PLAN AND LONG SECTION CAMBRIDGE STREET**

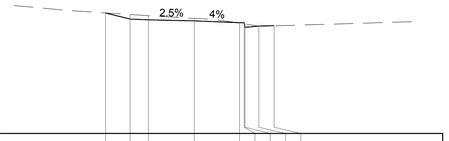
| SCALE | DRAWN | DESIGNED | CHECKED | APPROVED |
|---|---|---|---|---|
| AS SHOWN | P.M. | P.M. | M.C. | M.C. |

| JOB No. | DRAWING No. | ISSUE |
|---|---|---|
| 6165000 | C5.01 | 1 |

| DATE | STATUS |
|---|---|
| MARCH 2019 | DEVELOPMENT APPLICATION |


Xrefs: K:\6165000-TB_AH_K-6165000-SU_Ground_K-6165000-AB_Level B1_KB01 LS_1
Plot Date: 20.03.2019@14:14:26 Login Name: lKong Cad File: T:\6165000\Drawings\AutoCAD\Civil\Design\Civil 2D\C5.01 Plan and Long Section Cambridge Street.dwg


0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

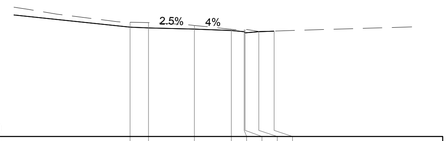



Centreline Data
X = 322378.529
Y = 6261697.996
Z = 89.002

DATUM RL 85.500

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| DESIGN | 89.433 | 89.233 | 89.209 | 89.171 | 89.112 | 89.112 | 88.962 | 89.002 | 89.017 | | |
| SURVEY | 89.433 | 89.381 | 89.342 | 89.253 | 89.108 | 89.082 | 89.076 | 88.995 | 89.010 | | |
| OFFSET | -5.007 | -4.205 | -3.605 | -2.105 | -0.630 | -0.480 | -0.450 | 0.000 | 0.500 | | |

CHAINAGE 40

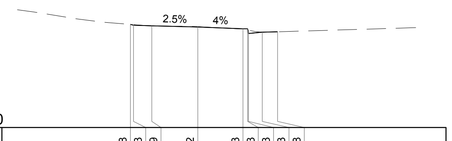



Centreline Data
X = 322378.804
Y = 6261707.992
Z = 88.422

DATUM RL 85.000

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| DESIGN | 88.569 | 88.545 | 88.508 | 88.460 | 88.422 | 88.382 | 88.422 | 88.437 | | | |
| SURVEY | 88.729 | 88.720 | 88.626 | 88.500 | 88.488 | 88.490 | 88.429 | 88.444 | | | |
| OFFSET | -4.205 | -3.605 | -2.105 | -0.900 | -0.480 | -0.450 | 0.000 | 0.500 | | | |

CHAINAGE 30

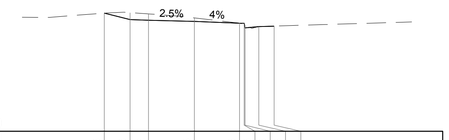



Centreline Data
X = 322378.429
Y = 6261679.499
Z = 90.113

DATUM RL 87.000

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| DESIGN | 90.388 | 90.343 | 90.319 | 90.282 | 90.223 | 90.223 | 90.073 | 90.113 | 90.128 | | |
| SURVEY | 90.368 | 90.360 | 90.322 | 90.294 | 90.213 | 90.185 | 90.179 | 90.111 | 90.125 | | |
| OFFSET | -4.306 | -4.205 | -3.605 | -2.105 | -0.630 | -0.480 | -0.450 | 0.000 | 0.500 | | |

CHAINAGE 58.5

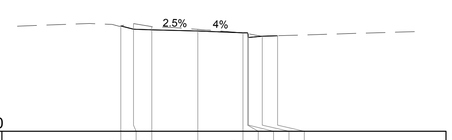



Centreline Data
X = 322379.079
Y = 6261717.988
Z = 87.916

DATUM RL 84.500

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| DESIGN | 88.356 | 88.146 | 88.122 | 88.085 | 88.026 | 88.026 | 87.876 | 87.916 | 87.931 | | |
| SURVEY | 88.356 | 88.371 | 88.331 | 88.201 | 88.030 | 87.968 | 87.956 | 87.918 | 87.933 | | |
| OFFSET | -5.046 | -4.205 | -3.605 | -2.105 | -0.630 | -0.480 | -0.450 | 0.000 | 0.500 | | |

CHAINAGE 20




Centreline Data
X = 322378.333
Y = 6261687.998
Z = 89.602

DATUM RL 86.500

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| DESIGN | 89.936 | 89.833 | 89.809 | 89.771 | 89.712 | 89.712 | 89.562 | 89.602 | 89.617 | | |
| SURVEY | 89.936 | 90.014 | 89.917 | 89.826 | 89.714 | 89.686 | 89.680 | 89.604 | 89.618 | | |
| OFFSET | -4.618 | -4.205 | -3.605 | -2.105 | -0.630 | -0.480 | -0.450 | 0.000 | 0.500 | | |

CHAINAGE 50

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1.0 0 1.0 2.0 3.0 4.0 5.0m
PLAN SCALE 1:100 A1 SHEET

0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

| REVISION | AMENDMENT | DATE | REVISION | AMENDMENT | DATE |
|---|---|---|---|---|---|
| 1 | ISSUE FOR DA | 25/03/19 | | | |

CLIENT
JUSTPROPERTY

PROJECT
16 CAMBRIDGE STREET, EPPING

PREPARED BY
Warren Smith & Partners

**Warren Smith & Partners Pty Ltd**
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**www.warrensmith.com.au** **ABN** 36 300 430 126

**CONSULTING ENGINEERS**
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■ Sydney Water Accredited Water Servicing Co-ordinator
- Design Project Management - Building Plan Approvals

**SERVING THE CONSTRUCTION INDUSTRY SINCE 1981.**

Lic No: QAC/RE/10771

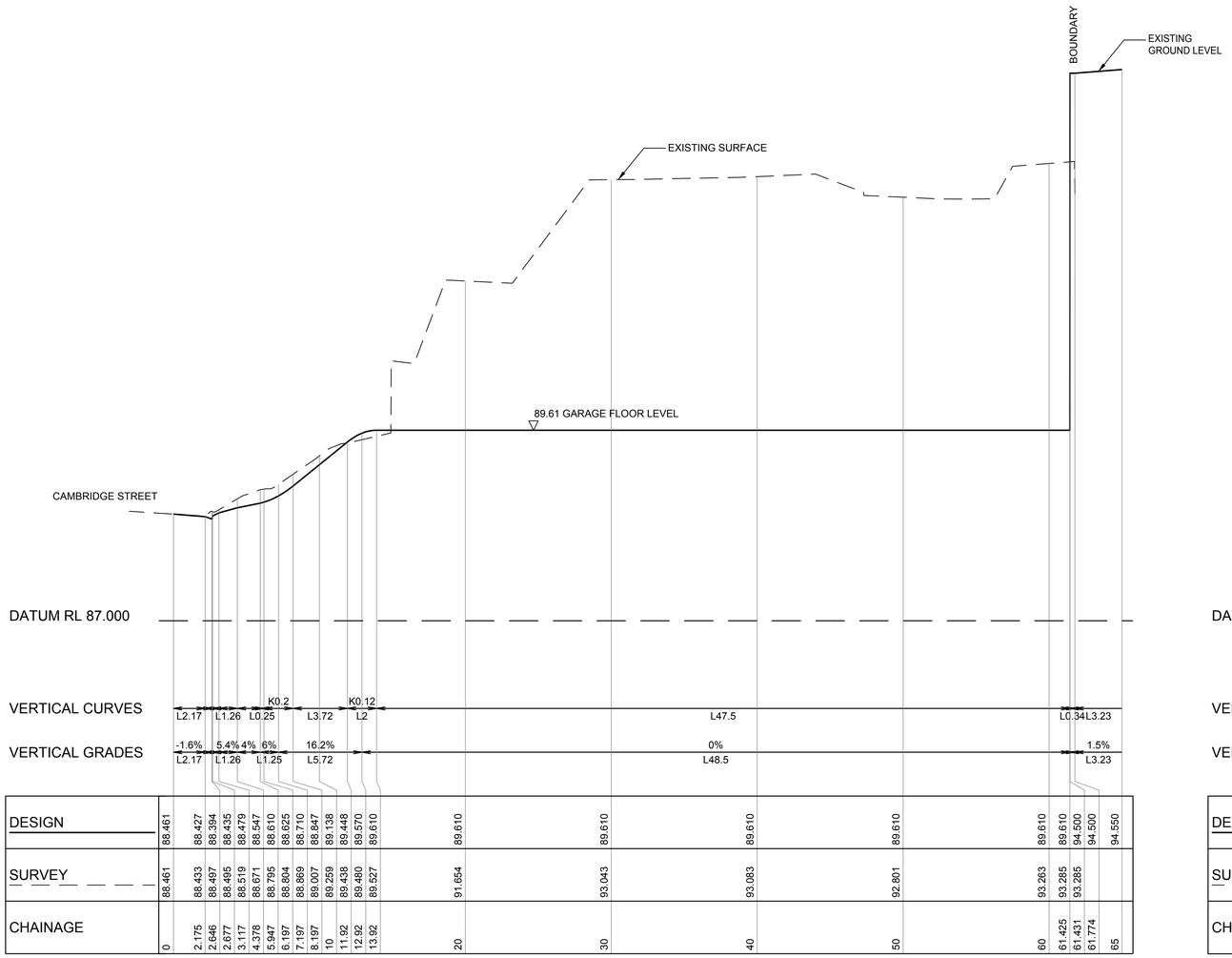
TITLE
**CROSS SECTIONS**

| SCALE | DRAWN | DESIGNED | CHECKED | APPROVED |
|---|---|---|---|---|
| AS SHOWN | P.M | P.M | M.C. | M.C. |

| JOB No. | DRAWING No. | ISSUE |
|---|---|---|
| 6165000 | C5.02 | 1 |

| DATE | STATUS |
|---|---|
| MARCH 2019 | DEVELOPMENT APPLICATION |

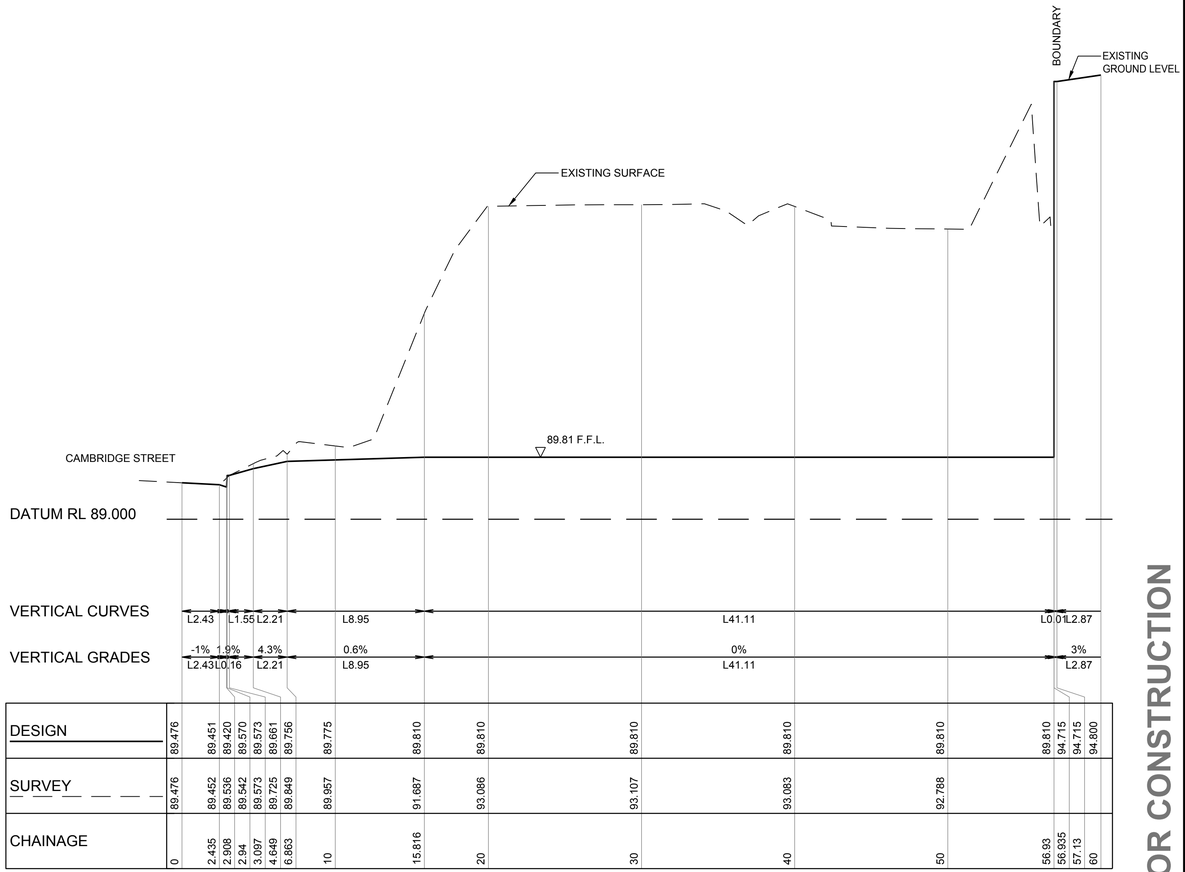
Xrefs: X:\2345678-TB_A1H_K-6165000-TB_A1H_KBO1_XS_001
Plot Date: 25/03/2019@09:45:17 Login Name: Mong Civil File: T:\6165000\Drawings\AutoCAD\Civil\Design\Civil 2\C5.02 Cross Sections.dwg




| DESIGN | 88.461 | 88.427 | 88.394 | 88.435 | 88.479 | 88.547 | 88.610 | 88.625 | 88.710 | 88.847 | 89.138 | 89.448 | 89.570 | 89.610 | 89.610 | 89.610 | 89.610 | 89.610 | 89.610 | 89.610 | 94.500 | 94.500 | 94.550 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SURVEY | 88.461 | 88.433 | 88.497 | 88.495 | 88.519 | 88.671 | 88.795 | 88.804 | 88.869 | 89.007 | 89.259 | 89.438 | 89.480 | 89.527 | 91.654 | 93.043 | 93.083 | 92.801 | 93.263 | 93.285 | 93.285 | | |
| CHAINAGE | 0 | 2.175 | 2.646 | 2.677 | 3.117 | 4.378 | 5.947 | 6.197 | 7.197 | 8.197 | 10 | 11.92 | 12.92 | 13.92 | 20 | 30 | 40 | 50 | 60 | 61.425 | 61.431 | 61.774 | 65 |

## LONGITUDINAL SECTION A

A1 HORZ SCALE 1:200
A1 VERT SCALE 1:40




| DESIGN | 89.476 | 89.451 | 89.420 | 89.570 | 89.573 | 89.661 | 89.756 | 89.775 | 89.810 | 89.810 | 89.810 | 89.810 | 89.810 | 89.810 | 94.715 | 94.715 | 94.800 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SURVEY | 89.476 | 89.452 | 89.536 | 89.542 | 89.573 | 89.725 | 89.849 | 89.957 | 91.687 | 93.086 | 93.107 | 93.083 | 92.788 | | | | |
| CHAINAGE | 0 | 2.435 | 2.908 | 2.94 | 3.097 | 4.649 | 6.863 | 10 | 15.816 | 20 | 30 | 40 | 50 | 56.93 | 56.935 | 57.13 | 60 |

## LONGITUDINAL SECTION B

A1 HORZ SCALE 1:200
A1 VERT SCALE 1:40

PRELIMINARY - NOT FOR CONSTRUCTION

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800 0 400 800 1200 1600mm
PLAN SCALE 1:40 A1 SHEET

2.5 0 2.5 5.0 7.5 10.0m
PLAN SCALE 1:200 A1 SHEET

0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

| REVISION | AMENDMENT | DATE | REVISION | AMENDMENT | DATE |
|---|---|---|---|---|---|
| 1 | ISSUE FOR DA | 25/03/19 | | | |

CLIENT
JUSTPROPERTY

PROJECT
16 CAMBRIDGE STREET, EPPING

PREPARED BY
Warren Smith & Partners

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**www.warrensmith.com.au** **ABN** 36 300 430 126

**CONSULTING ENGINEERS**
Hydraulic Services Fire Protection Civil Engineering
Sydney Water Accredited Water Servicing Co-ordinator
- Design Project Management - Building Plan Approvals

**SERVING THE CONSTRUCTION INDUSTRY SINCE 1981.**

Lic No: QAC/RE/0771

TITLE
# SITE SECTIONS

| SCALE | DRAWN | DESIGNED | CHECKED | APPROVED |
|---|---|---|---|---|
| AS SHOWN | P.M. | P.M. | M.C. | M.C. |

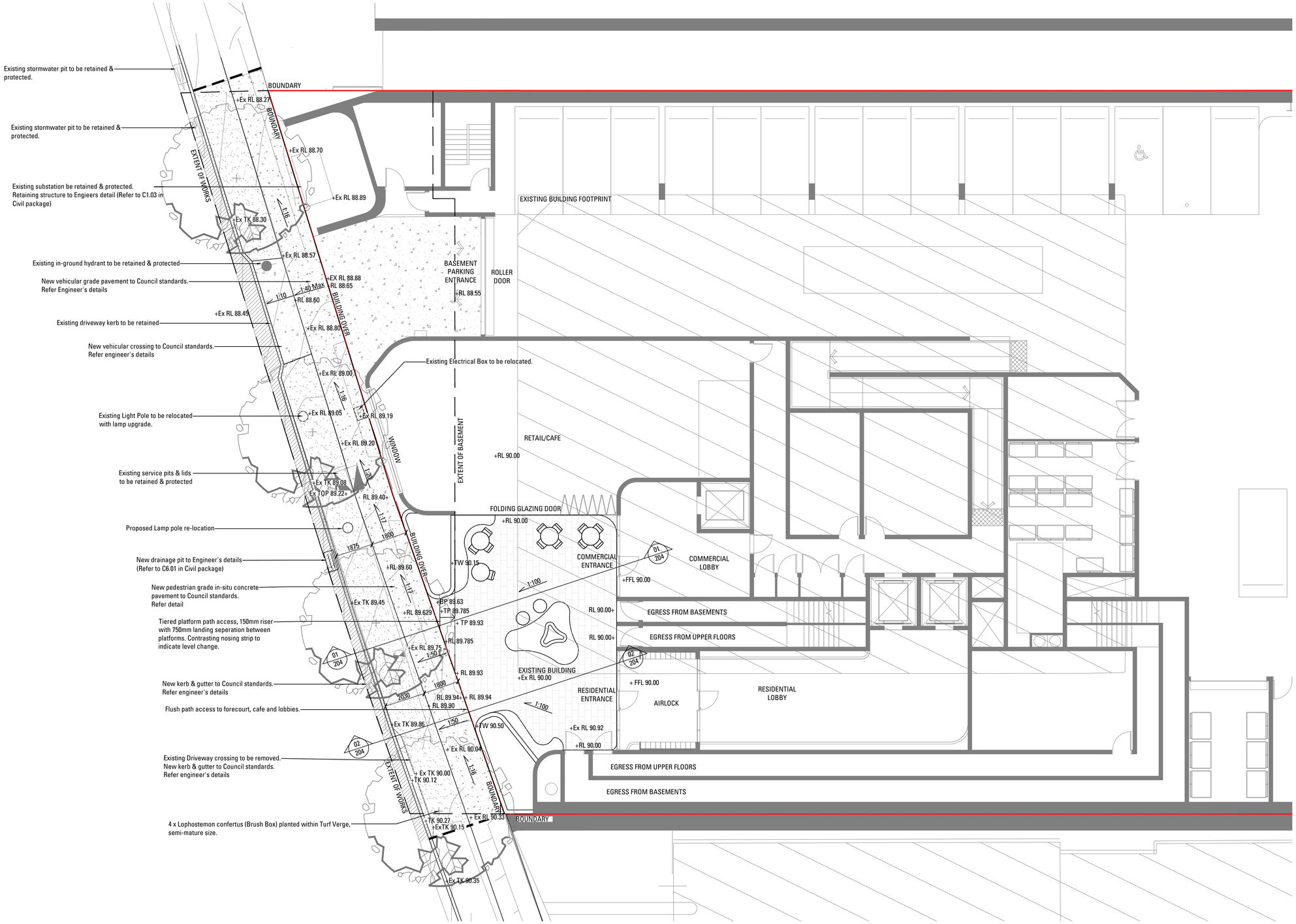
| JOB No. | DRAWING No. | ISSUE |
|---|---|---|
| 6165000 | C5.03 | 1 |

| DATE | STATUS |
|---|---|
| MARCH 2019 | DEVELOPMENT APPLICATION |

Xrefs: X-6165000-TB_AIH
Plot Date: 25.03.2019@14:15:22 Login Name: KKong Cad File: T:\6165000\Drawings\AutoCAD\Civil\Design\Civil 2D\C5.03 Site Sections.dwg

# LANDSCAPE PUBLIC DOMAIN ALIGNMENT PLAN






## LEGEND

- PROPOSED TREE PLANTING
- TURF
- PROPERTY BOUNDARY
- BASEMENT EXTENT
- CONCRETE PAVING
- UNIT PAVING

GRADING

- RL — REDUCED LEVEL
- EX RL — EXISTING REDUCED LEVEL
- FFL — FINISHED FLOOR LEVEL
- TP/BP — TOP / BOTTOM OF PLATFORM
- TW/BW — TOP / BOTTOM OF WALL
- TOP — TOP OF PIT
- FALL — FALL SLOPE

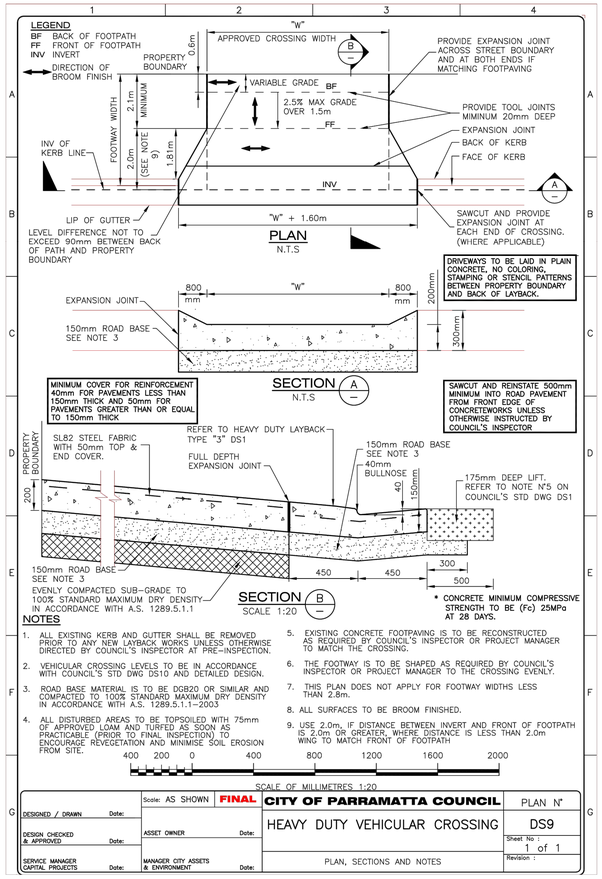
1:100 @ A1

0 1 2 3 4 5m

ARCADIA
LANDSCAPE ARCHITECTURE

# 16-18 CAMBRIDGE STREET, EPPING
DEVELOPMENT APPLICATION

| | | | |
|---|---|---|---|
| PREPARED BY | Arcadia Landscape Architecture | DATE | Apr 2019 |
| CLIENT | Just Properties Group Pty Ltd | SCALE | 1:100 |
| ARCHITECT | Nettleton Tribe | ISSUE | E |



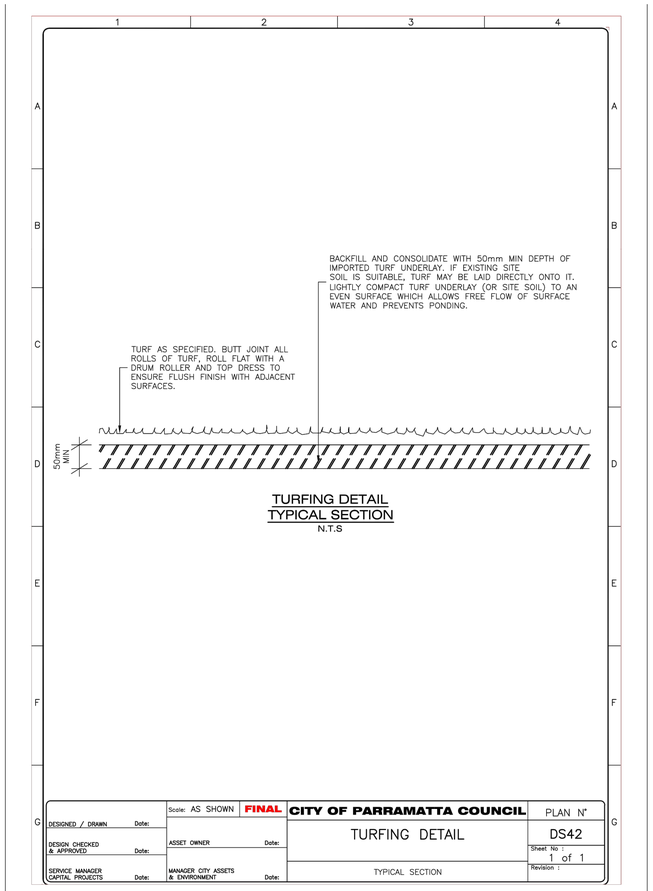

**NOTES**

1. ALL EXISTING KERB AND GUTTER SHALL BE REMOVED PRIOR TO ANY NEW LAYBACK WORKS UNLESS OTHERWISE DIRECTED BY COUNCIL'S INSPECTOR AT PRE-INSPECTION.
2. VEHICULAR CROSSING LEVELS TO BE IN ACCORDANCE WITH COUNCIL'S STD DWG DS10 AND DETAILED DESIGN.
3. ROAD BASE MATERIAL IS TO BE DGB20 OR SIMILAR AND COMPACTED TO 100% STANDARD MAXIMUM DRY DENSITY IN ACCORDANCE WITH A.S. 1289.5.1.1-2003
4. ALL DISTURBED AREAS TO BE TOPSOILED WITH 75mm OF APPROVED LOAM AND TURFED AS SOON AS PRACTICABLE (PRIOR TO FINAL INSPECTION) TO ENCOURAGE REVEGETATION AND MINIMISE SOIL EROSION FROM SITE.
5. EXISTING CONCRETE FOOTPAVING IS TO BE RECONSTRUCTED AS REQUIRED BY COUNCIL'S INSPECTOR OR PROJECT MANAGER TO MATCH THE CROSSING.
6. THE FOOTWAY IS TO BE SHAPED AS REQUIRED BY COUNCIL'S INSPECTOR OR PROJECT MANAGER TO THE CROSSING EVENLY.
7. THIS PLAN DOES NOT APPLY FOR FOOTWAY WIDTHS LESS THAN 2.8m.
8. ALL SURFACES TO BE BROOM FINISHED.
9. USE 2.0m, IF DISTANCE BETWEEN INVERT AND FRONT OF FOOTPATH IS 2.0m OR GREATER, WHERE DISTANCE IS LESS THAN 2.0m WING TO MATCH FRONT OF FOOTPATH

400 200 0 400 800 1200 1600 2000
SCALE OF MILLIMETRES 1:20

| | | | |
|---|---|---|---|
| DESIGNED / DRAWN Date: | Scale: AS SHOWN FINAL | CITY OF PARRAMATTA COUNCIL | PLAN N° |
| DESIGN CHECKED & APPROVED Date: | ASSET OWNER Date: | HEAVY DUTY VEHICULAR CROSSING | DS9 |
| SERVICE MANAGER CAPITAL PROJECTS Date: | MANAGER CITY ASSETS & ENVIRONMENT Date: | PLAN, SECTIONS AND NOTES | Sheet No : 1 of 1 Revision : |

01 / 202 HEAVY DUTY VEHICULAR CROSSING - TYPICAL DETAIL
SCALE 1:20




TURFING DETAIL
TYPICAL SECTION
N.T.S

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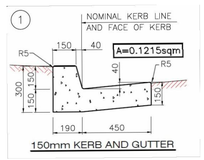
| DESIGNED / DRAWN Date: | Scale: AS SHOWN FINAL | CITY OF PARRAMATTA COUNCIL | PLAN N° |
| DESIGN CHECKED & APPROVED Date: | ASSET OWNER Date: | TURFING DETAIL | DS42 |
| SERVICE MANAGER CAPITAL PROJECTS Date: | MANAGER CITY ASSETS & ENVIRONMENT Date: | TYPICAL SECTION | Sheet No : 1 of 1 Revision : |

02 / 202 TURFING DETAIL
NTS




150mm KERB AND GUTTER

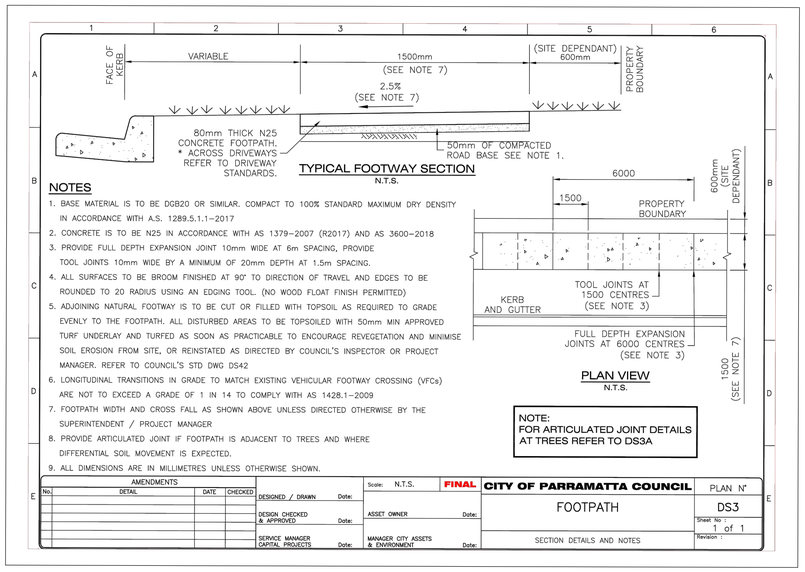
**NOTES**

1. ROAD BASE MATERIAL IS TO BE DGB20 OR SIMILAR AND COMPACTED TO 100% STANDARD MAXIMUM DRY DENSITY IN ACCORDANCE WITH AS 1289.5.1.1-2017
2. ROAD BASE MATERIAL 150mm THICK TO BE PLACED BENEATH KERB & GUTTER AND 300mm BEYOND THE EXTERNAL EDGES OF KERB & GUTTERS, APRONS, AND CROSSINGS.
3. ALL DISTURBED AREAS TO BE TOPSOILED WITH 50mm MIN OF APPROVED TURF UNDERLAY AND TURFED AS SOON AS PRACTICABLE TO ENCOURAGE REVEGETATION AND MINIMISE SOIL EROSION FROM SITE.
4. PROVIDE SAWCUT AND REINSTATE 500mm INTO ROAD PAVEMENT FROM FRONT EDGE OF CONCRETE WORKS UNLESS OTHERWISE INSTRUCTED BY COUNCIL'S INSPECTOR.
5. REINSTATE PAVEMENT WITH 175mm DEPTH DEEP LIFT (AC14) COMPACTED TO 95% MODIFIED (97% MAX) TO RMS SPECIFICATIONS R116 AND R117. CRACK SEAL ALL BITUMEN TO BITUMEN FACES. AC14 TO BE COMPACTED IN LAYERS. EACH LAYER TO BE OF 40-70mm THICKNESS
6. APPROVED FULL DEPTH EXPANSION JOINTS (10mm) TO BE PROVIDED AS FOLLOWS:
   - -BETWEEN NEW AND EXISTING WORKS
   - -BETWEEN LAYBACK WINGS AND KERB
   - -EITHER SIDE OF ANY LINTELS
   - -AT EVERY 6m INTERVALS ALONG CONTINUOUS LENGTHS (PROVIDE A DUMMY JOINT AT EVERY 3m INTERVALS UNLESS INSTRUCTED OTHERWISE BY SUPERINTENDENT)
7. ALL SURFACES TO BE STEEL TROWEL FINISHED.
8. ROOFWATER OUTLETS TO BE APPROVED IN ACCORDANCE WITH STANDARD DRAWING DS2
9. USE CLEAN FILL AS BACKFILL MATERIAL UNLESS INSTRUCTED OTHERWISE.

400 200 0 400 800 1200 1600 2000
SCALE OF MILLIMETRES 1:20

| | | | |
|---|---|---|---|
| DESIGNED / DRAWN Date: | Scale: 1:20 FINAL | CITY OF PARRAMATTA COUNCIL | PLAN N° |
| DESIGN CHECKED & APPROVED Date: | ASSET OWNER Date: | KERBS AND LAYBACKS | DS1 |
| SERVICE MANAGER CAPITAL PROJECTS Date: | MANAGER CITY ASSETS & ENVIRONMENT Date: | SECTION DETAILS AND NOTES | Sheet No : 1 of 1 Revision : |

03 / 202 KERB AND GUTTER - TYPICAL DETAIL
SCALE 1:20




**NOTES**

1. BASE MATERIAL IS TO BE DGB20 OR SIMILAR. COMPACT TO 100% STANDARD MAXIMUM DRY DENSITY IN ACCORDANCE WITH A.S. 1289.5.1.1-2017
2. CONCRETE IS TO BE N25 IN ACCORDANCE WITH AS 1379-2007 (R2017) AND AS 3600-2018
3. PROVIDE FULL DEPTH EXPANSION JOINT 10mm WIDE AT 6m SPACING, PROVIDE TOOL JOINTS 10mm WIDE BY A MINIMUM OF 20mm DEPTH AT 1.5m SPACING.
4. ALL SURFACES TO BE BROOM FINISHED AT 90° TO DIRECTION OF TRAVEL AND EDGES TO BE ROUNDED TO 20 RADIUS USING AN EDGING TOOL. (NO WOOD FLOAT FINISH PERMITTED)
5. ADJOINING NATURAL FOOTWAY IS TO BE CUT OR FILLED WITH TOPSOIL AS REQUIRED TO GRADE EVENLY TO THE FOOTPATH. ALL DISTURBED AREAS TO BE TOPSOILED WITH 50mm MIN APPROVED TURF UNDERLAY AND TURFED AS SOON AS PRACTICABLE TO ENCOURAGE REVEGETATION AND MINIMISE SOIL EROSION FROM SITE, OR REINSTATED AS DIRECTED BY COUNCIL'S INSPECTOR OR PROJECT MANAGER. REFER TO COUNCIL'S STD DWG DS42
6. LONGITUDINAL TRANSITIONS IN GRADE TO MATCH EXISTING VEHICULAR FOOTWAY CROSSING (VFCs) ARE NOT TO EXCEED A GRADE OF 1 IN 14 TO COMPLY WITH AS 1428.1-2009
7. FOOTPATH WIDTH AND CROSS FALL AS SHOWN ABOVE UNLESS DIRECTED OTHERWISE BY THE SUPERINTENDENT / PROJECT MANAGER
8. PROVIDE ARTICULATED JOINT IF FOOTPATH IS ADJACENT TO TREES AND WHERE DIFFERENTIAL SOIL MOVEMENT IS EXPECTED.
9. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE SHOWN.

| AMENDMENTS | | | | | |
|---|---|---|---|---|---|
| No. | DETAIL | DATE | CHECKED | DESIGNED / DRAWN Date: | Scale: N.T.S. FINAL |
| | | | | DESIGN CHECKED & APPROVED Date: | ASSET OWNER Date: |
| | | | | SERVICE MANAGER CAPITAL PROJECTS Date: | MANAGER CITY ASSETS & ENVIRONMENT Date: |

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|---|---|---|
| CITY OF PARRAMATTA COUNCIL | | PLAN N° |
| FOOTPATH | | DS3 |
| SECTION DETAILS AND NOTES | | Sheet No : 1 of 1 Revision : |

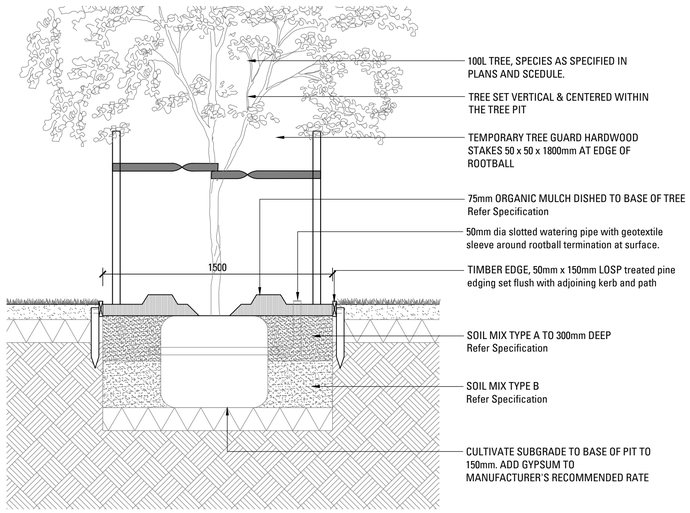
04 / 202 FOOTPATH - TYPICAL DETAIL
NTS

ARCADIA
LANDSCAPE ARCHITECTURE

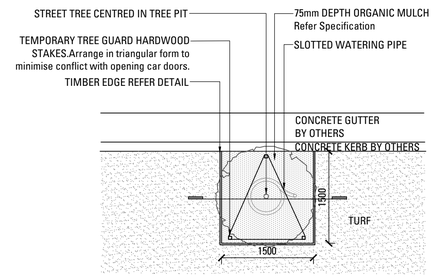
# 16-18 CAMBRIDGE STREET, EPPING
DEVELOPMENT APPLICATION

PREPARED BY Arcadia Landscape Architecture
CLIENT Just Properties Group Pty Ltd
ARCHITECT Nettleton Tribe

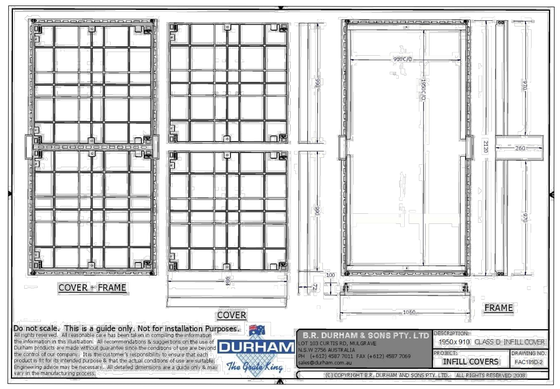
DATE Apr 2019
SCALE AS SHOWN
ISSUE E




01 / 203 TREE PLANTING IN GRASS VERGE WITH TIMBER EDGE - SECTION
SCALE 1:20




02 / 203 TREE PLANTING IN GRASS VERGE - PLAN
SCALE 1:50




02 / 202 SERVICE PIT LID INFILL - TYPICAL DETAIL
NTS

ARCADIA
LANDSCAPE ARCHITECTURE

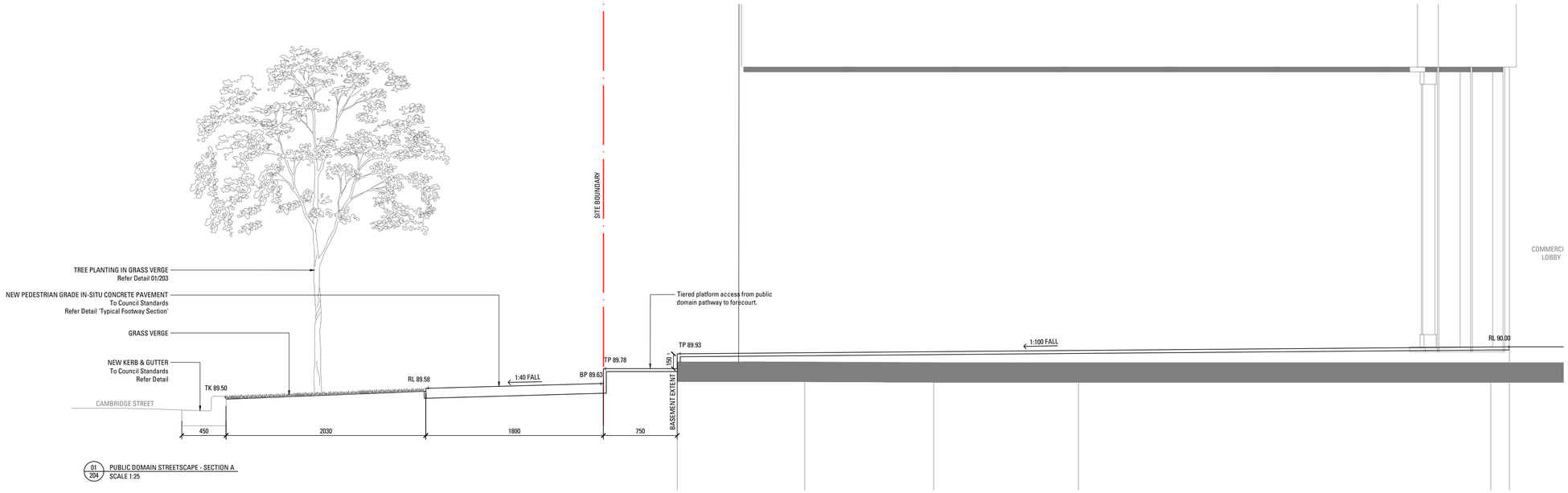
# 16-18 CAMBRIDGE STREET, EPPING
DEVELOPMENT APPLICATION

PREPARED BY Arcadia Landscape Architecture
CLIENT Just Properties Group Pty Ltd
ARCHITECT Nettleton Tribe

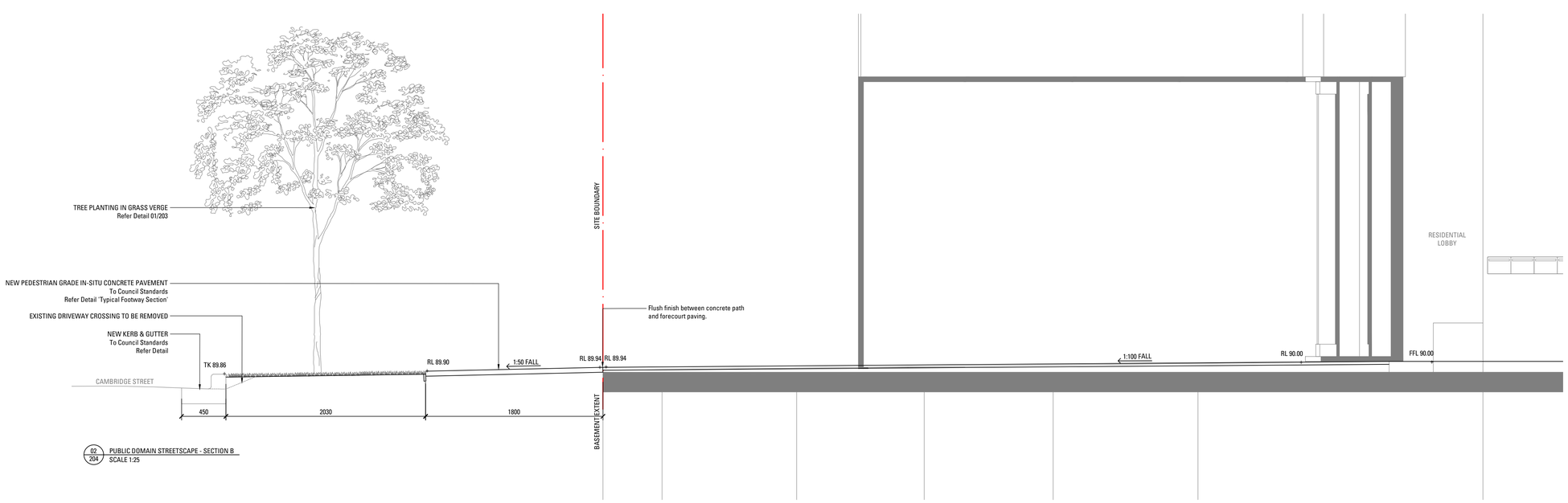
DATE Apr 2019
SCALE AS SHOWN
ISSUE E

# LANDSCAPE PUBLIC DOMAIN SECTION






01/204 PUBLIC DOMAIN STREETSCAPE - SECTION A
SCALE 1:25




02/204 PUBLIC DOMAIN STREETSCAPE - SECTION B
SCALE 1:25

1:25 @ A1

0 0.5 1m

ARCADIA
LANDSCAPE ARCHITECTURE

# 16-18 CAMBRIDGE STREET, EPPING
## DEVELOPMENT APPLICATION

| | | | |
|---|---|---|---|
| PREPARED BY | Arcadia Landscape Architecture | DATE | Apr 2019 |
| CLIENT | Just Properties Group Pty Ltd | SCALE | 1:25 @ A1 |
| ARCHITECT | Nettleton Tribe | ISSUE | E |

# 16 CAMBRIDGE STREET, EPPING

## CIVIL DEVELOPMENT APPLICATION


SOURCE : SIXMAPS

**LOCALITY AERIAL**
NOT TO SCALE

| Sheet List Table | | |
|---|---|---|
| Sheet Number | Sheet Title | Rev. |
| C1.00 Arrangement and Overview Plans | | |
| C1.01 | Cover Sheet | 2 |
| C1.02 | Specification Notes | 2 |
| C2.00 Sediment and Erosion Control | | |
| C2.01 | Sediment and Erosion Control Plan | 2 |
| C2.02 | Sediment and Erosion Control Details | 2 |
| C6.00 Stormwater Drainage | | |
| C6.01 | Stormwater Layout Plan - Ground Level | 2 |
| C6.02 | Stormwater Layout Plan - Roof Level | 1 |
| C6.03 | Stormwater Layout Plan - Basement Level 1 & 2 | 1 |
| C6.04 | Stormwater Layout Plan - Basement Level 3 | 1 |
| C6.05 | On-Site Detention (OSD) Plan and Sections | 2 |
| C6.06 | Stormwater360 Treatment Device Typical Details | 2 |

CLIENT
JUSTPROPERTY

PROJECT MANAGER
MARTIN HILLIER

ARCHITECT
nettletontribe


Warren Smith & Partners

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02 9299 1312 wsp@warrensmith.com.au
**www.warrensmith.com.au** **ABN** 36 300 430 126


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TITLE
**COVER SHEET**

| SCALE | DRAWN | DESIGNED | CHECKED | APPROVED |
|---|---|---|---|---|
| AS SHOWN | N.M. | N.M. | M.C. | M.C. |

| JOB No. | DRAWING No. | ISSUE |
|---|---|---|
| 6165000 | C1.01 | 2 |

DATE JUNE 2018
STATUS DEVELOPMENT APPLICATION

Plot Date

## GENERAL

G1. DESIGN HEREIN HAS BEEN PREPARED BY
WARREN SMITH AND PARTNERS PTY LTD
CONSULTING CIVIL ENGINEERS,
LEVEL 9, 233 CASTLEREAGH ST, SYDNEY NSW 2000.
TEL: (02) 9299 1312, FAX:- (02) 9290 1295.

G2. THE DRAWINGS HEREIN SHALL BE READ AS REQUIRED IN CONJUNCTION WITH ARCHITECT:
NETTLETON TRIBE
117 WILLOUGHBY ROAD, CROWS NEST NSW 2065
TEL: (02) 9431 6431.

G3. ALL DIMENSIONS IN MILLIMETRES UNO. REDUCED LEVELS AND CHAINAGES ARE IN METRES. DO NOT SCALE DRAWINGS. USE FIGURED DIMENSIONS.

G4. THE PROPOSED WORKS DETAILED HEREIN SHALL BE CONSTRUCTED TO THE REQUIREMENTS OF COUNCIL GENERALLY AS DETAILED HEREUNDER.

G5. ALL EXISTING SERVICES SHALL BE VERIFIED FOR DEPTH AND HORIZONTAL POSITION BY PHYSICAL MEANS PRIOR TO EXCAVATION. ANY DISCREPANCIES SHALL BE BROUGHT FORTHWITH TO THE PROJECT MANAGER'S ATTENTION.

## STORMWATER AND SUBSOIL DRAINAGE

MATERIALS:

STW1. PIPES AND FITTINGS FOR STORMWATER DRAINAGE SHALL BE AS FOLLOWS UNO ON THE DRAWINGS:

A. SEWER GRADE uPVC (SN8) WITH SOLVENT WELDED JOINTS FOR BELOW GROUND DRAINAGE UP TO 225mm.

B. FIBRE REINFORCED CEMENT / REINFORCED CONCRETE CLASS 3 WITH RUBBER RINGS FOR PIPE DIA'S GREATER THAN 225mm. UNO.

C. REINFORCED CONCRETE WHERE REQUIRED BY AS 3500 FOR EXCESSIVE DEPTH.

D. INSTALL IN ACCORDANCE WITH AUSTRALIAN STANDARD AS3500 EXCEPT WHERE VARIED BY THE CONTRACT DOCUMENTS.

STW2. PIPES & FITTINGS FOR SUBSOIL DRAINAGE SHALL BE SLOTTED POLYVINYL CHLORIDE (PVC) WITH SOLVENT WELDED JOINTS, MIN. 150mm DIAMETER.

STW3. IN GROUND DRAINAGE PIPEWORK SERVING DP's SHALL BE MINIMUM 150mm DIA. UNO.

STW4. STORMWATER PITS ARE AS SHOWN & SPECIFIED ON THE PLANS . PRECAST TYPE ACCEPTABLE WITH STEP IRONS FOR DEPTH GREATER THAN 1200. BENCH ALL PITS MIN. 30mm & FORM SMOOTH TRANSITION FROM INLET TO OUTLET, ALL INTERNAL PIT DIMENSIONS TO CONFORM TO TABLE 8.2 AS - 3500.3

STW5. SELECT FILL SHALL BE MATERIAL OBTAINED FROM EXCAVATION OF THE PIPE TRENCH OR IMPORTED WITH A PARTICLE SIZE FOR ROCK NOT GREATER THAN 75mm OR FOR OTHER THAN ROCK NOT GREATER THAN 150mm.

STW6. IMPORTED FILL SHALL BE EITHER, AND GENERALLY CONSIST OF SINGLE SIZED AGGREGATE WITH PARTICLE SIZE NOT GREATER THAN 5mm WRAPPED ALL ROUND WITH GEOTEXTILE FILTER FABRIC OR APPROVED HIGH COMPACTION SAND OR APPROVED CRUSHED ROAD GRAVEL CONFORMING TO RTA FORM 3051 OR SIMILAR.

STW7. STORMWATER PITS AND GRATES TO CONFORM WITH STANDARD COUNCIL REQUIREMENTS, WHERE ON PUBLIC LAND. GRATES TO BE SUPPLIED IN CLASS SHOWN ON THE DRAWINGS.

INSTALLATION REQUIREMENTS:

STW8. PIPES SHALL BE TRUE TO GRADES SHOWN AND ALIGNED SO THAT THE CENTRES OF THE INLET PIPES INTERSECT WITH THE CENTRE OF THE OUTLET PIPE AT THE DOWNSTREAM FACE OF THE PIT.

STW9. MINIMUM GRADES FOR GRAVITY STORMWATER DRAINAGE SHALL CONFORM TO AS3500 PART3 AS FOLLOWS, UNO:
1% FOR 100 AND 150 mm DIA.
0.5% FOR 225 mm DIA
0.5% FOR 300 mm DIA
0.4% FOR 375 mm DIA

STW10. MINIMUM DEPTH OF COVER SHALL BE :-
- 300mm IN PRIVATE PROPERTY (NON VEHICULAR TRAFFIC).
- 450mm IN PUBLIC AREAS.
- 600mm IN VEHICULAR TRAFFICABLE AREAS (FOOTWAY/ROADWAY)

STW11. BED ALL PIPES FIRMLY AND EVENLY ONTO IMPORTED BEDDING FILL MATERIAL.

STW12. LAY AND JOINT ALL PIPES IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS AND
AS 3725-1989 BURIED FLEXIBLE PIPELINES
AS 2566-1998 LOADS ON BURIED FLEXIBLE PIPELINES
AS 1597.2-1996 PRECAST REINFORCED CONCRETE BOX CULVERTS.
AS 3500-1990 NATIONAL PLUMBING & DRAINAGE CODE. PART 2, SANITARY PLUMBING AND SANITARY DRAINAGE.
SYDNEY WATER REQUIREMENTS.

STW13. ALLOW TO TEST ALL PIPES AND PITS TO MANUFACTURERS REQUIREMENTS.

## CONCRETE WORKS

C1. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH AS3600, THE STANDARDS ASSOCIATION AUSTRALIA, STANDARDS CITED IN AS3600, THE DRAWINGS AND THE SPECIFICATION.

C2. ALL CONCRETE SHALL BE 80mm NOMINAL SLUMP, 20mm MAXIMUM AGGREGATE WITH NO ADMIXTURES OR FLY ASH, UNLESS OTHERWISE APPROVED. ALL CONCRETE WORK IN CONTACT WITH SEWER TO HAVE TYPE SL PORTLAND CEMENT, OTHERWISE TYPE A CEMENT FOR BRIDGE WORKS, A MAXIMUM 56 DAYS SHRINKAGE OF 600 MICROSTRAIN, A MINIMUM CEMENT CONTENT 350kg/m3 AND MAXIMUM WATER:CEMENT RATIO OF 0.40

C3. STRENGTH GRADE OF CONCRETE SHALL BE : 25 MPa (KERBS, EDGE STRIPS & CONCRETE ENCASEMENT) AND 32 MPa ELSEWHERE.

C4. CONSTRUCTION JOINTS SHALL BE PROPERLY FORMED AND USED ONLY WHERE SHOWN OR APPROVED. GENERALLY FOR HAND PLACED KERB & GUTTER 6mm THICK APPROVED BITUMINOUS MASTIC JOINTING MATERIAL SHALL BE PROVIDED AT INTERVALS NOT EXCEEDING 6m. FOR MACHINE PLACED KERB & GUTTER 6mm THICK APPROVED BITUMIOUS MASTIC JOINTING MATERIAL SHALL BE PROVIDED AT INTERVALS NOT EXCEEDING 12m & GUILLOTINED DUMMY GROOVED JOINTS, 25mm IN DEPTH, SHALL BE FORMED EVERY 3m OF GUTTER. JOINTS ARE ALSO REQUIRED AT EACH END OF GUTTER CROSSING AND GULLY PITS. JOINTS SHALL BE SET VERTICAL AND SQUARE TO THE KERB.

C5. CONCRETE CURING SHALL BE IN ACCORDANCE WITH AS3600. CURING SHALL BE COMMENCED WITHIN TWO HOURS OF FINISHING OPERATIONS AND SHALL BE CONTINUED FOR A MINIMUM OF SEVEN DAYS BY AN APPROVED PROPRIETARY COMPOUND OR BY KEEPING CONTINUOUSLY WET.

C6. FORMWORK SHALL BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH AS3610. FORMWORK SHALL NOT BE STRIPPED NOR PROPS REMOVED WITHOUT APPROVAL.

REINFORCEMENT:

R1. REINFORCEMENT IS REPRESENTED DIAGRAMMATICALLY AND IS NOT NECESSARILY SHOWN IN TRUE PROJECTION.

R2. WELDING OR SPLICES IN REINFORCEMENT SHALL BE USED ONLY IN POSITIONS APPROVED BY THE ENGINEER.

R3. FABRIC LAP DETAILS SHALL BE IN ACCORDANCE WITH FIG.13.2.4 OF AS3600.

R4. HOOKS, LAPS AND BENDS SHALL BE IN ACCORDANCE WITH AS3600 UNO.

R5. ALL CHEMICAL ANCHORS SHALL BE EITHER 'CHEMSET' BY "RAMSET" WITH THE GLASS CAPSULE SYSTEM INSTALLED IN STRICT ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS OR HILTI HVU ADHESIVE ANCHOR WITH FOIL CAPSULE SYSTEM INSTALLED IN STRICT ACCORDANCE WITH MANUFACTURERS INSTRUCTION. ALL CHEMICAL ANCHORS SHALL BE HOT DIPPED GALVANIZED AND BE MIN M16 DIA. U.N.O.

## GENERAL EARTHWORKS, SITEWORKS & FILLING:

FILLING:

SGE1. THESE CLAUSES SHALL BE READ IN CONJUNCTION WITH ANY AVAILABLE GEOTECHNICAL REPORT UNDERTAKEN FOR THE SITE.

SGE2. THE RECOMMENDATIONS CONTAINED IN THE GEOTECH REPORT SHALL OVERRIDE THE CLAUSES PRESENTED HEREIN.

SGE3. STRIP ALL TOPSOIL AND UNDERLYING FILL AND STOCKPILE TOPSOIL FOR LATER REUSE FOR LANDSCAPING PURPOSES.

SGE4. NEW FILL REQUIRED TO REINSTATE CUT LEVELS TO PROPOSED BENCHING LEVELS SHALL BE SOURCED FROM OTHER PARTS OF THE EXCAVATION AS SELECT FILL OR IMPORTED FILL AS SPECIFIED BELOW IN SGE 5 AND SGE 6.

SGE5. SELECT FILL SHALL CONSIST OF LOCALLY DERIVED OR CUT NATURAL CLAYS.

SGE6. IMPORTED FILL SHALL CONSIST OF RIPPED SANDSTONE OR SHALE OR SIMILAR MATERIAL WITH MAXIMUM PARTICLE SIZE NOT GREATER THAN 120mm AND A MOISTURE CONTENT WITHIN 2-3% OF STANDARD OPTIMUM.

SGE7. ALL FILL (COHESIVE SOIL) SHALL BE PLACED IN LAYERS OF 200mm MAXIMUM THICKNESS, COMPACTED BY MACHINE ROLLING TO ACHIEVE A DRY DENSITY RATIO OF NOT LESS THAN 98% STANDARD MAXIMUM AT A CORRESPONDING MOISTURE CONTENT WITHIN 2-3% OF STANDARD OPTIMUM.

SGE8. IN AREAS WHERE HIGH IMPACT ROLLING IS USED TEST EACH FINAL LAYER OF NOT GREATER THAN 300mm TO 400mm TO ACHIEVE A DRY DENSITY SGE8. RATIO OF NOT LESS THAN 98% STANDARD MAXIMUM AT A CORRESPONDING MOISTURE CONTENT WITHIN 2-3% OF STANDARD OPTIMUM.

EXCAVATION BATTERS:

SGE9. ALL TEMPORARY BATTERS CUT IN CLAY SUBSTRATE SHALL BE 1 HORIZ : 1 VERT. ALL LONG TERM EXPOSED BATTERS CUT IN CLAY SUBSTRATE SHALL BE 2 HORIZ : 1 VERT. ALL DETENTION BASIN BATTERS IN CLAY SUBSTRATE SHALL BE 3 HORIZ : 1 VERT. ALL DETENTION BASIN BATTERS IN ROCK SUBSTRATE SHALL BE NEAR VERTICAL.

SGE10. GEOTECHNICAL TESTING IS TO BE UNDERTAKEN TO AT LEAST LEVEL 2 CONTROL OF FILL COMPACTION STANDARD, AS DEFINED IN AS. 3738 AS FOLLOWS

- FOR GENERAL FILL OR CUT AREAS OVER THE AREA PROVIDE ONE (1) TEST PER 200mm LAYER, OVER AN AREA NOT GREATER THAN 500 $m^2$

- FOR GENERAL FILL AREAS IN CONCENTRATED AREAS ADJACENT TO AND BEHIND THE STRUCTURE AND ADJACENT TO AND BEHIND RETAINING WALLS PROVIDE ONE (1) TEST PER 200mm LAYER, OVER AN AREA NOT GREATER THAN 50$m^2$

SGE11. SUBMIT ALL GEOTECHNICAL TEST RESULTS TO WARREN SMITH & PARTNERS FOR REVIEW PRIOR TO CONTINUATION WITH SUBSEQUENT SECTION OF WORK.

## EARTH WORKS FOR SERVICES

E1. EXCAVATE TRENCHES AND STOCKPILE ALL MATERIAL FOR INSPECTION WITH REGARD TO RE-USE FOR TRENCH BACKFILL. REMAINING MATERIAL TO BE REMOVED FROM SITE.

E2. BEDDING MATERIAL SHALL CONSIST OF IMPORTED FILL ONLY. THICKNESS OF BEDDING LAYER SHALL BE 75mm IN O.T.R. AND 200mm IN ROCK.

E3. EMBED ALL PIPES WITH IMPORTED FILL. PROVIDE 200mm SIDE SUPPORT AND 150mm OVERLAY ABOVE PIPE CROWN.

E4. TRENCH FILL ABOVE THE EMBEDMENT ZONE TO THE UNDERSIDE OF THE ROAD PAVEMENT OR FOOTWAY FILL MATERIAL SHALL BE AS FOLLOWS :

UNDER ROADWAY

TRENCH FILL MATERIAL SHALL CONSIST OF IMPORTED FILL AS SPECIFIED HEREIN OF EITHER HIGH GRADE COMPACTION SAND OR APPROVED CRUSHED ROAD GRAVEL CONFORMING TO RTA FORM 3051 OR SIMILAR.

OTHER THAN ROADWAY

TRENCH FILL MATERIAL EXCAVATED SHALL CONSIST OF SELECT FILL AS SPECIFIED HEREIN AND SHALL NOT CONTAIN MORE THAN 20% OF STONES OF SIZE BETWEEN 75mm & 150mm AND NONE LARGER THAN 150mm. PRIOR TO THE USE OF THE EXCAVATED MATERIAL IT SHALL BE INSPECTED AND APPROVED BY THE CONSULTANT.

E5. COMPACT BEDDING, EMBEDMENT AND TRENCH FILL MATERIALS AS FOLLOWS:

EMBEDMENT:-
FOR GRANULAR FILL MATERIAL (NON-COHESIVE SOILS) EG. COARSE AGGREGATE FILL, HIGH GRADE COMPACTION SAND, THE DENSITY INDEX (ID) SHALL BE NOT LESS THAN 70%.

TRENCH FILL:-
FOR GRANULAR MATERIAL (NON-COHESIVE SOILS), THE DENSITY INDEX (ID) SHALL BE NOT LESS THAN 70%.

FOR NON-GRANULAR FILL MATERIAL (COHESIVE SOILS), THE DRY DENSITY RATIO (RD) SHALL BE NOT LESS THAN 95%.

E6. MEASURE OF COMPACTION:-
THE DEGREE OF COMPACTION SHALL BE MEASURED BY ONE OF THE FOLLOWING PARAMETERS :-

GRANULAR FILL (NON-COHESIVE SOILS). THE DENSITY INDEX (ID) DETERMINED IN ACCORDANCE WITH AS 1289.E6.1 BASED ON THE MAXIMUM AND MINIMUM DRY DENSITIES IN ACCORDANCE WITH AS 1289.E5.1 AND THE FIELD DRY DENSITY IN ACCORDANCE WITH AS 1289.5.3.2, AS 1289.E3.5 OR AS 1289.E8.1.

NON-GRANULAR FILL (COHESIVE SOILS). THE DRY DENSITY RATION (RD) DETERMINED IN ACCORDANCE WITH AS 1289.5.4.1 BASED ON THE FIELD DRY DENSITY IN ACCORDANCE WITH AS 1289.5.3.2 AND THE MAXIMUM DRY DENSITY IN ACCORDANCE WITH AS 1289.5.1.1

E7. GEOTECHNICAL TESTING IS TO BE UNDERTAKEN TO AT LEAST LEVEL 2 CONTROL OF FILL COMPACTION STANDARD, AS DEFINED IN AS. 3738 AS FOLLOWS

- TEST EACH 300mm LAYER ABOVE PIPE CROWN.
- TEST BASE & SUB-BASE LAYERS WHERE APPLICABLE.
- TESTS SHALL BE REQUIRED AT EACH 50m CENTRES WHERE THE LENGTH OF TRENCH IS WITHIN THE 50m REQUIREMENT.

E8. SUBMIT ALL GEOTECHNICAL TEST RESULTS TO WARREN SMITH & PARTNERS FOR REVIEW PRIOR TO CONTINUATION WITH SUBSEQUENT SECTION OF WORK.

## RESTORATION:

RES1. RESTORE ALL TRAFFIC AREAS TO PRE EXISTING CONDITION.

RES2. FOR ALL SURFACES OTHER THAN IN TRAFFIC AREAS RESTORE DISTURBED SURFACES TO PRE-EXISTING CONDITIONS AND COMPACT AS SPECIFIED.

RES3. RESTORE ALL AUTHORITY OWNED AREAS TO COUNCIL STANDARDS

## ROAD WORKS, DRIVEWAYS & CARPARKS

R1. ALLOW FOR LEVEL 2 TESTING AND SUB-GRADE CONDITIONS & PAVEMENT THICKNESS TO BE VERIFIED BY GEOTECHNICAL CONSULTANT AFTER INSPECTION OF PRELIMINARY BOXING.

R2. ALLOW FOR ANY SUB-GRADE REPLACEMENT WORK TO BE DETERMINED AS REQUIRED BY GEOTECHNICAL CONSULTANT AT THE TIME OF PAVEMENT CONSTRUCTION.

R3. MINIMUM DRY DENSITY RATIOS (AS 1289 3.4.1-1993) TO BE:

| | |
|---|---|
| BASE COURSE: | 98% MODIFIED |
| SUB-BASE: | 95% MODIFIED |
| SUB-GRADE: | 100% STANDARD |
| SUB-GRADE REPLACEMENT: | 100% STANDARD |

R4. PAVEMENT MATERIALS TO COMPLY WITH RMS SPECIFICATION No. 3051 OR SIMILAR AS APPROVED BY GEOTECHNICAL CONSULTANT.

R5. PROVIDE (1) TEST FOR EACH LAYER NOT EXCEEDING 250mm THICK BEING BASECOURSE, SUB-BASE & SUB-GRADE OVER AN AREA NOT GREATER THAN 500$m^2$

R6. SUBMIT ALL GEOTECHNICAL TEST RESULTS TO WARREN SMITH & PARTNERS FOR REVIEW PRIOR TO CONTINUATION WITH SUBSEQUENT SECTION OF WORK.

## APPROVALS

A1. THE AS CONSTRUCTED WORKS SHALL BE INSPECTED BY DESIGN CONSULTANT. MINIMUM 48 HOURS NOTICE SHALL APPLY TO ALL INSPECTIONS.

A2. THE DESIGN PLANS HEREIN ARE SUBJECT TO COUNCIL APPROVAL PRIOR TO CONSTRUCTION. OBTAIN EXPRESS (WRITTEN) ADVICE TO PROCEED FROM PROJECT MANAGER PRIOR TO COMMENCEMENT.

A3. SUBMIT WORK-AS-EXECUTED DRAWINGS IN CIVILCAD OR DXF DIGITAL FORMAT AND HARD COPY FORMAT. VERIFY ALL CONSTRUCTION WORKS SHOWN HEREON.

A4. CERTIFY THAT THE AS CONSTRUCTED SYSTEM HAS BEEN BUILT IN ACCORDANCE WITH THE APPROVED PLANS ISSUED FOR CONSTRUCTION.

## SERVICES UNDER ROAD SURFACES

S1. ALL OTHER SERVICES INCLUDING BUT NOT LIMITED TO WATER, HYDRANT, GAS, SEWER, ELECTRICAL AND COMMUNICATIONS CONDUITS OR CABLES SHALL BE LAID WITH MINIMUM 600mm U.N.O. COVER BELOW PROPOSED ROAD SURFACE OR APPROVED OTHER MEANS TO PROTECT DURING CONSTRUCTION.

## ROAD SIGNS & LINE MARKING

RS1. ALL SIGNS AND LINEMARKING SHALL BE TO RMS STANDARDS AND SPECIFICATIONS AND AS.1742, MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES

RS2. ALL LINEMARKING SHALL BE AUGMENTED BY RETROREFLECTIVE RAISED PAVEMENT MARKERS (RRPMs) AND ALL SHALL BE TO AS 1742.2 - 1994 AND AS 1742.2 /AMDT 1/1997-10-05

RS3. ALL ROAD SIGNS AND POSTS SHALL BE TO AS 1742.2 - 1994 AND AS 1742.2 /AMDT 1/1997-10-05

## PROTECTION OF FLORA - REFER SPECIFICATION

1. ANY TRENCHES WITHIN 3m OF TREES SHALL BE HAND DUG TO AVOID DAMAGE TO TREE ROOTS.

2. THE SEWERAGE WORKS HAVE BEEN LOCATED TO MINIMISE CLEARING AND DAMAGE TO THE EXISTING FLORA ENVIRONMENT. NO TREES ARE PERMITTED TO BE REMOVED OR DAMAGED UNO. CONSTRUCTION OF THE SEWER GRAVITY OR RISING MAIN IN THE VICINITY OF EXISTING TREES SHALL BE HAND EXCAVATED ONLY, ENSURING IRREVERSIBLE DAMAGE OF THE ROOT SYSTEM DOES NOT OCCUR.

3. IF IT IS CONSIDERED NECESSARY TO PERFORM ANY WORK ON TREES, INCLUDING TRIMMING, LOPPING, ROOT CUTTING, REPAIR AND REMOVAL, APPLICATION IN WRITING SHALL BE MADE BY THE CONTRACTOR TO THE SUPERINTENDENT. ANY WORK PERMITTED TO BE DONE ON TREES TO BE RETAINED SHALL BE PERFORMED BY AN APPROVED TREE SURGEON.

4. NO MATURE TREES OR SHRUBS ARE TO BE REMOVED FOR THE PURPOSES OF THE WORKS WITHOUT PRIOR APPROVAL FROM PARRAMATTA CITY COUNCIL & HORNSBY SHIRE COUNCIL.

## AUTHORITY STANDARDS

LGA 1. THE DRAWINGS HEREIN SHALL BE READ IN CONJUNCTION WITH LOCAL AUTHORITY'S STANDARDS & SPECIFICATIONS WHICH SHALL OVERRIDE SPECIAL DETAILS SHOWN ON THE DRAWINGS.

.

## CLOSED CIRCUIT COLOUR TV (CCTV)

CCTV1. UNDERTAKE A CCTV INSPECTION OF ALL THE COMPLETED DRAINAGE IN ACCORDANCE WITH THE GUIDELINES OF THE THE AUSTRALIAN CONDUIT CONDITION EVALUATION MANUAL (ACCEM)

CCTV2. APPLY THE FOLLOWING REQUIREMENTS TO THE CCTV INSPECTION:-
A. USE DATA CAPTURE SOFTWARE APPROVED BY SYDNEY WATER

B. USE CERTIFIED CCTV OPERATORS

C. THE CCTV VIDEOTAPE SHALL BE OF QUALITY TO ALLOW ACCURATE ASSESSMENT OF THE INTERNAL CONDITION OF THE PIPE.

CCTV3. FURNISH TO THE DESIGN OF THE CONSULTANT:-
A. VIDEOS IN MPG FORMAT FOR VIEWING
B. CCTV REPORT AND SURVEY DATA IN PDF FORMAT
C. ONE HARD COPY PRINTOUT OF THE SURVEY DATA

## PROTECTION OF TREES

T1. WHERE STORMWATER DRAINAGE IS LAID IN THE VICINITY OF TREES / CANOPIES OF TREES, PARTICULARLY IN THE NORTH EAST CORNER OF THE SITE, ALLOW THE CONSULTANT ARBORIST TO INSPECT PROGRESSIVELY THE EXCAVATION AND CONSTRUCTION WORKS.

PRELIMINARY - NOT FOR CONSTRUCTION



| REVISION | AMENDMENT | DATE | REVISION | AMENDMENT | DATE |
|---|---|---|---|---|---|
| 1 | ISSUE FOR DA | 03/07/18 | | | |
| 2 | RE-ISSUE FOR DA | 24/08/18 | | | |

CLIENT: JUSTPROPERTY

PROJECT: 16 CAMBRIDGE STREET, EPPING

PREPARED BY
Warren Smith & Partners
Warren Smith & Partners Pty Ltd
1st Floor, 123 Clarence Street, Sydney 2000 NSW Australia
T 02 9299 1312 F 02 9290 1295 wsp@warrensmith.com.au
www.warrensmith.com.au ABN 36 300 430 126
CONSULTING ENGINEERS
Hydraulic Services Fire Protection Civil Engineering
Sydney Water Accredited Water Servicing Co-ordinator
- Design Project Management - Building Plan Approvals
SERVING THE CONSTRUCTION INDUSTRY SINCE 1981.
Lic No: QAC/8610771

TITLE: SPECIFICATION NOTES

| SCALE | DRAWN | DESIGNED | CHECKED | APPROVED |
|---|---|---|---|---|
| AS SHOWN | N.M. | N.M. | M.C. | M.C. |

| JOB No. | DRAWING No. | ISSUE |
|---|---|---|
| 6165000 | C1.02 | 2 |

DATE: JUNE 2018 STATUS: DEVELOPMENT APPLICATION

SHEET SIZE: A1

Cad File: Y:\6165000\Drawings\AutoCAD\Civil\Design\Civil 2\SC1.02 Specification Notes.dwg
Login Name: JMello
Xrefs: X-6165000-TB_A1H
Plot Date: 24.08.2018@09:18:39

STOCKPILE LOCATION IS INDICATIVE ONLY. LOCATION TO BE CONFIRMED ON SITE WITH BUILDER DURING CONSTRUCTION PHASE.

TEMPORARY SITE ACCESS TO BE PROVIDED FROM CAMBRIDGE STREET.

## LEGEND

- SITE STOCKPILE
- SITE FENCE
- SITE GATE
- SEDIMENT FENCE
- GEOTEXTILE INLET FILTER - DROP INLET SEDIMENT TRAP
- VEHICLE ENTRY SHARKER GRID

NOTE: GEOTEXTILE INLET FILTER BAGS TO BE FITTED IN ALL STORMWATER GRATED PITS WITHIN THE DEVELOPMENT AREA.

PRELIMINARY - NOT FOR CONSTRUCTION

DO NOT SCALE FROM DRAWINGS, CHECK & VERIFY ALL DIMENSIONS & LEVELS BEFORE COMMENCEMENT OF ANY WORK.

THIS DRAWING IS NOT TO BE COPIED IN PART OR WHOLE WITHOUT WRITTEN PERMISSION FROM WARREN SMITH AND PARTNERS.

NORTH

1.0 0 1.0 2.0 3.0 4.0 5.0m
PLAN SCALE 1:100 A1SHEET

0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150
SHEET SIZE: A1

| REVISION | AMENDMENT | DATE | REVISION | AMENDMENT | DATE |
|---|---|---|---|---|---|
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**CONSULTING ENGINEERS**
Hydraulic Services Fire Protection Civil Engineering
Sydney Water Accredited Water Servicing Co-ordinator
- Design Project Management - Building Plan Approvals

**SERVING THE CONSTRUCTION INDUSTRY SINCE 1981.**

Lic No: QAC/RB1/0771

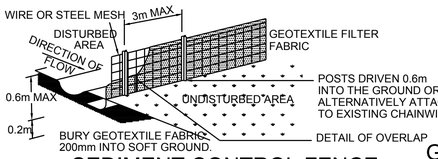

TITLE: **SEDIMENT AND EROSION CONTROL PLAN**

| SCALE | DRAWN | DESIGNED | CHECKED | APPROVED |
|---|---|---|---|---|
| AS SHOWN | N.M. | N.M. | M.C. | M.C. |

| JOB No. | DRAWING No. | ISSUE |
|---|---|---|
| 6165000 | C2.01 | 2 |

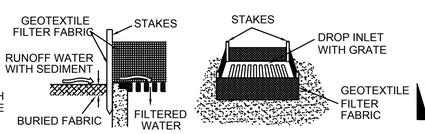
DATE: JUNE 2018 STATUS: DEVELOPMENT APPLICATION

Xref's: X:\6165000-TB_A1H_X-6165000-SU_Ground
Plot Date: 24.08.2018@09:19:39 Login Name: JMello
Cad File: T:\6165000\Drawings\AutoCAD\Civil\Design\Civil 2D\C2.01 Sediment and Erosion Control Plan.dwg



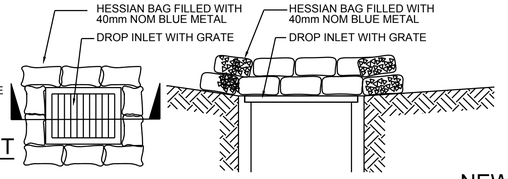

## SEDIMENT CONTROL FENCE

NTS



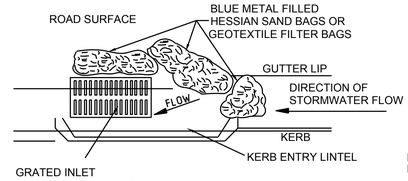

## GEOTEXTILE FILTER FABRIC DROP INLET SEDIMENT TRAP

NTS



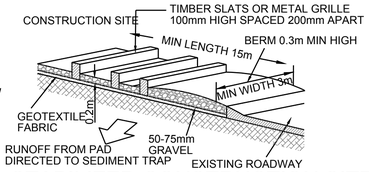

## HESSIAN BAG DROP INLET SEDIMENT TRAP

N.T.S.



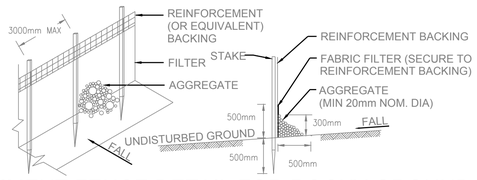

## NEW/EXISTING GRATED KERB ENTRY PIT SEDIMENT CONTROL BARRIER

NTS




## STABILIZED CONSTRUCTION SITE VEHICLE ENTRY/EXIT

NTS




## SEDIMENT FENCE DETAIL FOR ROCKY GROUND

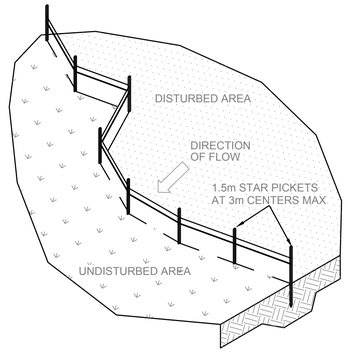
NTS

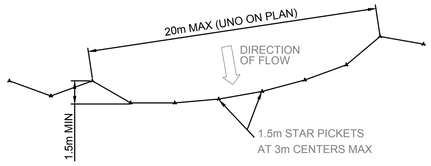
### SEDIMENT FENCE NOTES:-

1. CONSTRUCT SEDIMENT FENCE AS CLOSE AS POSSIBLE TO PARALLEL TO THE CONTOURS OF THE SITE OR AT THE TOE OF A SLOPE.
2. DRIVE 1.5 METRE LONG STAR PICKETS INTO GROUND SUFFICIENT TO PROVIDE RIGID SUPPORT, 3 METERS APART. WHERE THERE IS INSUFFICIENT SOIL DEPTH OVER ROCK, HOLES ARE TO BE DRILLED INTO ROCK TO ACCEPT THE STAR PICKETS.
3. ON SOFT GROUND MATERIALS, DIG A 150mm DEEP TRENCH ALONG THE UPSLOPE LINE OF THE FENCE FOR THE BOTTOM OF THE FABRIC TO BE ENTRENCHED.
4. BACKFILL TRENCH OVER BASE OF FABRIC & COMPACT.
5. FIX SELF-SUPPORTING GEOTEXTILE TO UPSLOPE SIDE OF POSTS WITH WIRE TIES OR AS RECOMMENDED BY THE GEOTEXTILE MANUFACTURER. USE A REINFORCEMENT BACKING WITH NON SELF-SUPPORTING GEOTEXTILE FABRIC.
6. JOIN SECTIONS OF FABRIC AT A SUPPORT POST WITH A 150mm
7. OVERLAP.

   ON HARD OR ROCKY GROUND, SMOOTH A 500mm WIDE STRIP
8. UPSLOPE OF THE FENCE LINE. TURN THE BOTTOM 500mm OF THE FABRIC UPSLOPE AND ANCHOR IN PLACE WITH SUITABLE AGGREGATE.

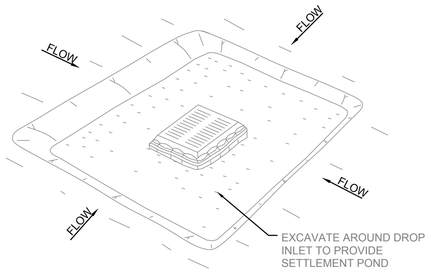
   WHERE A SEDIMENT FENCE IS CONSTRUCTED DOWN SLOPE FROM A DISTURBED BATTER THE FENCE SHOULD BE LOCATED 1.5 TO 2.0 METERS DOWN SLOPE FROM THE TOE OF THE BATTER.




## SEDIMENT FENCE LAYOUT PLAN

NTS



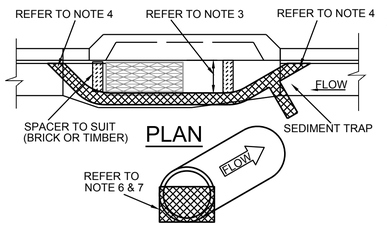

## EXCAVATED SEDIMENT TRAP

NTS

### EXCAVATED SEDIMENT TRAP NOTES:-

1. REMOVE THE SEDIMENT WHEN IT HAS ACCUMULATED TO HALF THE DESIGN DEPTH OF THE TRAP AND RESTORE THE TRAP TO ITS ORIGINAL DIMENSIONS.
2. PROVIDE 50 cu.m/Ha OF SEDIMENT STORAGE
3. VOLUME.

   REFER TO THE MAINTENANCE REQUIREMENTS.




## GEOTEXTILE FILTER BAGS

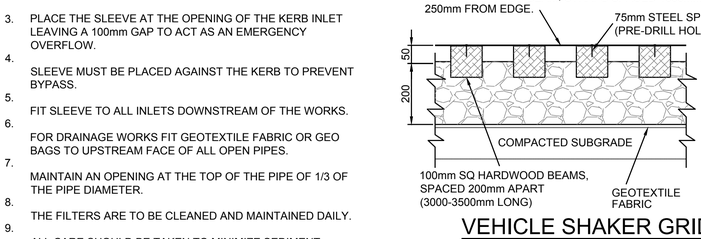
NTS

### SEDIMENT BARRIER FOR PITS & PIPES, NOTES:-

1. SLEEVES ARE TO BE MADE FROM GEOTEXTILE FABRIC LONGER THEN THE LENGTH OF THE INLET PIT.
2. FILL SLEEVE WITH 5 OR 10mm CLEAN GRAVEL.
3. PLACE THE SLEEVE AT THE OPENING OF THE KERB INLET LEAVING A 100mm GAP TO ACT AS AN EMERGENCY OVERFLOW.
4. SLEEVE MUST BE PLACED AGAINST THE KERB TO PREVENT BYPASS.
5. FIT SLEEVE TO ALL INLETS DOWNSTREAM OF THE WORKS.
6. FOR DRAINAGE WORKS FIT GEOTEXTILE FABRIC OR GEO BAGS TO UPSTREAM FACE OF ALL OPEN PIPES.
7. MAINTAIN AN OPENING AT THE TOP OF THE PIPE OF 1/3 OF THE PIPE DIAMETER.
8. THE FILTERS ARE TO BE CLEANED AND MAINTAINED DAILY.
9. ALL CARE SHOULD BE TAKEN TO MINIMIZE SEDIMENT REACHING THE STORMWATER SYSTEM BY MINIMIZING EXCAVATION WORKS AND PREVENTING EXCESS WATER FLOW THROUGH WORKS.

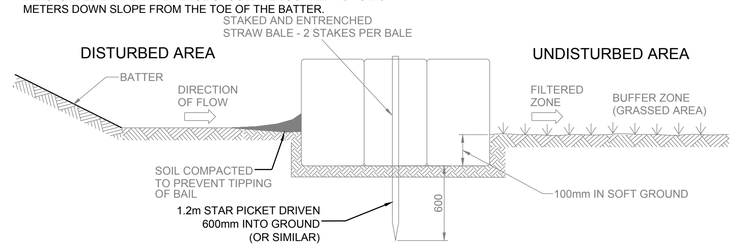
### SITE ENTRY/EXIT NOTES:-

1. ALL VEHICLE ENTRANCES & EXITS TO THE CONSTRUCTION SITE MUST BE STABILIZED TO PREVENT THEM BECOMING A SOURCE OF SEDIMENT, BY PROVIDING A VEHICLE SHAKE AREA. THIS MAY CONSIST OF A TIMBER, CONCRETE OR STEEL SHAKER GRID OR RUBBLE AREA.
2. THE VEHICLE EXIT AREA IS TO BE MAINTAINED IN A CLEAN & SERVICEABLE CONDITION DURING THE TOTAL TIME OF USAGE.
3. ANY UNSEALED ROAD BETWEEN THE DEVICE AND COUNCILS ROADWAY IS TO BE TOPPED WITH 100mm THICK, 40mm NOMINAL SIZE AGGREGATE.
4. PUBLIC ROADS MUST BE KEPT FREE OF DIRT AND MUD. SEDIMENT TRACKED ONTO THE PUBLIC ROADWAY BY VEHICLES LEAVING THE CONSTRUCTION SITE IS TO BE SWEPT UP IMMEDIATELY.
5. FENCES SHOULD BE ERECTED TO ENSURE VEHICLES CAN NOT BYPASS THE STABILIZED ACCESS POINTS, UNLESS COMING FROM A STABILIZED AREA.



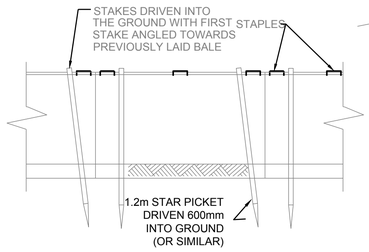

## VEHICLE SHAKER GRID

NTS



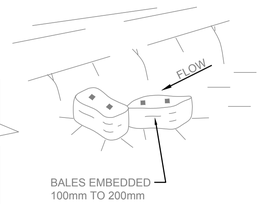

## TYPICAL STRAW BALE SECTION

NTS

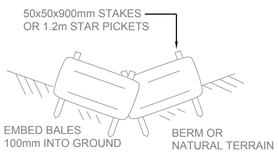



## TYPICAL STRAW BALE DETAIL

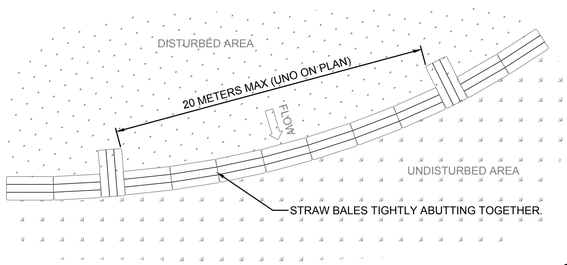
NTS




## VIEW OF CHECK DAM




## CHECK DAM SECTION




## TYPICAL STRAW BALE LAYOUT PLAN

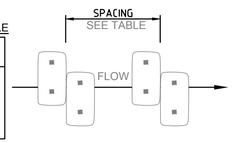
NTS

### STRAW BALE NOTES:-

1. CONSTRUCT STRAW BALE FILTER AS CLOSE AS POSSIBLE TO PARALLEL TO THE CONTOURS OF THE SITE OR AT THE TOE OF A SLOPE.
2. PLACE BALES LENGTHWISE IN A ROW WITH ENDS TIGHTLY ABUTTING. USE STRAW TO FILL ANY GAPS BETWEEN BALES. STRAWS TO BE PLACED PARALLEL TO GROUND.
3. MAXIMUM HEIGHT OF FILTER IS ONE BALE.
4. ON SOFT MATERIALS, EMBED EACH BALE IN THE GROUND 75mm TO 100mm AND ANCHOR WITH TWO 1.2 METRE STAR PICKETS. ANGLE THE FIRST STAKE IN EACH BALE TOWARDS THE PREVIOUSLY LAID BAIL. DRIVE STAKES 600mm INTO THE GROUND AND FLUSH WITH THE TOP OF THE BALES.
5. WHERE A STRAW BALE FILTER IS CONSTRUCTED DOWN SLOPE FROM A DISTURBED BATTER THE BALES SHOULD BE LOCATED 1.5 TO 2.0 METERS DOWN SLOPE FROM THE TOE OF THE BATTER.
6. WHERE REQUIRED WRAP GEOTEXTILE FILTER FABRIC AROUND BALES AND STAPLE IN POSITION.

CHECK DAM SPACING TABLE

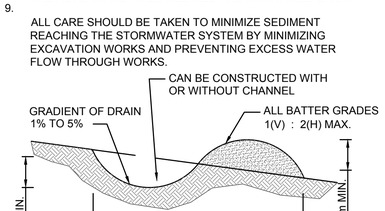
| LONGITUDINAL GRADE (%) | SPACING (METERS) |
|---|---|
| 0 - 5 | 40 |
| 5 -10 | 30 |
| 10 - 15 | 20 |
| GREATER THAN 15 | 10 |




## CHECK DAM PLAN

## STRAW BALE CHECK DAM DETAILS

NTS




## DIVERSION DRAIN (LOW FLOW)

NTS

### DIVERSION DRAIN NOTES:-

1. CONSTRUCT WITH GRADIENT OF 1 PER CENT TO 5 PER CENT.
2. AVOID REMOVING TREES AND SHRUBS IF POSSIBLE.
3. DRAINS TO BE OF CIRCULAR, PARABOLIC OR TRAPEZOIDAL CROSS SECTION NOT V-SHAPED.
4. EARTH BANKS TO BE ADEQUATELY COMPACTED IN ORDER TO PREVENT FAILURE.
5. PERMANENT OR TEMPORARY STABILIZATION OF THE EARTH BANK TO BE COMPLETED WITHIN 10 DAYS OF
6. CONSTRUCTION.

   ALL OUTLETS FROM DISTURBED LANDS ARE TO FEED
7. INTO A SEDIMENT BASIN OR SIMILAR.

   DISCHARGE RUN OFF COLLECTED FROM UNDISTURBED LANDS ONTO EITHER A STABILIZED OR AN UNDISTURBED DISPOSAL SITE WITHIN THE SAME SUBCATCHMENT
8. AREA FROM WHICH THE WATER ORIGINATED.

   COMPACT BANK WITH A SUITABLE IMPLEMENT IN SITUATIONS WHERE THEY ARE REQUIRED TO FUNCTION
9. FOR MORE THAN FIVE DAYS.

   EARTH BANKS TO BE FREE OF PROJECTIONS OR OTHER IRREGULARITIES THAT WILL IMPEDE NORMAL FLOW.

### SITE ENTRY/EXIT CONSTRUCTION NOTES:-

1. STRIP TOP SOIL & LEVEL SITE. PROVIDE CATCH DRAIN AT SIDES TO DIRECT RUNOFF WATER TO SEDIMENT TRAPS.
2. COMPACT SUBGRADE AND REMOVE ANY HIGH POINTS.
3. COVER AREA WITH GEOTEXTILE FABRIC. THIS MAY BE WOVEN OR NEEDLE PUNCHED PRODUCT WITH A MINIMUM CBR BURST STRENGTH (AS3706.4-90) OF 2500 N.
4. CONSTRUCT 200mm THICK RUBBLE PAD OVER GEOTEXTILE USING ROAD BASE OR 30-40mm AGGREGATE. MINIMUM LENGTH 15 METRES OR TO BUILDING ALIGNMENT. MINIMUM WIDTH 3 METRES. CONSTRUCT 300mm HIGH HUMP IMMEDIATELY WITHIN BOUNDARY TO DIVERT WATER TO A SEDIMENT TRAP.
5. WHERE GRIDS ARE USED FIRST CONSTRUCT A 150 THICK PAD OVER GEOTEXTILE FABRIC. LEVEL THIS IN BOTH DIRECTIONS. LOWER GRID ON TO THE PREPARED BASE AND ENSURE THAT NO PART IS SITTING ON ANY HIGH POINTS. BACKFILL THE SPACES BETWEEN THE GRIDS TO WITHIN 50mm OF THE TOP.
6. PROVIDE RAMPS AT ENDS AND SIDE OF GRIDS. IF DEPRESSIONS OCCUR IN THE RAMPS DURING USE. ADD ADDITIONAL MATERIAL.

## MAINTENANCE REQUIREMENTS:-

1. ACCUMULATED SILT & SEDIMENT MUST BE REMOVED AT REGULAR INTERVALS AND AFTER EACH MAJOR STORM.
2. SILT & SEDIMENT MUST BE REMOVED FROM OFF THE SITE OR TO A COUNCIL APPROVED LOCATION WITHIN THE SITE, WHERE IT WILL NOT ERODE.
3. THE SEDIMENT FENCES, BALES & TRAPS SHALL BE REGULARLY INSPECTED, ESPECIALLY AFTER RAIN AND KEPT IN GOOD REPAIR AND FUNCTIONING CONDITION AT ALL TIMES.
4. CONSTRUCTION OPERATIONS SHALL BE CARRIED OUT IN SUCH A MANNER THAT SEDIMENT, EROSION & WATER POLLUTION SHALL BE MINIMIZED.
5. THE SEDIMENT TRAPS SHALL BE REMOVED AND THE AREA STABILIZED WHEN THE CONSTRUCTION AREA HAS BEEN PROPERLY STABILIZED.

PRELIMINARY - NOT FOR CONSTRUCTION



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Hydraulic Services Fire Protection Civil Engineering
Sydney Water Accredited Water Servicing Co-ordinator
- Design Project Management - Building Plan Approvals

SERVING THE CONSTRUCTION INDUSTRY SINCE 1981.

Lic No: QAC/RB10771

TITLE: **SEDIMENT AND EROSION CONTROL DETAILS**

| SCALE | DRAWN | DESIGNED | CHECKED | APPROVED |
|---|---|---|---|---|
| AS SHOWN | N.M. | N.M. | M.C. | M.C. |

| JOB No. | DRAWING No. | ISSUE |
|---|---|---|
| 6165000 | C2.02 | 2 |

DATE: JUNE 2018 STATUS: DEVELOPMENT APPLICATION

SHEET SIZE: A1

0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

Xrefs: X-6165000-TB_A1H
Plot Date: 24.08.2018@09:20:00 Login Name: JMello Cad File: T:\6165000\Drawings\AutoCAD\Civil\Drawing\Civil 20\C2.02 Sediment and Erosion Control Details.dwg

NOTES:
1. OSD TANK IS TO BE FITTED WITH 2 x STORMWATER360 690mm PSORB STORMFILTERS.
2. STORMWATER IS TO BE TREATED BY AN ENVIROPOD SUPPLIED BY STORMWATER360 PRIOR TO BEING DISCHARGED FROM THE SITE. HYDRAULIC ENGINEER TO CONFIRM LOCATION OF ENVIROPOD.
3. A 2KL RAINWATER TANK IS TO BE INSTALLED ON SITE.
4. PUMP OUT PIT, LOCATED ON BASEMENT LEVEL 3, IS TO DISCHARGE TO THE OSD TANK. HYDRAULIC ENGINEER TO CONFIRM DETAILS OF CONNECTION.

## LEGEND

| | |
|---|---|
| Ø450 | PROPOSED PIPE DIAMETER AND DIRECTION OF FLOW |
| SW | PROPOSED STORMWATER PIPE (IN-GROUND) |
| SW | PROPOSED STORMWATER PIPE (SUSPENDED) |
| | KERB INLET PIT (ON GRADE) |
| | 900 x 900 GRATED INLET PIT |
| | 900 x 900 JUNCTION PIT |
| •DP | DOWNPIPE |
| GD | GRATED TRENCH DRAIN |

**OSD TANK DETAILS**

| | |
|---|---|
| AREA: | 14m² |
| DEPTH: | 1.23m |
| VOLUME: | 17.22m³ |
| ORIFICE DIA Ø: | 205mm |
| OUTLET PIPE DIA Ø: | 225mm |
| OUTLET PIPE IL: | 88.53m |

PIT 1/1
CONSTRUCT KERB INLET PIT TO COUNCIL STANDARDS OVER EXISTING STORMWATER LINE IN CAMBRIDGE STREET. OUTLET PIPE FROM OSD TO CONNECT INTO PROPOSED PIT.
RL (INTERPOLATED) 89.20
IL (EXISTING - ASSUMED) 88.23
ILin (PROPOSED) 88.37
LEVELS OF EXISTING STORMWATER TO BE CONFIRMED PRIOR TO CONSTRUCTION OF OSD TANK.

HYDRAULIC ENGINEER TO PROVIDE DETAILS OF SUSPENDED DRAINAGE DURING CC DESIGN

K200 TRENCH DRAIN TO BE PICKED UP BY HYDRAULIC SYSTEM AND RETICULATE TO PUMP OUT PIT.

PRELIMINARY - NOT FOR CONSTRUCTION

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NORTH

PLAN SCALE 1:100 A1 SHEET

SHEET SIZE: A1

| REVISION | AMENDMENT | DATE | REVISION | AMENDMENT | DATE |
|---|---|---|---|---|---|
| 1 | ISSUE FOR DA | 03/07/18 | | | |
| 2 | RE-ISSUE FOR DA | 22/08/18 | | | |

CLIENT: JUSTPROPERTY

PROJECT: 16 CAMBRIDGE STREET, EPPING

PREPARED BY
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Lic No: QAC/8610771

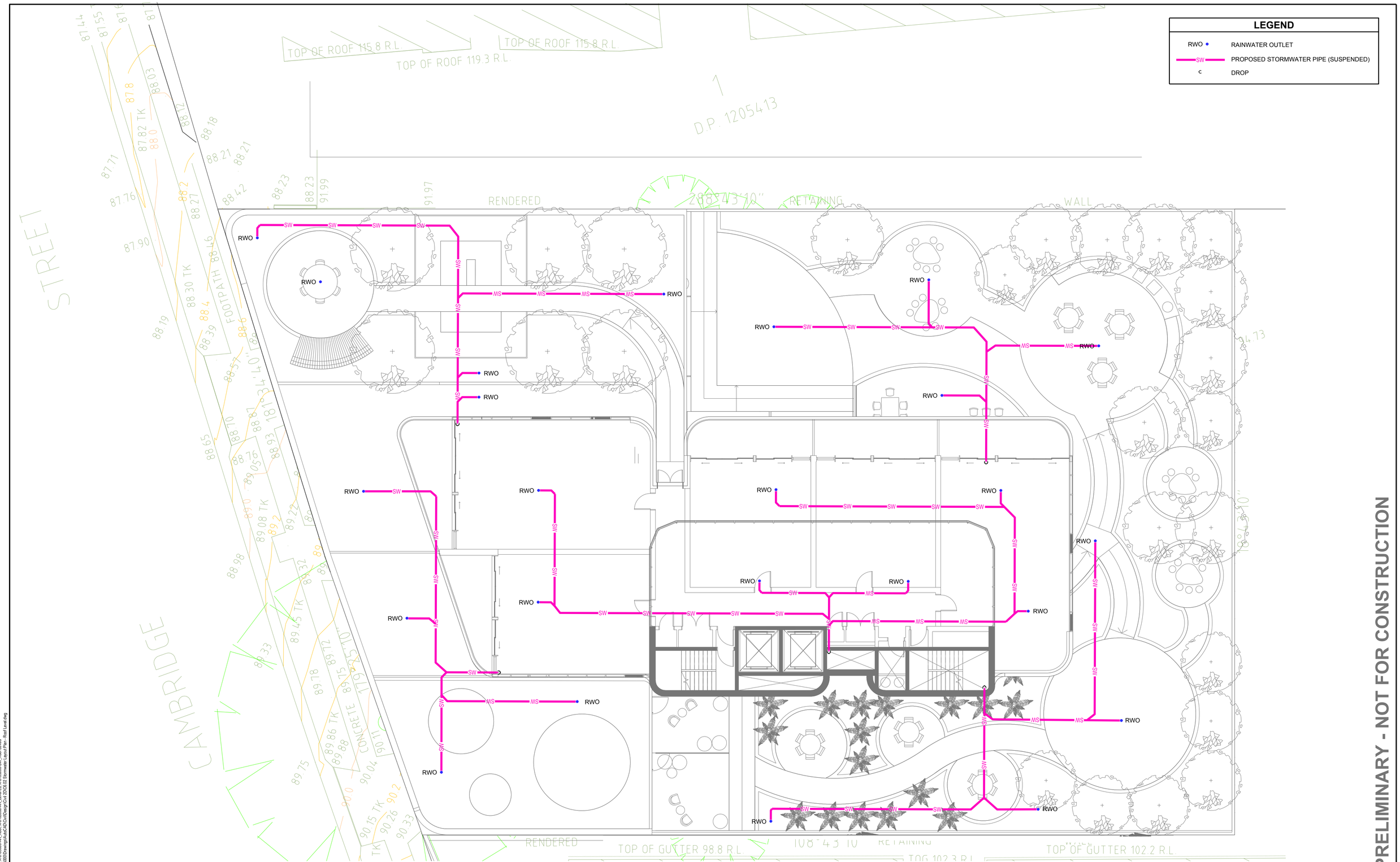
TITLE: **STORMWATER LAYOUT PLAN - GROUND LEVEL**

| SCALE | DRAWN | DESIGNED | CHECKED | APPROVED |
|---|---|---|---|---|
| AS SHOWN | N.M. | N.M. | M.C. | M.C. |

| JOB No. | DRAWING No. | ISSUE |
|---|---|---|
| 6165000 | C6.01 | 2 |

DATE: JUNE 2018 STATUS: DEVELOPMENT APPLICATION

Xrefs: X:6165000-TB_ANN_X:6165000-SW_Layout_X:6165000-AR_Level 1.1_X:6165000-SU_Ground_X:6165000-AR_Level B1
Plot Date: 24.08.2018@11:43:48 Login Name: JMello Cad File: T:\6165000\Drawings\AutoCAD\Civil\Design\Civil 2018\3.01 Stormwater Layout Plan.dwg

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NORTH

PLAN SCALE 1:100 A1 SHEET

0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

SHEET SIZE: A1

| REVISION | AMENDMENT | DATE |
|---|---|---|
| 1 | ISSUE FOR DA | 24/08/18 |

CLIENT: JUSTPROPERTY

PROJECT: 16 CAMBRIDGE STREET, EPPING

PREPARED BY

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Lic No: GAC/R61/3771

TITLE: **STORMWATER LAYOUT PLAN - ROOF LEVEL**

| SCALE | DRAWN | DESIGNED | CHECKED | APPROVED |
|---|---|---|---|---|
| AS SHOWN | L.Si. | L.Si. | M.C. | M.C. |

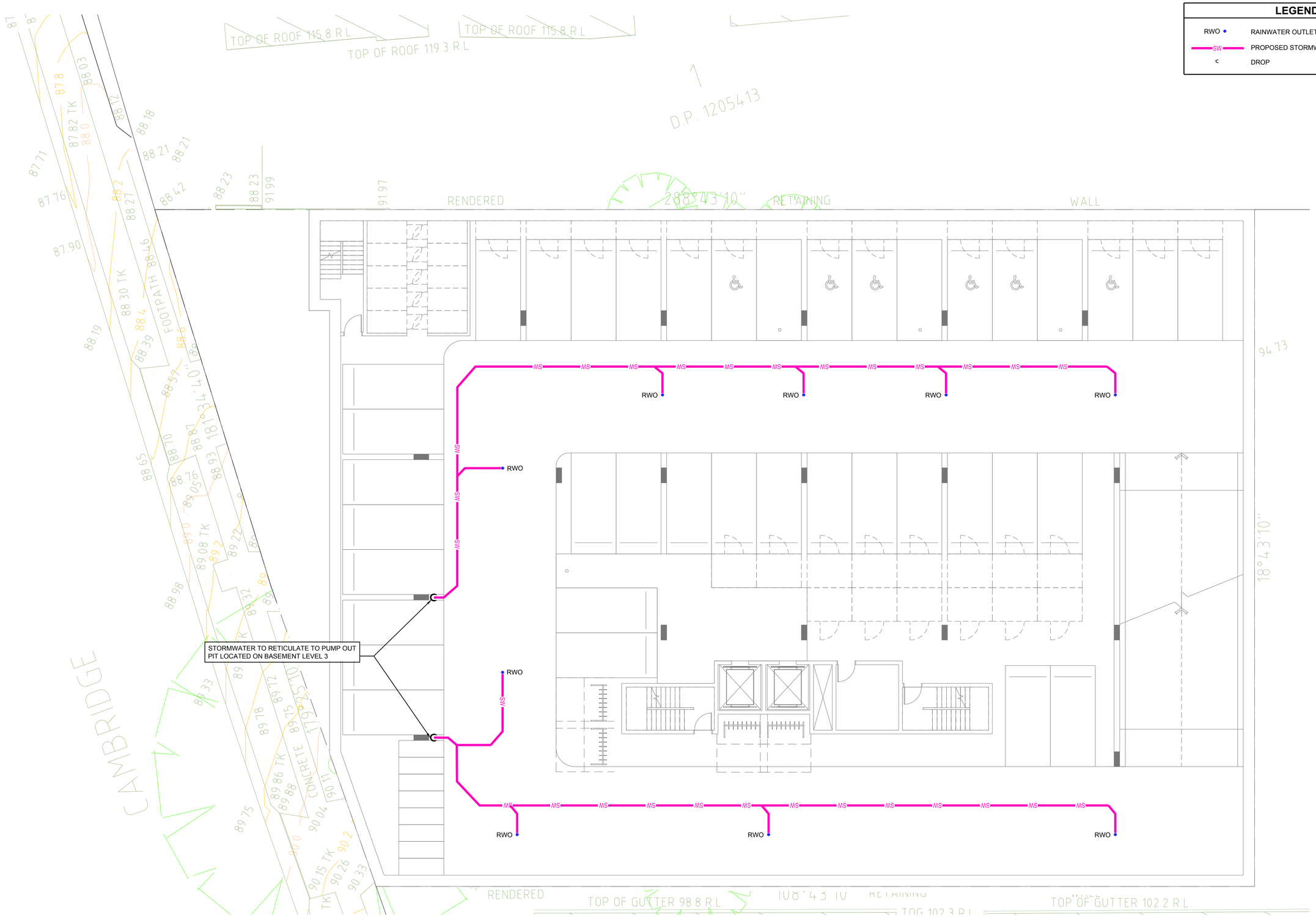
| JOB No. | DRAWING No. | ISSUE |
|---|---|---|
| 6165000 | C6.02 | 1 |

| DATE | STATUS |
|---|---|
| JUNE 2018 | DEVELOPMENT APPLICATION |

Xrefs: X-6165000-TB, A1H; X-6165000-SW_Layout; X-6165000-SU_Ground; X-6165000-AR_Roof; X-6165000-AR_Level 3; X-6165000-SW_Roof Levels
Plot Date: 24.08.2018@11:19:59 Login Name: JMello Cad File: T:\6165000\Drawings\AutoCAD\Civil\Design Civil 25\CG.02 Stormwater Layout Plan - Roof Level.dwg

## LEGEND

| | |
|---|---|
| RWO | RAINWATER OUTLET |
| SW | PROPOSED STORMWATER PIPE (SUSPENDED) |
| c | DROP |

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NORTH

PLAN SCALE 1:100 A1 SHEET

0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

SHEET SIZE: A1

| REVISION | AMENDMENT | DATE | REVISION | AMENDMENT | DATE |
|---|---|---|---|---|---|
| 1 | ISSUE FOR DA | 24/08/18 | | | |

CLIENT: JUSTPROPERTY

PROJECT: 16 CAMBRIDGE STREET, EPPING


PREPARED BY

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Lic No: QAC/RE/12771


TITLE: **STORMWATER LAYOUT PLAN - BASEMENT LEVEL 1 & 2**

| SCALE | DRAWN | DESIGNED | CHECKED | APPROVED |
|---|---|---|---|---|
| AS SHOWN | L.Si. | L.Si. | M.C. | M.C. |

| JOB No. | DRAWING No. | ISSUE |
|---|---|---|
| 6165000 | C6.03 | 1 |

| DATE | STATUS |
|---|---|
| JUNE 2018 | DEVELOPMENT APPLICATION |


Xrefs: X-6165000-TB_ATH; X-6165000-SU_Ground; X-6165000-SW_Basement 1-2; X-6165000-AR_Level B2
Plot Date: 24/08 2018@11:19:42 Login Name: JMello Cad File: Y:\6165000\Drawings\AutoCAD\Civil\Design\Civil 2D\C6.03 Stormwater Layout Plan - Basement Level 1 & 2.dwg

## LEGEND

| | |
|---|---|
| RWO | RAINWATER OUTLET |
| SW | PROPOSED STORMWATER PIPE (SUSPENDED) |
| DP | DOWNPIPE |

NOTES:
1. SUBSOIL TO BE INSTALLED AROUND PERIMETER OF BUILDING AND CONNECT INTO PUMP OUT PIT.

4m LONG x 2.5m WIDE x 3m DEEP PUMP OUT PIT TO CAPTURE STORMWATER FROM BASEMENT LEVELS. STORMWATER TO BE PUMPED TO OSD TANK. HYDRAULIC ENGINEER TO CONFIRM DETAILS OF PUMP AND CONNECTION TO OSD TANK DURING DETAILED DESIGN STAGE.

PRELIMINARY - NOT FOR CONSTRUCTION

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NORTH

PLAN SCALE 1:100 A1 SHEET

0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

SHEET SIZE: A1

| REVISION | AMENDMENT | DATE |
|---|---|---|
| 1 | ISSUE FOR DA | 24/08/18 |

CLIENT: JUSTPROPERTY

PROJECT: 16 CAMBRIDGE STREET, EPPING

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Lic No: GAC/R61/3771

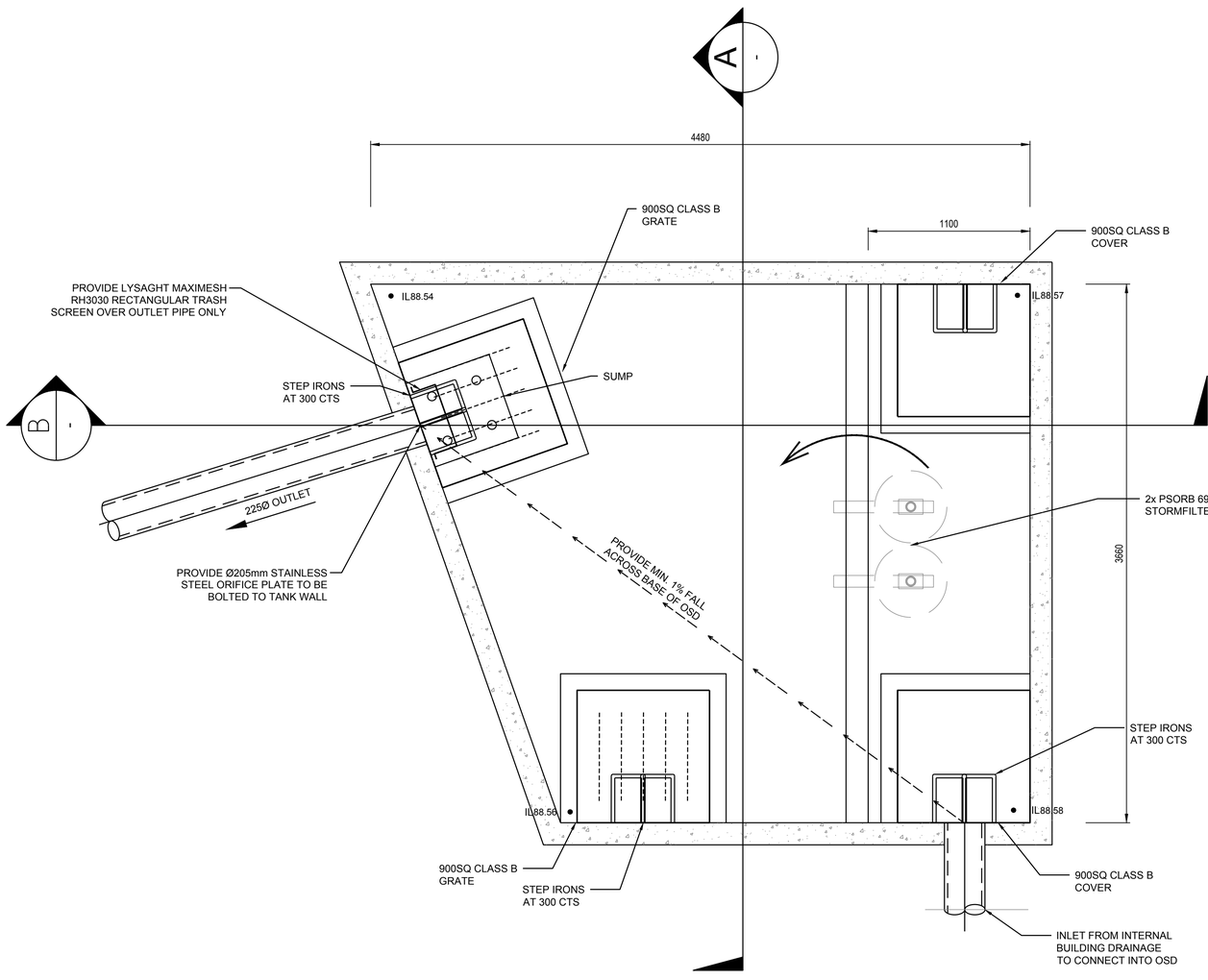
TITLE: STORMWATER LAYOUT PLAN - BASEMENT LEVEL 3

| SCALE | DRAWN | DESIGNED | CHECKED | APPROVED |
|---|---|---|---|---|
| AS SHOWN | L.Si. | L.Si. | M.C. | M.C. |

| JOB No. | DRAWING No. | ISSUE |
|---|---|---|
| 6165000 | C6.04 | 1 |

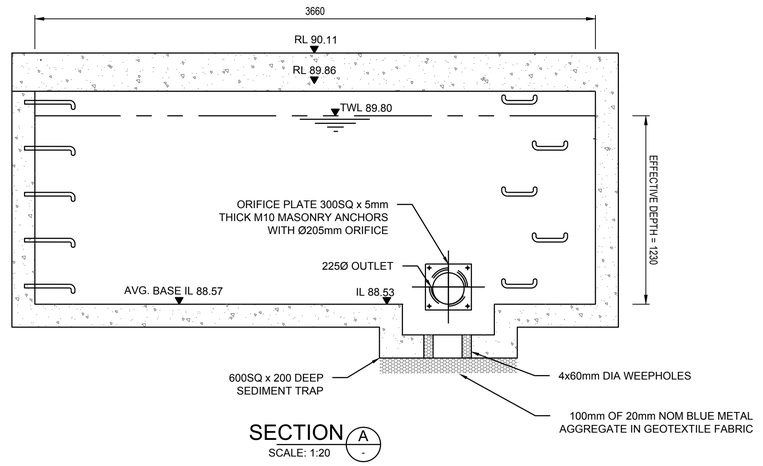
| DATE | STATUS |
|---|---|
| JUNE 2018 | DEVELOPMENT APPLICATION |

Xrefs: X-6165000-SU_Ground, X-6165000-AR_Level B3, X-6165000-SW_Basement 3, X-6165000-TB_A1H
Plot Date: 24/08/2018@11:20:21 Login Name: JMello Cad File: T:\6165000\Drawings\AutoCAD\Civil\Design\Civil 2D\C6.04 Stormwater Layout Plan - Basement Level 3.dwg



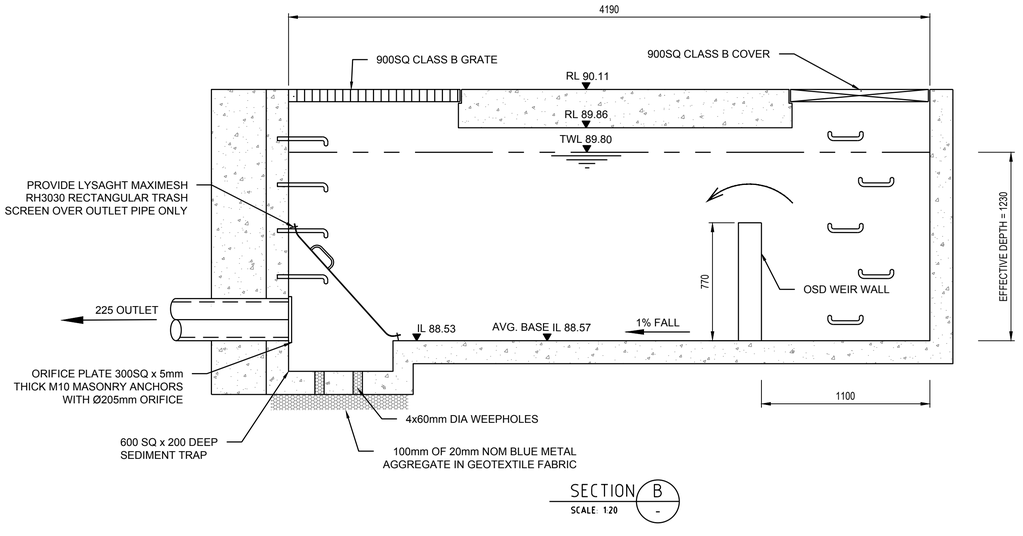

## ON SITE DETENTION TANK PLAN

SCALE: 1:20
EFFECTIVE VOLUME = 17.22m$^3$




## SECTION A -

SCALE: 1:20




## SECTION B -

SCALE 1:20

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200 0 200 400 600 800 1000mm
PLAN SCALE 1:20 A1 SHEET

0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150
SHEET SIZE: A1

| REVISION | AMENDMENT | DATE | REVISION | AMENDMENT | DATE |
|---|---|---|---|---|---|
| 1 | ISSUE FOR DA | 03/07/18 | | | |
| 2 | RE-ISSUE FOR DA | 24/08/18 | | | |

CLIENT: JUSTPROPERTY

PROJECT: 16 CAMBRIDGE STREET, EPPING

PREPARED BY
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Lic No: QAC/95107/71

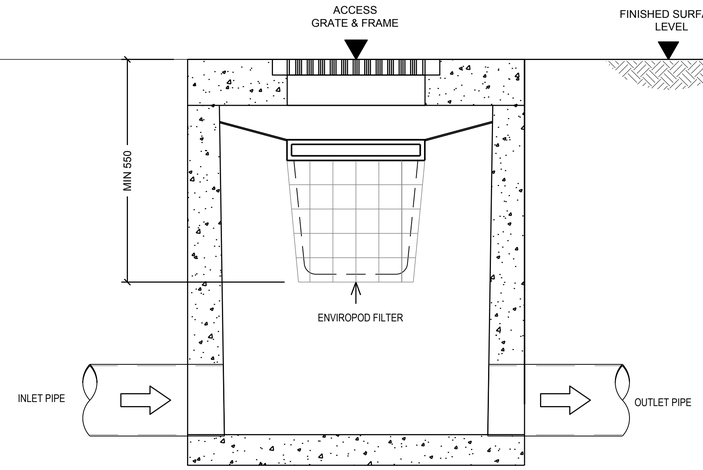
TITLE: **ON-SITE DETENTION (OSD) PLAN AND SECTIONS**

| SCALE | DRAWN | DESIGNED | CHECKED | APPROVED |
|---|---|---|---|---|
| AS SHOWN | N.M. | N.M. | M.C. | M.C. |

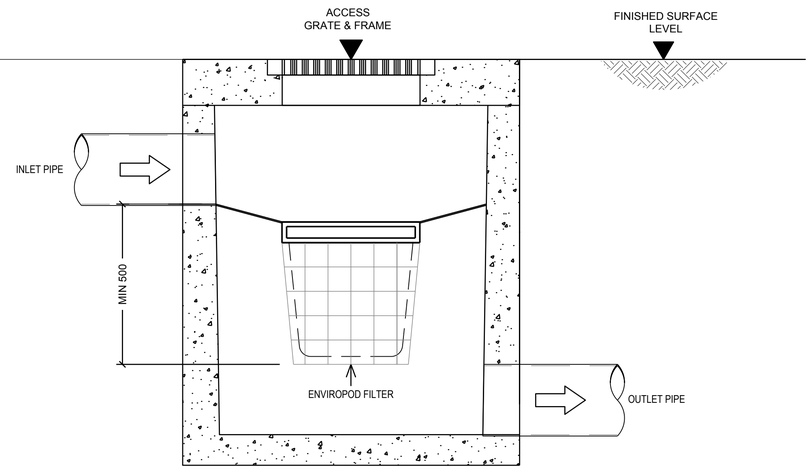
| JOB No. | DRAWING No. | ISSUE |
|---|---|---|
| 6165000 | C6.05 | 2 |

| DATE | STATUS |
|---|---|
| JUNE 2018 | DEVELOPMENT APPLICATION |

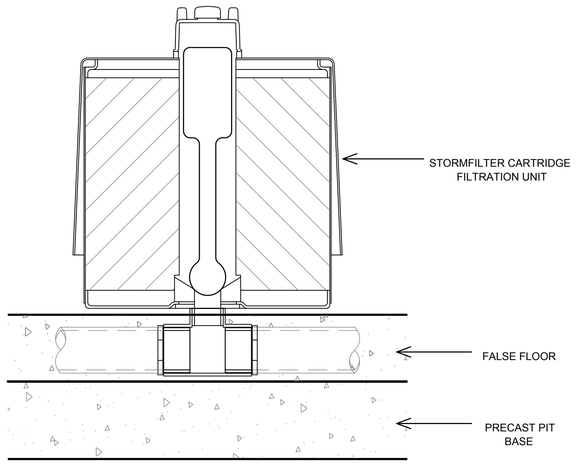
Cad File: T:\6165000\Drawings\AutoCAD\Civil\Design\Civil 2D\C6.05 On-Site Detention Plan and Sections.dwg
Login Name: JMello
Xref's: X-6165000-TB_A1H
Plot Date: 24.08.2018@11:42:17




**STANDARD ENVIROPOD CONFIGURATION SECTION**




**DROP PIPE ENVIROPOD CONFIGURATION SECTION**




**STORMFILTER CARTRIDGE DETAIL**

PRELIMINARY - NOT FOR CONSTRUCTION



NOT TO SCALE

| REVISION | AMENDMENT | DATE | REVISION | AMENDMENT | DATE |
|---|---|---|---|---|---|
| 1 | ISSUE FOR DA | 03/07/18 | | | |
| 2 | RE-ISSUE FOR DA | 24/08/18 | | | |

CLIENT: JUSTPROPERTY

PROJECT: 16 CAMBRIDGE STREET, EPPING

PREPARED BY

Warren Smith & Partners

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Lic No: QAC/RB10771

TITLE: **STORMWATER360 TREATMENT DEVICE TYPICAL DETAILS**

| SCALE | DRAWN | DESIGNED | CHECKED | APPROVED |
|---|---|---|---|---|
| AS SHOWN | J.M. | N.M. | M.C. | M.C. |

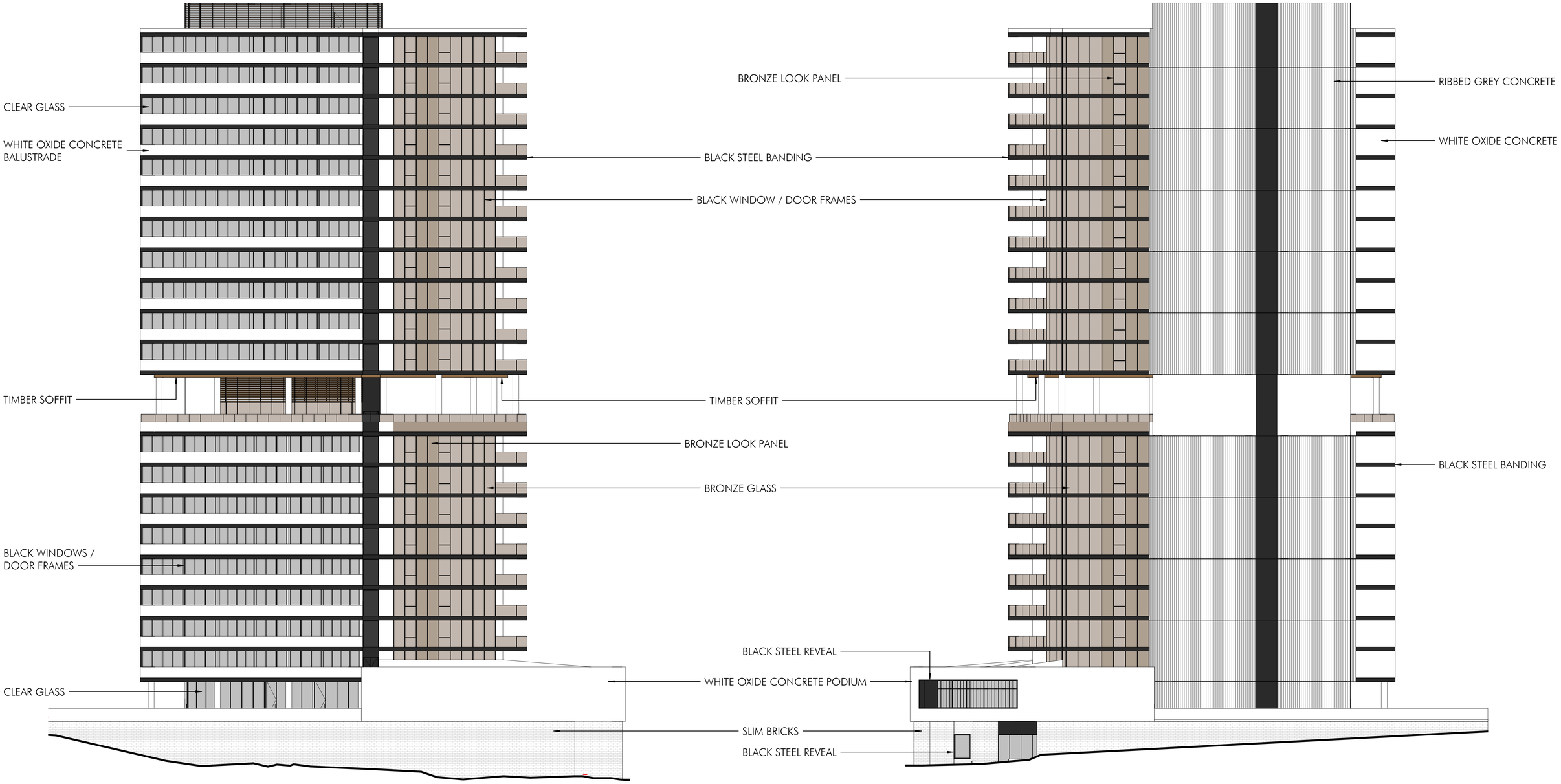
| JOB No. | DRAWING No. | ISSUE |
|---|---|---|
| 6165000 | C6.06 | 2 |

| DATE | STATUS |
|---|---|
| JUNE 2018 | DEVELOPMENT APPLICATION |

0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

SHEET SIZE: A1

Xrefs: X:\6165000_TB_A1H
Plot Date: 24.08.2018@09:25:21 Login Name: JMello Cad File: T:\6165000\Drawings\AutoCAD\Civil\Design\Civil 2D\C6.06 Stormwater360 Treatment Device Typical Details.dwg




1 NORTH ELEVATION
1 : 200

2 SOUTH ELEVATION
1 : 200

Client

**Just Properties Group**

| Issue | Description | Date |
|---|---|---|
| B | FOR DA SUBMISSION | 20.07.2018 |
| A | FOR DA SUBMISSION | 18.07.2018 |

Project Name
**MIXED USE DEVELOPMENT**

Project Address
**16 - 18 Cambridge Street, Epping**

0 2000 5000

Drawing Title:
EXTERNAL FINISHES

Sheet Size: A1
Scale: 200
Drawing Number: **4479_DA902**
Issue: **B**

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nettleton tribe partnership pty ltd ABN 58 161 683 122
117 Willoughby Road, Crows Nest, NSW 2065
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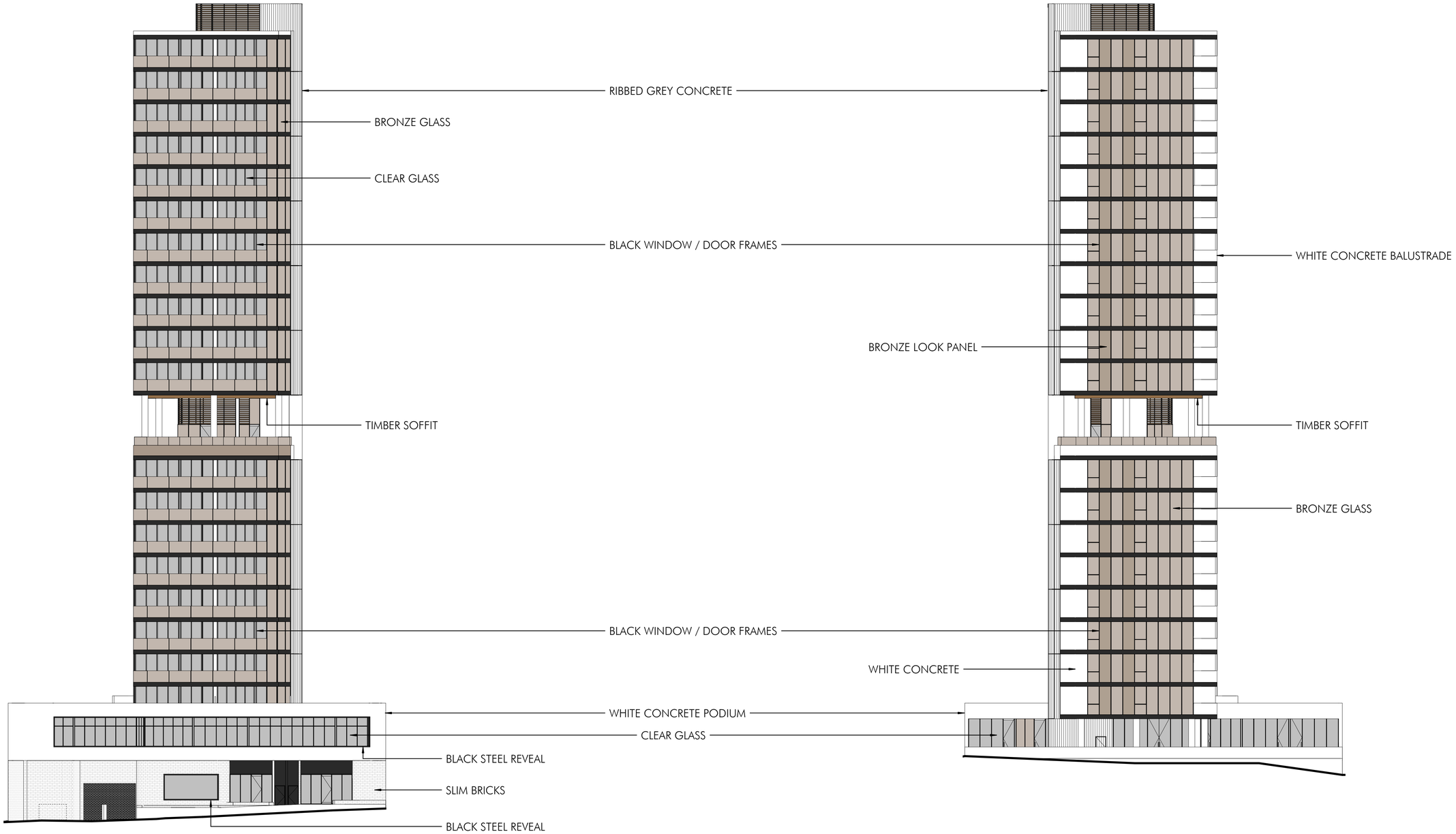
e: sydney@nettletontribe.com.au w: nettletontribe.com.au




3 WEST ELEVATION
1 : 200

4 EAST ELEVATION
1 : 200

Client

**Just Properties Group**

| Issue | Description | Date |
|---|---|---|
| A | FOR DA SUBMISSION | 18.07.2018 |

Project Name
**MIXED USE DEVELOPMENT**

Project Address
**16 - 18 Cambridge Street, Epping**

0 2000 5000

Drawing Title:
EXTERNAL FINISHES

Sheet Size: A1
Scale: 200
Drawing Number: **4479_DA903**
Issue: **A**

nettletontribe

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