

NOTES

GENERAL

- G1. DESIGN HEREIN HAS BEEN PREPARED BY WARREN SMITH AND PARTNERS PTY LTD CONSULTING CIVIL ENGINEERS, LEVEL 1, 123 CLARENCE ST, SYDNEY NSW 2000. TEL-- (02) 9299 1312, FAX-- (02) 9290 1295.
- G2. THE DRAWINGS HEREIN SHALL BE READ AS REQUIRED IN CONJUNCTION WITH ARCHITECTURAL DRAWINGS BY TURNER & ASSOCIATES ARCHITECTS TEL-- (02) 8668 0000 FAX-- (02) 8668 0088
- G3. ALL DIMENSIONS IN MILLIMETRES UNO. REDUCED LEVELS AND CHAINAGES ARE IN METRES. DO NOT SCALE DRAWINGS. USE FIGURED DIMENSIONS.
- G4. THE PROPOSED WORKS DETAILED HEREIN SHALL BE CONSTRUCTED TO THE REQUIREMENTS OF COUNCIL GENERALLY AS DETAILED HEREUNDER.
- G5. ALL EXISTING SERVICES SHALL BE VERIFIED FOR DEPTH AND HORIZONTAL POSITION BY PHYSICAL MEANS PRIOR TO EXCAVATION. ANY DISCREPANCIES SHALL BE BROUGHT FORTHWITH TO THE PROJECT MANAGER'S ATTENTION.

STORMWATER & SUB-SOIL DRAINAGE

MATERIALS:

- STW1. PIPES AND FITTINGS FOR STORMWATER DRAINAGE SHALL BE AS FOLLOWS UNO IN THE DRAWINGS:
- A. POLYVINYL CHLORIDE (PVC) WITH SOLVENT WELDED JOINTS FOR BELOW GROUND DRAINAGE UP TO 225mm.
 - B. FIBRE REINFORCED CEMENT WITH RUBBER RINGS FOR PIPE DIA'S GREATER THAN 225mm. UNO.
 - C. REINFORCED CONCRETE WHERE REQUIRED BY AS 3500 FOR EXCESSIVE DEPTH.
 - D. INSTALL IN ACCORDANCE WITH AUSTRALIAN STANDARD AS3500 EXCEPT WHERE VARIED BY THE CONTRACT DOCUMENTS.
- STW2. PIPES & FITTINGS FOR SUBSOIL DRAINAGE SHALL BE SLOTTED POLYVINYL CHLORIDE (PVC) WITH SOLVENT WELDED JOINTS, MIN. 150mm DIAMETER.
- STW3. IN GROUND DRAINAGE PIPEWORK SERVING DP's SHALL BE MINIMUM 150mm DIA. UNO.
- STW4. GRATED DRAINS SHALL BE 150mm NOM. A. 150mm NOM. WIDTH IN NON TRAFFICABLE AREAS. B. 225mm NOM. WIDTH IN TRAFFICABLE AREAS.
- STW5. STORMWATER PITS ARE AS SHOWN & SPECIFIED ON THE PLANS . PRECAST TYPE ACCEPTABLE WITH STEP IRONS FOR DEPTH GREATER THAN 1000. BENCH ALL PITS MIN. 50mm & FORM SMOOTH TRANSITION FROM INLET TO OUTLET
- STW6. SELECT FILL SHALL BE MATERIAL OBTAINED FROM EXCAVATION OF THE PIPE TRENCH OR IMPORTED WITH A PARTICLE SIZE FOR ROCK NOT GREATER THAN 75mm OR FOR OTHER THAN ROCK NOT GREATER THAN 150mm.
- STW7. IMPORTED FILL SHALL BE EITHER, AND GENERALLY CONSIST OF SINGLE SIZED AGGREGATE WITH PARTICLE SIZE NOT GREATER THAN 5mm WRAPPED ALL ROUND WITH GEOTEXTILE FILTER FABRIC OR APPROVED HIGH COMPACTION SAND OR APPROVED CRUSHED ROAD GRAVEL CONFORMING TO RTA FORM 3051 OR SIMILAR.
- STW8. STORMWATER PITS AND GRATES TO CONFORM WITH STANDARD COUNCIL REQUIREMENTS, WHERE ON PUBLIC LAND. GRATES TO BE SUPPLIED IN CLASS SHOWN ON THE DRAWINGS.
- INSTALLATION REQUIREMENTS:
- STW9. PIPES SHALL BE TRUE TO GRADES SHOWN AND ALIGNED SO THAT THE CENTRES OF THE INLET PIPES INTERSECT WITH THE CENTRE OF THE OUTLET PIPE AT THE DOWNSTREAM FACE OF THE PIT.
- STW10. MINIMUM GRADES FOR GRAVITY STORMWATER DRAINAGE SHALL CONFORM TO AS3500 PART3 AS FOLLOWS, UNO:
- 1% FOR 100 AND 150 mm DIA.
 - 0.5% FOR 225 mm DIA
 - 0.2% FOR 300 mm DIA
 - 0.35% FOR 375 mm DIA
- STW11. MINIMUM DEPTH OF COVER SHALL BE :-
- 300mm IN PRIVATE PROPERTY (NON VEHICULAR TRAFFIC).
 - 450mm IN PUBLIC AREAS.
 - 600mm IN VEHICULAR TRAFFICABLE AREAS (FOOTWAY/ROADWAY).
- STW12. BED ALL PIPES FIRMLY AND EVENLY ONTO IMPORTED BEDDING FILL MATERIAL.
- STW13. LAY AND JOINT ALL PIPES IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS AND AS 3725-1989 LOADS ON BURIED CONCRETE PIPES AS 2566-1998 BURIED FLEXIBLE PIPELINES AS 1597.2-1996 PRECAST REINFORCED CONCRETE BOX CULVERTS. AS 3500-1990 NATIONAL PLUMBING & DRAINAGE CODE. PART 2, SANITARY PLUMBING AND SANITARY DRAINAGE. SYDNEY WATER REQUIREMENTS.
- STW14. ALLOW TO TEST ALL PIPES AND PITS TO MANUFACTURERS REQUIREMENTS.

CONCRETE WORKS

- C1. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH AS3600, THE STANDARDS ASSOCIATION AUSTRALIA, STANDARDS CITED IN AS3600, THE DRAWINGS AND THE SPECIFICATION.
- C2. ALL CONCRETE SHALL BE 80mm NOMINAL SLUMP, 20mm MAXIMUM AGGREGATE WITH NO ADMIXTURES OR FLY ASH, UNLESS OTHERWISE APPROVED.
- ALL CONCRETE WORK IN CONTACT WITH SEWER TO HAVE TYPE SL PORTLAND CEMENT, OTHERWISE TYPE A CEMENT
- FOR BRIDGE WORKS, A MAXIMUM 56 DAYS SHRINKAGE OF 600 MICROSTRAIN, A MINIMUM CEMENT CONTENT 350kg/m3 AND MAXIMUM WATER:CEMENT RATIO OF 0.40
- C3. STRENGTH GRADE OF CONCRETE SHALL BE : 25 MPa (KERBS, EDGE STRIPS & CONCRETE ENCASEMENT) AND 32 MPa ELSEWHERE.
- C4. CONSTRUCTION JOINTS SHALL BE PROPERLY FORMED AND USED ONLY WHERE SHOWN OR APPROVED. GENERALLY FOR HAND PLACED KERB & GUTTER 6mm THICK APPROVED BITUMINOUS MASTIC JOINTING MATERIAL SHALL BE PROVIDED AT INTERVALS NOT EXCEEDING 6m. FOR MACHINE PLACED KERB & GUTTER 6mm THICK APPROVED BITUMINOUS MASTIC JOINTING MATERIAL SHALL BE PROVIDED AT INTERVALS NOT EXCEEDING 12m & GUILLOTTINED DUMMY GROOVED JOINTS, 25mm IN DEPTH, SHALL BE FORMED EVERY 3m OF GUTTER. JOINTS ARE ALSO REQUIRED AT EACH END OF GUTTER CROSSING AND GULLY PITS. JOINTS SHALL BE SET VERTICAL AND SQUARE TO THE KERB.
- C5. REINFORCEMENT IS REPRESENTED DIAGRAMMATICALLY AND IS NOT NECESSARILY SHOWN IN TRUE PROJECTION.
- C6. WELDING OR SPLICES IN REINFORCEMENT SHALL BE USED ONLY IN POSITIONS APPROVED BY THE ENGINEER.
- C7. CONCRETE CURING SHALL BE IN ACCORDANCE WITH AS3600. CURING SHALL BE COMMENCED WITHIN TWO HOURS OF FINISHING OPERATIONS AND SHALL BE CONTINUED FOR A MINIMUM OF SEVEN DAYS BY AN APPROVED PROPRIETARY COMPOUND OR BY KEEPING CONTINUOUSLY WET.
- C8. FORMWORK SHALL BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH AS3610. FORMWORK SHALL NOT BE STRIPPED NOR PROPS REMOVED WITHOUT APPROVAL.
- C9. FABRIC LAP DETAILS SHALL BE IN ACCORDANCE WITH FIG.13.2.4 OF AS3600.
- C10. HOOKS, LAPS AND BENDS SHALL BE IN ACCORDANCE WITH AS3600 UNO.
- C11. ALL CHEMICAL ANCHORS SHALL BE EITHER 'CHEMSET' BY "RAMSET" WITH THE GLASS CAPSULE SYSTEM INSTALLED IN STRICT ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS OR HILTI HVU ADHESIVE ANCHOR WITH FOIL CAPSULE SYSTEM INSTALLED IN STRICT ACCORDANCE WITH MANUFACTURERS INSTRUCTION. ALL CHEMICAL ANCHORS SHALL BE HOT DIPPED GALVANIZED AND BE MIN M16 DIA. U.N.O.

GENERAL EARTHWORKS, SITEWORKS & FILLING:

FILLING:

- SGE1. THESE CLAUSES SHALL BE READ IN CONJUNCTION WITH THE GEOTECHNICAL INVESTIGATION
- SGE2. THE RECOMENDATIONS CONTAINED IN THE GEOTECH REPORT SHALL OVERRIDE THE CLAUSES PRESENTED HEREIN.
- STRIP ALL TOPSOIL AND UNDERLYING FILL AND STOCKPILE TOPSOIL
- SGE3. FOR LATER REUSE FOR LANDSCAPING PURPOSES.
- NEW FILL REQUIRED TO REINSTATE CUT LEVELS TO PROPOSED
- SGE4. BENCHING LEVELS SHALL BE SOURCED FROM OTHER PARTS OF THE EXCAVATION AS SELECT FILL OR IMPORTED FILL AS SPECIFIED BELOW IN SGE 4 AND SGE 5.
- SELECT FILL SHALL CONSIST OF LOCALLY DERIVED OR CUT
- SGE5. NATURAL CLAYS.
- IMPORTED FILL SHALL CONSIST OF RIPPED SANDSTONE OR SHALE
- SGE6. OR SIMILAR MATERIAL WITH MAXIMUM PARTICLE SIZE NOT GREATER THAN 120mm AND A MOISTURE CONTENT WITHIN 2-3% OF STANDARD OPTIMUM.
- ALL FILL (COHESIVE SOIL) SHALL BE PLACED IN LAYERS OF 200mm
- SGE7. MAXIMUM THICKNESS, COMPACTED BY MACHINE ROLLING TO ACHIEVE A DRY DENSITY RATIO OF NOT LESS THAN 98% STANDARD MAXIMUM AT A CORRESPONDING MOISTURE CONTENT WITHIN 2-3% OF STANDARD OPTIMUM.
- IN AREAS WHERE HIGH IMPACT ROLLING IS USED TEST EACH FINAL LAYER OF NOT GREATER THAN 300mm TO 400mm TO ACHIEVE A DRY DENSITY RATIO OF NOT LESS THAN 98% STANDARD MAXIMUM AT A CORRESPONDING MOISTURE CONTENT WITHIN 2-3% OF STANDARD OPTIMUM.

EXCAVATION BATTERS:

- SGE8. ALL TEMPORARY BATTERS CUT IN CLAY SUBSTRATE SHALL BE 1 HORIZ : 1 VERT. ALL LONG TERM EXPOSED BATTERS CUT IN CLAY SUBSTRATE SHALL BE 2 HORIZ : 1 VERT. ALL DETENTION BASIN BATTERS IN CLAY SUBSTRATE SHALL BE 3 HORIZ : 1 VERT. ALL DETENTION BASIN BATTERS IN ROCK SUBSTRATE SHALL BE NEAR VERTICAL.
- SGE9. GEOTECHNICAL TESTING IS TO BE UNDERTAKEN TO AT LEAST LEVEL 1 CONTROL OF FILL COMPACTION STANDARD, AS DEFINED IN AS. 3738 AS FOLLOWS
- FOR GENERAL FILL OR CUT AREAS OVER THE AREA PROVIDE ONE (1) TEST PER 200mm LAYER, OVER AN AREA NOT GREATER THAN 500 m².
 - FOR GENERAL FILL AREAS IN CONCENTRATED AREAS ADJACENT TO AND BEHIND THE STRUCTURE AND ADJACENT TO AND BEHIND RETAINING WALLS PROVIDE ONE (1) TEST PER 200mm LAYER, OVER AN AREA NOT GREATER THAN 50m².
- SGE10. SUBMIT ALL GEOTECHNICAL TEST RESULTS TO WARREN SMITH & PARTNERS FOR REVIEW PRIOR TO CONTINUATION WITH SUBSEQUENT SECTION OF WORK.

EARTH WORKS FOR SERVICES

- E1. EXCAVATE TRENCHES AND STOCKPILE ALL MATERIAL FOR INSPECTION WITH REGARD TO RE-USE FOR TRENCH BACKFILL. REMAINING MATERIAL TO BE REMOVED FROM SITE.
- E2. BEDDING MATERIAL SHALL CONSIST OF IMPORTED FILL ONLY. THICKNESS OF BEDDING LAYER SHALL BE 75mm IN O.T.R. AND 200mm IN ROCK.
- E3. EMBED ALL PIPES WITH IMPORTED FILL. PROVIDE 200mm SIDE SUPPORT AND 150mm OVERLAY ABOVE PIPE CROWN.
- E4. TRENCH FILL ABOVE THE EMBEDMENT ZONE TO THE UNDERSIDE OF THE ROAD PAVEMENT OR FOOTWAY FILL MATERIAL SHALL BE AS FOLLOWS :
- UNDER ROADWAY
- TRENCH FILL MATERIAL SHALL CONSIST OF IMPORTED FILL AS SPECIFIED HEREIN OF EITHER HIGH GRADE COMPACTION SAND OR APPROVED CRUSHED ROAD GRAVEL CONFORMING TO RTA FORM 3051 OR SIMILAR.
- OTHER THAN ROADWAY
- TRENCH FILL MATERIAL EXCAVATED SHALL CONSIST OF SELECT FILL AS SPECIFIED HEREIN AND SHALL NOT CONTAIN MORE THAN 20% OF STONES OF SIZE BETWEEN 75mm & 150mm AND NONE LARGER THAN 150mm. PRIOR TO THE USE OF THE EXCAVATED MATERIAL IT SHALL BE INSPECTED AND APPROVED BY THE CONSULTANT.
- E5. COMPACT BEDDING, EMBEDMENT AND TRENCH FILL MATERIALS AS FOLLOWS:
- EMBEDMENT:-
- FOR GRANULAR FILL MATERIAL (NON-COHESIVE SOILS) EG. COARSE AGGREGATE FILL, HIGH GRADE COMPACTION SAND, THE DENSITY INDEX (ID) SHALL BE NOT LESS THAN 70%.
- TRENCH FILL:-
- FOR GRANULAR MATERIAL (NON-COHESIVE SOILS), THE DENSITY INDEX (ID) SHALL BE NOT LESS THAN 70%.
- FOR NON-GRANULAR FILL MATERIAL (COHESIVE SOILS), THE DRY DENSITY RATIO (RD) SHALL BE NOT LESS THAN 95%.
- E6. MEASURE OF COMPACTION--
- THE DEGREE OF COMPACTION SHALL BE MEASURED BY ONE OF THE FOLLOWING PARAMETERS :-
- GRANULAR FILL (NON-COHESIVE SOILS). THE DENSITY INDEX (ID) DETERMINED IN ACCORDANCE WITH AS 1289.E6.1 BASED ON THE MAXIMUM AND MINIMUM DRY DENSITIES IN ACCORDANCE WITH AS 1289.E5.1 AND THE FIELD DRY DENSITY IN ACCORDANCE WITH AS 1289.S.3.2, AS 1289.E3.5 OR AS 1289.E8.1.
- NON-GRANULAR FILL (COHESIVE SOILS). THE DRY DENSITY RATION (RD) DETERMINED IN ACCORDANCE WITH AS 1289.S.4.1 BASED ON THE FIELD DRY DENSITY IN ACCORDANCE WITH AS 1289.S.3.2 AND THE MAXIMUM DRY DENSITY IN ACCORDANCE WITH AS 1289.S.1.1
- E7. GEOTECHNICAL TESTING IS TO BE UNDERTAKEN TO AT LEAST LEVEL 1 CONTROL OF FILL COMPACTION STANDARD, AS DEFINED IN AS. 3738 AS FOLLOWS
- TEST EACH 300mm LAYER ABOVE PIPE CROWN.
 - TEST BASE & SUB-BASE LAYERS WHERE APPLICABLE.
 - TESTS SHALL BE REQUIRED AT EACH 50m CENTRES WHERE THE LENGTH OF TRENCH IS WITHIN THE 50m REQUIREMENT.
- E8. SUBMIT ALL GEOTECHNICAL TEST RESULTS TO WARREN SMITH & PARTNERS FOR REVIEW PRIOR TO CONTINUATION WITH SUBSEQUENT SECTION OF WORK.

RESTORATION:

- RES1. RESTORE ALL TRAFFIC AREAS TO PRE EXISTING CONDITION.
- RES2. FOR ALL SURFACES OTHER THAN IN TRAFFIC AREAS RESTORE DISTURBED SURFACES TO PRE-EXISTING CONDITIONS AND COMPACT AS SPECIFIED.
- RES3. RESTORE ALL AUTHORITY OWNED AREAS TO COUNCIL STANDARDS
- ROAD WORKS, DRIVEWAYS & CARPARKS
- R1. ALLOW FOR LEVEL 2 TESTING AND SUB-GRADE CONDITIONS & PAVEMENT THICKNESS TO BE VERIFIED BY GEOTECHNICAL CONSULTANT AFTER INSPECTION OF PRELIMINARY BOXING.
- R2. ALLOW FOR ANY SUB-GRADE REPLACEMENT WORK TO BE DETERMINED AS REQUIRED BY GEOTECHNICAL CONSULTANT AT THE TIME OF PAVEMENT CONSTRUCTION.
- R3. MINIMUM DRY DENSITY RATIOS (AS 1289 3.4.1-1993) TO BE:
- | | |
|-----------------------|---------------|
| BASECOURSE | 98% MODIFIED |
| SUB-BASE | 95% MODIFIED |
| SUB-GRADE | 100% STANDARD |
| SUB-GRADE REPLACEMENT | 100% STANDARD |
- R4. PAVEMENT MATERIALS TO COMPLY WITH RTA SPECIFICATION No. 3051 OR SIMILAR AS APPROVED BY GEOTECHNICAL CONSULTANT.
- R5. PROVIDE (1) TEST FOR EACH LAYER NOT EXCEEDING 250mm THICK BEING BASECOURSE, SUB-BASE & SUB-GRADE OVER AN AREA NOT GREATER THAN 500m²
- R6. SUBMIT ALL GEOTECHNICAL TEST RESULTS TO WARREN SMITH & PARTNERS FOR REVIEW PRIOR TO CONTINUATION WITH SUBSEQUENT SECTION OF WORK.

APPROVALS

- A1. THE AS CONSTRUCTED WORKS SHALL BE INSPECTED BY DESIGN CONSULTANT. MINIMUM 48 HOURS NOTICE SHALL APPLY TO ALL INSPECTIONS.
- A2. THE DESIGN PLANS HEREIN ARE SUBJECT TO COUNCIL APPROVAL PRIOR TO CONSTRUCTION. OBTAIN EXPRESS (WRITTEN) ADVICE TO PROCEED FROM PROJECT MANAGER PRIOR TO COMMENCEMENT.
- A3. SUBMIT WORK-AS-EXECUTED DRAWINGS IN CIVILCAD OR DXF DIGITAL FORMAT AND HARD COPY FORMAT. VERIFY ALL CONSTRUCTION WORKS SHOWN HEREON.
- A4. CERTIFY THAT THE AS CONSTRUCTED SYSTEM HAS BEEN BUILT IN ACCORDANCE WITH THE APPROVED PLANS ISSUED FOR CONSTRUCTION.

SERVICES UNDER ROAD SURFACES

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

ROAD SIGNS & LINE MARKING

- RS1. ALL SIGNS AND LINEMARKING SHALL BE TO ROADS & TRAFFIC AUTHORITY STANDARDS AND SPECIFICATIONS AND AS.1742, MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES
- RS2. ALL LINEMARKING SHALL BE AUGMENTED BY RETROREFLECTIVE RAISED PAVEMENT MARKERS (RRPMs) AND ALL SHALL BE TO AS 1742.2 - 1994 AND AS 1742.2 /AMDT 1/1997-10-05
- RS3. ALL ROAD SIGNS AND POSTS SHALL BE TO AS 1742.2 - 1994 AND AS 1742.2 /AMDT 1/1997-10-05

HYDRAULIC SERVICES

- H1. ALL WORKS CARRIED OUT SHALL COMPLY WITH AS-3500, SYDNEY WATER & COUNCIL REQUIREMENTS. OBTAIN NECESSARY AUTHORITIES APPROVALS PRIOR TO COMMENCING WORKS.
- H2. PRIOR TO COMMENCING WORKS SURVEY & INSPECT SITE & CONFIRM LOCATION & LEVELS OF ALL HYDRAULIC SERVICES PIPEWORK. NO CLAIMS FOR ADDITIONAL COSTS RESULTING FROM THE LACK OF KNOWLEDGE OF SITE CONDITIONS RELATING TO WORKS TO BE DONE OR LOCATIONS AND LEVELS OF EXISTING AND NEW SERVICES WILL BE ACCEPTED.
- H3. PRIOR TO CAPPING OFF & REMOVAL OF REDUNDANT SERVICES CONFIRM ON SITE THAT SERVICE IS NOT SUPPLYING EXISTING BUILDINGS OR AMENITIES.
- H4. COLD WATER PIPEWORK SHALL CONSIST OF COPPER TUBE & FITTINGS IN ACCORDANCE WITH AS 1432 TYPE B. PIPES AND FITTINGS SHALL BE JOINTED WITH 15% SILVER SOLDER.
- H5. ALL NEW UNDERGROUND METAL PIPEWORK SHALL BE INSTALLED WITH POLYETHYLENE SLEEVING OBTAINED FROM "TYCO WATER AUST" & INSTALLED TO MANUFACTURE'S REQUIREMENTS.
- H6. LANDSCAPE IRRIGATION WATERING PIPEWORK SHALL CONSIST OF MEDIUM DENSITY POLYETHYLENE PIPE CLASS PN16 WITH ELECTRO FUSION JOINTS OR EQUAL TO EXISTING PIPEWORK.

PROTECTION OF FLORA - REFER SPECIFICATION

1. ANY TRENCHES WITHIN 3m OF TREES SHALL BE HAND DUG TO AVOID DAMAGE TO TREE ROOTS.
2. THE SEWERAGE WORKS HAVE BEEN LOCATED TO MINIMISE CLEARING AND DAMAGE TO THE EXISTING FLORA ENVIRONMENT. NO TREES ARE PERMITTED TO BE REMOVED OR DAMAGED UNO. CONSTRUCTION OF THE SEWER GRAVITY OR RISING MAIN IN THE VICINITY OF EXISTING TREES SHALL BE HAND EXCAVATED ONLY, ENSURING IRREVERSIBLE DAMAGE OF THE ROOT SYSTEM DOES NOT OCCUR.
3. IF IT IS CONSIDERED NECESSARY TO PERFORM ANY WORK ON TREES, INCLUDING TRIMMING, LOPPING, ROOT CUTTING, REPAIR AND REMOVAL, APPLICATION IN WRITING SHALL BE MADE BY THE CONTRACTOR TO THE SUPERINTENDENT. ANY WORK PERMITTED TO BE DONE ON TREES TO BE RETAINED SHALL BE PERFORMED BY AN APPROVED TREE SURGEON.
4. NO MATURE TREES OR SHRUBS ARE TO BE REMOVED FOR THE PURPOSES OF THE WORKS WITHOUT PRIOR APPROVAL OF THE BLACKTOWN CITY COUNCIL.

COUNCIL STANDARDS

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

TRAFFIC NOTE:

1. A TRAFFIC CONTROL PLAN IS TO BE PREPARED BY AN ACCREDITED RTA TRAFFIC CONTROLLER AND SUBMITTED TO COUNCIL. THIS TRAFFIC PLAN IS TO BE CERTIFIED BY AND IMPLEMENTED TO THE SATISFACTION OF AN ACCREDITED RTA TRAFFIC CONTROLLER PRIOR TO COMMENCEMENT OF WORK
2. ALL TRAFFIC CONTROL WORKS SHALL ONLY BE CARRIED OUT BY ACCREDITED RTA TRAFFIC CONTROLLERS.

CLOSED CIRCUIT COLOUR TV (CCTV)

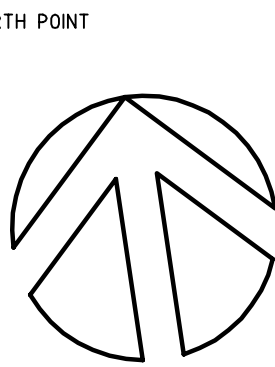
- CCTV 1. UNDERTAKE A CCTV INSPECTION OF ALL THE COMPLETED DRAINAGE IN ACCORDANCE WITH THE GUIDELINES OF THE AUSTRALIAN CONDUIT CONDITION EVALUATION MANUAL (ACCCEM)
- CCTV 2. APPLY THE FOLLOWING REQUIREMENTS TO THE CCTV INSPECTION:-
- A. USE DATA CAPTURE SOFTWARE APPROVED BY SYDNEY WATER
 - B. USE CERTIFIED CCTV OPERATORS
 - C. THE CCTV VIDEOTAPE SHALL BE OF QUALITY TO ALLOW ACCURATE ASSESSMENT OF THE INTERNAL CONDITION OF THE PIPE.
- CCTV 3. FURNISH TO THE DESIGN CONSULTANT:-
- A. TWO (2) VIDEO TAPES
 - B. ONE SET OF SURVEY DATA ON 3 1/2 DISKETTE
 - C. ONE HARD COPY PRINTOUT OF THE SURVEY DATA.

REINFORCED CONCRETE

1. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH AS3600, THE SAA STANDARDS CITED IN AS3600, THE DRAWINGS AND THE SPECIFICATION.
2. ALL CONCRETE SHALL BE 80mm SLUMP, 20mm MAXIMUM AGGREGATE WITH NO ADMIXTURES OR FLY ASH, UNLESS APPROVED BY THE ENGINEER. ALL CONCRETE TO HAVE TYPE SL PORTLAND CEMENT WITH NO FLY ASH.
3. CONSTRUCTION JOINTS SHALL BE PROPERLY FORMED AND USED ONLY WHERE SHOWN OR APPROVED BY THE ENGINEER.
4. REINFORCEMENT IS REPRESENTED DIAGRAMMATICALLY AND IS NOT NECESSARILY SHOWN IN TRUE PROJECTION.
5. WELDING OR SPLICES IN REINFORCEMENT SHALL BE USED ONLY IN POSITIONS APPROVED BY THE ENGINEER.
6. CONCRETE CURING SHALL BE IN ACCORDANCE WITH AS3600. CURING SHALL BE COMMENCED WITHIN TWO HOURS OF FINISHING OPERATIONS AND SHALL BE CONTINUED FOR A MINIMUM OF SEVEN DAYS BY AN APPROVED PROPRIETARY COMPOUND OR BY KEEPING CONTINUOUSLY WET.
7. FORMWORK SHALL BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH AS3610. FORMWORK SHALL NOT BE STRIPPED NOR PROPS REMOVED WITHOUT THE APPROVAL OF THE ENGINEER.
8. FABRIC LAP DETAILS SHALL BE IN ACCORDANCE WITH DRAWINGS
9. HOOKS, LAPS AND BENDS SHALL BE IN ACCORDANCE WITH AS3600 UNO.

10. THE CONCRETE STRENGTH SHALL COMPLY WITH THE FOLLOWING:
- | ELEMENT | MIN CEMENT CONTENT (kg/m³) | SLUMP (mm) | NOM MAX AGGREGATE SIZE (mm) | GRADE DESIGNATION (Mpa) |
|---------------------|----------------------------|------------|-----------------------------|-------------------------|
| REINFORCED CONCRETE | 360 | 80 | 20 | SL32 |
| MASS CONCRETE | 260 | 80 | 20 | N20 |
| PILES | 360 | 80 | 20 | N40 |
11. NO PENETRATIONS, RECESSES OR CHASES OTHER THAN THOSE SHOWN ON THE DRAWINGS SHALL BE MADE IN CONCRETE MEMBERS
12. ALL EDGES TO HAVE 20mm CHAMFERS, WHERE VISIBLE IN THE FINISHED WORK.

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



NOTES
1. FOR TITLE, DRAWING LIST, LEGEND, ABBREVIATIONS & NOTES REFER TO DRAWING C-01 & C-02

ISSUE	AMENDMENT	DATE	ISSUE	AMENDMENT	DATE
A B C	PRELIMINARY ISSUE PRELIMINARY ISSUE (GENERAL REVISION) CONCEPT PLAN APPLICATION	29.10.10 04.11.10 08.02.11			

HOUSING NSW &
PAYCE COMMUNITIES P/L

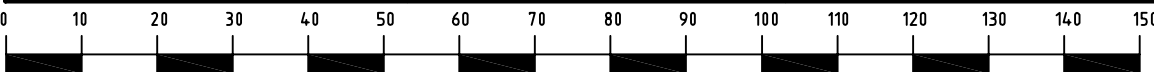
PROJECT
RIVERWOOD NORTH
RESIDENTIAL RENEWAL
PROJECT

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SERVING THE CONSTRUCTION INDUSTRY
SINCE 1981
Consulting Engineers
Hydraulic Services | Civil Engineering | Fire Protection |
Sydney Water Accredited • Water Servicing Co-ordinator
• Design and Project Management

TITLE					
SPECIFICATION NOTES					
SCALE		DRAWN	DESIGNED	CHECKED	APPROVED
1:500		C.J.N.	M.C.	L.P.	WS/P
DATE		DRAWING No.		ISSUE	
OCTOBER 2010		C-02		C	
JOB No.					
3704		CONCEPT APPLICATION			



SHEET SIZE: