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***Coffs Harbour Highway Planning  
Coffs Harbour Section***

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***Indigenous Heritage Assessment  
Working Paper No 7a***

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## **1 INTRODUCTION**

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The Coffs Harbour Highway Planning Strategy (CHHPS) is being developed with the objective of addressing the need to upgrade the Highway between Sapphire and Woolgoolga, while planning for the future traffic needs within the Coffs Harbour urban area.

This Report, prepared by Connell Wagner for the NSW Roads and Traffic Authority (RTA), provides an Aboriginal Heritage assessment of the two Inner Corridor Bypass Options. The Report aims to identify known and potential Aboriginal heritage constraints that could influence the suitability and/or relative merits of these options.

### **1.1 Inner Corridor Bypass Options**

The two Inner Bypass route options addressed in this report are between 11.0 and 11.4km long with a common 'cross-over point' at 4.5km in the vicinity of Coramba Road, near its intersection with Bennetts Road. The north and south sections of the options are interchangeable and combine to form four variants of the two main alignments. These are illustrated on Figure 1 and described as follows:

- **Inner South 1**

This option deviates from the existing highway south of the Englands Road roundabout, aligning to the east of the CHCC waste depot and to the west of Isles Industrial Park. The route crosses North Boambee Road approximately 300m west of Bishop Druitt College and continues north toward the southern ridgeline of the Coffs Harbour basin, crossing at the lowest saddle in the ridgeline approximately 100m west of Buchanans Road before proceeding north-west to Coramba Road, crossing at the Bennetts Road intersection.

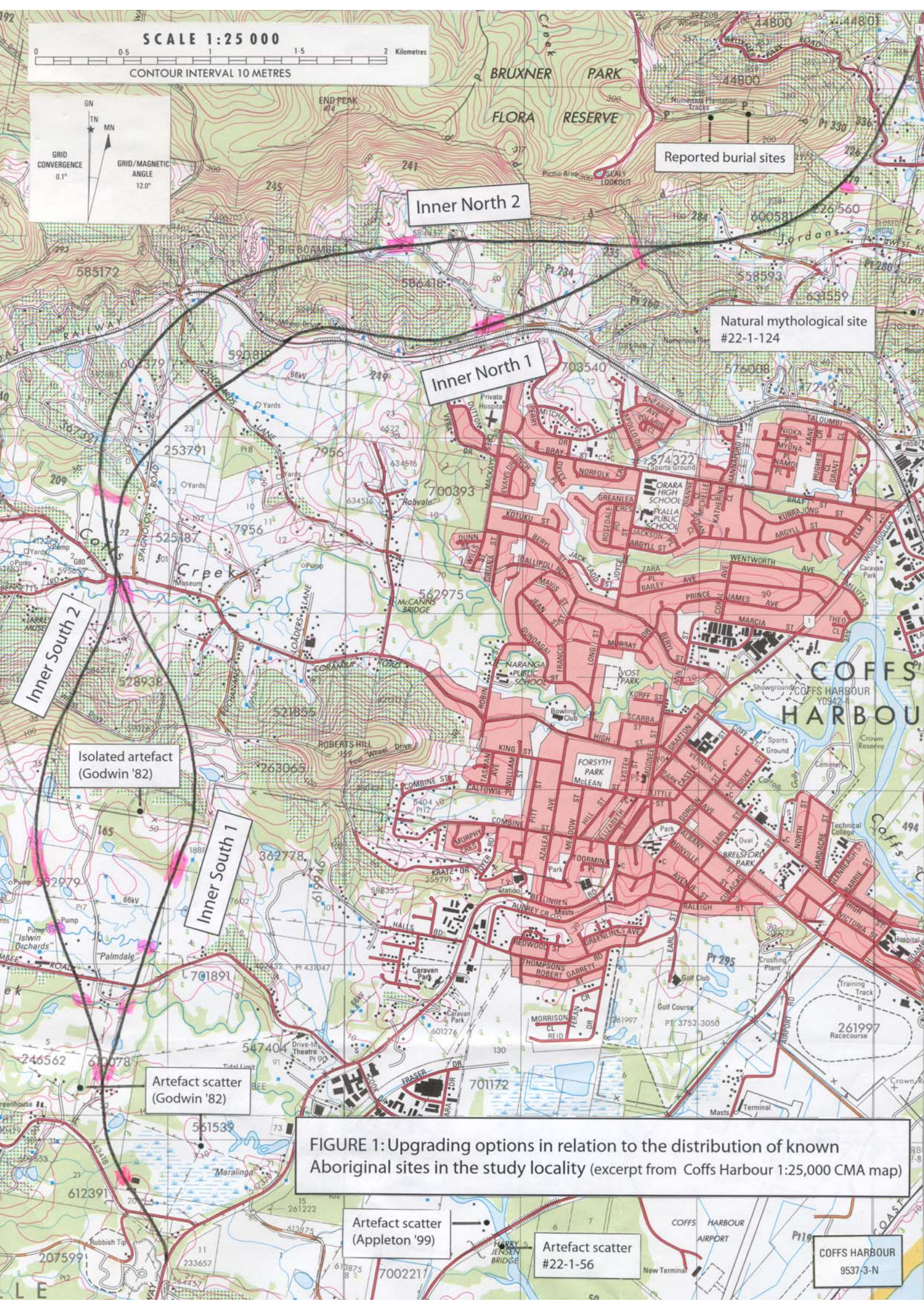
- **Inner South 2**

This alignment is initially the same as Inner South 1 but deviates from that route south of North Boambee Road and tracks further to the west, passing the southern Coffs Harbour ridgeline at a much higher point about 800m west of the other alignment. This ridge crossing would likely necessitate a 560m long tunnel to avoid a cutting in excess of 100m deep.

- **Inner North 1**

From Coramba Road, this alignment veers north-east, crossing Spagnolos Road and Shephards Lane before turning easterly, in close and parallel to the North Coast railway line for about 1.6km up to Mackays Road. From this point, Inner North 1 deviates from the railway line to pass through another main ridgeline near the western end of Gatelys Road. Further north the alignment skirts the West Korora basin, crossing Bruxner Park Road before rejoining the existing highway at Korora Hill.





SCALE 1:25 000

0 0.5 1 1.5 2 Kilometres  
CONTOUR INTERVAL 10 METRES

GN  
TN  
MN  
GRID CONVERGENCE 0.1"  
GRID/MAGNETIC ANGLE 12.0"

Inner North 2

Reported burial sites

Inner North 1

Natural mythological site #22-1-124

Inner South 2

Isolated artefact (Godwin '82)

Inner South 1

Artefact scatter (Godwin '82)

FIGURE 1: Upgrading options in relation to the distribution of known Aboriginal sites in the study locality (excerpt from Coffs Harbour 1:25,000 CMA map)

Artefact scatter (Appleton '99)

Artefact scatter #22-1-56

COFFS HARBOUR 9537 3-N



- **Inner North 2**

This alternative alignment features a more westerly sweep of the Coffs Harbour basin, providing maximum separation between the alignment and existing residential areas. It crosses Shephards Lane at its western extremity, passing over the railway east of the railway tunnel under Shephards Lane. The route passes through and then behind a major ridgeline near the end of Shephards Lane and traverses a relatively isolated valley, well shielded from the majority of residential areas. It then passes through the same ridgeline as Inner North 1 near the western end of Gatelys Road, and from that point the two northern alternatives are the same on the curved approach to the existing highway.

With both of the northern alternatives, tunnels could be used to eliminate potential 60m deep cuttings, one on Inner North 1 and two on Inner North 2.

## **1.2 Assessment methodology**

To provide information required at this stage in the Coffs Harbour highway planning process, this preliminary assessment includes:

- Initial consultation with the Coffs Harbour and District Local Aboriginal Land Council (LALC) and Elders groups to determine whether sites/places of special traditional or contemporary social significance are likely to occur on either of the subject Inner Bypass options;
- Review of NSW Department of Environment and Conservation (DEC) records and relevant literature to determine the location, context and character of previously reported Aboriginal sites in the study locality;
- Development of a predictive model which outlines the likely locations and condition of any unknown archaeological sites which may be intercepted by the route options;
- Synthesis of the above data to assess the overall sensitivity of the two options, their relative merits and suitability for further investigation from a cultural heritage perspective.

## **2 ENVIRONMENTAL CONTEXT**

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Arcing inland from the coastal plain, the options are dominated by two broad landsystems- low hills and rises (10m-90m AHD) and ranges (>90m AHD), with altitudes reaching up to 160m AHD on Inner South 2 west of Roberts Hill.

The Coffs Harbour area is based on geological formations of the Demon Block, a group of Palaeozoic sediments comprising two units straddled by the options corridors- the Coramba Beds of greywacke, siliceous claystone and quartzite north of Coramba Road, and the Brooklana Beds, which form a sequence of siliceous argillites and greywackes south of Coramba Road (Korsch 1980:4-5). Chert and jasper occur in small quantities in both units. The materials represented in the Demon Block are well suited to the production of Aboriginal flaked stone tools and are available in pebble form along the coastline and streams. Greywacke outcrops occur on the slopes of Roberts Hill but no habitable overhangs and/or rockshelters have been reported in the Coffs Harbour hinterland.

Despite a strongly seasonal rainfall pattern, climatic conditions are reasonably mild throughout the year. The predominant wind direction during summer is from the north-east, and during winter from the south-west. Wind speed decreases with inland distance and is highest along the coastal margin where afternoon sea breezes are common (State Forests 1995:6-7). While factors such as localised flooding and adverse winds may well have influenced site placement choices, both the low hills and rises and ranges landsystems would have been conducive to sustained Aboriginal occupation.

North of Englands Road the options traverse the undulating landscape of the North Boambee Valley, including the permanent freshwater channel of Newports Creek and several of its small seasonal tributaries. They then cross a high narrow steep-sided ridge, Inner South 1 through a saddle just west of Roberts Hill. North of the ridge the options traverse the upper end of the Coffs Creek Valley (Coffs Harbour basin), bridging Coffs Creek adjacent to their 'cross-over' point at Coramba Road. Like the North Boambee Valley, Coffs Creek Valley is composed of moderately poorly drained alluvial soils, yellow podsolc soils and yellow earths of often strong to very strong acidity (Coffs Harbour 1:100,000 Soil Landscape Series Sheet).

Inner North 1 continues for some distance across Coffs Creek Valley and its associated low rises and footslopes, and passes along a steep sideslope bordering the northern side of the North Coast railway line before joining Inner North 2 on the crest of a steep prominent ridge which trends south-east from the coastal escarpment at Sealy Lookout.

North from Coramba Road, Inner North 2 sweeps inland of Inner North 1 to traverse a series of low minor spurs falling to the Coffs Creek basin and one major steep-sided ridge which descends south from the high coastal escarpment at End Peak. The common northern end of the corridors takes in

lower slopes flanking the upper catchment of Jordans Creek (West Korora basin), one minor spur and further sideslopes before merging with the existing alignment at Korora Hill.

In non-alluvial areas, low hills and rises and moderate to low-gradient ridge and spur slopes form part of the erosional Megan landscape unit which is characterised by strongly acid, stony and highly erodible red and brown earths and podsolics. The Suicide colluvial landscape of the more prominent ridges and spurs is characterised by strongly acid and stony structured yellow earths on crests and upper slopes, and stony lithosols and structured red earths on mid-slopes and footslopes (Coffs Harbour 1:100,000 Soil Landscape Series Sheet).

Very little natural vegetation remains along either of the options, with pasture grasses in the alluvial valleys of Newports, Coffs and Jordans Creeks, and banana plantations across almost all of the higher lands.

### **3 CULTURAL CONTEXT**

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At the time of first European settlement, the study area was occupied by Gumbaingirr speaking people. The Gumbaingirr speaking people's territory traditionally extended over a wide area from the Clarence River to at least as far south as the Nambucca (Enright 1934; Smythe 1948; Hoddinott 1978; Eades 1979; Heron 1991; Gumbaynggir Language and Culture Group 1992). The Gumbaingirr comprised several distinct but interrelated groupings of people, each associated with a separate geographical area. As stated by McDougall (1900:116), "each tribe kept its own belt of country, and separated into small camps, and only collected together on special occasions". Gumbaingirr groups shared economic resources, trading and ceremonial occasions, intermarried, and spoke a mutually intelligible language, even though differences of dialect or speech, of local territorial association, and some cultural practices varied from one group or locality to another (Macdonald and Collins 1999:37-38).

During the course of everyday life, resource exploitation appears to have been undertaken by family groups (cf Henderson 1851; Lane 1970:5.2) and several families would often co-operate to form a highly flexible 'band' which would gather and then disperse as conditions demanded (Godwin 1990:97). Away from the immediate coast shifting camp seems to have been frequent, "occurring about monthly as the game in the immediate vicinity became exhausted ... it took several months to give each ground in the locale its turn" (McFarlane 1934-5). Base camps were established in areas protected from the elements by dense vegetation (McFarlane 1934-5). According to Dawson (1935), "the middle of each day was spent around the fire where the venison or game was procured, and the remnant of the meal ... was carried back to camp for evening consumption". On the basis of this description it seems that base camps would have been situated in sheltered areas offering suitable conditions, with a large number of small resource-specific sites scattered between. If group sizes in the order of 50 as claimed by England (1976:46) were the norm, then base camps are likely to have been reasonably large, even with a use-life as limited as a month.

Movement beyond local territories was undertaken by pre-arrangement with adjoining groups in order to meet widespread social and ceremonial obligations (Chevally 1946; Belshaw 1978). This movement was achieved along defined pathways that linked the coast with the Dorrigo plateau, and the Bellinger and Clarence Valleys (Secomb 1986:46; cf England 1976:42). Low-gradient ridgelines provide natural topographic access routes inland from the coast, and both ethnographic and archaeological evidence testifies to use of such ridgelines by Gumbaingirr transit groups (Collins 1994, 2002).

Aboriginal landuse patterns were substantially modified in the decades following European settlement, as traditional lands were alienated and freedom to move through the country was progressively restricted. During the early contact years most of the local Aboriginal population seems to have resided on the coastal strip. There was an 'almost permanent' camp of around 200 Aborigines at the mouth of Bonville Creek (Bongil Bongil) in 1881 (England nd), and smaller camps at Moonee and Coffs Harbour



(England 1976:46). While Aboriginal people were certainly present in the coastal hinterland, historical accounts suggest low population numbers in comparison to the coast. At Karangi 4km inland of the options corridors, for example, there were few Aborigines (Kelly 1987), although many passed through “on their way to somewhere else” (Secomb 1986:46).

Despite a serious decline in population numbers caused by introduced diseases (England 1976:47) and the massive changes brought about by European settlement, many local Gumbaingirr were able to maintain traditional knowledge of and associations with the Coffs Harbour area. In addition to important ceremonial and meeting places, information relating to such things as travelling routes, resource use and relationships to land has been handed down through the generations (cf Goulding 2001).

In Coffs Harbour, camps comprising huts of corrugated iron and timber off-cuts were established on dunes at ‘Happy Valley’ south of Coffs Creek mouth, on South Coffs Headland, and on the site of the present Fitzroy Oval east of the existing Pacific Highway in the city centre (Yeates 1990:17-18). During the 1940’s up to 200 Aboriginal people at a time lived in this latter camp, its occupation continuing until 1956 when houses were built in Wongala Estate (Goulding 2001:68).

Both the Coffs Harbour town camps and a range of other types of historic Aboriginal sites have been recently researched and mapped by Goulding (2001). An analysis of historic camp locations revealed the majority to have been situated on crown land within 1-2km of the coastline, near a supply of fresh water. A significant proportion of the camps were established either at a place of work (eg a banana plantation or a forest) or in walking distance of work, but others were occupied seasonally for recreation purposes, or in response to the availability of certain resources (Goulding 2001:64). Although no mapped historic camps occur on or near the options corridors, two banana plantations which provided employment to Aboriginal people in the Bruxner Park area during the 1940’s and 1950’s are traversed by the common northern end of the options (cf Section 4.2).

## **4 ABORIGINAL LIAISON AND CONSULTATION**

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### **4.1 Process**

The Inner Bypass options lie within the territory administered by the Coffs Harbour and District Local Aboriginal Land Council (LALC) and within the traditional country of the Coffs Harbour Gumbaingirr people, who are represented by the Gumbala Julipi Elders.

Initial contact with the Aboriginal community was made through the Coffs Harbour and District LALC and following discussion of the aims, nature and scope of this preliminary assessment, the consultant was directed to Tony Flanders and Ken Craig, Chairperson and Assistant Chairperson respectively of the Gumbala Julipi Elders, as the most appropriate people to consult regarding the cultural and social values of the options corridors. To familiarise him with the alignments, a general field reconnaissance was conducted with Tony Flanders on the 19<sup>th</sup> of May 2003. Due to an unexpected commitment Ken Craig was unfortunately not able to be present for the field reconnaissance but the options were discussed at length with him with the aid of the Coffs Harbour 1:25,000 topographic map and a 1:10,000 scale aerial photo showing the alignments and property boundaries (supplied by Connell Wagner).

To further determine whether the integrity of any sites/places of particular social significance are likely to be threatened by highway construction along either option, Tony Flanders and Ken Craig permitted the consultant to access maps and confidential supporting information collected by Goulding (2001) during her comprehensive oral investigation into Aboriginal peoples' historical attachments to landscape conducted in conjunction with the Coffs Harbour region cultural heritage study.

The area north from Moonee Beach (6km north of Korora) is within the traditional country of the north-eastern Gumbaingirr represented by the Garby Elders. Although the Inner Bypass options lie outside Garby Elders' country, some Garby Elders have knowledge of traditional sites in the Coffs Harbour area and discussions were held with Garby Elder Tony Perkins in an effort to identify any significant sites/places known to him with the potential to be adversely affected by their development. In order to avoid breaching group boundary agreements, Tony Perkins declined to participate in reconnaissance inspection of the options.

### **4.2 Outcomes**

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The Coffs Harbour and District LALC and Gumbala Julipi Elders have advised that while they have no major present concerns with either of the proposed Inner Bypass options, archaeological field investigation would be required before a final determination of cultural heritage values could be made.

Although its level of significance was not seen as sufficient to constrain bypass construction or warrant realignment, the common northern end of the corridor is of some Aboriginal social value. As discussed in Section 3, two banana plantations traversed by this section of the corridor provided employment to local Gumbaingirr. During the 1940's, Ken Craig's father managed a banana plantation at the upper extremity of the Jordans Creek basin. Ken and Anita Craig lived in this area during their early-married years, obtaining milk, butter, fruit and other supplies from the Gately family farm on West Korora Road. Further east, on a spur traversed by the corridor just west of Bruxner Park Road, Tony Flanders' father (Tom Senior) worked making banana cases for the plantation owner, Hillary Slaverio, during the 1950's. Various other Aboriginal people were employed on the Slaverio plantation during this period.

Throughout the 1940's and 1950's, an Aboriginal camp (known as Ferguson's camp) was occupied at Bunnies Beach, Charlesworth Bay. Aboriginal people from this camp regarded Jordans Creek as an important resource collection area.

Locations of high Aboriginal cultural significance occur to the north and south of the study area at Korora, but informants have advised that the significance of these locations would not be compromised by highway construction along the currently proposed common northern alignment. The significant sites include burials marked by stone cairns on the high prominent ridgeline trending east from Sealy Lookout, and a natural mythological site on a ridgeline knoll above the Big Banana south of West Korora Road (see locations, Figure 1). This latter site is mythologically connected with a rock outcrop off Macauleys Headland (#22-1-16), and with other significant sites at Look-at-me-Now Headland, Mount Browne and Mount Coramba.

The only other reported direct Aboriginal connection with the study area relates to the 1960's, when Colin 'Froggy' Flanders worked for a banana farmer on the Roberts Hill ridge. At that time, Colin Flanders and his family lived in a now demolished weatherboard house presently marked by a large steel shed on the ridgeline saddle approximately 100m east of Buchanans Road and around 200m east of Inner South 1.

Correspondence from the Coffs Harbour LALC in relation to this assessment is reproduced in Appendix A.

## 5 ARCHAEOLOGICAL CONTEXT

### 5.1 Recorded Aboriginal sites

Twenty Aboriginal sites have been recorded within 2km of the Inner Bypass options, including nine stone artefact scatters, six isolated stone artefacts and five natural mythological/ceremonial sites (Table 1). Of the sites, ten are located on the coast or coastal plain, nine in the low hills and rises, and one in the ranges landsystem.

The stone artefact occurrences range from single artefacts to a scatter of over 300 artefacts. These have been found in a range of topographic contexts, but occur with greatest frequency on low-gradient footslopes (5 sites), swamp and stream banks (3 sites) and the crests of low hills and spurs (3 sites).

None of the known sites lie in the path of the Inner Bypass options, the closest site being an unregistered scatter of two artefacts reported on the footslope of a spur approximately 50m west, near the southern separation of Inner South 1 and Inner South 2 (Godwin 1982).

**Table 1: Recorded Aboriginal sites within 2km of options**

NPWS Site No	Site type	No artefacts	Landsystem	Landform element
22-1-002	Mythological	n/a	Coastline	Rock outcrop
22-1-003	Mythological	n/a	Coastline	Rock outcrop
22-1-016	Mythological	n/a	Coastline	Headland
22-1-063	Artefact scatter	2	Coastal plain	Estuary bank
22-1-055	Artefact scatter	4	Coastal plain	Footslope
22-1-056	Artefact scatter	5	Coastal plain	Swamp bank
22-1-084	Artefact scatter	13	Coastal plain	Footslope
22-1-085	Artefact scatter	9	Low hills & rises	Hillcrest
22-1-086	Isolated find	1	Low hills & rises	Hillcrest
22-1-124	Mythological	n/a	Ranges	Ridge hillock
22-1-125	Mythological	n/a	Low hills & rises	Gully
Godwin '82	Artefact scatter	>333	Low hills & rises	Hillcrest
Godwin '82	Artefact scatter	2	Coastal plain	Footslope
Godwin '82	Isolated artefact	1	Low hills & rises	Valley flat
Godwin '82	Artefact scatter	60?	Coastal plain	Estuarine levee
Godwin '84	Isolated find	1	Low hills & rises	Midslope
Godwin '84	Isolated find	1	Low hills & rises	Footslope
Godwin '84	Isolated find	1	Low hills & rises	Footslope
Appleton '99	Artefact scatter	2	Coastal plain	Flat
Mac&Collins'99	Isolated find	1	Low hills & rises	Spur (redeposited)



## **5.2 Archaeological surveys**

Detailed site investigations have been undertaken along the coastline (eg Smith 1998a, 1998b, 1999; Hill and Murphy 2000), but archaeological information for Coffs Harbour's coastal hinterland is restricted to that provided by surface surveys conducted in response to various development proposals. A review of surveys completed to date in the vicinity of the Inner Bypass options provides an insight to the frequency and types of sites that may be intercepted by the options themselves, and of the environmental contexts in which they are likely to occur. Numbers in brackets (#n) refer to DEC site identification codes.

In 1982, Godwin surveyed a 640ha section of the North Boambee Valley which encompasses the Inner Bypass options between Englands Road and the Roberts Hill ridgeline. Despite inspecting a number of ploughed and fully exposed paddocks on valley flats, the single recorded open campsite ('Drive-In Site') was found in a ploughed paddock on a hill that rises 10-15m above surrounding marshland approximately 400m east of the present study corridor. The site, estimated to contain many hundreds of stone artefacts scattered across a 5ha area, is the largest artefact scatter so far recorded in the Coffs Harbour district. Godwin also recorded two stone flakes on a footslope just north of Englands Road and around 50m west of the southern separation of Inner South 1 and Inner South 2, and a single artefact on lowland at the foot of Roberts Hill ridge 250m west of Inner South 1. The owner of the property on which this latter artefact was found advised "that he occasionally turned up ground-edge axes on higher ground, but could not specify where" (Godwin 1982:16).

Rich (1989) surveyed the site of a proposed water reservoir on a highly disturbed ridgeline saddle 550m west of Roberts Hill and less than 300m east of Inner South 1. Visibility on the grassed saddle was provided by several narrow tracks, allowing 5% of the site to be effectively inspected. No archaeological material was found and the saddle was not considered to have further potential.

Kuskie (1993a,b) conducted selective surveys of a 4m wide optic fibre cable (OFC) easement, which stretches along the eastern margin of the Pacific Highway to Englands Road. North of Englands Road, the easement crosses the North Boambee Valley and Roberts Hill ridge before turning inland along the southern side of Coramba Road. For most of its length the Englands Road to Coramba Road section runs on and/or close to Inner South 1. South of Englands Road, Kuskie (1993a) recorded two stone flakes (#22-1-63) on an alluvial terrace 30m south of Boambee Creek. The previous property owner reported collecting a number of artefacts from the surrounding paddocks and described an Aboriginal man who had lived along the creek in a bark shelter until the 1960's. North of Englands Road, Kuskie (1993b) inspected the North Boambee Valley section of the easement to North Boambee Road and the southern footslopes of the Roberts Hill ridge. No archaeological sites were detected and Kuskie considered there to be no constraints to OFC installation.

In 1994, Brayshaw surveyed the 5.5km length of Pacific Highway upgrading corridor between Englands Road and Lyons Road south from the southern end of the Inner Bypass options. Archaeological evidence was restricted to two pebble artefacts found on the remnant of a spur overlooking a small creek near Lyons Road.

Also surveyed was a transmission line route which runs north across Englands Road to within 1.5km west of Inner South 2 on Roberts Hill ridge (Mills 1997). No Aboriginal sites or areas of further archaeological potential were identified. Nor were sites identified on lowlands adjoining Newports Creek just east of the Pacific Highway near Englands Road (Appleton 1995; Collins 1996).

Collins (Macdonald and Collins 1999) surveyed a 44km long pipeline route that traverses the Coffs Harbour coastal strip and includes a 10m wide easement along the western margin of the Pacific Highway reserve on the northern end of the proposed Inner Bypass alignment. Although a number of Aboriginal sites were recorded during the survey, evidence in the Korora locality was restricted to a single isolated stone flake redeposited beside the highway pavement approximately 1.5km north of the options' northern end.

The most wide-ranging survey work so far completed in the Coffs Harbour hinterland has been that done by Davies (1993) as part of the Environmental Impact Assessment for the Coffs Harbour-Urunga Forestry Management Areas. Davies divided the management areas into landsystems and conducted sample surveys in each. Some limited area inspection was undertaken, but Davies' survey was largely geared to locating open surface sites detectable on vehicle track exposures. This bias is clearly evident in her results, where of the 21 sites recorded, all are either open scatters of stone artefacts or isolated artefact finds. Although targeting areas considered to have high archaeological potential, Davies' survey strategy was explicit in its recording of a wide range of site/environmental associations and provides valuable data on the distribution and density of stone artefact occurrences.

Across the management areas as a whole, artefact scatters and isolated artefacts were generally found on flat to gently sloping ground with eroding, sandy soil. The majority occurred on the crests of spurs supporting dry sclerophyll forest. Site frequencies varied with inland distance, with most associated with the more dissected escarpment ranges west of the Orara River Valley and the fewest with near-coastal low hills and rises. Despite the higher frequency of artefact occurrences in the escarpment ranges, however, these tended to have fewer artefacts (most often only a single find) than those in other landsystems (Davies 1993:58-59).

The Boambee and Orara East State Forests west and north of the Inner Bypass options fall within Davies' 'coastal ranges' landsystem, where open artefact sites were found to occur at a density of 0.37 per kilometre of linear survey route ('trajectory'), or 16.59 artefacts per hectare (Davies 1993:Table 10). In all, three isolated artefacts and four artefact scatters were recorded in the coastal ranges. Of the artefact scatters, two comprised three artefacts, while the other two comprised 12 and 31 artefacts.

Given the low density of material at these sites, Davies believes them to most likely represent transitory rather than base camps. During her survey Davies (1993) covered 19km of forestry trails in the 'coastal ranges', although none of these were within Boambee or Orara East State Forests.

## **6 ARCHAEOLOGICAL POTENTIAL OF OPTIONS**

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### **6.1 Constraints to site preservation**

The Inner Corridor bypass options have been subject to a range of European landuses which will have compromised the survival potential of archaeological sites.

The North Boambee and Coffs Creek valleys support grazing pastures and at least some parts of North Boambee Valley have been ploughed (cf Godwin 1982:4). While vulnerable above-ground sites like ceremonial grounds and carved and scarred trees are likely to have been destroyed during the initial process of land clearing, the degree of spatial integrity maintained by open surface sites under agricultural conditions will be linked to the types and frequency of mechanical interference they have suffered. Artefact scatters affected by clearing activities only, have the capacity to be as well preserved as any equivalent sites in logged forests. Artefacts on ploughed land, on the other hand, will have been moved and segregated within the topsoil profile, and dispersed along the axis of cultivation. However, few of these artefacts are likely to have been broken, and despite disturbance, ploughed sites may still be of scientific significance (cf Boismier 1989:137-141; Dunnell and Simek 1995; Hawkins 1998; Lewarch and O'Brien 1981; Roper 1976).

Apart from small pockets of natural forest at the southern end, on the southern slope of Roberts Hill ridge and southern slope of a ridge further north, the ridges and spurs have been widely planted with bananas. Such intensive crop cultivation is likely to have caused both cumulative spatial displacement and physical degradation of archaeological materials and it is usual for plantation surfaces to have been modified to such an extent as to make the survival of intact archaeological sites virtually impossible, and the survival of even dispersed and redeposited artefacts unlikely.

As discussed in Section 2, the options traverse strongly acid soil landscape units. Organic materials such as bone, shell and charcoal degenerate rapidly under acid conditions (Davis 1987:27; Dowman 1970:21) and unless deposited in relatively recent times are unlikely to survive in the study area's archaeological record, leaving only stone artefacts to reflect Aboriginal occupation in antiquity.



## **6.2 Potential site types**

On the basis of information gained through Aboriginal consultation (Section 4) and review of ethnohistorical (Section 3) and archaeological sources (Section 5), the potential exists for Aboriginal sites to be intercepted by the Inner Bypass options. In tandem with the environmental and disturbance context of the options, known site distributions suggest that the following types of sites defined in this section would be most likely to occur.

### **Isolated stone artefacts**

These can be located anywhere in the landscape and represent either the remnant of a dispersed artefact scatter (open campsite), or the simple loss or random discard of artefacts. As mentioned in Section 5.2, isolated ground-edge axes have been reported in the vicinity of Roberts Hill.

### **Stone artefact scatters (open campsites)**

This type of site can range from as few as two stone artefacts to an extensive scatter containing a variety of tools and flaking debris, sometimes with associated materials such as bone, shell, ochre, charcoal and hearth stones. An artefact scatter does not necessarily mark a place where actual camping was carried out, but may instead be the product of specialised and/or short-term activities involving some level of stoneworking (eg the manufacture or rejuvenation of a single tool during hunting, or whilst in transit from one camp to another) (Hiscock 1988:19). Artefact scatters may occur as surface concentrations or as dateable stratified deposits, and can provide information on such things as patterns of Aboriginal landuse, movement and exchange.

### **Natural mythological sites**

Unlike archaeological sites, natural mythological sites are unmodified features of the landscape which derive their cultural importance from myths associated with them. They are sacred areas and some, but not all, would have been restricted to certain members of the society (for instance, restrictions on age, gender or degrees of initiation).

While information for some sacred stories relating to the Coffs Harbour region has been made known (eg England 1960; Buchanan 1971; Hoddinott 1978; Gumbaynggir Language and Culture Group 1992; Dunn 1994), due to the often secret nature of mythological sites it is sometimes the case that Aboriginal informants are unwilling to reveal information, even when sites are directly threatened by development. One highly significant mythological site has nevertheless been reported on a ridgeline knoll near Korora 800m south-east of the common northern end of the options (cf Section 4.2).

### **Memory sites and sites of 'presence'**

The importance of memory in the valuing of places is one component of a culture that has relied on oral history as its primary means of transmitting information from one generation to the next. The significance of remembered places also applies to 'post-contact' sites, sites which take on their contemporary cultural significance from events which have occurred in recent decades. Places where there have been missions, reserves or camps often contain 'middens' of modern materials, all of which are protected under the terms of the National Parks and Wildlife Act (1974). Camps used from the 1920's through to the 1980's near Corindi Lake, for example, have been found to contain a range of surviving material items (Smith 1998b,1999). Other locations, such as the 'good food places' described by Godwin and Creamer (1984:104), may be devoid of material evidence but of equally high Aboriginal social significance.

As discussed in Section 4.2, the common northern end of the options traverses 20<sup>th</sup> Century 'memory sites', including banana plantations on which local Gumbaingirr worked, and a former resource collection area ('good food place').

## **6.3 Predicted areas of potential archaeological sensitivity**

Predictions presented in this section draw on those developed by Collins (2001) using a sample of 180 pre-contact/traditional occupation sites (isolated artefacts, artefact scatters and middens) recorded in the DEC Coffs Coast Area, in conjunction with a consideration of the disturbance context of the options. Areas identified below are highlighted pink on Figure 1 and are predicted to have a moderate or high level of potential archaeological sensitivity, with the possibility of containing minimally disturbed elements. Most likely site types are small low-density scatters of stone artefacts and isolated finds. In all cases, there is a low likelihood of detecting these sites during surface survey as a result of grass cover and/or sedimentation processes.

- Northern footslope of a low forested spur north of Englands Road traversed by the common southern end of the options. The archaeological potential of this footslope depends on gradient and proximity of the swamp bank. A well-drained low-gradient footslope immediately adjacent to swamp, for instance, would have a high level of sensitivity.
- Northern footslope of a low spur and the banks of an adjacent tributary of Newports Creek at the southern junction of Inner South 1 and Inner South 2. It is assumed that conditions are conducive to site preservation as Godwin recorded two artefacts on the footslope west of the study corridor in 1982.
- Banks of Newports Creek traversed by both options south of North Boambee Road. The archaeological potential of this area depends on drainage conditions and the degree of disturbance along the banks.

- Banks of a major tributary of Newports Creek traversed by both options north of North Boambee Road. Again, actual archaeological potential depends on drainage conditions and the degree of disturbance along the banks.
- Southern footslope of Roberts Hill ridge adjacent to seasonal streams, traversed by both options. The archaeological potential of this footslope depends on gradient and disturbance history of the area.
- Banks of Coffs Creek traversed by both options just south of Coramba Road. Well-drained level flood terraces appear confined to Inner South 1 and this option is considered to have a higher level of archaeological potential than Inner South 2 in this location.
- Banks of a small permanent tributary of Coffs Creek traversed by both options between Coramba Road and Shephards Lane. The archaeological potential of this area depends on drainage conditions and the degree of disturbance along the banks.
- Banks of a small seasonal tributary of Coffs Creek traversed by both options below End Peak. The archaeological potential of this area depends on drainage conditions and the degree of disturbance along the banks.
- Low-gradient ridgeline saddle below Sealy Lookout at the northern junction of Inner North 1 and Inner North 2. Inspection from nearby West Korora Road suggests that this saddle may have escaped major cultivation disturbance.
- Low-gradient spur crest between West Korora Road and Bruxner Park Road traversed by the common northern end of the options. The archaeological potential of this crest depends on its disturbance history.

The above expectations were developed on the basis of the environmental properties of known archaeological sites. However, human behaviour is not determined solely by the environment, and there will have been a considerable social dimension in Aboriginal site selection which has not been taken into account. Social mechanisms are likely to have produced variability in landuse patterns from locality to locality (cf Byrne 1991:386), including within archaeologically sensitive areas identified by any landscape-based model. Due to the scope for variation that comes with human choice, it cannot be assumed that all areas of predicted sensitivity will contain a high density of archaeological sites, or for that matter, any sites at all. On the contrary, site densities may well vary quite dramatically from place to place irrespective of the frequency of 'environmentally friendly' potential camping spots (Collins 2001:132).

Archaeological models predict 'typical' site locations and apply only to those sites that are 'representative' in terms of their environmental setting. Clearly, sites which occur in unfavourable, non-typical settings, where few sites are predicted, may be highly significant as uncommon examples of their type with the potential to provide information on aspects of the archaeological record that are presently unclear (cf Altschul 1990). These types of sites are at risk of being overlooked if a predictive model (including predictions presented in this section) is used as the sole basis for making decisions as to whether or not a landform warrants archaeological survey.



## **7 CONCLUSIONS**

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The review of background information and initial consultation with Aboriginal organisations undertaken in conjunction with this preliminary assessment has revealed no permanent Aboriginal heritage constraints with respect to either of the Inner Corridor bypass options.

While areas of some historical Aboriginal social value would be impacted by development of the common northern end, sites of high traditional significance occur to the north and south of this section of corridor, and Coffs Harbour and District LALC/Gumbala Julipi Elders representatives have thus advised that realignment is not considered warranted or desirable. No preference has been expressed in relation to either of the northern or southern alternatives.

For the most part, the two Inner Bypass options traverse a highly disturbed landscape that offers little potential for the preservation of *in situ* Aboriginal archaeological sites. A number of specific areas where archaeological potential is assessed to be moderate or high have been identified, but no archaeological sites are currently known on either option. Two stone artefacts have nevertheless been recorded within 50m of the options' common southern end, presenting the possibility that similar materials may be intercepted by the options themselves. The areas of predicted archaeological sensitivity are predictions only and require field testing. Even though there are currently no Aboriginal cultural heritage constraints to development of either option, this situation could change if a significant site is detected during future field survey.

From a scientific perspective, the presence of undisturbed or minimally disturbed cultural material would be central to determining the significance level of any archaeological site which may be intercepted by the options, and the constraints that any such site/s would ultimately pose to development of an Inner Bypass. While it is recognised that the archaeological resource of both options will have been disturbed and depleted as a result of land clearance and long-term agricultural activities, due to lower-gradient topography and a seemingly lower overall order of disturbance, Inner South 1 and Inner North 1 are at this stage considered to have more potential to contain significant archaeological sites relative to Inner South 2 and Inner North 2.

Irrespective of which alternative is selected as the Preferred Option, further Aboriginal community consultation and an archaeological field survey of all areas where construction disturbance is anticipated will need to be undertaken as part of any future Environmental Impact Assessment. The survey should target all relevant landforms listed in Section 6.3 of this report, as well as any other relatively undisturbed landforms detected in the field. The cultural heritage value of all sites and places which would be directly or indirectly affected by development of the Preferred Option should then be

assessed in close consultation with the Aboriginal community and management strategies developed accordingly.

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## **GLOSSARY**

### **ARCHAEOLOGICAL SITE**

A place containing cultural materials of sufficient quality and quantity to allow inferences about human behaviour at that location (Plog *et al* 1978:383).

### **ARGILLITE**

A rock derived from mudstone or shale that has been altered and indurated by pressure and cementation. Argillites are mid-way in metamorphism between shale and slate (Lapidus 1987:36).

### **ARTEFACT**

Any object having attributes as a consequence of human activity (Dunnell 1971).

### **BANK**

A very short, very wide slope, moderately inclined to precipitous, forming the marginal upper parts of a stream channel and resulting from erosion or aggradation by channelled stream flow (Speight 1990:25).

### **CHERT**

A dense, extremely hard, microcrystalline or cryptocrystalline siliceous sedimentary rock, consisting mainly of inter-locking quartz crystals, sub-microscopic and sometimes containing opal (amorphous silica). Chert occurs mainly as nodular or concretionary aggregations in limestone and dolomite, and less frequently as layered deposits (banded chert). It may be an organic deposit (radiolarian chert), an inorganic precipitate (the primary deposit of colloidal silica), or as a siliceous replacement of pre-existing rocks. Flint is a variety of chert occurring as nodules in chalk and having a conchoidal fracture (Lapidus 1987:102).

### **CREST**

Landform element standing above all or most points in the adjacent terrain. Usually smoothly convex (Speight 1990:13).

### **FLAKE**

A piece of stone detached from a larger mass by the application of force and having a feather, hinge or step termination and a bulb of percussion. A platform may be present if the proximal end is unbroken (Crabtree 1972:64).

### **FOOTSLOPE**

Moderately to very gently inclined waning lower slope resulting from aggradation or erosion by sheet flow, earth flow or creep (Speight 1990:31).

### **GREYWACKE**

Sedimentary rock. A very hard, dark grey or greenish-grey, coarse-grained sandstone characterised by angular particles and rock fragments embedded in a clayey matrix (Lapidus 1987:265).

### **GROUND-EDGE AXE**

Axes which characteristically contain two abraded surfaces which meet at a bevel (Hiscock 1988:87).

### **HILL**

Part of a landsystem of high relief with gently inclined to precipitous slopes. Fixed, shallow erosional stream channels, close to very widely spaced, form a non-directional or convergent integrated tributary network (Speight 1990:51).

### **HILLSLOPE**

A gently inclined to precipitous slope, commonly simple and maximal, eroded by sheet wash, creep, or water-aided mass movement (Speight 1990:31).

### **JASPER**

A compact, microcrystalline variety of quartz. Its colours are variable, including white, grey, red, brown and black (Lapidus 1987:308).

### **QUARTZITE**

A metamorphic rock consisting mainly of quartz grains. Formed through the recrystallization of sandstone by thermal or regional metamorphism (Lapidus 1987:430).

### **RIDGE**

A compound landform element comprising a narrow spine crest and its immediately adjoining slope with the spine length being greater than the width (Speight 1990:19).

### **RISES**

A landform pattern of very low relief (9-30m) and very gentle to steep slopes. The fixed erosional stream channels are closely to very widely spaced and form a non-directional to convergent, integrated or interrupted tributary pattern (Speight 1990:55).

### **SADDLE**

Landform element comprising a lower, relatively level point along the spine of a ridge or spur (Packard 1992:100).

### **SPUR**

Landform element comprising a lower, subsidiary ridge leading down from a locally dominant ridge or crest (Packard 1992:100).

### **STONE ARTEFACT**

Fragment of stone which generally possesses one or more of the following characteristics:

- Positive or negative ring crack
- Distinct positive or negative bulb of force
- Definite erillure scar in position beneath a platform
- Definite remnants of flake scars (ie dorsal scars and ridges)

These traits indicate the application of an external force to a core, and are characteristic of the spalls removed by humans using direct percussion. Stone artefacts which have none of the above may be identified as such if they possess ground facet/s characteristic of human industry (Hiscock 1984:128).

### **VALLEY FLAT**

A small, gently inclined to level flat, aggraded or sometimes eroded by channelled or over-bank stream flow, typically enclosed by hillslopes (Speight 1990:34).

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**APPENDIX A:**

**Correspondence from the Coffs Harbour and District Local Aboriginal Land Council**



## Coffs Harbour & District Local Aboriginal Land Council

PO Box 6150, Coffs Harbour Plaza NSW 2450

Phone (066) 52 8740

Fax (066) 52 5923

22<sup>nd</sup> May 2003

Attention: Jackie Collins

9 Unique Close

Dunbogan 2443

Ph/Fax: 65 599 138

### **RE: CLEARANCE LETTER PROPOSED HIGHWAY BYPASS INNER BYPASS OPTIONS, COFFS HARBOUR**

Dear Jackie,

As you are aware on the 19<sup>th</sup> May, yourself and Mr Tony Flanders and Mr Ken Craig, of the Gumbular Julipi Elders, observed a preliminary heritage assessment of the two proposed inner options for the bypass of Coffs Harbour.

Mr Flanders participated in a preliminary field reconnaissance designed to familiarise him with these options, and to determine whether either option would be likely to affect any known sites or place of Aboriginal significance. The reconnaissance was undertaken from roadways crossing the options from the southern entrance point at England's Road, west to northwest to the Roberts Hill ridge, and northeast to the northern end at Korora.

Due to unexpected commitments, Mr Craig was unable to be present during the reconnaissance, but was consulted with the assistance of maps and aerial photographs showing the proposed alignments.

It was noted that the bypass route cuts through banana plantations where Aboriginal people used to work in the 1940's and 1950's, but Mr Flanders and Mr Craig have advised that they do not consider these areas to pose a constraint to the options alignment. No other known places of cultural value are affected by the options.

As a result of consultation with the Elders, Coffs Harbour and District Local Aboriginal Land Council has no problem with the areas for either of the inner bypass options at this stage. However, it is possible that significant archaeological sites may occur and field inspection of the selected option would need to be undertaken by members of Coffs Harbour and District Local Aboriginal Land Council before final clearance can be given for construction works can proceed.

Yours truly,

A handwritten signature in black ink, appearing to read 'Chris Spencer', written over a horizontal line.

Chris Spencer  
Administration Officer