5-15 LAMOND DRIVE, TURRAMURRA

STORMWATER MANAGEMENT PLAN

SOURCE: GOOGLE MAPS (©2012)

LOCALITY MAP

NOT TO SCALE

DRAWING SCHEDULE

DRG No.	DRAWING TITLE
DA1.01	COVER SHEET, DRAWING SCHEDULE AND LOCALITY PLAN
DA2.01	CONCEPT SEDIEMNT AND EROSION PLAN AND DETAILS
DA3.01	EXISTING SERVICES AND EASEMENTS PLAN
DA4.01	CONCEPT STORMWATER EASEMENTS PLAN
DA5.01	CONCEPT STORMWATER MANAGEMENT PLAN - BASEMENT LEVEL 1
DA5.02	CONCEPT STORMWATER MANAGEMENT PLAN
DA5.10	DRAINAGE DETAILS
DA6.01	STORMWATER LONGITUDINAL SECTION - SHEET 1 OF 2
DA6.02	STORMWATER LONGITUDINAL SECTION - SHEET 2 OF 2
DA7.01	ON-SITE DENTENTION TANK PLAN, SECTIONS & DETAILS
DA7.02	CROSS SECTION, BASEMENT RAMPS UNDER STORMWATER PIPE

ALL STORMWATER MANAGEMENT MEASURES SHOWN ON THESE PLANS HAVE BEEN PREPARED FOR DEVELOPMENT APPLICATION PURPOSES TO DEMONSTRATE FEASIBILITY. ALL MEASURES WILL BE SUBJECT TO DETAILED DESIGN AT THE CONSTRUCTION CERTIFICATE STAGE AND MAY BE SUBJECT TO VARIATION PROVIDED THAT THE DESIGN INTENT IS MAINTAINED.

GENERAL NOTES

1. ALL DIMENSIONS ARE IN MILLIMETRES & ALL LEVELS ARE IN METRES, U.N.D. (UNLESS NOTED OTHERWISE).
2. NO DIMENSION SHALL BE OBTAINED BY SCALING THE DRAWINGS.
3. THESE DRAWINGS SHALL BE READ IN CONJUNCTION WITH OTHER CONSULTANTS' DRAWINGS AND SPECIFICATIONS AND WITH OTHER SUCH WRITTEN INSTRUCTIONS AS MAY BE ISSUED DURING THE COURSE OF THE CONTRACT. ANY DISCREPANCY SHALL BE REFEREED TO THE ENGINEER BEFORE PROCEEDING WITH THE WORK.
   DETAIL SURVEY DATA WAS OBTAINED FROM GEOGRAPHIC SOLUTIONS SURVEYORS, SURVEY DRAWING DATED 17/07/2012 REF No. 1826.
4. ALL LEVELS AND SETTING OUT DIMENSIONS SHOWN ON THE DRAWINGS SHALL SHALL BE CHECKED ON-SITE PRIOR TO THE COMENCEMENT OF THE WORK.
5. EXISTING SERVICES WHERE SHOWN HAVE BEEN PLOTTED FROM SUPPLIED DATA AND SUCH THEIR ACCURACY CAN NOT BE GUARANTEED. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ESTABLISH THE LEVEL OF ALL EXISTING SERVICES PRIOR TO THE COMMENCEMENT OF WORK.
6. ON COMPLETION OF OF STORMWATER INSTALLATION, ALL DISTURBED AREAS MUST BE RESTORED TO THEIR ORIGINAL CONDITION, INCLUDING KERBS, FOOTPATHS, CONCRETE AREAS, GRAVEL AND GRASSSED AREAS AND ROAD PAVEMENTS, UNLESS DIRECTED OTHERWISE.

STORMWATER NOTES

1. MIN. COVER TO STORMWATER PIPES TO BE 600MM.
2. PIPES Ø300 AND GREATER ARE TO BE CLASS 2 RCP OR FRC (U.N.O.). PIPES ARE TO BE LAID AT MIN. 1.0%.
3. STORMWATER PIPES TO BE SIZED TO CONVEY THE 1:50 YEAR ARI STORM EVENT IN ACCORDANCE WITH COUNCIL SPECIFICATIONS.
4. PITS TO BE 900 X 900 SQUARE WITH CLASS 'D' LIDS IN TRAFFICED AREA AND CLASS 'C' IN LANDSCAPED AREAS (U.N.O.).
5. ALL WORKS EXTERNAL TO THE SITE SITE TO BE IN ACCORDANCE WITH KU-RING-GAI COUNCIL MUNICIPAL COUNCIL.

DRAWN CAMERON STANFORD DESIGNED NICOLE SUTHERLAND JOB MANAGER NICOLE SUTHERLAND VERIFIER

NOT FOR CONSTRUCTION

REVISION	DESCRIPTION	ISSUED	VER'D	APP'D	DATE
1	ISSUED FOR COORDINATION	C.S.		N.S.	31/08/12
2	ISSUED FOR DEVELOPMENT APPLICATION	C.S.		N.S.	03/09/12

CLIENT: **MR KHOURY & MR WEHBE**

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ARCHITECT: **MACKENZIE ARCHITECTS**

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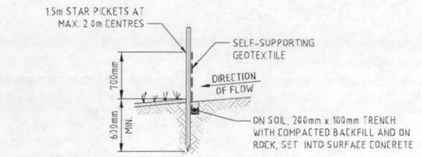
PROJECT: **5-15 LAMOND DRIVE, TURRAMURRA**

DRAWING TITLE: **COVER SHEET, DRAWING SCHEDULE AND LOCALITY PLAN**

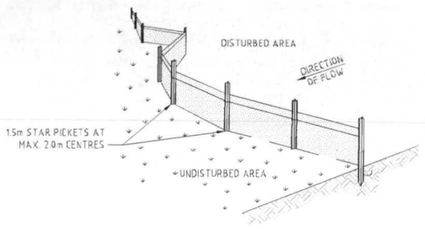
JOB NUMBER: **120523**

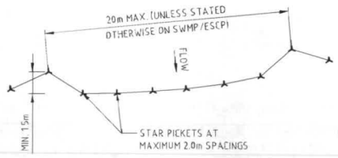
DRAWING NUMBER: **DA1.01** REVISION: **2**

DRAWING SHEET SIZE = A1



SECTION DETAIL





PLAN

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 50L/s IN THE DESIGN STORM EVENT, USUALLY THE '10-YEAR EVENT.
2. CUT A 200mm DEEP TRENCH ALONG THE UPSLOPE LINE OF THE FENCE FOR THE BOTTOM OF THE FABRIC TO BE ENTRENCHED.
3. DRIVE 1.5m LONG STAR PICKETS INTO GROUND AT 2.0m INTERVALS (MAX) AT THE DOWNSLOPE EDGE OF THE TRENCH. ENSURE ANY STAR PICKETS ARE FITTED WITH SAFETY CAPS.
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. 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.

SEDIMENT FENCE

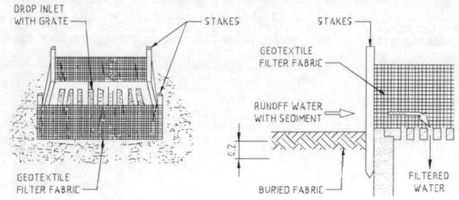
NOT TO SCALE

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 IN PLACE FOR MORE THAN 10 DAYS, STABILISE FOLLOWING THE APPROVED ESCP OR SWMP 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.

STOCKPILE

NOT TO SCALE

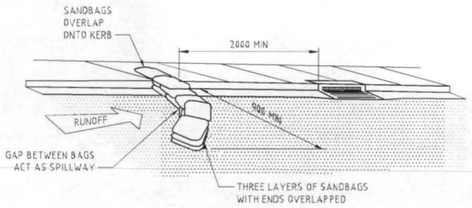


NOTES:

1. FABRICATE A SEDIMENT BARRIER MADE FROM GEOTEXTILE OR STRAW BALES.
2. CUT A 200mm DEEP TRENCH ALONG THE UPSLOPE LINE OF THE FENCE FOR THE BOTTOM OF THE FABRIC TO BE ENTRENCHED.
3. DRIVE 1.0m LONG STAR PICKETS INTO GROUND AT THE FOUR CORNERS OF PIT WALLS. ENSURE ANY STAR PICKETS ARE FITTED WITH SAFETY CAPS.
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. 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.

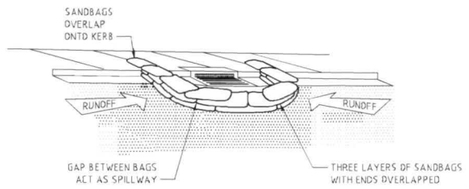
GEOTEXTILE INLET FILTER DROP INLET SEDIMENT TRAP

NOT TO SCALE



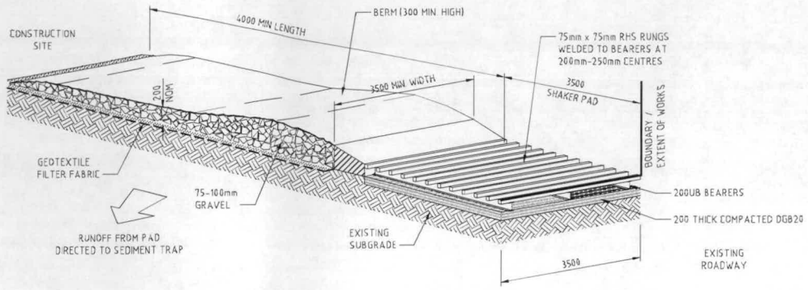
SEDIMENT TRAP FOR KERB INLET (ON GRADE - SANDBAG)

NOT TO SCALE



SEDIMENT TRAP FOR KERB INLET (AT LOW POINT - SANDBAG)

NOT TO SCALE



MAINTENANCE

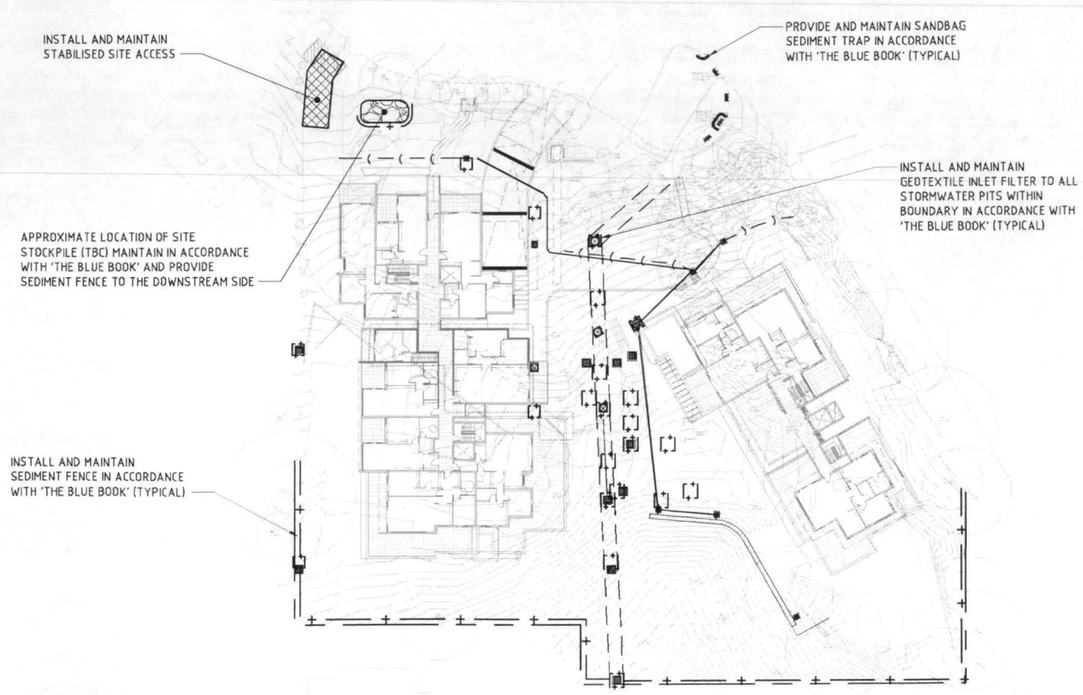
- THE TEMPORARY ACCESS SHALL BE MAINTAINED IN A CONDITION THAT PREVENTS TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS OF WAY.
- THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL GRAVEL AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.
- ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS OF WAY MUST BE REMOVED IMMEDIATELY.
- INSTALL BARRIER ON EITHER SIDE OF SHAKER PAD TO ENSURE VEHICLES ARE GUIDED ON TO THE PAD.
- INVERT OF SHAKER PAD TO BE DRAINED VIA AGRICULTURAL PIPE WRAPPED IN GEOTEXTILE FABRIC

STABILISED SITE ACCESS

NOT TO SCALE

SEDIMENT AND EROSION LEGEND

- INSTALL AND MAINTAIN SEDIMENT FENCE
- SANDBAG SEDIMENT TRAP
- PROVIDE AND MAINTAIN GEOTEXTILE INLET FILTER TO STORMWATER PIT
- TEMPORARY CONSTRUCTION ACCESS
- SITE STOCKPILE



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PROJECT: **5-15 LAMOND DRIVE, TURRAMURRA**

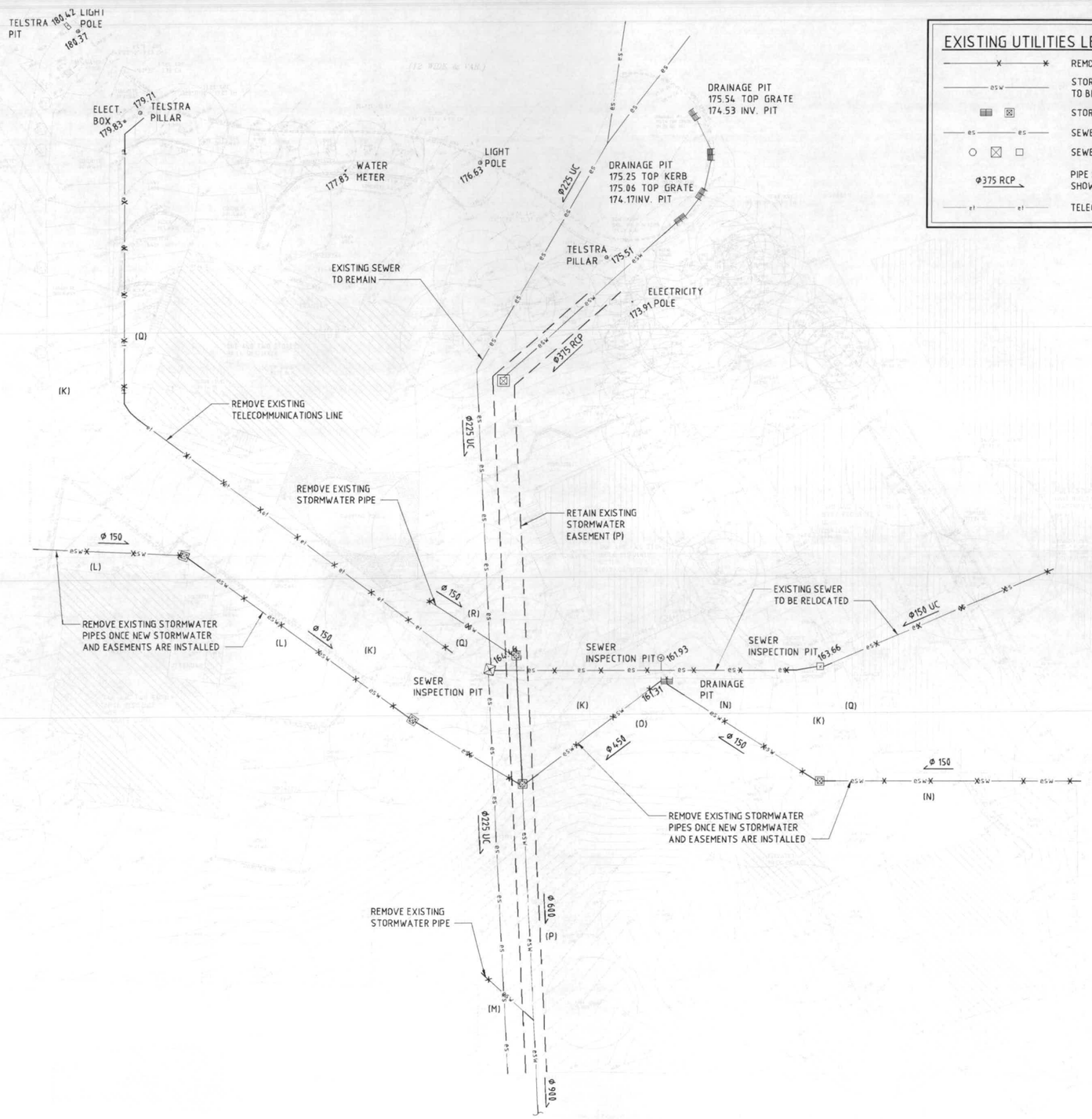
DRAWING TITLE: **CONCEPT SEDIEMNT AND EROSION PLAN AND DETAILS**

JOB NUMBER: **120523**

DRAWING NUMBER: **DA2.01** REVISION: **2**

DRAWING SHEET SIZE = A1

Date : 08-3-13 2:38pm Plotted By :umarkali Found : O:\2012 jobs\120523 - 5-15 Lamond Drive Turramurra\C-Drawings\Multidisciplinary Folder Template V2.1\C-CIVIL\3-CURRENT CAD FILES\DA2.01 CONCEPT SEDIMENT AND EROSION PLAN AND DETAILS.dwg



EXISTING UTILITIES LEGEND

- REMOVE EXISTING SERVICE
- STORMWATER PIPE TO BE RETAINED
- STORMWATER PIT
- SEWER LINE
- SEWER INSPECTION PIT
- Ø375 RCP — PIPE SIZE AND MATERIAL SHOWING FLOW DIRECTION
- TELECOMMUNICATIONS LINE

EXISTING EASEMENTS TO BE EXTINGUISHED

(K) RIGHT OF CARRIAGEWAY 3.66 WIDE AND VARIABLE WIDTH.
(L) EASEMENT TO DRAIN WATER 1 WIDE
(M) EASEMENT TO DRAIN WATER 1 WIDE
(N) EASEMENT TO DRAIN WATER 1 WIDE
(O) EASEMENT TO DRAIN WATER 1.83 WIDE
(Q) EASEMENT TO DRAIN WATER 1 WIDE
(R) EASEMENT TO DRAIN WATER 1 WIDE

NOTE:

EXISTING SERVICES SHOWN HAVE BEEN PLOTTED FROM SUPPLIED DATA, DIAMETERS SHOWN WERE OBTAINED FROM A SITE INSPECTION AND THEIR LOCATION WAS ASSUMED TO BE CENTRAL WITHIN EASEMENT AND SUCH THEIR ACCURACY CAN NOT BE GUARANTEED. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ESTABLISH THE LEVEL OF ALL EXISTING SERVICES PRIOR TO THE COMMENCEMENT OF WORK.

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CLIENT: **MR KHOURY & MR WEHBE**

ARCHITECT: **MACKENZIE ARCHITECTS**

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PROJECT: **5-15 LAMOND DRIVE, TURRAMURRA**

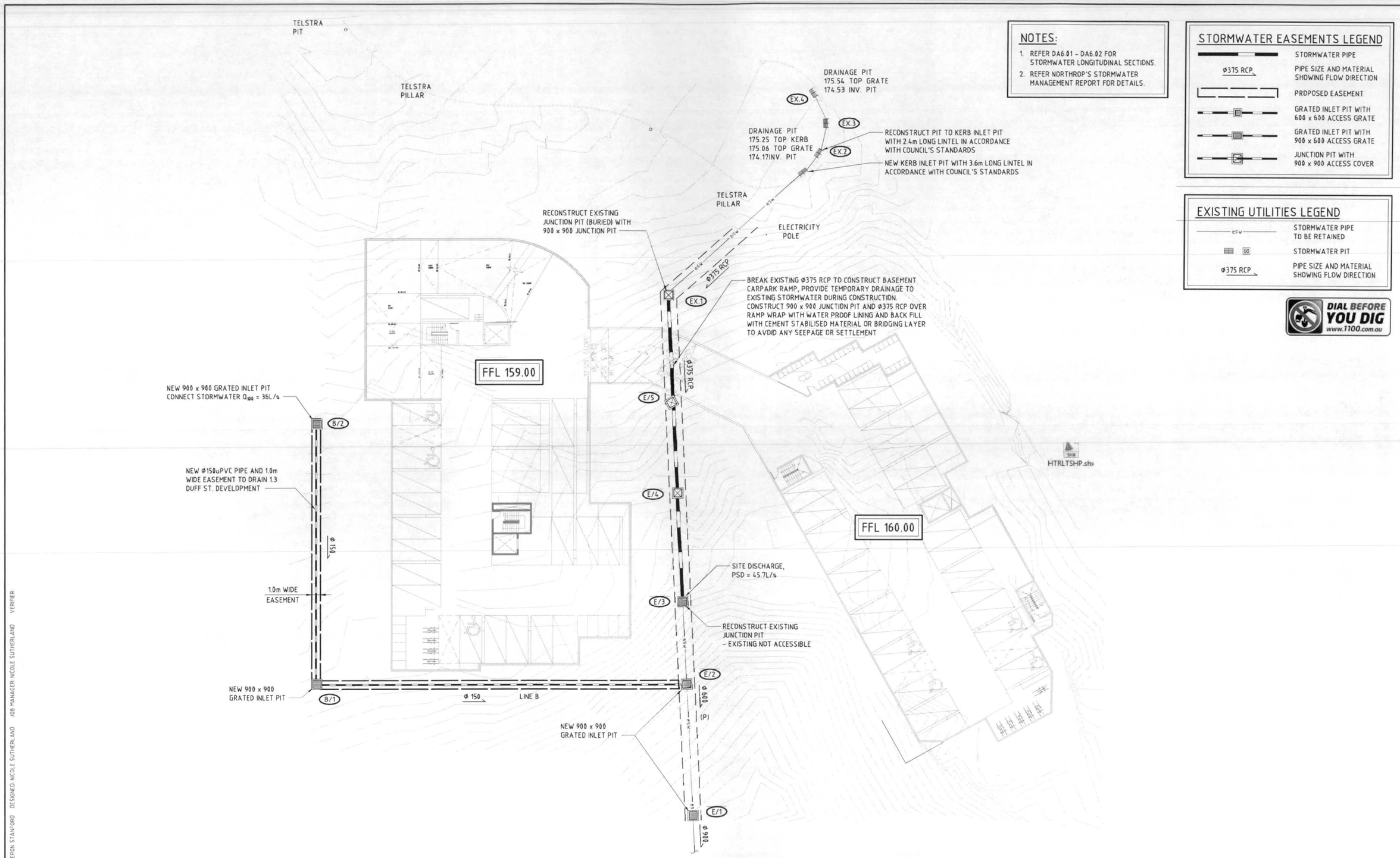
DRAWING TITLE: **EXISTING SERVICES AND EASEMENTS PLAN**

JOB NUMBER: **120523**

DRAWING NUMBER: **DA3.01** REVISION: **2**

DRAWING SHEET SIZE = A1

Date: 06-3-13 2:39pm Plotted By Lumandai Found: O:\2012 jobs\120523 - 5-15 Lamond Drive Turramurra\IC-Drawings\Multidisciplinary Folder Template V2.1\IC-CIVIL\3-CURRENT CAD FILES\DA3.01 EXISTING SERVICES AND EASEMENTS PLAN.dwg



NOTES:

1. REFER DA6.01 - DA6.02 FOR STORMWATER LONGITUDINAL SECTIONS.
2. REFER NORTHROP'S STORMWATER MANAGEMENT REPORT FOR DETAILS.

STORMWATER EASEMENTS LEGEND

- STORMWATER PIPE
- Ø375 RCP — PIPE SIZE AND MATERIAL SHOWING FLOW DIRECTION
- PROPOSED EASEMENT
- GRATED INLET PIT WITH 600 x 600 ACCESS GRATE
- GRATED INLET PIT WITH 900 x 600 ACCESS GRATE
- JUNCTION PIT WITH 900 x 900 ACCESS COVER

EXISTING UTILITIES LEGEND

- ESW — STORMWATER PIPE TO BE RETAINED
- STORMWATER PIT
- Ø375 RCP — PIPE SIZE AND MATERIAL SHOWING FLOW DIRECTION

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2	ISSUED FOR DEVELOPMENT APPLICATION	C.S.		N.S.	03/09/12
3	RE-ISSUED FOR DEVELOPMENT APPLICATION	M.P.		N.S.	14/02/13

CLIENT: **MR KHOURY & MR WEHBE**

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PROJECT: **5-15 LAMOND DRIVE, TURRAMURRA**

DRAWING TITLE: **CONCEPT STORMWATER EASEMENTS PLAN**

JOB NUMBER: **120523**

DRAWING NUMBER: **DA4.01** REVISION: **2**

DRAWING SHEET SIZE = A1

STORMWATER LEGEND

- ø 150 — PIPE SIZE AND FLOW DIRECTION STORMWATER PIPE
- GRATED INLET PIT WITH 450 x 450 ACCESS GRATE
- SWRM — STORMWATER RISING MAIN
- BASEMENT PUMP-OUT PIT
- INDICATIVE DIRECTION OF FALL TO PIT (1.0%)
- SSD — SUBSOIL DRAINAGE
- IR * — INTERMEDIATE RISER
- HER * — HIGH END RISER

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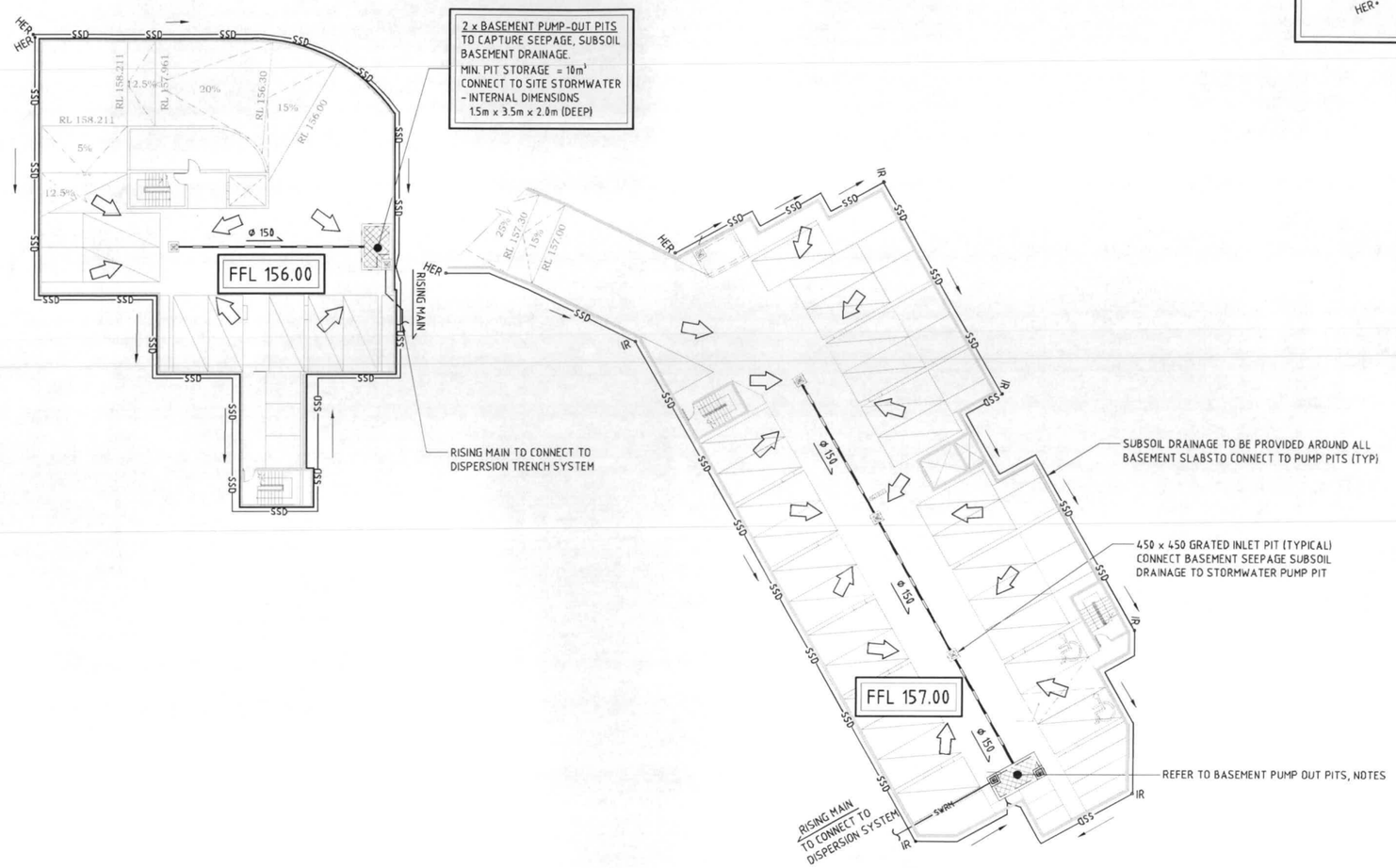

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3	RE-ISSUED FOR DEVELOPMENT APPLICATION	M.P.		N.S.	06/03/13

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ARCHITECT: **MACKENZIE ARCHITECTS**

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PROJECT: **5-15 LAMOND DRIVE, TURRAMURRA**

DRAWING TITLE: **CONCEPT STORMWATER MANAGEMENT PLAN - BASEMENT LEVEL 1**

JOB NUMBER: **120523**

DRAWING NUMBER: **DA5.01** REVISION: **3**

DRAWING SHEET SIZE = A1

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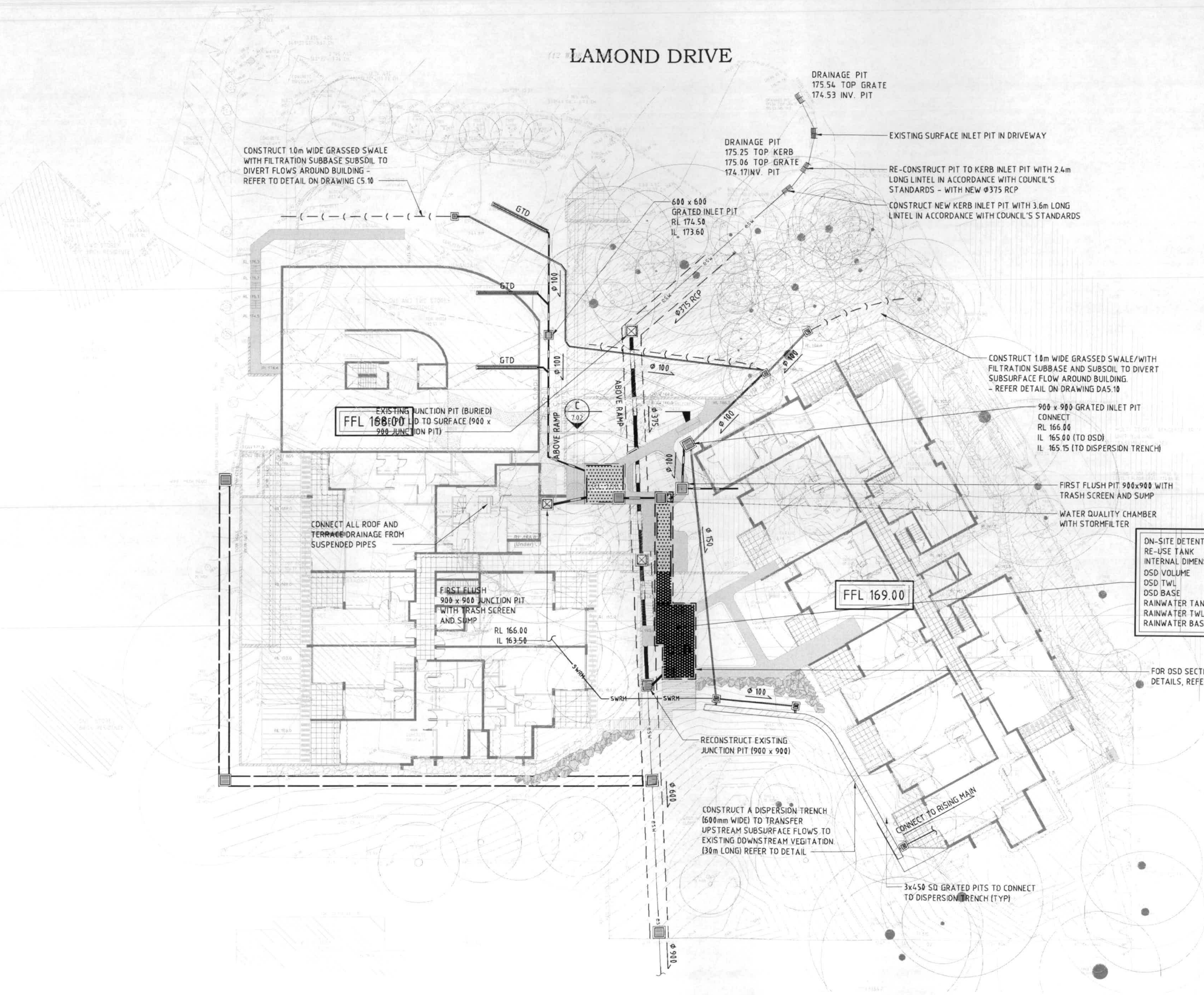
LAMOND DRIVE
DRAINAGE PIT
175.54 TOP GRATE
174.53 INV. PIT
EXISTING SURFACE INLET PIT IN DRIVEWAY
DRAINAGE PIT
175.25 TOP KERB
175.06 TOP GRATE
174.17INV. PIT
RE-CONSTRUCT PIT TO KERB INLET PIT WITH 2.4m LONG LINTEL IN ACCORDANCE WITH COUNCIL'S STANDARDS - WITH NEW Ø375 RCP
CONSTRUCT NEW KERB INLET PIT WITH 3.6m LONG LINTEL IN ACCORDANCE WITH COUNCIL'S STANDARDS
CONSTRUCT 1.0m WIDE GRASSED SWALE WITH FILTRATION SUBBASE SUBSOIL TO DIVERT FLOWS AROUND BUILDING - REFER TO DETAIL ON DRAWING C5.10
600 x 600 GRATED INLET PIT
RL 174.50
IL 173.60
GTD
Ø 100
Ø375 RCP
Ø 375
Ø 150
Ø 600
Ø 900
ABOVE RAMP
CONSTRUCT 1.0m WIDE GRASSED SWALE/WITH FILTRATION SUBBASE AND SUBSOIL TO DIVERT SUBSURFACE FLOW AROUND BUILDING. - REFER DETAIL ON DRAWING DA5.10
EXISTING JUNCTION PIT (BURIED) RAISE LID TO SURFACE (900 x 900 JUNCTION PIT)
FFL 166.00
900 x 900 GRATED INLET PIT CONNECT
RL 166.00
IL 165.00 (TO OSD)
IL 165.15 (TO DISPERSION TRENCH)
FIRST FLUSH PIT 900x900 WITH TRASH SCREEN AND SUMP
WATER QUALITY CHAMBER WITH STORMFILTER
CONNECT ALL ROOF AND TERRACE DRAINAGE FROM SUSPENDED PIPES
FIRST FLUSH 900 x 900 JUNCTION PIT WITH TRASH SCREEN AND SUMP
RL 166.00
IL 163.50
SWRM
FFL 169.00
ON-SITE DETENTION / WATER QUALITY / RE-USE TANK
INTERNAL DIMENSIONS = AS SHOWN
OSD VOLUME = 117m³
OSD TWL = IL 162.50
OSD BASE = IL 160.10
RAINWATER TANK VOLUME = 70,000L
RAINWATER TWL = IL 160.00
RAINWATER BASE = IL 156.85
FOR OSD SECTIONS, AND CONNECTION DETAILS, REFER TO DRAWING C7.01
RECONSTRUCT EXISTING JUNCTION PIT (900 x 900)
CONSTRUCT A DISPERSION TRENCH (600mm WIDE) TO TRANSFER UPSTREAM SUBSURFACE FLOWS TO EXISTING DOWNSTREAM VEGITATION (30m LONG) REFER TO DETAIL
CONNECT TO RISING MAIN
3x450 SQ GRATED PITS TO CONNECT TO DISPERSION TRENCH (TYP)

STORMWATER LEGEND

- Ø 150 — PIPE SIZE AND FLOW DIRECTION STORMWATER PIPE
- SUSPENDED STORMWATER PIPE
- SWRM — STORMWATER RISING MAIN
- HIGH LEVEL PIPE (TO DISPERSION TRENCH)
- OSD — ON-SITE DETENTION TANK RE-USE VOLUME UNDER OSD
- GRATED INLET PIT WITH 900 x 900 ACCESS GRATE
- JUNCTION PIT WITH 900 x 900 ACCESS COVER
- —(—(—(— GRASS SWALE WITH FILTRATION AND SUBSOIL

NOTES

1. MODIFICATION AND CONSTRUCTION OF A NEW KERB INLET PITS TO BE PROVIDED ON LAMOND DRIVE.
2. DRAINS MODEL WAS UNDERTAKEN TO DETERMINE 100yr ARI FLOW RATES THROUGH SITE.
3. PITS ON LAMOND DRIVE WERE MODELLED WITH 50% BLOCKAGE FACTOR IN ACCORDANCE WITH COUNCIL REQUIREMENTS

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REVISION	DESCRIPTION	ISSUED	VER'D	APP'D	DATE
1	ISSUED FOR COORDINATION	C.S.		N.S.	31/08/12
2	ISSUED FOR DEVELOPMENT APPLICATION	C.S.		N.S.	03/09/12
3	RE-ISSUED FOR DEVELOPMENT APPLICATION	C.S.		N.S.	04/09/12
4	RE-ISSUED FOR DEVELOPMENT APPLICATION	M.P.		N.S.	14/02/13
5	RE-ISSUED FOR DEVELOPMENT APPLICATION	M.P.		N.S.	06/03/13

CLIENT: MR KHOURY & MR WEHBE

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ARCHITECT: MACKENZIE ARCHITECTS

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P.O. Box H171 Australia Square, NSW 1215
Email sydney@northrop.com.au ABN 81 094 433 100

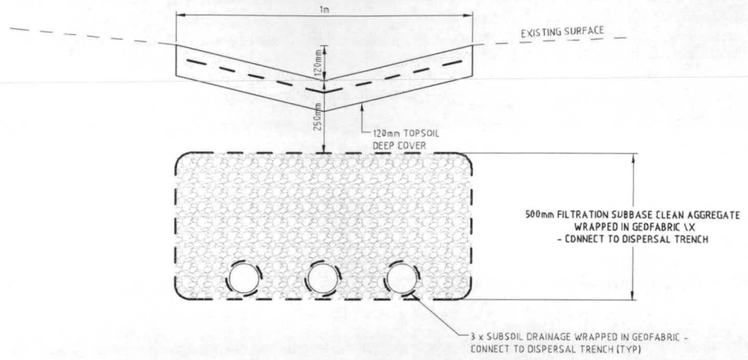
PROJECT: 5-15 LAMOND DRIVE, TURRAMURRA

DRAWING TITLE: CONCEPT STORMWATER MANAGEMENT PLAN

JOB NUMBER: 120523

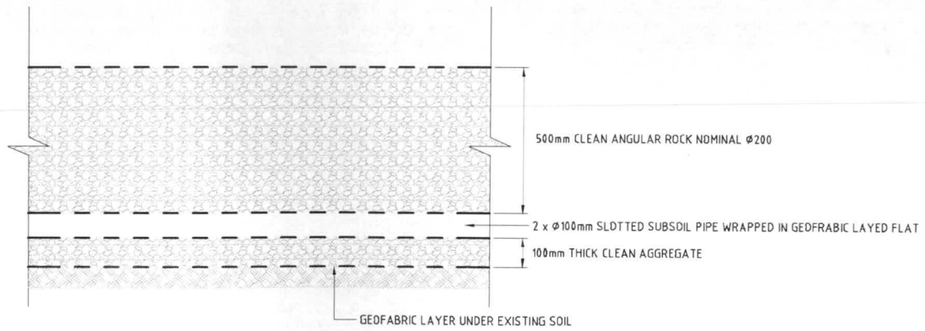
DRAWING NUMBER: DA5.02 REVISION: 5

DRAWING SHEET SIZE = A1



GRASS SWALE WITH FILTRATION SUBBASE

NOT TO SCALE



DISPERSION TRENCH DETAIL
(0.6m WIDE x 30m LONG)

NOT TO SCALE

JOB MANAGER: NICOLE SUTHERLAND VERIFIER:

DESIGNED:

DRAWN:

NOT FOR CONSTRUCTION

REVISION	DESCRIPTION	ISSUED	VER'D	APP'D	DATE
1	ISSUED FOR DEVELOPMENT APPLICATION	C.S.		N.S.	06.03.13

CLIENT: **MR KHOURY & MR WEHBE**

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0 100 200 300 400 500mm

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PROJECT: **5-15 LAMOND DRIVE, TURRAMURRA**

DRAWING TITLE: **STORMWATER MANAGEMENT PLAN**

DRAINAGE DETAILS

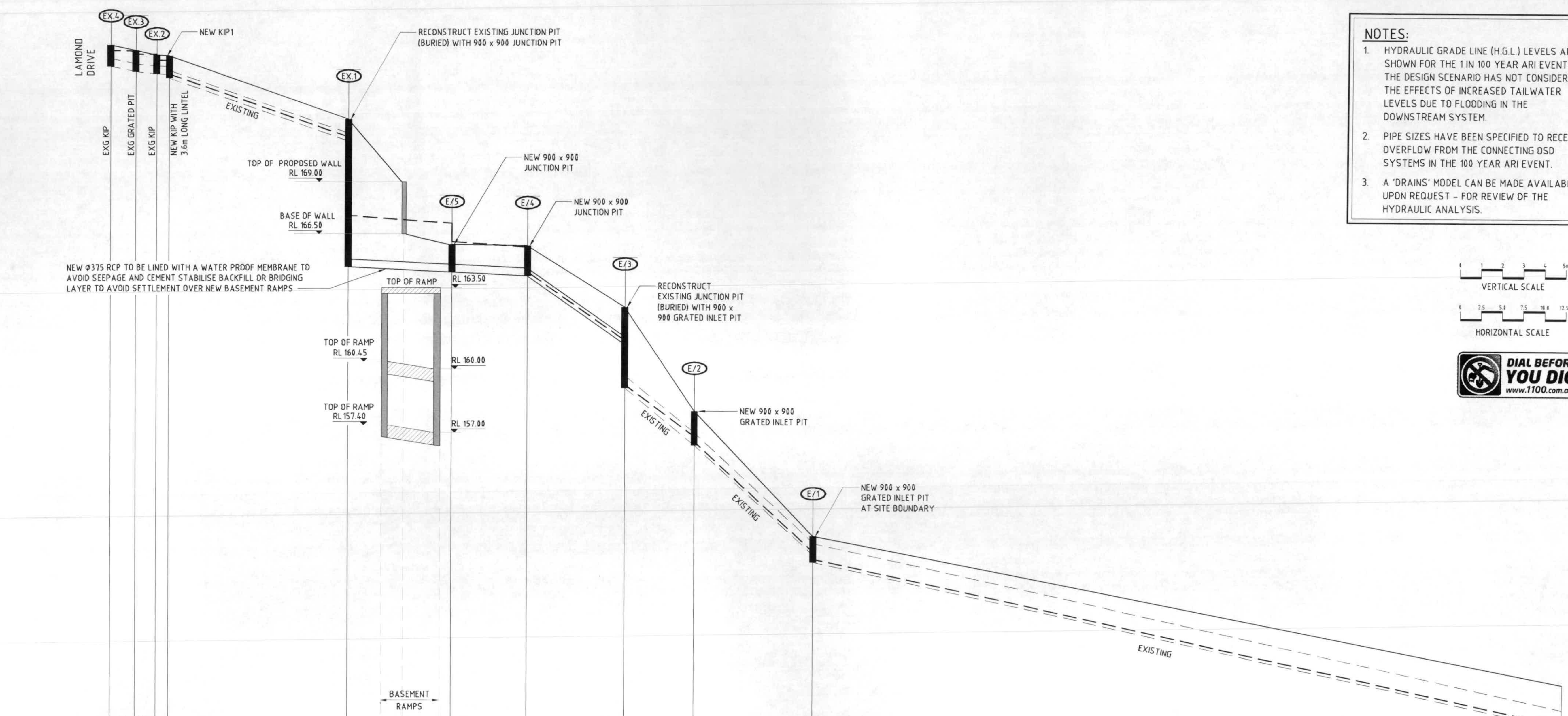
JOB NUMBER: **120523**

DRAWING NUMBER: **DA5.10**

REVISION: **1**

DRAWING SHEET SIZE = A1

Date: 06.3.13 2:39pm Plotted By: umandal Found: O:\2013 Jobs\120523 - 5-15 Lamond Drive, Turramurra\C-Drawings\Multidisciplinary Folder Template V2.1\C-CIVIL\3-CURRENT CAD FILES\DA5.10 DRAINAGE DETAILS.dwg



Q_{100} / PIPE SIZE AND MATERIAL	PIPE GRADE
137L/s 375mm	8.67%
198L/s 375mm	4.00%
292L/s 375mm	2.00%
378L/s 375mm	14.00%
375L/s 375mm	2.02%
375L/s 375mm	2.00%
375L/s 375mm	28.37%
375L/s 600mm	33.00%
375L/s 600mm	37.18%
375L/s 900mm	8.82%

DATUM 140.00 AHD

CHAINAGE	H.G.L. (100_{YR} ARI)	FINISHED SURFACE LEVEL	PIPE INVERT LEVEL
0	175.258	175.54	174.270
3	175.266 175.097	175.28	174.530 174.170
5.5	175.111 174.813 174.831	175.06	174.270 174.148 174.178
7	174.158	175.03	173.960
28.5	171.148 167.386	172	170.950 164.930
32.5			
34.9			
39.5			
40.86	167.023 166.138	166	164.680 164.680
49.87	165.872 164.697	165.94	164.500 164.500
61.5	161.397 159.280	163	161.200 159.119
69.8	156.793 156.541	158	156.380 156.380
84	151.261 150.898	152	151.100 150.750
173	143.048	145	142.900

EXISTING STORMWATER PIPE THROUGH EASEMENT

NOTES:

1. HYDRAULIC GRADE LINE (H.G.L.) LEVELS ARE SHOWN FOR THE 1 IN 100 YEAR ARI EVENT. THE DESIGN SCENARIO HAS NOT CONSIDERED THE EFFECTS OF INCREASED TAILWATER LEVELS DUE TO FLOODING IN THE DOWNSTREAM SYSTEM.
2. PIPE SIZES HAVE BEEN SPECIFIED TO RECEIVE OVERFLOW FROM THE CONNECTING OSD SYSTEMS IN THE 100 YEAR ARI EVENT.
3. A 'DRAINS' MODEL CAN BE MADE AVAILABLE UPON REQUEST - FOR REVIEW OF THE HYDRAULIC ANALYSIS.

VERTICAL SCALE 0 1 2 3 4 5m

HORIZONTAL SCALE 0 2.5 5.0 7.5 10.0 12.5m

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DRAWN: CAMERON STANFORD DESIGNED: NICOLE SUTHERLAND JOB MANAGER: NICOLE SUTHERLAND VERIFIER:

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REVISION	DESCRIPTION	ISSUED	VER'D	APP'D	DATE
1	ISSUED FOR COORDINATION	C.S.		N.S.	31/08/12
2	ISSUED FOR DEVELOPMENT APPLICATION	C.S.		N.S.	03/09/12
3	RE-ISSUED FOR DEVELOP APPLICATION	M.P		N.S	14/02/13

CLIENT: **MR KHOURY & MR WEHBE**

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ARCHITECT: **MACKENZIE ARCHITECTS**

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Email sydney@northrop.com.au ABN 81 094 433 100

PROJECT: **5-15 LAMOND DRIVE, TURRAMURRA**

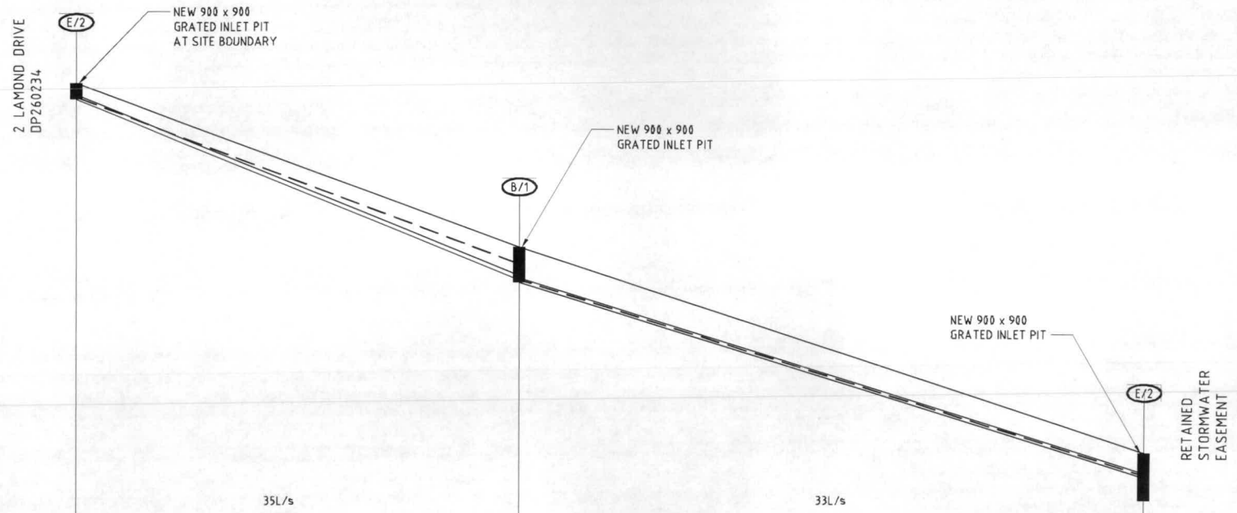
DRAWING TITLE: **STORMWATER LONGITUDINAL SECTION - SHEET 1 OF 2**

JOB NUMBER: **120523**

DRAWING NUMBER: **DA6.01** REVISION: **2**

DRAWING SHEET SIZE = A1

Date : 08-3-13 2:39pm Plotted By umandal Found : O:\2012 jobs\120523 - 5-15 Lamond Drive Turramurra\C-Drawings\Multidisciplinary Folder Template V2.1\C-CIVIL\3-CURRENT CAD FILES\DA6.01 STORMWATER LONGITUDINAL SECTION - SHEET 1 OF 2.dwg



Q_{100}		35L/s		33L/s
PIPE SIZE AND MATERIAL		Ø150 uPVC		Ø150 uPVC
PIPE GRADE		20.55%		15.73%
DATUM 153.00 AHD				
H.G.L. (100_{YR} ARI)	170.13	164.41	163.88	157.24
FINISHED SURFACE LEVEL	170.6	165		158
PIPE INVERT LEVEL	170.05	163.89	163.80	157.16
DEPTH TO INVERT				
CHAINAGE	72.2	42.20		0.00

LINE B

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VERTICAL SCALE 0 1 2 3 4 5m

HORIZONTAL SCALE 0 2.5 5.0 7.5 10.0 12.5m

NOTES:

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2. PIPE SIZES HAVE BEEN SPECIFIED TO RECEIVE OVERFLOW FROM THE CONNECTING OSD SYSTEMS IN THE 100 YEAR ARI EVENT.
3. A 'DRAINS' MODEL CAN BE MADE AVAILABLE UPON REQUEST - FOR REVIEW OF THE HYDRAULIC ANALYSIS.

NOT FOR CONSTRUCTION

DRAWN: CAMERON STANFORD DESIGNED: NICOLE SUTHERLAND JOB MANAGER: NICOLE SUTHERLAND VERIFIER:

REVISION	DESCRIPTION	ISSUED	VER'D	APP'D	DATE
1	ISSUED FOR COORDINATION	C.S.		N.S.	31/08/12
2	ISSUED FOR DEVELOPMENT APPLICATION	C.S.		N.S.	03/09/12

CLIENT: **MR KHOURY & MR WEHBE**

ARCHITECT: **MACKENZIE ARCHITECTS**

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PROJECT: **5-15 LAMOND DRIVE, TURRAMURRA**

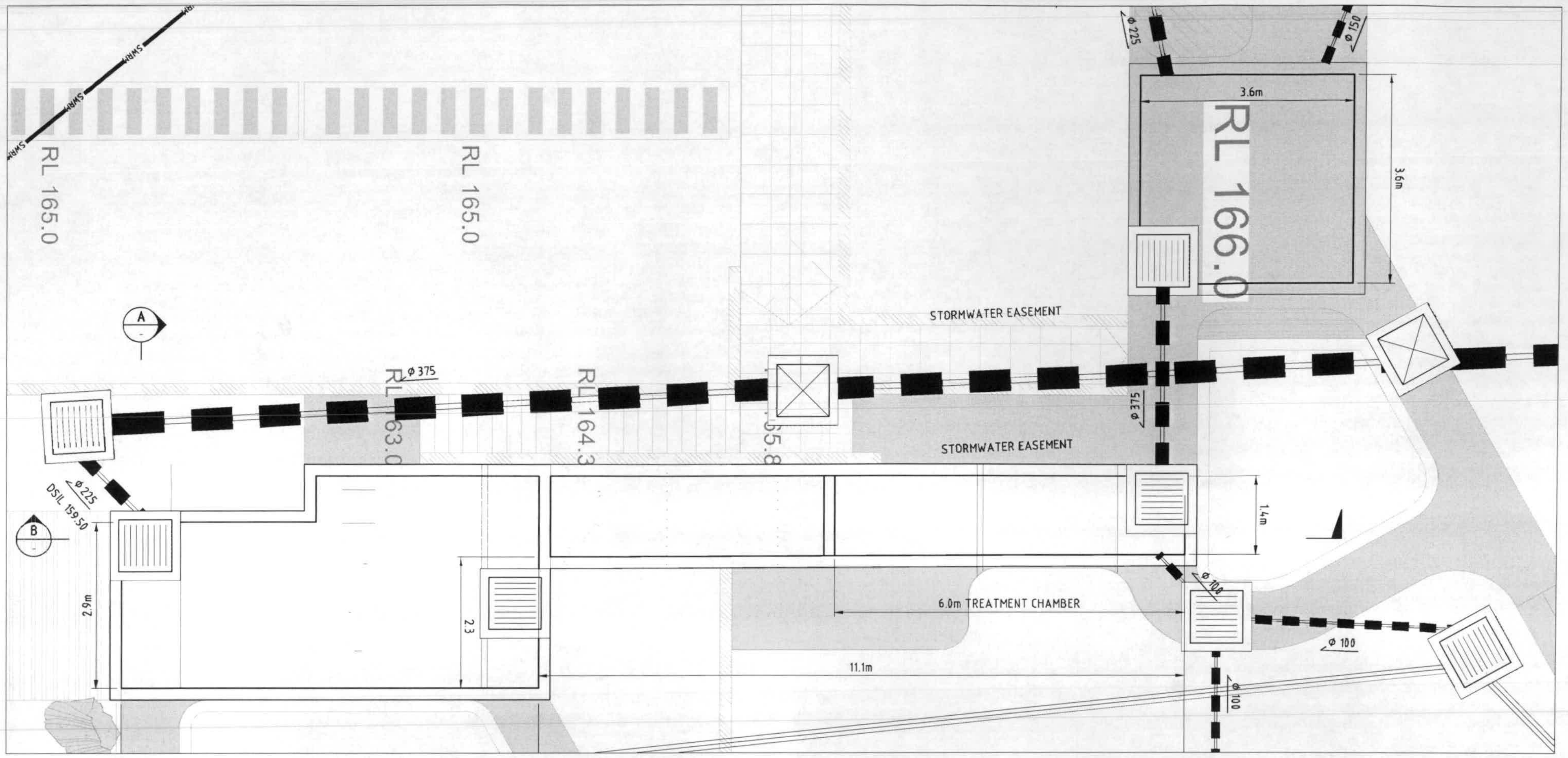
DRAWING TITLE: **STORMWATER LONGITUDINAL SECTION - SHEET 2 OF 2**

JOB NUMBER: **120523**

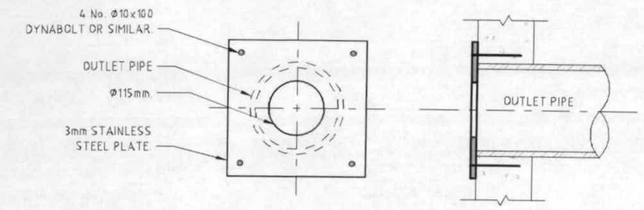
DRAWING NUMBER: **DA6.02** REVISION: **2**

DRAWING SHEET SIZE = A1

Date: 08-3-13 2:39pm Plotted By: cmandal Found: O:\2012 jobs\120523 - 5-15 Lamond Drive Turramurra\C-Drawings\Multidisciplinary Folder Templates V2.1\C-CIVIL\3-CURRENT CAD FILES\DA6.02 STORMWATER LONGITUDINAL SECTION - SHEET 2 OF 2.dwg

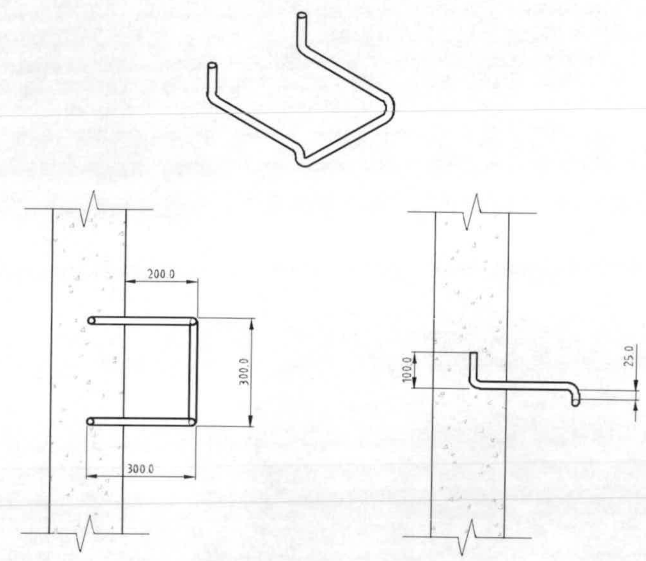


OSD AND RE-USE WATER TANK PLAN



ORIFICE PLATE DETAIL

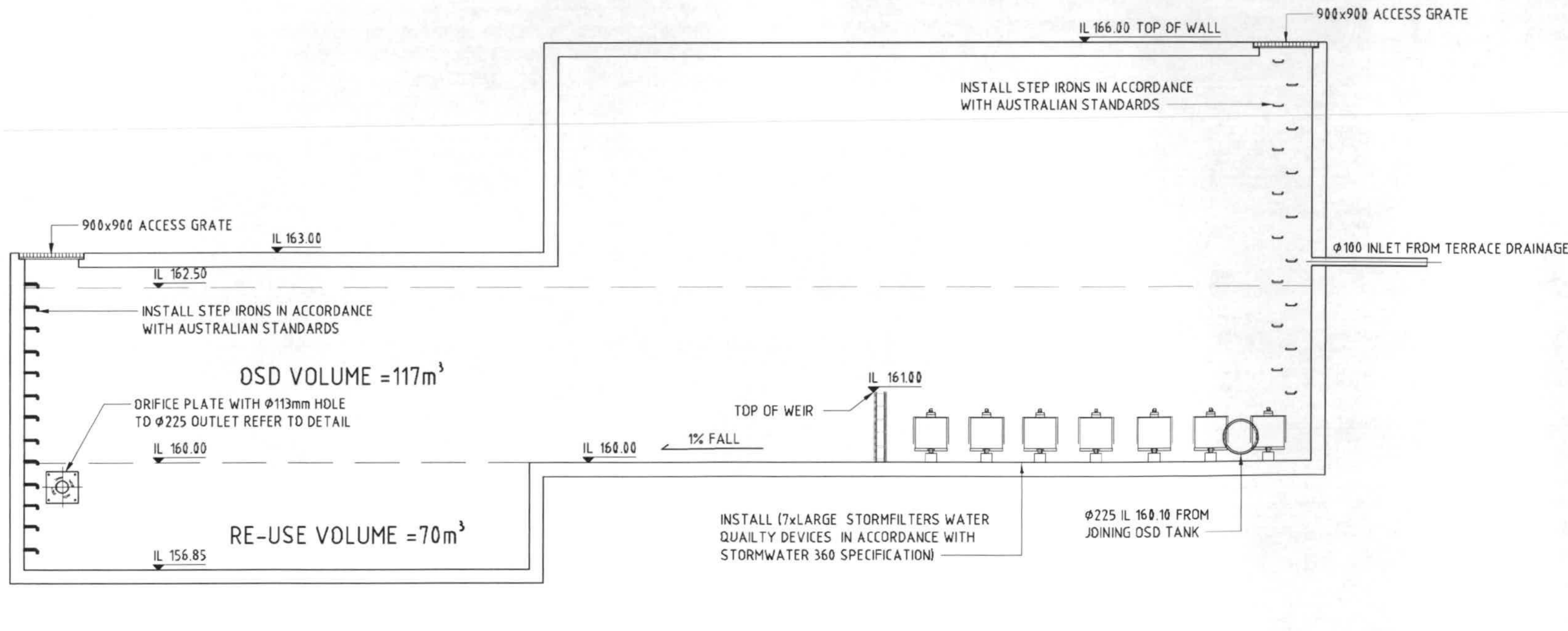
NOT TO SCALE



STEP IRON DETAIL

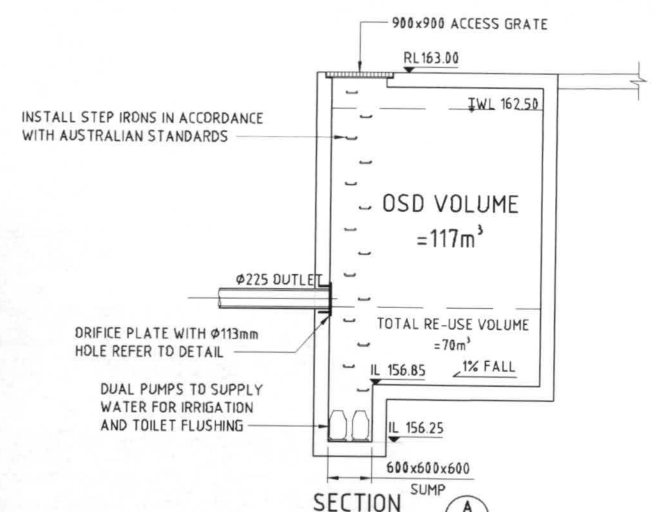
NOT TO SCALE

STEP IRON OF 20mm GALVANIZED STEEL MADE TO SHAPE AND DIMENSIONS SHOWN AND PLACED AT 300 CENTRES AND STAGGERED HORIZONTALLY FOR PITS DEEPER THAN 1.0m.



SECTION B

OSD/ WATER QUALITY/ RE-USE TANK



SECTION A

OSD/ WATER QUALITY/ RE-USE TANK

DRAWN: CAMERON STANFORD DESIGNED: NICOLE SUTHERLAND JOB MANAGER: NICOLE SUTHERLAND VERIFIER:

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REVISION	DESCRIPTION	ISSUED	VER'D	APP'D	DATE
1	ISSUED FOR DEVELOPMENT APPLICATION	M.P		N.S	14/02/13
2	RE-ISSUED FOR DEVELOPMENT APPLICATION	M.P		N.S	06.03.12

CLIENT: **MR KHOURY & MR WEHBE**

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0 0.5 1.0 1.5 2.0 2.5m

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PROJECT: **5-15 LAMOND DRIVE, TURRAMURRA**

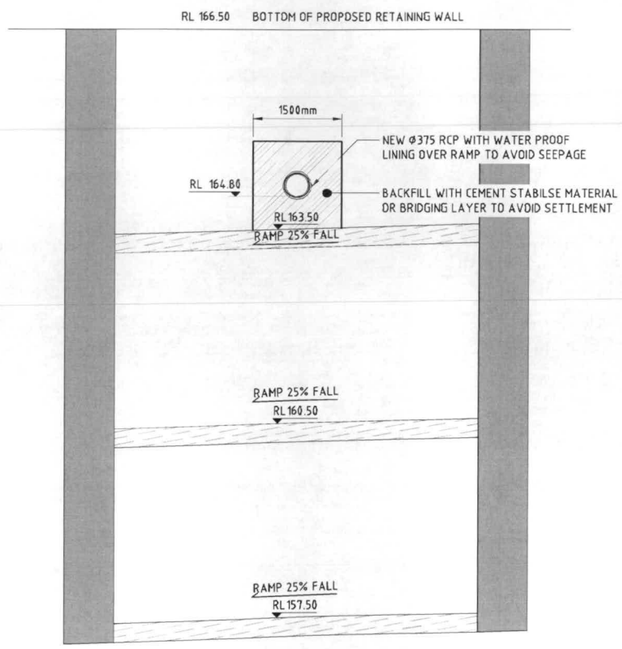
DRAWING TITLE: **ON-SITE DENTENTION TANK PLAN, SECTIONS & DETAILS**

JOB NUMBER: **120523**

DRAWING NUMBER: **DA7.01** REVISION: **2**

DRAWING SHEET SIZE = A1

Date : 08-3-13 2:40pm Plotted By umandal



SECTION C 5.02

CROSS SECTION BASEMENT RAMPS UNDER STORMWATER PIPE

DRAWN CAMERON STANFORD DESIGNED NICOLE SUTHERLAND JOB MANAGER NICOLE SUTHERLAND VERIFIER

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REVISION	DESCRIPTION	ISSUED	VER'D	APP'D	DATE
1	ISSUED FOR DEVELOPMENT APPLICATION	M.P.		N.S.	14/02/13

CLIENT: **MR KHOURY & MR WEHBE**

ARCHITECT: **MACKENZIE ARCHITECTS**

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0 0.5 1.0 1.5 2.0 2.5m

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PROJECT: **5-15 LAMOND DRIVE, TURRAMURRA**

DRAWING TITLE: **CROSS SECTION, BASEMENT RAMPS UNDER STORMWATER PIPE**

JOB NUMBER: **120523**

DRAWING NUMBER: **DA7.02** REVISION: **1**

DRAWING SHEET SIZE = A1

Plotted By umanski Found - O:\2012 jobs\120523 - 5-15 Lamond Drive Turramurra\C-Drawings\Multidisciplinary Folder Templates V2.1\C-CIVIL\3-CURRENT CAD FILES\DA7.02 CROSS SECTION, BASEMENT RAMPS UNDER STORMWATER PIPE.dwg
Date : 08-3-13 2:40pm