15A06 CUDGEGONG TOWN CENTRE

DOCUMENT REGISTER / TRANSMITTAL

DAY	01	27	15	19	29	02	12														
MONTH	04	07	03	04	04	06	07														
YEAR	20	20	21	21	21	21	21														

'P' = PRELIMINARY; 'X' = INFORMATION; 'A' = APPROVAL; 'T' = TENDER;
C' = CONSTRUCTION; 'CC' = CONSTRUCTION CERTIFICATE

PURPOSE OF ISSUE	A	A	A	A	A	A	A														

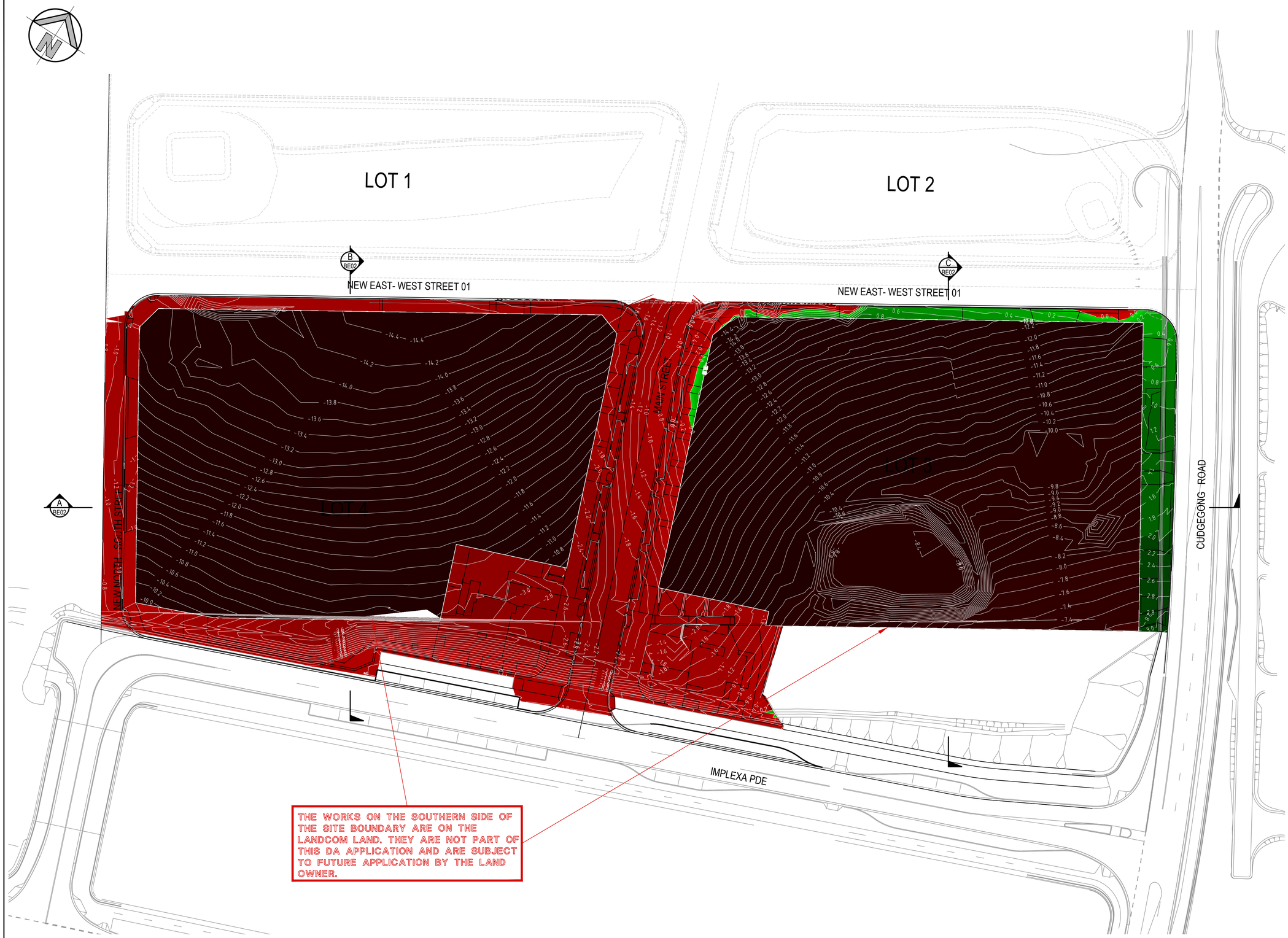
DISTRIBUTION — NO. OF PRINTS; 'E' = ACAD FILE; 'D' = PDF; 'P' = PLOT FILE; 'CD' = DISK

RESTIFA & PARTNERS PTY LTD	D	D	D	D	D	D	D														

NO.	DOCUMENT TITLE																				
15A06_D1_C000	COVER SHEET, DRAWING SCHEDULE, NOTES & LOCALITY SKETCH	01						02													
15A06_D1_C100	GENERAL ARRANGEMENT PLAN	01	02		03	04		05													
15A06_D1_C101	ROAD WORKS DETAIL CIVIL PLAN, SHEET 1 OF 4	01	02	03	04	05	06	07													
15A06_D1_C102	ROAD WORKS DETAIL CIVIL PLAN, SHEET 2 OF 2	01	02	03		04	05	06													
15A06_D1_C103	ROAD WORKS DETAIL CIVIL PLAN, SHEET 3 OF 4	01	02	03			04	05													
15A06_D1_C104	ROAD WORKS DETAIL CIVIL PLAN, SHEET 4 OF 4	01	02	03			04	05													
15A06_D1_C107	ROAD NO. 3 MAIN STREET CIVIL PLAN						01	07													
15A06_D1_C109	TEMPORARY CUL-DE-SAC HEAD						01	01													
15A06_D1_C110	BASEMENT LEVEL 3 DETAIL PLAN - STAGE 3	01	02					03													
15A06_D1_C111	BASEMENT LEVEL 3 DETAIL PLAN - STAGE 4	01	02					03													
15A06_D1_C120	LOWER GROUND DETAIL PLAN - STAGE 3	01	02					03													
15A06_D1_C121	GROUND DETAIL PLAN - STAGE 4	01	02	03				04													
15A06_D1_C130	GROUND DETAIL PLAN - STAGE 3	01	02					03													
15A06_D1_C131	UPPER GROUND DETAIL PLAN - STAGE 4	01	02					03													
15A06_D1_C140	UPPER GROUND - PODIUM DETAIL PLAN - STAGE 3	01	02					03													
15A06_D1_C141	LEVEL 1 - PODIUM DETAIL PLAN - STAGE 4	01	02					03													
15A06_D1_C150	TYPICAL SECTIONS - SHEET 1 OF 4	01					02	03													
15A06_D1_C151	TYPICAL SECTIONS - SHEET 2 OF 4	01					02	03													
15A06_D1_C152	TYPICAL SECTIONS - SHEET 3 OF 4	01					02	02													
15A06_D1_C153	TYPICAL SECTIONS - SHEET 4 OF 4	01	02				03	04													
15A06_D1_C154	TYPICAL SECTIONS SHEET 5						01	02													
15A06_D1_C180	MAIN ROAD LONGITUDINAL SECTION	01	02					03													
15A06_D1_C181	ROAD 3 LONGITUDINAL SECTION	01	02					03													
15A06_D1_C200	STORMWATER MISCELLANEOUS DETAILS & PIT LID SCHEDULE	01		02				02													
15A06_D1_C201	STAGE 3 - RAINWATER & WQ TANK SECTIONS & DETAILS - SHEET 1 OF 2	01		02		03		03													
15A06_D1_C202	STAGE 3 - RAINWATER & WQ TANK SECTIONS & DETAILS - SHEET 2 OF 2	01		02	03	04		04													
15A06_D1_C220	STORMWATER LONGITUDINAL SECTIONS, SHEET 1 OF 4	01						01													
15A06_D1_C221	STORMWATER LONGITUDINAL SECTIONS, SHEET 2 OF 4	01						01													
15A06_D1_C222	STORMWATER LONGITUDINAL SECTIONS, SHEET 3 OF 4	01						01													
15A06_D1_C223	STORMWATER LONGITUDINAL SECTIONS, SHEET 4 OF 4	01						01													
15A06_D1_C250	OVERALL STORMWATER CATCHMENT PLAN	01	02					02													
15A06_D1_C251	MAIN ROAD AND ROAD 3 STORMWATER CATCHMENT PLAN	01	02					03													
15A06_D1_C260	MUSIC STORMWATER CATCHMENT PLAN AT HIGH LEVELS	01	02			03		03													
15A06_D1_C261	MUSIC STORMWATER CATCHMENT PLAN AT GROUND LEVELS	01	02			03		03													
15A06_D1_SE01	SEDIMENT AND EROSION CONTROL PLAN	01						01													
15A06_D1_SE02	SEDIMENT AND EROSION CONTROL TYPICAL SECTIONS AND DETAILS	01						01													
15A06_D1_BE01	BULK EARTHWORKS CUT AND FILL PLAN	01	02					02													
15A06_D1_BE02	BULK EARTHWORKS SECTIONS	01	02					02													

H&H QA REQUIREMENT TO ISO9001:
THE ABOVE LIST OF DOCUMENTS AND/OR REVISIONS HAVE BEEN:

DESIGNED AND CHECKED BY: APPROVED BY: DATE: 12/07/2021



DEPTH RANGE Lower_value		Upper_value		Colour
-20	to	-10	Meters	
-10	to	-8	Meters	
-8	to	-7	Meters	
-7	to	-6	Meters	
-6	to	-5	Meters	
-5	to	-4	Meters	
-4	to	-3	Meters	
-3	to	-2	Meters	
-2	to	-1	Meters	
-1	to	-.1	Meters	
-.1	to	-.05	Meters	
-.05	to	0	Meters	
0	to	.05	Meters	
.05	to	.1	Meters	
.1	to	.2	Meters	
.2	to	.4	Meters	
.4	to	.6	Meters	
.6	to	.8	Meters	
.8	to	1	Meters	
1	to	2	Meters	
2	to	4	Meters	
4	to	6	Meters	
6	to	10	Meters	
10	to	90	Meters	

EARTHWORKS QUANTITIES (APPROXIMATE ONLY)

NOT TO BE USED FOR CONTRACTUAL PURPOSES. TENDERERS TO DETERMINE VOLUMES USING THEIR OWN METHOD OF CALCULATION.

PRELIMINARY BULK EARTHWORKS QUANTITIES - AREA 2.707Ha		
CUT	228850	m^3
FILL	1210	m^3
EXCESS OF CUT	227640	m^3
EXCAVATION FOR SERVICE TRENCHES NOT INCLUDED IN CALCULATION		
EXISTING TOP SOIL OF 2707m^3 NOT INCLUDED IN CALCULATION		

NOTE

PAVEMENT THICKNESS OF 500mm WAS USED FOR ROAD WORKS
PAVEMENT THICKNESS OF 300mm WAS USED FOR BASEMENT SLAB

0 10 20 30 40 50m
10 8 6 4 2
SCALE 1:500

BULK EARTHWORKS CUT AND FILL PLAN

SCALE 1:500

FOR DA ONLY

SURVEY INFORMATION
SURVEYED BY USHER & COMPANY
DATUM: RL 64.038 AHD
ORIGIN OF LEVELS:PM 29280

REVISION	AMENDMENT	DRAWN	DESIGNED	DATE	REVISION	AMENDMENT	DRAWN	DESIGNED	DATE
02	RE-ISSUED FOR DA ONLY	MS	TD	27.07.2020					
01	ISSUED FOR DA ONLY	IK	TD	01.04.2020					

Client
RESTIFA & PARTNERS PTY LTD

Architect
ZHINAR ARCHITECTS PTY LTD

This drawing and design remains the property of Henry & Hymas and may not be copied in whole or in part without the prior written approval of Henry & Hymas.

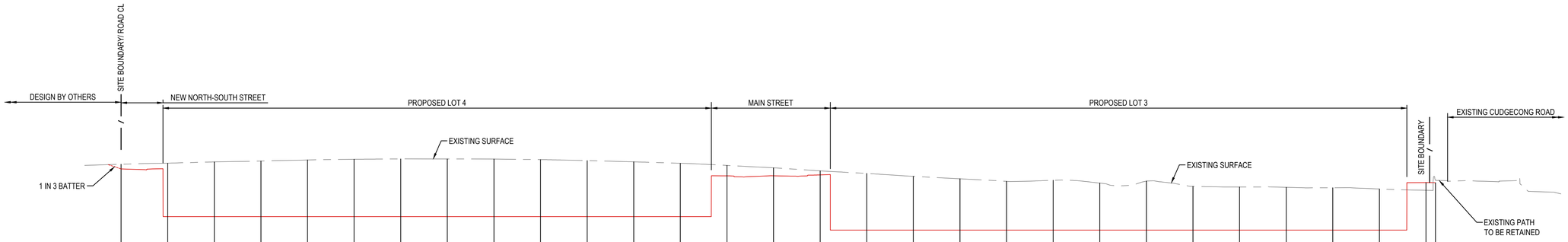
Suite 2.01
828 Pacific Highway
Gordon NSW 2072
Telephone +61 2 9417 8400
Facsimile +61 2 9417 8337
Email email@hhconsult.com.au
Web www.henryandhymas.com.au
henry&hymas

Project
CUDGEGONG TOWN CENTRE
CUDGEGONG ROAD, ROUSE HILL NSW

Title
□ULK EARTHWORKS
CUT & FILL PLAN

Drawn	Designed	Date
I.Khachab	F.Zhou	NOV 2019
Checked	Approved	Scale @A1
T.Dempsey	A.Francis	1:500

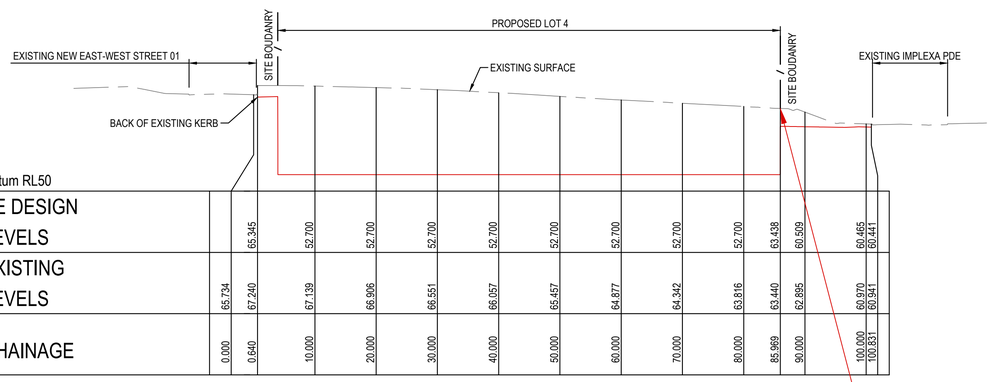
Drawing number 15A06_D1_□E01
Revision 02



Datum RL47

CHAINAGE	BE DESIGN LEVELS	EXISTING LEVELS
0.000	62.932	63.935
10.000	52.700	64.166
20.000	52.700	64.439
30.000	52.700	64.633
40.000	52.700	64.851
50.000	52.700	64.997
60.000	52.700	65.077
70.000	52.700	65.079
80.000	52.700	65.040
90.000	52.700	64.930
100.000	52.700	64.720
110.000	52.700	64.452
120.000	52.700	64.149
130.000	61.453	63.688
140.000	61.461	63.172
150.000	61.654	62.512
160.000	49.800	61.969
170.000	49.800	61.343
180.000	49.800	60.810
190.000	49.800	60.261
200.000	49.800	60.492
210.000	49.800	59.897
220.000	49.800	60.325
230.000	49.800	59.186
240.000	49.800	59.058
250.000	49.800	58.987
260.000	49.800	58.892
270.000	49.800	58.643
280.000	60.001	58.355
282.040	59.972	60.471

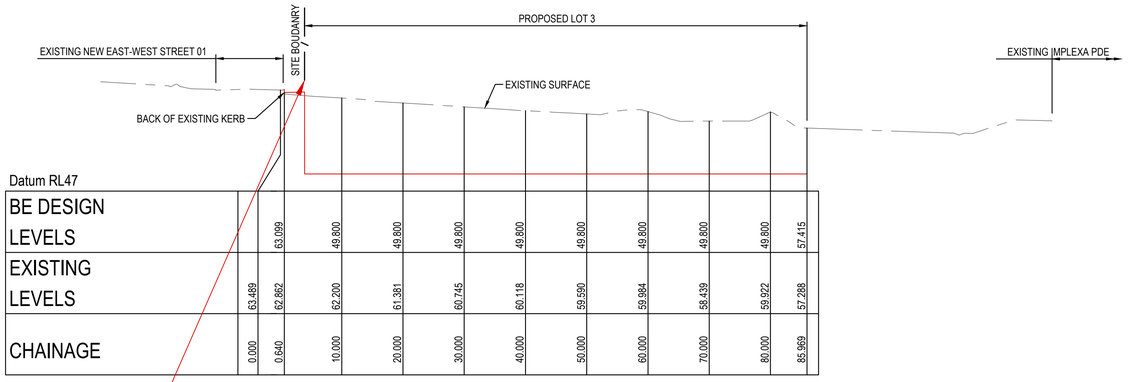
SECTION A BE01
SCALE: H 1:200 V 1:200



Datum RL50

CHAINAGE	BE DESIGN LEVELS	EXISTING LEVELS
0.000		65.734
0.640	65.345	67.240
10.000	52.700	67.139
20.000	52.700	66.906
30.000	52.700	66.551
40.000	52.700	66.057
50.000	52.700	65.457
60.000	52.700	64.877
70.000	52.700	64.342
80.000	52.700	63.816
85.969	63.438	63.440
90.000	60.509	62.895
100.000	60.465	60.970
108.831	60.441	60.941

SECTION B BE01
SCALE: H 1:200 V 1:200



Datum RL47

CHAINAGE	BE DESIGN LEVELS	EXISTING LEVELS
0.000		63.489
0.640	63.099	62.862
10.000	49.800	62.200
20.000	49.800	61.381
30.000	49.800	60.745
40.000	49.800	60.118
50.000	49.800	59.590
60.000	49.800	59.984
70.000	49.800	58.439
80.000	49.800	59.922
85.969	57.415	57.288

SECTION C BE01
SCALE: H 1:200 V 1:200

THE WORKS ON THE SOUTHERN SIDE OF THE SITE BOUNDARY ARE ON THE LANDCOM LAND. THEY ARE NOT PART OF THIS DA APPLICATION AND ARE SUBJECT TO FUTURE APPLICATION BY THE LAND OWNER.

0 4 8 12 16 20m
4 3 2 1
SCALE 1:200

FOR DA ONLY

SURVEY INFORMATION
SURVEYED BY USHER & COMPANY
DATUM: RL 64.038 AHD
ORIGIN OF LEVELS:PM 29280

REVISION	AMENDMENT	DRAWN	DESIGNED	DATE	REVISION	AMENDMENT	DRAWN	DESIGNED	DATE
02	RE-ISSUED FOR DA ONLY	MS	TD	27.07.2020					
01	ISSUED FOR DA ONLY	IK	TD	01.04.2020					

Client
RESTIFA & PARTNERS PTY LTD
RESTIFA & PARTNERS

Architect
ZHINAR ARCHITECTS PTY LTD

This drawing and design remains the property of Henry & Hymas and may not be copied in whole or in part without the prior written approval of Henry & Hymas.

Suite 2.01
828 Pacific Highway
Gordon NSW 2072
Telephone +61 2 9417 8400
Facsimile +61 2 9417 8337
Email email@hhconsult.com.au
Web www.henryandhymas.com.au
henry&hymas

Project
CUDGEGONG TOWN CENTRE
CUDGEGONG ROAD, ROUSE HILL NSW

Title
□ULK EARTHWORKS SECTIONS

Drawn	Designed	Date
I.Khachab	F.Zhou	NOV 2019
Checked	Approved	Scale @A1
T.Dempsey	A.Francis	AS NOTED

Drawing number 15A06_D1_□E02
Revision 02

CUDGEGONG TOWN CENTRE
CUDGEGONG ROAD, ROUSE HILL NSW
CIVIL ENGINEERING WORKS

GENERAL NOTES:

1. ALL WORK TO BE CARRIED OUT IN ACCORDANCE WITH BLACKTOWN CITY COUNCIL SPECIFICATION. CONTRACTOR TO OBTAIN AND RETAIN A COPY ON SITE DURING THE COURSE OF THE WORKS.
2. ALL NEW WORKS ARE TO MAKE A SMOOTH JUNCTION WITH EXISTING CONDITIONS, AND MARRY IN A 'WORKMANLIKE' MANNER.
3. THE CONTRACTOR IS TO VERIFY THE LOCATION OF ALL SERVICES WITH EACH RELEVANT AUTHORITY. ANY DAMAGE TO SERVICES SHALL BE RECTIFIED BY THE CONTRACTOR OR THE RELEVANT AUTHORITY AT THE CONTRACTOR'S EXPENSE. SERVICES SHOWN ON THESE PLANS ARE ONLY THOSE EVIDENT AT THE TIME OF SURVEY OR AS DETERMINED FROM SERVICE DIAGRAMS. HENRY AND HYMAS CONSULTING PTY. LTD. CANNOT GUARANTEE THE INFORMATION SHOWN NOR ACCEPT ANY RESPONSIBILITY FOR INACCURACIES OR INCOMPLETE DATA.
4. SERVICES & ACCESSES TO THE EXISTING PROPERTIES ARE TO BE MAINTAINED IN WORKING ORDER AT ALL TIMES DURING CONSTRUCTION.
5. ADJUST EXISTING SERVICE COVERS TO SUIT NEW FINISHED LEVELS TO RELEVANT AUTHORITY REQUIREMENTS WHERE NECESSARY.
6. REINSTATE AND STABILISE ALL DISTURBED LANDSCAPED AREAS.
7. MINIMUM GRADE OF SUBSOIL SHALL BE 0.5% (1:200) FALL TO OUTLETS.
8. ALL TEMPORARY SEDIMENT AND EROSION CONTROL DEVICES ARE TO BE CONSTRUCTED, PLACED AND MAINTAINED IN ACCORDANCE WITH THE TECHNICAL SPECIFICATIONS, EROSION AND SEDIMENTATION CONTROL PLAN AND BLACKTOWN CITY COUNCIL REQUIREMENTS WHERE APPLICABLE.
9. CONTRACTOR TO CHECK AND CONFIRM SITE DRAINAGE CONNECTIONS ACROSS THE VERGE PRIOR TO COMMENCEMENT OF SITE DRAINAGE WORKS.
10. PROPERTIES AFFECTED BY THE WORKS ARE TO BE NOTIFIED IN ADVANCE WHERE DISRUPTION TO EXISTING ACCESS IS LIKELY.

SITEWORKS NOTES

- DATUM A.H.D.
- ORIGIN OF LEVELS. REFER TO BENCH OR STATE SURVEY MARKS WHERE SHOWN ON PLAN.
- CONTRACTOR MUST VERIFY ALL DIMENSIONS AND EXISTING LEVELS ON SITE PRIOR TO COMMENCEMENT OF WORK.
- ALL WORKS TO BE UNDERTAKEN IN ACCORDANCE WITH THE DETAILS SHOWN ON THE DRAWINGS & THE DIRECTIONS OF THE SUPERINTENDENT.
- EXISTING SERVICES UNLESS SHOWN ON SURVEY PLAN HAVE BEEN PLOTTED FROM SERVICES SEARCH PLANS AND AS SUCH THEIR ACCURACY CANNOT BE GUARANTEED. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ESTABLISH THE LOCATION AND LEVEL OF ALL EXISTING SERVICES PRIOR TO THE COMMENCEMENT OF ANY WORK. ANY DISCREPANCIES SHALL BE REPORTED TO THE SUPERINTENDENT. CLEARANCES SHALL BE OBTAINED FROM THE RELEVANT SERVICE AUTHORITY.
- WHERE NEW WORKS ABUT EXISTING THE CONTRACTOR SHALL ENSURE THAT A SMOOTH EVEN PROFILE, FREE FROM ABRUPT CHANGES IS ACHIEVED.
- THE CONTRACTOR SHALL ARRANGE ALL SURVEY SETOUT TO BE CARRIED OUT BY A REGISTERED SURVEYOR.
- CARE IS TO BE TAKEN WHEN EXCAVATING NEAR EXISTING SERVICES. NO MECHANICAL EXCAVATION IS TO BE UNDERTAKEN OVER TELSTRA OR ELECTRICAL SERVICES. HAND EXCAVATE IN THESE AREAS.
- CONTRACTOR TO OBTAIN AUTHORITY APPROVALS WHERE APPLICABLE.
- MAKE SMOOTH TRANSITION TO EXISTING SURFACES AND MAKE GOOD.
- THESE PLANS SHALL BE READ IN CONJUNCTION WITH APPROVED LANDSCAPE, ARCHITECTURAL, STRUCTURAL, HYDRAULIC AND MECHANICAL DRAWINGS AND SPECIFICATIONS OR WRITTEN INSTRUCTIONS THAT MAY BE ISSUED RELATING TO DEVELOPMENT AT THE SITE.
- TRENCHES THROUGH EXISTING ROAD AND CONCRETE PAVEMENTS SHALL BE SAWCUT TO FULL DEPTH OF CONCRETE AND A MINIMUM OF 50mm IN BITUMINOUS PAVING.
- ALL BRANCH GAS AND WATER SERVICES UNDER DRIVEWAYS AND BRICK PAVING SHALL BE LOCATED IN 80Ø uPVC SEWER GRADE CONDUITS EXTENDING A MINIMUM OF 500mm BEYOND EDGE OF PAVING.
- GRADES TO PAVEMENTS TO BE AS IMPLIED BY RL'S ON PLAN . GRADE EVENLY BETWEEN NOMINATED RL'S. AREAS EXHIBITING PONDING GREATER THAN 5mm DEPTH WILL NOT BE ACCEPTED/ UNLESS IN A DESIGNATED SAG POINT.
- ALL COVERS AND GRATES ETC TO EXISTING SERVICE UTILITIES ARE TO BE ADJUSTED TO SUIT NEW FINISHED SURFACE LEVELS WHERE APPLICABLE

LOCALITY SKETCH

SCALE: N.T.S.

EXISTING SERVICES & FEATURES

- THE CONTRACTOR SHALL ALLOW FOR THE CAPPING OFF, EXCAVATION AND REMOVAL (IF REQUIRED) OF ALL EXISTING SERVICES IN AREAS AFFECTED BY WORKS WITHIN THE CONTRACT AREA OR AS SHOWN ON THE DRAWINGS UNLESS DIRECTED OTHERWISE BY THE SUPERINTENDENT.
- THE CONTRACTOR SHALL ENSURE THAT AT ALL TIMES SERVICES TO ALL BUILDINGS NOT AFFECTED BY THE WORKS ARE NOT DISRUPTED.
- PRIOR TO COMMENCEMENT OF ANY WORKS THE CONTRACTOR SHALL GAIN APPROVAL OF HIS PROGRAM FOR THE RELOCATION/ CONSTRUCTION OF TEMPORARY SERVICES.
- CONTRACTOR SHALL CONSTRUCT TEMPORARY SERVICES TO MAINTAIN SUPPLY TO EXISTING BUILDING REMAINING IN OPERATION DURING WORKS TO THE SATISFACTION AND APPROVAL OF THE SUPERINTENDENT. ONCE DIVERSION IS COMPLETE AND COMMISSIONED, THE CONTRACTOR SHALL REMOVE ALL SUCH TEMPORARY SERVICES AND MAKE GOOD TO THE SATISFACTION OF THE SUPERINTENDENT.
- INTERRUPTION TO SUPPLY OF EXISTING SERVICES SHALL BE DONE SO AS NOT TO CAUSE ANY INCONVENIENCE TO THE PRINCIPAL. CONTRACTOR TO GAIN APPROVAL FROM THE SUPERINTENDENT FOR TIME OF INTERRUPTION.
- EXISTING SERVICES, BUILDINGS, EXTERNAL STRUCTURES AND TREES SHOWN ON THESE DRAWINGS ARE EXISTING FEATURES PRIOR TO ANY DEMOLITION WORKS.
- EXISTING SERVICES UNLESS SHOWN ON SURVEY PLAN HAVE BEEN PLOTTED FROM SERVICES SEARCH PLANS AND AS SUCH THEIR ACCURACY CANNOT BE GUARANTEED. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COMPLETE A 'DIAL BEFORE YOU DIG' SEARCH AND TO ESTABLISH THE LOCATION AND LEVEL OF ALL EXISTING SERVICES PRIOR TO THE COMMENCEMENT OF ANY WORK. ANY DISCREPANCIES SHALL BE REPORTED TO THE SUPERINTENDENT. CLEARANCES SHALL BE OBTAINED FROM THE RELEVANT SERVICE AUTHORITY.
- ALL BRANCH GAS AND WATER SERVICES UNDER DRIVEWAYS AND BRICK PAVING SHALL BE LOCATED IN 80Ø uPVC SEWER GRADE CONDUITS EXTENDING A MINIMUM OF 500mm BEYOND EDGE OF PAVING.

DRAWING SCHEDULE

15A06_D1_C000	COVER SHEET, DRAWING SCHEDULE, NOTES & LOCALITY SKETCH
15A06_D1_C100	GENERAL ARRANGEMENT PLAN
15A06_D1_C101	ROAD WORKS DETAIL CIVIL PLAN, SHEET 1 OF 4
15A06_D1_C102	ROAD WORKS DETAIL CIVIL PLAN, SHEET 2 OF 4
15A06_D1_C103	ROAD WORKS DETAIL CIVIL PLAN, SHEET 3 OF 4
15A06_D1_C104	ROAD WORKS DETAIL CIVIL PLAN, SHEET 4 OF 4
15A06_D1_C109	ROAD WORKS DETAIL CIVIL PLAN, TEMPORARY TURNING HEAD
15A06_D1_C110	BASEMENT LEVEL 3 DETAIL PLAN - STAGE 3
15A06_D1_C111	BASEMENT LEVEL 3 DETAIL PLAN - STAGE 4
15A06_D1_C120	LOWER GROUND DETAIL PLAN - STAGE 3
15A06_D1_C121	GROUND DETAIL PLAN - STAGE 4
15A06_D1_C130	GROUND DETAIL PLAN - STAGE 3
15A06_D1_C131	UPPER GROUND DETAIL PLAN - STAGE 4
15A06_D1_C140	UPPER GROUND - PODIUM LEVEL DETAIL PLAN - STAGE 3
15A06_D1_C141	LEVEL 1 - PODIUM DETAIL PLAN - STAGE 4
15A06_D1_C150	TYPICAL SECTIONS - SHEET 1 OF 5
15A06_D1_C151	TYPICAL SECTIONS - SHEET 2 OF 5
15A06_D1_C152	TYPICAL SECTIONS - SHEET 3 OF 5
15A06_D1_C153	TYPICAL SECTIONS - SHEET 4 OF 5
15A06_D1_C154	TYPICAL SECTIONS - SHEET 5 OF 5
15A06_D1_C180	MAIN STREET LONGITUDINAL SECTION
15A06_D1_C181	NEW NORTH-SOUTH STREET LONGITUDINAL SECTION
15A06_D1_C200	STORMWATER MISCELLANEOUS DETAILS & PIT LID SCHEDULE
15A06_D1_C201	RAINWATER & WQ TANK - STAGE 3, SECTIONS & DETAILS - SHEET 1 OF 2
15A06_D1_C202	RAINWATER & WQ TANK - STAGE 4, SECTIONS & DETAILS - SHEET 2 OF 2
15A06_D1_C220	STORMWATER LONGITUDINAL SECTIONS, SHEET 1 OF 4
15A06_D1_C221	STORMWATER LONGITUDINAL SECTIONS, SHEET 2 OF 4
15A06_D1_C222	STORMWATER LONGITUDINAL SECTIONS, SHEET 3 OF 4
15A06_D1_C223	STORMWATER LONGITUDINAL SECTIONS, SHEET 4 OF 4
15A06_D1_C250	OVERALL STORMWATER CATCHMENT PLAN
15A06_D1_C251	MAIN STREET AND NEW NORTH-SOUTH STREET STORMWATER CATCHMENT PLAN
15A06_D1_C260	MUSIC STORMWATER CATCHMENT PLAN AT HIGH LEVELS
15A06_D1_C261	MUSIC STORMWATER CATCHMENT PLAN AT PODIUM LEVELS
15A06_D1_SE01	SEDIMENT & EROSION CONTROL PLAN
15A06_D1_SE02	SEDIMENT & EROSION CONTROL TYPICAL SECTIONS & DETAILS
15A06_D1_BE01	BULK EARTHWORKS CUT & FILL PLAN
15A06_D1_BE02	BULK EARTHWORKS SECTIONS

SURVEY NOTES

THE EXISTING SITE CONDITIONS SHOWN ON THE FOLLOWING DRAWINGS HAVE BEEN INVESTIGATED BY SURVEYOR SPECIFIED IN THE TITLE BLOCK.

THE INFORMATION IS SHOWN TO PROVIDE A BASIS FOR DESIGN. HENRY AND HYMAS PTY. LTD. DOES NOT GUARANTEE THE ACCURACY OR COMPLETENESS OF THE SURVEY BASE OR ITS SUITABILITY AS A BASIS FOR CONSTRUCTION DRAWINGS

SHOULD DISCREPANCIES BE ENCOUNTERED DURING CONSTRUCTION BETWEEN THE SURVEY DATA AND ACTUAL FIELD DATA, CONTACT HENRY AND HYMAS PTY. LTD. THE FOLLOWING NOTES HAVE BEEN TAKEN DIRECTLY FROM ORIGINAL SURVEY DOCUMENTS.

ORIGIN OF LEVELS	PM 29280 RL 64.038
DATUM	A.H.D.
CONTOUR INTERVAL	0.5m

FOR DA ONLY

SURVEY INFORMATION
SURVEYED BY USHER & COMPANY
DATUM: RL 64.038 AHD
ORIGIN OF LEVELS:PM 29280

REVISION	AMENDMENT	DRAWN	DESIGNED	DATE
02	RE-ISSUED FOR DA ONLY	LC	TD	12.07.2021
01	ISSUED FOR DA ONLY	IK	TD	01.04.2020

Client: RESTIFA & PARTNERS PTY LTD
Architect: ZHINAR ARCHITECTS PTY LTD

This drawing and design remains the property of Henry & Hymas and may not be copied in whole or in part without the prior written approval of Henry & Hymas.

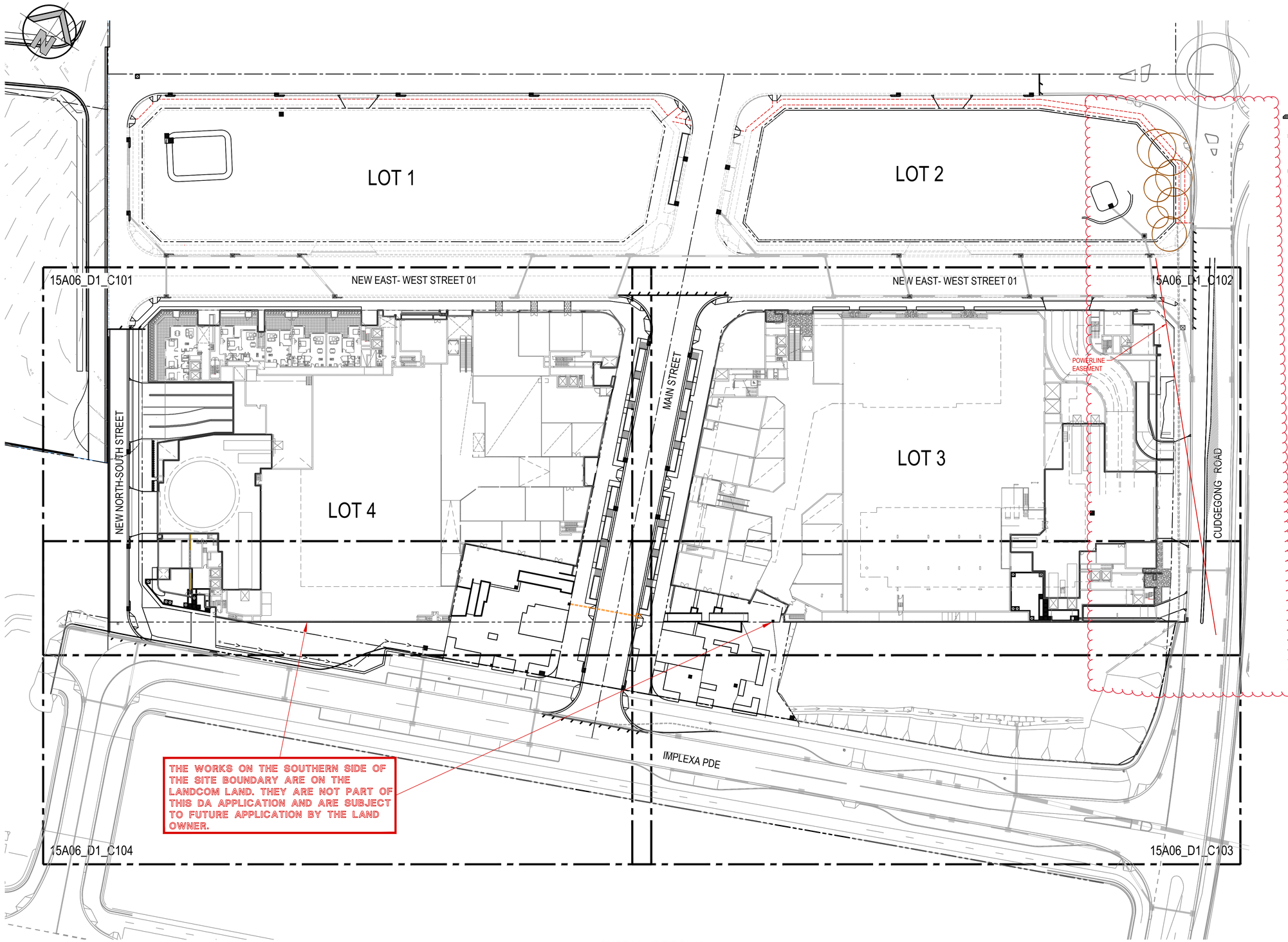
Suite 2.01
828 Pacific Highway
Gordon NSW 2072
Telephone +61 2 9417 8400
Facsimile +61 2 9417 8337
Email email@hhconsult.com.au
Web www.henryandhymas.com.au
henry&hymas

Project: CUDGEGONG TOWN CENTRE
CUDGEGONG ROAD, ROUSE HILL NSW

Title: COVER SHEET, DRAWING SCHEDULE, NOTES & LOCALITY SKETCH

Drawn	Designed	Date
I.Khachab	F.Zhou	NOV 2019
Checked	Approved	Scale @A1
T.Dempsey	A.Francis	N.T.S.

Drawing number: 15A06_D1_C000
Revision: 02



LEGEND

- EXISTING BOUNDARY
- PROPOSED BOUNDARY
- PROPOSED BATTER LINE
- PROPOSED SURFACE INLET PITS
- PROPOSED JUNCTION PITS
- PROPOSED LINTEL ONGRADE & SAG PITS
- PROPOSED STORMWATER PIPE
- PROPOSED STORMWATER PIPE
- SW — EXISTING STORMWATER PIPE
- 99.00 — EXISTING CONTOURS
- 97.40 — PROPOSED CONTOURS
- 99.00 — PROPOSED CONTOURS BY OTHERS
- 99.98 — EXISTING SPOT LEVEL
- 97.13 — PROPOSED SPOT LEVEL
- K&G — PROPOSED KERB & GUTTER
- VC — PROPOSED LAYBACK
- IK — PROPOSED INTEGRAL KERB
- KO — PROPOSED KERB ONLY
- DD — PROPOSED DISH DRAIN
- RW — PROPOSED RETAINING WALL
- R — PROPOSED RIDGE LINE
- V — PROPOSED VALLEY LINE
- O/F — OVERFLOW ROUTE
- FP — FLUSHING POINT (FP)
- IR — INTERMEDIATE RISER (IR)
- SS — PROPOSED SUBSOIL DRAINAGE
- S — EXISTING SEWER RISING MAIN
- W — EXISTING WATER MAIN
- T — EXISTING TELSTRA/ COMMUNICATION LINES
- E — EXISTING ELECTRICAL OVERHEAD LINE
- EUG — EXISTING UNDER GROUND ELECTRICAL CABLES
- A-1 — LINE LETTER / PIT NUMBER — PROPOSED PIT TAG
- 40.125 — STORMWATER UPSTREAM INVERT RL.
- Ø425RCP — STORMWATER PIPE DIAMETER & CLASS
- 20.450m — STORMWATER PIPE LENGTH
- 1.5% — STORMWATER PIPE GRADE
- 39.818 — STORMWATER DOWNSTREAM INVERT RL.

OVERALL SITE PLAN

SCALE: 1:500

0 10 20 30 40 50m
10 8 6 4 2
SCALE 1:500

FOR DA ONLY

SURVEY INFORMATION
SURVEYED BY USHER & COMPANY
DATUM: RL 64.038 AHD
ORIGIN OF LEVELS:PM 29280

REVISION	AMENDMENT	DRAWN	DESIGNED	DATE
05	RE-ISSUED FOR DA ONLY	LC	TD	12.07.2021
04	RE-ISSUED FOR DA ONLY	MS	TD	30.04.2021
03	RE-ISSUED FOR DA ONLY	MS	TD	19.04.2021
02	RE-ISSUED FOR DA ONLY	MS	TD	27.07.2020
01	ISSUED FOR DA ONLY	MS	TD	01.04.2020

REVISION | AMENDMENT | DRAWN | DESIGNED | DATE

Client
RESTIFA & PARTNERS PTY LTD
RESTIFA & PARTNERS

Architect
ZHINAR ARCHITECTS PTY LTD

This drawing and design remains the property of Henry & Hymas and may not be copied in whole or in part without the prior written approval of Henry & Hymas.

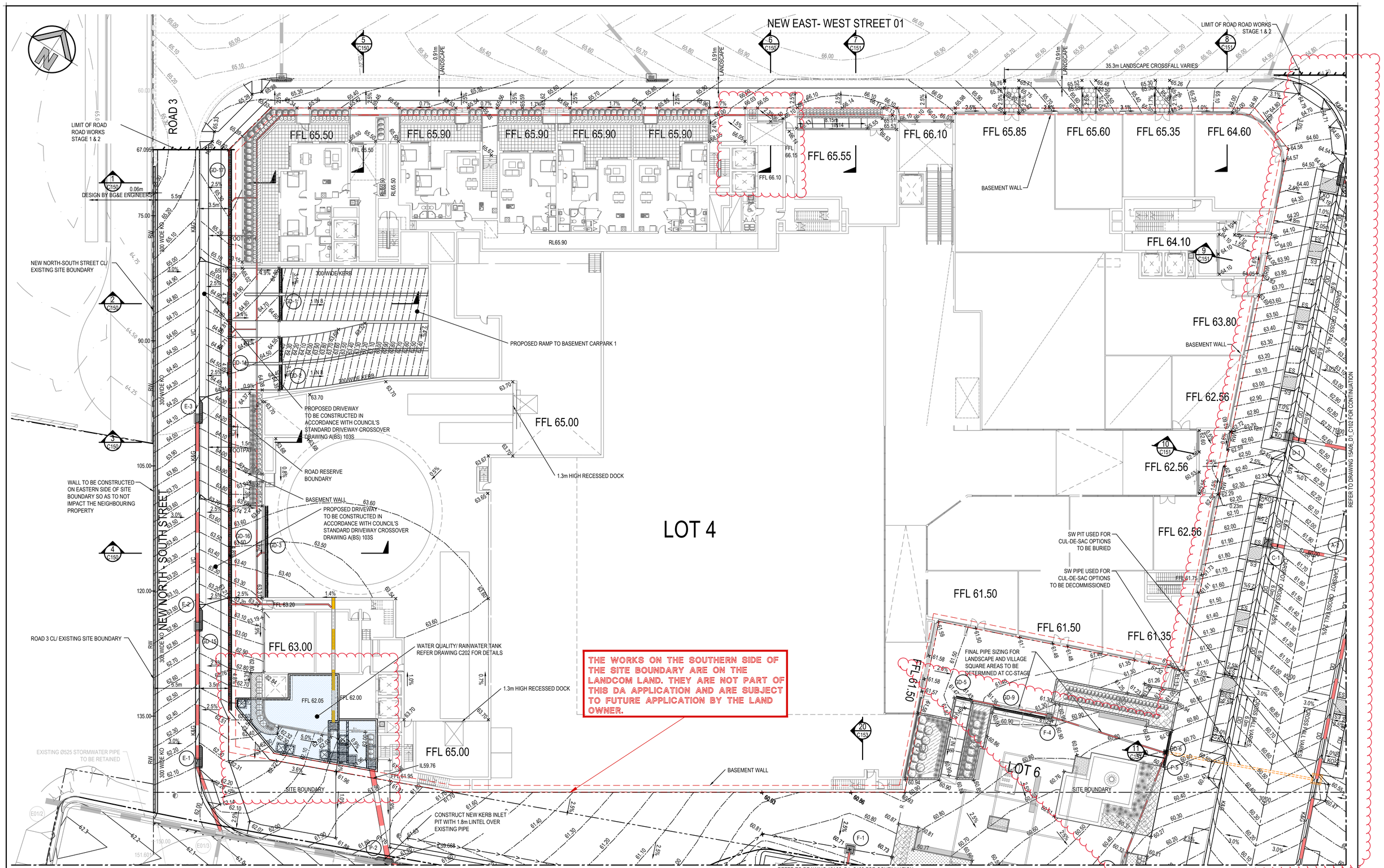
Suite 2.01
828 Pacific Highway
Gordon NSW 2072
Global-team.com.au
Telephone +61 2 9417 8400
Facsimile +61 2 9417 8337
Email email@hhconsult.com.au
Web www.henryandhymas.com.au
henry&hymas

Project
CUDGEGONG TOWN CENTRE
CUDGEGONG ROAD, ROUSE HILL NSW

Title
OVERALL SITE PLAN

Drawn	Designed	Date
I.Khachab	F.Zhou	NOV 2019
Checked	Approved	Scale @A1
T.Dempsey	A.Francis	1:500

Drawing number: 15A06_D1_C100
Revision: 05



ROAD WORKS DETAIL CIVIL PLAN

SCALE 1:200

FOR DA ONLY

SURVEY INFORMATION
SURVEYED BY USHER & COMPANY
DATUM: RL 64.038 AHD
ORIGIN OF LEVELS:PM 29280

REVISION	AMENDMENT	DRAWN	DESIGNED	DATE
07	RE-ISSUED FOR DA ONLY	LC	TD	12.07.2021
06	RE-ISSUED FOR DA ONLY	LC	TD	02.06.2021
05	RE-ISSUED FOR DA ONLY	MS	TD	30.04.2021
04	RE-ISSUED FOR DA ONLY	MS	TD	19.04.2021
03	RE-ISSUED FOR DA ONLY	MS	TD	15.03.2021
02	RE-ISSUED FOR DA ONLY	MS	TD	27.07.2020
01	ISSUED FOR DA ONLY	IK	TD	01.04.2020

Client
RESTIFA & PARTNERS PTY LTD

Architect
ZHINAR ARCHITECTS PTY LTD

This drawing and design remains the property of Henry & Hymas and may not be copied in whole or in part without the prior written approval of Henry & Hymas.

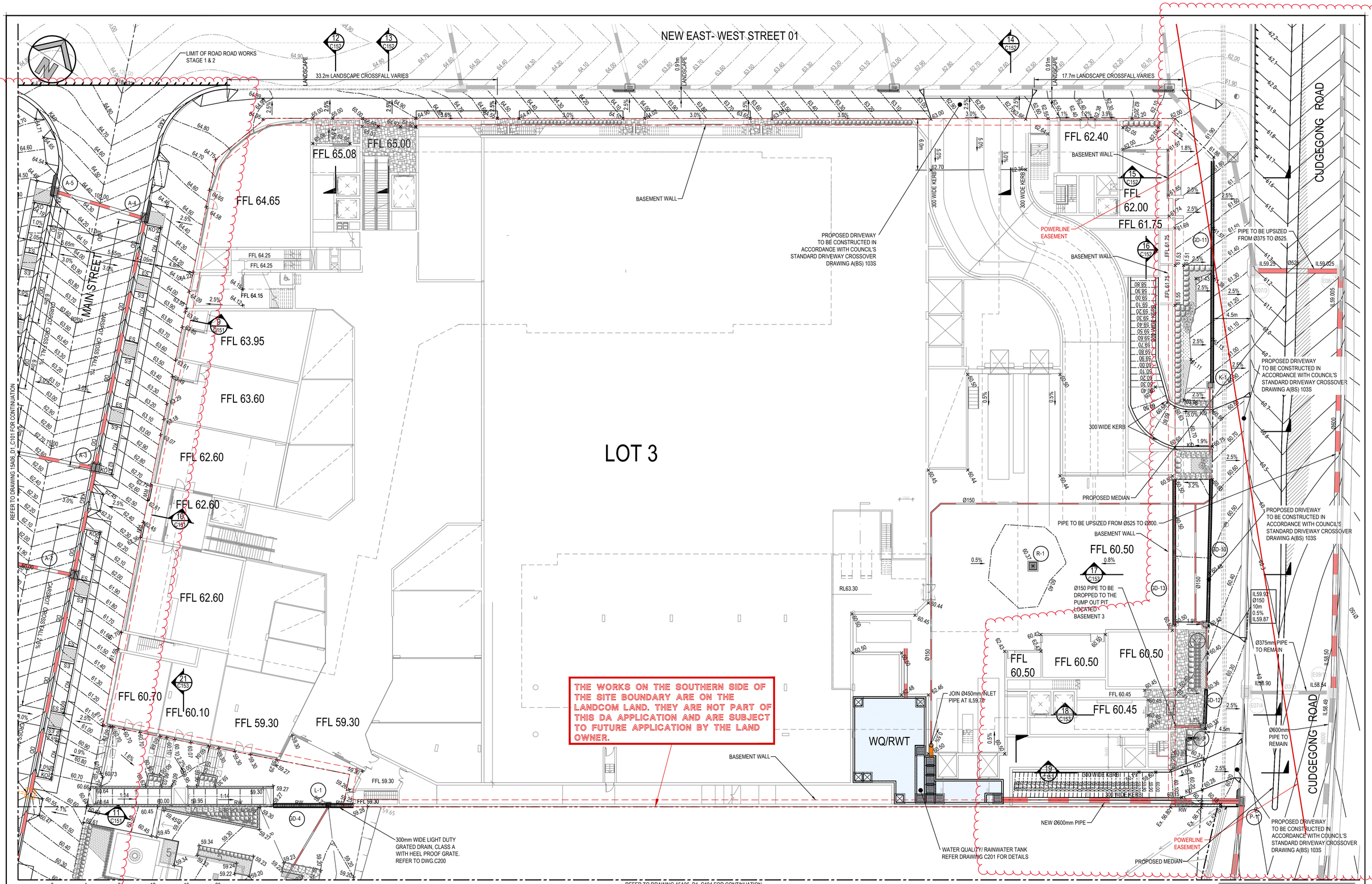
Suite 2.01
828 Pacific Highway
Gordon NSW 2072
Telephone +61 2 9417 8400
Facsimile +61 2 9417 8337
Email email@hhconsult.com.au
Web www.henryandhymas.com.au
henry&hymas

Project
CUDGEGONG TOWN CENTRE
CUDGEGONG ROAD, ROUSE HILL NSW

Title
ROAD WORKS DETAIL CIVIL PLAN
SHEET 1 OF □

Drawn	Designed	Date
I.Khachab	F.Zhou	NOV 2019
Checked	Approved	Scale @A1
T.Dempsey	A.Francis	1:200

Drawing number 15A06_D1_C101
Revision 07



ROAD WORKS DETAIL CIVIL PLAN

SCALE 1:200

FOR DA ONLY

SURVEY INFORMATION
SURVEYED BY USHER & COMPANY
DATUM: RL 64.038 AHD
ORIGIN OF LEVELS:PM 29280

REVISION	AMENDMENT	DRAWN	DESIGNED	DATE
06	RE-ISSUED FOR DA ONLY	LC	TD	12.07.2021
05	RE-ISSUED FOR DA ONLY	LC	TD	02.06.2021
04	RE-ISSUED FOR DA ONLY	MS	TD	30.04.2021
03	RE-ISSUED FOR DA ONLY	MS	TD	15.03.2021
02	RE-ISSUED FOR DA ONLY	MS	TD	27.07.2020
01	ISSUED FOR DA ONLY	IK	TD	01.04.2020

Client: RESTIFA & PARTNERS PTY LTD

Architect: ZHINAR ARCHITECTS PTY LTD

This drawing and design remains the property of Henry & Hymas and may not be copied in whole or in part without the prior written approval of Henry & Hymas.

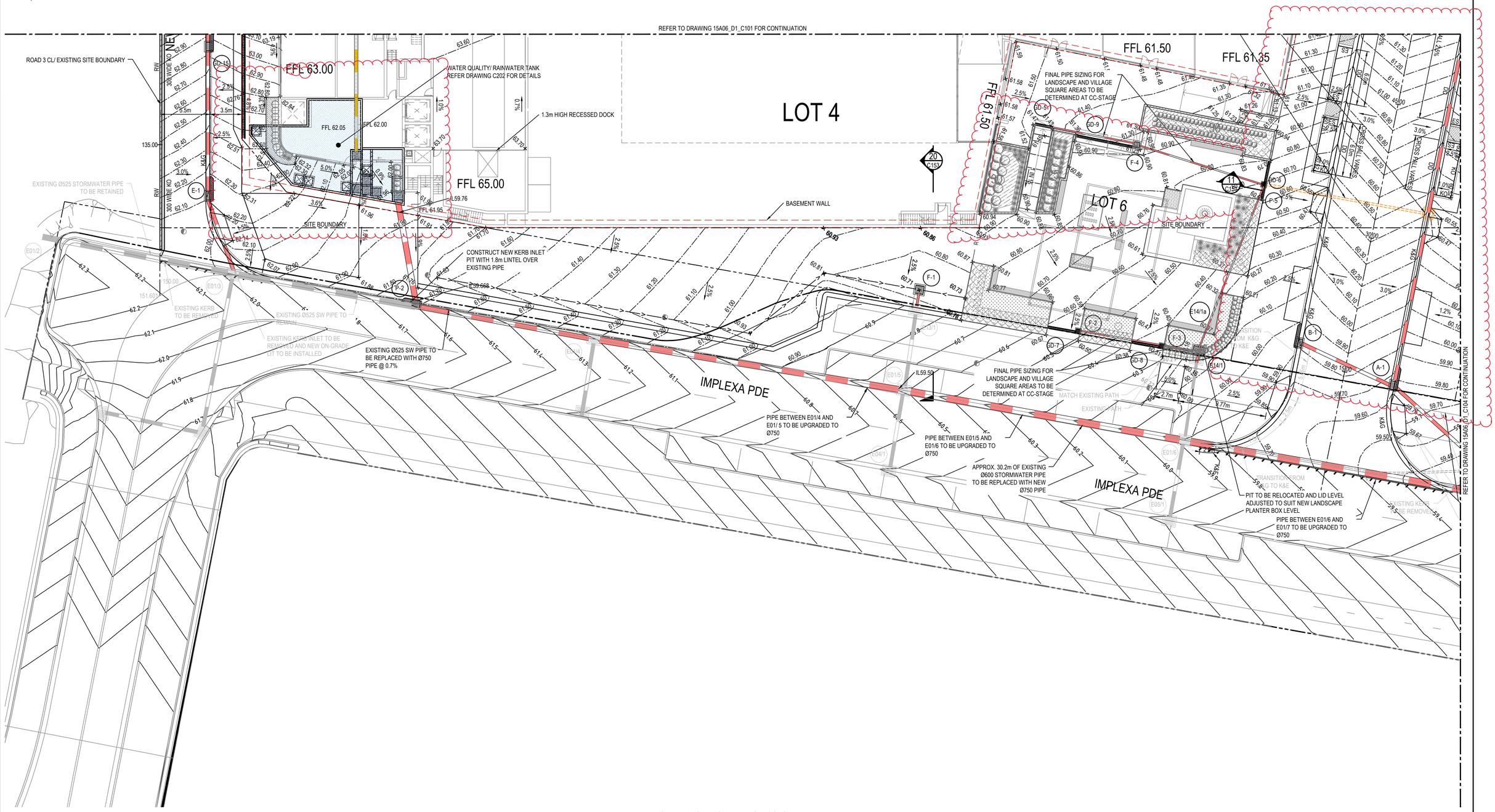
Suite 2.01
828 Pacific Highway
Gordon NSW 2072
Telephone +61 2 9417 8400
Facsimile +61 2 9417 8337
Email email@hhconsult.com.au
Web www.henryandhymas.com.au
henry&hymas

Project: CUDGEGONG TOWN CENTRE
CUDGEGONG ROAD, ROUSE HILL NSW

Title: ROAD WORKS DETAIL CIVIL PLAN
SHEET 2 OF

Drawn	Designed	Date
I.Khachab	F.Zhou	NOV 2019
Checked	Approved	Scale @A1
T.Dempsey	A.Francis	1:200

Drawing number: 15A06_D1_C102
Revision: 06



ROAD WORKS DETAIL CIVIL PLAN

SCALE 1:200

0 4 8 12 16 20m

4 3 2 1

SCALE 1:200

FOR DA ONLY

SURVEY INFORMATION

SURVEYED BY USHER & COMPANY

DATUM: RL 64.038 AHD

ORIGIN OF LEVELS:PM 29280

REVISION	AMENDMENT	DRAWN	DESIGNED	DATE	REVISION	AMENDMENT	DRAWN	DESIGNED	DATE
05	RE-ISSUED FOR DA ONLY	LC	TD	12.07.2021					
04	RE-ISSUED FOR DA ONLY	LC	TD	02.06.2021					
03	RE-ISSUED FOR DA ONLY	MS	TD	15.03.2021					
02	RE-ISSUED FOR DA ONLY	MS	TD	27.07.2020					
01	ISSUED FOR DA ONLY	IK	TD	01.04.2020					

Client: RESTIFA & PARTNERS PTY LTD

Architect: ZHINAR ARCHITECTS PTY LTD

This drawing and design remains the property of Henry & Hymas and may not be copied in whole or in part without the prior written approval of Henry & Hymas.

Suite 2.01
828 Pacific Highway
Gordon NSW 2072

Telephone +61 2 9417 8400
Facsimile +61 2 9417 8337
Email email@hhconsult.com.au
Web www.henryandhymas.com.au

henry&hymas

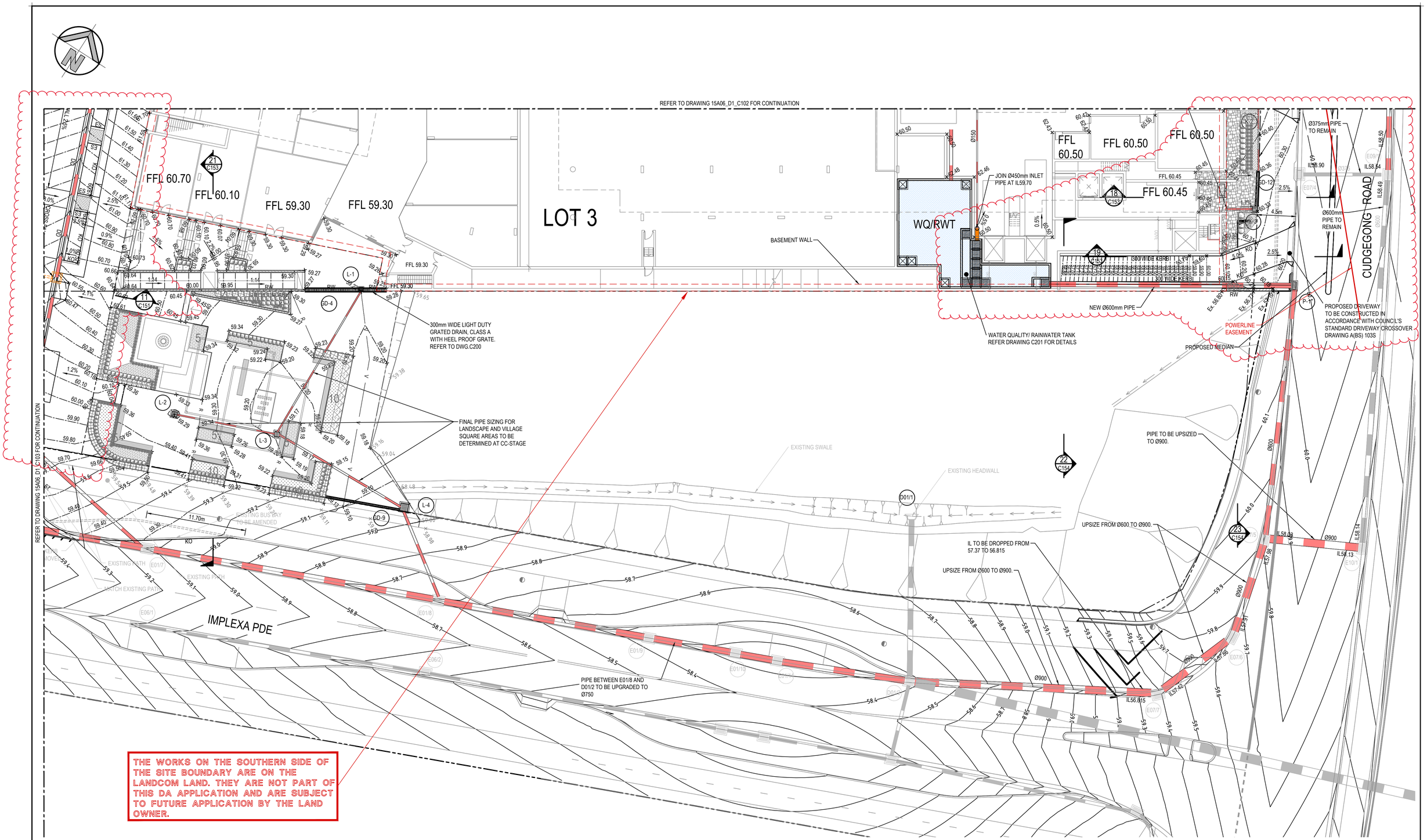
Project: CUDGEGONG TOWN CENTRE
CUDGEGONG ROAD, ROUSE HILL NSW

Title: ROAD WORKS DETAIL CIVIL PLAN
SHEET □ OF □

Drawn	Designed	Date
I.Khachab	F.Zhou	NOV 2019
Checked	Approved	Scale @A1
T.Dempsey	A.Francis	1:200

Drawing number: 15A06_D1_C10□

Revision: 05



ROAD WORKS DETAIL CIVIL PLAN

SCALE 1:200

0 4 8 12 16 20m

4 3 2 1

SCALE 1:200

FOR DA ONLY

SURVEY INFORMATION

SURVEYED BY USHER & COMPANY

DATUM: RL 64.038 AHD

ORIGIN OF LEVELS:PM 29280

REVISION	AMENDMENT	DRAWN	DESIGNED	DATE
05	RE-ISSUED FOR DA ONLY	LC	TD	12.07.2021
04	RE-ISSUED FOR DA ONLY	LC	TD	02.06.2021
03	RE-ISSUED FOR DA ONLY	MS	TD	15.03.2021
02	RE-ISSUED FOR DA ONLY	MS	TD	27.07.2020
01	ISSUED FOR DA ONLY	IK	TD	01.04.2020

REVISION	AMENDMENT	DRAWN	DESIGNED	DATE

Client: RESTIFA & PARTNERS PTY LTD

Architect: ZHINAR ARCHITECTS PTY LTD

This drawing and design remains the property of Henry & Hymas and may not be copied in whole or in part without the prior written approval of Henry & Hymas.

Suite 2.01
828 Pacific Highway
Gordon NSW 2072

Telephone +61 2 9417 8400
Facsimile +61 2 9417 8337
Email email@hhconsult.com.au
Web www.henryandhymas.com.au

henry&hymas

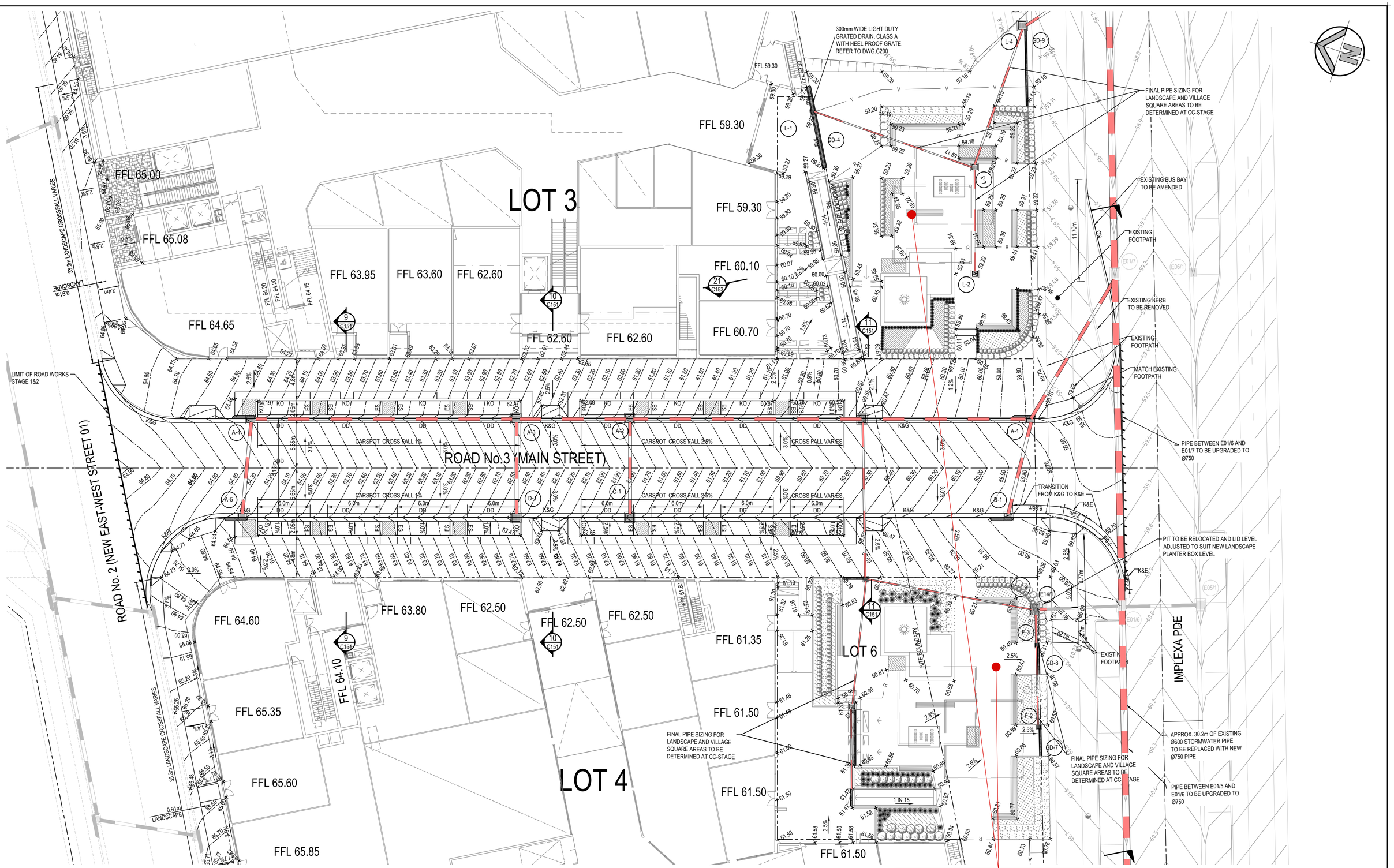
Project: CUDGEGONG TOWN CENTRE
CUDGEGONG ROAD, ROUSE HILL NSW

Title: ROAD WORKS DETAIL CIVIL PLAN
SHEET □ OF □

Drawn	Designed	Date
I.Khachab	F.Zhou	NOV 2019
Checked	Approved	Scale @A1
T.Dempsey	A.Francis	1:200

Drawing number: 15A06_D1_C10□

Revision: 05



ROAD WORKS DETAIL CIVIL PLAN - MAIN STREET-

SCALE 1:200

THE WORKS ON THE SOUTHERN SIDE OF THE SITE BOUNDARY ARE ON THE LANDCOM LAND. THEY ARE NOT PART OF THIS DA APPLICATION AND ARE SUBJECT TO FUTURE APPLICATION BY THE LAND OWNER.

0 5 10 15 20 25m

5 4 3 2 1

SCALE 1:250

FOR DA ONLY

SURVEY INFORMATION
SURVEYED BY
USHER & COMPANY
and
MATTHEW RUSSELL STANLEY

REVISION	AMENDMENT	DRAWN	DESIGNED	DATE	REVISION	AMENDMENT	DRAWN	DESIGNED	DATE
01	ISSUED FOR DA ONY	LC	TD	02.06.2021					

Client
RESTIFA & PARTNERS PTY LTD

Architect

This drawing and design remains the property of Henry & Hymas and may not be copied in whole or in part without the prior written approval of Henry & Hymas.

Suite 2.01
828 Pacific Highway Gordon
NSW 2072
Telephone +61 2 9417 8400
Facsimile +61 2 9417 8337
Email email@hhconsult.com.au
Web www.henryandhymas.com.au
henry&hymas

Project
CUDGEGONG TOWN CENTRE
CUDGEGONG ROAD, ROUSE HILL NSW

Title
ROAD No.□ □MAIN STREET□- CIVIL PLAN

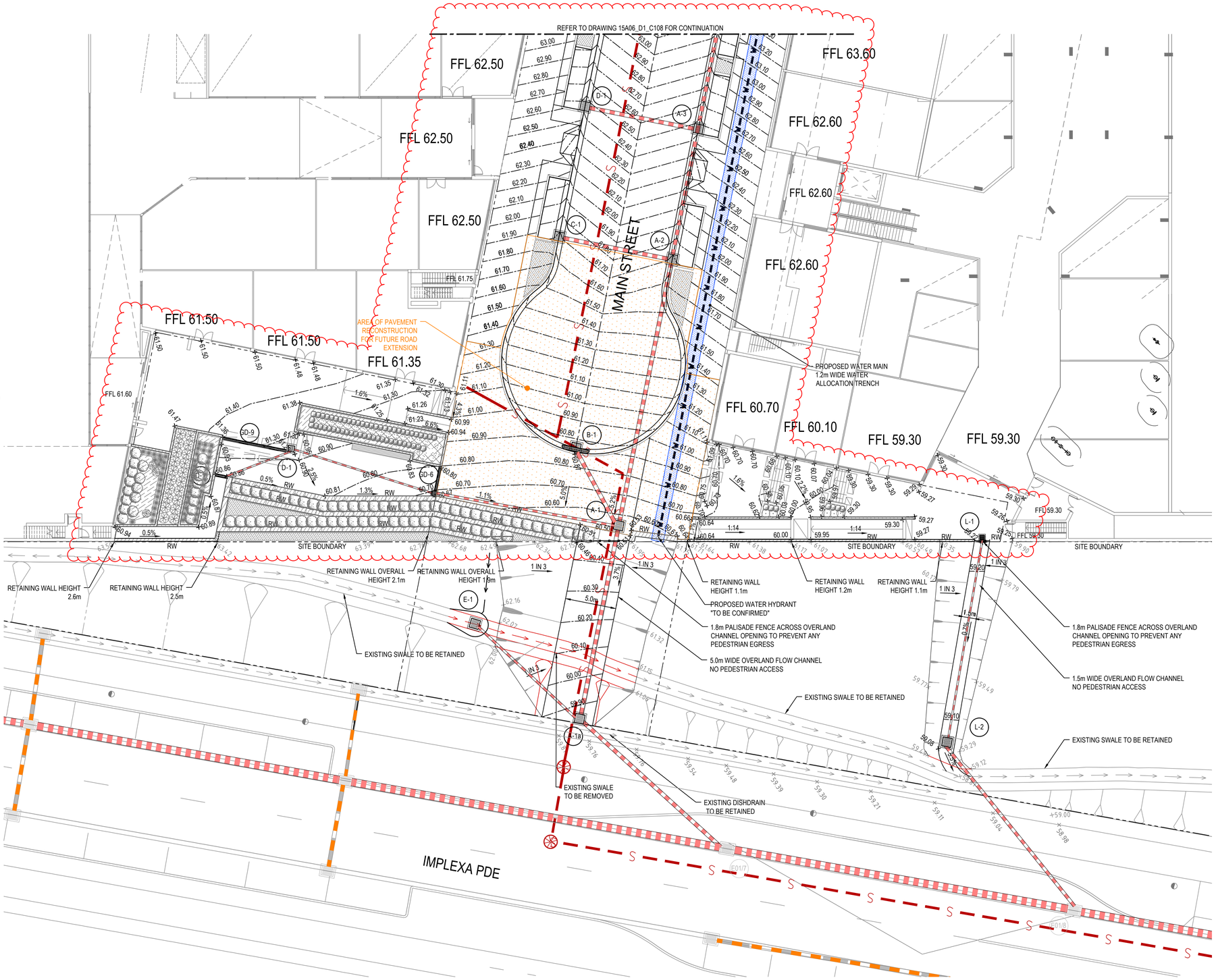
Drawn	Designed	Date
L.Caha	L.Caha	AUG 2020
Checked	Approved	Scale @A1
T.Dempsey	A.Francis	1:200

Drawing number 15A06_D1_C107

Revision 01

LEGEND

- EXISTING BOUNDARY
- EXISTING STORMWATER PIPE TO BE RETAINED
- PROPOSED STORMWATER PIPE
- PROPOSED PIT
- EXISTING PIT TO BE RETAINED
- PROPOSED SEWER
- PROPOSED SEWER MANHOLE
- PROPOSED WATER PIPE
- PROPOSED ALLOCATION FOR WATER SERVICES
- EXISTING WATER HYDRANT
- PROPOSED CONTOURS
- EXISTING SPOT LEVEL
- PROPOSED SPOT LEVEL
- PROPOSED KERB & GUTTER
- LINE LETTER / PIT NUMBER — PROPOSED PIT TAG
- EXISTING KERB TO BE REMOVED
- EXISTING SWALE AND GUTTER TO BE REMOVED



ROAD WORKS DETAIL CIVIL PLAN

SCALE 1:200

0 8 12 16 20m

SCALE 1:200

FOR DA ONLY

SURVEY INFORMATION
SURVEYED BY USHER & COMPANY
DATUM: RL 64.038 AHD
ORIGIN OF LEVELS:PM 29280

REVISION	AMENDMENT	DRAWN	DESIGNED	DATE	REVISION	AMENDMENT	DRAWN	DESIGNED	DATE
01	ISSUED FOR DA ONLY	LC	TD	02.06.2021					

Client
RESTIFA & PARTNERS PTY LTD

Architect
ZHINAR ARCHITECTS PTY LTD

This drawing and design remains the property of Henry & Hymas and may not be copied in whole or in part without the prior written approval of Henry & Hymas.

Suite 2.01
828 Pacific Highway
Gordon NSW 2072

Telephone +61 2 9417 8400
Facsimile +61 2 9417 8337
Email email@hhconsult.com.au
Web www.henryandhymas.com.au

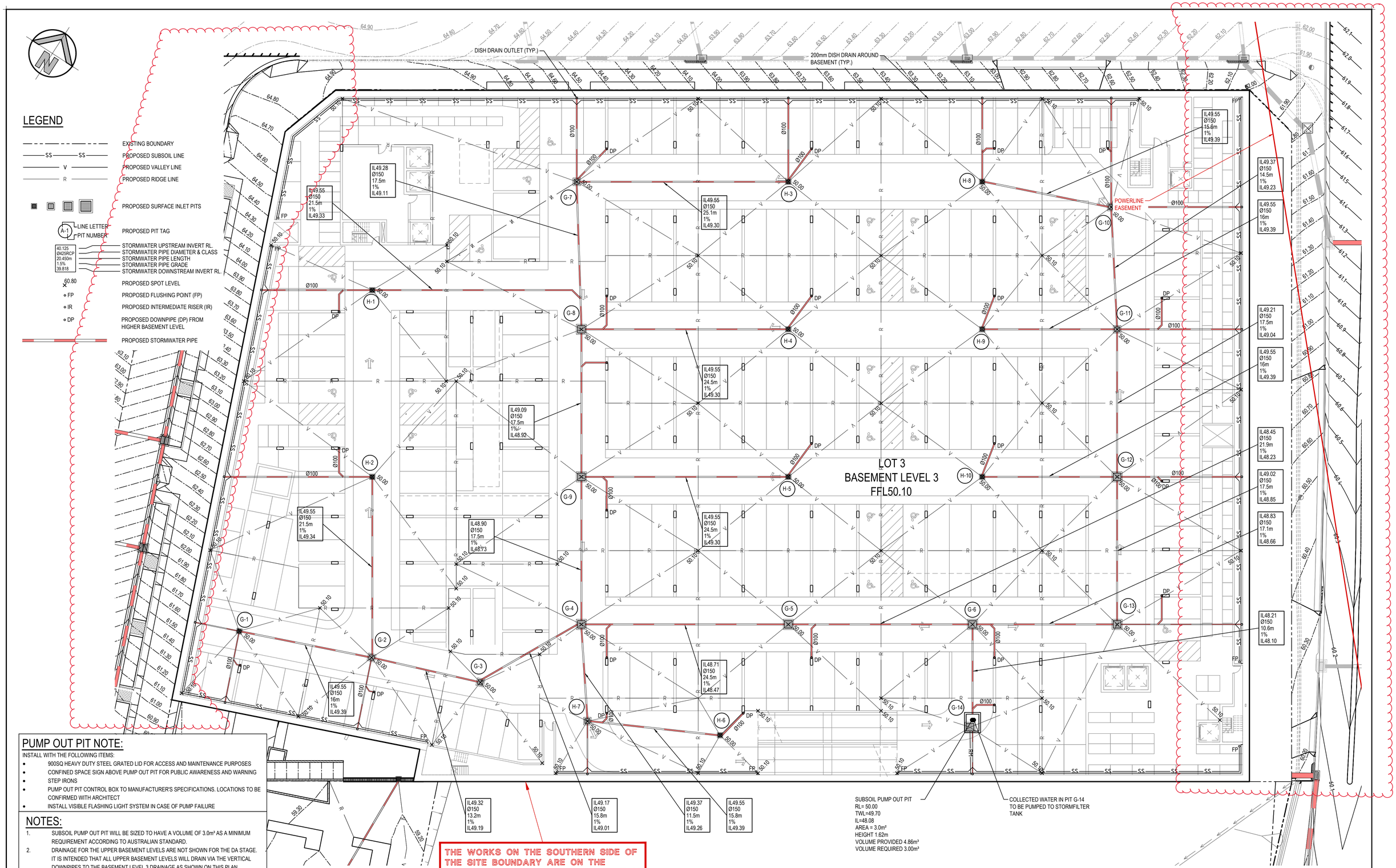
henry&hymas

Project
CUDGEGONG TOWN CENTRE
CUDGEGONG ROAD, ROUSE HILL NSW

Title
ROAD WORKS DETAIL CIVIL PLAN
TEMPORARY TURNING HEAD

Drawn	Designed	Date
I.Khachab	F.Zhou	NOV 2019
Checked	Approved	Scale @A1
T.Dempsey	A.Francis	1:200

Drawing number: 15A06_D1_C109
Revision: 01



PUMP OUT PIT NOTE:

INSTALL WITH THE FOLLOWING ITEMS:

- 900SQ HEAVY DUTY STEEL GRATED LID FOR ACCESS AND MAINTENANCE PURPOSES
- CONFINED SPACE SIGN ABOVE PUMP OUT PIT FOR PUBLIC AWARENESS AND WARNING
- STEP IRONS
- PUMP OUT PIT CONTROL BOX TO MANUFACTURER'S SPECIFICATIONS. LOCATIONS TO BE CONFIRMED WITH ARCHITECT
- INSTALL VISIBLE FLASHING LIGHT SYSTEM IN CASE OF PUMP FAILURE

NOTES:

1. SUBSOIL PUMP OUT PIT WILL BE SIZED TO HAVE A VOLUME OF 3.0m³ AS A MINIMUM REQUIREMENT ACCORDING TO AUSTRALIAN STANDARD.
2. DRAINAGE FOR THE UPPER BASEMENT LEVELS ARE NOT SHOWN FOR THE DA STAGE. IT IS INTENDED THAT ALL UPPER BASEMENT LEVELS WILL DRAIN VIA THE VERTICAL DOWNPIPES TO THE BASEMENT LEVEL 3 DRAINAGE AS SHOWN ON THIS PLAN.

BASEMENT LEVEL 3 - PLAN STAGE 3

SCALE 1:200

FOR DA ONLY

SURVEY INFORMATION

SURVEYED BY USHER & COMPANY

DATUM: RL 64.038 AHD

ORIGIN OF LEVELS:PM 29280

REVISION	AMENDMENT	DRAWN	DESIGNED	DATE
03	RE-ISSUED FOR DA ONLY	LC	TD	12.07.2021
02	RE-ISSUED FOR DA ONLY	MS	TD	27.07.2020
01	ISSUED FOR DA ONLY	MS	TD	01.04.2020

REVISION	AMENDMENT	DRAWN	DESIGNED	DATE

Client: RESTIFA & PARTNERS PTY LTD

Architect: ZHINAR ARCHITECTS PTY LTD

This drawing and design remains the property of Henry & Hymas and may not be copied in whole or in part without the prior written approval of Henry & Hymas.

Suite 2.01
828 Pacific Highway
Gordon NSW 2072

Telephone
61 2 9 17 8 00
Facsimile
61 2 9 17 8 7
Email
email@hhconsult.com.au
Web
www.henryandhymas.com.au

henry&hymas

Project: CUDGEGONG TOWN CENTRE
CUDGEGONG ROAD, ROUSE HILL NSW

Title: ASEMENT PLAN
STAGE

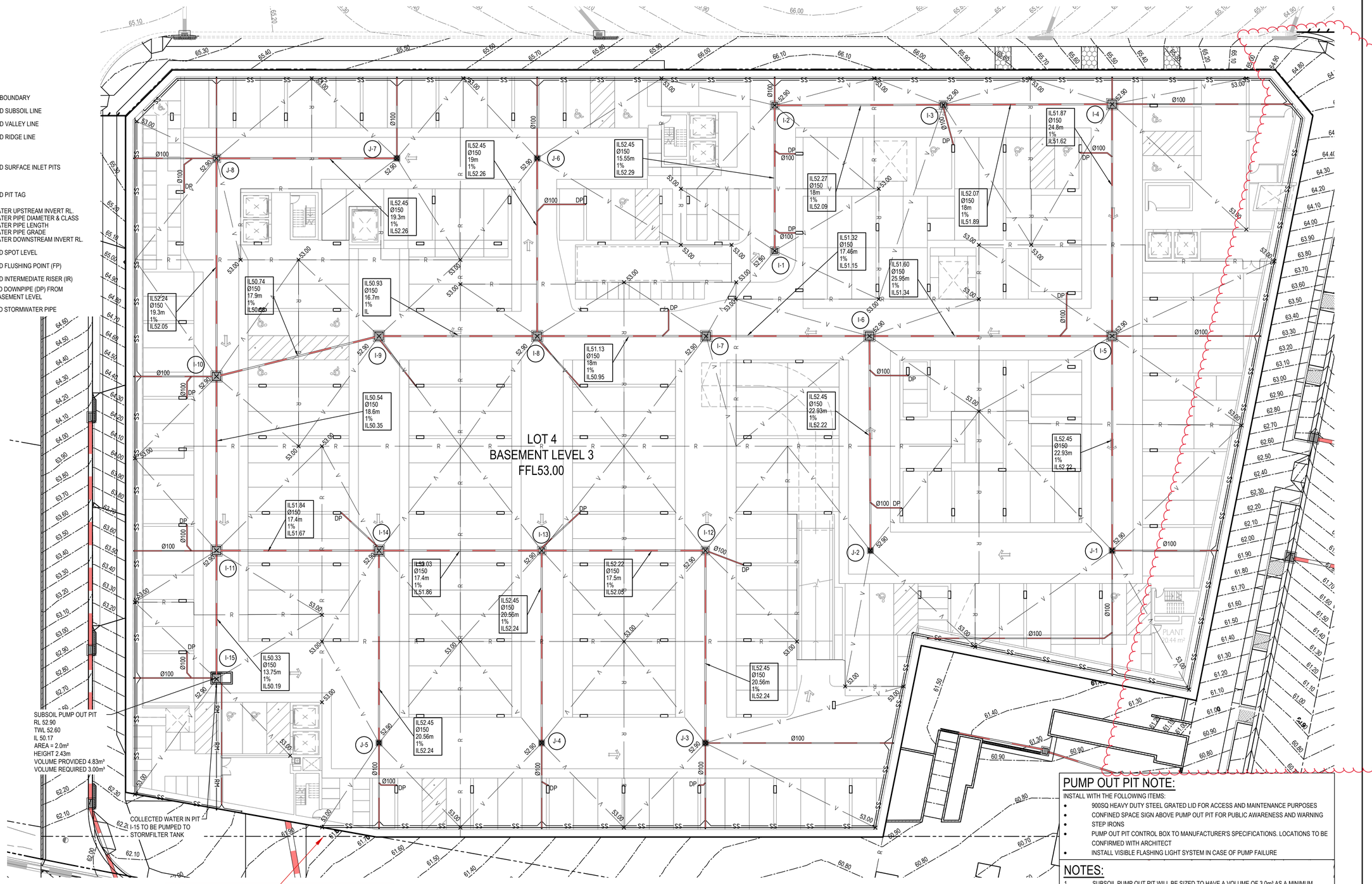
Drawn	Designed	Date
I.Khachab	F.Zhou	NOV 2019
Checked	Approved	Scale @A1
T.Dempsey	A.Francis	1:200

Drawing number: 15A06_D1_C110

Revision: 0

LEGEND

- EXISTING BOUNDARY
- SS — PROPOSED SUBSOIL LINE
- V — PROPOSED VALLEY LINE
- R — PROPOSED RIDGE LINE
- PROPOSED SURFACE INLET PITS
- A-1 — LINE LETTER / PIT NUMBER — PROPOSED PIT TAG
- 40.125 / Ø425RCP / 20.450m / 1.5% / 39.818 — STORMWATER UPSTREAM INVERT RL. / STORMWATER PIPE DIAMETER & CLASS / STORMWATER PIPE LENGTH / STORMWATER PIPE GRADE / STORMWATER DOWNSTREAM INVERT RL.
- 60.80 — PROPOSED SPOT LEVEL
- FP — PROPOSED FLUSHING POINT (FP)
- IR — PROPOSED INTERMEDIATE RISER (IR)
- DP — PROPOSED DOWNPIPE (DP) FROM HIGHER BASEMENT LEVEL
- PROPOSED STORMWATER PIPE



THE WORKS ON THE SOUTHERN SIDE OF THE SITE BOUNDARY ARE ON THE LANDCOM LAND. THEY ARE NOT PART OF THIS DA APPLICATION AND ARE SUBJECT TO FUTURE APPLICATION BY THE LAND OWNER.

BASEMENT LEVEL 3 - PLAN - STAGE 4

SCALE 1:200

0 4 8 12 16 20m

4 3 2 1

SCALE 1:200

PUMP OUT PIT NOTE:

INSTALL WITH THE FOLLOWING ITEMS:

- 900SQ HEAVY DUTY STEEL GRATED LID FOR ACCESS AND MAINTENANCE PURPOSES
- CONFINED SPACE SIGN ABOVE PUMP OUT PIT FOR PUBLIC AWARENESS AND WARNING
- STEP IRONS
- PUMP OUT PIT CONTROL BOX TO MANUFACTURER'S SPECIFICATIONS. LOCATIONS TO BE CONFIRMED WITH ARCHITECT
- INSTALL VISIBLE FLASHING LIGHT SYSTEM IN CASE OF PUMP FAILURE

NOTES:

1. SUBSOIL PUMP OUT PIT WILL BE SIZED TO HAVE A VOLUME OF 3.0m³ AS A MINIMUM REQUIREMENT ACCORDING TO AUSTRALIAN STANDARD.
2. DRAINAGE FOR THE UPPER BASEMENT LEVELS ARE NOT SHOWN FOR THE DA STAGE. IT IS INTENDED THAT ALL UPPER BASEMENT LEVELS WILL DRAIN VIA THE VERTICAL DOWNPIPES TO THE BASEMENT LEVEL 3 DRAINAGE AS SHOWN ON THIS PLAN.

FOR DA ONLY

SURVEY INFORMATION
SURVEYED BY USHER & COMPANY
DATUM: RL 64.038 AHD
ORIGIN OF LEVELS:PM 29280

REVISION	AMENDMENT	DRAWN	DESIGNED	DATE
03	RE-ISSUED FOR DA ONLY	LC	TD	12.07.2021
02	RE-ISSUED FOR DA ONLY	MS	TD	27.07.2020
01	ISSUED FOR DA ONLY	MS	TD	01.04.2020

Client: RESTIFA & PARTNERS PTY LTD

Architect: ZHINAR ARCHITECTS PTY LTD

This drawing and design remains the property of Henry & Hymas and may not be copied in whole or in part without the prior written approval of Henry & Hymas.

Suite 2.01
828 Pacific Highway
Gordon NSW 2072
Telephone 61 2 9 17 8 00
Facsimile 61 2 9 17 8 7
Email email@hhconsult.com.au
Web www.henryandhymas.com.au
henry&hymas

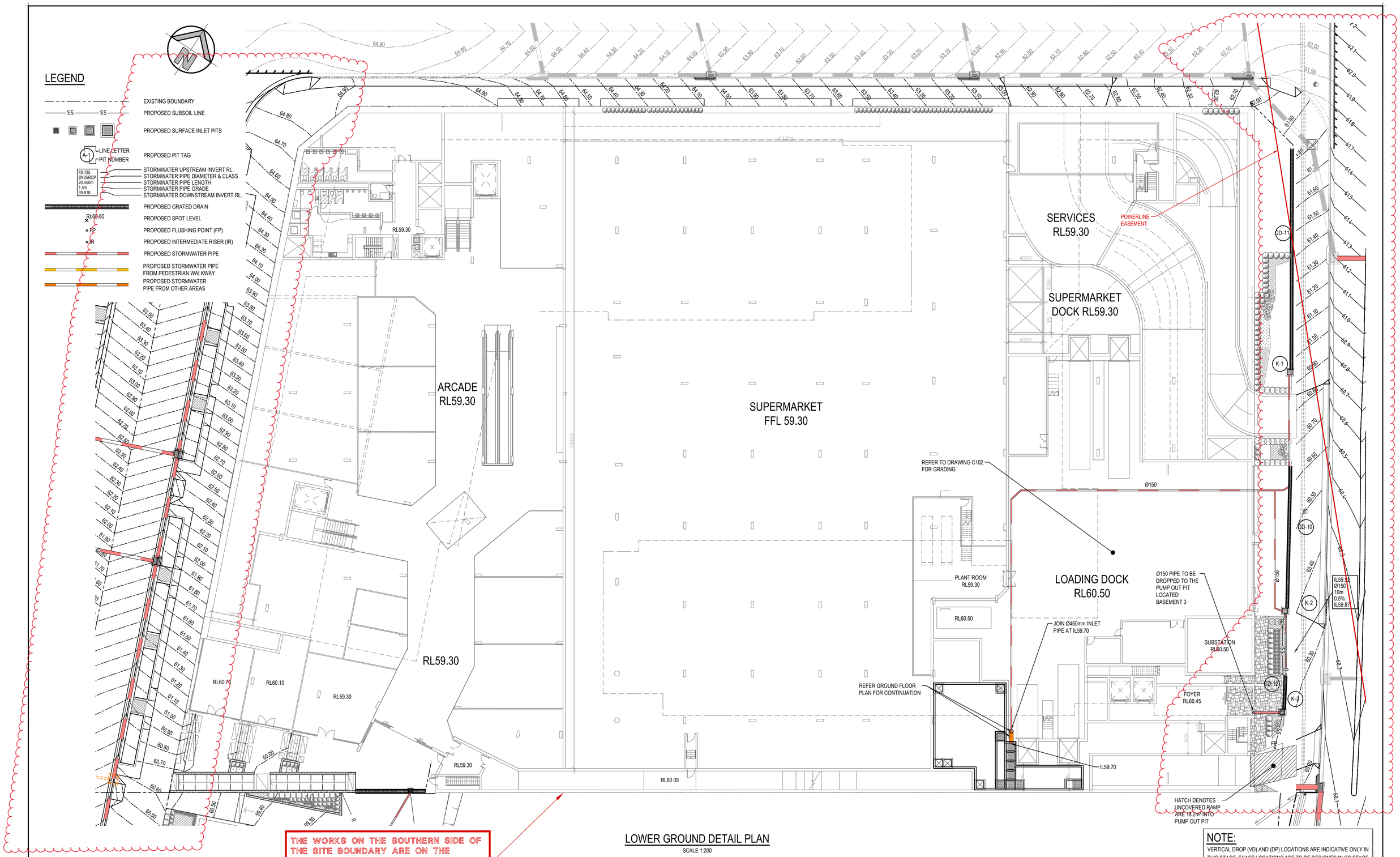
Project: CUDGEGONG TOWN CENTRE
CUDGEGONG ROAD, ROUSE HILL NSW

Title: ASEMENT LEVEL PLAN
STAGE

Drawn	Designed	Date
I.Khachab	F.Zhou	NOV 2019
Checked	Approved	Scale @A1
T.Dempsey	A.Francis	1:200

Drawing number: 15A06_D1_C111

Revision: 0



THE WORKS ON THE SOUTHERN SIDE OF THE SITE BOUNDARY ARE ON THE LANDCOM LAND. THEY ARE NOT PART OF THIS DA APPLICATION AND ARE SUBJECT TO FUTURE APPLICATION BY THE LAND OWNER.

LOWER GROUND DETAIL PLAN

SCALE 1:200

NOTE:
VERTICAL DROP (VD) AND (DP) LOCATIONS ARE INDICATIVE ONLY IN THIS STAGE. EXACT LOCATIONS ARE TO BE DESIGNED IN CC STAGE

FOR DA ONLY

SURVEY INFORMATION
SURVEYED BY USHER & COMPANY
DATUM: RL 64.038 AHD
ORIGIN OF LEVELS:PM 29280

REVISION	AMENDMENT	DRAWN	DESIGNED	DATE
03	RE-ISSUED FOR DA ONLY	LC	TD	12.07.2021
02	RE-ISSUED FOR DA ONLY	MS	TD	27.07.2020
01	ISSUED FOR DA ONLY	IK	FZ	01.04.2020

Client
RESTIFA & PARTNERS PTY LTD

Architect
ZHINAR ARCHITECTS PTY LTD

This drawing and design remains the property of Henry & Hymas and may not be copied in whole or in part without the prior written approval of Henry & Hymas.

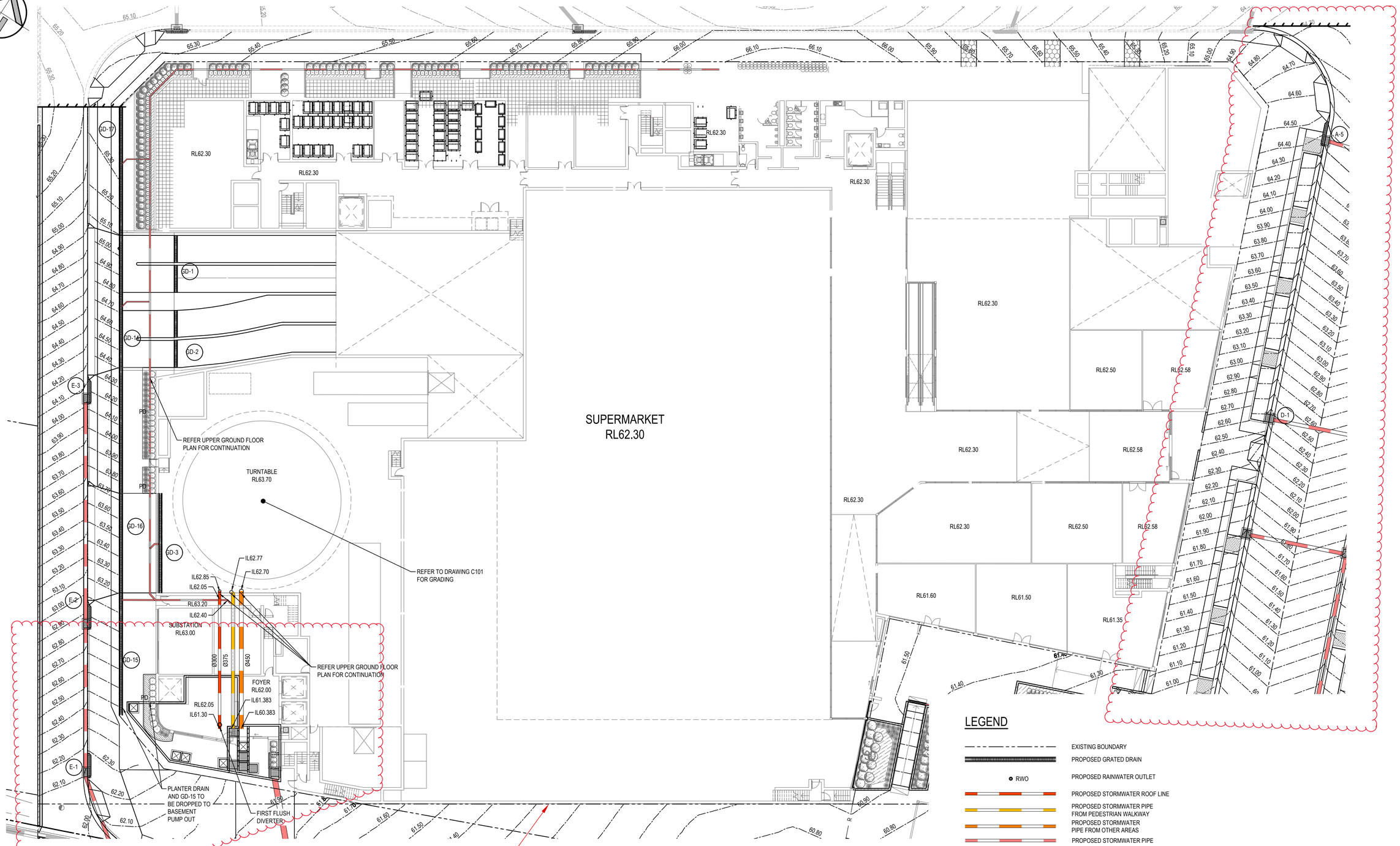
Suite 2.01
828 Pacific Highway
Gordon NSW 2072
Telephone +61 2 9417 8400
Facsimile +61 2 9417 8337
Email email@hhconsult.com.au
Web www.henryandhymas.com.au
henry&hymas

Project
CUDGEGONG TOWN CENTRE
CUDGEGONG ROAD, ROUSE HILL NSW

Title
LOWER GROUND DETAIL PLAN
STAGE

Drawn	Designed	Date
I.Khachab	F.Zhou	NOV 2019
Checked	Approved	Scale @A1
T.Dempsey	A.Francis	1:200

Drawing number 15A06_D1_C120
Revision 0



UPPER GROUND DETAIL PLAN

SCALE 1:200

THE WORKS ON THE SOUTHERN SIDE OF THE SITE BOUNDARY ARE ON THE LANDCOM LAND. THEY ARE NOT PART OF THIS DA APPLICATION AND ARE SUBJECT TO FUTURE APPLICATION BY THE LAND OWNER.

LEGEND

- EXISTING BOUNDARY
- PROPOSED GRATED DRAIN
- RWO — PROPOSED RAINWATER OUTLET
- PROPOSED STORMWATER ROOF LINE
- PROPOSED STORMWATER PIPE FROM PEDESTRIAN WALKWAY
- PROPOSED STORMWATER PIPE FROM OTHER AREAS
- PROPOSED STORMWATER PIPE
- A-1 — LINE LETTER / PIT NUMBER — PROPOSED PIT TAG

NOTE:

VERTICAL DROP (VD) AND (DP) LOCATIONS ARE INDICATIVE ONLY IN THIS STAGE. EXACT LOCATIONS ARE TO BE DESIGNED IN CC STAGE

FOR DA ONLY

0 4 8 12 16 20m

4 3 2 1

SCALE 1:200

SURVEY INFORMATION

SURVEYED BY USHER & COMPANY

DATUM: RL 64.038 AHD

ORIGIN OF LEVELS:PM 29280

REVISION	AMENDMENT	DRAWN	DESIGNED	DATE
04	RE-ISSUED FOR DA ONLY	LC	TD	12.07.2021
03	RE-ISSUED FOR DA ONLY	MS	TD	15.03.2021
02	RE-ISSUED FOR DA ONLY	MS	TD	27.07.2020
01	ISSUED FOR DA ONLY	IK	FZ	01.04.2020

REVISION	AMENDMENT	DRAWN	DESIGNED	DATE

Client: RESTIFA & PARTNERS PTY LTD

Architect: ZHINAR ARCHITECTS PTY LTD

This drawing and design remains the property of Henry & Hymas and may not be copied in whole or in part without the prior written approval of Henry & Hymas.

Suite 2.01
828 Pacific Highway
Gordon NSW 2072

Telephone +61 2 9417 8400
Facsimile +61 2 9417 8337
Email email@hhconsult.com.au
Web www.henryandhymas.com.au

henry&hymas

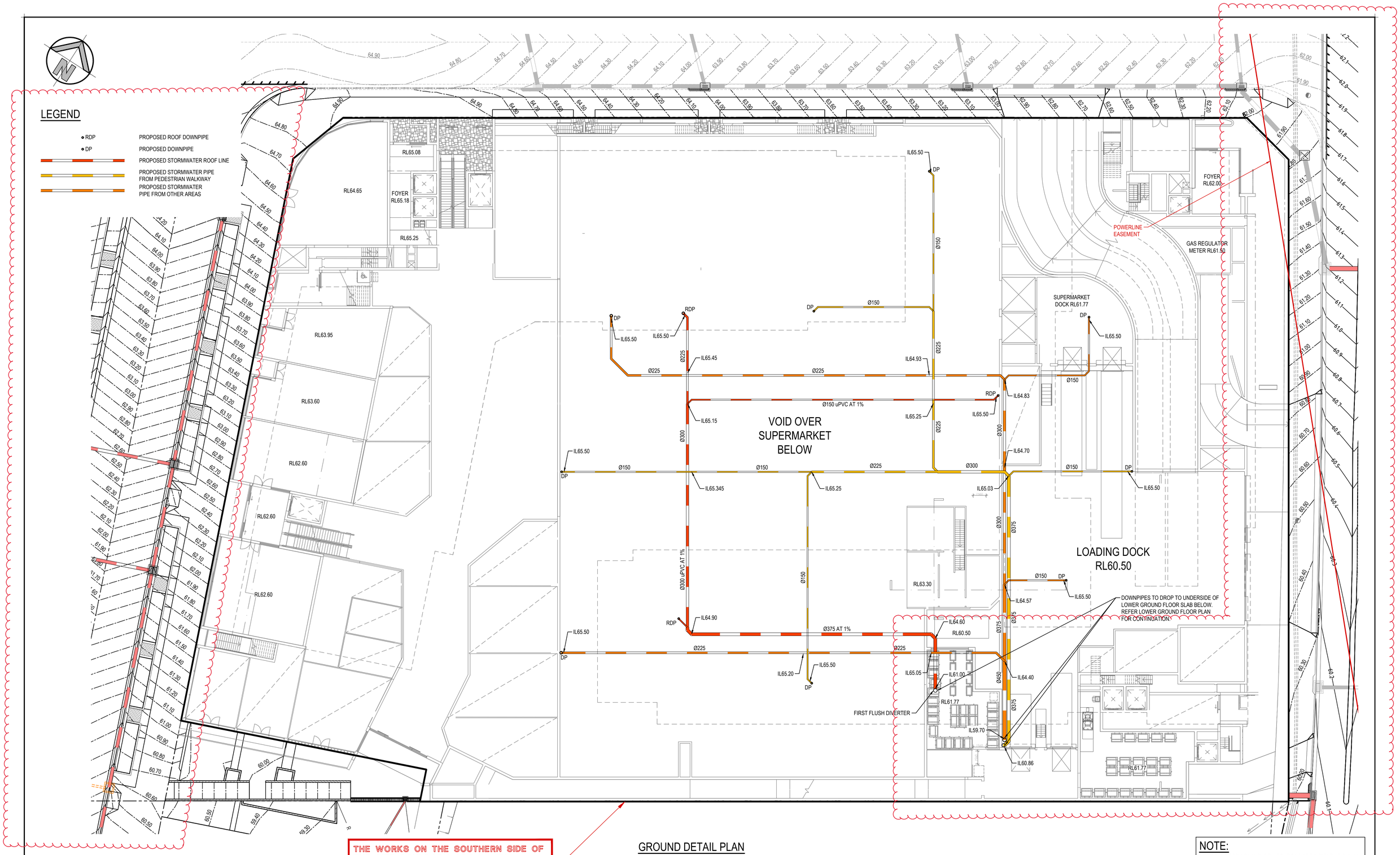
Project: CUDGEGONG TOWN CENTRE
CUDGEGONG ROAD, ROUSE HILL NSW

Title: GROUND DETAIL PLAN
STAGE

Drawn	Designed	Date
I.Khachab	F.Zhou	NOV 2019
Checked	Approved	Scale @A1
T.Dempsey	A.Francis	1:200

Drawing number: 15A06_D1_C121

Revision: 0



THE WORKS ON THE SOUTHERN SIDE OF THE SITE BOUNDARY ARE ON THE LANDCOM LAND. THEY ARE NOT PART OF THIS DA APPLICATION AND ARE SUBJECT TO FUTURE APPLICATION BY THE LAND OWNER.

GROUND DETAIL PLAN

SCALE 1:200

NOTE:
VERTICAL DROP (VD) AND (DP) LOCATIONS ARE INDICATIVE ONLY IN THIS STAGE. EXACT LOCATIONS ARE TO BE DESIGNED IN CC STAGE

FOR DA ONLY

SURVEY INFORMATION
SURVEYED BY USHER & COMPANY
DATUM: RL 64.038 AHD
ORIGIN OF LEVELS:PM 29280

REVISION	AMENDMENT	DRAWN	DESIGNED	DATE
03	RE-ISSUED FOR DA ONLY	LC	TD	12.07.2021
02	RE-ISSUED FOR DA ONLY	MS	TD	27.07.2020
01	ISSUED FOR DA ONLY	IK	FZ	01.04.2020

Client: RESTIFA & PARTNERS PTY LTD

Architect: ZHINAR ARCHITECTS PTY LTD

This drawing and design remains the property of Henry & Hymas and may not be copied in whole or in part without the prior written approval of Henry & Hymas.

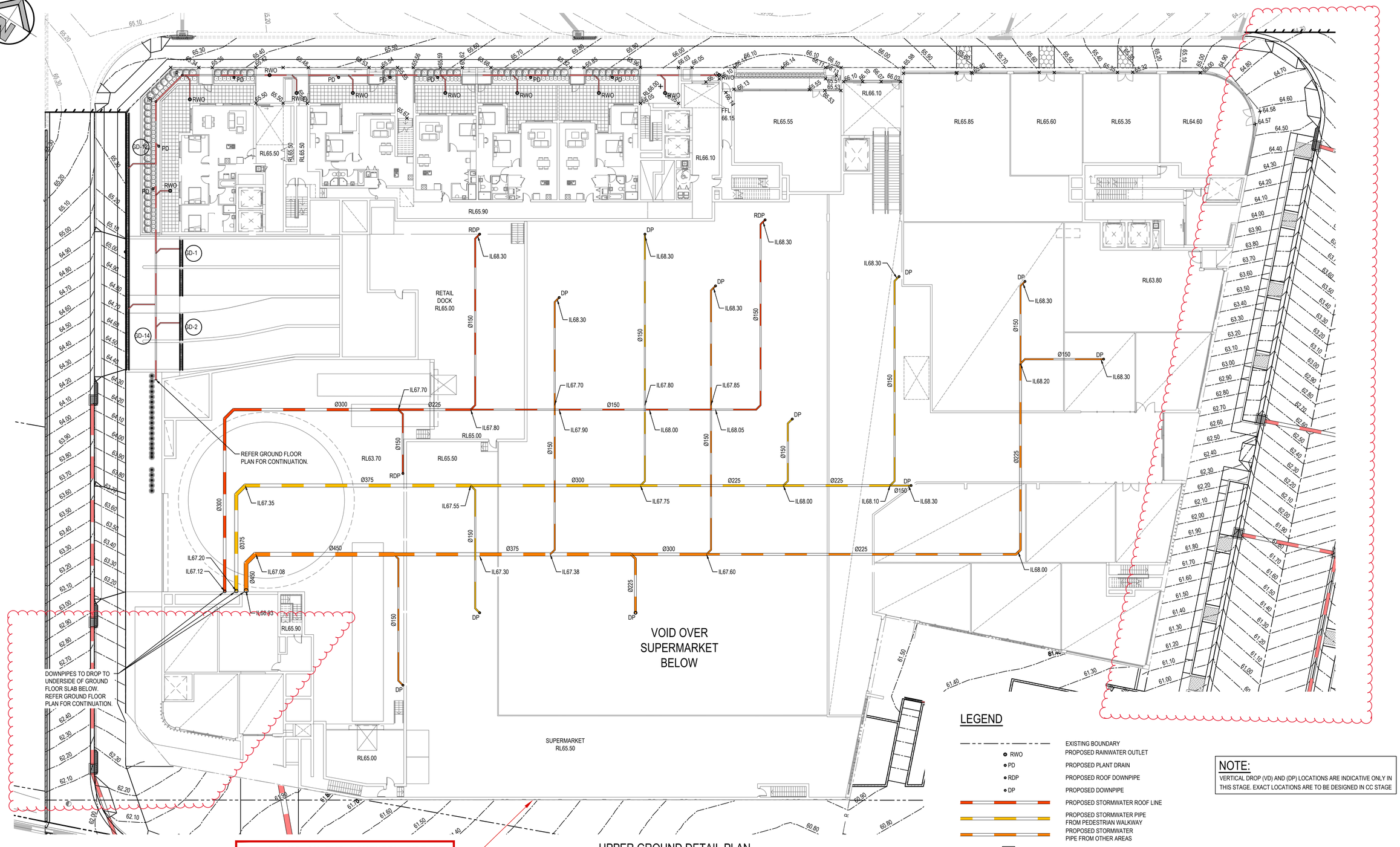
Suite 2.01
828 Pacific Highway
Gordon NSW 2072
Telephone +61 2 9417 8400
Facsimile +61 2 9417 8337
Email email@hhconsult.com.au
Web www.henryandhymas.com.au
henry&hymas

Project: CUDGEGONG TOWN CENTRE
CUDGEGONG ROAD, ROUSE HILL NSW

Title: GROUND DETAIL PLAN
STAGE

Drawn	Designed	Date
I.Khachab	F.Zhou	NOV 2019
Checked	Approved	Scale @A1
T.Dempsey	A.Francis	1:200

Drawing number: 15A06_D1_C1 0
Revision: 0



LEGEND

	EXISTING BOUNDARY
RWO	PROPOSED RAINWATER OUTLET
PD	PROPOSED PLANT DRAIN
RDP	PROPOSED ROOF DOWNPIPE
DP	PROPOSED DOWNPIPE
	PROPOSED STORMWATER ROOF LINE
	PROPOSED STORMWATER PIPE FROM PEDESTRIAN WALKWAY
	PROPOSED STORMWATER PIPE FROM OTHER AREAS
A-1	LINE LETTER / PIT NUMBER — PROPOSED PIT TAG
	PROPOSED STORMWATER PIPE

NOTE:
VERTICAL DROP (VD) AND (DP) LOCATIONS ARE INDICATIVE ONLY IN THIS STAGE. EXACT LOCATIONS ARE TO BE DESIGNED IN CC STAGE

THE WORKS ON THE SOUTHERN SIDE OF THE SITE BOUNDARY ARE ON THE LANDCOM LAND. THEY ARE NOT PART OF THIS DA APPLICATION AND ARE SUBJECT TO FUTURE APPLICATION BY THE LAND OWNER.

UPPER GROUND DETAIL PLAN

SCALE 1:200

0 4 8 12 16 20m
4 3 2 1
SCALE 1:200

FOR DA ONLY

SURVEY INFORMATION
SURVEYED BY USHER & COMPANY
DATUM: RL 64.038 AHD
ORIGIN OF LEVELS:PM 29280

REVISION	AMENDMENT	DRAWN	DESIGNED	DATE
03	RE-ISSUED FOR DA ONLY	LC	TD	12.07.2021
02	RE-ISSUED FOR DA ONLY	MS	TD	27.07.2020
01	ISSUED FOR DA ONLY	IK	FZ	01.04.2020

Client: RESTIFA & PARTNERS PTY LTD
Architect: ZHINAR ARCHITECTS PTY LTD

This drawing and design remains the property of Henry & Hymas and may not be copied in whole or in part without the prior written approval of Henry & Hymas.

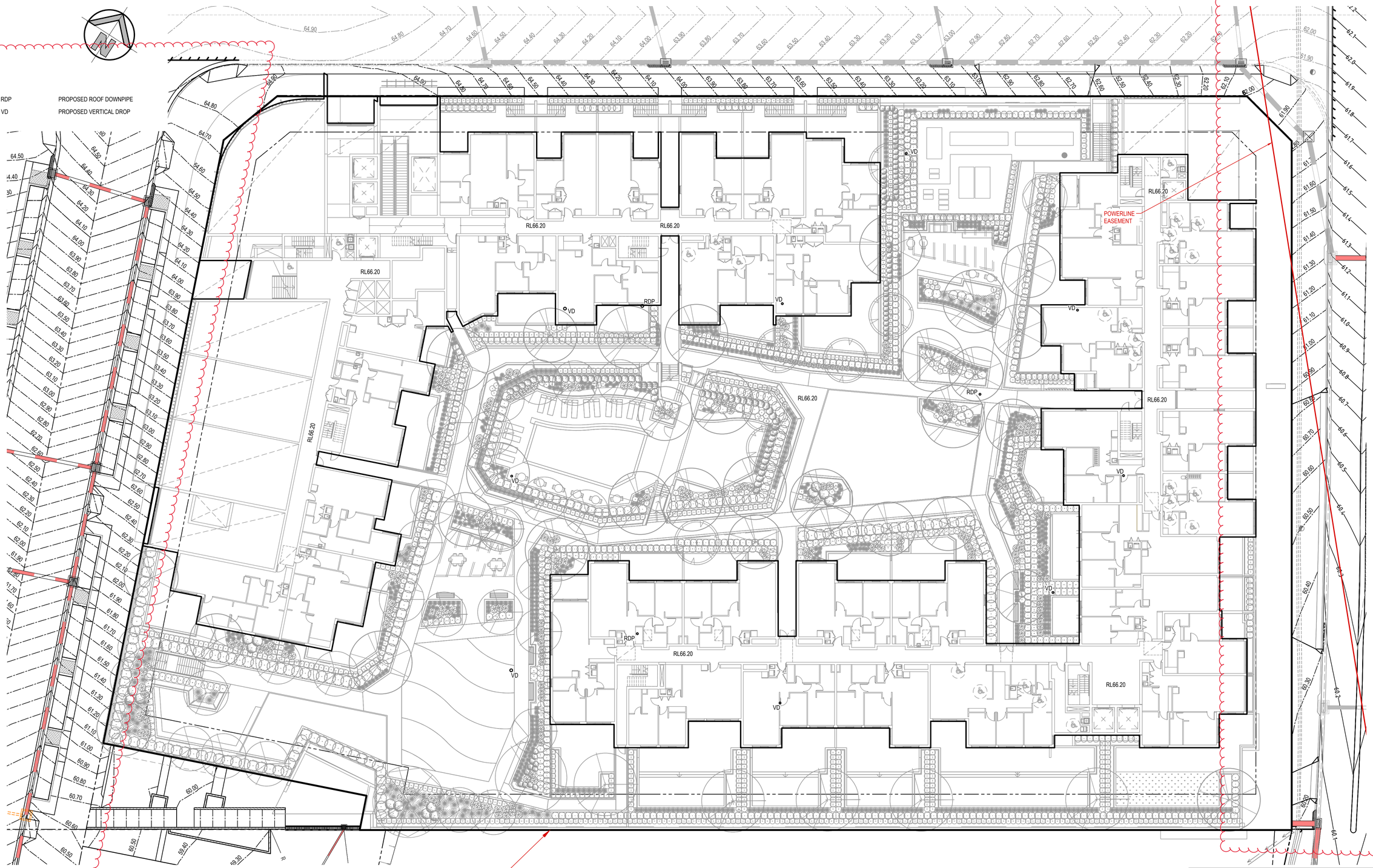
Suite 2.01
828 Pacific Highway
Gordon NSW 2072
Telephone +61 2 9417 8400
Facsimile +61 2 9417 8337
Email email@hhconsult.com.au
Web www.henryandhymas.com.au
henry&hymas

Project: CUDGEGONG TOWN CENTRE
CUDGEGONG ROAD, ROUSE HILL NSW

Title: UPPER GROUND DETAIL PLAN
STAGE

Drawn	Designed	Date
I.Khachab	F.Zhou	NOV 2019
Checked	Approved	Scale @A1
T.Dempsey	A.Francis	1:200

Drawing number: 15A06_D1_C1 1
Revision: 0



LEGEND

- RDP — PROPOSED ROOF DOWNPIPE
- VD — PROPOSED VERTICAL DROP

THE WORKS ON THE SOUTHERN SIDE OF THE SITE BOUNDARY ARE ON THE LANDCOM LAND. THEY ARE NOT PART OF THIS DA APPLICATION AND ARE SUBJECT TO FUTURE APPLICATION BY THE LAND OWNER.

UPPER GROUND - PODIUM LEVEL DETAIL PLAN

SCALE 1:200

0 4 8 12 16 20m

4 3 2 1

SCALE 1:200

NOTE:
VERTICAL DROP (VD) AND (RDP) LOCATIONS ARE INDICATIVE ONLY IN THIS STAGE. EXACT LOCATIONS ARE TO BE DESIGNED IN CC STAGE

FOR DA ONLY

SURVEY INFORMATION
SURVEYED BY USHER & COMPANY
DATUM: RL 64.038 AHD
ORIGIN OF LEVELS:PM 29280

REVISION	AMENDMENT	DRAWN	DESIGNED	DATE
03	RE-ISSUED FOR DA ONLY	LC	TD	12.07.2021
02	RE-ISSUED FOR DA ONLY	MS	TD	27.07.2020
01	ISSUED FOR DA ONLY	IK	FZ	01.04.2020

Client: RESTIFA & PARTNERS PTY LTD

Architect: ZHINAR ARCHITECTS PTY LTD

This drawing and design remains the property of Henry & Hymas and may not be copied in whole or in part without the prior written approval of Henry & Hymas.

Suite 2.01
828 Pacific Highway
Gordon NSW 2072
Telephone +61 2 9417 8400
Facsimile +61 2 9417 8337
Email email@hhconsult.com.au
Web www.henryandhymas.com.au
henry&hymas

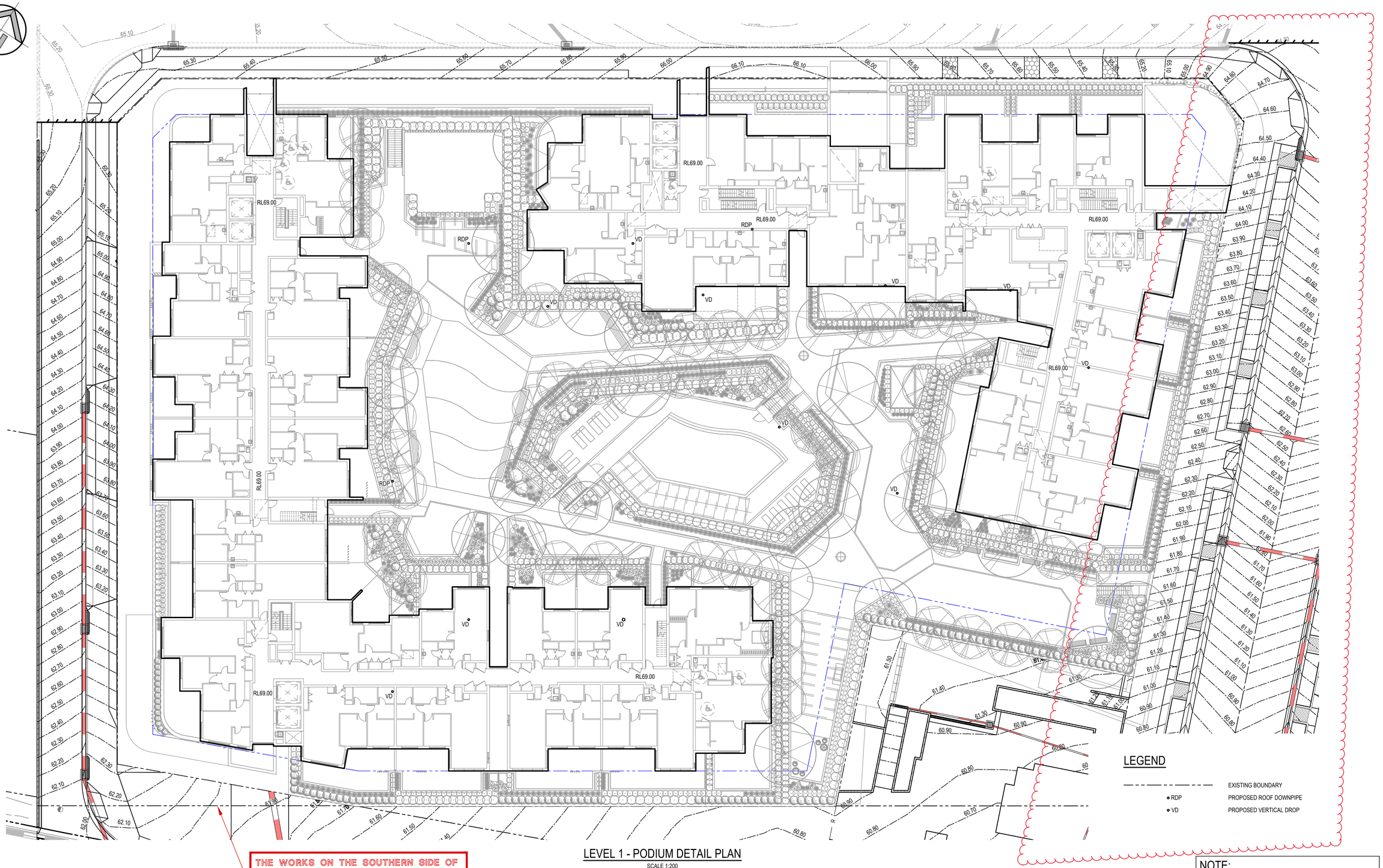
Project: CUDGEGONG TOWN CENTRE
CUDGEGONG ROAD, ROUSE HILL NSW

Title: UPPER GROUND - PODIUM LEVEL DETAIL PLAN - STAGE

Drawn	Designed	Date
I.Khachab	F.Zhou	NOV 2019
Checked	Approved	Scale @A1
T.Dempsey	A.Francis	1:200

Drawing number: 15A06_D1_C1 0

Revision: 0



LEVEL 1 - PODIUM DETAIL PLAN

SCALE 1:200

LEGEND

— · — · —	EXISTING BOUNDARY
∘ RDP	PROPOSED ROOF DOWNPIPE
∘ VD	PROPOSED VERTICAL DROP

NOTE:
VERTICAL DROP (VD) AND (RDP) LOCATIONS ARE INDICATIVE ONLY IN THIS STAGE. EXACT LOCATIONS ARE TO BE DESIGNED IN CC STAGE

0 4 8 12 16 20m
4 3 2 1
SCALE 1:200

FOR DA ONLY

SURVEY INFORMATION
SURVEYED BY USHER & COMPANY
DATUM: RL 64.038 AHD
ORIGIN OF LEVELS:PM 29280

REVISION	AMENDMENT	DRAWN	DESIGNED	DATE
03	RE-ISSUED FOR DA ONLY	LC	TD	12.07.2021
02	RE-ISSUED FOR DA ONLY	MS	TD	27.07.2020
01	ISSUED FOR DA ONLY	IK	FZ	01.04.2020

Client
RESTIFA & PARTNERS PTY LTD
RESTIFA & PARTNERS

Architect
ZHINAR ARCHITECTS PTY LTD

This drawing and design remains the property of Henry & Hymas and may not be copied in whole or in part without the prior written approval of Henry & Hymas.

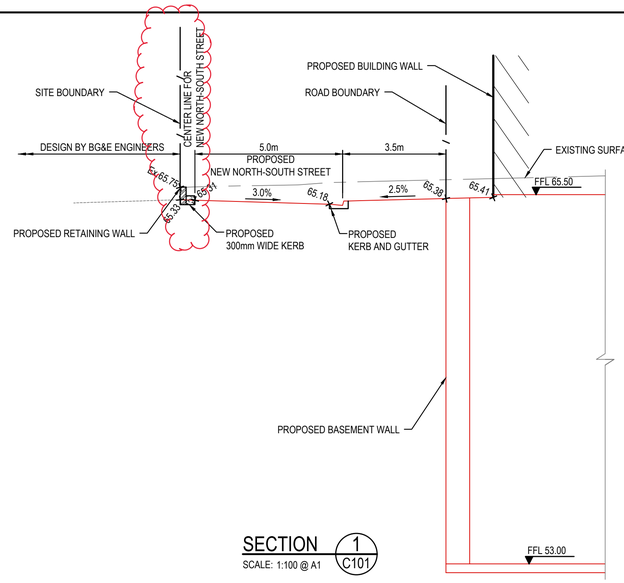
Suite 2.01
828 Pacific Highway
Gordon NSW 2072
Telephone +61 2 9417 8400
Facsimile +61 2 9417 8337
Email email@hhconsult.com.au
Web www.henryandhymas.com.au
henry&hymas

Project
CUDGEGONG TOWN CENTRE
CUDGEGONG ROAD, ROUSE HILL NSW

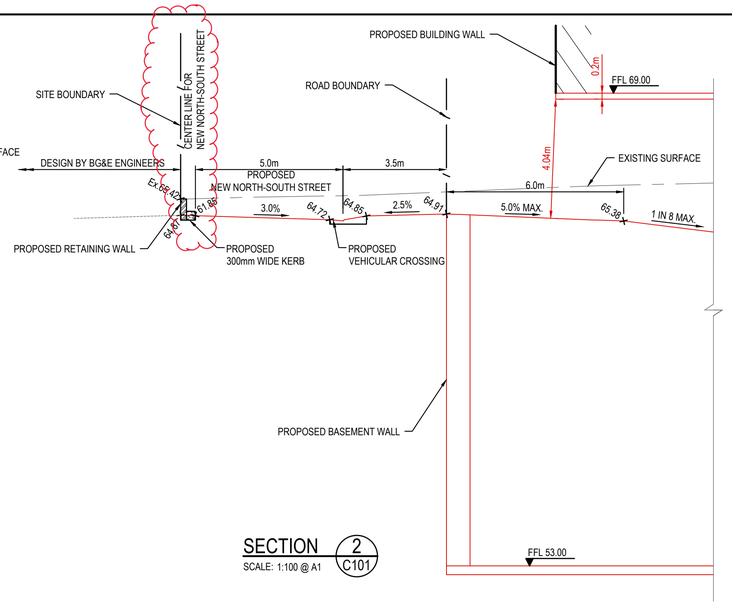
Title
LEVEL 1 - PODIUM DETAIL PLAN
STAGE

Drawn	Designed	Date
I.Khachab	F.Zhou	NOV 2019
Checked	Approved	Scale @A1
T.Dempsey	A.Francis	1:200

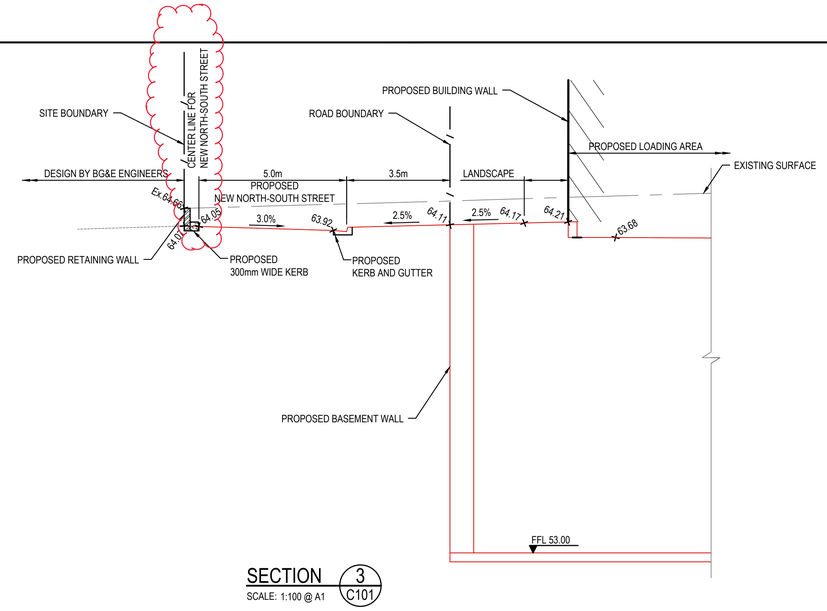
Drawing number 15A06_D1_C1 1
Revision 0



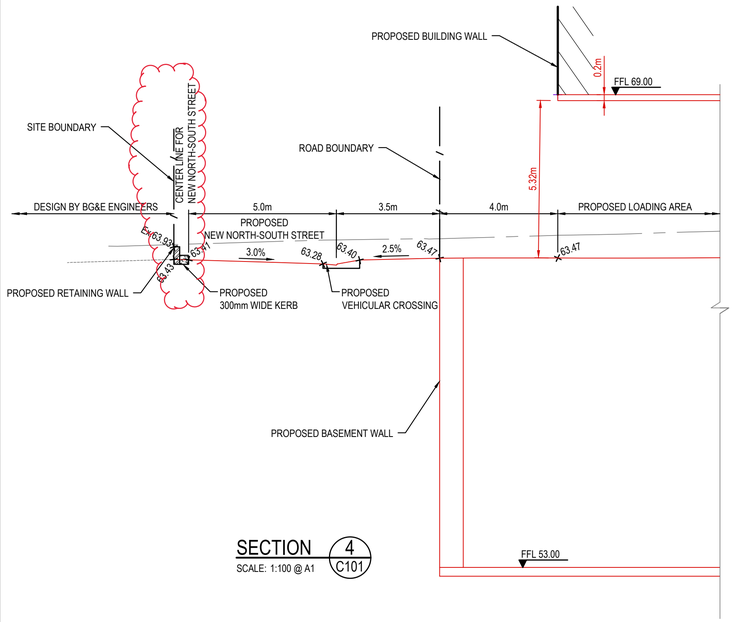
SECTION 1 C101
SCALE: 1:100 @ A1



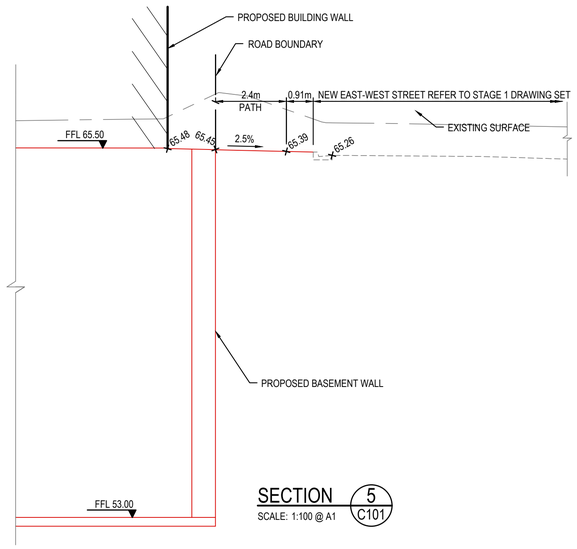
SECTION 2 C101
SCALE: 1:100 @ A1



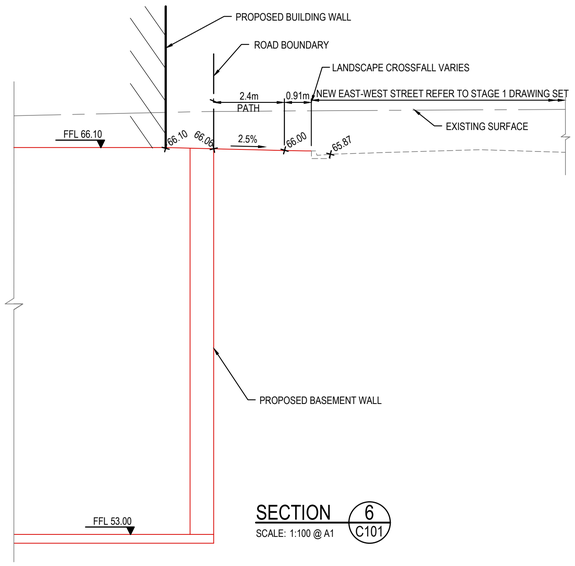
SECTION 3 C101
SCALE: 1:100 @ A1



SECTION 4 C101
SCALE: 1:100 @ A1



SECTION 5 C101
SCALE: 1:100 @ A1



SECTION 6 C101
SCALE: 1:100 @ A1

0 2 4 6 8 10m
2 1
SCALE 1:100

FOR DA ONLY

SURVEY INFORMATION
SURVEYED BY USHER & COMPANY
DATUM: RL 64.038 AHD
ORIGIN OF LEVELS:PM 29280

REVISION	AMENDMENT	DRAWN	DESIGNED	DATE
02	RE-ISSUED FOR DA ONLY	LC	FZ	03.06.2021
01	ISSUED FOR DA ONLY	IK	FZ	01.04.2020

REVISION	AMENDMENT	DRAWN	DESIGNED	DATE

Client
RESTIFA & PARTNERS PTY LTD
RESTIFA & PARTNERS

Architect
ZHINAR ARCHITECTS PTY LTD

This drawing and design remains the property of Henry & Hymas and may not be copied in whole or in part without the prior written approval of Henry & Hymas.

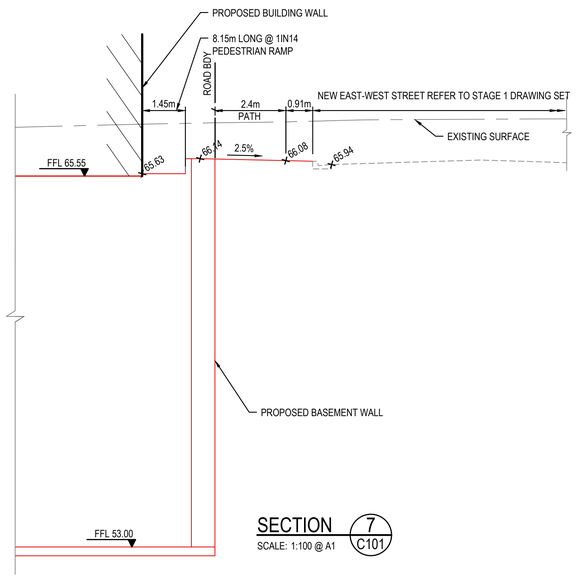
Suite 2.01
828 Pacific Highway
Gordon NSW 2072
Telephone +61 2 9417 8400
Facsimile +61 2 9417 8337
Email email@hhconsult.com.au
Web www.henryandhymas.com.au
henry&hymas

Project
CUDGEGONG TOWN CENTRE
CUDGEGONG ROAD, ROUSE HILL NSW

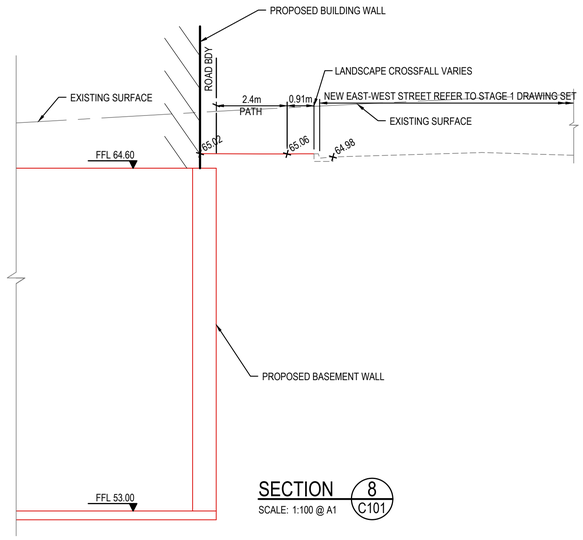
Title
TYPICAL SECTIONS
SHEET 1 OF 5

Drawn	Designed	Date
L.Caha	L.Caha	JUNE 2017
Checked	Approved	Scale
T.Dempsey	A.Francis	1:100 @ A1

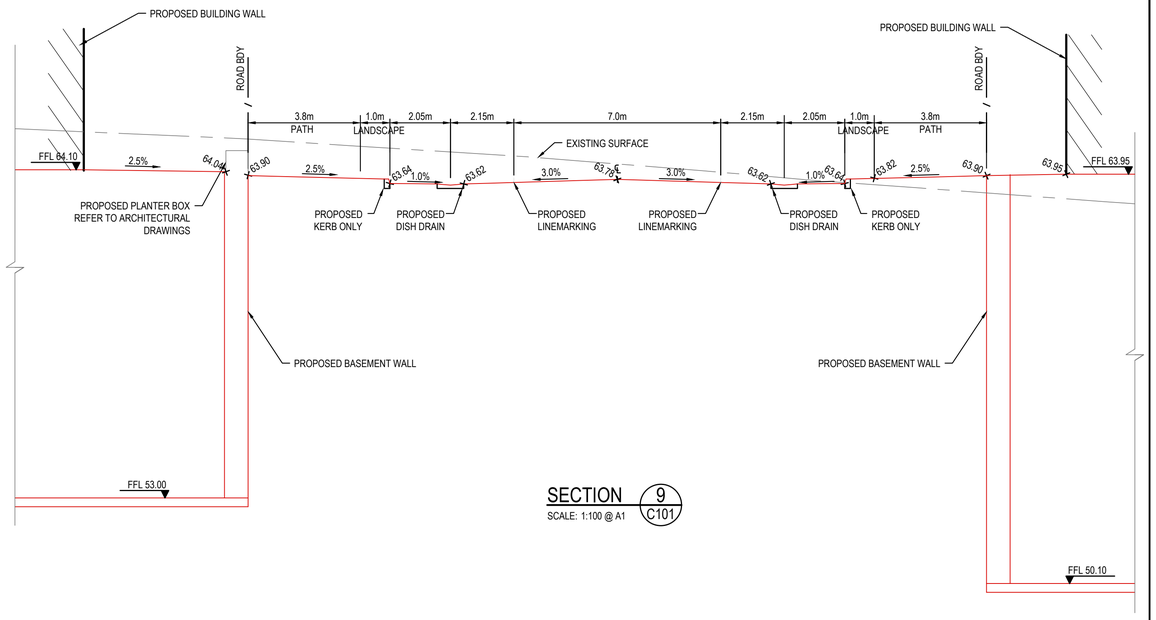
Drawing number: 15A06_D1_C150
Revision: 02



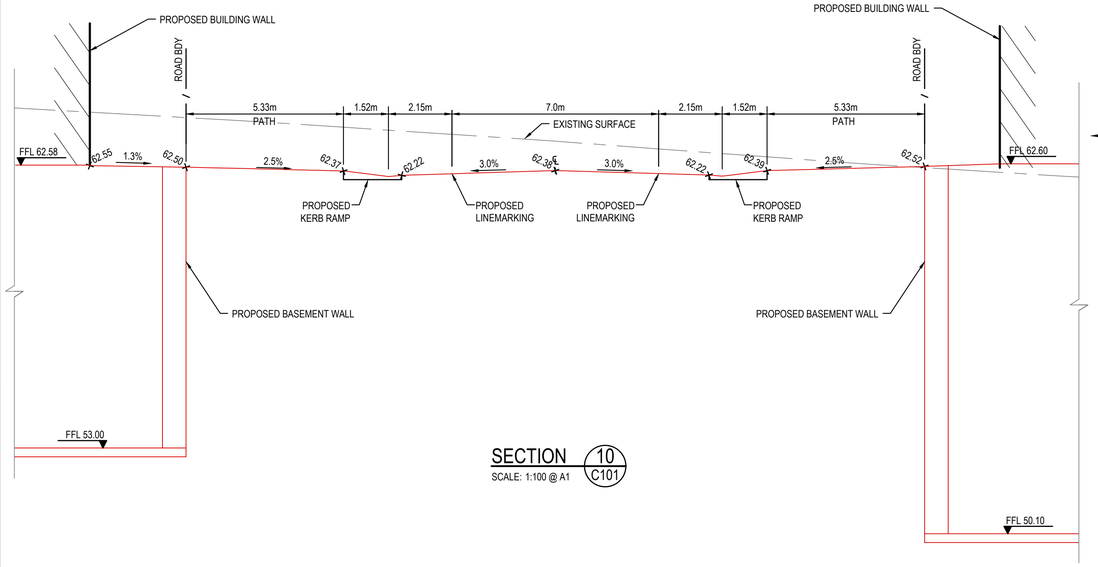
SECTION 7 C101
SCALE: 1:100 @ A1



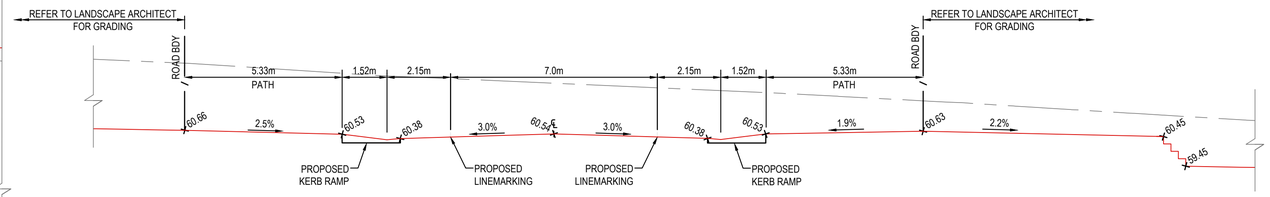
SECTION 8 C101
SCALE: 1:100 @ A1



SECTION 9 C101
SCALE: 1:100 @ A1



SECTION 10 C101
SCALE: 1:100 @ A1



SECTION 11 C101
SCALE: 1:100 @ A1

0 2 4 6 8 10m
2 1
SCALE 1:100

FOR DA ONLY

SURVEY INFORMATION
SURVEYED BY USHER & COMPANY
DATUM: RL 64.038 AHD
ORIGIN OF LEVELS:PM 29280

REVISION	AMENDMENT	DRAWN	DESIGNED	DATE
03	RE-ISSUED FOR DA ONLY	LC	FZ	12.07.2021
02	RE-ISSUED FOR DA ONLY	LC	FZ	03.06.2021
01	ISSUED FOR DA ONLY	IK	FZ	01.04.2020

Client
RESTIFA & PARTNERS PTY LTD

Architect
ZHINAR ARCHITECTS PTY LTD

This drawing and design remains the property of Henry & Hymas and may not be copied in whole or in part without the prior written approval of Henry & Hymas.

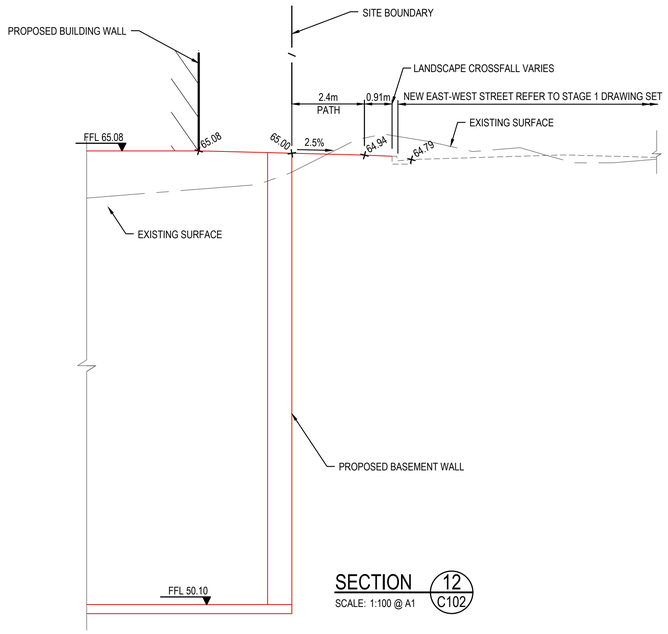
Suite 2.01
828 Pacific Highway
Gordon NSW 2072
Telephone
+61 2 9417 8400
Facsimile
+61 2 9417 8337
Email
email@hhconsult.com.au
Web
www.henryandhymas.com.au
henry&hymas

Project
CUDGEGONG TOWN CENTRE
CUDGEGONG ROAD, ROUSE HILL NSW

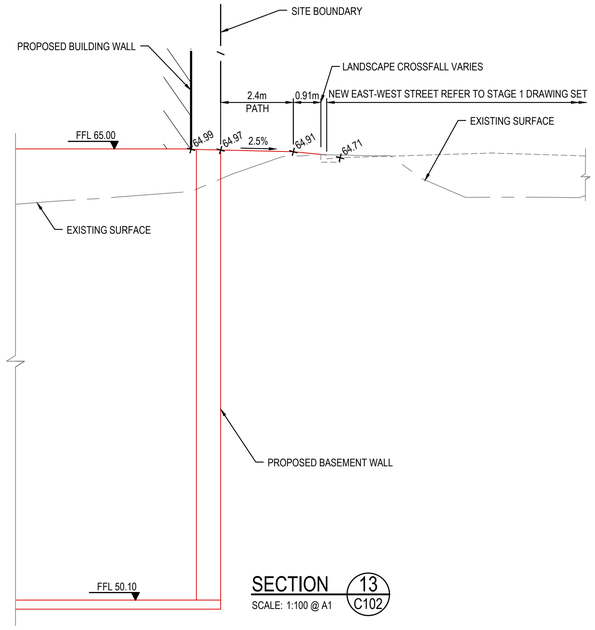
Title
TYPICAL SECTIONS
SHEET 2 OF 5

Drawn	Designed	Date
L.Caha	L.Caha	JUNE 2017
Checked	Approved	Scale
T.Dempsey	A.Francis	1:100 @ A1

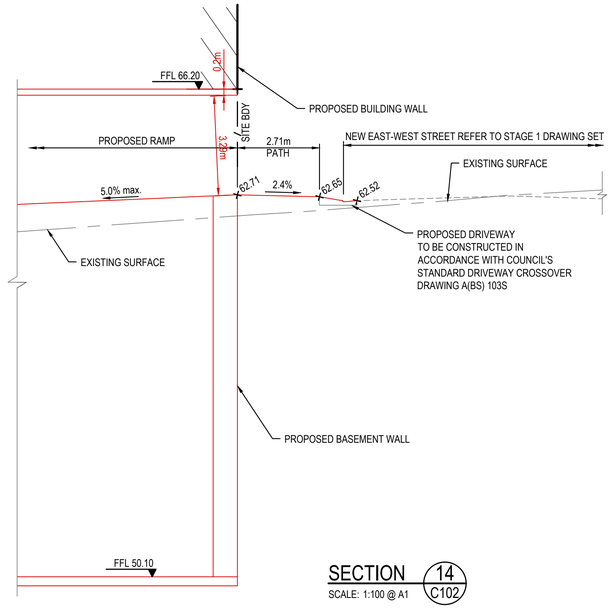
Drawing number: 15A06_D1_C151
Revision: 0



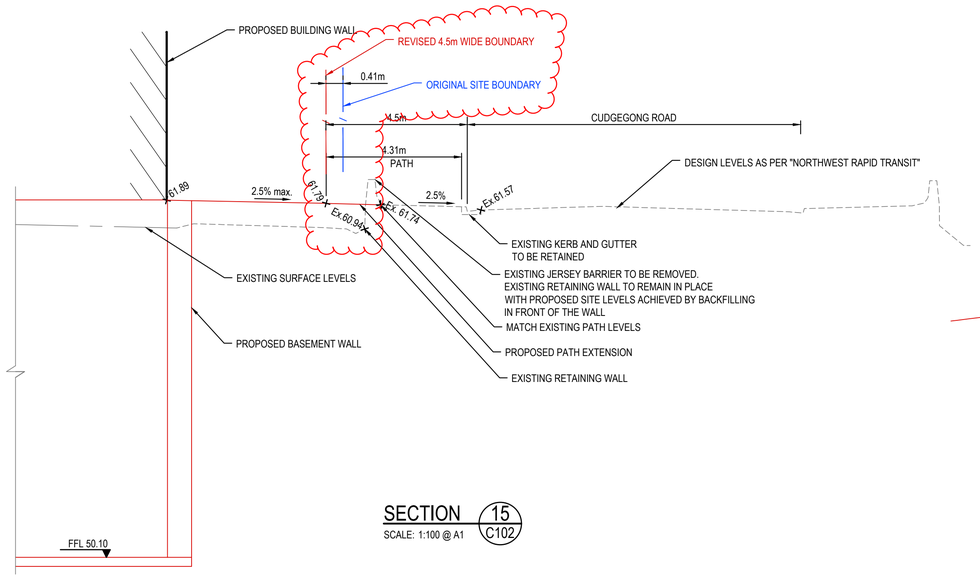
SECTION 12 C102
SCALE: 1:100 @ A1



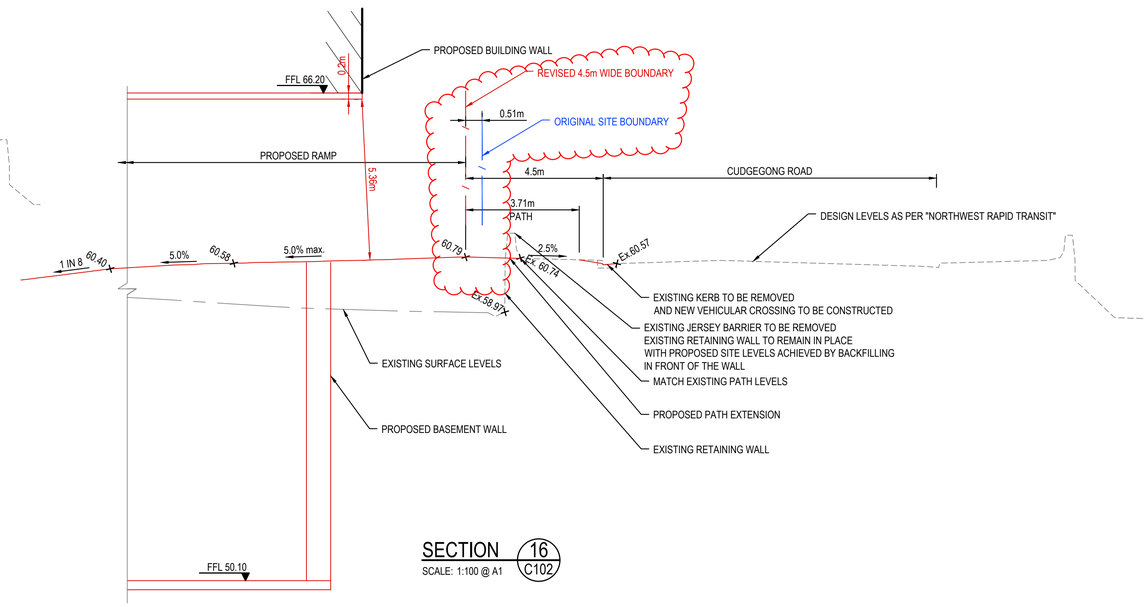
SECTION 13 C102
SCALE: 1:100 @ A1



SECTION 14 C102
SCALE: 1:100 @ A1



SECTION 15 C102
SCALE: 1:100 @ A1



SECTION 16 C102
SCALE: 1:100 @ A1

0 2 4 6 8 10m
2 1
SCALE 1:100

FOR DA ONLY

SURVEY INFORMATION
SURVEYED BY USHER & COMPANY
DATUM: RL 64.038 AHD
ORIGIN OF LEVELS:PM 29280

REVISION	AMENDMENT	DRAWN	DESIGNED	DATE
02	RE-ISSUED FOR DA ONLY	LC	FZ	03.06.2021
01	ISSUED FOR DA ONLY	IK	FZ	01.04.2020

REVISION	AMENDMENT	DRAWN	DESIGNED	DATE

Client
RESTIFA & PARTNERS PTY LTD

Architect
ZHINAR ARCHITECTS PTY LTD

This drawing and design remains the property of Henry & Hymas and may not be copied in whole or in part without the prior written approval of Henry & Hymas.

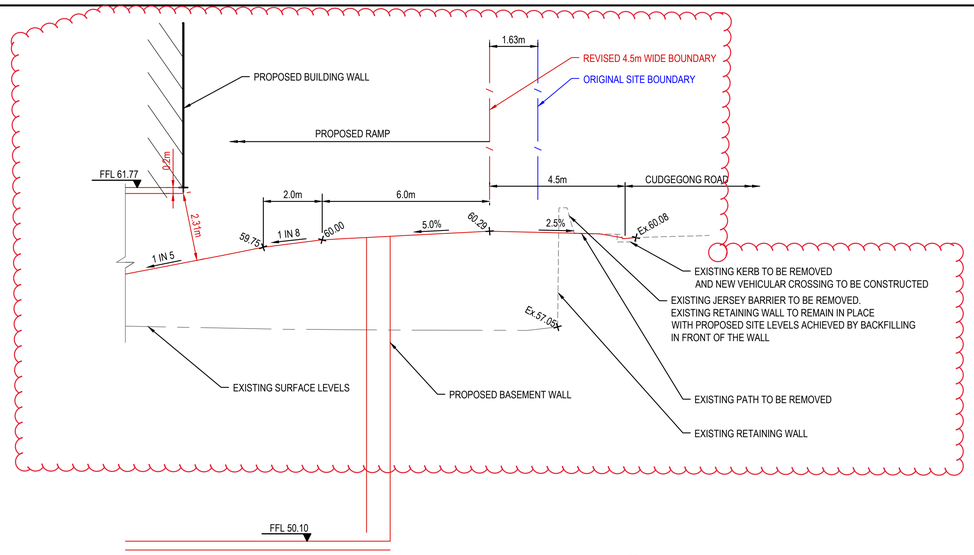
Suite 2.01
828 Pacific Highway
Gordon NSW 2072
Telephone
+61 2 9417 8400
Facsimile
+61 2 9417 8337
Email
email@hhconsult.com.au
Web
www.henryandhymas.com.au
henry&hymas

Project
CUDGEGONG TOWN CENTRE
CUDGEGONG ROAD, ROUSE HILL NSW

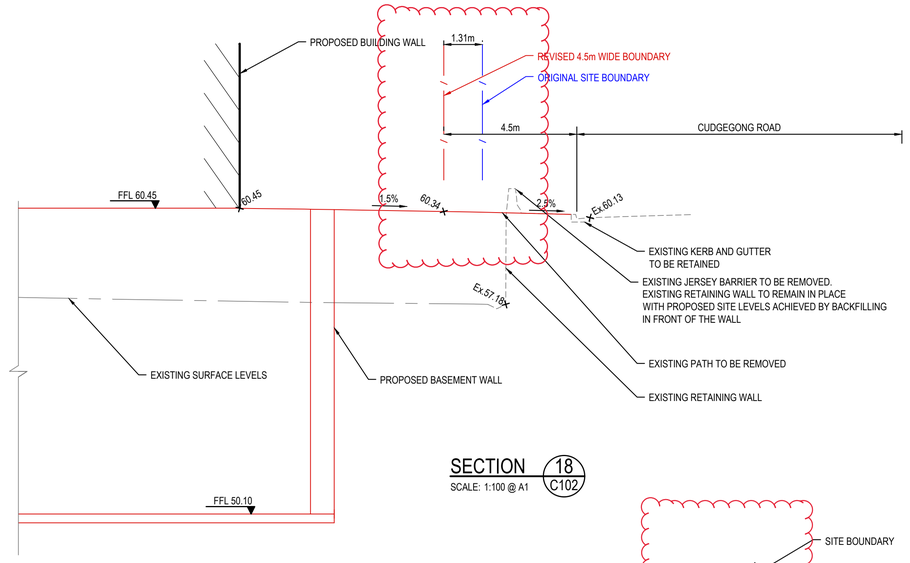
Title
TYPICAL SECTIONS
SHEET □ OF 5

Drawn	Designed	Date
L.Caha	L.Caha	□UNE 2017
Checked	Approved	Scale
T.Dempsey	A.Francis	1:100 @ A1

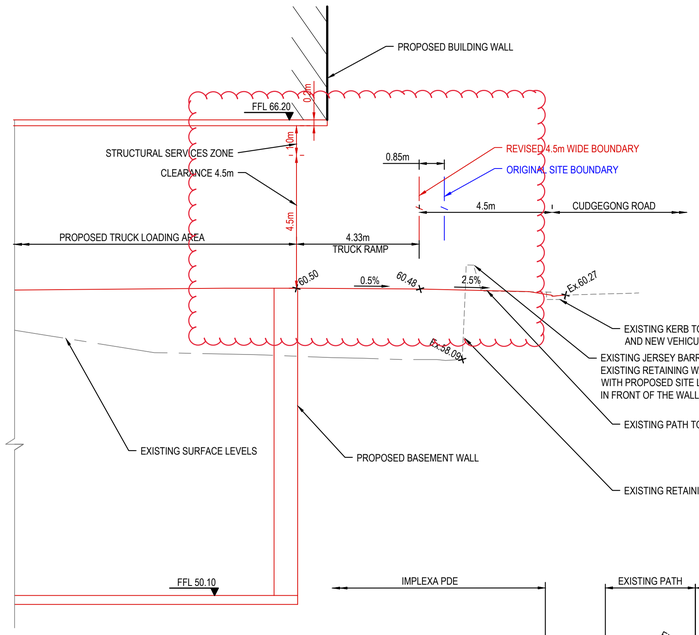
Drawing number 15A06_D1_C152
Revision 02



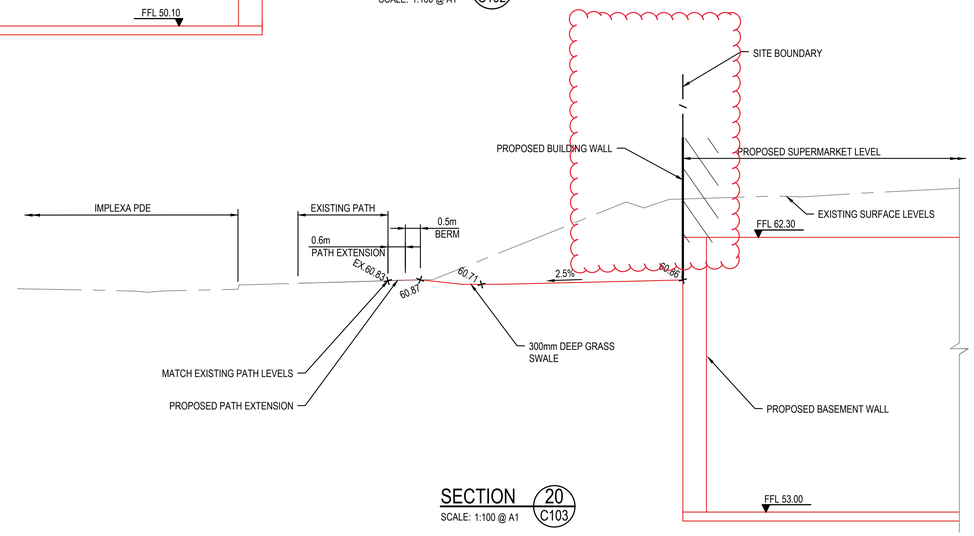
SECTION 19 C102
SCALE: 1:100 @ A1



SECTION 18 C102
SCALE: 1:100 @ A1

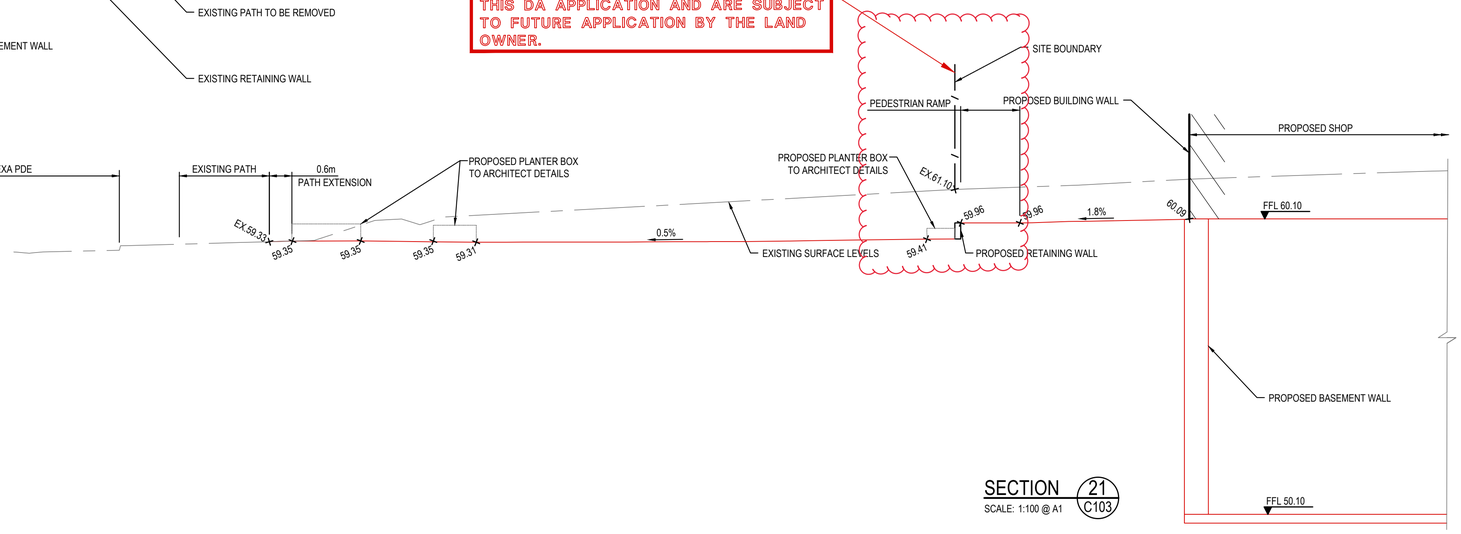


SECTION 17 C102
SCALE: 1:100 @ A1



SECTION 20 C103
SCALE: 1:100 @ A1

THE WORKS ON THE SOUTHERN SIDE OF THE SITE BOUNDARY ARE ON THE LANDCOM LAND. THEY ARE NOT PART OF THIS DA APPLICATION AND ARE SUBJECT TO FUTURE APPLICATION BY THE LAND OWNER.



SECTION 21 C103
SCALE: 1:100 @ A1

0 2 4 6 8 10m
2 1
SCALE 1:100

FOR DA ONLY

SURVEY INFORMATION
SURVEYED BY USHER & COMPANY
DATUM: RL 64.038 AHD
ORIGIN OF LEVELS:PM 29280

REVISION	AMENDMENT	DRAWN	DESIGNED	DATE
04	RE-ISSUED FOR DA ONLY	LC	TD	12.07.2021
03	RE-ISSUED FOR DA ONLY	LC	TD	03.06.2021
02	RE-ISSUED FOR DA ONLY	MS	TD	27.07.2020
01	ISSUED FOR DA ONLY	IK	FZ	01.04.2020

Client
RESTIFA & PARTNERS PTY LTD
RESTIFA & PARTNERS

Architect
ZHINAR ARCHITECTS PTY LTD

This drawing and design remains the property of Henry & Hymas and may not be copied in whole or in part without the prior written approval of Henry & Hymas.

Suite 2.01
828 Pacific Highway
Gordon NSW 2072
Global-Mark.com.au
Telephone +61 2 9417 8400
Facsimile +61 2 9417 8337
Email email@hhconsult.com.au
Web www.henryandhymas.com.au
henry&hymas

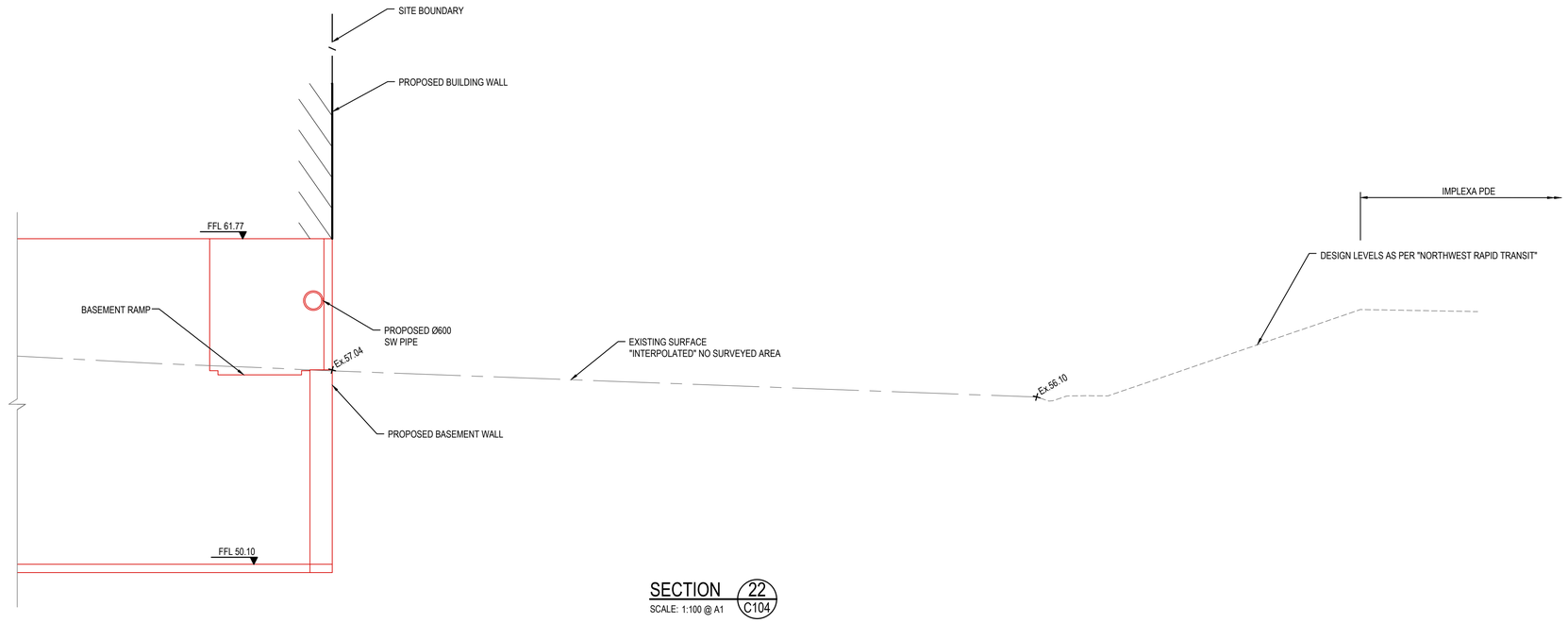
Project
CUDGEGONG TOWN CENTRE
CUDGEGONG ROAD, ROUSE HILL NSW

Title
TYPICAL SECTIONS
SHEET OF 5

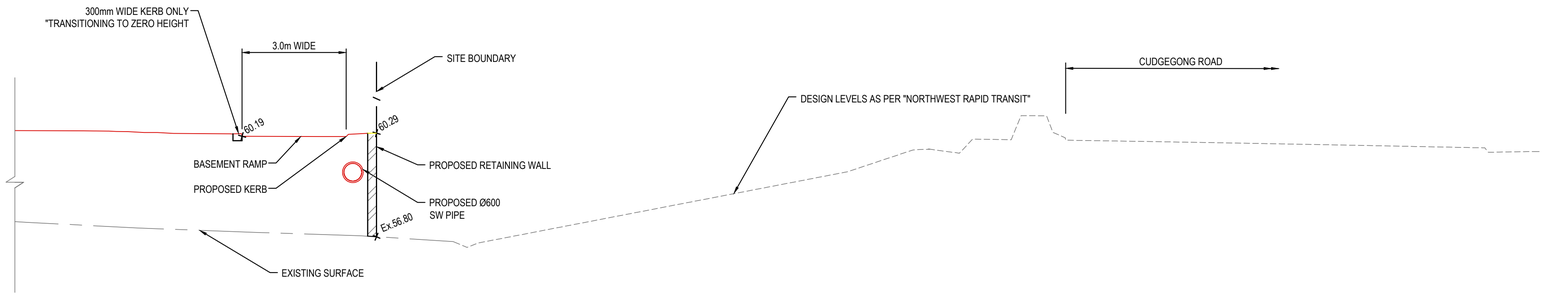
Drawn	Designed	Date
L.Caha	L.Caha	JUNE 2017
Checked	Approved	Scale
T.Dempsey	A.Francis	1:100 @ A1

Drawing number
15A06_D1_C15

Revision
0



SECTION 22 / C104
SCALE: 1:100 @ A1



SECTION 23 / C104
SCALE: 1:100 @ A1

0 2 4 6 8 10m
2 1
SCALE 1:100

FOR DA ONLY

SURVEY INFORMATION
SURVEYED BY USHER & COMPANY
DATUM: RL 64.038 AHD
ORIGIN OF LEVELS:PM 29280

REVISION	AMENDMENT	DRAWN	DESIGNED	DATE
02	RE-ISSUED FOR DA ONLY	LC	TD	12.07.2021
01	ISSUED FOR DA ONLY	LC	TD	03.06.2021

REVISION	AMENDMENT	DRAWN	DESIGNED	DATE

Client
RESTIFA & PARTNERS PTY LTD

Architect
ZHINAR ARCHITECTS PTY LTD

This drawing and design remains the property of Henry & Hymas and may not be copied in whole or in part without the prior written approval of Henry & Hymas.

Suite 2.01
828 Pacific Highway
Gordon NSW 2072
Telephone +61 2 9417 8400
Facsimile +61 2 9417 8337
Email email@hhconsult.com.au
Web www.henryandhymas.com.au
henry&hymas

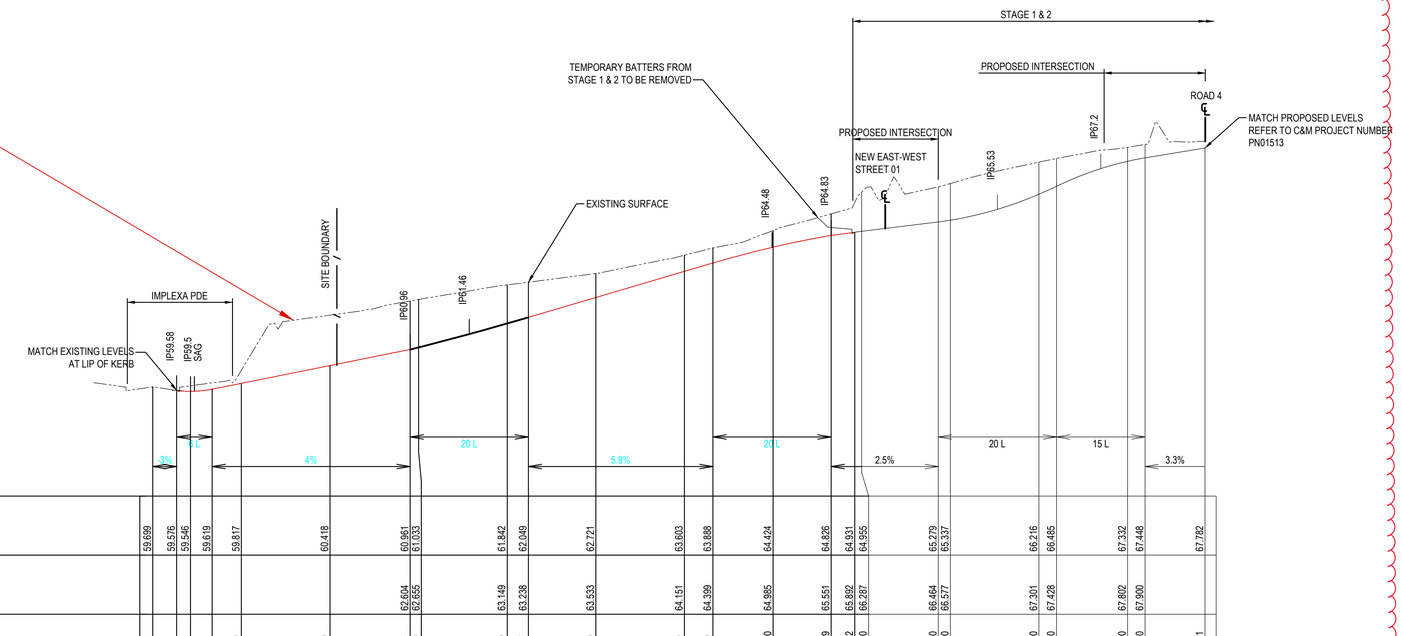
Project
CUDGEGONG TOWN CENTRE
CUDGEGONG ROAD, ROUSE HILL NSW

Title
TYPICAL SECTIONS
SHEET 5 OF 5

Drawn	Designed	Date
L.Caha	L.Caha	JUNE 2017
Checked	Approved	Scale
T.Dempsey	A.Francis	1:100 @ A1

Drawing number: 15A06_D1_C15
Revision: 02

THE WORKS ON THE SOUTHERN SIDE OF THE SITE BOUNDARY ARE ON THE LANDCOM LAND. THEY ARE NOT PART OF THIS DA APPLICATION AND ARE SUBJECT TO FUTURE APPLICATION BY THE LAND OWNER.



DESIGN LEVELS	59.699	59.576	59.546	59.619	59.817	60.418	60.961	61.033	61.842	62.049	62.721	63.603	63.888	64.424	64.826	64.931	64.955	65.279	65.337	66.216	66.485	67.332	67.448	67.782
EXISTING LEVELS							62.604	62.655	63.149	63.238	63.533	64.151	64.399	64.985	65.551	65.892	66.287	66.464	66.577	67.301	67.428	67.802	67.900	
CHAINAGE	0.000	4.051	6.387	10.051	15.000	30.000	43.577	45.000	60.000	63.577	75.000	90.000	94.829	105.000	114.829	118.832	120.000	132.970	135.000	150.000	152.970	165.000	167.970	178.121

MAIN STREET LONGITUDINAL SECTION

HORIZONTAL SCALE 1:500 @ A1
VERTICAL SCALE 1:100 @ A1

0 2 4 6 8 10m
2 1
SCALE 1:100

0 10 20 30 40 50m
10 8 6 4 2
SCALE 1:500

FOR DA ONLY

SURVEY INFORMATION
SURVEYED BY USHER & COMPANY
DATUM: RL 64.038 AHD
ORIGIN OF LEVELS:PM 29280

REVISION	AMENDMENT	DRAWN	DESIGNED	DATE	REVISION	AMENDMENT	DRAWN	DESIGNED	DATE
03	RE-ISSUED FOR DA ONLY	LC	TD	12.07.2021					
02	RE-ISSUED FOR DA ONLY	MS	TD	27.07.2020					
01	ISSUED FOR DA ONLY	IK	FZ	01.04.2020					

Client
RESTIFA & PARTNERS PTY LTD
RESTIFA & PARTNERS

Architect
ZHINAR ARCHITECTS PTY LTD

This drawing and design remains the property of Henry & Hymas and may not be copied in whole or in part without the prior written approval of Henry & Hymas.

Suite 2.01
828 Pacific Highway
Gordon NSW 2072
Global-Mark.com.au®
Telephone +61 2 9417 8400
Facsimile +61 2 9417 8337
Email email@hhconsult.com.au
Web www.henryandhymas.com.au
henry&hymas

Project
CUDGEGONG TOWN CENTRE
CUDGEGONG ROAD, ROUSE HILL NSW

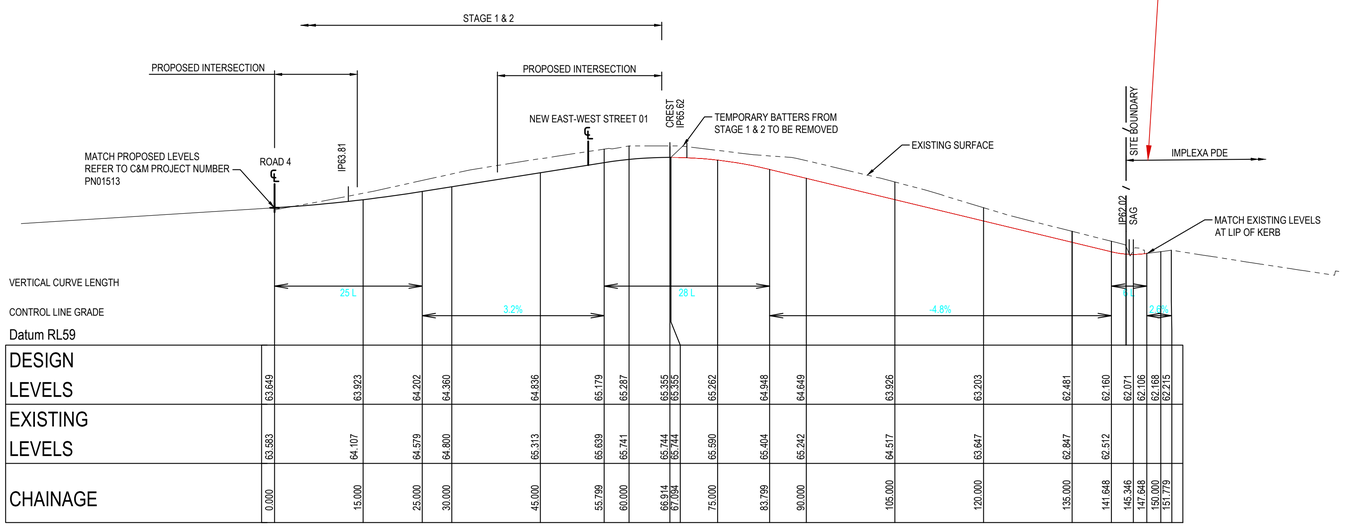
Title
MAIN STREET LONGITUDINAL SECTION

Drawn	Designed	Date
L.Caha	L.Caha	JUNE 2017
Checked	Approved	Scale
T.Dempsey	A.Francis	AS NOTED @ A1

Drawing number
15A06_D1_C180

Revision
0

THE WORKS ON THE SOUTHERN SIDE OF THE SITE BOUNDARY ARE ON THE LANDCOM LAND. THEY ARE NOT PART OF THIS DA APPLICATION AND ARE SUBJECT TO FUTURE APPLICATION BY THE LAND OWNER.



DESIGN LEVELS	63.649	63.923	64.202	64.360	64.836	65.179	65.287	65.355	65.355	65.262	64.948	64.649	63.926	63.203	62.481	62.160	62.071	62.106	62.168	62.215
EXISTING LEVELS	63.583	64.107	64.579	64.800	65.313	65.639	65.741	65.744	65.744	65.590	65.404	65.242	64.517	63.847	62.847	62.512				
CHAINAGE	0.000	15.000	25.000	30.000	45.000	55.799	60.000	66.914	67.094	75.000	83.799	90.000	105.000	120.000	135.000	141.648	145.346	147.648	150.000	151.779

NEW NORTH-SOUTH STREET - LONGITUDINAL SECTION

HORIZONTAL SCALE 1:500 @ A1
VERTICAL SCALE 1:100 @ A1

0 2 4 6 8 10m
2 1
SCALE 1:100

0 10 20 30 40 50m
10 8 6 4 2
SCALE 1:500

FOR DA ONLY

SURVEY INFORMATION
SURVEYED BY USHER & COMPANY
DATUM: RL 64.038 AHD
ORIGIN OF LEVELS:PM 29280

REVISION	AMENDMENT	DRAWN	DESIGNED	DATE
03	RE-ISSUED FOR DA ONLY	LC	TD	12.07.2021
02	RE-ISSUED FOR DA ONLY	MS	TD	27.07.2020
01	ISSUED FOR DA ONLY	IK	FZ	01.04.2020

Client
RESTIFA & PARTNERS PTY LTD
RESTIFA & PARTNERS

Architect
ZHINAR ARCHITECTS PTY LTD

This drawing and design remains the property of Henry & Hymas and may not be copied in whole or in part without the prior written approval of Henry & Hymas.

Suite 2.01
828 Pacific Highway
Gordon NSW 2072
Global-Mark.com.au®
Telephone +61 2 9417 8400
Facsimile +61 2 9417 8337
Email email@hhconsult.com.au
Web www.henryandhymas.com.au
henry&hymas

Project
CUDGEGONG TOWN CENTRE
CUDGEGONG ROAD, ROUSE HILL NSW

Title
NEW NORTH-SOUTH STREET
LONGITUDINAL SECTION

Drawn	Designed	Date
L.Caha	L.Caha	JUNE 2017
Checked	Approved	Scale
T.Dempsey	A.Francis	AS NOTED @ A1

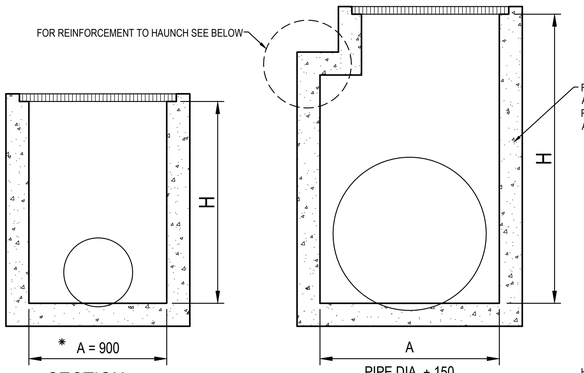
Drawing number: 15A06_D1_C181
Revision: 0

TYPICAL PIT CHAMBER SIZES

IT IS THE CONTRACTORS RESPONSIBILITY TO SELECT PIT CHAMBER SIZE WITH REGARDS TO PIPE SIZE, DEPTH TO INVERT AND SKEW ANGLE. REFER SKETCHES BELOW.

1. SELECT PIT CHAMBER USING THE STEPS BELOW:
2. SELECT PIT CHAMBER SIZE DEPENDING ON THE PIPE DIAMETERS.
3. CHECK PIT CHAMBER SIZE TO SATISFY DEPTH TO INVERT REQUIREMENTS.
   CHECK PIT CHAMBER DIMENSIONS TO SATISFY THE SKEW ANGLE IN THE TABLE.

FOR B = 600mm - MAX. SIDE ENTRY PIPE AT 45° SKEW = 225mm
FOR B = 900mm - MAX. SIDE ENTRY PIPE AT 45° SKEW = 375mm
FOR B = 1200mm - MAX. SIDE ENTRY PIPE AT 45° SKEW = 600mm
FOR B = 1500mm - MAX. SIDE ENTRY PIPE AT 45° SKEW = 825mm
FOR B = 1900mm - MAX. SIDE ENTRY PIPE AT 45° SKEW = 1050mm



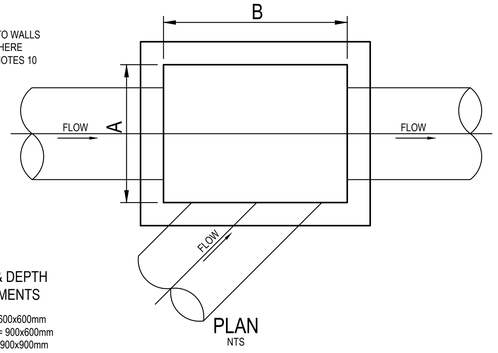
SECTION
NTS

SECTION
NTS

*A = 600 FOR PIPES UP TO 375 DIA.

1 PIT CHAMBER DIMENSIONS FOR PIPES UP TO 600 DIA.

1 PIT CHAMBER FOR PIPES GREATER THAN 600 DIA.



PLAN
NTS

2 PIT SIZE & DEPTH REQUIREMENTS

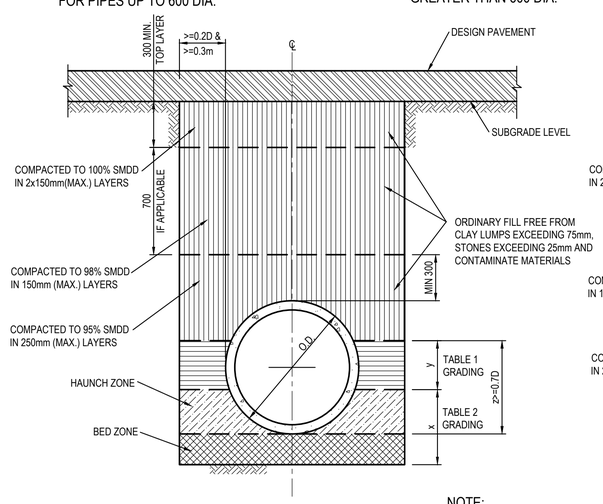
H = 0-900mm - AxB = 600x600mm
H = 900-1200mm - AxB = 900x600mm
H = >1200mm - AxB = 900x900mm

3 PIT CHAMBER FOR SIDE ENTRY ON SKEW

TABLE 1	
SIEVE SIZE (MM)	WEIGHT PASISNG (%)
75.0	100
9.5	100 TO 50
2.36	100 TO 30
0.60	50 TO 15
0.075	25 TO 0

TABLE 2	
SIEVE SIZE (MM)	WEIGHT PASISNG (%)
19.0	100
2.36	100 TO 50
0.60	90 TO 20
0.30	60 TO 10
0.15	25 TO 0
0.075	10 TO 0

TABLE 3				
SUPPORT TYPE	BED ZONE X	HAUNCH ZONE Y	BED AND HAUNCH ZONES COMPACTION	MAX BEDDING FACTOR
HS1	100 IF D<=1500, OR 150 IF D>=1500	0.1D	50	2.0
HS2		0.3D	60	2.5
HS3		0.3D	70	4.0

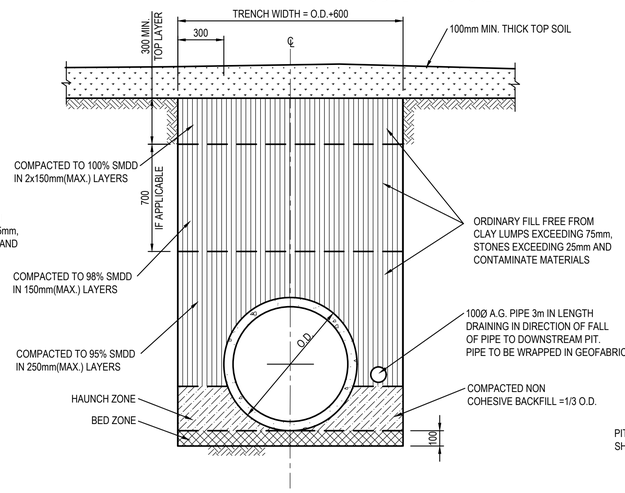


PIPE TRENCH INSTALLATION BENEATH PAVEMENT

(HS SUPPORT TO BE USED UNDER ROADWAY)

SCALE 1:20

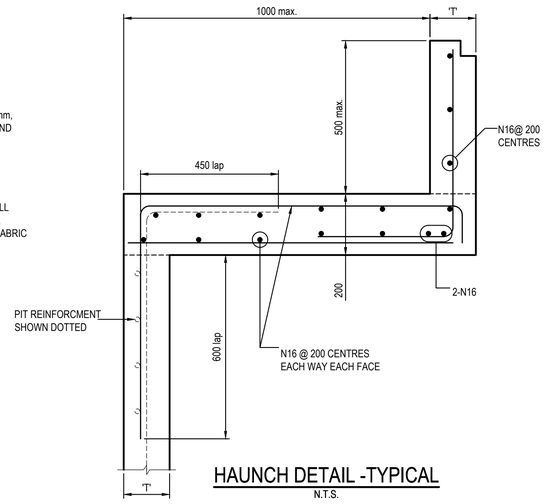
NOTE:
TYPE HS2 TO BE USED AS A TYPICAL SUPPORT FOR TRENCHES UNDER ROADWAY UNLESS SPECIFIED SEPERATELY



PIPE TRENCH INSTALLATION IN LANDSCAPE AREAS

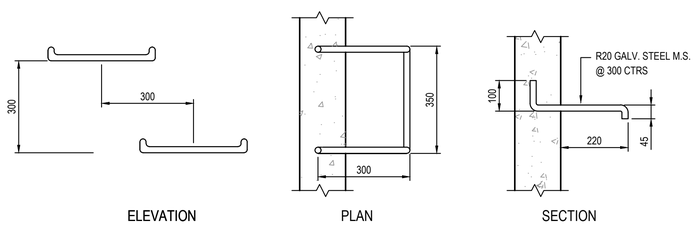
(H1 & H2 SUPPORT)

SCALE 1:20



HAUNCH DETAIL -TYPICAL

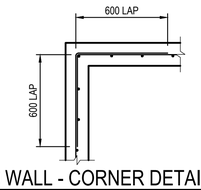
N.T.S.



ELEVATION PLAN SECTION

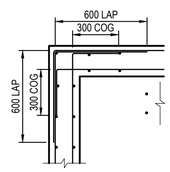
TYPICAL STEP IRON DETAIL

SCALE 1:10



150 WALL - CORNER DETAIL

SCALE 1:20



200 WALL - CORNER DETAIL

SCALE 1:20

PIT LID SCHEDULE

PIT/STRUCTURE NUMBER	DESCRIPTION
F-2, L-1, L-2	INLET PIT WITH 450x450 HINGED LIGHT DUTY GRATED LID CLASS "B" IN ACCORDANCE WITH BLACKTOWN CITY COUNCIL'S REQUIREMENTS.
K-1, K-2, K-3, F-3, F-4, L-3, F-5, E14-1a	INLET PIT WITH 600x600 HINGED LIGHT DUTY GRATED LID CLASS "B" IN ACCORDANCE WITH BLACKTOWN CITY COUNCIL'S REQUIREMENTS.
L-4, F-1, D01-1	INLET PIT WITH 900x900 HINGED LIGHT DUTY GRATED LID CLASS "B" IN ACCORDANCE WITH BLACKTOWN CITY COUNCIL'S REQUIREMENTS.
H-8, H-3, H-4, H-5, H-1, H-2, G-1, H-6, H-9, H-10, I-1, J-1, J-2, J-3, J-4, J-5, J-6, J-7	INLET PIT WITH 450x450 HINGED HEAVY DUTY GRATED LID CLASS "D" IN ACCORDANCE WITH BLACKTOWN CITY COUNCIL'S REQUIREMENTS.
G-7, G-2, G-3, H-7, G-10, G-11, I-2, I-3, I-12, I-13, J-8	INLET PIT WITH 600x600 HINGED HEAVY DUTY GRATED LID CLASS "D" IN ACCORDANCE WITH BLACKTOWN CITY COUNCIL'S REQUIREMENTS.
G-12, G-13, G-6, G-8, G-9, G-4, G-5, G-14, I-4, I-5, I-6, I-7, I-8, I-9, I-10, I-11, I-14, I-15, R-1	INLET PIT WITH 900x900 HINGED HEAVY DUTY GRATED LID CLASS "D" IN ACCORDANCE WITH BLACKTOWN CITY COUNCIL'S REQUIREMENTS.
P-1	900x900 HINGED HEAVY DUTY "V" SLOPE DRAIN WITH GRATED LID CLASS "D" O BE FITTED WITH 200 MICRON OCEANGUARDS IIN ACCORDANCE WITH BLACKTOWN CITY COUNCIL'S REQUIREMENTS.
GD-5, GD-7, GD-8, GD-9, GD-6, GD-11, GD-12, GD-13, GD-14, GD-15, GD-16	100mm LIGHT DUTY GRATED TRENCH DRAIN CLASS "B" ACCORDANCE WITH BLACKTOWN CITY COUNCIL REQUIREMENTS OR EQUAL APPROVED EQUIVALENT
GD-1, GD-2, GD-3, GD-10	200mm HEAVY DUTY GRATED TRENCH DRAIN CLASS "D" ACCORDANCE WITH BLACKTOWN CITY COUNCIL REQUIREMENTS OR EQUAL APPROVED EQUIVALENT
GD-4	300mm LIGHT DUTY GRATED TRENCH DRAIN CLASS "A"WITH HEEL PROOF GRATE ACCORDANCE WITH BLACKTOWN CITY COUNCIL REQUIREMENTS OR EQUAL APPROVED EQUIVALENT
P-2	ON GRADE KERB INLET PIT WITH 1.8m LINTEL AND HEAVY DUTY GRATED LID CLASS "D" IN ACCORDANCE WITH BLACKTOWN CITY COUNCIL'S REQUIREMENTS OR EQUAL APPROVED EQUIVALENT
A-4, A-5, E-1, E-2, E-3	ON GRADE KERB INLET PIT WITH 2.4m LINTEL AND HEAVY DUTY GRATED LID CLASS "D" TO BE FITTED WITH 200 MICRON OCEANGUARDS IN ACCORDANCE WITH BLACKTOWN CITY COUNCIL'S REQUIREMENTS OR EQUAL APPROVED EQUIVALENT
A-3, A-2, D-1, C-1, A-1, B-1	900x900 HINGED HEAVY DUTY "V" SLOPE DRAIN WITH GRATED LID CLASS "D" TO BE FITTED WITH 200 MICRON OCEANGUARDS IN ACCORDANCE WITH BLACKTOWN CITY COUNCIL'S REQUIREMENTS.

DRAINAGE NOTES:

1. ALL STORMWATER WORK TO COMPLY WITH AS 3500 PART 3.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE MINIMUM COVER OF 600mm ON ALL PIPES.
3. PROTECTION OF PIPES DUE TO LOADS EXCEEDING W7 WHEEL LOAD SHALL BE THE CONTRACTOR'S RESPONSIBILITY.
4. BEDDING TYPE SHALL BE TYPE H2 FOR RCP. WHERE NECESSARY THE OVERLAY ZONE SHALL BE REDUCED TO ACCOMMODATE PAVEMENT REQUIREMENTS. REFER TO THIS DRAWING FOR DETAILS.
5. MINIMUM COVER OVER EXISTING PIPES FOR PROTECTION DURING CONSTRUCTION SHALL BE 800mm.
6. NO CONSTRUCTION LOADS SHALL BE APPLIED TO PLASTIC PIPES.
7. FINISHED SURFACE LEVELS SHOWN ON LAYOUT PLAN DRGS TAKE PRECEDENCE OVER DESIGN DRAINAGE SURFACE LEVELS.
8. ALL PIPES UP TO AND INCLUDING 300 DIA. SHALL BE SOLVENT OR RUBBER RING JOINTED PVC CLASS SH PIPE TO AS1260. ALL OTHER PIPES TO BE RCP USING CLASS 2 RUBBER RING JOINTED PIPE. HARDIES FRC PIPE MAY BE USED IN LIEU OF RCP IF DESIRED IN GROUND. ALL AERIAL PIPES TO BE PVC CLASS SH.
9. ALL PITS IN NON TRAFFICABLE AREAS TO BE PREFABRICATED POLYESTER CONCRETE "POLYCRETE" WITH "LIGHT DUTY" CLASS B GALV. MILD STEEL GRATING AND FRAME.
   ALL PITS IN TRAFFICABLE AREAS (CLASS "D" LOADING MAX) TO HAVE 150mm THICK CONCRETE WALLS AND BASE CAST IN-SITU f'c=32 MPa, REINFORCED WITH N12-200 BOTH LOADING WAYS CENTRALLY PLACE .U.N.O. ON SEPARATE DESIGN DRAWINGS IN THIS SET. GALV.MILD STEEL GRATING AND FRAME TO SUIT DESIGN LOADING. PRECAST PITS, RECTANGULAR OR CIRCULAR IN SHAPE, MAY BE USED IN LIEU AND SHALL COMPLY WITH RELEVANT AUSTRALIAN STANDARDS.
10. ALL PITS, GRATINGS AND FRAMES SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURERS SPECIFICATION AND TO BE IN ACCORDANCE WITH AS3500.3 AND AS3996.
11. PIT CHAMBER DIMENSIONS ARE TO BE SELECTED TO SATISFY THE FOLLOWING:
    - PIPE SIZE
    - DEPTH TO INVERT
    - SKEW ANGLE
    REFER TYPICAL PIT CHAMBER DETAILS BELOW
    IF PIT LID SIZE IS SMALLER THAN THE PIT CHAMBER SIZE THEN THE PIT LID IS TO BE CONSTRUCTED ON THE CORNER OF THE PIT CHAMBER WITH THE STEP IRONS DIRECTLY BELOW. ALTERNATIVELY THE PIT LID TO BE USED, IS TO BE THE SAME SIZE AS THE PIT CHAMBER.
12. FOR PIPE SIZES GREATER THAN Ø300mm, PIT FLOOR IS TO BE BENCHED TO FACILITATE FLOW.
13. GALVANISED STEP IRONS SHALL BE PROVIDED AT 300 CTS FOR PITS HAVING A DEPTH EXCEEDING 1200mm. SUBSOIL DRAINAGE PIPE SHALL BE PROVIDED IN PIPE TRENCHES ADJACENT TO INLET PIPES. (MINIMUM LENGTH 3m).
14. ALL SUBSOIL PIPES SHALL BE 100mm SLOTTED PVC IN A FILTER SOCK, UNO, WITH 3m INSTALLED UPSTREAM OF ALL PITS.
15. ALL PIPEWORK SHALL HAVE MINIMUM DIAMETER 100.
16. MINIMUM GRADE FOR ROOFWATER DRAINAGE LINES SHALL BE 1%.
17. ALL PIPE JUNCTIONS AND TAPER UP TO AND INCLUDING 300 DIA. SHALL BE VIA PURPOSE MADE FITTINGS.
18. ALL ROOF DRAINAGE TO BE INSTALLED IN ACCORDANCE WITH AS3500, PART 3. TESTING TO BE UNDERTAKEN AND REPORTS PROVIDED TO THE SUPERINTENDENT.
19. LOCATION OF THE DIRECT DOWN PIPE CONNECTIONS MAY VARY ON SITE TO SUIT SITE CONDITIONS, WHERE CONNECTION SHOWN ON LONG SECTIONS CHAINAGES ARE INDICATIVE ONLY.
20. PITS IN EXCESS OF 1.5 m DEEP TO HAVE WALL AND FLOOR THICKNESS INCREASED TO 200mm. REINFORCED WITH N12@200 CTS CENTRALLY PLACED BOTH WAYS THROUGHOUT U.N.O.ON SEPARATE DESIGN DRAWINGS IN THIS SET. IF DEPTH EXCEEDS 5m CONTACT ENGINEER.
21. SUBSOIL DRAINAGE LINES FOR LANDSCAPE AREA NOT SHOWN ON THESE DRAWINGS. REFER TO LANDSCAPING PLANS FOR DETAILS.
22. ALL STORMWATER PITS TO HAVE Ø100 uPVC SLOTTED SUBSOIL PIPES CONNECTED TO THEM. THESE SUBSOILS TO EXTEND 3m UPSTREAM OF THE PIT AT A MINIMUM GRADE.

0 200 400 600 800 1000mm
200 100
SCALE 1:10

0 400 800 1200 1600 2000mm
400 200
SCALE 1:20

FOR DA ONLY

SURVEY INFORMATION
SURVEYED BY USHER & COMPANY
DATUM: RL 64.038 AHD
ORIGIN OF LEVELS:PM 29280

REVISION	AMENDMENT	DRAWN	DESIGNED	DATE	REVISION	AMENDMENT	DRAWN	DESIGNED	DATE
02	RE-ISSUED FOR DA	MS	TD	15.03.2021					
01	ISSUED FOR DA	MS	TD	01.04.2020					

Client
RESTIFA & PARTNERS PTY LTD

Architect
ZHINAR ARCHITECTS PTY LTD

This drawing and design remains the property of Henry & Hymas and may not be copied in whole or in part without the prior written approval of Henry & Hymas.

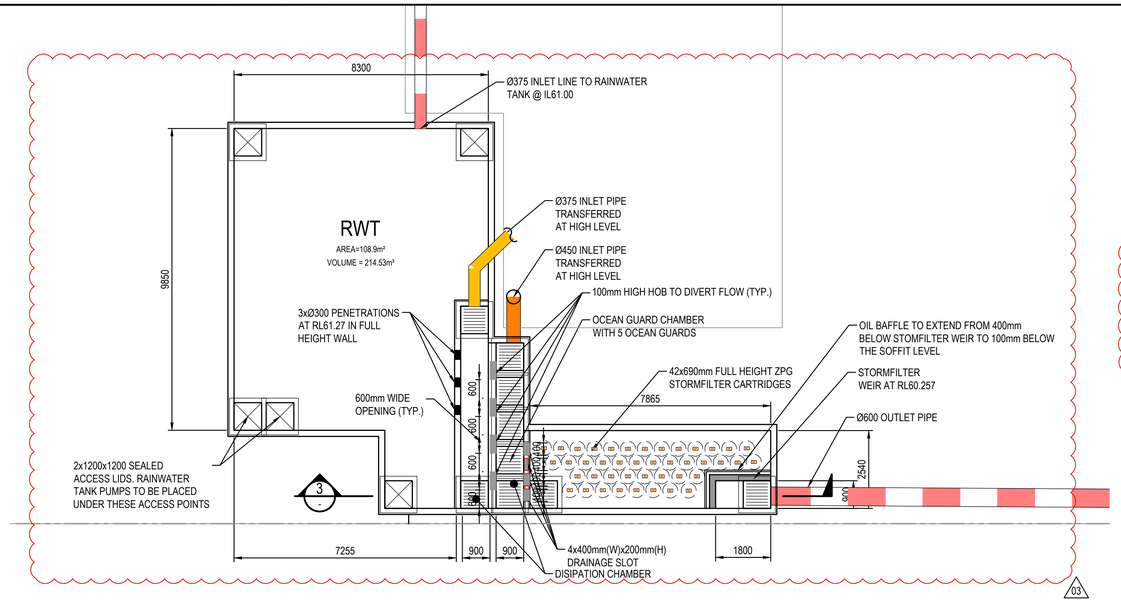
Suite 2.01
828 Pacific Highway
Gordon NSW 2072
Telephone +61 2 9417 8400
Facsimile +61 2 9417 8337
Email email@hhconsult.com.au
Web www.henryandhymas.com.au
henry&hymas

Project
CUDGEGONG TOWN CENTRE
CUDGEGONG ROAD, ROUSE HILL NSW

Title
STORMWATER MISCELLANEOUS DETAILS & PIT LID SCHEDULE

Drawn	Designed	Date
M.Stimova	T.Dempsey	JUNE 2017
Checked	Approved	Scale
T.Dempsey	A.Francis	AS NOTED @ A1

Drawing number: 15A06_D1_C200
Revision: 02



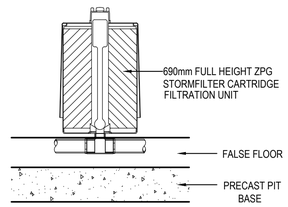
RAINWATER TANK PLAN - STAGE 3

SCALE 1:100

STORMFILTER CHAMBER CALCULATIONS

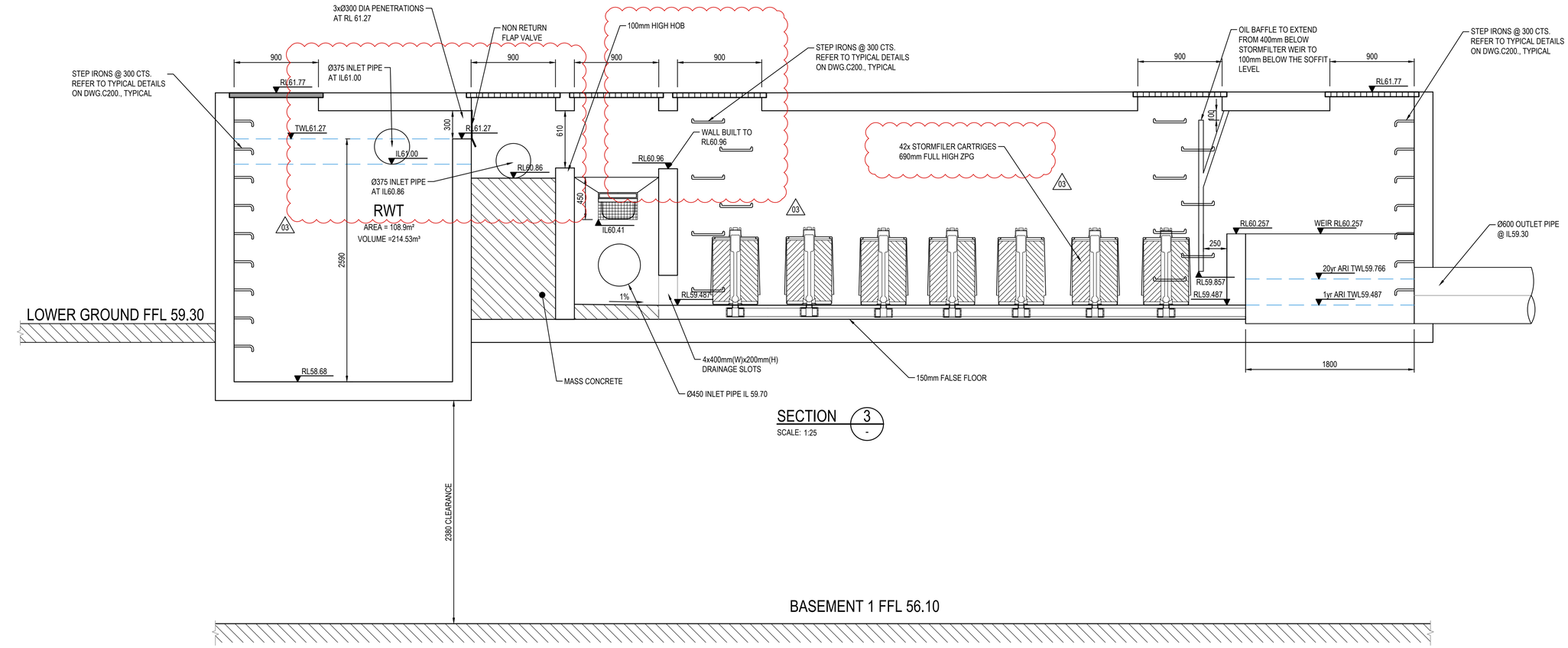
CURRENT VAULT AREA PROVIDED = 17.8m²
STORMFILTER CALCULATOR AREA MODELLED = 13.5m²
CATCHMENT AREA = 10,149m²
MIN.AREA =0.36x42=15.12m²
MAX ALLOWABLE AREA = 26x1.0149=26.3m²

03



DETAIL A

SCALE: 1:20



SECTION 3

SCALE: 1:25

0 2 4 6 8 10m
2 1
SCALE 1:100

0 500 1000 1500 2000 2500mm
500 300 100
SCALE 1:25

FOR DA ONLY

SURVEY INFORMATION
SURVEYED BY USHER & COMPANY
DATUM: RL 64.038 AHD
ORIGIN OF LEVELS:PM 29280

REVISION	AMENDMENT	DRAWN	DESIGNED	DATE
03	RE-ISSUED FOR DA ONLY	MS	TD	30.04.2021
02	RE-ISSUED FOR DA ONLY	MS	TD	15.03.2021
01	ISSUED FOR DA ONLY	MS	FZ	01.04.2020

REVISION	AMENDMENT	DRAWN	DESIGNED	DATE

Client
RESTIFA & PARTNERS PTY LTD
RESTIFA & PARTNERS

Architect
ZHINAR ARCHITECTS PTY LTD

This drawing and design remains the property of Henry & Hymas and may not be copied in whole or in part without the prior written approval of Henry & Hymas.

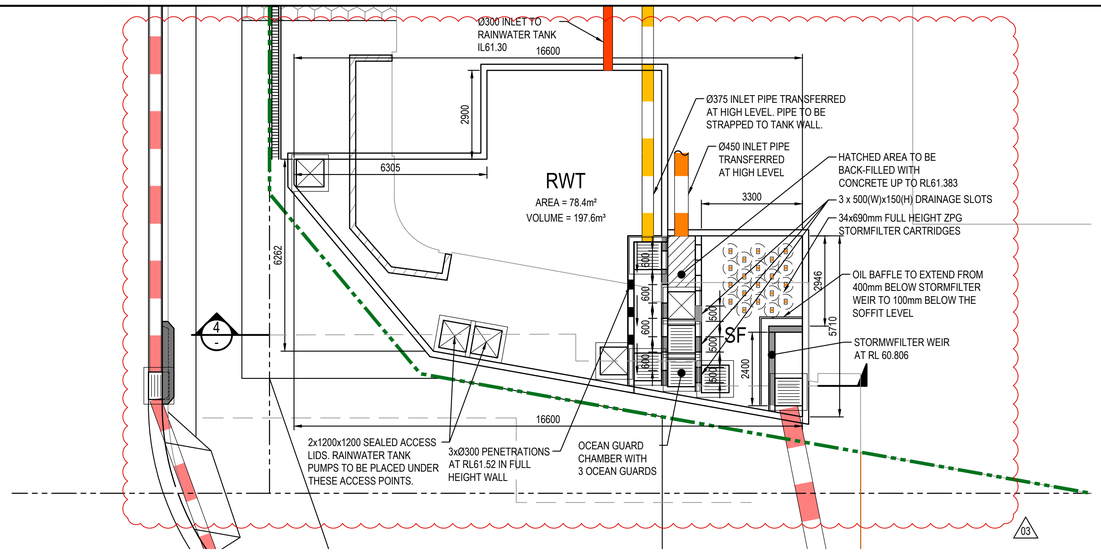
Suite 2.01
828 Pacific Highway
Gordon NSW 2072
Telephone +61 2 9417 8400
Facsimile +61 2 9417 8337
Email email@hhconsult.com.au
Web www.henryandhymas.com.au
henry&hymas

Project
CUDGEGONG TOWN CENTRE
CUDGEGONG ROAD, ROUSE HILL NSW

Title
RAIN WATER & W□ TANK - STAGE □
SECTIONS AND DETAILS, SHEET 1 OF 2

Drawn	Designed	Date
M.Stimova	F.Zhou	□UNE 2017
Checked	Approved	Scale
T.Dempsey	A.Francis	AS NOTED @ A1

Drawing number: 15A06_D1_C201
Revision: 0□



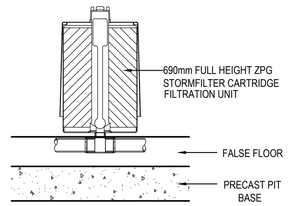
RAINWATER TANK PLAN - STAGE 4

SCALE 1:100

STORMFILTER CHAMBER CALCULATIONS

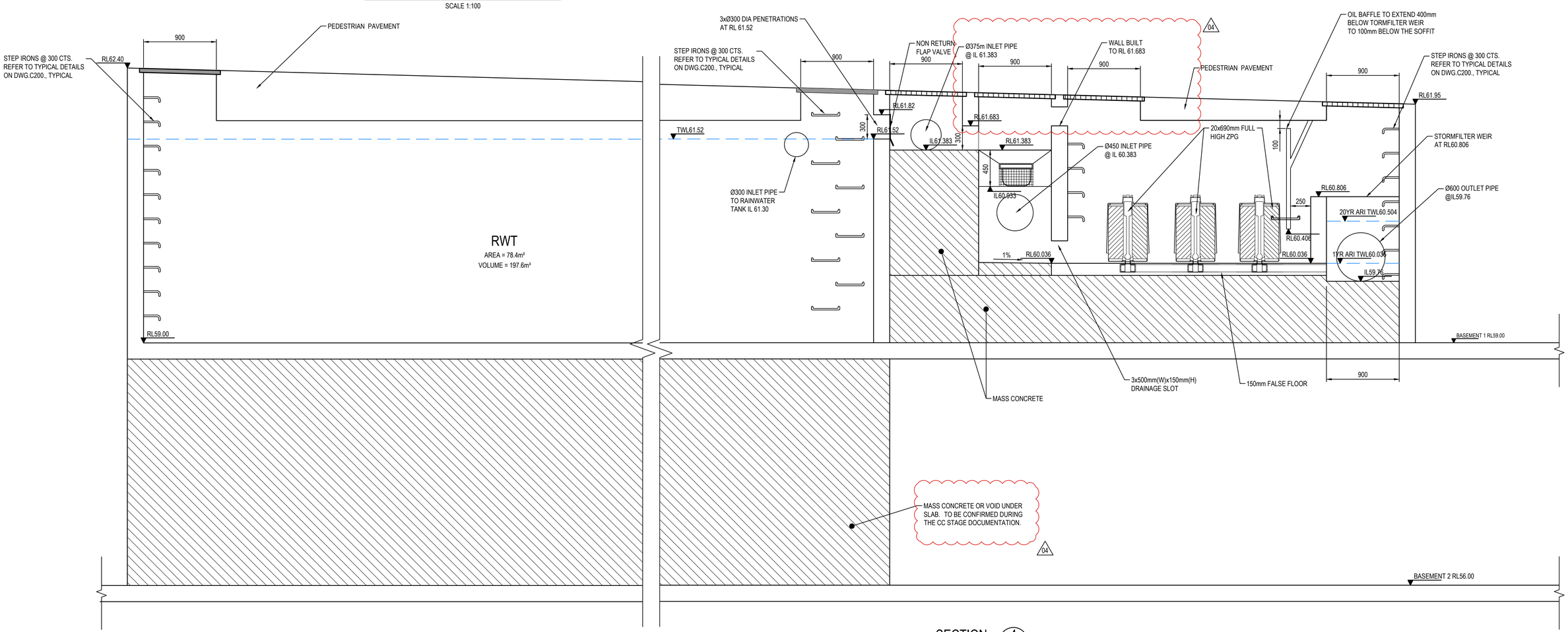
CURRENT VAULT AREA PROVIDED = 15.5m²
STORMFILTER CALCULATOR AREA MODELLED = 13.5m²
CATCHMENT AREA = 9221m²
MIN.AREA =0.36x30=10.8m²
MAX ALLOWABLE AREA = 26x0.9221=23.95m²

04



DETAIL A

SCALE: 1:20



SECTION 4

SCALE: 1:25

0 2 4 6 8 10m
2 1
SCALE 1:100

0 500 1000 1500 2000 2500mm
500 300 100
SCALE 1:25

FOR DA ONLY

SURVEY INFORMATION
SURVEYED BY USHER & COMPANY
DATUM: RL 64.038 AHD
ORIGIN OF LEVELS:PM 29280

REVISION	AMENDMENT	DRAWN	DESIGNED	DATE
04	RE-ISSUED FOR DA ONLY	MS	TD	30.04.2021
03	RE-ISSUED FOR DA ONLY	MS	TD	19.04.2021
02	RE-ISSUED FOR DA ONLY	MS	TD	15.03.2021
01	ISSUED FORDA ONLY	MS	FZ	01.04.2020

Client
RESTIFA & PARTNERS PTY LTD
RESTIFA & PARTNERS

Architect
ZHINAR ARCHITECTS PTY LTD

This drawing and design remains the property of Henry & Hymas and may not be copied in whole or in part without the prior written approval of Henry & Hymas.

Suite 2.01
828 Pacific Highway
Gordon NSW 2072
Telephone +61 2 9417 8400
Facsimile +61 2 9417 8337
Email email@hhconsult.com.au
Web www.henryandhymas.com.au
henry&hymas

Project
CUDGEGONG TOWN CENTRE
CUDGEGONG ROAD, ROUSE HILL NSW

Title
RAIN WATER TANK - STAGE □
SECTIONS AND DETAILS, SHEET 2 OF 2

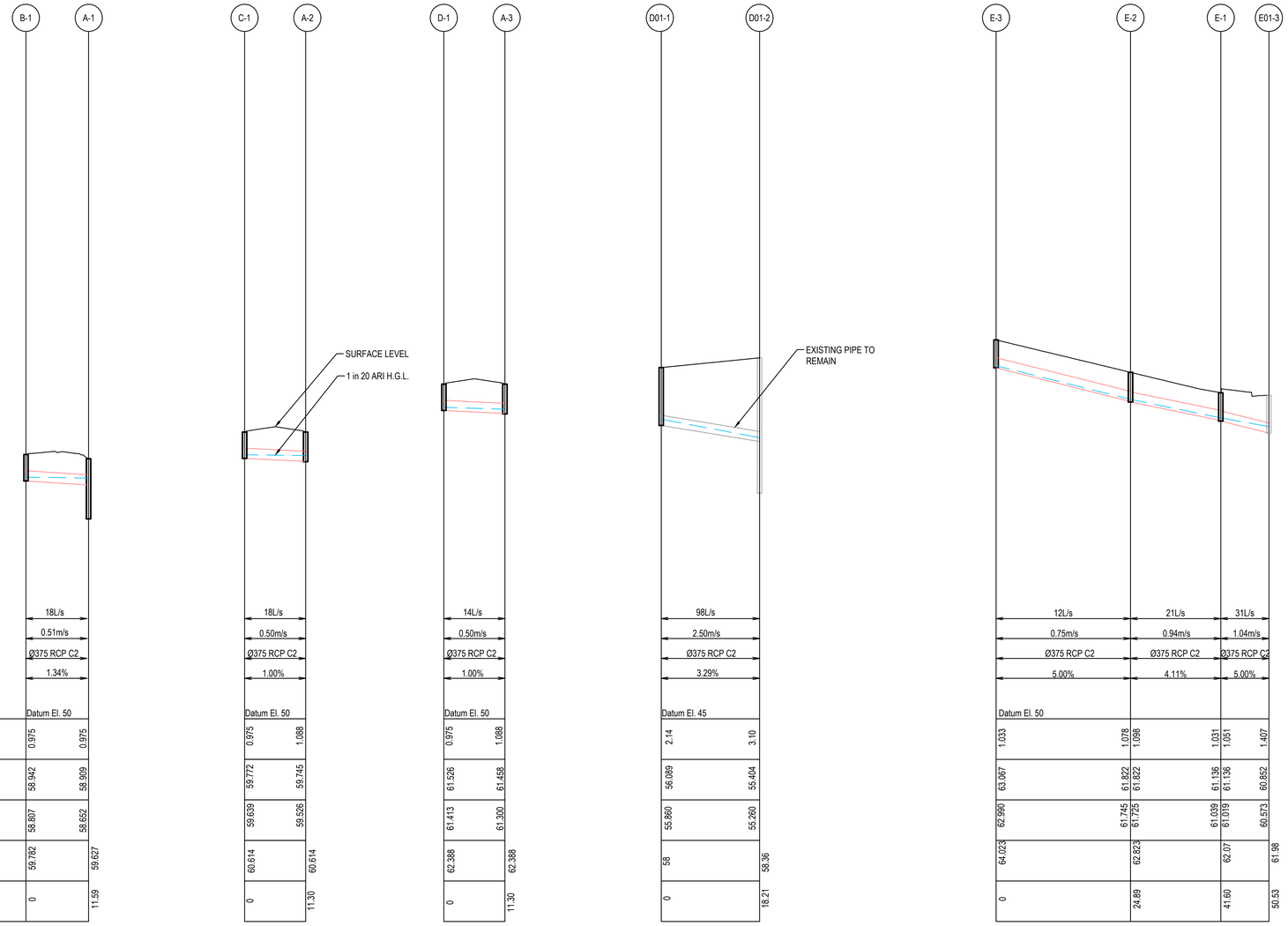
Drawn	Designed	Date
M.Stimova	F.Zhou	□UNE 2017
Checked	Approved	Scale
T.Dempsey	A.Francis	AS NOTED @ A1

Drawing number 15A06_D1_C202
Revision 0□

LEGEND

EXISTING STORMWATER PIPE TO REMAIN

PROPOSED STORMWATER PIPE (NEW)



	B-1	A-1
Flow (L/s)	18L/s	
Velocity (m/s)	0.51m/s	
Pipe Size & Class	Ø375 RCP C2	
Grade (%)	1.34%	
Datum R.L	Datum El. 50	
DEPTH TO INVERT	0.975	0.975
H.G.L. LEVELS 1 in 20 Year ARI	58.942	58.909
INVERT R.L.	58.807	58.652
SURFACE R.L.	59.782	59.627
PIPE CHAINAGE	0	11.59

LINE B1- A1

SCALE: H 1:500 / V 1:100

	C-1	A-2
Flow (L/s)	18L/s	
Velocity (m/s)	0.50m/s	
Pipe Size & Class	Ø375 RCP C2	
Grade (%)	1.00%	
Datum R.L	Datum El. 50	
DEPTH TO INVERT	0.975	1.088
H.G.L. LEVELS 1 in 20 Year ARI	59.772	59.745
INVERT R.L.	59.639	59.526
SURFACE R.L.	60.614	60.614
PIPE CHAINAGE	0	11.30

LINE C1- A2

SCALE: H 1:500 / V 1:100

	D-1	A-3
Flow (L/s)	14L/s	
Velocity (m/s)	0.50m/s	
Pipe Size & Class	Ø375 RCP C2	
Grade (%)	1.00%	
Datum R.L	Datum El. 50	
DEPTH TO INVERT	0.975	1.088
H.G.L. LEVELS 1 in 20 Year ARI	61.526	61.458
INVERT R.L.	61.413	61.300
SURFACE R.L.	62.388	62.388
PIPE CHAINAGE	0	11.30

LINE D1- A3

SCALE: H 1:500 / V 1:100

	D01-1	D01-2
Flow (L/s)	98L/s	
Velocity (m/s)	2.50m/s	
Pipe Size & Class	Ø375 RCP C2	
Grade (%)	3.29%	
Datum R.L	Datum El. 45	
DEPTH TO INVERT	2.14	3.10
H.G.L. LEVELS 1 in 20 Year ARI	56.089	55.404
INVERT R.L.	55.860	55.260
SURFACE R.L.	58	58.36
PIPE CHAINAGE	0	18.21

LINE D01-1 - D01-2

SCALE: H 1:500 / V 1:100

	E-3	E-2	E-1	E01-3
Flow (L/s)	12L/s	21L/s	31L/s	
Velocity (m/s)	0.75m/s	0.94m/s	1.04m/s	
Pipe Size & Class	Ø375 RCP C2	Ø375 RCP C2	Ø375 RCP C2	
Grade (%)	5.00%	4.11%	5.00%	
Datum R.L	Datum El. 50			
DEPTH TO INVERT	1.033	1.078 / 1.098	1.031 / 1.051	1.407
H.G.L. LEVELS 1 in 20 Year ARI	63.067	61.822 / 61.622	61.136 / 61.136	60.652
INVERT R.L.	62.990	61.745 / 61.725	61.039 / 61.019	60.573
SURFACE R.L.	64.023	62.823	62.07	61.98
PIPE CHAINAGE	0	24.89	41.60	50.53

LINE E3 - E01-3

SCALE: H 1:500 / V 1:100

0 2 4 6 8 10m
2 1
SCALE 1:100

0 10 20 30 40 50m
10 8 6 4 2
SCALE 1:500

FOR DA ONLY

SURVEY INFORMATION
SURVEYED BY USHER & COMPANY
DATUM: RL 64.038 AHD
ORIGIN OF LEVELS:PM 29280

REVISION	AMENDMENT	DRAWN	DESIGNED	DATE	REVISION	AMENDMENT	DRAWN	DESIGNED	DATE
01	ISSUED FOR DA ONLY	MS	FZ	01.04.2020					

Client
RESTIFA & PARTNERS PTY LTD
RESTIFA & PARTNERS

Architect
ZHINAR ARCHITECTS PTY LTD

This drawing and design remains the property of Henry & Hymas and may not be copied in whole or in part without the prior written approval of Henry & Hymas.

Suite 2.01
828 Pacific Highway
Gordon NSW 2072
Telephone +61 2 9417 8400
Facsimile +61 2 9417 8337
Email email@hhconsult.com.au
Web www.henryandhymas.com.au
henry&hymas

Project
CUDGEGONG TOWN CENTRE
CUDGEGONG ROAD, ROUSE HILL NSW

Title
STORMWATER LONGITUDINAL SECTIONS
SHEET 1 OF □

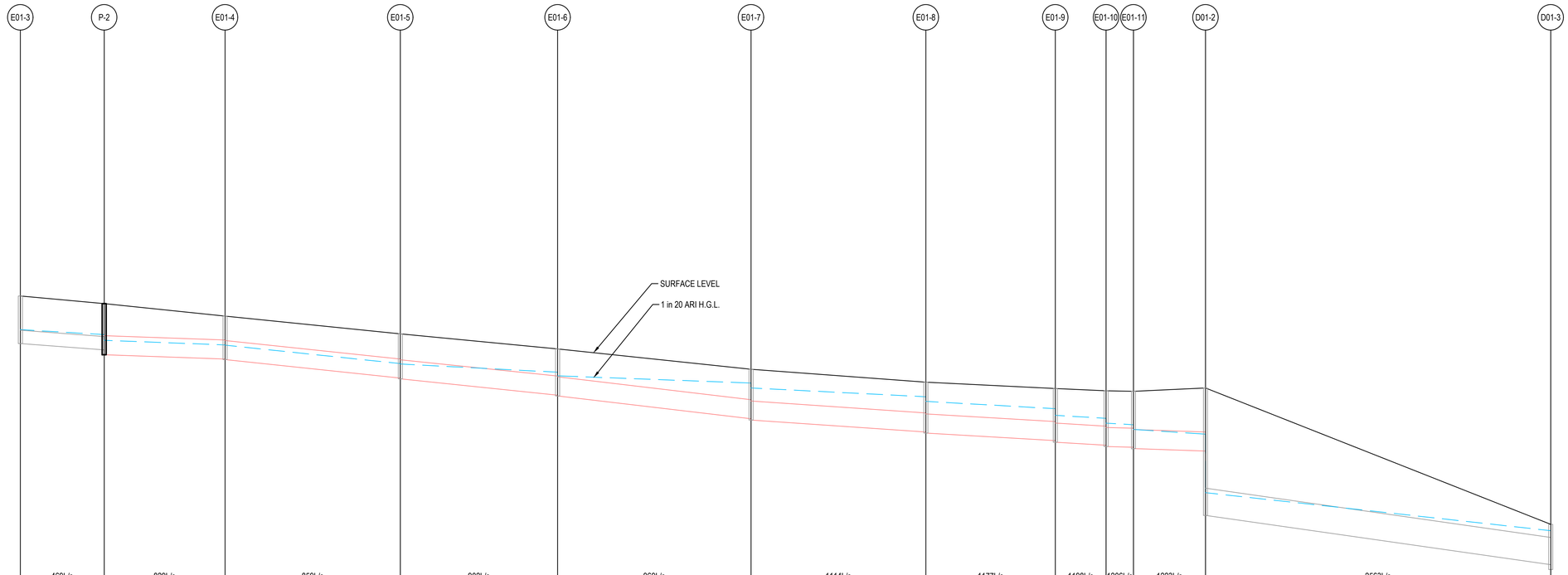
Drawn	Designed	Date
L.Caha	L.Caha	JUNE 2017
Checked	Approved	Scale
T.Dempsey	A.Francis	AS NOTED @ A1

Drawing number 15A06_D1_C220
Revision 01

LEGEND

EXISTING STORMWATER PIPE TO REMAIN

PROPOSED STORMWATER PIPE (NEW)



Flow (L/s)	469L/s	829L/s	859L/s	902L/s	969L/s	1114L/s	1177L/s	1198L/s	1206L/s	1223L/s	2563L/s
Velocity (m/s)	2.17m/s	2.36m/s	2.40m/s	2.44m/s	2.19m/s	2.52m/s	2.66m/s	2.71m/s	2.73m/s	2.95m/s	3.19m/s
Pipe Size & Class	Ø525RCP C2	Ø750 RCP C2	Ø750 RCP C2	Ø750 RCP C2	Ø750 RCP C2	Ø750 RCP C2	Ø750 RCP C2	Ø750 RCP C2	Ø750 RCP C2	Ø750 RCP C2	Ø1050 RCP C2
Grade (%)	1.51%	0.71%	2.12%	2.07%	2.36%	1.37%	1.18%	1.20%	0.56%	0.71%	2.85%

Datum R.L Datum El. 47

DEPTH TO INVERT	1.87	1.819	2.012	1.690	1.710	1.740	1.770	1.820	1.850	1.950	2.000	1.960	2.000	2.050	2.110	2.140	2.220	2.170	2.250	2.480	5.01	1.587		
H.G.L. LEVELS 1 in 20 Year ARI	60.658	60.462	60.238	60.055	60.046	59.323	59.307	58.983	58.838	58.555	58.360	58.017	57.836	57.548	57.286	57.169	56.916	56.980	56.731	56.545	54.245	52.747		
INVERT R.L.	60.110	59.861	59.668	59.500	59.480	58.750	58.720	58.080	58.050	57.150	57.100	56.630	56.590	56.290	56.230	56.110	56.030	56.060	55.980	55.880	53.350	51.413		
SURFACE R.L.	61.98	61.68	61.19	60.49	59.90	59.10	58.59	58.34	58.25	58.23	58.36	53												
PIPE CHAINAGE	0	16.50	40.31	74.80	105.78	143.85	178.27	203.76	213.75	219.14	233.32	301.29												

LINE E01-3 - E3

SCALE: H 1:500 / V 1:100

0 2 4 6 8 10m
2 1
SCALE 1:100

0 10 20 30 40 50m
10 8 6 4 2
SCALE 1:500

FOR DA ONLY

SURVEY INFORMATION
SURVEYED BY USHER & COMPANY
DATUM: RL 64.038 AHD
ORIGIN OF LEVELS:PM 29280

REVISION	AMENDMENT	DRAWN	DESIGNED	DATE	REVISION	AMENDMENT	DRAWN	DESIGNED	DATE
01	ISSUED FOR DA ONLY	MS	FZ	01.04.2020					

Client
RESTIFA & PARTNERS PTY LTD
RESTIFA & PARTNERS

Architect
ZHINAR ARCHITECTS PTY LTD

This drawing and design remains the property of Henry & Hymas and may not be copied in whole or in part without the prior written approval of Henry & Hymas.

Suite 2.01
828 Pacific Highway
Gordon NSW 2072

Telephone +61 2 9417 8400
Facsimile +61 2 9417 8337
Email email@hhconsult.com.au
Web www.henryandhymas.com.au

henry&hymas

Project
CUDGEGONG TOWN CENTRE
CUDGEGONG ROAD, ROUSE HILL NSW

Title
STORMWATER LONGITUDINAL SECTIONS
SHEET 2 OF □

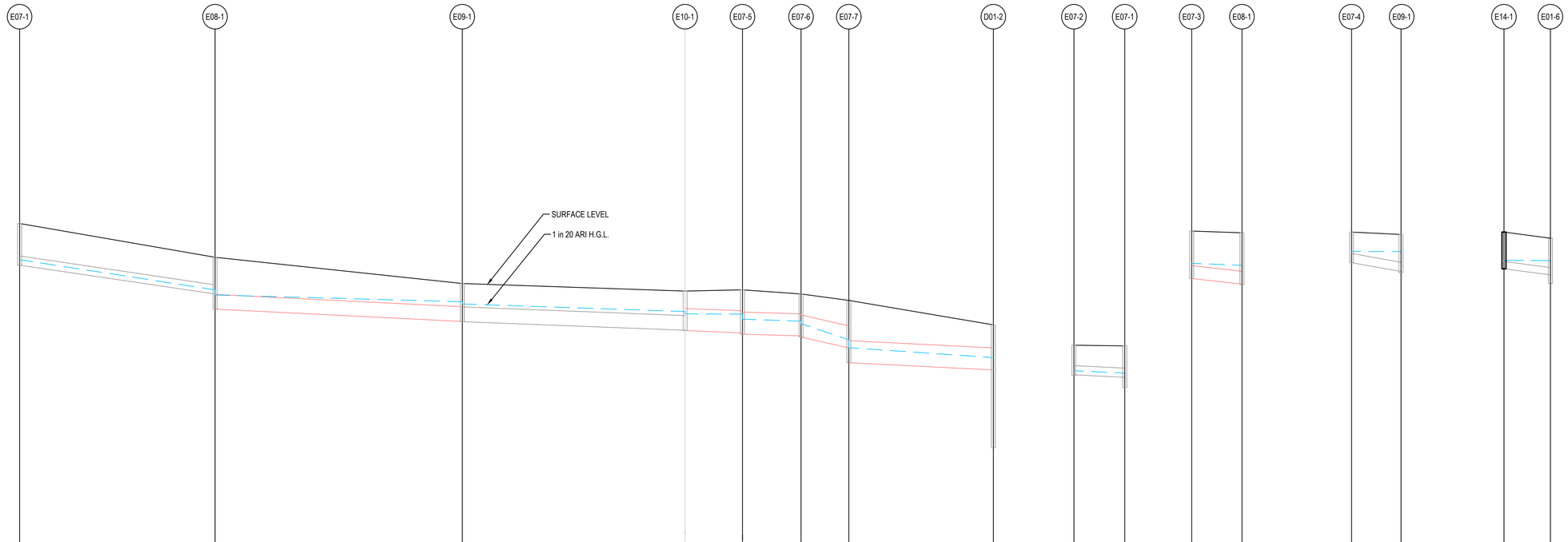
Drawn	Designed	Date
L.Caha	L.Caha	JUNE 2017
Checked	Approved	Scale
T.Dempsey	A.Francis	AS NOTED @ A1

Drawing number 15A06_D1_C221
Revision 01

LEGEND

EXISTING STORMWATER PIPE TO REMAIN

PROPOSED STORMWATER PIPE (NEW)



Flow (L/s)	90L/s				452L/s				490L/s				515L/s		1082L/s		1089L/s		1091L/s					
Velocity (m/s)	1.84m/s				1.63m/s				1.73m/s				1.00m/s		2.40m/s		2.69m/s		2.98m/s					
Pipe Size & Class	Ø375 RCP C2				Ø600 RCP C2				Ø600 RCP C2				Ø900 RCP C2		Ø900 RCP C2		Ø900 RCP C2		Ø900 RCP C2					
Grade (%)	2.96%				1.00%				0.77%				0.85%		0.59%		4.51%		1.00%					
Datum R.L	Datum El. 45																							
DEPTH TO INVERT	1.700			1.500	2.115			1.550	1.560				1.600	1.610	1.760	1.810	1.710	1.760	1.940	2.945			1.840	
H.G.L. LEVELS 1 in 20 Year ARI	61.019			59.791	59.572			59.305	59.215				58.904	58.810	58.795	58.591	58.510	58.408	57.750	57.429			57.024	
INVERT R.L.	60.800			59.620	59.005			58.500	58.490				58.140	58.130	58.030	57.980	57.910	57.860	57.420	56.815			56.520	
SURFACE R.L.	62.50				61.12				60.05				59.74		59.79		59.62		59.36				58.36	
PIPE CHAINAGE	0				39.89				90.38				135.86		147.57		159.52		169.28				198.79	

LINE E07-1 - D01-2

SCALE: H 1:500 / V 1:100

Flow (L/s)	71L/s				353L/s				23L/s				33L/s											
Velocity (m/s)	1.47m/s				1.63m/s				0.21m/s				0.47m/s											
Pipe Size & Class	Ø375				Ø525 RCP C2				Ø375 RCP C2				Ø300 RCP C2											
Grade (%)	0.96%				2.19%				3.56%				2.63%											
Datum R.L	Datum El. 55				Datum El. 44				Datum El. 43				Datum El. 43											
DEPTH TO INVERT	1.210			1.280	1.940			2.095	1.250			1.510	1.500			1.500								
H.G.L. LEVELS 1 in 20 Year ARI	61.489			61.388	59.871			59.791	59.301			59.305	59.191			59.179								
INVERT R.L.	61.320			61.220	59.250			59.025	58.900			58.540	58.650			58.400								
SURFACE R.L.	62.53			62.50	61.19			61.12	60.15			60.05	60.15			59.90								
PIPE CHAINAGE	0			10.38	0			10.26	0			10.10	0			9.49								

LINE E07-2 - E07-1

SCALE: H 1:500 / V 1:100

LINE E07-3 - E08-1

SCALE: H 1:500 / V 1:100

LINE E07-4 - E09-1

SCALE: H 1:500 / V 1:100

LINE E14-1 - E1-06

SCALE: H 1:500 / V 1:100

0 2 4 6 8 10m
2 1
SCALE 1:100

0 10 20 30 40 50m
10 8 6 4 2
SCALE 1:500

FOR DA ONLY

SURVEY INFORMATION
SURVEYED BY USHER & COMPANY
DATUM: RL 64.038 AHD
ORIGIN OF LEVELS PM 29280

REVISION	AMENDMENT	DRAWN	DESIGNED	DATE	REVISION	AMENDMENT	DRAWN	DESIGNED	DATE
01	ISSUED FOR DA ONLY	MS	FZ	01.04.2020					

Client
RESTIFA & PARTNERS PTY LTD

Architect
ZHINAR ARCHITECTS PTY LTD

This drawing and design remains the property of Henry & Hymas and may not be copied in whole or in part without the prior written approval of Henry & Hymas.

Suite 2.01
828 Pacific Highway
Gordon NSW 2072
Telephone +61 2 9417 8400
Facsimile +61 2 9417 8337
Email email@hhconsult.com.au
Web www.henryandhymas.com.au
henry&hymas

Project
CUDGEGONG TOWN CENTRE
CUDGEGONG ROAD, ROUSE HILL NSW

Title
STORMWATER LONGITUDINAL SECTIONS
SHEET □ OF □

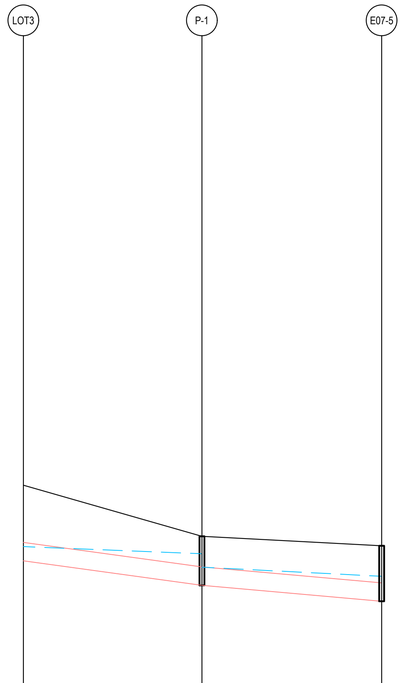
Drawn	Designed	Date
L.Caha	L.Caha	□UNE 2017
Checked	Approved	Scale
T.Dempsey	A.Francis	AS NOTED @ A1

Drawing number: 15A06_D1_C222
Revision: 01

LEGEND

EXISTING STORMWATER PIPE TO REMAIN

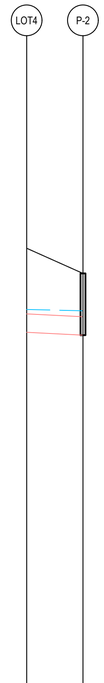
PROPOSED STORMWATER PIPE (NEW)



Flow (L/s)	555L/s	559L/s
Velocity (m/s)	2.36m/s	1.98m/s
Pipe Size & Class	Ø600 RCP C2	Ø600 RCP C2
Grade (%)	2.74%	1.77%
Datum R.L	Datum El. 51	
DEPTH TO INVERT	2.47 / 1.600	1.600 / 1.81
H.G.L. LEVELS 1 in 20 Year ARI	59.766 / 59.532	59.093 / 58.795
INVERT R.L.	59.300 / 58.500	58.500 / 57.980
SURFACE R.L.	61.77	60.1 / 59.79
PIPE CHAINAGE	0	29.15 / 58.50

LINE LOT3 - E7-05

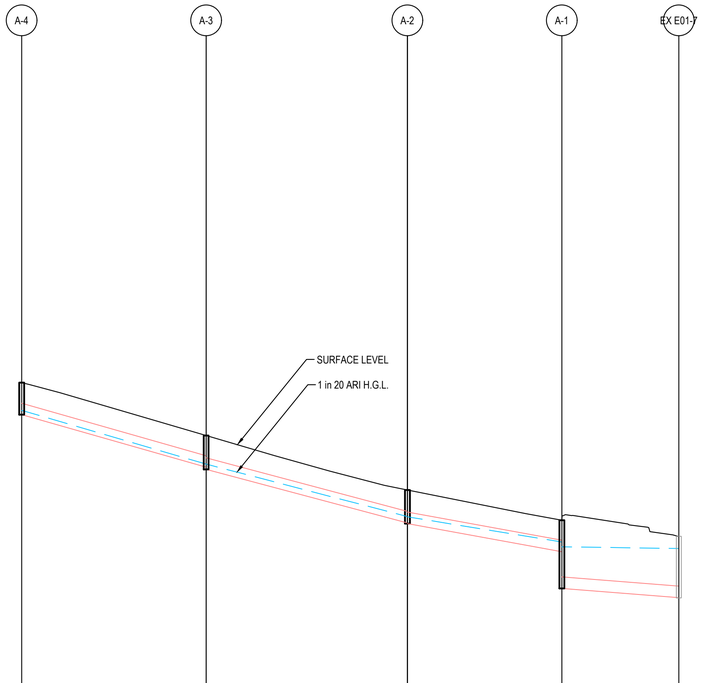
SCALE: H 1:500 / V 1:100



	361L/s	
	1.28m/s	
	Ø600 RCP C2	
	1.00%	
	Datum El. 44	
	2.740 / 2.012	
	60.504 / 60.462	
	59.760 / 59.668	
	62.5	61.68
	0	9.20

LINE LOT4 - P-2

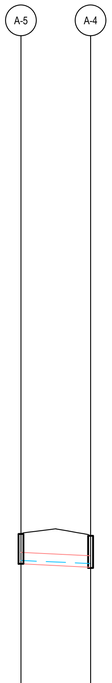
SCALE: H 1:500 / V 1:100



	36L/s	57L/s	91L/s	123L/s
	1.48m/s	1.16m/s	1.35m/s	1.11m/s
	Ø375 RCP C2	Ø375 RCP C2	Ø375 RCP C2	Ø375 RCP C2
	5.69%	5.32%	3.64%	1.57%
	Datum El. 50			
	1.048 / 1.032	1.102 / 1.073	1.093 / 1.031	2.220 / 2.000
	63.213 / 61.458	61.458 / 59.745	59.737 / 58.909	58.752 / 58.697
	63.070 / 61.356	61.286 / 59.537	59.517 / 58.599	57.400 / 57.100
	64.118	62.388	60.61	59.63	59.1
	0	30.11	62.97	88.17	107.27

LINE A-4 - EX E01-7

SCALE: H 1:500 / V 1:100



	13L/s	
	0.49m/s	
	Ø375 RCP C2	
	0.99%	
	Datum El. 55	
	0.975 / 1.028	
	63.312 / 63.213	
	63.203 / 63.090	
	64.178	64.118
	0	11.37

LINE A-5 - A-4

SCALE: H 1:500 / V 1:100

0 2 4 6 8 10m
2 1
SCALE 1:100

0 10 20 30 40 50m
10 8 6 4 2
SCALE 1:500

FOR DA ONLY

SURVEY INFORMATION
SURVEYED BY USHER & COMPANY
DATUM: RL 64.038 AHD
ORIGIN OF LEVELS:PM 29280

REVISION	AMENDMENT	DRAWN	DESIGNED	DATE	REVISION	AMENDMENT	DRAWN	DESIGNED	DATE
01	ISSUED FOR DA ONLY	MS	FZ	01.04.2020					

Client
RESTIFA & PARTNERS PTY LTD
RESTIFA & PARTNERS

Architect
ZHINAR ARCHITECTS PTY LTD

This drawing and design remains the property of Henry & Hymas and may not be copied in whole or in part without the prior written approval of Henry & Hymas.

Suite 2.01
828 Pacific Highway
Gordon NSW 2072

Telephone +61 2 9417 8400
Facsimile +61 2 9417 8337
Email email@hhconsult.com.au
Web www.henryandhymas.com.au

henry&hymas

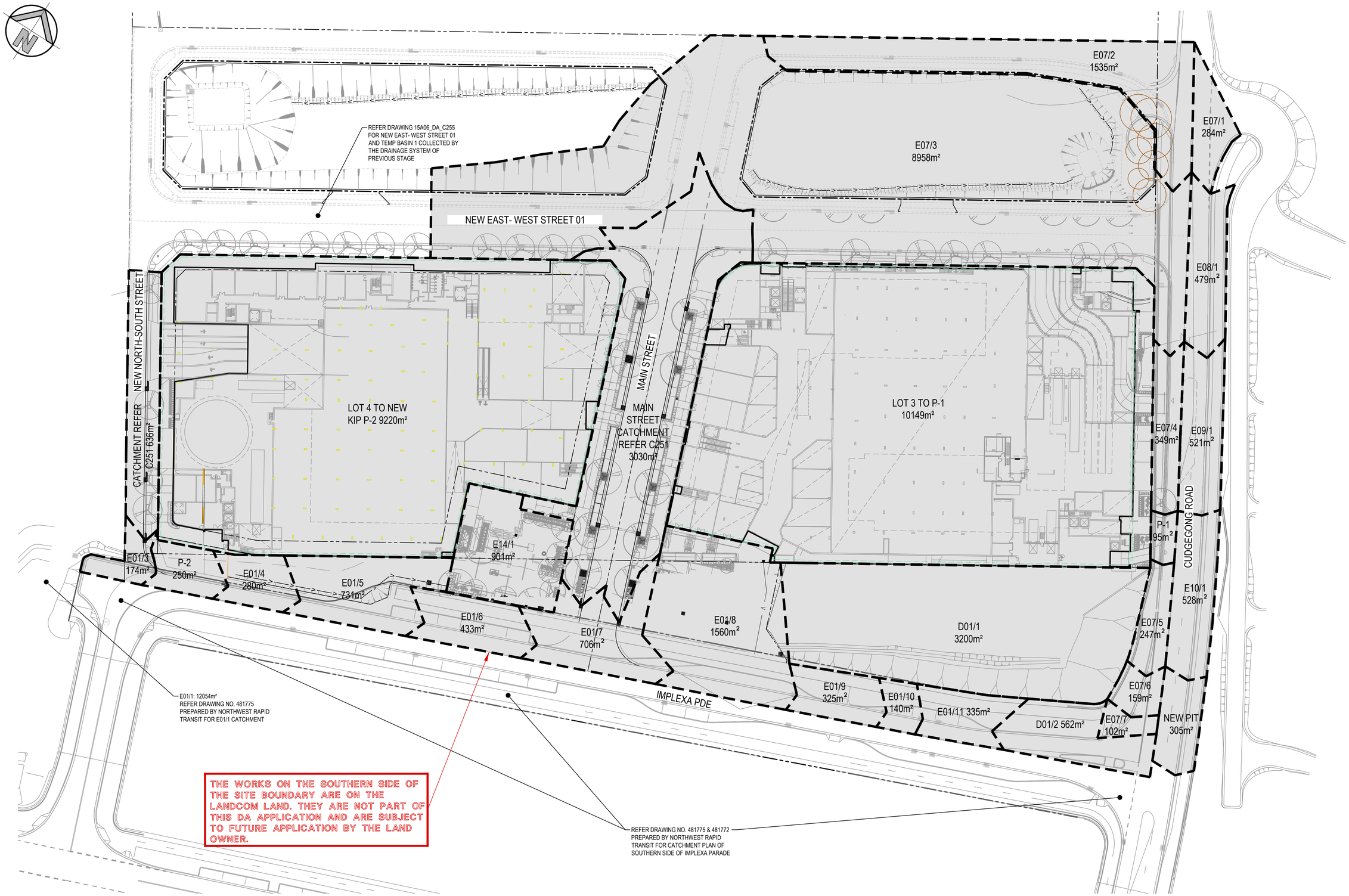
Project
CUDGEGONG TOWN CENTRE
CUDGEGONG ROAD, ROUSE HILL NSW

Title
STORMWATER LONGITUDINAL SECTIONS
SHEET □ OF □

Drawn	Designed	Date
L.Caha	L.Caha	JUNE 2017
Checked	Approved	Scale
T.Dempsey	A.Francis	AS NOTED @ A1

Drawing number: 15A06_D1_C22□

Revision: 01



OVERALL STORMWATER CATCHMENT PLAN

SCALE: 1:500

0 10 20 30 40 50m
10 8 6 4 2
SCALE 1:500

FOR DA ONLY

SURVEY INFORMATION
SURVEYED BY USHER & COMPANY
DATUM: RL 64.038 AHD
ORIGIN OF LEVELS:PM 29280

REVISION	AMENDMENT	DRAWN	DESIGNED	DATE
02	RE-ISSUED FOR DA ONLY	MS	TD	27.07.2020
01	ISSUED FOR DA ONLY	IK	FZ	01.04.2020

Client: RESTIFA & PARTNERS PTY LTD

Architect: ZHINAR ARCHITECTS PTY LTD

This drawing and design remains the property of Henry & Hymas and may not be copied in whole or in part without the prior written approval of Henry & Hymas.

Suite 2.01
828 Pacific Highway
Gordon NSW 2072
Telephone +61 2 9417 8400
Facsimile +61 2 9417 8337
Email email@hhconsult.com.au
Web www.henryandhymas.com.au
henry&hymas

Project: CUDGEGONG TOWN CENTRE
CUDGEGONG ROAD, ROUSE HILL NSW

Title: OVERALL STORMWATER CATCHMENT PLAN

Drawn	Designed	Date
I.Khachab	F.Zhou	NOV 2019
Checked	Approved	Scale @A1
T.Dempsey	A.Francis	1:500

Drawing number: 15A06_D1_C250
Revision: 02

THE WORKS ON THE SOUTHERN SIDE OF THE SITE BOUNDARY ARE ON THE LANDCOM LAND. THEY ARE NOT PART OF THIS DA APPLICATION AND ARE SUBJECT TO FUTURE APPLICATION BY THE LAND OWNER.

MAIN STREET AND NEW NORTH - SOUTH STREET
STORMWATER CATCHMENT PLAN

SCALE: 1:400

0 8 16 24 32 40m
8 6 4 2
SCALE 1:400

FOR DA ONLY

SURVEY INFORMATION
SURVEYED BY USHER & COMPANY
DATUM: RL 64.038 AHD
ORIGIN OF LEVELS:PM 29280

REVISION	AMENDMENT	DRAWN	DESIGNED	DATE
03	RE-ISSUED FOR DA ONLY	LC	TD	12.07.2021
02	RE-ISSUED FOR DA ONLY	MS	TD	27.07.2020
01	ISSUED FOR DA ONLY	IK	FZ	01.04.2020

REVISION	AMENDMENT	DRAWN	DESIGNED	DATE

Client
RESTIFA & PARTNERS PTY LTD
RESTIFA & PARTNERS

Architect
ZHINAR ARCHITECTS PTY LTD

This drawing and design remains the property of Henry & Hymas and may not be copied in whole or in part without the prior written approval of Henry & Hymas.

Suite 2.01
828 Pacific Highway
Gordon NSW 2072
Telephone +61 2 9417 8400
Facsimile +61 2 9417 8337
Email email@hhconsult.com.au
Web www.henryandhymas.com.au
henry&hymas

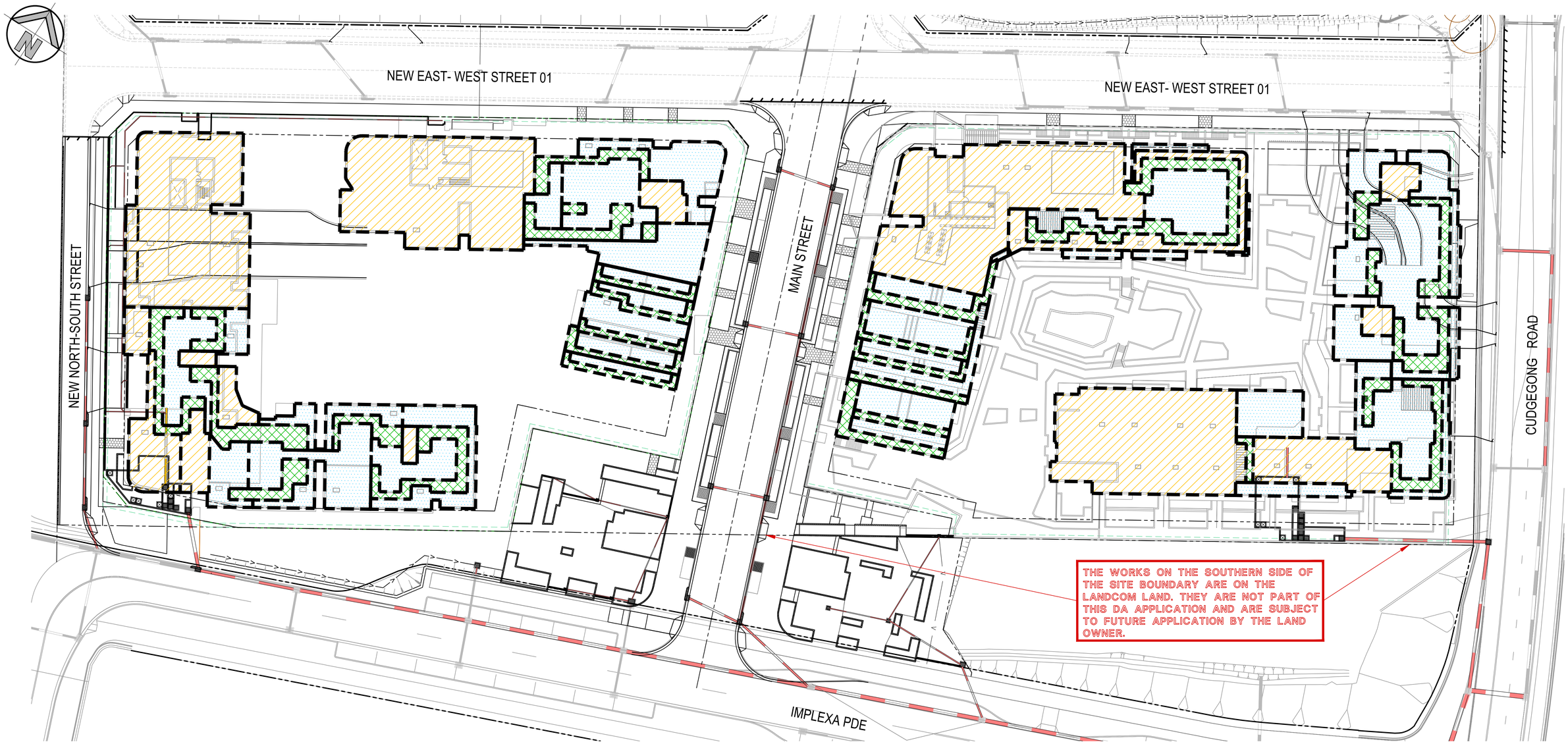
Project
CUDGEGONG TOWN CENTRE
CUDGEGONG ROAD, ROUSE HILL NSW

Title
MAIN STREET & NEW NORTH-SOUTH ST.
STORMWATER CATCHMENT PLAN

Drawn	Designed	Date
I.Khachab	F.Zhou	NOV 2019
Checked	Approved	Scale @A1
T.Dempsey	A.Francis	1□00

Drawing number
15A06_D1_C251

Revision
0□



MUSIC STORMWATER CATCHMENT PLAN - AT HIGH LEVELS

SCALE: 1:400

NON TRAFFICABLE ROOF AREA TO RAINWATER TANK
(100% impervious)
S3 = 2211m²
S4 = 2014m²

LANDSCAPED TRAFFICABLE ROOF AREA INTO STORMFILTER
(85% impervious)
S3 = 774m²
S4 = 744m²

TRAFFICABLE ROOF AREA INTO STORMFILTER
(100% impervious)
S3 = 2000m²
S4 = 1817m²

0 8 16 24 32 40m
8 6 4 2
SCALE 1:400

OVERALL REUSE DEMAND - RWT

IRRIGATION DEMAND (STAGE 3)

- IRRIGATION AREA = 3339m² (CALCULATED BY AUTOCAD)
- DEMAND RATE = 0.4kL/yr
- OVERALL DEMAND = 1335.6 kL/yr
- RAINWATER TANK RE-USE DEMAND MET = 59.65%

TOILET FLUSHING DEMAND (STAGE 3)

- 80% OF TOILET NUMBER (TOTAL NUMBER OF TOILETS AND URINALS FOR RETAIL AND WOOLWORTH): 26x0.8=21
- DEMAND RATE = 0.1kL/day/toilet
- OVERALL DEMAND = 2.1 kL/day
- RAINWATER TANK RE-USE DEMAND MET = 59.65%

IRRIGATION DEMAND (STAGE 4)

- IRRIGATION AREA = 2960m² (CALCULATED BY AUTOCAD)
- DEMAND RATE = 0.4kL/yr
- OVERALL DEMAND = 1184 kL/yr
- RAINWATER TANK RE-USE DEMAND MET = 68.90%

TOILET FLUSHING DEMAND (STAGE 4)

- 80% OF TOILET NUMBER (TOTAL NUMBER OF TOILETS AND URINALS FOR RETAIL AND WOOLWORTH): 14x0.8=11
- DEMAND RATE = 0.1kL/day/toilet
- OVERALL DEMAND = 1.1 kL/day
- RAINWATER TANK RE-USE DEMAND MET = 68.90%

STREAM EROSION INDEX (SEI) CALCULATIONS - STAGE 3

Site Area A = 0.010149 km^2
$t_c = 0.76(A)^{0.38} = 0.76 \times (0.010149)^{0.38} = 0.1328h = 7.97min$
From Rainfall Intensity Chart in the Engineering Guide for Development I_2 = 76mm/hr
ARI runoff coefficient $C_2 = C_{10} \times FF_2 = 0.6 \times 0.74 = 0.444$

Rational Method
$Q_2 = 0.278 \times C_2 \times I_2 \times A = 0.278 \times 0.444 \times 76 \times 0.010149 = 0.09521 m^3/s$
$Q_{critical} = Q_2 \times 0.25 = 0.09521 \times 0.25 = 0.0238 m^3/s$
$Q_{pre} - Q_{critical}$ = 0.276 mL/yr (Refer to MUSIC Model STAGE 3 - PRE SEI_31.03.2021.sqz)
$Q_{post} - Q_{critical}$ = 0.893 mL/yr (Refer to MUSIC Model 15A06-Cudgegong Stage 3 (85%imp, no bypass)_LEC 31.3.2021.sqz)

$SEI = (Q_{post} - Q_{critical}) / (Q_{pre} - Q_{critical}) = 0.893 / 0.276 = 3.235 < 3.5$

STREAM EROSION INDEX (SEI) CALCULATIONS - STAGE 4

Site Area A = 0.00922 km^2
$t_c = 0.76(A)^{0.38} = 0.76 \times (0.00922)^{0.38} = 0.1281h = 7.68min$
From Rainfall Intensity Chart in the Engineering Guide for Development I_2 = 76mm/hr
ARI runoff coefficient $C_2 = C_{10} \times FF_2 = 0.6 \times 0.74 = 0.444$

Rational Method
$Q_2 = 0.278 \times C_2 \times I_2 \times A = 0.278 \times 0.444 \times 76 \times 0.00922 = 0.08649 m^3/s$
$Q_{critical} = Q_2 \times 0.25 = 0.08649 \times 0.25 = 0.0216 m^3/s$
$Q_{pre} - Q_{critical}$ = 0.251 mL/yr (Refer to MUSIC Model STAGE 4 - PRE SEI_31.03.2021.sqz)
$Q_{post} - Q_{critical}$ = 0.831 mL/yr (Refer to MUSIC Model 15A06-Cudgegong Stage 4 (85%imp, no bypass)_LEC 31.3.2021.sqz)
$SEI = (Q_{post} - Q_{critical}) / (Q_{pre} - Q_{critical}) = 0.831 / 0.251 = 3.31 < 3.5$

03

NOTES:

1. THE WATER FROM STORMWATER TANK USED FOR IRRIGATION AND/ OR TOILET FLUSHING MEETS THE CRITERIA UNDER TABLES 4.5 AND 6.4 OF MANAGING URBAN STORMWATER HARVESTING AND RE-USE BY THE DEPARTMENT OF ENVIRONMENT AND CONSERVATION NSW DECEMBER 2006 AND IS APPROPRIATE FOR ITS INTENDED USE.
2. THE RE-USE DEMAND RATES HAVE BEEN CALCULATED TO SATISFY BASED ON EFFICIENCY CURVES. DETAILS AND JUSTIFICATION ARE EXPLAINED IN THE ENGINEERING REPORT.

FOR DA ONLY

SURVEY INFORMATION
SURVEYED BY USHER & COMPANY
DATUM: RL 64.038 AHD
ORIGIN OF LEVELS:PM 29280

REVISION	AMENDMENT	DRAWN	DESIGNED	DATE
03	RE-ISSUED FOR DA ONLY	MS	TD	30.04.2021
02	RE-ISSUED FOR DA ONLY	MS	TD	27.07.2020
01	ISSUED FOR DA ONLY	IK	FZ	01.04.2020

Client: RESTIFA & PARTNERS PTY LTD
Architect: ZHINAR ARCHITECTS PTY LTD

This drawing and design remains the property of Henry & Hymas and may not be copied in whole or in part without the prior written approval of Henry & Hymas.

Suite 2.01
828 Pacific Highway
Gordon NSW 2072
Telephone +61 2 9417 8400
Facsimile +61 2 9417 8337
Email email@hhconsult.com.au
Web www.henryandhymas.com.au
henry&hymas

Project: CUDGEGONG TOWN CENTRE CUDGEGONG ROAD, ROUSE HILL NSW	Drawn: I.Khachab	Designed: F.Zhou	Date: NOV 2019
	Checked: T.Dempsey	Approved: A.Francis	Scale @A1: 1□00
Title: MUSIC STORMWATER CATCHMENT PLAN AT HIGH LEVELS	Drawing number: 15A06_D1_C260		Revision: 0□

MUSIC STORMWATER CATCHMENT PLAN - AT PODIUM LEVEL

SCALE: 1:400

TOTAL AREA:
S3 AREA = 1.0149ha
S4 AREA = 0.9220ha

HARDSTAND AREA INTO OCEANGUARD
(100% impervious)
S3 = 1814m²
S4 = 1716m²

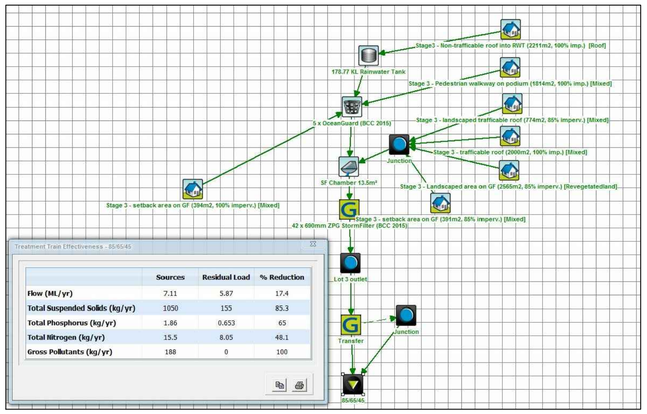
SETBACK AREA INTO OCEANGUARDS
(100% impervious)
S3 = 394m²
S4 = 714m²

LANDSCAPE AREA INTO STORMFILTERS
(85% impervious)
S3 = 2565m²
S4 = 2216m²

SETBACK AREA INTO STORMFILTER
(85% impervious)
S3 = 391m²

03

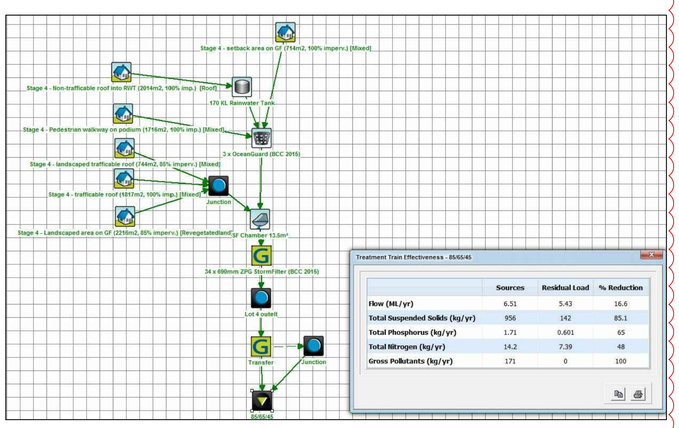
0 8 16 24 32 40m
8 6 4 2
SCALE 1:400



	Sources	Residual Load	% Reduction
Flow (ML/yr)	7.11	5.87	17.4
Total Suspended Solids (kg/yr)	1050	155	85.3
Total Phosphorus (kg/yr)	1.86	0.653	65
Total Nitrogen (kg/yr)	15.5	8.05	48.1
Gross Pollutants (kg/yr)	188	0	100

MUSIC MODELLING - STAGE 3

NTS



	Sources	Residual Load	% Reduction
Flow (ML/yr)	6.51	5.43	16.6
Total Suspended Solids (kg/yr)	956	142	85.1
Total Phosphorus (kg/yr)	1.71	0.601	65
Total Nitrogen (kg/yr)	14.2	7.39	48
Gross Pollutants (kg/yr)	171	0	100

MUSIC MODELLING - STAGE 4

NTS

FOR DA ONLY

SURVEY INFORMATION
SURVEYED BY USHER & COMPANY
DATUM: RL 64.038 AHD
ORIGIN OF LEVELS:PM 29280

REVISION	AMENDMENT	DRAWN	DESIGNED	DATE	REVISION	AMENDMENT	DRAWN	DESIGNED	DATE
03	RE-ISSUED FOR DA ONLY	MS	TD	30.04.2021					
02	RE-ISSUED FOR DA ONLY	MS	TD	27.07.2020					
01	ISSUED FOR DA ONLY	IK	FZ	01.04.2020					

Client
RESTIFA & PARTNERS PTY LTD
RESTIFA & PARTNERS

Architect
ZHINAR ARCHITECTS PTY LTD

This drawing and design remains the property of Henry & Hymas and may not be copied in whole or in part without the prior written approval of Henry & Hymas.

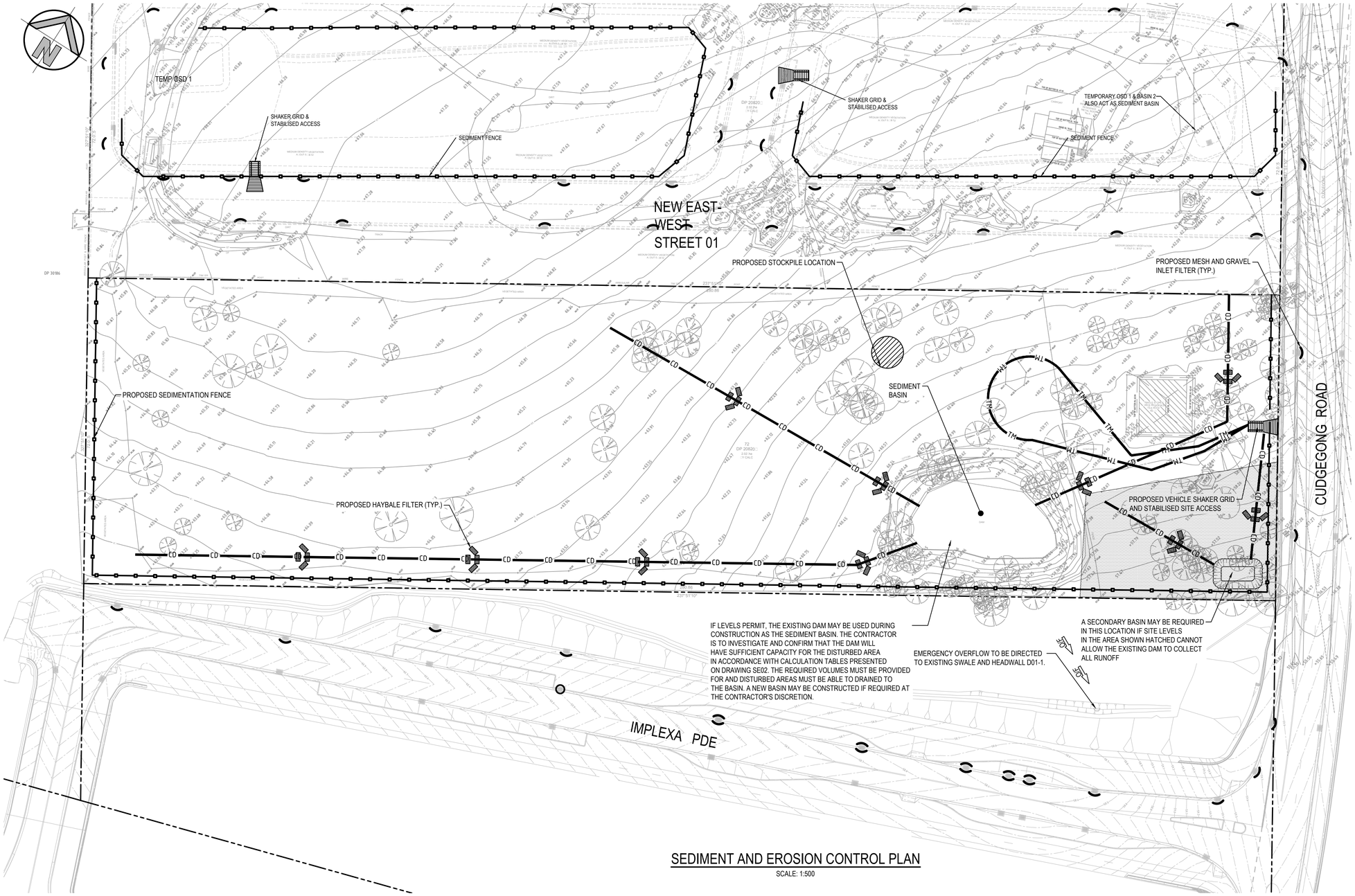
Suite 2.01
828 Pacific Highway
Gordon NSW 2072
Telephone +61 2 9417 8400
Facsimile +61 2 9417 8337
Email email@hhconsult.com.au
Web www.henryandhymas.com.au
henry&hymas

Project
CUDGEGONG TOWN CENTRE
CUDGEGONG ROAD, ROUSE HILL NSW

Title
MUSIC STORMWATER CATCHMENT PLAN AT PODIUM LEVELS

Drawn	Designed	Date
I.Khachab	F.Zhou	NOV 2019
Checked	Approved	Scale @A1
T.Dempsey	A.Francis	1□00

Drawing number 15A06_D1_C261
Revision 0□



SEDIMENT AND EROSION CONTROL PLAN

SCALE: 1:500

LEGEND

- CATCH DIVERSION DRAIN
- TRAFFIC MANOEUVRING
- PROPOSED SEDIMENTATION FENCE
- PROPOSED VEHICLE SHAKER GRID
- PROPOSED STABILISED SITE ACCESS
- PROPOSED STOCKPILE LOCATION
- PROPOSED HAYBALE FILTER
- PROPOSED MESH & GRAVEL INLET FILTER
- O/F — OVERLAND FLOW PATH

GENERAL INSTRUCTIONS

1. THIS SEDIMENT AND EROSION CONTROL WORKS FOR THE SITE SHALL BE CARRIED OUT IN ACCORDANCE WITH THE REQUIREMENTS OF "MANAGING URBAN STORMWATER - SOILS AND CONSTRUCTION, 4TH EDITION (2004)" BY LANDCOM.
2. AS REQUIRED BY BLACKTOWN CITY COUNCIL SEDIMENT CONTROL MEASURES WILL BE REQUIRED DURING THE CONSTRUCTION OF ALL DEVELOPMENTS/BUILDING WORKS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY THAT THE WORKS ARE CARRIED OUT IN ACCORDANCE WITH THE SEDIMENT AND EROSION CONTROL PLAN AND COUNCIL'S REQUIREMENTS.
3. THE CONTRACTOR SHALL ENSURE THAT ALL SUBCONTRACTORS ARE INFORMED OF THEIR RESPONSIBILITIES IN MINIMISING THE POTENTIAL FOR SOIL EROSION AND POLLUTION TO DOWNSLOPE AREAS.
4. THE NON-DISTURBED PORTION OF THE CATCHMENT OUTSIDE OF OPERATING AREA IS TO BYPASS THE BASINS BY MEANS OF LINED CATCH DRAINS.
5. WHERE PRACTICABLE, THE SOIL EROSION HAZARD SHALL BE KEPT AS LOW AS POSSIBLE. LIMITATIONS TO ACCESS ARE TO BE VIA THE SEALED ACCESS ROAD UNLESS OTHERWISE APPROVED BY COUNCIL.
6. ENSURE THAT ALL DRAINS ARE OPERATING EFFECTIVELY AND SHALL MAKE ANY NECESSARY REPAIRS. REMOVE TRAPPED SEDIMENT WHERE THE CAPACITY OF THE TRAPPING DEVICE FALLS BELOW 60%.
7. CONSTRUCT ADDITIONAL EROSION OR SEDIMENT CONTROL WORKS AS MAY BE APPROPRIATE TO ENSURE THE PROTECTION OF DOWNSLOPE LANDS AND WATERWAYS.
8. MAINTAIN EROSION AND SEDIMENT CONTROL MEASURES IN A FULLY FUNCTIONING CONDITION AT ALL TIMES UNTIL THE SITE IS REHABILITATED.
9. REMOVE TEMPORARY SOIL CONSERVATION STRUCTURES AS THE LAST ACTIVITY IN THE REHABILITATION PROGRAM.
10. THE SEDIMENT AND EROSION CONTROL MEASURES SHOWN ON THIS PLAN ARE FOR THE INITIAL EARTHWORKS STAGES OF THE LOTS. IT ASSUMES THAT THE SURROUNDING ROADS HAVE ALREADY BEEN CONSTRUCTED AT THIS STAGE. AS CONSTRUCTION OF THE SITE PROGRESSES GEOTEXTILE INLET FILTERS WILL BE REQUIRED TO BE INSTALLED AROUND THE PROPOSED STORMWATER PITS.
11. ENSURE THAT ALL PITS IN SURROUNDING ROADS TO THIS SITE HAVE MESH & GRAVEL INLET FILTERS PLACED.

EROSION CONTROL REQUIREMENTS

1. CLEARLY VISIBLE BARRIER FENCING SHALL BE INSTALLED AT THE DISCRETION OF THE SITE SUPERINTENDENT TO ENSURE TRAFFIC CONTROL AND PROHIBIT UNNECESSARY SITE DISTURBANCE. VEHICULAR ACCESS TO THE SITE SHALL BE LIMITED TO ONLY THAT ESSENTIAL FOR CONSTRUCTION WORK AND SHALL ENTER THE SITE ONLY THROUGH THE STABILISED ACCESS POINT.
2. SOIL MATERIALS SHALL BE REPLACED IN THE SAME LAYERS THEY ARE REMOVED FROM THE GROUND i.e. ALL SUBSOILS ARE TO BE BURIED AND TOPSOIL IS TO BE RESPREAD ON THE SURFACE AT THE COMPLETION OF WORKS.
3. ALL DISTURBED AREAS ARE TO BE STABILISED WITHIN SEVEN WORKING DAYS OF THE COMPLETION OF LAND SHAPING. ALL DISTURBED AREAS ARE TO BE PROTECTED SO THAT THE LAND IS PERMANENTLY STABILISED WITHIN SIX MONTHS. TOPSOIL SHALL BE RESPREAD OVER THE SITE, OTHER THAN LOT RE-GRADING AREAS, TO A MINIMUM DEPTH OF 100mm ON BARE BUT TYNED SOIL SURFACES AND THE SITE SHALL BE REVEGETATED IN ACCORDANCE WITH THE FOLLOWING:

0 10 20 30 40 50m
10 8 6 4 2
SCALE 1:500

FOR DA ONLY

SURVEY INFORMATION
SURVEYED BY USHER & COMPANY
DATUM: RL 64.038 AHD
ORIGIN OF LEVELS PM 29280

REVISION	AMENDMENT	DRAWN	DESIGNED	DATE	REVISION	AMENDMENT	DRAWN	DESIGNED	DATE
01	ISSUED FOR DA ONLY	IK	FZ	01.04.2020					

Client: RESTIFA & PARTNERS PTY LTD
Architect: ZHINAR ARCHITECTS PTY LTD

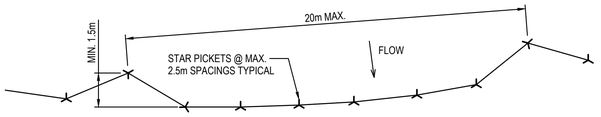
This drawing and design remains the property of Henry & Hymas and may not be copied in whole or in part without the prior written approval of Henry & Hymas.

Suite 2.01
828 Pacific Highway
Gordon NSW 2072
Telephone +61 2 9417 8400
Facsimile +61 2 9417 8337
Email email@hhconsult.com.au
Web www.henryandhymas.com.au
henry&hymas

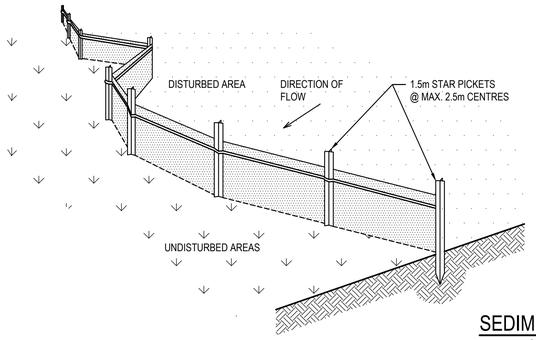
Project: CUDGEGONG TOWN CENTRE
CUDGEGONG ROAD, ROUSE HILL NSW
Title: SEDIMENT AND EROSION CONTROL PLAN

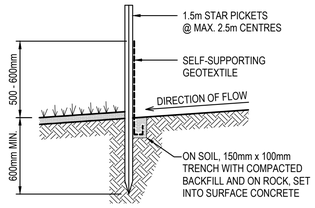
Drawn	Designed	Date
I.Khachab	F.Zhou	NOV 2019
Checked	Approved	Scale @A1
T.Dempsey	A.Francis	1:500

Drawing number: 15A06_D1_SE01
Revision: 01



PLAN





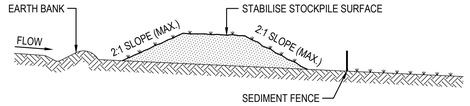
SECTION DETAIL

SEDIMENT FENCE

SCALE N.T.S.

SEDIMENT FENCE CONSTRUCTION NOTES:

1. CONSTRUCT SEDIMENT FENCES AS CLOSE AS POSSIBLE TO BEING PARALLEL TO THE CONTOURS OF THE SITE, BUT WITH SMALL RETURNS AS SHOWN IN THE DRAWING TO LIMIT THE CATCHMENT AREA OF ANY ONE SECTION. THE CATCHMENT AREA SHOULD BE SMALL ENOUGH TO LIMIT WATER FLOW IF CONCENTRATED AT ONE POINT TO 50 LITRES PER SECOND IN THE DESIGN STORM EVENT, USUALLY THE 10-YEAR EVENT.
2. CUT A 150mm DEEP TRENCH ALONG THE UPSLOPE LINE OF THE FENCE FOR THE BOTTOM OF THE FABRIC TO BE ENTRENCHED.
3. 3. DRIVE 1.5m LONG STAR PICKETS INTO GROUND @ 2.5m INTERVALS (MAX.) AT THE DOWNSLOPE EDGE OF THE TRENCH. ENSURE ANY STAR PICKETS ARE FITTED WITH SAFETY CAPS.
4. 4. FIX SELF-SUPPORTING GEOTEXTILE TO THE UPSLOPE SIDE OF THE POSTS ENSURING IT GOES TO THE BASE OF THE TRENCH. FIX THE GEOTEXTILE WITH WIRE TIES OR AS RECOMMENDED BY THE MANUFACTURER. ONLY USE GEOTEXTILE SPECIFICALLY PRODUCED FOR SEDIMENT FENCING. THE USE OF SHADE CLOTH FOR THIS PURPOSE IS NOT SATISFACTORY.
5. 5. JOIN SECTIONS OF FABRIC AT A SUPPORT POST WITH A 150mm OVERLAP. 6. BACKFILL THE TRENCH OVER THE BASE OF THE FABRIC AND COMPACT IT THOROUGHLY OVER THE GEOTEXTILE.

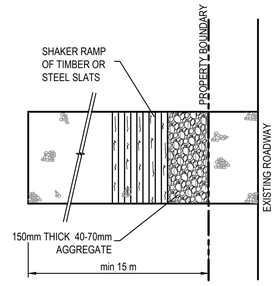


STOCKPILE CONSTRUCTION NOTES:

1. PLACE STOCKPILES MORE THAN 2 (PREFERABLY 5) METRES FROM EXISTING VEGETATION, CONCENTRATED WATER FLOW, ROADS AND HAZARD AREAS.
2. CONSTRUCT ON THE CONTOUR AS LOW, FLAT, ELONGATED MOUNDS.
3. WHERE THERE IS SUFFICIENT AREA, TOPSOIL STOCKPILES SHALL BE LESS THAN 2 METRES IN HEIGHT.
4. WHERE THEY ARE TO BE PLACED FOR MORE THAN 10 DAYS, STABILISE FOLLOWING THE APPROVED E.S.C.P. OR S.W.M.P. TO REDUCE THE C-FACTOR TO LESS THAN 0.10.
5. CONSTRUCT EARTH BANKS ON THE UPSLOPE SIDE TO DIVERT WATER AROUND STOCKPILES AND SEDIMENT FENCES 1 TO 2 METRES DOWNSLOPE.

STOCKPILES

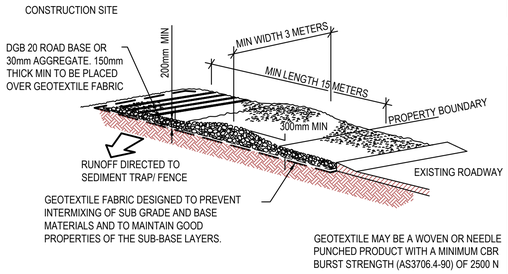
SCALE N.T.S.



PLAN

STABILISED SITE ACCESS WITH SHAKER RAMP

N.T.S.

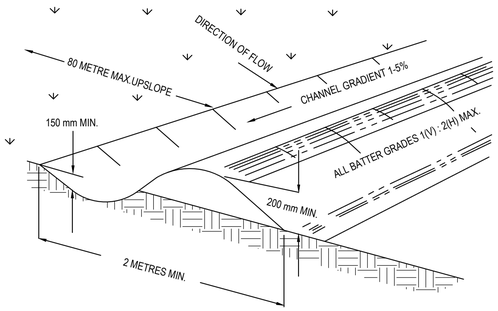


STABILISED SITE ACCESS WITH SHAKER RAMP

N.T.S.

NOTES:

1. THIS DEVICE IS TO BE LOCATED AT ALL EXITS FROM CONSTRUCTION SITE.
2. THIS DEVICE IS TO BE REGULARLY CLEANED OF DEPOSITED MATERIAL SO AS TO MAINTAIN A 50mm DEEP SPACE BETWEEN PLANKS.
3. ANY UNSEALED ROAD BETWEEN THIS DEVICE AND NEAREST ROADWAY IS TO BE TOPPED WITH 100mm THICK 40-70mm SIZE AGGREGATE.
4. ALTERNATIVELY, THREE(3) PRECAST CONCRETE CATTLE GRIDS (AS MANUFACTURED BY "HUMES CONCRETE MAY BE USED. 1, 2 & 3 ABOVE ALSO APPLY.



NOTE: ONLY TO BE USED AS TEMPORARY BANK WHERE MAC.UPSLOPE LENGTH IS 80 METERS.

CATCH DRAIN CONSTRUCTION NOTES:

1. CONSTRUCT ALONG GRADIENT AS SPECIFIED.
2. MAXIMUM SPACING BETWEEN BANKS SHALL BE 80 METRES.
3. DRAINS TO BE OF PARABOLIC OR TRAPEZOIDAL CROSS SECTION NOT V-SHAPED.
4. EARTH BANKS TO BE ADEQUATELY COMPACTED IN ORDER TO PREVENT FAILURE.
5. CONSTRUCTION IS OF A TEMPRORARY NATURE AND SHALL BE COMPACTED AT THE END A DAYS WORK OR IMMEDIATELY PRIOR RAIN.
6. ALL OUTLETS FROM DISTURBED LANDS ARE TO FEED INTO SEDIMENT BASIN OR SIMILAR.
7. DISCHARGE RUNOFF COLLECTED FROM UNDISTURBED LANDS ONTO EITHER A STABILISED OR AN UNDISTURBED DISPOSAL AISTE WITHIN THE SAME SUBCATCHMENT AREA FROM WHICH THE WATER ORIGINATED.
8. COMPACT WITH A SUITABLE IMPLEMENT IN SITUATIONS WHERE THEY ARE REQUIRED TO FUNCTION FOR MORE THAN FIVE DAYS.
9. EARTH BANKS TO BE FREE OF PROJECTIONS OR OTHER IRREGULARITIES THAT WILL IMPEDE NORMAL FLOW.

CATCH DRAINS SD 5-8

SCALE N.T.S.

CONSTRUCTION SEQUENCE

WORKS SHALL BE UNDERTAKEN IN THE FOLLOWING SEQUENCE:

1. INSTALL SEDIMENT FENCING AND CUT DRAINS TO MEET THE REQUIREMENTS OF THE SEDIMENT AND EROSION CONTROL PLAN. WASTE COLLECTION BINS SHALL BE INSTALLED ADJACENT TO SITE OFFICE.
2. CONSTRUCT STABILISED SITE ACCESS IN ACCORDANCE WITH BLACKTOWN CITY COUNCIL'S REQUIREMENTS.
3. REDIRECT CLEAN WATER AROUND THE CONSTRUCTION SITE.
4. INSTALL SEDIMENT CONTROL PROTECTION MEASURES AT ALL NATURAL AND MAN-MADE DRAINAGE STRUCTURES. MAINTAIN UNTIL ALL THE DISTURBED AREAS ARE STABILISED.
5. CLEAR AND STRIP THE WORK AREAS. MINIMISE THE DAMAGE TO THE GRASS AND LOW GROUND COVER OF NON-DISTURBED AREAS.
6. ANY DISTURBED AREAS, OTHER THAN BUILDING PAD AREAS, SHALL IMMEDIATELY BE COVERED WITH SITE TOPSOIL WITHIN 7 DAYS OF CLEARING. BUILDING PAD AREAS SHALL BE COVERED WITH BITUMEN EMULSION AS SPECIFIED.
7. APPLY PERMANENT STABILISATION TO SITE (LANDSCAPING).

SEDIMENT BASIN SIZING

1. THE SEDIMENT BASIN SHALL BE CONSTRUCTED ON A RATE PER HECTARE BASIS AND HAS BEEN IN ACCORDANCE WITH THE REQUIREMENTS OF THE LANDCOM MANUAL "MANAGING URBAN STORMWATER - SOILS AND CONSTRUCTION", FOR SEDIMENTATION **TYPE D** SOILS. THE DISTURBED AREA WITHIN THIS CATCHMENT AT ANY ONE TIME SHOULD BE LIMITED TO AN AREA FOR WHICH EACH SEDIMENT BASIN CAN HANDLE. EACH BASIN SHALL BE SIZED IN ACCORDANCE WITH THE TABLE BELOW.

SEDIMENT BASIN SIZING TYPE D SOILS	
VOLUMETRIC RUNOFF COEFFICIENT, CV	0.25 (APPENDIX F - TABLE F2)
85TH PERCENTILE 5 DAY TOTAL RAINFALL DEPTH, R	32.2 mm
CATCHMENT AREA, A	1 Ha (UNIT AREA)
SETTLING ZONE VOLUME (PER HECTARE) 10 CV A R	80.5 m^3
DISTURBED CATCHMENT AREA	1 Ha (UNIT AREA)
R K LS P C	110.87m^3
SEDIMENT ZONE VOLUME (0.17 A (R K LS P C)/1.3	14.5m^3 < 50% SETTLING VOL
TOTAL SEDIMENT BASIN VOLUME REQUIRED :	120.75 m^3/Ha

* (LANDCOM MANAGING URBAN STORMWATER MANUAL REFERENCE)

2. THE FOLLOWING DESIGN PARAMETERS HAVE BEEN ASSESSED FOR THE SITE:

CONSTRAINT	VALUE	(SOURCE)*
RAINFALL EROSIVITY (R-FACTOR)	2350	APPENDIX B
LENGTH/SLOPE GRADIENT FACTOR, LS	0.955	APPENDIX A - TABLE A1
SOIL ERODIBILITY (K-FACTOR)	0.038	(TABLE C20 - BLACKTOWN)
EROSION CONTROL PRACTICE FACTOR (P-FACTOR)	1.3 (COMPACTED)	APPENDIX A - TABLE A2
COVER FACTOR (C-FACTOR)	1.0 (DURING EARTHWORKS)	APPENDIX A - FIGURE A5
CALCULATED SOIL LOSS, A (RUSLE EQUATION)	110.87t/Ha/YR	A = R K LS P C
SOIL HYDROLOGIC GROUP	GROUP C	APPENDIX C TABLE 20
SEDIMENT TYPE	TYPE D	APPENDIX C TABLE 4
85TH PERCENTILE 5-DAY RAINFALL EVENT	32.2mm (BLACKTOWN)	TABLE 6.3A

* (LANDCOM MANAGING URBAN STORMWATER MANUAL REFERENCE)

BASIN MANAGEMENT

1. THE CAPTURED STORMWATER IN THE SETTLING ZONE SHOULD BE DRAINED TO MEET THE MINIMUM STORAGE CAPACITY REQUIRED WITHIN A FIVE (5) DAY PERIOD FOLLOWING RAINFALL, PROVIDED THE ACCEPTABLE WATER QUALITY (NFR) AND TURBIDITY HAVE BEEN ACHIEVED.
2. CHEMICAL FLOCCULENT SUCH AS GYPSUM MAY BE DOSED TO AID SETTLING WITHIN 24 HOURS OF CONCLUSION OF EACH STORM. THE APPLIED DOSING RATES SHOULD ACHIEVE THE TARGET QUALITY WITHIN 36 TO 72 HOURS OF THE STORM EVENT.
3. INSPECT THE SEDIMENT BASINS AFTER EACH RAINFALL EVENT AND/OR WEEKLY. ENSURE THAT ALL SEDIMENT IS REMOVED ONCE THE SEDIMENT STORAGE ZONE IS FULL (REFER TO PEGS INSTALLED IN BASINS IN ACCORDANCE WITH THE SWMP). ENSURE THAT OUTLET AND EMERGENCY SPILLWAY WORKS ARE MAINTAINED IN A FULLY OPERATIONAL CONDITION AT ALL TIMES.

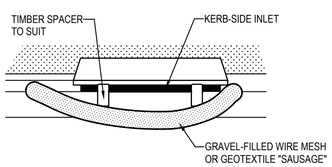
SOWING SEASON	SEED MIX
AUTUMN/WINTER	OATS@40KG/Ha + JAPANESE MILLET@10kg/Ha
SPRING/SUMMER	OATS@20kg/Ha + JAPANESE MILLET@20kg/Ha

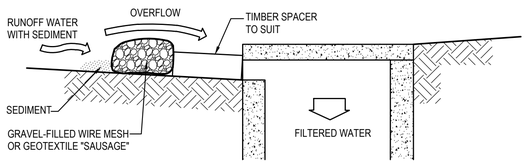
NOTE : THESE PLANT SPECIES ARE FOR TEMPORARY REVEGETATION ONLY. THEY WILL ONLY PROVIDE PROTECTION FROM EROSION FOR SIX MONTHS. WHERE THE LOTS ARE TO BE LEFT UNDEVELOPED FOR A LONGER PERIOD, THE CONTRACTOR SHALL SEEK ADVICE FROM THE SITE SUPERINTENDENT AS TO MORE APPROPRIATE REVEGETATION METHODS.

REVEGETATION IN ACCORDANCE WITH THE ABOVE TABLE WILL BE ENHANCED BY ADDING LIME AT A RATE OF 4kg/TONNE OF TOPSOIL AND 7.5kg/TONNE OF SUBSOIL.

4. THE LONG TERM GROUND COVER FACTORS FOR THE CONSTRUCTION WORKS IS NOT TO EXCEED THE FOLLOWING LIMITS:

LAND	MAXIMUM C-FACTOR	REMARKS
WATERWAYS AND OTHER AREAS OF CONCENTRATED FLOWS, POST CONSTRUCTION	0.05	APPLIES AFTER TEN WORKING DAYS OF COMPLETION OF FORMATION AND BEFORE CONCENTRATED FLOWS ARE APPLIED. FOOT AND VEHICULAR TRAFFIC IS PROHIBITED IN THIS AREA AND 70% GROUND COVER IS REQUIRED.
STOCKPILES, POST CONSTRUCTION	0.10	APPLIES AFTER TEN WORKING DAYS FROM COMPLETION OF FORMATION. 60% GROUND COVER IS REQUIRED.
ALL LANDS, INCLUDING WATERWAYS AND STOCKPILES, DURING CONSTRUCTION.	0.15	APPLIES AFTER 20 DAYS OF INACTIVITY, EVEN THOUGH WORKS MAY BE INCOMPLETE. 50% GROUND COVER IS REQUIRED.



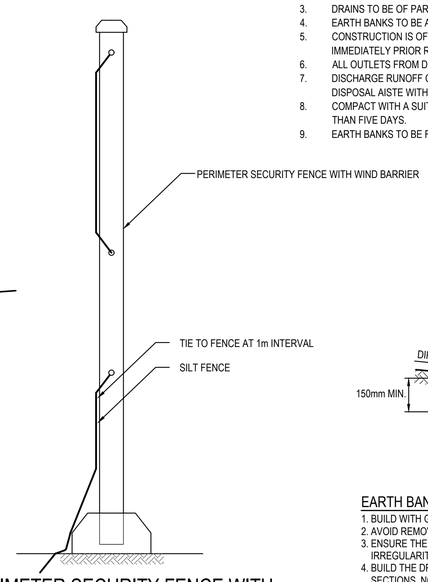


MESH & GRAVEL INLET FILTER CONSTRUCTION NOTES:

1. FABRICATE A SLEEVE MADE FROM GEOTEXTILE OR WIRE MESH LONGER THAN THE LENGTH OF THE INLET PIT AND FILL IT WITH 25mm TO 50mm GRAVEL.
2. FORM AN ELLIPTICAL CROSS-SECTION ABOUT 150mm HIGH x 400mm WIDE.
3. PLACE THE FILTER AT THE OPENING LEAVING AT LEAST A 100mm SPACE BETWEEN IT AND THE KERB INLET. MAINTAIN THE OPENING WITH SPACER BLOCKS.
4. FORM A SEAL WITH THE KERB TO PREVENT SEDIMENT BYPASSING THE FILTER.
5. SANDBAGS FILLED WITH GRAVEL CAN SUBSTITUTE FOR THE MESH OR GEOTEXTILE PROVIDING THEY ARE PLACED SO THAT THEY CAN FIRMLY ABUT EACH OTHER AND SEDIMENT / LADEN WATERS CANNOT PASS BETWEEN.

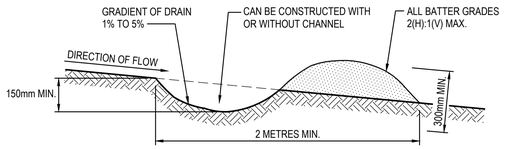
MESH & GRAVEL INLET FILTER

SCALE N.T.S.



PERIMETER SECURITY FENCE WITH WIND BARRIER & SILT FENCE

N.T.S.



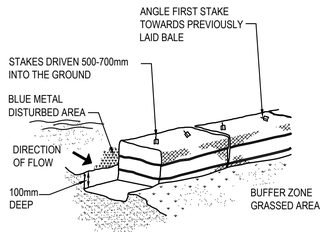
NOTE: ONLY TO BE USED AS TEMPORARY BANK WHERE MAXIMUM UPSLOPE LENGTH IS 80 METRES.

EARTH BANK CONSTRUCTION NOTES:

1. BUILD WITH GRADIENTS BETWEEN 1% AND 5%.
2. AVOID REMOVING TREES AND SHRUBS IF POSSIBLE - WORK AROUND THEM.
3. ENSURE THE STRUCTURES ARE FREE OF PROJECTIONS OR OTHER IRREGULARITIES THAT COULD IMPEDE WATER FLOW.
4. BUILD THE DRAINS WITH CIRCULAR, PARABOLIC OR TRAPEZOIDAL CROSS-SECTIONS, NOT "V" SHAPED.
5. ENSURE BANKS ARE PROPERLY COMPACTED TO PREVENT FAILURE.
6. COMPLETE PERMANENT OR TEMPORARY STABILISATION WITHIN 10 DAYS OF CONSTRUCTION.

EARTH BANK (LOW FLOW)

SCALE N.T.S.



HAYBALE BARRIERS

N.T.S.

FOR DA ONLY

SURVEY INFORMATION
SURVEYED BY USHER & COMPANY
DATUM: RL 64.038 AHD
ORIGIN OF LEVELS PM 29280

REVISION	AMENDMENT	DRAWN	DESIGNED	DATE	REVISION	AMENDMENT	DRAWN	DESIGNED	DATE
01	ISSUED FOR DA ONLY	IK	FZ	01.04.2020					

Client: RESTIFA & PARTNERS PTY LTD

Architect: ZHINAR ARCHITECTS PTY LTD

This drawing and design remains the property of Henry & Hymas and may not be copied in whole or in part without the prior written approval of Henry & Hymas.

Suite 2.01
828 Pacific Highway
Gordon NSW 2072
Telephone +61 2 9417 8400
Facsimile +61 2 9417 8337
Email email@hhconsult.com.au
Web www.henryandhymas.com.au
henry&hymas

Project: CUDGEGONG TOWN CENTRE
CUDGEGONG ROAD, ROUSE HILL NSW

Title: SEDIMENT AND EROSION CONTROL TYPICAL SECTIONS & DETAILS

Drawn	Designed	Date
I.Khachab	F.Zhou	NOV 2019
Checked	Approved	Scale @A1
T.Dempsey	A.Francis	N.T.S.

Drawing number: 15A06_D1_SE02
Revision: 01