

APPENDIX - ENGINEERING CONDITIONS

1 ADVISORY NOTES

1.1 Terminology

- 1.1.1 Any reference in this document to a "consent" means a "development consent" defined in the Environmental Planning and Assessment Act 1979.
- 1.1.2 Any reference in this consent to a Construction, Compliance, Occupation or Subdivision Certificate is a reference to a certificate as defined by Section 109C of the Environmental Planning and Assessment Act 1979.

1.2 Other Approvals

- 1.2.1 A separate valid Construction Certificate shall be issued prior to commencement of any construction works.
- 1.2.2 The applicant's attention is drawn to the need to obtain Council's separate approval for any ancillary development not approved by this consent, including:
 - (a) the removal of any tree(s) not approved for removal on the approved plans;
 - (b) any fence, retaining walls, cut/fill works, advertising structure or other development not approved by this consent; and
 - (c) the importation of any fill material.
- 1.2.3 This consent does not authorise the encroachment or overhang of any building or structure over or within any easement.

1.3 Services

- 1.3.1 The applicant is advised to consult with:
 - (a) Sydney Water Corporation Limited
 - (b) Integral Energy
 - (c) Natural Gas Company
 - (d) The relevant local telecommunications carrier

Regarding any requirements for the provision of services to the development and the location of existing services that may be affected by proposed works, either on the land or on the adjacent public road(s).

All approved building construction plans attached to the Construction Certificate should be submitted to and stamped by a Sydney Water Corporation Limited Customer Centre or a Sydney Water Quick Check Agent as an indication that the proposal complies with the Sydney Water requirements. Sydney Water may also require the applicant to obtain a Trade Waste Approval as part of the operation of the approved development. Enquiries should be made to ascertain the Sydney Water requirements for the eventual operation of the approved use.

- 1.3.2 Information regarding the location of underground services may be obtained from the Sydney "Dial Before You Dig" service, telephone number 1100, fax number (02) 9806 0777. Inquirers should provide the street/road name and number, side of street/road name and the nearest cross street/road name.

1.4 Other Matters.

- 1.4.1 This plan of subdivision is not to be released until Public Road access is provided. This may require the registration of the adjoining subdivision.

2 GENERAL

2.1 Engineering Matters

2.1.1 Definitions

- 2.1.1.1 Any Construction Certificate issued in relation to this consent shall incorporate and address the design of those works required by Scope of Engineering Works and other sections of this consent which do not require separate Roads Act 1993 or Local Government Act 1993 approval and any ancillary works necessary to make the construction effective. All works on existing public roads require separate engineering approval pursuant to the Roads Act 1993.

- 2.1.1.2 The Construction Certificate for Engineering works may be issued by Council or by an appropriately qualified certifier. For Council to issue the Construction Certificate a separate application must be made on the prescribed form complete with detailed plans and specifications. You are further advised that Council does not permit the private certification of works on existing public roads or reserves Council property or any property under the care and control of Council. In this regard Council will not accept a Construction or Compliance Certificate from a Private Certifier for any works on Old Wallgrove Road.

2.1.2 Design and Works Specification

- 2.1.2.1 All engineering works required by Scope of Engineering Works and other sections of this consent must be designed and undertaken in accordance with the relevant aspects of the following documents except as otherwise authorised by this consent:

- (a) Blacktown City Council's Works Specification - Civil (Current Version)
- (b) Blacktown City Council's Engineering Guide for Development (Current Version)
- (c) Blacktown City Council Development Control Plan (Current Version)
- (d) Blacktown City Council Soil Erosion and Sediment Control Policy (Current Version)
- (e) Blacktown City Council On-Site Detention General Guidelines and Checklist
- (f) Blacktown City Council Stormwater Quality Control/W.S.U.D. Policy.
- (g) SEPP 59 and Eastern Creek Precinct Plan.

Design plans, calculations and other supporting documentations prepared in accordance with the above requirements MUST be submitted to Council with any application for Construction Certificate, Road Act 1993 or Local Government Act 1993 Approval.

Any Construction Certificates issued by Private Certifiers must also be accompanied by the above documentations.

NOTE: Any variations from these design requirements must be separately approved by Council.

2.1.3 Payment of Engineering Fees

- 2.1.3.1 If it is the applicant's intention to engage Council to undertake the checking of the engineering design plans and the issue of the Construction Certificate for the engineering works nominated in the "Prior to Construction Certificate (Engineering)" section, it will be necessary to submit the relevant engineering plans to obtain a quote for this service.

A verbal quote will be provided within 48 hours based upon Council's Goods and Services Pricing Schedule. This will also be confirmed in writing.

- 2.1.3.2 If it is the applicant's intention to engage Council to undertake Construction inspections and the issue of the Compliance Certificate for engineering works, it will be necessary to contact Council's Development Services Engineer for a quote.

A verbal quote will be provided within 48 hours based upon Council's Goods and Services Pricing Schedule. This will also be confirmed in writing.

- 2.1.3.3 The payment of the following fee to Council's Development Services Unit pursuant to Section 608 of the Local Government Act 1993 and/or Section 223 of the Roads Act 1993. The fee is subject to periodic review and may vary at the actual time of payment.

- (a) The checking of engineering drawings & Engineering Inspection Fee for stormwater connection to an existing pit turfing path paving access way construction etc
- (b) All construction inspections for the works approved by (a) above. The required fee will be determined upon submission of the relevant plans to Council. This fee is subject to periodic review and may vary at the actual time of payment.

The above fee may not be applicable or could be reduced if a Construction Certificate for the engineering works is required as per conditions of this Consent and Council is requested to issue that Certificate.

2.1.4 Other Fee and Bond/Securities

- 2.1.4.1 In conjunction with the civil engineering works required to be constructed as part of this development you will be required to submit to Council security bond(s) for maintenance and/or path paving works as well as a contribution for the final asphaltic concrete (AC) surfacing of the roadwork. These matters are individually addressed within the Consent conditions.

- 2.1.4.2 Prior to release of any bond securities held by Council for civil engineering works payment of a bond release inspection fee in accordance with Council's Goods and Services Pricing Schedule must be made.

2.1.5 Other Necessary Approvals

- 2.1.5.1 A separate application or details (as necessary) shall be submitted for the separate approval of Council under the provisions of the Local Government Act 1993 and/or the Roads Act 1993 for any of the following (a) The installation of a vehicular footway crossing servicing the development as required by "Scope of Engineering Works and other sections of this consent" (b) Works on or occupation of existing public roads - that are not covered by a Roads Act Approval - which may require a Road Occupancy Licence or Work Zone Permit.

2.1.6 Subdivision

- 2.1.6.1 Principal Certifying Authority - Blacktown City Council shall be the Principal Certifying Authority for the proposed subdivision and shall issue the Subdivision Certificate upon compliance with all conditions of this consent.

2.2 Other Matters

- 2.2.1 No construction preparatory work (including tree or vegetation removal, ground clearing, excavation, filling, and the like) shall be undertaken on the land prior to a valid Construction Certificate being issued for the construction works.
- 2.2.2 Any future substation or other utility installation required to service the approved subdivision/development shall not under any circumstances be sited on future or existing Council land, including road reservations and/or public reserves. Any proposal to locate a proposed substation or other utility installation on Council land shall be negotiated with and fully endorsed by the relevant Council Directorates.

3 PRIOR TO CONSTRUCTION CERTIFICATE (GENERAL)

3.1 DA Plan Consistency

- 3.1.1 A Construction Certificate for the proposed development shall only be issued when the accompanying plans, specifications and/or details are consistent with the approved Development Application design plans.

4 PRIOR TO CONSTRUCTION CERTIFICATE (ENGINEERING)

4.1 Compliance with Conditions

- 4.1.1 All conditions in the "Prior to Construction Certificate (Engineering)" Section and the relevant conditions in the "General" Section of this consent, must be complied with prior to the issue of any Construction certificates.
- 4.1.2 All fees for Construction and Compliance Certificates, Roads Act 1993 and Local government Act 1993 approvals must be paid to Council prior to the issue of any of the above certificates or approvals.

4.2 Road-works

- 4.2.1 Road pavements are to be designed by a Professional Civil Engineer in accordance with the current version of Council's Engineering Guide for Developments and based upon soil tests performed by a registered NATA soils Laboratory and the traffic loadings listed in "Scope of Engineering Works" of this

consent. The pavement designs must be lodged with Council for approval prior to issue of the Construction Certificate for Engineering works.

4.2.2 A Traffic Management / Control Plan shall be included as part of the Roads Act Approval for road and drainage works to be carried out within public road reserves in strict compliance with the requirements of current Australian Standard 1742.3 (Traffic Control Devices for Works on Roads) and current RTA Traffic Control at Work Sites manual. Any persons preparing such traffic control layout plans shall be RTA accredited.

4.2.3 A Road Opening Occupancy Licence is required from the relevant Road Authorities (Council or RTA) for all works on existing public roads. The application for this licence must be accompanied by a Traffic Management / Control plans.

4.2.4 Dedication at no cost to Council of 8m x 8m splay corner on allotments at each street intersection. Road design plans are to reflect the need for this dedication.

4.3 Erosion and Sediment Control

4.3.1 Soil erosion and sediment control measures for road, drainage, On Site Stormwater Detention and earth works shall be designed in accordance with Council's Soil Erosion and Sediment Control Policy and Engineering Guide for Development. Details are to be included with the plans and specifications to accompany any Construction Certificate.

4.4 Compaction Requirements

4.4.1 Special attention is drawn to the following requirements of Council's current Works Specification – Civil.

- (i) Submission of compaction certificates for fill within road reserves.
- (ii) Submission of compaction certificates for road subgrade.
- (iii) Submission of compaction certificates for road pavement materials.
- (iv) The submission of 2 contour lot fill diagrams and lot fill compaction certificates. A Restriction as to User with Council's standard wording must be placed on filled lots.
- (v) Certificates from road material suppliers.

4.5 Asset Management

4.5.1 A detailed estimate of the cost of civil engineering work must be submitted to Council prior to the issue of the Construction Certificate for engineering works. If engineering works are of a value greater than \$25,000; documentary proof of payment of the levy required by the Building and Construction Industry Long Service Payments Act must be provided to Council prior to any approval of engineering plans either by Council or an appropriately accredited certifier.

4.6 Other Approvals/Clearances/Adjoining Owners Permission.

4.6.1 Written evidence shall be obtained from the Roads & Traffic Authority indicating compliance with its requirements, including the payment of any necessary supervision fees. A copy of any such permission shall accompany any Construction Certificate.

4.7 **Ancillary Works**

4.7.1 Ancillary works shall be undertaken at no cost to Council to make the engineering works required by this consent effective. Such works shall include but are not limited to the following:

- (a) The relocation of underground services where required by the positioning of new drainage and road infrastructure.
- (b) The relocation of above ground power and telephone services.
- (c) The matching of new infrastructure into existing or future designed infrastructure.

4.8 **Street Furniture**

4.8.1 A notation is to be placed on the Engineering Construction Plans "that all light poles street name poles and bus shelters in this subdivision will be black powder coated to the satisfaction of Blacktown City Council. Further that these light poles will comply with Council's specifications"

4.9 **Scope of Engineering Works**

The following scope of works shall be included in the design documentation accompanying the Construction Certificate for engineering works:

4.9.1 **Road and Drainage works**

4.9.1.1 The construction and dedication of all new roads associated with the development and the creation/provision of temporary roads, drainage, pathways, concrete path paving and any other ancillary work necessary to make this construction effective.

4.9.1.2 Proposed new road(s) must be constructed generally as follows in accordance with Blacktown City Council's Engineering Guidelines and Specifications for Developments.

Name	Width (m)	Length(m)	Formation (m)	Traffic_Loading N(E.S.A.)
Temporary Road	21.5m	1700m approx.	4.5-6.75-6.75-3.5	1 x 10 ⁷

(or equivalent to the highest traffic loading on roads within the development.)

NOTE: Road network plan by JBA Planning prepared for Jacfin Pty Ltd dated 6th August 2010

4.9.1.3 Inter-allotment drainage must be provided where any part of any lot does not drain to a public road. The inter-allotment drainage design must include the disposal of stormwater from upstream properties.

4.9.1.4 Overland flows up to the 1% A.E.P. (100 year Average Recurrence Interval) event must be intercepted at the boundary of the site and conveyed through the site in a piped or channelled discharge system and discharged in a satisfactory manner.

4.9.1.5 Drainage from the site must be connected into Council's existing drainage system (by way of an approved stormwater pollution control device).

4.9.1.6 Any drainage currently entering the site is to be collected and conveyed in an approved manner to the nearest appropriate point of discharge.

4.9.2 **On Site Stormwater Detention System**

4.9.2.1 On Site Detention

(A) On-site detention of stormwater runoff from the site must be provided in accordance with Blacktown City Council's Engineering Guide for Developments- (current edition), SEPP 59 and Eastern Creek Precinct Planning Policy.

(B) Professional accreditation of OSD designers and certifiers must be in accordance with the requirements of Council's Policy.

(C) Comprehensive design plans showing full construction details must be prepared by an accredited OSD designer to be issued with a Construction Certificate under the Environmental Planning and Assessment Act 1979 prior to the commencement of works.

4.9.3 **Filling of Land**

4.9.3.1 Batters are not to exceed a grade or slope of 5 metres horizontal to 1 metre vertical. These are to have topsoil placed on them and vegetated to ensure control of sediment and erosion. No filling including fill batters are to be placed on the drainage reserve area. The fill batters are to be suitably designed to protect them from erosion from the channel.

4.9.4 **Footpaths**

4.9.4.1 The construction of path paving is to be provided to the following nominated street(s)/road(s) in accordance with Blacktown City Council's Path Paving Policy and; Engineering Guidelines & Specifications for Developments.

4.9.4.2 The unpaved footway areas shall be fully turfed in an appropriate manner to be free draining to the street and of neat appearance.

4.9.5 **Finished Boundary Levels**

4.9.5.1 Finished levels of all internal works at the road boundary of the property must be 4% above the top of the kerb.

4.9.6 **Other Matters**

4.9.7 **Drainage**

4.9.7.1 The final Engineering Stormwater design plans and submission to Council is to be in accordance with the following comments by the Councils Drainage Section:

- Section 3.1.5 of the Stormwater Management & Trunk Drainage Strategy Lot 5 DP 262213, Ropes Creek Employment Precinct by Brown Consulting states
"The results in Table 3 indicate that using the runoff parameters specified by

Brown Consulting in Table 1 and used in the XP-RAFTS model generates larger flow estimates (30% for 20 year ARI and 12.5% for 100 year ARI) as using the Probabilistic Rational Method with Blacktown City Council specified parameters. As a conservative approach, it is appropriate to use the XP-RAFTS. Council's approach is not conservative as it leads to lower detention volumes than if the lower existing flow rates such as those derived using the Probabilistic Rational Method were used. Consequently a higher Mannings n for pervious areas should be utilised and a review of other factors undertaken to provide lower existing (pre development) flow rates than currently determined using Rafts.

- The proposed methodology of water quality being controlled in regional basins. Shall be in accordance with the principles of good Water Sensitive Urban Design (WSUD) practise, water quality treatment must be undertaken as close to the source of the pollutants as possible. Each lot must undertake it's own water quality treatment to achieve the targets on-site and the water runoff from roads and open space treated in the regional basins where provided.
- On-site detention is required for the subdivision. The detention system will need to ensure that all the post developed discharges from the 1 in 1 year ARI to the 1 in 100 year ARI storm are equal to or less than the pre development flows for all storm durations and can safely contain the required storage.
- The proposed methodology of water quantity being only controlled through detention in regional basins. As a minimum the detention storage requirements of basin 3 and the eastern half of basin 4 are to be provided on-site with the future industrial development and not as a regional basin. The western half of basin 4 is then directed to basin 5. Council's preference however is that each site provides it's own on-site detention and the regional basins only provide storage for runoff from the roads and open space.
- To account for Climate Change Impacts the rainfall intensity is to be increased by 10% in the post developed case.
- The industrial sites are to be filled to a minimum of 500 mm above the 1 in 100 year flood levels with 10% increase in rainfall. No filling is permitted within the 1 in 100 year flood extents of Ropes Creek.
- Flood modelling is to be undertaken to assure Council that there is no increase in flood levels either downstream or upstream of the site or within Ropes Creek itself as a result of the proposed development.
- Flood mapping is to be prepared and lines shown on the plans for the 1 in 100 year, 1 in 100 year + 500 mm and the Probable Maximum Flood (PMF).
- A Flood Management Plan is to be prepared for the subdivision that addresses the impacts of flooding including the PMF, flood hazard, whether evacuation is needed and if so safe evacuation routes.
- The pipe network is to be designed in accordance with the current Council's Engineering Guide for Development to carry the 20 year ARI storm flows without surcharge.

- A drainage catchment plan is required to indicate what areas are draining to specific stormwater pits.
- A DRAINS electronic model must be provided and approved to demonstrate that the pipe network can safely carry the 20 year ARI storm flows without surcharge. Blockage factors should be applied to all inlet pits with lintels/grates at 0.5 for sags and 0.2 for pits on grade. For grate only inlets the blockage factor should be 0.5 minimum.
- Details are to be provided for the safe conveyance of overland flows within and external to the site in the 1 in 100 year ARI event with freeboard to the floor level when the pipe and pit capacity is exceeded or the pipes blocked.
- In table 1 of the Stormwater Management & Trunk Drainage Strategy Lot 5 DP 262213, Ropes Creek Employment Precinct by Brown Consulting, pits over 2.5 m deep are to be 900 mm x 1200 mm.
- The subdivision requirements are to comply with Council's current Engineering Guide for Development and Civil Works Specification.
- The extent and width of the riparian zone associated with each of the creeks is to be confirmed with DECCW and whether an additional 10 m buffer strip is required each side. DECCW requirements for creek crossings and pipe discharge points are also to be included.
- The creek systems within the development are to be restored to Council and DECCW requirements including the provision of a 1 in 5 year low flow meandering system with ponds and riffles within the 1 in 100 year major flow creek capacity. A riparian vegetation management plan is to be prepared with local endemic species.
- The proposed development is to achieve the objectives of Council's draft Water Sensitive Urban Design and Integrated Water Cycle Management (IWCM) DCP.
- A drainage catchment plan is required to indicate what areas are draining to specific Stormwater Quality Improvement Devices.
- A minimum of 80% of the non-potable water use for the proposed development is to be met through rainwater, unless physically impossible to achieve. Details of realistic non-potable water usage rates are to be provided.
- A hydraulic engineer is to prepare a preliminary non-potable water supply, pipe and fixture plan for each development site.
- MUSIC modelling is to be undertaken to confirm that the water quality and rainwater reuse provisions have been met. Such modelling is to be undertaken in accordance with Council's draft guidelines. Council is able to supply local MUSIC rainfall and source node data for use in the model. Water quality treatment removal targets are to be in accordance with the % removal rates in Table 1 of the Stormwater Management & Trunk Drainage Strategy Lot 5 DP 262213, Ropes Creek Employment Precinct by Brown Consulting.
- Any proposed bio-retention swales should be in accordance with the information available from www.monash.edu.au/fawb
- The vegetation species specified for any bioretention swales are to be in accordance with Council's Draft IWCM HANDBOOK PART 5: VEGETATION SELECTION GUIDE FOR bioretention swales.

5 DURING CONSTRUCTION (ENGINEERING)

5.1 Notice of work Commencement

- 5.1.1 At least 5 full working days written notice shall be given of the commencement of engineering works. Such notice shall be accompanied by evidence of the contractor's Public Liability and Workers Compensation Insurances. For Public Liability Insurance this should be a minimum of \$10,000,000.
- 5.1.2 A minimum of 5 working days written notice is to be provided to all occupiers of properties adjacent to any works approved by this consent and which is to be carried out on Council controlled lands such as roads, drainage reserves and parks. The written notice must contain details of the proposed works, a contact name and phone number and the proposed start and finish dates of the work. A copy of the notice is to also be provided to Councils Development Services Engineers.

5.2 Service Authority Approvals

- 5.2.1 Prior to commencement of construction of footway crossings a clearance shall be obtained from the relevant telecommunications carriers and Integral Energy that all necessary ducts have been provided under the proposed crossing.

5.3 Boundary Levels

- 5.3.1 Any construction at the property boundary, including fences and driveways shall not be carried out until alignment levels have been fixed.

5.4 Compaction Requirements

- 5.4.1 Land shall be filled where necessary. All fill including existing fill shall be compacted in accordance with the Council's "Works Specification - Civil (current version)". A compaction certificate shall be obtained from a Registered Engineer (NPER) verifying that the correct compaction requirements have been met.
- 5.4.2 Removal of any unsuitable soil and/or fill material and its replacement with suitable material compacted in accordance with the current version of Council's "Works Specification - Civil".
- 5.4.3 Special attention is drawn to the following requirements of Council's Works Specification - Civil (Current Version):
 - (a) Submission of compaction certificates for fill within road reserves.
 - (b) Submission of compaction certificates for road sub-grade.
 - (c) Submission of compaction certificates for road pavement materials (sub-base and base courses).
 - (d) The submission of 2 contour lot fill diagrams and lot fill compaction certificates. A restriction as to User with Council's standard wording must be placed on filled lots.
 - (e) Compliance Certificates from road material suppliers.

5.5 Tree Protection

- 5.5.1 Existing vegetation shall be left undisturbed except where roads, drainage lines and filling and/or building works are proposed.
- 5.5.2 Prior to the commencement of any earthworks, and after the road centrelines have been pegged and/or permanently marked, the site shall be inspected by Council's representative or an appropriately accredited private certifier and the applicant's representative to identify and appropriately mark:-
 - (i) The trees to be retained.
 - (ii) All areas to be left undisturbed and cordoned off.
- 5.5.3 There is to be no storage of materials stockpiling of excavated material or parking of machinery within the drip line of the crown of any trees to be retained.
- 5.5.4 Prior to the removal of any branches of the trees, which are to be, retained Council is to be notified at least 24 hours prior to any activity and the work is to be undertaken by a qualified Arborist.

5.6 Maintenance of Soil Erosion Measures

- 5.6.1 Soil erosion and sediment control measures shall be implemented in accordance with Council's Soil Erosion and Sediment Control Policy.
- 5.6.2 Re-vegetation must be applied to disturbed areas as soon as practical after completion of earthworks and must be established prior to release of the maintenance security. All open drains must be turfed.
- 5.6.3 All required soil erosion and sediment control measures are to be maintained during the entire construction period until disturbed areas are restored by turfing paving or revegetation. Infringement Notices incurring a monetary penalty may be issued by Council where the maintenance of measures is inadequate.

5.7 Filling of Land & Compaction

- 5.7.1 Land shall be filled where necessary. All fill including existing fill must be compacted in accordance with the Council's "Works Specification - Civil (Current Version)". A compaction certificate is to be obtained from a practising Civil Engineer verifying that the correct compaction requirements have been met.
- 5.7.2 Removal of any unsuitable soil and/or fill material and its replacement with suitable material compacted in accordance with Councils "Works Specification - Civil (Current Version)".
- 5.7.3 Regular wetting down of the site must be undertaken during the course of works being carried out in order to control wind blown dust from the site.
- 5.7.4 Roads adjoining the site must be kept clean and free of all excavated /transportable spoil materials.
- 5.7.5 Trucks transporting fill must have their loads covered

- 5.7.6 Prior to the placement of any fill on the site all topsoil and vegetation must be removed down to a suitable sub-grade material. The topsoil is to be stockpiled for use in revegetation of the site.
- 5.7.7 Site filling and compaction is to be carried out under the supervision of a Chartered Geotechnical Engineer and shall be in accordance with Blacktown City Council's "Works Specification - Civil (Current Version)". Minimum standard compaction of 95% must be achieved and certified by a NATA registered soils lab and details submitted to Council.
- 5.7.8 Provisions of "Shaker Pads" and wash-down areas for trucks leaving the site details are to be shown on plans.
- 5.7.9 During the course of placement of filling the applicant shall undertake further testing for potential soil contamination. Validation of the imported fill material will be required.
- 5.7.10 All testing and validation of the fill material shall be undertaken by a suitably qualified environmental consultant in accordance with Council's Policy and Procedures for the determination of Rezoning Development and Building Applications involving Contaminated Land. A Remediation and Validation Report documenting the testing undertaken shall be submitted to Council for approval.
- 5.7.11 Should any remediation works be required documentary evidence prepared by a suitably qualified environmental consultant validating the site is to be submitted to Council for approval.
- 5.7.12 Only clean fill shall be deposited on site in accordance with Council's Works Specification - Civil (Current Version). Note: dry builder's waste i.e. bricks plaster and timber industrial waste or putrescible materials are not to be deposited on site.

5.8 Inspections of Works

- 5.8.1 Inspection Compliance Certificates issued by a Registered Engineer (NPER) or Registered Surveyor or Compliance Certificates issued by an accredited certifier, under Part A of Environmental Planning and Assessment Act 1979 as amended, are to be issued for works covered by the Construction Certificate for engineering works at the completion of the following mandatory inspection stages: -

(i) Soil Erosion and Sediment Control

- (a) Implementation of erosion and sediment control
- (b) Revegetation of disturbed areas
- (c) Construction of major controls (i.e gabions mattresses shotcreting etc)
- (d) Removal of sediment basins/ fencing etc.
- (e) Internal sediment/ pollution control devices
- (f) Final Inspection

(ii) Traffic Control

- (a) Implementation of traffic control
- (b) Maintenance of traffic control during works
- (c) Removal of traffic control

(iii) Construction of Drainage works (including inter-allotment)

- (a) Pipes before backfilling including trench excavation and bedding
- (b) Sand Backfilling
- (c) Final pipe inspection
- (d) Pit bases and headwall aprons
- (e) Pit Walls/ wingwalls/ headwalls
- (f) Concrete pit tops
- (g) Connection to existing system
- (h) Tailout works
- (i) Final Inspection

(iv) Construction of Road Pavement

- (a) Boxing out
- (b) Sub-grade roller test
- (c) Subsoil drainage
- (d) Sandstone roller test layer 1
- (e) Sandstone roller test layer 2
- (f) Kerb pre-laying
- (g) Kerb during laying including provision of roof-water outlets
- (h) Sandstone depth
- (i) Pavement profiles
- (j) DGB depths and roller tests
- (k) Wearing Course
- (l) Kerb final
- (m) Concrete tests
- (n) Formwork concrete pavements
- (o) Final inspection

(v) Provision of Street Furniture

- (a) Street Furniture (including street signs guideposts guardrail etc)
- (b) Erection of fencing adjoining public/ drainage reserves

(vi) Footpath Works

- (a) Footpath Trimming and/or turfing (to ensure 4% fall)
- (b) Pathway construction (cycle/ link pathways)
- (c) Path-paving construction
- (d) Service Adjustments
- (e) Final Inspection

(vii) Construction of on-site detention system

- (a) Steel and Formwork for tank/ HED control pit
- (b) Completion of HED control pit
- (c) Pit formwork
- (d) Pipes upstream/ downstream of HED control pit before backfilling
- (e) Completion of OSD system

(viii) Stormwater Quality Control/W.S.U.D.

- (a) Installation of Stormwater Quality Control devices
- (b) Final Inspection

(ix) CCTV Inspection of Drainage Structures (pipelines and pits)

(a) All road drainage

(xi) Final overall Inspections

(a) Preliminary overall final inspection

(b) Overall final inspection

ALTERNATIVELY, one comprehensive Inspection Certificate or Compliance certificate may be issued to include all of the above-mentioned stages of construction.

Where Council is appointed as the Principal Certifying Authority for the development (e.g. all Torrens Title subdivisions), only Compliance Certificates issued by accredited certifiers will be accepted at the completion of the above-mentioned stages. Any Compliance Certificate must certify that the relevant work has been completed in accordance with the pertinent Notice of Determination / Development Consent and Construction certificate.

5.8.2 Inspection of the works required pursuant to the engineering approval issued under the Roads Act 1993 must be made by Council's Development Overseers who can be contacted on 9839 9718 between 7am - 8am and 12.30pm - 1.30pm. A site inspection is required prior to commencement of work. A minimum twenty-four (24) hours notice must be given prior to any required inspection. A schedule of mandatory inspections is listed in Council's Works Specification – Civil (current version).

5.9 **Public Safety**

5.9.1 The applicant is advised that all works undertaken in a public place are to be maintained in a safe condition at all times. Council may at any time and without prior notification make safe any such works Council considers to be unsafe and recover all reasonable costs incurred from the applicant.

5.10 **Site Security**

5.10.1 Chain wire gates and security fencing must be provided around the site in order to prevent unauthorised access and dumping of rubbish.

5.11 **Other Necessary Approvals**

5.11.1 In relation to matters concerning the Archaeological Survey should any archaeological material be uncovered during construction activities on any location within the proposed development then all works should cease immediately and representatives of the National Parks and Wildlife Service and a member of the Western Sydney Aboriginal Stakeholders Groups is to be contacted.

5.12 **Powder Coated Furniture**

5.12.1 Where the conditions of this consent permit the installation of powder coated furniture (i.e. street lighting poles, bus shelters, rubbish bins, seats or any other items of street furniture), a certificate from the manufacturers shall be provided to Council confirming that the nominated powder coated items have been prepared and coated in accordance with Australian Standard AS/NZ 4506-2005 (service condition category 3). This certificate must be no more than 3 months old and shall

be provided to Council prior to the installation of the relevant items of the street furniture. Any items of street furniture not so certified shall be removed and replaced at no cost to Council with items appropriately certified.

6 PRIOR TO OCCUPATION CERTIFICATE

6.1 Road Damage

- 6.1.1 The cost of repairing any damage caused to Council's assets in the vicinity of the land as a result of the development works shall be met in full by the applicant/developer.

Note: Should the cost of damage repair work not exceed the road maintenance bond Council will automatically call up the bond to recover its costs. Should the repair costs exceed the bond amount a separate invoice will be issued.

6.2 Compliance with Conditions

- 6.2.1 A Subdivision Certificate shall not be issued until all conditions of this consent have been satisfied.

7 PRIOR TO SUBDIVISION CERTIFICATE

7.1 Road Damage

- 7.1.1 The cost of repairing any damage caused to Council's assets in the vicinity of the subject site as a result of the development works be met in full by the applicant/developer.

Note: Should the cost of damage repair work not exceed the road maintenance bond, Council will automatically call up the bond to recover its costs. Should the repair costs exceed the bond amount a separate invoice will be issued.

7.2 Security

- 7.2.1 An acceptable security (bond) guaranteeing the future completion of the road sealing works shall be lodged with Council. The bond amount is to be calculated at the asphaltic contribution rate current at the time and is to be accompanied by Council's standard Deed of Agreements for Bonds.

7.3 Consent Compliance

- 7.3.1 A Subdivision Certificate shall not be issued until all conditions of this consent have been satisfied.

7.4 Fee Payment

- 7.4.1 Any fee payable to Council as part of any Construction, Compliance or Subdivision Certificate or inspection associated with the development (including the registration of privately issued certificates) shall be paid in full.

7.5 Final Plans

- 7.5.1 The submission of a final plan of subdivision, together with 7 exact copies and the

appropriate fee. The final plan of subdivision will not be released until all conditions of this determination have been complied with.

- 7.5.2 Where any permanent control marks are placed in accordance with the Survey Practice Regulation 1990 in the preparation of the plan, 2 copies of the locality sketch plans of the marks placed are to be forwarded to Council with the final plan of subdivision.

7.6 General

- 7.6.1 A report from a geotechnical engineer is to be submitted to Council certifying the site classification for the reactivity of the lots in the subdivision after identification of the soil characteristics in accordance with the provisions of AS 2870, "Residential Slabs and Footings".
- 7.6.2 Details are to be submitted with the Construction Certificate Application of the measures to be undertaken to control soil erosion and sedimentation from the building site.

7.7 Engineering Matters

7.7.1 Surveys/Certificates/Works As Executed plans

- 7.7.1.1 A works-as-executed plan (to a standard suitable for microfilming) under the hand of a Chartered Professional Engineer or a Registered Surveyor must be lodged with Blacktown City Council when the engineering works are completed. The works-as-executed plan must confirm that the On Site Detention system identification plate has been installed in accordance with the Upper Parramatta River Catchment Trust Guidelines. The On Site Detention system identification plate can be purchased from the Upper Parramatta River Catchment Trust.
- 7.7.1.2 Written evidence is to be obtained from the Roads & Traffic Authority indicating compliance with its requirements including the payment of any necessary works supervision fees.
- 7.7.1.3 Special attention is drawn to the following requirements of Council's Works Specification - Civil (Current Version):
- (a) Submission of compaction certificates for fill within road reserves.
 - (b) Submission of compaction certificates for road sub-grade.
 - (c) Submission of compaction certificates for road pavement materials (sub base and base courses).
 - (d) The submission of two (2) contour lot fill diagrams and lot fill compaction certificates. A restriction as to User with Council's standard wording must be placed on filled lots.
 - (e) Compliance Certificates from road material suppliers.

7.7.2 Easements/Restrictions/Positive Covenants

- 7.7.2.1 Any easement(s) or restriction(s) required by this consent must nominate Blacktown City Council as the authority to release vary or modify the

easement(s) or restriction(s). The form of easement or restriction created as a result of this consent must be in accordance with the following:

- (a) Blacktown City Council's standard recitals for Terms of Easements and Restrictions (Current Version).
- (b) The standard format for easements and restrictions as accepted by the Lands Title Office.

7.7.2.2 The creation of a reciprocal rights of way over the access to the following nominated lot(s) with the following nominated width under Section 88B of the Conveyancing Act 1919.

Nominated Lot(s): 5, DP 262213

Nominated Width: As per BCC's Engineering Guide for Developments

A Positive covenant for "Maintenance and Repair of the Shared Access" is to be in accordance with Blacktown City Council recitals for terms of Easements and Restrictions (Current Version).

7.7.3 **Dedications**

7.7.3.1 Dedication at no cost to Council of 8m x 8m splay corners on allotments at each street intersection.

7.7.3.2 The final plan of subdivision will not be released unless written evidence from the Roads and Traffic Authority has been obtained indicating any works required by the RTA have been satisfactorily addressed.

7.7.4 **Bonds/Securities/Payments in Lieu of Works**

7.7.4.1 The payment to Blacktown City Council of a monetary contribution in lieu of works for the placement of the final layer of asphaltic concrete (a.c.) on the new road works. The amount will be calculated at Council's approved rate upon request and following issue of a Construction Certificate for the work.

7.7.4.2 A maintenance security of 5% of the value of the required engineering works must be lodged with Council prior to the practical completion of the works. Council will hold this security for a period of at least six months.

(a) In the case of subdivision - This period commences at the release of the final plan of subdivision. (Issue of Subdivision Certificate)

(b) In the case where no subdivision occurs - This period commences at the date of practical completion of the development.

This maintenance period may be extended in the following situations to allow for the completion of i) necessary maintenance and or ii) all outstanding minor works.

7.7.4.3 Concrete path paving must not be placed until about 75% of the lots have been built upon or until approved in writing by Council. The applicant has the option of lodging a security deposit for the works, or paying a monetary payment in lieu of works based upon Council's Goods and Services Pricing Schedule. The Security will be released upon satisfactory completion of the works.

7.7.5 **Inspections**

- 7.7.5.1 Any **additional** Council inspections beyond the scope of any Compliance Certificate package and needed to verify full compliance with the terms of this consent will be charged at the individual inspection rate nominated in Council's Fees and Charges Schedule.

7.7.6 **Inspection of Work**

- 7.7.6.1 All road stormwater drainage structures (pipelines and pits) must be inspected by a CCTV in accordance with Council's current Works Specification Civil. CCTV reports must be submitted to council in the form of VHS video tape or DVD of the inspection video, a hard copy printout of the SEWRAT (or equivalent) report, and a CCTV certified statement in accordance with section 6.8 of Council's Works Specification Civil and that any defects identified by this inspection have been rectified.