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## 1 INTRODUCTION

1. The Bulli (Franklin Avenue) Precinct Plan is included in Part D of the DCP. Part A of the DCP contains the Introduction. Part B in the DCP provides land use based controls including controls for residential subdivision, residential development and industrial development. Part C of the DCP provides city wide controls for specific land uses. Part E of the DCP contains city wide planning / environmental assessment control chapters which may apply to certain lands in this precinct.
2. In the event that the provisions contained in the Bulli (Franklin Avenue) Precinct Plan in Part D of the DCP are inconsistent with the provisions of any other Part of the DCP, the provisions of the Bulli (Franklin Avenue) Precinct Plan shall prevail to the extent of the inconsistency.

## 2 LAND TO WHICH THIS PLAN APPLIES

1. This precinct plan applies to Lot 1, DP 608651 located on the south-eastern corner of the intersection of Franklin Avenue and Ursula Road, Bulli, as shown in Figure 1 below.

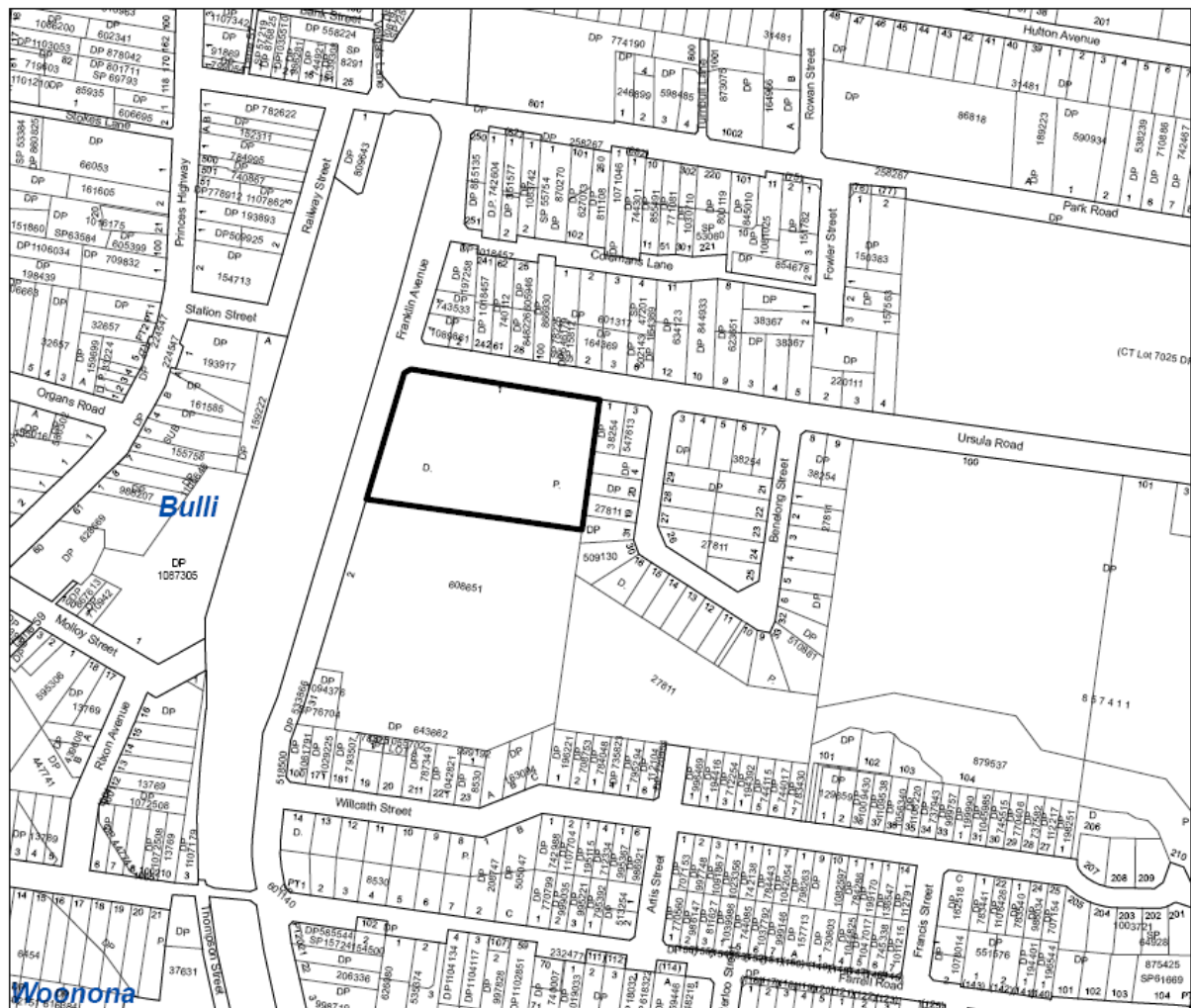


Figure 1: Land to which this plan applies

### 3 AIMS AND OBJECTIVES

1. The key aims and objectives of this plan are:
  - (a) To ensure the site is developed according to the Council adopted master plan (refer to map).
  - (b) To ensure that the site is developed to its potential without adversely impacting on neighbouring properties.
  - (c) To protect and enhance the amenity of residents within the estate.
  - (d) To ensure that the development does not result in an increase in stormwater run off so as to cause an adverse flood impact both within and outside of the site.
  - (e) To ensure contaminated areas of the site are remediated to a standard suitable for residential development.
  - (f) To ensure safe and efficient vehicular access minimising impact on adjoining areas.
  - (g) To ensure stormwater run off from the site is treated for gross and fine pollutants prior to discharge to the natural drainage system.
  - (h) To ensure the creek and its corridor is restored to a state consistent with ecologically sustainable design principles.
  - (i) To deliver an integrated outcome for flooding, riparian and stormwater management issues.
  - (j) To achieve a built environment that is visually acceptable, sympathetic to climate comfort and energy saving and promotes a high level of social comfort and privacy.
  - (j) To ensure the development is adequately protected from neighbouring railway and industrial noise.

### 4 DEVELOPMENT CONTROLS

#### 4.1 Noise Mitigation

##### 4.1.1 Industrial Noise Mitigation

- (1) NSW Industrial Noise Policy
  - (a) Any residential development of the land must comply with the New South Wales Industrial Noise Policy of the NSW Department of Environment and Climate Change (formerly Environment Protection Authority).
  - (b) Specific Measures to Address Industrial Noise
    - (ii) In this respect the measures tabled in the Noise and Vibration report by Atkins Acoustics dated 17 November 2003 must be implemented unless the developer formulates to Council's satisfaction viable alternatives. Full details of all noise measures must be submitted to Council.
    - (iii) The measures in the Atkins Acoustics report referred to above are summarised as follows below:

#### 4.1.2 Acoustic Barrier

A minimum 4.5 metre high and minimum 65 metre long acoustic barrier shall be erected along the western part of the southern boundary of the site on Lot 18, prior to the release of the Subdivision Certificate for the 19 lot Torrens Title subdivision as per Development Consent No. 2005/1839/A. The acoustic barrier may be constructed of a masonry / concrete base with an upper solid timber (minimum 50 mm thickness) fence line.

1. Upgraded Glazing to Dwellings
  - (a) Appropriate acoustic treatment (ie in the form of double glazing) may be required for dwelling-houses upon Lots 3, 5, 7, 9, 11, 13, 16 and 17 (ie adjoining the creek corridor and east west leg of Spinners Way).
  - (b) Therefore, any Development Application involving the erection of a dwelling-house upon each of the Lots 3, 5, 7, 9, 11, 13, 16 and 17 must be supported by an appropriate Noise Impact Assessment report which outlines what appropriate acoustic measures are required to be incorporated in the construction of the dwelling-house upon each lot.
2. Acoustic Courtyard Walls
  - (a) The provision of a solid 1.8 – 2 metre acoustic fence along the full length of the southern boundary of Lot 17 is required (ie as per Condition 78 of Development Consent No. 2005/1839/A), prior to the release of the Subdivision Certificate.
  - (b) The provision of acoustic private courtyard walls (e.g. solid timber fence) with a height ranging between 1.8 - 2 metres may be required as part of any Development Application for dwelling-houses upon Lots 3, 5, 7, 9, 11, 13, 16 and 17. Therefore, appropriate noise impact assessment will be required as part of any Development Application for the erection of a dwelling-house upon the subject lots.
  - (c) The courtyard walls must be setback into properties as necessary so that drivers can adequately view users of the footpath in accordance with the Development Control under the heading "Road Reserve/Traffic/Parking)) Pedestrian Safety near driveways and the new road."
3. Minimising Visual Impact of the Noise Wall
  - (a) The upper solid timber wall of the acoustic barrier wall must be of a green shade on both sides, which blends with the vegetation in the riparian buffer area. The Section of this Development Control Plan entitled "*Riparian Management and Creek Treatment*" requires riparian vegetation of a bulk and scale which camouflages the noise wall.

#### 4.1.3 Railway Noise Mitigation

Residential development must comply with the Development Near Rail Corridors and Major Roads chapter in Part E of this DCP which requires compliance with the NSW Department of Planning publication titled "Development Near Rail Corridors and Busy Roads – Interim Guideline". Residential development must also comply with the Australian Standard 2107-1987 - Acoustics Recommended Design Sound Levels and Reverberation Times for Building Interiors.

Any courtyard walls will be setback into properties as necessary so that drivers can adequately view users of the footpath.

All details are to be submitted prior to any Development Application being approved.

## 4.2 Site Contamination Remediation

### 4.2.1 Remediation Action Plan

1. The developer of the subdivision must provide to Council's satisfaction a remediation action plan based on both the Preliminary Site Investigation by Environmental Monitoring Services dated December 1998, reference EMS 98 1304 and Council's requirements on the Preliminary Site Investigation being the following:
  - (a) The location of the fuel storage tanks be identified on the map.
  - (b) The burial depth of the fuel storage tanks be ascertained.
  - (c) Details as to whether the underground fuel storage tank site has been analysed for PHC contaminants.
  - (d) The level of metals (Copper, Lead and Zinc) and organic contaminant in the samples of boreholes one and seven are higher than ANZECC "B" and NEHF, 1996 low density residential guideline. The contaminated hot spot must be reinvestigated in a tighter grid and after the determination of the lateral and vertical extent of contamination, an appropriate remediation plan developed.
  - (e) The ground water sample from borehole 2 must be investigated for metals, Total Petroleum Hydrocarbons, PAH, OC's and PC's.

### 4.2.2 Validation Report

1. Prior to any works commencing on the land the developer must submit to Council's satisfaction a Validation Report by an auditor certified by the Environment Protection Authority which certifies the land suitable for residential use.

## 4.3 Stormwater Management

1. Stormwater drainage for housing construction must be provided in accordance with the requirements of the Stormwater Management chapter in Part E of the DCP. In this regard, there is to be no net increase in stormwater run-off as a result of development within the site. The lodgement of a stormwater concept plan and calculations in accordance with the Stormwater Management chapter in Part E of the DCP will be required with the Development Application for the erection of a dwelling-house upon each lot in the subdivision.
2. The subdivision shall include an appropriate inter-allotment drainage system. The inter-allotment drainage system must include piping along the western boundary.

## 4.4 Floodplain Management

1. Detailed Flood Study - A detailed Flood Study was submitted to Council as part of the subdivision stage. Reference should be made to the flood study prepared for the subdivision as part of the preparation of any Development Application for the erection of a dwelling-house upon a lot within the subdivision.
2. Except for building footprints, any Development Application for the site must minimise or not raise existing site levels negating or minimising the need for retaining walls.
3. Evacuation Report - An effective evacuation report and procedure must be prepared by an appropriate consulting engineer. The report must incorporate an effective evacuation process and procedure for egress both from the site in the early stages of a storm to upper floor evacuation during the peak of storm events up to and including the Probable Maximum Flood.



Note, in all lots except those in vicinity of the south east corner, floor levels can be set at the PMF. For the lots in vicinity of the south east corner, the floor level may need to be set lower (such as at the 1% + 0.5m freeboard) in which case an upper floor level would be required to enable vertical evacuation.

## 4.5 Riparian Management and Creek Treatment

1. Riparian Corridor
  - (a) Riparian Corridors are to be provided by way of a riparian buffer zone in the area indicated on the master plan map. The development application needs to demonstrate by precise survey a riparian buffer zone of 10 metres from the top of the highest bank complemented by a perimeter road fronting the riparian land.
2. Principles for Treatment of Whartons Creek and Its Riparian Corridor
  - (a) The principles to be utilised for the treatment of Whartons Creek and its riparian corridor must be consistent with ecologically sustainable design principles and will include:
    - (i) Minimising Risk – consider community safety and minimise risk to life.
    - (ii) Interdependence – consider the catchment as a unit of a larger system.
    - (iii) Individuality – recognise the individual features of each catchment.
    - (iv) Continuity – recognise the need for continuous corridors to permit natural processes to occur.
    - (v) Existing Habitat Values – maintain and enhance existing habitat.
    - (vi) Natural Stream Processes – “natural” design approach.
    - (vii) Multi-disciplined Approach – incorporate expertise in a broad range of appropriate disciplines.
    - (viii) Maintenance and Construction – production of a self sustaining ecosystem.
  - (b) Reference must be made to the principles and guidelines as detailed in the document “Principles for Urban Stream Management” (November 1997) produced by the Illawarra Integrated Approvals Team.
3. Riparian Management Plan
  - (a) A detailed Riparian Management Plan must be prepared for Whartons Creek and its riparian corridor to address the requirements of the Department of Planning and Council.
4. Riparian Vegetation to Camouflage the Acoustic Barrier
  - (a) Riparian vegetation must at maturity be at a scale which camouflage the acoustic wall required by the Section in this Development Control Plan entitled “Noise Mitigation – a) Industrial Noise Mitigation.”
5. Creek Excavation
  - (a) Creek excavation must comply with Forbes Rigby’s option 3b in its letter to Council of 18 - 9 – 03. This involves increasing the channel base width from 4 metres to 8 metres and constructing creek banks with 1 in 4 batters.

6. Riffles and Rock Armouring

- (a) Riffles must not be located on outside bends.
- (b) Engineering treatments such as rock armouring must be kept to a minimum to the satisfaction of the Department of Planning and Council.
- (c) The rock work must use sandstone which would be visually sympathetic to the lithology of the upper escarpment and coastal zone. The rocks used in the stilling pond and edges of the creek should be stacked in stepped horizontal layers. The resulting horizontal crevices will provide habitat for animals such as Water Skinks *Eulamprus quoyii*, Water Dragons *Physignathus lesuerii* and frogs.

6. Planting in Creek Corridor

- (a) Edge planting in wet areas must utilise Matrush *Lomandra longifolia*, Sawsedge *Gahnia sieberiana* as these native species offer protection for animals and bind soil eg. Tussock Rush *Juncus usitatus*, Tussock Sedge *Carex appressa* and Twigrush *Baumea rubiginosa* in wetland and ponds areas.
- (b) General plantings must include Port Jackson Figs *Ficus rubiginosa*, Swamp - Oak *Casuarina glauca*, Bottlebrush *Callistemon salignus* and Snow-in-summer *Melaleuca linarifolia* and Swamp Mahogany *Eucalyptus robusta*, Swamp Mahogany flowers in winter and provides nectar for many species of bird.
- (c) All details must be submitted prior to any development application being approved.

#### 4.5.1 Water Quality

- 1. Implementation of Water Quality requirements will further enhance the environmental outcomes of the riparian management plan.

(a) Discharge Controls

- (i) The developer must provide for the passive discharge of stormwater into the riparian corridor area then to the creek. This will entail the road being graded towards the creek to enable low velocity and diffuse run off to enter the vegetated riparian corridor area as distinct to piping it direct to the creek.
- (ii) All details of are to be submitted prior to any development application being approved.

(b) Water Sensitive Homes

- (i) The developer must consider incorporating water sensitive urban design elements in the drainage design for development of individual residential lots. This may include:
- (ii) Using roof water for toilets, washing machines, garden watering or even hot water systems.
- (iii) Using runoff or waste water for irrigation.
- (iv) Infiltration of stormwater.
- (v) Using specially designed landscaping to cleanse runoff and conserve water.
- (vi) The developer must demonstrate that there is no net increase in stormwater run off as a result of incorporating these measures.



- (vii) Details can be submitted with development application(s) for dwellings.
- (c) Pollutant Traps
  - (i) The developer must to Council's satisfaction, incorporate into the drainage design low maintenance gross pollutant trap(s) in the south east corner of the internal road system.
  - (ii) Options that may be acceptable to Council to meet this requirement are some form of proprietary water or pollution device (such as Humes or CDS brands).
  - (iii) All details of are to be submitted prior to any development application being approved.

#### **4.5.2 Road Reserve/Traffic/Parking**

1. Carriageway Width and The Parking Bay
  - (a) Carriageway width and the parking bay must accord with the master plan. Carriageway widths may need to be increased depending on the Development Application submitted.
2. Footpaths
  - (a) Footpaths with non-mountable kerb must be provided in locations according to the master plan.
  - (b) Footpath areas must incorporate street lamps and street trees.
  - (c) Street trees must have a canopy high enough to ensure drivers using driveways have sufficient sight lines of pedestrians.
  - (d) Other landscaping must be low enough to ensure drivers using driveways have sufficient sight lines of pedestrians.
3. Traffic Circulation
  - (a) Traffic within the development must be one way with entry via Ursula Road and exit via Franklin Street.
4. Speed Controls
  - (a) Speed control measures must be incorporated into the design of the internal road system to ensure a 10kph design speed.
5. Services
  - (a) Due to the narrow footpath width, services may need to be located in front yard areas or within the road. Appropriate easements may therefore be required.
6. Pedestrian safety near driveways and the new road
  - (a) Plantings in the vicinity of driveways, garages and the two (2) new intersections must not exceed 0.5 metres in height so that drivers have a clear view of footpath users.
  - (b) The acoustic courtyard walls and any fencing between the dwellings and the carriageway must be setback into the lots so that motorists using driveways have a clear view of footpath users.
  - (c) Garages must be setback to allow stack parking to be wholly contained on the private lots.
7. Signage

- (a) Subject to the approval of the Traffic Committee a one (1) way sign must be provided at the vehicular entry to the development off Ursula Road. A “no entry” sign must be installed at the development’s vehicular egress at Franklin Avenue.
  - (b) Subject to the approval of the Traffic Committee:
  - (c) Parking restrictions are required along both sides of the new road for its full length,
  - (d) No stopping restrictions are to be provided on both sides of the new road for a distance of ten (10) metres from its intersections with Franklin Avenue and Ursula Road.
  - (e) All details must be submitted prior to any development application for the site being approved.
8. Maintenance of the Road Reserve
- (a) To minimise maintenance of the road reserve full details of it must be submitted with the Development Application to the satisfaction of Council’s Manager Works.

#### **4.5.3 Fencing/Bollards**

1. Fencing
- (a) Notwithstanding the sections in this Development Control Plan entitled “Noise Mitigation” and “Road Reserve/Traffic/Parking”, fencing between the carriageway and dwellings must not exceed 1.7 metres in height comprising maximum 1.2 metres solid masonry below a maximum 0.5 metre timber lattice infilling masonry columns.
2. Fencing/Bollards to the Riparian Zone
- (a) To prevent the incursion of vehicles into the riparian zone a suitable barrier(s) must be provided such as bollards or see through flood compatible fencing or a combination of the two. Emergency or maintenance access through the barrier into the riparian zone and creek must be available to Council and emergency crews.
  - (b) All details must be submitted prior to any Development Application being approved.

#### **4.5.4 Site Layout**

1. Site layout must accord with the Master Plan which provides for:
- (a) Riparian corridor width,
  - (b) Setbacks to the riparian corridor,
  - (c) Road and footpath location and layout,
  - (d) The public parking area in the south east of the site,
  - (e) Traffic circulation (entry from Ursula Road with exit to Franklin Avenue,
  - (f) Compliance with all provisions of this Development Control Plan.
  - (g) The development of the entire site will be subject to one (1) Development Concept Plan (which accords with this Development Control Plan) to be submitted with the Development Application.